Spook Hill ADMP Update

Flood Control District of Maricopa County

Appendix B
Volume 7B

HEC-1 Modeling Output Files
(Level II)

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 9-20-02
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)

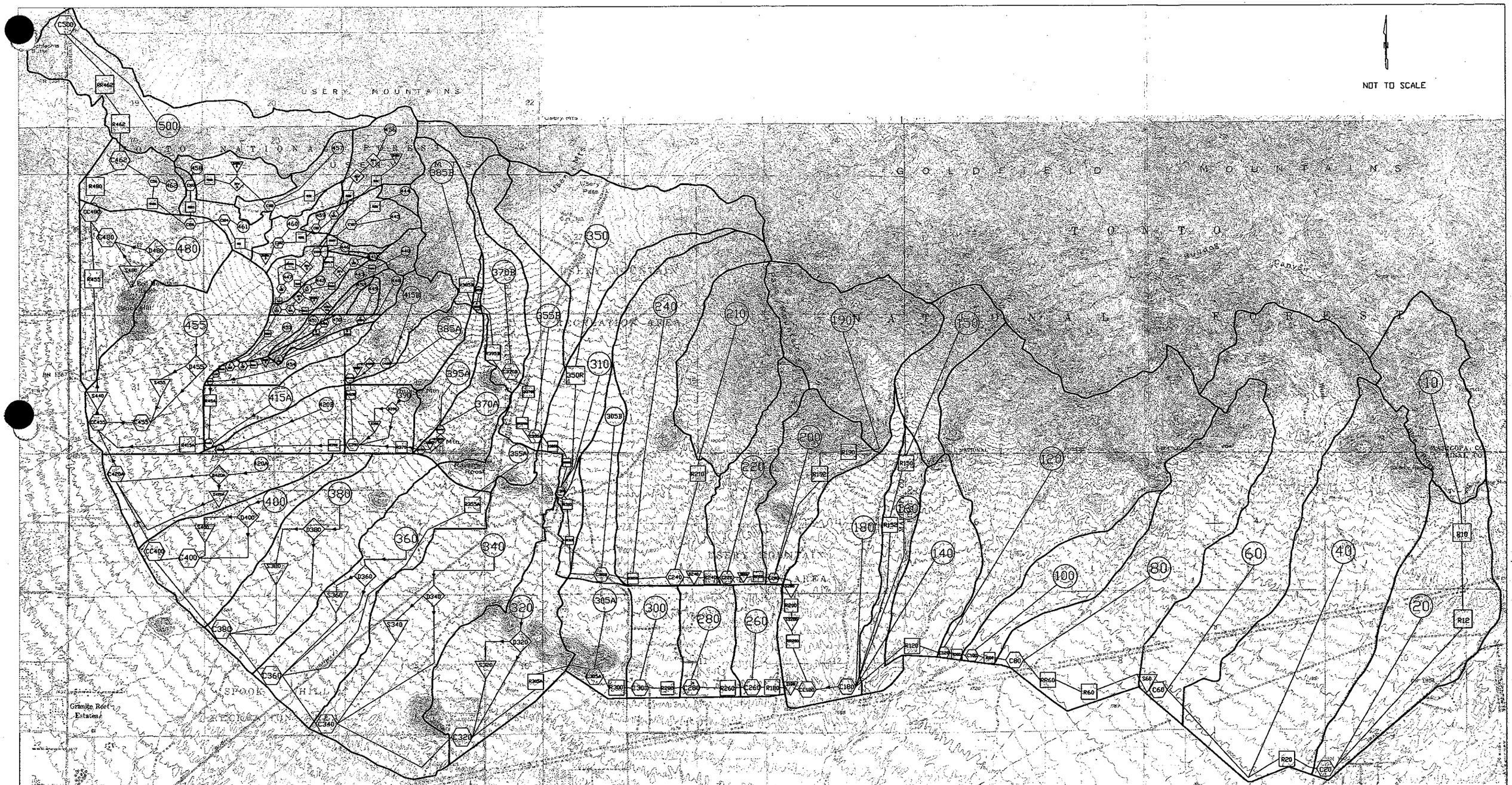
Registered Professional Engineer (Civil)
CERTIFICATE NO.
28615
RICHARD L.
HINER
Date Signed 9-29-
ARIZONA U.S.A.

Spook Hill ADMP Level II Alternative Summary - Peak Flows I

HEC-1	Inflow to Apache Junction FRS			Outflow of Apache Junction FRS			Inflow to Signal Butte FRS (east)			Inflow to Signal Butte FRS (north)			Total Inflow to Signal Butte FRS			Outflow of Signal Butte FRS			Inflow to Spook Hill FRS			Outflow of Spook Hill FRS		
File Name	"C60" Q100 (cfs)	Tp (hr)	Volume (Ac-Ft)	"S60" Q100 (cfs)	Tp (hr)	Volume (Ac-Ft)	"C180" Q100 (cfs)	Tp (hr)	Volume (Ac-Ft)	"RR200" Q100 (cfs)	Tp (hr)	Volume (Ac-Ft)	"CC180" Q100 (cfs)	Tp (hr)	Volume (Ac-Ft)	"S180" Q100 (cfs)	Tp (hr)	Volume (Ac-Ft)	"CC455" Q100 (cfs)	Tp (hr)	Volume (Ac-Ft)	"S440" Q100 (cfs)	Tp (hr)	Volume (Ac-Ft)
EC24BASE.DAT	5371	12.37	417	118	14.27	417	7306	12.30	869	1330	12.83	190	7306	12.30	1053	113	29.07	524	7116	12.37	1404	242	18.33	881
EC24B_R.DAT	5371	12.37	417	118	14.27	417	7306	12.30	869	1330	13.37	190	7306	12.30	1053	113	15.63	524	3996	13.63	1357	N/A		
EC24_NJ6.DAT	5371	12.37	417	118	14.27	417	7306	12.30	869	1785	13.37	345	7306	12.30	1214	449	15.63	916	2140	13.63	1595	N/A		
EC24_NJ4.DAT	5371	12.37	417	118	14.27	417	7306	12.30	869	1330	12.83	190	7306	12.30	1053	113	29.07	524	2282	13.60	1339	N/A		
EC24NJ4Q.DAT	5371	12.37	417	118	14.27	417	7306	12.30	869	1330	12.83	190	7306	12.30	1053	398	14.97	780	2754	13.73	1613	N/A		
EC24PM4R.DAT	5371	12.37	417	118	14.27	417	7306	12.30	869	1784	13.37	345	7306	12.30	1214	449	15.63	916	6518	12.40	1630	362	26.10	1131
EC24PM4E.DAT	Same as	EC24PM4R																						
EC24MD2E.DAT	5371	12.37	417	118	14.27	417	7306	12.30	869	1330	12.83	190	7306	12.30	1053	113	29.07	524	6744	12.37	1404	225	23.93	882
EC24MD2P.DAT	Same as	EC24MD2E																						
EC24MD3E.DAT	5371	12.37	417	118	14.27	417	7306	12.30	869	1330	12.83	190	7306	12.30	1053	113	29.07	524	6722	12.37	1404	225	23.53	882
EC24MD3P.DAT	Same as	EC24MD3E																						
EC24MK1C.DAT	5371	12.37	417	118	14.27	417	7306	12.30	869	1330	12.83	190	7306	12.30	1053	113	29.07	524	7091	12.37	1416	242	18.53	892
EC24MK1P.DAT	Same as	EC24MK1C																						
EC24MK2E.DAT	5371	12.37	417	118	14.27	417	7306	12.30	869	1330	12.83	190	7306	12.30	1053	113	29.07	524	6940	12.37	1416	229	22.13	890
EC24MK2P.DAT	Same as	EC24MK2E																						
MD2EPM4R.DAT	5371	12.37	417	118	14.27	417	7306	12.30	869	1784	13.37	345	7306	12.30	1214	449	15.63	916	6100	12.33	1672	363	26.43	1172
MD3EPM4R.DAT	5371	12.37	417	118	14.27	417	7306	12.30	869	1784	13.37	345	7306	12.30	1214	449	15.63	916	6166	12.33	1672	363	26.44	1172
MD2PMMK2.DAT	5371	12.37	417	118	14.27	417	7306	12.30	869	1784	13.37	345	7306	12.30	1214	449	15.63	916	6428	12.27	1672	364	26.47	1172
MD2PMMK1.DAT	5371	12.37	417	118	14.27	417	7306	12.30	869	1784	13.37	345	7306	12.30	1214	449	15.63	916	6428	12.27	1672	364	26.47	1172
MD3PMMK2.DAT	5371	12.37	417	118	14.27	417	7306	12.30	869	1784	13.37	345	7306	12.30	1214	449	15.63	916	6397	12.30	1672	364	26.47	1172
MD3PMMK1.DAT	5371	12.37	417	118	14.27	417	7306	12.30	869	1784	13.37	345	7306	12.30	1214	449	15.63	916	6397	12.30	1672	364	26.47	1172
MDPMMKNJ.DAT	5371	12.37	417	118	14.27	417	7306	12.30	869	1784	13.37	345	7306	12.30	1214	449	15.63	916	2121	13.67	1637	N/A		
MK2ENJ4Q.DAT	5371	12.37	417	118	14.27	417	7306	12.30	869	1330	13.37	190	7306	12.30	1053	398	14.97	780	2337	13.73	1619	N/A		
MD2ENJ4Q.DAT	5371	12.37	417	118	14.27	417	7306	12.30	869	1330	13.37	190	7306	12.30	1053	398	14.97	780	2411	13.73	1613	N/A		
MD2EMK2E.DAT	5371	12.37	417	118	14.27	417	7306	12.30	869	1330	13.37	190	7306	12.30	1053	113	29.07	524	6774	12.37	1416	226	24.00	886
MD2MK2NJ.DAT	5371	12.37	417	118	14.27	417	7306	12.30	869	1330	13.37	190	7306	12.30	1053	398	14.97	780	2327	13.67	1617	N/A		
EC24PM_R.DAT	5371	12.37	417	118	14.27	417	7306	12.30	869	1784	13.37	345	7306	12.30	1214	449	15.63	916	2140	13.63	1630	N/A		
EF24_NJ6.DAT	7224	12.37	577	482	13.70	577	9866	12.30	1196	2635	13.33	336	9866	12.30	1732	554	16.03	1392	3709	12.37	2374	N/A		
ET24_NJ6.DAT	2512	12.40	196	108	13.97	196	3542	12.30	411	502	14.00	95	3542	12.30	512	117	22.80	315	713	12.33	685	N/A		
ESPSBASE.DAT	N/A			N/A			N/A			N/A			N/A			113	29.07	524	23577	5.47	3201	4151	6.63	2666
ESPS_CHL.DAT	N/A			N/A			N/A			N/A			N/A			113	29.07	524	17099	6.07	3195	N/A		
ESPS_GCL.DAT	N/A			N/A			N/A			N/A			N/A			113	29.07	524	9708	48.37	3428	N/A		

Spook Hill ADMP Level II Alternative Summary - Peak Flows II

HEC-1	Spook Hill FRS												McDowell Road						McKellips Road				Total Outflow	
File Name	"C320" Q100 (cfs)	Tp (hr)	"C340" Q100 (cfs)	Tp (hr)	"C360" Q100 (cfs)	Tp (hr)	"C380/A" Q100 (cfs)	Tp (hr)	"CC400/B" Q100 (cfs)	Tp (hr)	"C420/A" Q100 (cfs)	Tp (hr)	"C370/A" Q100 (cfs)	Tp (hr)	"C390" Q100 (cfs)	Tp (hr)	"C415/C_A" Q100 (cfs)	Tp (hr)	"CC340B/340" Q100 (cfs)	Tp (hr)	"CC380B/380" Q100 (cfs)	Tp (hr)	"C500" Q100 (cfs)	Tp (hr)
EC24BASE.DAT	2546	12.30	3733	12.33	4484	12.33	4667	12.37	5262	12.37	5884	12.37	1046	12.23	478	12.03	1540	12.27	1534	12.17	627	12.27	2475	12.33
EC24B_R.DAT	2546	12.30	3025	12.53	4079	12.70	4597	12.87	4253	13.13	4082	13.40	1046	12.23	478	12.03	1540	12.27	1534	12.17	627	12.27	4332	14.23
EC24_NJ6.DAT	2277	12.27	2756	12.53	3025	12.67	3382	12.83	2018	13.27	2036	13.47	838	12.10	478	12.03	1434	12.27	1581	12.17	627	12.27	2320	12.23
EC24_NJ4.DAT	2546	12.30	3025	12.53	4079	12.70	4597	12.87	2047	13.13	2125	13.40	1046	12.23	478	12.03	1540	12.27	1534	12.17	627	12.27	2424	14.40
EC24NJ4Q.DAT	2559	12.30	3051	12.53	4106	12.70	2715	12.83	2652	13.20	2660	13.53	1046	12.23	478	12.03	1540	12.27	1534	12.17	627	12.27	2964	14.40
EC24PM4R.DAT	2277	12.27	3564	12.30	3921	12.37	4306	12.40	4902	12.40	5409	12.40	838	12.10	478	12.03	1434	12.27	1581	12.17	627	12.27	2475	12.33
EC24PM4E.DAT	Same as	EC24PM4R																						
EC24MD2E.DAT	2546	12.30	3733	12.33	4484	12.33	4405	12.33	4788	12.37	5497	12.37	1046	12.23	810	12.03	2035	12.20	1534	12.17	627	12.27	2475	12.33
EC24MD2P.DAT	Same as	EC24MD2E																						
EC24MD3E.DAT	2546	12.30	3733	12.33	4484	12.33	4405	12.33	4788	12.37	5167	12.37	1046	12.23	620	12.03	1973	12.23	1534	12.17	627	12.27	2475	12.33
EC24MD3P.DAT	Same as	EC24MD3E																						
EC24MK1C.DAT	2546	12.30	3667	12.27	4279	12.33	4513	12.33	5234	12.37	5857	12.37	1046	12.23	478	12.03	1540	12.27	394	12.13	913	12.57	2475	12.33
EC24MK1P.DAT	Same as	EC24MK1C																						
EC24MK2E.DAT	2546	12.30	3667	12.27	4279	12.33	4513	12.33	5081	12.37	5705	12.37	1046	12.23	478	12.03	1540	12.27	394	12.13	913	12.57	2475	12.33
EC24MK2P.DAT	Same as	EC24MK2E																						
MD2EPM4R.DAT	2277	12.27	3564	12.30	3921	12.37	3921	12.37	4250	12.37	4562	12.37	838	12.10	814	12.03	2063	12.20	1581	12.17	627	12.27	2475	12.33
MD3EPM4R.DAT	2277	12.27	3564	12.30	3921	12.31	3921	12.37	4250	12.37	4562	12.37	838	12.10	622	12.03	2002	12.23	1581	12.17	627	12.27	2475	12.33
MD2PMMK2.DAT	2277	12.27	3432	12.27	3690	12.37	3922	12.37	4334	12.27	4746	12.27	838	12.10	814	12.03	2063	12.20	394	12.13	156	12.80	2475	12.33
MD2PMMK1.DAT	2277	12.27	3432	12.27	3690	12.37	3922	12.37	4334	12.27	4746	12.27	838	12.10	814	12.03	2063	12.20	394	12.13	156	12.80	2475	12.33
MD3PMMK2.DAT	2277	12.27	3432	12.27	3690	12.37	3922	12.37	4334	12.27	4746	12.27	838	12.10	622	12.03	2002	12.23	394	12.13	156	12.80	2475	12.33
MD3PMMK1.DAT	2277	12.27	3432	12.27	3690	12.37	3922	12.37	4334	12.27	4746	12.27	838	12.10	622	12.03	2002	12.23	394	12.13	156	12.80	2475	12.33
MDPMMKNJ.DAT	2277	12.27	2575	12.53	2838	12.70	1991	12.97	1980	13.07	2062	13.47	838	12.10	814	12.03	2063	12.20	394	12.17	156	12.80	2657	12.30
MK2ENJ4Q.DAT	2559	12.30	2883	12.53	3951	12.70	2006	13.00	2150	13.27	2203	13.57	1046	12.23	478	12.03	1540	12.27	394	12.13	913	12.57	2647	12.30
MD2ENJ4Q.DAT	2559	12.30	3051	12.53	4106	12.70	2194	12.90	2198	13.23	2221	13.53	1046	12.23	810	12.03	2035	12.20	1534	12.17	627	12.27	2665	12.30
MD2EMK2E.DAT	2546	12.30	3667	12.27	4279	12.33	4513	12.33	4824	12.33	5196	12.37	1046	12.23	810	12.03	2035	12.20	394	12.13	156	12.80	2475	12.33
MD2MK2NJ.DAT	2559	12.30	2883	12.53	3951	12.70	2006	13.00	2090	13.30	2121	13.57	1046	12.23	810	12.03	2035	12.20	394	12.17	156	12.80	2669	12.30
EC24PM_R.DAT	2277	12.27	2756	12.53	3025	12.67	3382	12.83	2018	13.27	2036	13.34	838	12.10	478	12.03	1434	12.27	1581	12.17	627	12.27	2320	12.33
EF24_NJ6.DAT	3133	12.23	4005	12.47	4553	12.60	5353	12.70	2714	13.40	2697	13.67	1126	12.10	629	12.03	2253	12.20	2165	12.17	889	12.27	3578	12.33
ET24_NJ6.DAT	1058	12.30	818	12.80	725	13.10	644	13.47	515	13.90	498	14.30	417	12.10	256	12.03	734	12.27	772	12.20	273	12.27	1185	12.27
ESPSBASE.DAT	6600	5.53	9174	5.50	12385	5.53	15413	5.53	16908	5.53	18404	5.53	1956	5.33	743	5.07	4092	5.40	3083	5.33	1504	5.47	6577	5.40
ESPS_CHL.DAT	6600	5.53	8300	5.70	11367	5.73	13851	5.77	14613	5.90	15427	6.00	1956	5.33	743	5.07	4092	5.40	3083	5.33	1504	5.47	18679	6.50
ESPS_GCL.DAT	3328	47.73	4353	47.90	6138	48.03	7562	48.10	8060	48.23	8533	48.37	1005	47.70	337	47.50	2004	47.70	1534	47.63	768	47.73	10861	49.03



FLOOD CONTROL DISTRICT
OF MARICOPA COUNTY
ENGINEERING DIVISION

McDOWELL & PASS MTN. ALTERNATIVE 4R

	BY	DATE
DESIGNED	R. HINER	06/00
DRAWN	S. CAMPBELL	06/00
CHECKED	A. PATEL	06/00

WOOD, PATEL & ASSOCIATES, INC.
2051 WEST NORTHERN, SUITE 100
PHOENIX, ARIZONA (602) 335-8500

DRAWING NO. MD2EPM4R.DWG SHEET OF

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1****************************************
*                                      *
*   FLOOD HYDROGRAPH PACKAGE  (HEC-1)  *
*            JUN   1998                *
*          VERSION 4.1                 *
*                                      *
*  RUN DATE   01MAY01  TIME  16:50:33  *
*                                      *
****************************************
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****************************************
*                                      *
*    U.S. ARMY CORPS OF ENGINEERS      *
*    HYDROLOGIC ENGINEERING CENTER     *
*          609 SECOND STREET           *
*       DAVIS, CALIFORNIA 95616        *
*           (916) 756-1104             *
*                                      *
****************************************
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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
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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

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1                                        HEC-1 INPUT                                                    PAGE  1

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

   1          ID   DDMS MCUHP1 SPOOK HILL ADMP-EXISTING CONDITIONS MODEL-100YR, 24-HR STORM
   2          ID   Combined McDowell Road and Pass Mountain Alternatives MD2E and PM4R
   3          ID   McDowell Road Alternative - Option MD2E
   4          ID   FULL PASS MOUNTAIN DIVERSION WITH SPOOK HILL FRS STORAGE ROUTING;
   5          ID   OUTFLOW OF SIGNAL BUTTE IS QUADRUPLED, PASS MOUNTAIN DIVERSION ALTERNATIVE
   6          ID   Spook Hill FRS without Off-Line Basin
              *
              *  Original File Names: EC24PM4R.DAT, EC24MD2E.DAT
              *  Modified File Name:  MD2EPM4R.DAT, 4/23/01, WOOD/PATEL, SZ
              *
              *
              *DIAGRAM
   7          IT       2                    2000
   8          IO       5
   9          IN      15
  10          JD    3.81    0.01
  11          PC    .000    .002    .005    .008    .011    .014    .017    .020    .023    .026
  12          PC    .029    .032    .035    .038    .041    .044    .048    .052    .056    .060
  13          PC    .064    .068    .072    .076    .080    .085    .090    .095    .100    .105
  14          PC    .110    .115    .120    .126    .133    .140    .147    .155    .163    .172
  15          PC    .181    .191    .203    .218    .236    .257    .283    .387    .663    .707
  16          PC    .735    .758    .776    .791    .804    .815    .825    .834    .842    .849
  17          PC    .856    .863    .869    .875    .881    .887    .893    .898    .903    .908
  18          PC    .913    .918    .922    .926    .930    .934    .938    .942    .946    .950
  19          PC    .953    .956    .959    .962    .965    .968    .971    .974    .977    .980
  20          PC    .983    .986    .989    .992    .995    .998   1.000
  21          JD   3.787    1.00
  22          JD   3.677    5.80
  23          JD   3.574   10.66
  24          JD   3.539   13.70
  25          JD   3.467   20.00
  26          JD   3.315   50.00
              * DDM   ***** Updated *****

  27          KK      10
  28          KM   SUB-BASIN 10
  29          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
  30          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .996
  31          KM     L = 2.00  Kb = .044  Adj. Slope =  165.0
  32          BA    .702
  33          LG    .350    .320   7.600    .090  15.000
  34          UC    .421    .302
  35          UA       0       3       5       8      12      20      43      75      90      96
  36          UA     100
              * DDM   ***** Preserved *****

  37          KK     R10
  38          KM   ROUTING OF FLOW FROM SUB-BASIN 10 TO R12
  39          RS       4    FLOW      -1
  40          RC    .045     .03    .045    8700    .021
  41          RX       0       1       2      17      27      42      43      44
  42          RY       5       5       5       0       0       5       5       5
              * DDM   ***** Preserved *****
                                         HEC-1 INPUT                                                    PAGE  2

LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10
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 43          KK     R12
 44          KM   ROUTING OF FLOW FROM R12 TO SUB-BASIN 20
 45          RS       6    FLOW      -1
 46          RC    .045     .03    .045    4500     .01
 47          RX       0       1      45    52.5    72.5      80     124     125
 48          RY       4     2.5     2.5       0       0     2.5     2.5       4
             * DDM   ***** Updated *****

 49          KK      20
 50          KM   SUB-BASIN 20
 51          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
 52          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .993
 53          KM     L = 2.50  Kb = .041  Adj. Slope =   88.0
 54          BA   1.120
 55          LG    .350    .390   5.800    .190   1.000
 56          UC    .658    .454
 57          UA       0       3       5       8      12      20      43      75      90      96
 58          UA     100
             * DDM   ***** Preserved *****

 59          KK     C20
 60          KM   HYDROGRAPH COMBINATION OF SUB-BASINS 10 AND 20
 61          HC       2
             * DDM   ***** Preserved *****

 62          KK     R20
 63          KM        ROUTE FLOW THROUGH BULLDOG FLOODWAY FROM APACHE JUNCTION FRS
 64          RS       1    FLOW      -1
 65          RC    .016    .016    .016     990    .004
 66          RX       0       5       7    14.5    34.5      42      44      50
 67          RY       4       2       2       0       0       2       2       4
             * DDM   ***** Updated *****

 68          KK      40
 69          KM   SUB-BASIN 40
 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  .987
 72          KM     L = 3.08  Kb = .036  Adj. Slope =  189.0
 73          BA   2.233
 74          LG    .340    .340   4.900    .280   5.000
 75          UC    .496    .264
 76          UA       0       3       5       8      12      20      43      75      90      96
 77          UA     100
             * DDM   ***** Updated *****

 78          KK      60
 79          KM   SUB-BASIN 60
 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  .990
 82          KM     L = 4.19  Kb = .038  Adj. Slope =  209.6
 83          BA   1.746
 84          LG    .330    .350   5.800    .190   9.000
 85          UC    .596    .477
 86          UA       0       3       5       8      12      20      43      75      90      96
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LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 87          UA     100
             * DDM   ***** Preserved *****

 88          KK     C60
 89          KM   HYDROGRAPH COMBINATION FOR APACHE JUNCTION FRS
             *      1       2
 90          HC       3
             * DDM   ***** Preserved *****

 91          KK     S60
 92          KM   APACHE JUNCTION FRS AS-BUILT PLANS 12/19/88
 93          KM   OUTLET PIPE=30"RCP; L=136.6'; INLET INV.=1783.5; OUTLET INV.=1783
 94          KM   EMERGENCY SPILLWAY ELEV.=1799.77'; PRINCIPLE SPILLWAY ELEV.=1793.5'
 95          KM   STORAGE VOLUME BELOW PRINCIPLE SPILLWAY FOR SEDIMENT = 100 ACRE-FEET
             *  ESE = 1801.92 ft; PSE = 1795.65 ft; Sediment Vol. = 237 Ac-Ft.
 96          RS       1    STOR       0
 97          SV       0       0      77     242     371     439     563     687    2163
 98          SQ       0      12     103     114     120     362    1462    3101   30000
 99          SE    95.0    96.0    98.0   100.0   101.6   101.9   103.0   104.0   112.9
             * DDM   ***** Preserved *****

100          KK     R60
101          KM        ROUTE FLOW THROUGH BULLDOG FLOODWAY FROM APACHE JUNCTION FRS
102          RS       1    FLOW      -1
103          RC    .016    .016    .016    2850    .012
104          RX       0       1       2     2.1     5.6     5.7       6       7
105          RY     3.5     3.5     3.5       0       0     3.5     3.5     3.5
             * DDM   ***** Preserved *****

106          KK    RR60
107          KM   ROUTE FLOW FROM BULLDOG FLOODWAY TO SUB-BASIN 80
108          RS       3    FLOW      -1
109          RC    .016    .016    .016    3500    .005
110          RX       0       1       2     2.1     7.1     7.2       8       9
111          RY     3.5     3.5     3.5       0       0     3.5     3.5     3.5
             * DDM   ***** Updated *****

112          KK      80
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113          KM   SUB-BASIN 80
114          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
115          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .991
116          KM     L = 2.69  Kb = .039  Adj. Slope =  229.8
117          BA   1.475
118          LG    .330    .330   5.600    .210   4.000
119          UC    .433    .259
120          UA       0       3       5       8      12      20      43      75      90      96
121          UA     100
             * DDM   ***** Preserved *****

122          KK     C80
123          KM   HYDROGRAPH COMBINATION FOR FLOW FROM APACHE JUNCTION FRS & SUB-BASIN 80
124          HC       2   1.475
             * DDM   ***** Preserved *****
1                                        HEC-1 INPUT                                          PAGE  4

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

125          KK     R80
126          KM   ROUTE FLOW FROM SUB-BASIN 80 TO SUB-BASIN 100
127          RS       1    FLOW      -1
128          RC    .025    .016    .025    1200    .003
129          RX       0       2       6     6.1    41.1    41.2    56.2    58.2
130          RY     5.5     4.5     4.5       0       0     4.5     4.5     5.5
             * DDM   ***** Updated *****

131          KK     100
132          KM   SUB-BASIN 100
133          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
134          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .997
135          KM     L = 1.94  Kb = .046  Adj. Slope =  108.0
136          BA    .484
137          LG    .320    .290   5.100    .260   3.000
138          UC    .533    .473
139          UA       0       5      16      30      65      77      84      90      94      97
140          UA     100
             * DDM   ***** Preserved *****

141          KK    C100
142          KM   HYDROGRAPH COMBINATION FOR FLOW FROM SUB-BASIN 80 & 100
143          HC       2
             * DDM   ***** Preserved *****

144          KK    R100
145          KM   ROUTE FLOW FROM SUB-BASIN 100 TO SUB-BASIN 120
146          RS       1    FLOW      -1
147          RC    .016    .016    .016     940    .005
148          RX       0       1       2     2.1    52.1    52.2      53      54
149          RY     4.5     4.5     4.5       0       0     4.5     4.5     4.5
             * DDM   ***** Updated *****

150          KK     120
151          KM   SUB-BASIN 120
152          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
153          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .987
154          KM     L = 3.07  Kb = .037  Adj. Slope =  239.0
155          BA   2.202
156          LG    .330    .280   6.800    .130  11.000
157          UC    .429    .226
158          UA       0       3       5       8      12      20      43      75      90      96
159          UA     100
             * DDM   ***** Preserved *****

160          KK    C120
161          KM   HYDROGRAPH COMBINATION FOR FLOW FROM SUB-BASIN 100 & 120
162          HC       2
             * DDM   ***** Preserved *****
1                                        HEC-1 INPUT                                          PAGE  5

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

163          KK    R120
164          KM   ROUTE FLOW FROM SUB-BASIN 120 TO SIGNAL BUTTE FRS
165          RS       1    FLOW      -1
166          RC    .025    .016    .025    2100    .005
167          RX       0       6      10    10.1    60.1    60.2    74.2    80.2
168          RY       8       5       5       0       0       5       5       8
             * DDM   ***** Updated *****

169          KK     140
170          KM   SUB-BASIN 140
171          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
172          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .996
173          KM     L = 1.61  Kb = .044  Adj. Slope =  149.0
174          BA    .598
175          LG    .310    .280   4.200    .440   5.000
176          UC    .421    .278
177          UA       0       5      16      30      65      77      84      90      94      97
178          UA     100
             * DDM   ***** Updated *****

179          KK     150
180          KM   SUB-BASIN 150
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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  .998
183          KM     L = 1.50  Kb = .047  Adj. Slope =  314.6
184          BA    .408
185          LG    .350    .360   5.100    .260   7.000
186          UC    .296    .221
187          UA       0       3       5       8      12      20      43      75      90      96
188          UA     100
             * DDM   ***** Preserved *****

189          KK    R150
190          KM   ROUTING OF FLOW FROM SUB-BASIN 150 TO R152
191          RS       2    FLOW      -1
192          RC    .045     .04    .045    3100    .032
193          RX       0       1       2      23      33      54      55      56
194          RY       7       7       7       0       0       7       7       7
             * DDM   ***** Preserved *****

195          KK    R152
196          KM   ROUTING OF FLOW FROM R152 TO SUB-BASIN 160
197          RS       3    FLOW      -1
198          RC    .045     .03    .045    5900    .019
199          RX       0       1       2       8      33      39      40      41
200          RY       2       2       2       0       0       2       2       2
             * DDM   ***** Updated *****

201          KK     160
202          KM   SUB-BASIN 160
203          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
204          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .998
205          KM     L = 2.10  Kb = .047  Adj. Slope =  129.0
206          BA    .369
1                                        HEC-1 INPUT                                          PAGE  6

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

207          LG    .340    .330   4.150    .440   1.000
208          UC    .587    .655
209          UA       0       3       5       8      12      20      43      75      90      96
210          UA     100
             * DDM   ***** Updated *****

211          KK     180
212          KM   SUB-BASIN 180
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  .994
215          KM     L = 2.42  Kb = .041  Adj. Slope =  140.0
216          BA   1.000
217          LG    .350    .350   4.150    .430    .000
218          UC    .571    .403
219          UA       0       3       5       8      12      20      43      75      90      96
220          UA     100
             * DDM   ***** Preserved *****

221          KK    C180
222          KM   HYDROGRAPH COMBINATION FOR SIGNAL BUTTE FRS
             * KO      1
223          HC       5
             * DDM   ***** Updated *****

224          KK    385B
225          KM   SUB-BASIN 385B
226          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
227          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .998
228          KM     L = 1.47  Kb = .047  Adj. Slope =  315.0
229          BA    .375
230          LG    .350    .400   6.000    .170  17.000
231          UC    .287    .221
232          UA       0       3       5       8      12      20      43      75      90      96
233          UA     100
             * DDM   ***** Preserved *****

234          KK   R385B
235          KM   CHANNEL GEOMETRY OBTAINED FROM 2' CONTOUR MAPPING & AERIAL MAPPING
236          KM   ROUTING OF FLOW FROM SUB-BASIN 385B TO 395B
237          KM   OVERBANK MANNINGS INCREASED TO ACCOUNT FOR SKEWED FLOW TO NATURAL
238          KM   WATERCOURSE FLOW PATH
239          RS       1    FLOW      -1
240          RC     .07     .03     .07     500    .045
241          RX       0       1       3       9      39      45      46      47
242          RY       3       2       2       0       0       2       2       3
             * DDM   ***** Updated *****

243          KK    395B
244          KM   SUB-BASIN 395B
245          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
246          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF 1.000
247          KM     L =  .71  Kb = .066  Adj. Slope =  249.8
248          BA    .017
249          LG    .350    .350   4.300    .400    .000
250          UC    .262    .650
                                         HEC-1 INPUT                                          PAGE  7

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

251          UA       0       3       5       8      12      20      43      75      90      96
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252          UA     100
             * DDM   ***** Preserved *****

253          KK   C395B
254          KM   HYDROGRAPH COMBINATION OF SUB-BASINS 383 & 393
255          HC       2
             * DDM   ***** Preserved *****

256          KK   R395B
257          KM   CHANNEL GEOMETRY OBTAINED FROM 2' CONTOUR MAPPING & AERIAL MAPPING
258          KM   ROUTING OF FLOW FROM SUB-BASIN 393 TO SUB-BASIN 365
259          RS       2    FLOW      -1
260          RC    .055     .03    .055    3630    .045
261          RX       0       1       3       9      39      45      46      47
262          RY       3       2       2       0       0       2       2       3
             * DDM   ***** Updated *****

263          KK    370B
264          KM   SUB-BASIN 370B
265          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
266          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .998
267          KM     L = 2.20  Kb = .049  Adj. Slope =  299.5
268          BA    .264
269          LG    .350    .350   4.800    .290   5.000
270          UC    .408    .550
271          UA       0       3       5       8      12      20      43      75      90      96
272          UA     100
             * DDM   ***** Preserved *****

273          KK   C370C
274          KM   HYDROGRAPH COMBINATION OF SUB-BASINS 395B & 370B
275          HC       2
             * DDM   ***** Preserved *****

276          KK   R370B
277          KM   CHANNEL GEOMETRY OBTAINED FROM 2' CONTOUR MAPPING & AERIAL MAPPING
278          KM   ROUTING OF FLOW FROM SUB-BASIN 370B TO ROUTING RR370B
279          RS       2    FLOW      -1
280          RC    .045     .03    .045    1110    .025
281          RX       0       1      50      56      76      82     131     132
282          RY       3       2       2       0       0       2       2       3
             * DDM   ***** Preserved *****

283          KK  RR370B
284          KM   CHANNEL GEOMETRY OBTAINED FROM 2' CONTOUR MAPPING & AERIAL MAPPING
285          KM   ROUTING OF FLOW FROM RR370B TO SUB-BASIN 355B
286          KM   OVERBANK MANNINGS INCREASED TO ACCOUNT FOR SKEWED FLOW TO NATURAL
287          KM   WATERCOURSE FLOW PATH
288          RS       1    FLOW      -1
289          RC     .07     .03     .07    1550    .008
290          RX       0       3       5      11      41      47     147     247
291          RY     3.5     2.5       2       0       0       2     2.5     3.5
             * DDM   ***** Updated *****
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LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

292          KK    355B
293          KM   SUB-BASIN 355B
294          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
295          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .997
296          KM     L = 2.41  Kb = .045  Adj. Slope =  298.2
297          BA    .513
298          LG    .350    .350   4.400    .370   1.000
299          UC    .421    .419
300          UA       0       3       5       8      12      20      43      75      90      96
301          UA     100
             * DDM   ***** Preserved *****

302          KK   C355B
303          KM   HYDROGRAPH COMBINATION OF SUB-BASINS 370B & 355B
304          HC       2
             * DDM   ***** Preserved *****

305          KK   R355B
306          KM   CHANNEL GEOMETRY OBTAINED FROM 2' CONTOUR MAPPING & AERIAL MAPPING
307          KM   ROUTING OF FLOW FROM SUB-BASIN 355B TO ROUTING RR355B
308          KM   OVERBANK MANNINGS INCREASED TO ACCOUNT FOR SKEWED FLOW TO NATURAL
309          KM   WATERCOURSE FLOW PATH
310          RS       3    FLOW      -1
311          RC     .07     .03     .07     936    .009
312          RX       0       3       5      11      41      47     172     302
313          RY     3.5     2.5       2       0       0       2     2.5     3.5
             * DDM   ***** Preserved *****

314          KK  RR355B
315          KM   CHANNEL GEOMETRY OBTAINED FROM 2' CONTOUR MAPPING & AERIAL MAPPING
316          KM   ROUTING OF FLOW FROM R355B TO SUB-BASIN 310
317          RS       1    FLOW      -1
318          RC    .045     .03    .045    1725     .03
319          RX       0       1      25      31      51      57      81      82
320          RY       3       2       2       0       0       2       2       3
             * DDM   ***** Updated *****

321          KK     350
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322          KM   SUB-BASIN 350
323          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
324          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .994
325          KM     L = 2.22  Kb = .042  Adj. Slope =  315.0
326          BA    .970
327          LG    .350    .350   4.550    .340   4.000
328          UC    .367    .234
329          UA       0       3       5       8      12      20      43      75      90      96
330          UA     100
             * DDM   ***** Preserved *****
1                                        HEC-1 INPUT                                          PAGE  9

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

331          KK    R350
332          KM   CHANNEL GEOMETRY OBTAINED FROM 2' CONTOUR MAPPING & AERIAL MAPPING
333          KM   ROUTING OF MAIN FLOW FROM DIVERSION OF SUB-BASIN 350 TO SUB-BASIN 310
334          RS       9    FLOW      -1
335          RC    .045    .035    .045    7650    .025
336          RX       0       1      50      56      86      92     141     142
337          RY       3       2       2       0       0       2       2       3
             * DDM   ***** Updated *****

338          KK     310
339          KM   SUB-BASIN 310
340          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
341          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .997
342          KM     L = 2.65  Kb = .046  Adj. Slope =  285.6
343          BA    .494
344          LG    .350    .350   3.910    .480    .000
345          UC    .483    .538
346          UA       0       3       5       8      12      20      43      75      90      96
347          UA     100
             * DDM   ***** Preserved *****

348          KK    C310
349          KM   HYDROGRAPH COMBINATION OF SUB-BASINS 350 & 310
350          HC       3
             * DDM   ***** Preserved *****

351          KK    R310
352          KM   CHANNEL GEOMETRY OBTAINED FROM 2' CONTOUR MAPPING & AERIAL MAPPING
353          KM   ROUTING OF FLOW FROM SUB-BASIN 310 TO R312
354          RS       3    FLOW      -1
355          RC    .045     .03    .045    2850    .021
356          RX       0       1     100     106     126     132     231     232
357          RY     3.5       2       2       0       0       2       2     3.5
             * DDM   ***** Preserved *****

358          KK    R312
359          KM   CHANNEL GEOMETRY OBTAINED FROM 2' CONTOUR MAPPING & AERIAL MAPPING
360          KM   ROUTING OF FLOW FROM SUB-BASIN 310 TO 305
361          KM   OVERBANK MANNINGS INCREASED TO ACCOUNT FOR SKEWED FLOW TO NATURAL
362          KM   WATERCOURSE FLOW PATH
363          RS       3    FLOW      -1
364          RC     .07     .03     .07    2560   .0124
365          RX       0       3       5      11      61      67     200     395
366          RY       4     2.5       2       0       0       2     2.5       4
             * DDM   ***** Updated *****

367          KK    305B
368          KM   SUB-BASIN 305B
369          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
370          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .998
371          KM     L = 1.65  Kb = .047  Adj. Slope =  127.0
372          BA    .414
373          LG    .350    .350   4.700    .300    .000
374          UC    .467    .392
1                                        HEC-1 INPUT                                          PAGE 10

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

375          UA       0       3       5       8      12      20      43      75      90      96
376          UA     100
             * DDM   ***** Preserved *****

377          KK   C305B
378          KM   HYDROGRAPH COMBINATION OF SUB-BASINS 310 & 295
379          HC       2
             * DDM   ***** Preserved *****

380          KK   R305B
381          KM   CHANNEL GEOMETRY OBTAINED FROM 2' CONTOUR MAPPING & AERIAL MAPPING
382          KM   ROUTING OF FLOW FROM SUBBASIN 305B TO BEGINNING OF PASS MTN. DIVERSION.
383          KM   OVERBANK MANNINGS INCREASED TO ACCOUNT FOR SKEWED FLOW TO NATURAL
384          KM   WATERCOURSE FLOW PATH
385          RS       3    FLOW      -1
386          RC     .07     .03     .07    1100    .013
387          RX       0       3       5      11      51      57     200     400
388          RY       4     2.5       2       0       0       2     2.5       4
             * DDM   ***** Updated *****

389          KK     210
390          KM   SUB-BASIN 210
391          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
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392          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .995
393          KM     L = 1.84  Kb = .043  Adj. Slope =  315.0
394          BA    .792
395          LG    .350    .360   6.800    .130   4.000
396          UC    .313    .189
397          UA       0       3       5       8      12      20      43      75      90      96
398          UA     100
             * DDM   ***** Preserved *****

399          KK    R210
400          KM   ROUTING OF FLOW FROM SUB-BASIN 210 TO SUB-BASIN 220
401          RS       2    FLOW      -1
402          RC    .045     .03    .045    5100    .022
403          RX       0       1       2      14      34      46      47      48
404          RY       4       4       4       0       0       4       4       4
             * DDM   ***** Updated *****

405          KK     240
406          KM   SUB-BASIN 240
407          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
408          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .992
409          KM     L = 2.96  Kb = .039  Adj. Slope =  305.5
410          BA   1.408
411          LG    .350    .370   5.300    .230   2.000
412          UC    .417    .274
413          UA       0       3       5       8      12      20      43      75      90      96
414          UA     100
             * DDM   ***** Preserved *****
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LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

415          KK    C240
416          KM   HYDROGRAPH COMBINATION FOR SUB-BASIN 240 & 220
417          HC       3
             * DDM   ***** Preserved *****

418          KK    S240
419          KM   DIGITAL MAPPING SHOWS SEDIMENTATION.  FOR SIMPLICITY NO ADDITIONAL
420          KM   SEDIMENTATION WILL BE CONSIDERED FOR STORAGE ROUTING ANALYSIS. 5/11/00
421          KM    WEIR GEOMETRY OBTAINED FROM AS-BUILT PLANS @ PASS MTN. DIVERSION.
422          KM   WEIR STORAGE DATA OBTAINED FROM 2' CONTOUR MAPPING. Weir Width Changed
             *  from 42' to 45'
423          RS       1    STOR       0
424          SA    1.38    14.2    36.5
425          SE       0       5      11
426          SS       5      45       3     1.5
             * DDM   ***** Preserved *****

427          KK    R240
428          KM   ROUTE FLOW FROM SUB-BASIN 240 TO SUB-BASIN 220
429          KM   PASS MOUNTAIN DIVERSION
430          RS       3    FLOW      -1
431          RC    .035    .025    .035    1800    .005
432          RX       0      15      30      39      69      81      96     111
433          RY     4.6     3.3       3       0       0       3       3       4
             * DDM   ***** Updated *****

434          KK     220
435          KM   SUB-BASIN 220
436          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
437          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .997
438          KM     L = 1.85  Kb = .046  Adj. Slope =  315.0
439          BA    .473
440          LG    .350    .350   7.000    .120   5.000
441          UC    .325    .266
442          UA       0       3       5       8      12      20      43      75      90      96
443          UA     100
             * DDM   ***** Preserved *****

444          KK    C220
445          KM   HYDROGRAPH COMBINATION FOR SUB-BASIN 240 & 220
446          HC       2
             * DDM   ***** Preserved *****

447          KK    S220
448          KM   DIGITAL MAPPING SHOWS SEDIMENTATION.  FOR SIMPLICITY NO ADDITIONAL
449          KM   SEDIMENTATION WILL BE CONSIDERED FOR STORAGE ROUTING ANALYSIS. 5/11/00
450          KM    WEIR GEOMETRY OBTAINED FROM AS-BUILT PLANS @ PASS MTN. DIVERSION.
451          KM   WEIR STORAGE DATA OBTAINED FROM 2' CONTOUR MAPPING.
452          RS       1    STOR       0
453          SA     .78     4.1    13.7
454          SE       0       3      10
455          SS       3      65       3     1.5
             * DDM   ***** Preserved *****
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LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

456          KK    R220
457          KM   ROUTE FLOW FROM SUB-BASIN 220 TO SUB-BASIN 200
458          KM   PASS MOUNTAIN DIVERSION
459          RS       3    FLOW      -1
460          RC    .035    .025    .035    1250    .005
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461          RX       0      50     100     109     139     148     178     184
462          RY       5       4       3       0       0       3       3       5
             * DDM   ***** Updated *****

463          KK     190
464          KM   SUB-BASIN 190
465          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
466          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .994
467          KM     L = 1.91  Kb = .042  Adj. Slope =  315.0
468          BA    .918
469          LG    .350    .390   5.800    .190   8.000
470          UC    .321    .185
471          UA       0       3       5       8      12      20      43      75      90      96
472          UA     100
             * DDM   ***** Preserved *****

473          KK    R190
474          KM   ROUTING OF FLOW FROM SUB-BASIN 190 TO SUB-BASIN 200
475          RS       2    FLOW      -1
476          RC    .045     .03    .045    4740     .03
477          RX       0       1       2      17      37      52      53      54
478          RY       5       5       5       0       0       5       5       5
             * DDM   ***** Preserved *****

479          KK    R192
480          KM   ROUTING OF FLOW FROM SUB-BASIN 190 TO SUB-BASIN 200
481          RS       3    FLOW      -1
482          RC    .045    .035    .045    2200    .018
483          RX       0       1      50      59      79      88     137     138
484          RY     4.5       3       3       0       0       3       3     4.5
             * DDM   ***** Updated *****

485          KK     200
486          KM   SUB-BASIN 200
487          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
488          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .997
489          KM     L = 1.55  Kb = .045  Adj. Slope =  306.9
             * KO     1
490          BA    .530
491          LG    .350    .390   5.700    .200  10.000
492          UC    .296    .195
493          UA       0       3       5       8      12      20      43      75      90      96
494          UA     100
             * DDM   ***** Preserved *****
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LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

495          KK    C200
496          KM   HYDROGRAPH COMBINATION FOR SUB-BASIN 220 & 200
             * KO     1
497          HC       3
             * DDM   ***** Preserved *****

498          KK    S200
499          KM    WEIR GEOMETRY OBTAINED FROM AS-BUILT PLANS @ PASS MTN. DIVERSION.
500          KM   WEIR STORAGE DATA OBTAINED FROM 2' CONTOUR MAPPING.
             * KO     1
501          RS       1    STOR       0
502          SA    2.56     3.1     9.4
503          SE       0       3      10
504          SS       3     112       3     1.5
             * DDM   ***** Preserved *****

505          KK    R200
506          KM   ROUTE FLOW FROM SUB-BASIN 200 TO SIGNAL BUTTE FRS through storage
507          RS       1    FLOW      -1
508          RC    .035    .025    .035     650    .005
509          RX       0       1       2      17     117     132     133     134
510          RY       5       5       5       0       0       5       5       5
             * DDM   ***** Preserved *****

511          KK   SS200
512          KM    WEIR GEOMETRY OBTAINED FROM AS-BUILT PLANS @ PASS MTN. DIVERSION.
513          KM   WEIR STORAGE DATA OBTAINED FROM 2' CONTOUR MAPPING.
             * KO     1
514          RS       1    STOR       0
515          SA       8     9.2     9.2
516          SE       0       7      10
517          SS       7     251       3     1.5
             * DDM   ***** Preserved *****

518          KK   RR200
519          KM   ROUTE FLOW FROM SUB-BASIN 200 TO SIGNAL BUTTE FRS
520          RS       3    FLOW      -1
521          RC    .035    .025    .035    3150    .005
522          RX       0       1       2      17     117     132     133     134
523          RY       5       5       5       0       0       5       5       5
             * ******************************************************************
             * ************ END OF PASS MOUNTAIN ALTERNATIVE UPDATE. **************
             * DDM   ***** Preserved *****

524          KK   CC180
525          KM   HYDROGRAPH COMBINATION FOR SIGNAL BUTTE FRS
             * KO     1
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526          HC       2
             * DDM   ***** Preserved *****
1                                    HEC-1 INPUT                                                    PAGE 14

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

527          KK    S180
528          KM   SIGNAL BUTTE FRS DATED 1/28/85
529          KM   OUTLET PIPE=36"RCP; L= 147';  INLET INV.=1690; OUTLET INV.=1687
530          KM   EMERGENCY SPILLWAY ELEV.=1712.4; PRINCIPLE SPILLWAY ELEV.=1701
531          KM   STORAGE VOLUME BELOW PRINCIPLE SPILLWAY FOR SEDIMENT = 250 ACRE-FEET
532          RS       1    STOR       0
533          SV       0      92     226     462     742    1197    1418    1776    1941    3114
534          SQ       0      40      42     392     532     596     620    1949    3032    6465
535          SE      99     101     103     106     109     113   114.6     117     118     120
             *
             * DDM   ***** Preserved *****

536          KK    R180
537          KM   Routing length updated using Signal Butte Floodway plans dated March 1983
538          KM   Routing length increased 100' from 1500' to 1600'    12/12/00
539          KM   CHANNEL GEOMETRY FOR SIGNAL BUTTE FRS OBTAINED FROM AS-BUILT PLANS.
540          KM   ROUTE FLOW FROM SIGNAL BUTTE FRS TO SUB-BASIN 260
541          RS       3    FLOW      -1
542          RC    .035    .025    .035    1600    .003
543          RX       0       1       2    22.6    38.6    59.2      60      61
544          RY     9.3     9.3     9.3       0       0     9.3     9.3     9.3
             * DDM   ***** Updated *****

545          KK     260
546          KM   SUB-BASIN 260
547          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
548          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .998
549          KM     L =  .85  Kb = .049  Adj. Slope =   65.0
550          BA    .262
551          LG    .300    .190   6.600    .170  15.000
552          UC    .379    .238
553          UA       0       5      16      30      65      77      84      90      94      97
554          UA     100
             * DDM   ***** Preserved *****

555          KK    C260
556          KM   HYDROGRAPH COMBINATION FOR OUTFLOW OF SIGNAL BUTTE FRS & SUB-BASIN 260
557          HC       2    .262
             * DDM   ***** Preserved *****

558          KK    R260
559          KM   Routing length updated using Signal Butte Floodway plans dated March 1983
560          KM   Routing length unchanged     12/12/00
561          KM   CHANNEL GEOMETRY FOR SIGNAL BUTTE FRS OBTAINED FROM AS-BUILT PLANS.
562          KM   ROUTE FLOW FROM SUB-BASIN 260 TO SUB-BASIN 280
563          RS       3    FLOW      -1
564          RC    .035    .025    .035    2300    .003
565          RX       0       1       2    23.4    43.4    64.8      65      66
566          RY     9.7     9.7     9.7       0       0     9.7     9.7     9.7
             * DDM   ***** Updated *****
1                                    HEC-1 INPUT                                                    PAGE 15

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

567          KK     280
568          KM   SUB-BASIN 280
569          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
570          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .998
571          KM     L =  .82  Kb = .048  Adj. Slope =   79.0
572          BA    .319
573          LG    .300    .250   5.300    .290  15.000
574          UC    .350    .189
575          UA       0       5      16      30      65      77      84      90      94      97
576          UA     100
             * DDM   ***** Preserved *****

577          KK    C280
578          KM   HYDROGRAPH COMBINATION FOR SUB-BASIN 260 & SUB-BASIN 280
579          HC       2
             * DDM   ***** Preserved *****

580          KK    R280
581          KM   Routing length updated using Signal Butte Floodway plans dated March 1983
582          KM   Routing length decreased 400' from 2500' to 2100'    12/12/00
583          KM   CHANNEL GEOMETRY FOR SIGNAL BUTTE FRS OBTAINED FROM AS-BUILT PLANS.
584          KM   ROUTE FLOW FROM SUB-BASIN 280 TO SUB-BASIN 300
585          RS       3    FLOW      -1
586          RC    .035    .025    .035    2100    .003
587          RX       0       1       2    23.4    43.4    64.8      65      66
588          RY     9.7     9.7     9.7       0       0     9.7     9.7     9.7
             *
             * DDM   ***** Updated *****

589          KK     300
590          KM   SUB-BASIN 300
591          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
592          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .998
593          KM     L =  .82  Kb = .049  Adj. Slope =   98.0
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594          BA    .289
595          LG    .320    .290   4.200    .480  11.000
596          UC    .346    .197
597          UA       0       5      16      30      65      77      84      90      94      97
598          UA     100
             * DDM   ***** Preserved *****

599          KK    C300
600          KM   HYDROGRAPH COMBINATION OF DIVERTED FLOW
601          HC       2
             * DDM   ***** Preserved *****

602          KK    R300
603          KM   Routing length updated using Signal Butte Floodway plans dated March 1983
604          KM   Routing length increased 300' from 2200' to 2500'    12/12/00
605          KM   CHANNEL GEOMETRY FOR SIGNAL BUTTE FRS OBTAINED FROM AS-BUILT PLANS.
606          KM   ROUTE FLOW FROM SUB-BASIN 300 TO START OF FLOODWAY CONCRETE CHANNEL
607          RS       2    FLOW      -1
608          RC    .035    .025    .035    2500    .003
609          RX       0       1       2    23.4    55.4    76.8      77      78
1                                          HEC-1 INPUT                                                    PAGE 16

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

610          RY     9.7     9.7     9.7       0       0     9.7     9.7     9.7
             * DDM   ***** Updated *****

611          KK    305A
612          KM   SUB-BASIN 305A
613          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
614          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .998
615          KM     L = 1.20  Kb = .047  Adj. Slope =   92.0
616          BA    .372
617          LG    .340    .330   4.500    .370  11.000
618          UC    .433    .297
619          UA       0       5      16      30      65      77      84      90      94      97
620          UA     100
             * DDM   ***** Preserved *****

621          KK   C305A
622          KM   HYDROGRAPH COMBINATION OF SUB-BASIN 280 & 300 & 305A
623          HC       2
             * DDM   ***** Preserved *****

624          KK   R305A
625          KM   Routing length updated using Signal Butte Floodway plans dated March 1983
626          KM   Routing length decreased 50' from 6050' to 6000'    12/12/00
627          KM   CHANNEL GEOMETRY FOR SPOOK HILL FRS OBTAINED FROM AS-BUILTS PLANS.
628          KM   CONTINUE TO ROUTE FLOW WITHIN CONCRETE CHANNEL TO SPOOK HILL FRS
629          RS       2    FLOW      -1
630          RC    .016    .016    .016    6000   .0146
631          RX       0       1       2     2.1    16.1    16.2      17      18
632          RY     7.5     7.5     7.5       0       0     7.5     7.5     7.5
             *      1       2
             * DDM   ***** Updated *****

633          KK     320
634          KM   SUB-BASIN 320
635          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
636          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .995
637          KM     L = 2.04  Kb = .042  Adj. Slope =  118.0
638          BA    .865
639          LG    .310    .290   4.500    .380  15.000
640          UC    .508    .335
641          UA       0       5      16      30      65      77      84      90      94      97
642          UA     100
             * DDM   ***** Preserved *****

643          KK    D320
644          KM        DIVERT FLOW INTO ONLINE  DETENTION BASIN
645          KM   DETENTION/RETENTION BASINS LOCATED WITHIN THREE SUBDIVISIONS
646          KM   SIERRA HEIGHTS       FALCON RIDGE    & MARBLE CREEK
647          KM        MAXIMUM VOLUME DIVERSION = 12.27acre-feet
             *      1
648          DT   BS320   12.27
649          DI       0   10000
650          DQ       0   10000
             * DDM   ***** Preserved *****
1                                          HEC-1 INPUT                                                    PAGE 17

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

651          KK   RT320
652          KM   RETRIEVE FLOW FROM DIVERSION INTO ONLINE BASIN
653          DR   BS320
             * DDM   ***** Preserved *****

654          KK    S320
655          KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
656          KM   12.27 ACRE-FEETx43560/36x3600=4.1cfs
             *      1
657          RS       1    STOR       0
658          SV       0     .01    12.3
659          SQ       0     3.0     4.2
             * DDM   ***** Preserved *****
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660          KK    C320
661          KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
662          HC       3
             * ADD ROUTING ALONG SPOOK HILL FRS
             * DDM   ***** Preserved *****
             * KK  R320
             * KM ROUTE FLOW THROUGH SPOOK HILL FRS FROM JUNCTION OF BROWN & ELLSWORTH ROAD
             * KM TO JUST NORTH OF JUNCTION OF MCDOWELL & POWER RD.
             * RS      9    FLOW      -1
             * RC   .035    .035    .035    4500    .0007
             * RX      0       9      50      68     198     206     267     275
             * RY    100      97      97      91      91      97      97     100
             * DDM   ***** Updated *****

663          KK     340
664          KM   SUB-BASIN 340
665          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
666          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .991
667          KM     L = 2.40  Kb = .042  Adj. Slope =  160.0
668          BA   1.482
669          LG    .280    .280   4.150    .520  20.000
670          UC    .512    .284
671          UA      0       5      16      30      65      77      84      90      94      97
672          UA    100
             * DDM   ***** Preserved *****

673          KK    D340
674          KM        DIVERT FLOW INTO ONLINE  DETENTION BASIN
675          KM   DETENTION/RETENTION BASINS LOCATED WITHIN THREE SUBDIVISIONS
676          KM   GRANDVIEW ESTATES    BOULDER MOUNTAIN & 33% OF MESA HIGHLANDS
677          KM        MAXIMUM VOLUME DIVERSION = 56.0 acre-feet
             *      1
678          DT   BS340      56
679          DI       0   10000
680          DQ       0   10000
             * DDM   ***** Preserved *****
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LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

681          KK   RT340
682          KM   RETRIEVE FLOW FROM DIVERSION INTO ONLINE BASIN
683          DR   BS340
             * DDM   ***** Preserved *****

684          KK    S340
685          KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
686          KM    56.0 ACRE-FEETx43560/36x3600=18.8cfs
             *      1
687          RS       1    STOR       0
688          SV       0     .01      56
689          SQ       0     3.0    18.9
             * DDM   ***** Preserved *****

690          KK    C340
             * KO      1       2
691          KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
692          HC       3
             * ADD ROUTING ALONG SPOOK HILL FRS
             * DDM   ***** Preserved *****
             * KK  R340
             * KM ROUTE FLOW THROUGH SPOOK HILL FRS FROM JUNCTION OF BROWN & ELLSWORTH ROAD
             * KM TO JUST NORTH OF JUNCTION OF MCDOWELL & POWER RD.
             * RS      5    FLOW      -1
             * RC   .035    .035    .035    2300    .0007
             * RX      0       9      50      68     233     241     307     315
             * RY    100      97      97      91      91      97      97     100
             *       0       9      50      68     308     326     367     376
             *     100      97      97      91      91      97      97     100
             * DDM   ***** Updated *****

693          KK    355A
694          KM   SUB-BASIN 355A
695          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
696          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .999
697          KM     L =  .80  Kb = .052  Adj. Slope =  125.0
698          BA    .163
699          LG    .320    .290   4.550    .360  14.000
700          UC    .308    .236
701          UA      0       5      16      30      65      77      84      90      94      97
702          UA    100
             * DDM   ***** Preserved *****

703          KK   R355A
704          KM   CHANNEL GEOMETRY OBTAINED FROM 2' CONTOUR MAPPING.
705          KM   ROUTING OF FLOW FROM SUB-BASIN 355A TO SUB-BASIN 360
706          RS       9    FLOW      -1
707          RC    .045    .035    .045   10100    .026
708          RX       0       1      40      46      56      62     102     103
709          RY       3       2       2       0       0       2       2       3
             * DDM   ***** Updated *****
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LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10
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710          KK     360
711          KM   SUB-BASIN 360
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  .995
714          KM     L = 2.10  Kb = .046  Adj. Slope =  124.0
715          BA    .880
716          LG    .280    .290   4.100    .520  15.000
717          UC    .571    .387
718          UA       0       5      16      30      65      77      84      90      94      97
719          UA     100
             * DDM   ***** Preserved *****

720          KK    D360
721          KM        DIVERT FLOW INTO ONLINE  DETENTION BASIN
722          KM   DETENTION/RETENTION BASINS LOCATED WITHIN 33% OF MESA HIGHLANDS
723          KM        MAXIMUM VOLUME DIVERSION = 28.6 acre-feet
             *      1
724          DT   BS360    28.6
725          DI       0   10000
726          DQ       0   10000
             * DDM   ***** Preserved *****

727          KK   RT360
728          KM   RETRIEVE FLOW FROM DIVERSION INTO ONLINE BASIN
729          DR   BS360
             * DDM   ***** Preserved *****

730          KK    S360
731          KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
732          KM    28.6 ACRE-FEETx43560/36x3600=9.6cfs
733          RS       1    STOR       0
734          SV       0     .01    28.6
735          SQ       0     3.0     9.6
             * DDM   ***** Preserved *****

736          KK    C360
737          KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
738          HC       4
             * ADD ROUTING ALONG SPOOK HILL FRS
             * DDM   ***** Preserved *****
             * KK  R360
             * KM ROUTE FLOW THROUGH SPOOK HILL FRS FROM JUNCTION OF BROWN & ELLSWORTH ROAD
             * KM TO JUST NORTH OF JUNCTION OF MCDOWELL & POWER RD.
             * RS      6    FLOW      -1
             * RC   .035    .035    .035    2600    .0007
             * RX      0       9      50      68     268     286     337     345
             * RY    100      97      97      91      91      97      97     100
             *       0       9      50      68     308     326     367     376
             *     100      97      97      91      91      97      97     100
             *
             * DDM   ***** Updated *****
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LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

739          KK     380
740          KM   SUB-BASIN 380
741          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
742          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .995
743          KM     L = 2.20  Kb = .049  Adj. Slope =  114.0
744          BA    .898
745          LG    .300    .310   4.150    .500   7.000
746          UC    .671    .475
747          UA       0       5      16      30      65      77      84      90      94      97
748          UA     100
             * DDM   ***** Preserved *****

749          KK    D380
750          KM        DIVERT FLOW INTO ONLINE  DETENTION BASIN
751          KM   DETENTION/RETENTION BASINS LOCATED WITHIN 33% OF MESA HIGHLANDS
752          KM        MAXIMUM VOLUME DIVERSION = 28.6 acre-feet
             *      1
753          DT   BS380    28.6
754          DI       0   10000
755          DQ       0   10000
             * DDM   ***** Preserved *****

756          KK   RT380
757          KM   RETRIEVE FLOW FROM DIVERSION INTO ONLINE BASIN
758          DR   BS380
             * DDM   ***** Preserved *****

759          KK    S380
760          KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
761          KM    28.6 ACRE-FEETx43560/36x3600=9.6cfs
762          RS       1    STOR       0
763          SV       0     .01    28.6
764          SQ       0     3.0     9.6
             * DDM   ***** Preserved *****

765          KK    C380
766          KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
767          HC       3
             * DDM   ***** Updated *****
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768          KK     400
769          KM   SUB-BASIN 400
770          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
771          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .996
772          KM     L = 1.64  Kb = .046  Adj. Slope =  110.0
773          BA    .616
774          LG    .320     .300   4.150     .490   6.000
775          UC    .508     .342
776          UA       0        5      16       30      65      77      84      90      94      97
777          UA     100
             * DDM   ***** Preserved *****
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LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

778          KK    D400
779          KM        DIVERT FLOW INTO ONLINE  DETENTION BASIN
780          KM   DETENTION/RETENTION BASIN LOCATED WITHIN SAGUARO VISTA SUBDIVISION
781          KM        MAXIMUM VOLUME DIVERSION = 5.6 ACRE-FEET
             *      1
782          DT   BS400      5.6
783          DI       0   10000
784          DQ       0   10000
             * DDM   ***** Preserved *****

785          KK   RT400
786          KM   RETRIEVE FLOW FROM DIVERSION INTO ONLINE BASIN
787          DR   BS400
             * DDM   ***** Preserved *****

788          KK    S400
789          KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
790          KM     5.6 ACRE-FEETx43560/36x3600 = 2 cfs
791          RS       1    STOR       0
792          SV       0     .01     5.6
793          SQ       0       1       2
             * DDM   ***** Preserved *****

794          KK    C400
795          KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
796          HC       2
             * DDM   ***** Preserved *****

797          KK   CC400
798          KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
799          HC       2
             *
             * DDM   ***** Updated *****

800          KK    420A
801          KM   SUB-BASIN 420A
802          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
803          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .995
804          KM     L = 1.91  Kb = .045  Adj. Slope =  120.0
805          BA    .570
806          LG    .320     .280   4.350     .440  10.000
807          UC    .521     .415
808          UA       0        5      16       30      65      77      84      90      94      97
809          UA     100
             * DDM   ***** Preserved *****

810          KK   D420A
811          KM        DIVERT FLOW INTO ONLINE  DETENTION BASIN
812          KM   DETENTION/RETENTION BASINS LOCATED WITHIN GRAY FOX SUBDIVISION
813          KM        MAXIMUM VOLUME DIVERSION = 8.65 acre-feet
             *      1
814          DT  BS420A    8.65
815          DI       0   10000
816          DQ       0   10000
             * DDM   ***** Preserved *****
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LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

817          KK  RT420A
818          KM   RETRIEVE FLOW FROM DIVERSION INTO ONLINE BASIN
819          DR  BS420A
             * DDM   ***** Preserved *****

820          KK   S420A
821          KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
822          KM   38.55 ACRE-FEETx43560/36x3600=13cfs
823          RS       1    STOR       0
824          SV       0     .01   38.55
825          SQ       0      13      13
             * DDM   ***** Preserved *****

826          KK   C420A
827          KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
828          HC       3
             *

829          KK    370A
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830          KM   SUB-BASIN 370A
831          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
832          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .998
833          KM     L = 1.04  Kb = .047  Adj. Slope =  163.0
834          BA    .408
835          LG    .330    .300   4.650    .350  11.000
836          UC    .308    .172
837          UA       0       5      16      30      65      77      84      90      94      97
838          UA     100
             * DDM   ***** Updated *****

839          KK    395A
840          KM   SUB-BASIN 395A
841          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
842          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .999
843          KM     L = 1.14  Kb = .052  Adj. Slope =  165.0
844          BA    .182
845          LG    .330    .320   5.000    .290  10.000
846          UC    .346    .334
847          UA       0       5      16      30      65      77      84      90      94      97
848          UA     100
             * DDM   ***** Preserved *****

849          KK   C370A
850          KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
851          HC       2
             *
             * DDM   ***** Preserved *****

852          KK    D370
853          KM   DIVERT FLOW INTO OFFLINE DETENTION BASIN LOCATED WITHIN SUB-BASINS
854          KM   370 AND 395.
             * KO      1
855          DT   BS370
856          DI       0     140    5000
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LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

857          DQ       0       0    4860
             * DDM   ***** Preserved *****

858          KK   RT370
859          KM   RETRIEVE FLOW FROM DIVERSION
860          DR   BS370
             * DDM   ***** Preserved *****

861          KK    S370
862          KM   RETRIEVE FLOW INTO OFFLINE BASIN AND BLEED OFF WITHIN 36 HOURS.
863          KM      30 ACRE-FEETx43560/36x3600 = 10cfs
864          RS       1    STOR       0
865          SV       0     .01      34      40
866          SQ       0       4      10      12
             * DDM   ***** Preserved *****

867          KK   CC370
868          KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
869          HC       2
             * DDM   ***** Preserved *****

870          KK    R370
871          KM   CHANNEL GEOMETRY OBTAINED FROM 2' CONTOUR MAPPING.
872          KM   ROUTING OF FLOW FROM SUB-BASINS 370 AND 395 TO SUB-BASIN 380.
873          RS       4    FLOW      -1
874          RC    .045    .035    .045    2600    .023
875          RX       0       1      40      46      56      62     102     103
876          RY       3       2       2       0       0       2       2       3
             *
             * DDM   ***** Updated *****

877          KK    385A
878          KM   SUB-BASIN 385A
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  .999
881          KM     L =  .90  Kb = .051  Adj. Slope =  309.5
882          BA    .213
883          LG    .340    .320   4.900    .300   9.000
884          UC    .233    .163
885          UA       0       5      16      30      65      77      84      90      94      97
886          UA     100
             *
             * DDM   ***** Updated *****

887          KK    415B
888          KM   SUB-BASIN 415B
889          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
890          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .998
891          KM     L = 1.59  Kb = .048  Adj. Slope =  315.0
892          BA    .329
893          LG    .340    .340   5.300    .240  14.000
894          UC    .308    .274
895          UA       0       5      16      30      65      77      84      90      94      97
896          UA     100
             * DDM   ***** Preserved *****
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 897          KK   C415B
 898          KM   HYDROGRAPH COMBINATION OF 415 DIVERSION.
 899          HC       2
              * DDM   ***** Preserved *****

 900          KK   D415B
 901          KM   DIVERT FLOW INTO OFFLINE DETENTION BASIN
 902          KM   MAXIMUM STORAGE VOLUME FOR DIVERSION = 32 AC-FT @ 5' DEPTH.
              *      1
 903          DT  BS415B
 904          DI       0     190    5000
 905          DQ       0       0    4810
              * DDM   ***** Preserved *****

 906          KK  RT415B
 907          KM   RETRIEVE FLOW FROM DIVERSION INTO OFFLINE BASIN
 908          DR  BS415B
              * DDM   ***** Preserved *****

 909          KK   S415B
 910          KM   RETRIEVE FLOW INTO OFFLINE BASIN AND BLEED OFF WITHIN 36 HOURS.
 911          KM      32 ACRE-FEETx43560/36x3600 = 11cfs
 912          RS       1    STOR       0
 913          SV       0     .01      34      40
 914          SQ       0       5      10      12
              * DDM   ***** Preserved *****

 915          KK  CC415B
 916          KM   HYDROGRAPH COMBINATION OF 415 DIVERSION.
 917          HC       2
              * DDM   ***** Preserved *****

 918          KK   R415B
 919          KM   CHANNEL GEOMETRY OBTAINED FROM 2' CONTOUR MAPPING.
 920          KM   ROUTING OF FLOW FROM 415C TO 415B
 921          RS       4    FLOW      -1
 922          RC    .045     .03    .045    2590    .024
 923          RX       0       1      40      46      56      62     102     103
 924          RY       3       2       2       0       0       2       2       3
              * DDM   ***** Updated *****

 925          KK     390
 926          KM   SUB-BASIN 390
 927          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
 928          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .999
 929          KM     L =  .70  Kb = .050  Adj. Slope =  299.4
 930          BA    .244
 931          LG    .300    .250   4.700    .380  18.000
 932          UC    .204    .107
 933          UA       0       5      16      30      65      77      84      90      94      97
 934          UA     100
              * DDM   ***** Preserved *****
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 935          KK    D390
 936          KM        DIVERT FLOW INTO ONLINE  DETENTION BASIN
 937          KM   DETENTION/RETENTION BASINS LOCATED WITHIN THUNDER MOUNTAIN ESTATES
 938          KM        MAXIMUM VOLUME DIVERSION  = 3.5 acre-feet
              *      1
 939          DT   BS390     3.5
 940          DI       0   10000
 941          DQ       0   10000
              * DDM   ***** Preserved *****

 942          KK   RT390
 943          KM   RETRIEVE FLOW FROM DIVERSION INTO ONLINE BASIN
 944          DR   BS390
              * DDM   ***** Preserved *****

 945          KK    S390
 946          KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
 947          KM     3.5 ACRE-FEETx43560/36x3600=1.2cfs
 948          RS       1    STOR       0
 949          SV       0     .01     3.5
 950          SQ       0     0.5     1.2
              * DDM   ***** Preserved *****

 951          KK    C390
 952          KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
 953          HC       4
              * DDM   ***** Preserved *****

 954          KK    R390
 955          KM   CHANNEL GEOMETRY OBTAINED FROM 2' CONTOUR MAPPING.
 956          KM   FROM SUB-BASIN 390 TO SUB-BASIN 420B
 957          RS       7    FLOW      -1
 958          RC    .045    .045    .045    5500    .020
 959          RX       0       1      40      46      56      62     102     103
 960          RY       3       2       2       0       0       2       2       3
              * DDM   ***** Updated *****
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 961          KK    420B
 962          KM   SUB-BASIN 420B
 963          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
 964          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .998
 965          KM     L = 1.00  Kb = .049  Adj. Slope =  150.0
 966          BA    .279
 967          LG    .300     .250   3.910     .590  15.000
 968          UC    .333     .226
 969          UA       0        5      16       30      65      77      84      90      94      97
 970          UA     100
              * DDM   ***** Preserved *****
1                                          HEC-1 INPUT                                          PAGE 26

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

 971          KK   C420B
 972          KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
 973          HC       2
              *
              * DDM   ***** Updated *****

 974          KK     440
 975          KM   SUB-BASIN 440
 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 = .039  Adj. Slope =  315.0
 979          BA    .080
 980          LG    .190     .380   6.400     .140  13.000
 981          UC    .129     .077
 982          UA       0        3       5       8      12      20      43      75      90      96
 983          UA     100
              * DDM   ***** Preserved *****

 984          KK     R70
 985          KM   ROUTE FLOW FROM SUB-BASIN 440 TO C108
 986          RS       2    FLOW      -1
 987          RC     .05     .035     .05    2250     .08
 988          RX    1000     1025    1050    1070    1075    1095    1120    1145
 989          RY      30     22.9    15.7      10      10    15.7    22.9      30
              * DDM   ***** Updated *****

 990          KK     441
 991          KM   SUB-BASIN 441
 992          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
 993          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF 1.000
 994          KM     L =  .28  Kb = .069  Adj. Slope =  315.0
 995          BA    .010
 996          LG    .300     .250   5.600     .220   5.000
 997          UC    .150     .225
 998          UA       0        5      16       30      65      77      84      90      94      97
 999          UA     100
              * DDM   ***** Preserved *****

1000          KK    C108
1001          KM   COMBINE HYDROGRAPHS FROM SUB-BASINS 440 & 441
1002          HC       2
              * DDM   ***** Preserved *****

1003          KK      D4
1004          KM        SPLIT FLOW WITH TWO 42 INCH PIPES TO WEST AND SOUTH
              *      1
1005          DT   SPLIT
1006          DI       0       14      40      82     120     154     180
1007          DQ       0        7      20      41      60      77      90
              * DDM   ***** Preserved *****
1                                          HEC-1 INPUT                                          PAGE 27

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

1008          KK    R108
1009          KM        ROUTE FLOW FROM SUB-BASIN C108 TO C67
1010          RS       2    FLOW      -1
1011          RC     .05     .035     .05    3200      .1
1012          RX    1000     1025    1050    1070    1075    1095    1120    1145
1013          RY      30     22.9    15.7      10      10    15.7    22.9      30
              * DDM   ***** Updated *****

1014          KK     442
1015          KM   SUB-BASIN 442
1016          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1017          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .999
1018          KM     L =  .83  Kb = .055  Adj. Slope =  274.2
1019          BA    .100
1020          LG    .300     .270   3.290     .770   5.000
1021          UC    .258     .264
1022          UA       0        5      16       30      65      77      84      90      94      97
1023          UA     100
              * DDM   ***** Preserved *****

1024          KK     C67
1025          KM   COMBINE FLOW FROM SUB-BASIN 442 & DIV4
1026          HC       2
              * DDM   ***** Preserved *****
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1027          KK      D6
1028          KM        OFFLINE BASIN WITH 25 FOOT WEIR SET AT 2.5 FEET ABOVE BOTTOM OF CHANNEL
1029          KM        FLOW CONTINUES BEYOND BASIN THROUGH 2-30" PIPES
              *      1
1030          DT  BASIN4     3.3
1031          DI       0      10      32      44    79.9   132.5     198   272.9   356.8
1032          DQ       0       0       0       0    23.9    67.5     124   190.9   266.8
              * DDM   ***** Preserved *****

1033          KK    RTD6
1034          KM   RETRIEVE FLOW FROM DIVERSION INTO OFFLINE BASIN
1035          DR  BASIN4
              * DDM   ***** Preserved *****

1036          KK     SD6
1037          KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
1038          KM     3.3 ACRE-FEETx43560/36x3600=1.1cfs
              *      1
1039          RS       1    STOR       0
1040          SV       0     .01     3.3
1041          SQ       0     0.2     1.1
              * DDM   ***** Preserved *****

1042          KK     CD6
1043          KM   HYDROGRAPH COMBINATION FOR OFFLINE BASIN BLEEDOFF
1044          HC       2
              * DDM   ***** Updated *****
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1045          KK     443
1046          KM   SUB-BASIN 443
1047          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1048          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF 1.000
1049          KM     L =  .71  Kb = .050  Adj. Slope =  315.0
1050          BA    .080
1051          LG    .250    .190   8.000    .080  10.000
1052          UC    .196    .194
1053          UA       0       5      16      30      65      77      84      90      94      97
1054          UA     100
              * DDM   ***** Preserved *****

1055          KK     D66
1056          KM        DIVERT FLOW INTO 3 NATURAL WASHES WITH ONE 24" PIPE IN EACH WASH.
1057          KM        EACH PIPE CAPACITY BASED ON 4 FEET OF HEAD
1058          DT   WSH66
1059          DI       0      78     100     200
1060          DQ       0      78      78      78
              * DDM   ***** Preserved *****

1061          KK    R113
1062          KM        ROUTE FLOW FROM C113 TO C114
1063          RS       1    FLOW      -1
1064          RC    .019    .019    .019    1300    .029
1065          RX    1000    1004    1008    1012    1018    1022    1026    1030
1066          RY      17   15.33   12.67      10      10   12.67   15.33      17
              * DDM   ***** Preserved *****

1067          KK    C114
1068          KM        COMBINE HYDROGRAPHS FROM SUB-BASIN 67 AND C113
1069          HC       2
              * DDM   ***** Updated *****

1070          KK     444
1071          KM   SUB-BASIN 444
1072          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1073          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF 1.000
1074          KM     L =  .33  Kb = .034  Adj. Slope =  315.0
1075          BA    .040
1076          LG    .130    .350   4.450    .320   1.000
1077          UC    .112    .084
1078          UA       0       3       5       8      12      20      43      75      90      96
1079          UA     100
              * DDM   ***** Preserved *****

1080          KK     R58
1081          KM   ROUTE FLOW FROM SUB-BASIN 444 TO C107
1082          RS       2    FLOW      -1
1083          RC     .05    .035     .05    2370   .0516
1084          RX    1000    1010    1020    1050    1055    1085    1095    1105
1085          RY      19      18      17      10      10      17      18      19
              * DDM   ***** Updated *****
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1086          KK     445
1087          KM   SUB-BASIN 445
1088          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1089          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .999
1090          KM     L =  .82  Kb = .036  Adj. Slope =  315.0
1091          BA    .190
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1092          LG    .170    .320   3.470    .590   3.000
1093          UC    .192    .130
1094          UA       0       5      16      30      65      77      84      90      94      97
1095          UA     100
              * DDM   ***** Preserved *****

1096          KK    C107
1097          KM   COMBINE HYDROGRAPHS FROM SUB-BASINS 444 & 445
1098          HC       2
              * DDM   ***** Preserved *****

1099          KK    R107
1100          KM        ROUTE FLOW FROM C107 TO C109
1101          RS       2    FLOW      -1
1102          RC     .05    .035     .05     700   .0516
1103          RX    1000    1010    1020    1050    1055    1085    1095    1105
1104          RY      19      18      17      10      10      17      18      19
              * DDM   ***** Preserved *****

1105          KK    RTB2
1106          KM        RETRIEVE DIVERTED FLOW FROM BASIN 1
              *      1
1107          DR   SPLIT
              * DDM   ***** Preserved *****

1108          KK  RSPLIT
1109          KM        ROUTE FLOW FROM SPLIT TO C109
1110          RS       1    FLOW      -1
1111          RC     .05    .035     .05     800     .05
1112          RX    1000    1025    1050    1070    1075    1095    1120    1145
1113          RY      30    22.9    15.7      10      10    15.7    22.9      30
              * DDM   ***** Updated *****

1114          KK     446
1115          KM   SUB-BASIN 446
1116          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1117          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF 1.000
1118          KM     L =  .46  Kb = .061  Adj. Slope =  303.9
1119          BA    .040
1120          LG    .270    .250   4.500    .400  19.000
1121          UC    .183    .189
1122          UA       0       5      16      30      65      77      84      90      94      97
1123          UA     100
              * DDM   ***** Preserved *****
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1124          KK    C109
1125          KM        COMBINE HYDROGRAPHS FROM COMBINES C107 AND C108
1126          HC       3
              * DDM   ***** Preserved *****

1127          KK      D5
1128          KM        DIVERT FLOW INTO WASHES TOWARDS WEST
1129          KM        DIVERSION THROUGH 36" PIPE WITH 3 FEET OF HEAD
              *      1
1130          DT  WSH404
1131          DI       0    40.7    71.2   121.6     190     276   379.4   500.6
1132          DQ       0      35      35      35      35      35      35      35
              * DDM   ***** Preserved *****

1133          KK    R109
1134          KM        ROUTE FLOW FROM C109 TO C110
1135          RS       1    FLOW      -1
1136          RC    .019    .019    .019    3080     .05
1137          RX    1000    1005    1010    1015    1025    1030    1035    1040
1138          RY   13.75    12.5   11.25      10      10   11.25    12.5   13.75
              * DDM   ***** Updated *****

1139          KK     447
1140          KM   SUB-BASIN 447
1141          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1142          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .999
1143          KM     L =  .49  Kb = .056  Adj. Slope =  221.0
1144          BA    .090
1145          LG    .250    .270   3.350    .870  30.000
1146          UC    .208    .145
1147          UA       0       5      16      30      65      77      84      90      94      97
1148          UA     100
              * DDM   ***** Preserved *****

1149          KK   RT404
1150          KM        RETRIEVE DIVERTED FLOW FOR WASH 109
1151          DR  WSH404
              * DDM   ***** Preserved *****

1152          KK    R404
1153          KM        ROUTE FLOW FROM C110 TO C110
1154          RS       6    FLOW      -1
1155          RC    .019    .019    .019    3540     .03
1156          RX    1000    1012    1016    1020    1025    1029    1033    1045
1157          RY      15      12      11      10      10      11      12      15
              * DDM   ***** Preserved *****
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1158          KK    C110
1159          KM   COMBINE HYDROGRAPHS FROM SUB-BASIN 447 AND R404
1160          HC       3
              * DDM   ***** Preserved *****
                                        HEC-1 INPUT                                                    PAGE 31

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


1161          KK    R110
1162          KM        ROUTE FLOW FROM C110 TO C115
1163          RS       1    FLOW      -1
1164          RC    .019    .019    .019     580   .0291
1165          RX    1000    1012    1016    1020    1035    1039    1043    1055
1166          RY      15      12      11      10      10      11      12      15
              * DDM   ***** Preserved *****

1167          KK    C115
1168          KM        COMBINE HYDROGRAPHS FROM C114 AND C110
1169          HC       2
              * DDM   ***** Preserved *****

1170          KK    R115
              * ******OUTFLOW FROM THIS ROUTING IS GREATER THAN INFLOW TO THE
              * ******ROUTING BY 2cfs.  THIS IS NOTED BUT LEFT UNCHANGED WITHIN THE MODEL
1171          KM        ROUTE FLOW FROM C115 TO Sub 453
1172          RS       1    FLOW      -1
1173          RC    .019    .019    .019    2125    .029
1174          RX    1000    1012    1016    1020    1035    1039    1043    1055
1175          RY      15      12      11      10      10      11      12      15
              * DDM   ***** Updated *****

1176          KK     448
1177          KM   SUB-BASIN 448
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 1.000
1180          KM     L =  .36  Kb = .042  Adj. Slope =  315.0
1181          BA    .045
1182          LG    .170    .310   4.200    .390  11.000
1183          UC    .133    .102
1184          UA       0       5      16      30      65      77      84      90      94      97
1185          UA     100
              * DDM   ***** Updated *****

1186          KK     449
1187          KM   SUB-BASIN 449
1188          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1189          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF 1.000
1190          KM     L =  .40  Kb = .054  Adj. Slope =  315.0
1191          BA    .050
1192          LG    .260    .280   3.500    .640   6.000
1193          UC    .167    .134
1194          UA       0       5      16      30      65      77      84      90      94      97
1195          UA     100
              * DDM   ***** Preserved *****

1196          KK   C6364
1197          KM   COMBINE HYDROGRAPHS FROM SUB-BASINS 448 & 449
1198          HC       2
              * DDM   ***** Preserved *****
1                                       HEC-1 INPUT                                                    PAGE 32

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


1199          KK   R6364
1200          KM   ROUTE FLOW FROM C116 AND SUB-BASINS 448 AND 449
1201          RS       5    FLOW      -1
1202          RC     .05    .035     .05    4375   .0333
1203          RX    1000    1027    1053    1080    1090    1117    1143    1170
1204          RY      15   13.33   11.67      10      10   11.67   13.33      15
              * DDM   ***** Updated *****

1205          KK     450
1206          KM   SUB-BASIN 450
1207          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1208          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF 1.000
1209          KM     L =  .85  Kb = .057  Adj. Slope =  210.5
1210          BA    .070
1211          LG    .340    .350   3.630    .570   4.000
1212          UC    .296    .383
1213          UA       0       3       5       8      12      20      43      75      90      96
1214          UA     100
              * DDM   ***** Updated *****

1215          KK     451
1216          KM   SUB-BASIN 451
1217          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1218          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF 1.000
1219          KM     L =  .57  Kb = .063  Adj. Slope =  175.0
1220          BA    .025
1221          LG    .340    .340   3.290    .750   3.000
1222          UC    .271    .453
1223          UA       0       3       5       8      12      20      43      75      90      96
1224          UA     100
              * DDM   ***** Preserved *****
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1225          KK    C451
1226          KM   COMBINE HYDROGRAPHS FROM SUB-BASINS 450 & 451
1227          HC       2
              * DDM   ***** Preserved *****

1228          KK    RT66
1229          KM        RETRIEVE DIVERTED FLOW FROM SUB-BASIN 66
1230          DR   WSH66
              * DDM   ***** Updated *****

1231          KK     452
1232          KM   SUB-BASIN 452
1233          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1234          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF 1.000
1235          KM     L =  .43  Kb = .055  Adj. Slope =  315.0
1236          BA    .040
1237          LG    .260    .280   3.700    .550   9.000
1238          UC    .171    .166
1239          UA       0       5      16      30      65      77      84      90      94      97
1240          UA     100
              * DDM   ***** Preserved *****
1                                        HEC-1 INPUT                                          PAGE 33

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

1241          KK   C6465
1242          KM   COMBINE HYDROGRAPHS FROM SUB-BASINS 443 AND 452
1243          HC       2
              * DDM   ***** Preserved *****

1244          KK   R6566
1245          KM        ROUTE FLOW FROM DIVERSIONS 65 AND 66 TO C116
1246          RS       3    FLOW      -1
1247          RC     .05    .035     .05    2435   .0282
1248          RX    1000    1045    1090    1150    1160    1220    1265    1310
1249          RY      25      23      20      10      10      20      23      25
              * DDM   ***** Preserved *****

1250          KK    C116
1251          KM   COMBINE HYDROGRAPHS FROM SUB-BASINS 450 & 451 AND R6364 & R6465
1252          HC       3
              * DDM   ***** Preserved *****

1253          KK  BASIN5
1254          KM        RESERVOIR WITHIN PARCEL 31      2-48 INCH PIPES AT OUTFALL
1255          KM        BASIN 5 FEET DEEP
1256          RS       1    ELEV      0
1257          SV       0     4.5     9.9
1258          SQ       0      69     190
1259          SE       0     2.5       5
              * DDM   ***** Preserved *****

1260          KK    R116
1261          KM   ROUTE FLOW FROM C116 TO C117
1262          RS       2    FLOW      -1
1263          RC     .05    .035     .05    1300   .0333
1264          RX    1000    1100    1200    1300    1320    1420    1520    1620
1265          RY      13      12      11      10      10      11      12      13
              * DDM   ***** Updated *****

1266          KK     453
1267          KM   SUB-BASIN 453
1268          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1269          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF 1.000
1270          KM     L =  .58  Kb = .058  Adj. Slope =  138.0
1271          BA    .060
1272          LG    .290    .300   3.290    .820  18.000
1273          UC    .275    .284
1274          UA       0       5      16      30      65      77      84      90      94      97
1275          UA     100
              * DDM   ***** Preserved *****

1276          KK    C117
1277          KM   COMBINE HYDROGRAPHS FROM SUB-BASIN 453 AND R116
1278          HC       2
              * DDM   ***** Preserved *****
1                                        HEC-1 INPUT                                          PAGE 34

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

1279          KK    C118
1280          KM   COMBINE HYDROGRAPHS FROM R115 AND C117
1281          HC       2
              * DDM   ***** Preserved *****

1282          KK    R118
1283          KM        ROUTE FLOW FROM C118 TO  DIV7
              * KO     1
1284          RS       1    FLOW      -1
1285          RC    .019    .019    .019    1500    .024
1286          RX    1000    1012    1016    1020    1035    1039    1043    1055
1287          RY      15      12      11      10      10      11      12      15
              * DDM   ***** Preserved *****
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1288        KK      D7
1289        KM        OFFLINE BASIN AT NORTH MOUNTAIN RIDGE   FLOWS ENTER BASIN OVER
1290        KM        30' WEIR SET AT 5.3' ABOVE THE CHANNEL BOTTOM, Vol = 3.6 A-F
            * KO      1
1291        DT  BASIN6
1292        DI        0      363      487      563      645      900
1293        DQ        0        2       10       15       25      260
            * DDM   ***** Preserved *****

1294        KK    RTD7
1295        KM   RETRIEVE FLOW FROM DIVERSION INTO OFFLINE BASIN
1296        DR  BASIN6
            * DDM   ***** Preserved *****

1297        KK     SD7
1298        KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
1299        KM     3.6 ACRE-FEETx43560/36x3600=1.2cfs
1300        RS       1    STOR        0
1301        SV       0     .01      3.6      4.0
1302        SQ       0     0.2      1.2      1.5
            * DDM   ***** Preserved *****

1303        KK     CD7
1304        KM   HYDROGRAPH COMBINATION FOR OFFLINE BASIN BLEEDOFF
1305        HC       2
            * DDM   ***** Updated *****

1306        KK     454
1307        KM   SUB-BASIN 454
1308        KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1309        KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .999
1310        KM     L = 1.23  Kb = .051  Adj. Slope =  163.0
1311        BA    .180
1312        LG    .300     .310   3.780     .560  14.000
1313        UC    .379     .395
1314        UA       0        5       16       30       65       77       84       90       94       97
1315        UA     100
            *
            * DDM   ***** Preserved *****
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LINE        ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1316        KK    C454
1317        KM        COMBINE HYDROGRAPHS FROM SUB-BASIN 454 AND CDIV7
            *      1        2
1318        HC       2
            * DDM   ***** Preserved *****

1319        KK    R454
1320        KM   CHANNEL GEOMETRY OBTAINED FROM 2' CONTOUR MAPPING.
1321        KM   ROUTE FLOW FROM C454 TO 415C
1322        RS       3    FLOW       -1
1323        RC    .045     .035     .045     2200     .009
1324        RX       0       .5        1       33       42       67     67.5       68
1325        RY       5        4        4        0        0        6        6        6
            *
            * DDM   ***** Updated *****

1326        KK    415A
1327        KM   SUB-BASIN 415A
1328        KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1329        KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .998
1330        KM     L = 1.21  Kb = .049  Adj. Slope =  140.0
1331        BA    .280
1332        LG    .300     .260   3.630     .710  15.000
1333        UC    .400     .322
1334        UA       0        5       16       30       65       77       84       90       94       97
1335        UA     100
            * DDM   ***** Preserved *****

1336        KK   C415A
1337        KM        COMBINE HYDROGRAPHS FROM R454, 415B, AND 420B
            * KO      1
1338        HC       3
            * DDM   ***** Preserved *****
            * KK D415A
            * KM DIVERT FLOW INTO OFFLINE DETENTION BASIN
            * KM MAXIMUM STORAGE VOLUME FOR DIVERSION = 15 AC-FT @ 5' DEPTH.
            * KO      1
            * DTBS415A
            * DI      0     1240     5000
            * DQ      0        0     3760
            * DDM   ***** Preserved *****
            * KKRT415A
            * KM RETRIEVE FLOW FROM DIVERSION INTO OFFLINE BASIN
            * DRBS415A
            * DDM   ***** Preserved *****
            * KK S415A
            * KM RETRIEVE FLOW INTO OFFLINE BASIN AND BLEED OFF WITHIN 36 HOURS.
            * KM     15 ACRE-FEETx43560/36x3600 = 5 cfs
            * RS      1    STOR        0
            * SV      0     .01       15       20
            * SQ      0       2        5        8
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                * DDM    ***** Preserved *****
                * KKCC415A
                * KM HYDROGRAPH COMBINATION OF 415A DIVERSION.
                * HC      2
                * DDM    ***** Preserved *****
1                                          HEC-1 INPUT                                                          PAGE 36

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

1339            KK   R415A
1340            KM   CHANNEL GEOMETRY OBTAINED FROM 2' CONTOUR MAPPING.
1341            KM   ROUTING OF FLOW FROM C415A TO 455C
1342            RS       4    FLOW      -1
1343            RC    .045     .03    .045    4100     .024
1344            RX       0      .5       1       8       16      23    23.5      24
1345            RY       8       8       8       0        0       8       8       8
                *
                * DDM    ***** Updated *****

1346            KK     455
1347            KM   SUB-BASIN 455
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  .993
1350            KM     L = 1.70  Kb = .041  Adj. Slope =  146.0
1351            BA   1.111
1352            LG    .270    .280   3.700    .640  24.000
1353            UC    .421    .204
1354            UA       0       5      16      30      65      77      84      90      94      97
1355            UA     100
                * DDM    ***** Preserved *****

1356            KK    D455
1357            KM        DIVERT FLOW INTO ONLINE  DETENTION BASIN
1358            KM   DETENTION/RETENTION BASINS LOCATED WITHIN LAS SENDAS ADDENDUM III
1359            KM   FOR BASIN #: 30      34      43      47&58
1360            KM        MAXIMUM VOLUME DIVERSION = 74.1 acre-feet
                *      1
1361            DT   BS455    74.1
1362            DI       0   10000
1363            DQ       0   10000
                * DDM    ***** Preserved *****

1364            KK   RT455
1365            KM   RETRIEVE FLOW FROM DIVERSION INTO ONLINE BASIN
1366            DR   BS455
                * DDM    ***** Preserved *****

1367            KK    S455
1368            KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
1369            KM    74.1 ACRE-FEETx43560/36x3600=25cfs
1370            RS       1    STOR       0
1371            SV       0     .01    74.1
1372            SQ       0     3.0      25
                * DDM    ***** Preserved *****

1373            KK    C455
1374            KM   HYDROGRAPH COMBINATION FOR SUB-BASIN 455 AND DIVERTED BASIN STORAGE OF 455
1375            HC       2
                * DDM    ***** Preserved *****
1                                          HEC-1 INPUT                                                          PAGE 37

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

1376            KK   CC455
1377            KM  HYDROGRAPH COMBINATION OF 420C, R415 AND C455
                * KO     1       2
1378            HC       3
                *

1379            KK    S440
1380            KM   SPOOK HILL FRS PLANS DATED 6/15/77
1381            KM   OUTLET PIPE=7'x7.5'RCBC; L=70 INLET INV.=1566; OUTLET INV.=1566
1382            KM   EMERGENCY SPILLWAY ELEV.=1582; PRINCIPLE SPILLWAY ELEV.=1577.5
1383            KM   STORAGE VOLUME BELOW PRINCIPLE SPILLWAY FOR SEDIMENT = 200 ACRE-FEET
                *  ESE = 1583.86 ft; PSE = 1579.36 ft; Sediment Vol. = 271 Ac-Ft.
1384            RS       1    STOR       0
1385            SV       0      81     363     533     719     925    1120    1399    1668  4051
1386            SQ       0       0      10     180     367     595     800    1231    2625 24500
1387            SE      76      78      80      81      82      83    83.9      85      86    92
                * DDM    ***** Preserved *****

1388            KK    R455
1389            KM   ROUTE FLOW FROM SPOOK HILL FRS TO SUB-BASIN 480
1390            RS      15    FLOW      -1
1391            RC    .035    .025    .035    7000   .0002
1392            RX       0       1       2      28      58      84      85      86
1393            RY    13.5    13.5    13.5       0       0    13.5    13.5    13.5
                * DDM    ***** Updated *****

1394            KK     480
1395            KM   SUB-BASIN 480
1396            KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1397            KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .996
1398            KM     L = 1.21  Kb = .042  Adj. Slope =  165.0
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1399          BA     .731
1400          LG     .270     .270    3.580     .730   27.000
1401          UC     .325     .148
1402          UA        0        5       16       30       65       77       84       90       94       97
1403          UA      100
              * DDM    ***** Preserved *****

1404          KK     D480
1405          KM         DIVERT FLOW INTO ONLINE  DETENTION BASIN
1406          KM    DETENTION/RETENTION BASINS LOCATED WITHIN LAS SENDAS ADDENDUM III
1407          KM    FOR BASIN #: 18 & 26
1408          KM         MAXIMUM VOLUME DIVERSION = 16.5 acre-feet
              *       1
1409          DT    BS480     16.5
1410          DI        0    10000
1411          DQ        0    10000
              * DDM    ***** Preserved *****
1                                          HEC-1 INPUT                                                    PAGE 38

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


1412          KK    RT480
1413          KM    RETRIEVE FLOW FROM DIVERSION INTO ONLINE BASIN
1414          DR    BS480
              * DDM    ***** Preserved *****

1415          KK     S480
1416          KM    RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
1417          KM     16.5 ACRE-FEETx43560/36x3600=5.5cfs
1418          RS        1     STOR        0
1419          SV        0      .01     16.5
1420          SQ        0      3.0      5.6
              * DDM    ***** Preserved *****

1421          KK     C480
1422          KM    HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
1423          HC        2
              * DDM    ***** Preserved *****

1424          KK    CC480
1425          KM    HYDROGRAPH COMBINATION AT SUBBASIN 480
1426          HC        2    0.731
              * DDM    ***** Preserved *****

1427          KK     R480
1428          KM    ROUTE FLOW FROM SUB-BASIN 480 TO SUBBASIN 462
1429          RS        6     FLOW       -1
1430          RC     .035     .025     .035     2800    .0002
1431          RX        0        1        2       28       58       84       85       86
1432          RY     13.5     13.5     13.5        0        0     13.5     13.5     13.5
              * DDM    ***** Updated *****

1433          KK      456
1434          KM    SUB-BASIN 456
1435          KM    24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1436          KM    THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .998
1437          KM      L =  .94  Kb = .045  Adj. Slope =  315.0
1438          BA     .260
1439          LG     .300     .380    5.600     .200   12.000
1440          UC     .217     .139
1441          UA        0        5       16       30       65       77       84       90       94       97
1442          UA      100
              * DDM    ***** Preserved *****

1443          KK       D1
1444          KM         DIVERT FLOW INTO OFFLINE DETENTION BASIN
1445          KM         WEIR FOR BASIN SET AT 4 FEET ABOVE CHANNEL BOTTOM
              *       1
1446          DT   BASIN1      4.0
1447          DI        0     11.1    127.9    234.4    577.7    789.9   1025.5   1280.9   1555.7
1448          DQ        0        0        0     47.7      248    381.8    533.6    701.5      884
              * DDM    ***** Preserved *****
1                                          HEC-1 INPUT                                                    PAGE 39

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


1449          KK       D2
1450          KM         SPLIT OUT FLOW FOR WASHES THAT FLOW TO THE SOUTH FROM
1451          KM         WASHES THAT DRAIN TO THE WES, SOUTHERN WASHES FED BY 30" & 24" PIPE
1452          DT     WA30
1453          DI        0     11.1    127.9    189.6    329.7      408    491.9    579.4    671.7
1454          DQ        0     11.1     38.4     48.2       63     69.5       76       81       86
              * DDM    ***** Preserved *****

1455          KK     R456
1456          KM         ROUTE FLOW FROM SUB-BASIN 51 TO C101
1457          RS        2     FLOW       -1
1458          RC      .05     .035      .05     3800    .044
1459          RX     1000     1010     1020     1036     1041     1057     1067     1077
1460          RY    14.88    14.44       14       10       10       14    14.44    14.88
              * DDM    ***** Updated *****

1461          KK      457
1462          KM    SUB-BASIN 457
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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 = 1.01  Kb = .045  Adj. Slope =  308.8
1466        BA    .190
1467        LG    .270    .330   3.950    .460   6.000
1468        UC    .237    .195
1469        UA       0       5      16      30      65      77      84      90      94      97
1470        UA     100
            * DDM   ***** Preserved *****

1471        KK    C101
1472        KM        COMBINE HYDROGRAPHS FROM SUB-BASINS 50 AND 51
1473        HC       2
            * DDM   ***** Preserved *****

1474        KK      D3
1475        KM        RESERVOIR AT THE EDGE OF THE PROPERTY   FLOW FROM CHANNEL
1476        KM        DIVERTED  INTO OFFLINE BASIN A 25' WEIR SET AT ELEVATION 1808 FT
            *      1
1477        DT  BASIN2     5.0
1478        DI       0      36      70     110     180   313.5     402   500.9
1479        DQ       0       0       0       0       0    67.5     124   190.9
            * DDM   ***** Preserved *****

1480        KK    RTD3
1481        KM   RETRIEVE FLOW FROM DIVERSION INTO OFFLINE BASIN
1482        DR  BASIN2
            * DDM   ***** Preserved *****

1483        KK     SD3
1484        KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
1485        KM     5.0 ACRE-FEETx43560/36x3600=1.7cfs
1486        RS       1    STOR       0
1487        SV       0     .01       5
1488        SQ       0     0.7     1.7
            * DDM   ***** Preserved *****
1                                    HEC-1 INPUT                                    PAGE 40

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

1489        KK     CD3
1490        KM   HYDROGRAPH COMBINATION FOR OFFLINE BASIN BLEEDOFF
1491        HC       2
            * DDM   ***** Preserved *****

1492        KK    R101
1493        KM        ROUTE FLOW FROM SUBBASIN C101 TO C103
1494        RS       1    FLOW      -1
1495        RC     .05    .035     .05    1450     .05
1496        RX    1000    1010    1020    1036    1041    1057    1067    1077
1497        RY      15    14.5      14      10      10      14    14.5      15
            * DDM   ***** Updated *****

1498        KK     458
1499        KM   SUB-BASIN 458
1500        KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1501        KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .999
1502        KM     L =  .76  Kb = .048  Adj. Slope =  299.0
1503        BA    .190
1504        LG    .290    .330   5.800    .190   6.000
1505        UC    .204    .131
1506        UA       0       5      16      30      65      77      84      90      94      97
1507        UA     100
            * DDM   ***** Preserved *****

1508        KK    C103
1509        KM        COMBINE HYDROGRAPHS FROM SUB-BASIN 55 AND C101
1510        HC       2
            * DDM   ***** Preserved *****

1511        KK    R103
1512        KM        ROUTE FLOW FROM SUBBASIN C103 TO C106
1513        RS       1    FLOW      -1
1514        RC     .05    .035     .05     900     .03
1515        RX    1000    1010    1020    1030    1050    1060    1070    1080
1516        RY   13.16   12.83    12.5      10      10    12.5   12.83   13.16
            * DDM   ***** Preserved *****

1517        KK    RT30
1518        KM        RETRIEVE DIVERTED FLOW FOR WASH BELOW 30 INCH PIPE
1519        DR    WA30
            * DDM   ***** Preserved *****

1520        KK     R30
1521        KM        ROUTE FLOW FROM WASH DIVERSION TO COMBINE C52
1522        RS       1    FLOW      -1
1523        RC     .05    .035     .05    1630     .05
1524        RX    1000    1010    1020    1036    1041    1057    1067    1077
1525        RY      15    14.5      14      10      10      14    14.5      15
            * DDM   ***** Preserved *****
                                    HEC-1 INPUT                                    PAGE 41

LINE        ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10
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1526          KK    RTB1
1527          KM        RETRIEVE DIVERTED FLOW FROM BASIN 1
              *      1       2
1528          DR  BASIN1
              * DDM   ***** Preserved *****

1529          KK      B1
1530          KM        ROUTE FLOW THROUGH OFFLINE DETENTION BASIN
1531          KM        FLOW OUTLETS THROUGH A 30 INCH OUTLET PIPE
              *      1       2
1532          RS       1    ELEV       0
1533          SV              .7      1.4      2.3      2.7      4.0
1534          SQ       0       5       16       28     32.5       37
1535          SE       0       1        2        3      3.5        4
              * DDM   ***** Preserved *****

1536          KK     RB1
1537          KM        ROUTE FLOW FROM BASIN DIVERSION TO COMBINE C52
1538          RS       3    FLOW      -1
1539          RC     .05    .035     .05     1720     .05
1540          RX    1000    1010    1020     1036    1041     1057     1067     1077
1541          RY      15    14.5      14       10      10       14     14.5       15
              * DDM   ***** Preserved *****

1542          KK    CDIV
1543          KM        COMBINE FLOWS FROM WA30 AND BASIN 1
1544          HC       2      .12
              * DDM   ***** Updated *****

1545          KK     459
1546          KM   SUB-BASIN 459
1547          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1548          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF 1.000
1549          KM     L =  .35  Kb = .052  Adj. Slope =  251.6
1550          BA    .030
1551          LG    .220    .300   3.330    .710   8.000
1552          UC    .162    .157
1553          UA       0       5      16      30      65      77      84      90      94      97
1554          UA     100
              * DDM   ***** Preserved *****

1555          KK     C52
1556          KM        COMBINE FLOWS FROM SUB-BASIN 52 WA30 AND BASIN 1
1557          HC       2
              * DDM   ***** Preserved *****

1558          KK     R52
1559          KM        ROUTE FLOW FROM SUBBASIN 52 TO C102
1560          RS       3    FLOW      -1
1561          RC     .05    .035     .05     2000     .05
1562          RX    1000    1010    1020     1036    1041     1057     1067     1077
1563          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

1564          KK     460
1565          KM   SUB-BASIN 460
1566          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1567          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .999
1568          KM     L =  .62  Kb = .058  Adj. Slope =  194.0
1569          BA    .140
1570          LG    .250    .260   3.740    .690  27.000
1571          UC    .242    .160
1572          UA       0       5      16      30      65      77      84      90      94      97
1573          UA     100
              * DDM   ***** Preserved *****

1574          KK    C102
1575          KM        COMBINE HYDROGRAPHS FROM SUB-BASINS 52 AND 53
1576          HC       2
              * DDM   ***** Preserved *****

1577          KK  BASIN3
1578          KM        RESERVOIR AT CLUBHOUSE LOCATION 1-30 INCH PIPE AT OUTFALL
1579          KM        BOTTOM OF BASIN AT 6 FEET ABOVE 1795 ELEVATION
1580          RS       1    ELEV       0
1581          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
1582          SQ       0      22      45    47.4      48      51      57      62      67      73
1583          SE    1795  1797.5    1800  1800.4  1800.5    1801    1802    1803    1804  1805.5
              * DDM   ***** Preserved *****

1584          KK      R3
1585          KM        ROUTE FLOW FROM C102 to C106
1586          RS       5    FLOW      -1
1587          RC     .05     .03     .05     2750   .0375
1588          RX    1000    1010    1020     1052    1086     1118     1128     1138
1589          RY    19.2    18.4      18       10      10       18     18.4     19.2
              * DDM   ***** Updated *****

1590          KK     461
1591          KM   SUB-BASIN 461
1592          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
```

```
1593          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .999
1594          KM     L =  .83  Kb = .052  Adj. Slope =  181.0
1595          BA    .120
1596          LG    .270    .250   4.250    .450  21.000
1597          UC    .271    .250
1598          UA       0       5      16      30      65      77      84      90      94      97
1599          UA     100
              * DDM   ***** Preserved *****

1600          KK    C104
1601          KM        COMBINE HYDROGRAPHS FROM SUB-BASIN 54 AND R102
1602          HC       2
              * DDM   ***** Preserved *****
1                                          HEC-1 INPUT                                          PAGE 43

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

1603          KK    C106
1604          KM        COMBINE HYDROGRAPHS FROM SUB-BASIN C103 AND C104
1605          HC       2
              * DDM   ***** Preserved *****

1606          KK    R106
1607          KM        ROUTE FLOW FROM C106 TO C49
1608          RS       2    FLOW      -1
1609          RC     .05    .035     .05    3950    .033
1610          RX    1000    1010    1020    1030    1050    1060    1070    1080
1611          RY   13.16   12.83    12.5      10      10    12.5   12.83   13.16
              * DDM   ***** Updated *****

1612          KK     462
1613          KM   SUB-BASIN 462
1614          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1615          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .998
1616          KM     L =  .97  Kb = .045  Adj. Slope =  297.7
1617          BA    .301
1618          LG    .300    .330   5.300    .240  12.000
1619          UC    .225    .137
1620          UA       0       5      16      30      65      77      84      90      94      97
1621          UA     100
              * DDM   ***** Preserved *****

1622          KK     C56
1623          KM        COMBINE HYDROGRAPHS FROM SUB-BASIN 56 AND C106
              *      1       2
1624          HC       2
              * DDM   ***** Preserved *****

1625          KK    C462
1626          KM        COMBINE HYDROGRAPHS AT SUBBASIN 462
              *      1
1627          HC       2    2.09
              * DDM   ***** Preserved *****

1628          KK    R462
1629          KM   ROUTE FLOW FROM SUB-BASIN 462 TO SUB-BASIN 500 (First Channel Reach)
1630          RS       1    FLOW      -1
1631          RC    .025    .025    .025    1800    .005
1632          RX       0       1      20      32      62      74      93      94
1633          RY      13      12      12       0       0      12      12      13
              *

1634          KK   RR462
1635          KM   ROUTE FLOW FROM SUB-BASIN 462 TO SUB-BASIN 500 (Second Natural Wash Reach)
1636          RS       3    FLOW      -1
1637          RC    .055     .05    .055    4700     .05
1638          RX       0       1       2      28      58      84      85      86
1639          RY    13.5    13.5    13.5       0       0    13.5    13.5    13.5
              * DDM   ***** Updated *****
1                                          HEC-1 INPUT                                          PAGE 44

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

1640          KK     500
1641          KM   SUB-BASIN 500
1642          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1643          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .994
1644          KM     L = 2.77  Kb = .042  Adj. Slope =  286.8
1645          BA    .930
1646          LG    .350    .400   6.000    .170   9.000
1647          UC    .421    .333
1648          UA       0       3       5       8      12      20      43      75      90      96
1649          UA     100
              * DDM   ***** Preserved *****

1650          KK    C500
1651          KM   HYDROGRAPH COMBINATION FOR THE ENTIRE WATERSHED AT THE SALT RIVER
1652          HC       2    3.02
1653          ZZ
```

SCHEMATIC DIAGRAM OF STREAM NETWORK

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

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

 27       10
           V
           V
 37      R10
           V
           V
 43      R12
           .
           .
 49        .          20
           .           .
           .           .
 59      C20............
           V
           V
 62      R20
           .
           .
 68        .          40
           .           .
           .           .
 78        .           .          60
           .           .           .
           .           .           .
 88      C60........................
           V
           V
 91      S60
           V
           V
100      R60
           V
           V
106     RR60
           .
           .
112        .          80
           .           .
           .           .
122      C80............
           V
           V
125      R80
           .
           .
131        .         100
           .           .
           .           .
141     C100............
           V
           V
144     R100
           .
           .
150        .         120
           .           .
           .           .
160     C120............
           V
           V
163     R120
           .
           .
169        .         140
           .           .
           .           .
179        .           .         150
           .           .           V
           .           .           V
189        .           .        R150
           .           .           V
           .           .           V
195        .           .        R152
           .           .           .
           .           .           .
201        .           .           .         160
           .           .           .           .
           .           .           .           .
211        .           .           .           .         180
           .           .           .           .           .
           .           .           .           .           .
221     C180.............................................
           .
           .
224        .       385B
           .          V
           .          V
234        .      R385B
           .           .
           .           .
243        .           .       395B
           .           .          .
           .           .          .
253        .      C395B............
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                .          V
                .          V
256             .      R395B
                .          .
                .          .
263             .          .        370B
                .          .          .
                .          .          .
273             .      C370C............
                .          V
                .          V
276             .      R370B
                .          V
                .          V
283             .     RR370B
                .          .
                .          .
292             .          .        355B
                .          .          .
                .          .          .
302             .      C355B............
                .          V
                .          V
305             .      R355B
                .          V
                .          V
314             .     RR355B
                .          .
                .          .
321             .          .         350
                .          .           V
                .          .           V
331             .          .        R350
                .          .          .
                .          .          .
338             .          .          .         310
                .          .          .           .
                .          .          .           .
348             .       C310........................
                .          V
                .          V
351             .       R310
                .          V
                .          V
358             .       R312
                .          .
                .          .
367             .          .        305B
                .          .          .
                .          .          .
377             .      C305B............
                .          V
                .          V
380             .      R305B
                .          .
                .          .
389             .          .         210
                .          .           V
                .          .           V
399             .          .        R210
                .          .          .
                .          .          .
405             .          .          .         240
                .          .          .           .
                .          .          .           .
415             .       C240........................
                .          V
                .          V
418             .       S240
                .          V
                .          V
427             .       R240
                .          .
                .          .
434             .          .         220
                .          .          .
                .          .          .
444             .       C220............
                .          V
                .          V
447             .       S220
                .          V
                .          V
456             .       R220
                .          .
                .          .
463             .          .         190
                .          .           V
                .          .           V
473             .          .        R190
                .          .           V
                .          .           V
479             .          .        R192
                .          .          .
                .          .          .
485             .          .          .         200
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495          C200.......................
                V
                V
498          S200
                V
                V
505          R200
                V
                V
511         SS200
                V
                V
518         RR200
                .
                .
524      CC180............
            V
            V
527       S180
            V
            V
536       R180
            .
            .
545           260
                .
                .
555       C260............
            V
            V
558       R260
            .
            .
567           280
                .
                .
577       C280............
            V
            V
580       R280
            .
            .
589           300
                .
                .
599       C300............
            V
            V
602       R300
            .
            .
611          305A
                .
                .
621      C305A............
            V
            V
624      R305A
            .
            .
633           320
                .
                .
648           .-------->   BS320
643          D320
                .
                .
653           .           .<-------   BS320
651           .       RT320
              .           V
              .           V
654           .        S320
              .           .
              .           .
660       C320........................
            .
            .
663           340
                .
                .
678           .-------->   BS340
673          D340
                .
                .
683           .           .<-------   BS340
681           .       RT340
              .           V
              .           V
684           .        S340
              .           .
              .           .
690      C340........................
            .
            .
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693          .        355A
             .          V
             .          V
703          .       R355A
             .          .
             .          .
710          .          .         360
             .          .           .
             .          .           .
724          .          .           .-------->   BS360
720          .          .        D360
             .          .           .
             .          .           .
729          .          .           .           .<--------   BS360
727          .          .           .       RT360
             .          .           .           V
             .          .           .           V
730          .          .           .        S360
             .          .           .           .
             .          .           .           .
736       C360.................................
             .
             .
739          .         380
             .          .
             .          .
753          .          .-------->   BS380
749          .        D380
             .          .
             .          .
758          .          .           .<--------   BS380
756          .          .       RT380
             .          .           V
             .          .           V
759          .          .        S380
             .          .           .
             .          .           .
765       C380......................
             .
             .
768          .         400
             .          .
             .          .
782          .          .-------->   BS400
778          .        D400
             .          .
             .          .
787          .          .           .<--------   BS400
785          .          .       RT400
             .          .           V
             .          .           V
788          .          .        S400
             .          .           .
             .          .           .
794          .        C400...........
             .          .
             .          .
797      CC400...........
             .
             .
800          .        420A
             .          .
             .          .
814          .          .-------->  BS420A
810          .       D420A
             .          .
             .          .
819          .          .           .<--------  BS420A
817          .          .      RT420A
             .          .           V
             .          .           V
820          .          .       S420A
             .          .           .
             .          .           .
826      C420A......................
             .
             .
829          .        370A
             .          .
             .          .
839          .          .        395A
             .          .           .
             .          .           .
849          .       C370A...........
             .          .
             .          .
855          .          .-------->   BS370
852          .        D370
             .          .
             .          .
860          .          .           .<--------   BS370
858          .          .       RT370
             .          .           V
             .          .           V
861          .          .        S370
             .          .           .
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```
867          CC370............
                V
                V
870           R370
                .
                .
877                 385A
                    .
                    .
887                 .        415B
                    .          .
                    .          .
897                 C415B............
                    .
                    .
903                 .-------> BS415B
900                 D415B
                    .
                    .
908                 .          .<-------  BS415B
906                 .      RT415B
                    .          V
                    .          V
909                 .       S415B
                    .          .
                    .          .
915                 CC415B............
                       V
                       V
918                 R415B
                    .
                    .
925                 .         390
                    .          .
                    .          .
939                 .          .-------> BS390
935                 .        D390
                    .          .
                    .          .
944                 .          .          .<-------  BS390
942                 .          .      RT390
                    .          .          V
                    .          .          V
945                 .          .       S390
                    .          .          .
                    .          .          .
951           C390.................................
                V
                V
954           R390
                .
                .
961                 420B
                    .
                    .
971          C420B............
                .
                .
974                  440
                      V
                      V
984                  R70
                    .
                    .
990                 .         441
                    .          .
                    .          .
1000                C108............
                    .
                    .
1005                .-------> SPLIT
1003                 D4
                      V
                      V
1008                R108
                    .
                    .
1014                .         442
                    .          .
                    .          .
1024                 C67............
                    .
                    .
1030                .-------> BASIN4
1027                 D6
                    .
                    .
1035                .          .<-------  BASIN4
1033                .        RTD6
                    .          V
                    .          V
1036                .         SD6
                    .          .
                    .          .
1042                 CD6............
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```
1045                443
                     .
                     .
1058                 .-------->   WSH66
1055               D66
                     V
                     V
1061              R113
                     .
                     .
1067        C114............
                     .
                     .
1070               444
                     V
                     V
1080               R58
                     .
                     .
1086                 .         445
                     .           .
                     .           .
1096              C107............
                     V
                     V
1099              R107
                     .
                     .
1107                 .           .<-------   SPLIT
1105                 .        RTB2
                     .           V
                     .           V
1108                 .      RSPLIT
                     .           .
                     .           .
1114                 .           .         446
                     .           .           .
                     .           .           .
1124              C109........................
                     .
                     .
1130                 .-------->  WSH404
1127               D5
                     V
                     V
1133              R109
                     .
                     .
1139                 .         447
                     .           .
                     .           .
1151                 .           .           .<-------  WSH404
1149                 .           .       RT404
                     .           .           V
                     .           .           V
1152                 .           .       R404
                     .           .           .
                     .           .           .
1158              C110........................
                     V
                     V
1161              R110
                     .
                     .
1167        C115............
               V
               V
1170        R115
                     .
                     .
1176               448
                     .
                     .
1186                 .         449
                     .           .
                     .           .
1196            C6364............
                     V
                     V
1199            R6364
                     .
                     .
1205                 .         450
                     .           .
                     .           .
1215                 .           .         451
                     .           .           .
                     .           .           .
1225                 .       C451............
                     .           .
                     .           .
1230                 .           .           .<-------   WSH66
1228                 .           .       RT66
                     .           .           .
```

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1231                                                                452
1241                                                  C6465............
                                                          V
                                                          V
1244                                                  R6566
1250                                  C116......................
                                          V
                                          V
1253                                BASIN5
                                          V
                                          V
1260                                  R116
1266                                                  453
1276                                  C117............
1279                            C118............
                                    V
                                    V
1282                            R118
1291                                  .-------> BASIN6
1288                              D7
1296                                          .<-------  BASIN6
1294                                  RTD7
                                          V
                                          V
1297                                   SD7
1303                             CD7............
1306                                   454
1316                            C454............
                                    V
                                    V
1319                            R454
1326                                  415A
1336                      C415A......................
                                V
                                V
1339                      R415A
1346                             455
1361                                  .------->   BS455
1356                            D455
1366                                          .<-------   BS455
1364                                 RT455
                                          V
                                          V
1367                                  S455
1373                            C455............
1376                  CC455......................
                          V
                          V
1379                   S440
                          V
                          V
1388                   R455
1394                     480
1409                      .------->   BS480
1404                    D480
```

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1414          .           .           .<-------   BS480
1412          .           .       RT480
              .           .           V
              .           .           V
1415          .           .        S480
              .           .           .
              .           .           .
1421          .        C480............
              .           .
              .           .
1424       CC480............
              V
              V
1427        R480
              .
              .
1433          .         456
              .           .
              .           .
1446          .           .-------->  BASIN1
1443          .          D1
              .           .
              .           .
1452          .           .-------->    WA30
1449          .          D2
              .           V
              .           V
1455          .        R456
              .           .
              .           .
1461          .           .         457
              .           .           .
              .           .           .
1471          .        C101............
              .           .
              .           .
1477          .           .-------->  BASIN2
1474          .          D3
              .           .
              .           .
1482          .           .           .<-------  BASIN2
1480          .           .       RTD3
              .           .           V
              .           .           V
1483          .           .         SD3
              .           .           .
              .           .           .
1489          .         CD3............
              .           V
              .           V
1492          .        R101
              .           .
              .           .
1498          .           .         458
              .           .           .
              .           .           .
1508          .        C103............
              .           V
              .           V
1511          .        R103
              .           .
              .           .
1519          .           .           .<-------    WA30
1517          .           .       RT30
              .           .           V
              .           .           V
1520          .           .        R30
              .           .           .
              .           .           .
1528          .           .           .           .<-------  BASIN1
1526          .           .           .        RTB1
              .           .           .           V
              .           .           .           V
1529          .           .           .          B1
              .           .           .           V
              .           .           .           V
1536          .           .           .         RB1
              .           .           .           .
              .           .           .           .
1542          .           .       CDIV............
              .           .           .
              .           .           .
1545          .           .           .         459
              .           .           .           .
              .           .           .           .
1555          .           .         C52............
              .           .           V
              .           .           V
1558          .           .         R52
              .           .           .
              .           .           .
1564          .           .           .         460
              .           .           .           .
              .           .           .           .
1574          .           .       C102............
              .           .           V
```

```
                .          .          V
1577            .          .     BASIN3
                .          .          V
                .          .          V
1584            .          .         R3
                .          .          .
                .          .          .
1590            .          .          .        461
                .          .          .          .
                .          .          .          .
1600            .          .       C104............
                .          .          .
                .          .          .
1603            .       C106............
                .          V
                .          V
1606            .       R106
                .          .
                .          .
1612            .          .        462
                .          .          .
                .          .          .
1622            .        C56............
                .          .
                .          .
1625        C462............
               V
               V
1628        R462
               V
               V
1634       RR462
                .
                .
1640            .        500
                .          .
                .          .
1650        C500............
```

(***) RUNOFF ALSO COMPUTED AT THIS LOCATION

```
1*****************************************
 *                                       *
 *   FLOOD HYDROGRAPH PACKAGE  (HEC-1)   *
 *              JUN   1998               *
 *           VERSION 4.1                 *
 *                                       *
 *  RUN DATE   01MAY01  TIME  16:50:33   *
 *                                       *
*****************************************
```

```
*************************************
*                                   *
*    U.S. ARMY CORPS OF ENGINEERS   *
*    HYDROLOGIC ENGINEERING CENTER  *
*          609 SECOND STREET        *
*       DAVIS, CALIFORNIA 95616     *
*           (916) 756-1104          *
*                                   *
*************************************
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```
DDMS MCUHP1 SPOOK HILL ADMP-EXISTING CONDITIONS MODEL-100YR, 24-HR STORM
Combined McDowell Road and Pass Mountain Alternatives MD2E and PM4R
McDowell Road Alternative - Option MD2E
FULL PASS MOUNTAIN DIVERSION WITH SPOOK HILL FRS STORAGE ROUTING;
OUTFLOW OF SIGNAL BUTTE IS QUADRUPLED, PASS MOUNTAIN DIVERSION ALTERNATIVE
Spook Hill FRS without Off-Line Basin

  8 IO          OUTPUT CONTROL VARIABLES
                      IPRNT           5  PRINT CONTROL
                      IPLOT           0  PLOT CONTROL
                      QSCAL          0.  HYDROGRAPH PLOT SCALE

    IT          HYDROGRAPH TIME DATA
                       NMIN           2  MINUTES IN COMPUTATION INTERVAL
                      IDATE      1    0  STARTING DATE
                      ITIME        0000  STARTING TIME
                         NQ        2000  NUMBER OF HYDROGRAPH ORDINATES
                     NDDATE      3    0  ENDING DATE
                     NDTIME        1838  ENDING TIME
                      ICENT          19  CENTURY MARK

                 COMPUTATION INTERVAL     .03 HOURS
                      TOTAL TIME BASE   66.63 HOURS

        ENGLISH UNITS
             DRAINAGE AREA          SQUARE MILES
             PRECIPITATION DEPTH    INCHES
             LENGTH, ELEVATION      FEET
             FLOW                   CUBIC FEET PER SECOND
             STORAGE VOLUME         ACRE-FEET
             SURFACE AREA           ACRES
             TEMPERATURE            DEGREES FAHRENHEIT

 10 JD          INDEX STORM NO. 1
                       STRM        3.81  PRECIPITATION DEPTH
                       TRDA         .01  TRANSPOSITION DRAINAGE AREA

 11 PI            PRECIPITATION PATTERN
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21 JD INDEX STORM NO. 2

STRM	3.79	PRECIPITATION DEPTH
TRDA	1.00	TRANSPOSITION DRAINAGE AREA

0 PI PRECIPITATION PATTERN

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22 JD INDEX STORM NO. 3

STRM 3.68 PRECIPITATION DEPTH

TRDA 5.80 TRANSPOSITION DRAINAGE AREA

0 PI PRECIPITATION PATTERN

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23 JD INDEX STORM NO. 4
STRM 3.57 PRECIPITATION DEPTH
TRDA 10.66 TRANSPOSITION DRAINAGE AREA

0 PI PRECIPITATION PATTERN

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24 JD INDEX STORM NO. 5
STRM 3.54 PRECIPITATION DEPTH
TRDA 13.70 TRANSPOSITION DRAINAGE AREA

0 PI PRECIPITATION PATTERN

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25 JD INDEX STORM NO. 6
STRM 3.47 PRECIPITATION DEPTH
TRDA 20.00 TRANSPOSITION DRAINAGE AREA

0 PI PRECIPITATION PATTERN

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26 JD INDEX STORM NO. 7

STRM 3.32 PRECIPITATION DEPTH

TRDA 50.00 TRANSPOSITION DRAINAGE AREA

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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	989.	12.27	119.	33.	12.	.70		
+	ROUTED TO	R10	920.	12.40	119.	33.	12.	.70		
+	ROUTED TO	R12	853.	12.60	119.	33.	12.	.70		
+	HYDROGRAPH AT	20	1011.	12.43	136.	34.	12.	1.12		
+	2 COMBINED AT	C20	1684.	12.53	252.	66.	24.	1.82		
+	ROUTED TO	R20	1683.	12.57	252.	66.	24.	1.82		
+	HYDROGRAPH AT	40	2695.	12.30	264.	69.	25.	2.23		
+	HYDROGRAPH AT	60	1623.	12.40	239.	64.	23.	1.75		
+	3 COMBINED AT	C60	5371.	12.37	733.	194.	70.	5.80		
+	ROUTED TO	S60	118.	14.27	118.	114.	70.	5.80		

+	ROUTED TO	R60	118.	14.37	118.	114.	70.	5.80
	ROUTED TO	RR60	118.	14.40	118.	114.	70.	5.80
+	HYDROGRAPH AT	80	1956.	12.27	189.	49.	18.	1.48
+	2 COMBINED AT	C80	2009.	12.27	295.	160.	90.	1.48
+	ROUTED TO	R80	1981.	12.30	295.	160.	90.	1.48
+	HYDROGRAPH AT	100	423.	12.20	60.	16.	6.	.48
+	2 COMBINED AT	C100	2373.	12.27	351.	174.	95.	1.96
+	ROUTED TO	R100	2370.	12.30	351.	174.	95.	1.96
+	HYDROGRAPH AT	120	3352.	12.27	340.	92.	33.	2.20
+	2 COMBINED AT	C120	5618.	12.27	673.	256.	126.	4.16
+	ROUTED TO	R120	5546.	12.30	673.	256.	126.	4.16
+	HYDROGRAPH AT	140	665.	12.13	67.	18.	6.	.60
+	HYDROGRAPH AT	150	595.	12.17	51.	14.	5.	.41
+	ROUTED TO	R150	568.	12.23	51.	14.	5.	.41
+	ROUTED TO	R152	514.	12.33	51.	14.	5.	.41
	HYDROGRAPH AT	160	228.	12.40	37.	9.	3.	.37
+	HYDROGRAPH AT	180	836.	12.37	97.	24.	9.	1.00
+	5 COMBINED AT	C180	7306.	12.30	898.	313.	146.	6.54
+	HYDROGRAPH AT	385B	591.	12.17	57.	16.	6.	.38
+	ROUTED TO	R385B	590.	12.17	57.	16.	6.	.38
+	HYDROGRAPH AT	395B	12.	12.17	2.	0.	0.	.02
+	2 COMBINED AT	C395B	601.	12.17	59.	17.	6.	.39
+	ROUTED TO	R395B	580.	12.23	58.	16.	6.	.39
+	HYDROGRAPH AT	370B	219.	12.27	32.	8.	3.	.26
+	2 COMBINED AT	C370C	792.	12.23	90.	25.	9.	.66
+	ROUTED TO	R370B	778.	12.27	90.	25.	9.	.66
+	ROUTED TO	RR370B	715.	12.33	90.	25.	9.	.66
+	HYDROGRAPH AT	355B	465.	12.27	54.	14.	5.	.51
+	2 COMBINED AT	C355B	1153.	12.30	143.	38.	14.	1.17
+	ROUTED TO	R355B	1138.	12.37	143.	38.	14.	1.17
	ROUTED TO	RR355B	1121.	12.40	143.	38.	14.	1.17
+	HYDROGRAPH AT	350	1258.	12.20	109.	28.	10.	.97

+	ROUTED TO	R350	1109.	12.47	109.	28.	10.	.97
	HYDROGRAPH AT	310	342.	12.33	46.	12.	4.	.49
+	3 COMBINED AT	C310	2448.	12.43	290.	76.	27.	2.63
+	ROUTED TO	R310	2395.	12.53	290.	76.	27.	2.63
+	ROUTED TO	R312	2301.	12.63	290.	76.	27.	2.63
+	HYDROGRAPH AT	305B	405.	12.30	45.	11.	4.	.41
+	2 COMBINED AT	C305B	2484.	12.63	333.	87.	31.	3.05
+	ROUTED TO	R305B	2464.	12.67	333.	87.	31.	3.05
+	HYDROGRAPH AT	210	1322.	12.17	111.	29.	10.	.79
+	ROUTED TO	R210	1246.	12.23	111.	29.	10.	.79
+	HYDROGRAPH AT	240	1754.	12.27	167.	42.	15.	1.41
+	3 COMBINED AT	C240	3752.	12.27	593.	153.	55.	5.25
+	ROUTED TO	S240	1819.	12.93	528.	137.	49.	5.25
+	ROUTED TO	R240	1817.	13.00	527.	137.	49.	5.25
+	HYDROGRAPH AT	220	694.	12.20	68.	18.	6.	.47
+	2 COMBINED AT	C220	1864.	12.97	587.	153.	55.	5.72
+	ROUTED TO	S220	1775.	13.13	575.	150.	54.	5.72
+	ROUTED TO	R220	1774.	13.20	575.	150.	54.	5.72
+	HYDROGRAPH AT	190	1471.	12.17	123.	33.	12.	.92
+	ROUTED TO	R190	1415.	12.23	123.	33.	12.	.92
+	ROUTED TO	R192	1359.	12.30	123.	33.	12.	.92
+	HYDROGRAPH AT	200	843.	12.17	72.	20.	7.	.53
+	3 COMBINED AT	C200	2171.	12.30	741.	195.	71.	7.17
+	ROUTED TO	S200	2057.	12.37	736.	192.	69.	7.17
+	ROUTED TO	R200	2055.	12.40	735.	192.	69.	7.17
+	ROUTED TO	SS200	1788.	13.30	615.	162.	58.	7.17
+	ROUTED TO	RR200	1784.	13.37	612.	162.	58.	7.17
+	2 COMBINED AT	CC180	7306.	12.30	1505.	476.	204.	13.70
+	ROUTED TO	S180	449.	15.63	436.	313.	154.	13.70
+	ROUTED TO	R180	449.	15.70	436.	313.	154.	13.70
	HYDROGRAPH AT	260	399.	12.13	43.	12.	4.	.26
+	2 COMBINED AT	C260	491.	15.63	477.	362.	181.	.26

+	ROUTED TO	R260	491.	15.70	477.	362.	181.	.26
	HYDROGRAPH AT	280	498.	12.10	46.	13.	5.	.32
+	2 COMBINED AT	C280	854.	12.13	479.	372.	185.	.58
+	ROUTED TO	R280	837.	12.20	479.	372.	185.	.58
+	HYDROGRAPH AT	300	392.	12.10	34.	9.	3.	.29
+	2 COMBINED AT	C300	1173.	12.17	503.	379.	188.	.87
+	ROUTED TO	R300	1131.	12.23	502.	379.	188.	.87
+	HYDROGRAPH AT	305A	413.	12.17	46.	13.	5.	.37
+	2 COMBINED AT	C305A	1501.	12.23	539.	388.	191.	1.24
+	ROUTED TO	R305A	1470.	12.30	538.	387.	191.	1.24
+	HYDROGRAPH AT	320	899.	12.20	116.	33.	12.	.87
+	DIVERSION TO	BS320	439.	11.97	21.	6.	2.	.87
+	HYDROGRAPH AT	D320	899.	12.20	102.	27.	10.	.87
+	HYDROGRAPH AT	RT320	439.	11.97	21.	6.	2.	.87
+	ROUTED TO	S320	4.	12.03	4.	4.	2.	.87
+	3 COMBINED AT	C320	2277.	12.27	633.	411.	200.	2.11
+	HYDROGRAPH AT	340	1581.	12.17	196.	58.	21.	1.48
+	DIVERSION TO	BS340	1581.	12.17	104.	28.	10.	1.48
+	HYDROGRAPH AT	D340	1367.	12.30	108.	30.	11.	1.48
+	HYDROGRAPH AT	RT340	1581.	12.17	104.	28.	10.	1.48
+	ROUTED TO	S340	18.	12.30	17.	14.	9.	1.48
+	3 COMBINED AT	C340	3564.	12.30	744.	446.	215.	3.59
+	HYDROGRAPH AT	355A	226.	12.10	22.	6.	2.	.16
+	ROUTED TO	R355A	197.	12.37	22.	6.	2.	.16
+	HYDROGRAPH AT	360	761.	12.20	109.	31.	11.	.88
+	DIVERSION TO	BS360	761.	12.20	54.	14.	5.	.88
+	HYDROGRAPH AT	D360	665.	12.37	62.	17.	6.	.88
+	HYDROGRAPH AT	RT360	761.	12.20	54.	14.	5.	.88
+	ROUTED TO	S360	9.	12.37	8.	7.	5.	.88
+	4 COMBINED AT	C360	3921.	12.37	825.	471.	226.	4.63
	HYDROGRAPH AT	380	627.	12.27	97.	26.	9.	.90
+	DIVERSION TO	BS380	627.	12.27	56.	14.	5.	.90

+	HYDROGRAPH AT	D380	461.	12.57	44.	12.	4.	.90
	HYDROGRAPH AT	RT380	627.	12.27	56.	14.	5.	.90
+	ROUTED TO	S380	9.	12.57	9.	7.	5.	.90
+	3 COMBINED AT	C380	3921.	12.37	872.	488.	235.	5.53
+	HYDROGRAPH AT	400	560.	12.20	66.	18.	6.	.62
+	DIVERSION TO	BS400	311.	12.00	10.	3.	1.	.62
+	HYDROGRAPH AT	D400	560.	12.20	58.	15.	5.	.62
+	HYDROGRAPH AT	RT400	311.	12.00	10.	3.	1.	.62
+	ROUTED TO	S400	2.	12.07	2.	2.	1.	.62
+	2 COMBINED AT	C400	562.	12.20	60.	16.	6.	.62
+	2 COMBINED AT	CC400	4250.	12.37	918.	498.	238.	6.15
+	HYDROGRAPH AT	420A	495.	12.20	68.	19.	7.	.57
+	DIVERSION TO	BS420A	377.	12.07	16.	4.	2.	.57
+	HYDROGRAPH AT	D420A	495.	12.20	56.	14.	5.	.57
+	HYDROGRAPH AT	RT420A	377.	12.07	16.	4.	2.	.57
	ROUTED TO	S420A	13.	11.60	13.	4.	2.	.57
+	3 COMBINED AT	C420A	4562.	12.37	973.	510.	243.	6.72
+	HYDROGRAPH AT	370A	633.	12.10	52.	14.	5.	.41
+	HYDROGRAPH AT	395A	209.	12.13	24.	6.	2.	.18
+	2 COMBINED AT	C370A	838.	12.10	76.	21.	7.	.59
+	DIVERSION TO	BS370	698.	12.10	43.	11.	4.	.59
+	HYDROGRAPH AT	D370	140.	11.77	33.	10.	4.	.59
+	HYDROGRAPH AT	RT370	698.	12.10	43.	11.	4.	.59
+	ROUTED TO	S370	8.	12.57	7.	6.	4.	.59
+	2 COMBINED AT	CC370	148.	12.57	39.	15.	7.	.59
+	ROUTED TO	R370	148.	12.57	39.	15.	7.	.59
+	HYDROGRAPH AT	385A	358.	12.07	27.	7.	3.	.21
+	HYDROGRAPH AT	415B	443.	12.10	46.	13.	5.	.33
+	2 COMBINED AT	C415B	785.	12.07	73.	20.	7.	.54
+	DIVERSION TO	BS415B	595.	12.07	34.	8.	3.	.54
	HYDROGRAPH AT	D415B	190.	11.83	40.	12.	4.	.54
+	HYDROGRAPH AT	RT415B	595.	12.07	34.	8.	3.	.54

+	ROUTED TO	S415B	7.	12.50	7.	6.	3.	.54
	2 COMBINED AT	CC415B	197.	12.47	45.	17.	7.	.54
+	ROUTED TO	R415B	197.	12.47	45.	17.	7.	.54
+	HYDROGRAPH AT	390	477.	12.03	35.	10.	4.	.24
+	DIVERSION TO	BS390	101.	11.73	6.	2.	1.	.24
+	HYDROGRAPH AT	D390	477.	12.03	31.	8.	3.	.24
+	HYDROGRAPH AT	RT390	101.	11.73	6.	2.	1.	.24
+	ROUTED TO	S390	1.	11.80	1.	1.	1.	.24
+	4 COMBINED AT	C390	814.	12.03	115.	41.	18.	1.38
+	ROUTED TO	R390	746.	12.23	115.	41.	18.	1.38
+	HYDROGRAPH AT	420B	356.	12.10	34.	10.	4.	.28
+	2 COMBINED AT	C420B	1039.	12.20	148.	50.	22.	1.65
+	HYDROGRAPH AT	440	184.	12.03	12.	3.	1.	.08
+	ROUTED TO	R70	181.	12.07	12.	3.	1.	.08
+	HYDROGRAPH AT	441	16.	12.03	1.	0.	0.	.01
	2 COMBINED AT	C108	197.	12.07	14.	4.	1.	.09
+	DIVERSION TO	SPLIT	98.	12.07	7.	2.	1.	.09
+	HYDROGRAPH AT	D4	98.	12.07	7.	2.	1.	.09
+	ROUTED TO	R108	92.	12.13	7.	2.	1.	.09
+	HYDROGRAPH AT	442	105.	12.10	9.	2.	1.	.10
+	2 COMBINED AT	C67	195.	12.10	16.	4.	2.	.19
+	DIVERSION TO	BASIN4	121.	12.10	6.	2.	1.	.19
+	HYDROGRAPH AT	D6	74.	12.10	10.	3.	1.	.19
+	HYDROGRAPH AT	RTD6	121.	12.10	6.	2.	1.	.19
+	ROUTED TO	SD6	1.	12.47	1.	1.	0.	.19
+	2 COMBINED AT	CD6	74.	12.10	10.	3.	1.	.19
+	HYDROGRAPH AT	443	151.	12.07	15.	4.	1.	.08
+	DIVERSION TO	WSH66	78.	11.87	12.	3.	1.	.08
+	HYDROGRAPH AT	D66	73.	12.07	3.	1.	0.	.08
+	ROUTED TO	R113	71.	12.07	3.	1.	0.	.08
	2 COMBINED AT	C114	144.	12.07	13.	4.	2.	.27
+	HYDROGRAPH AT	444	83.	12.03	5.	1.	0.	.04

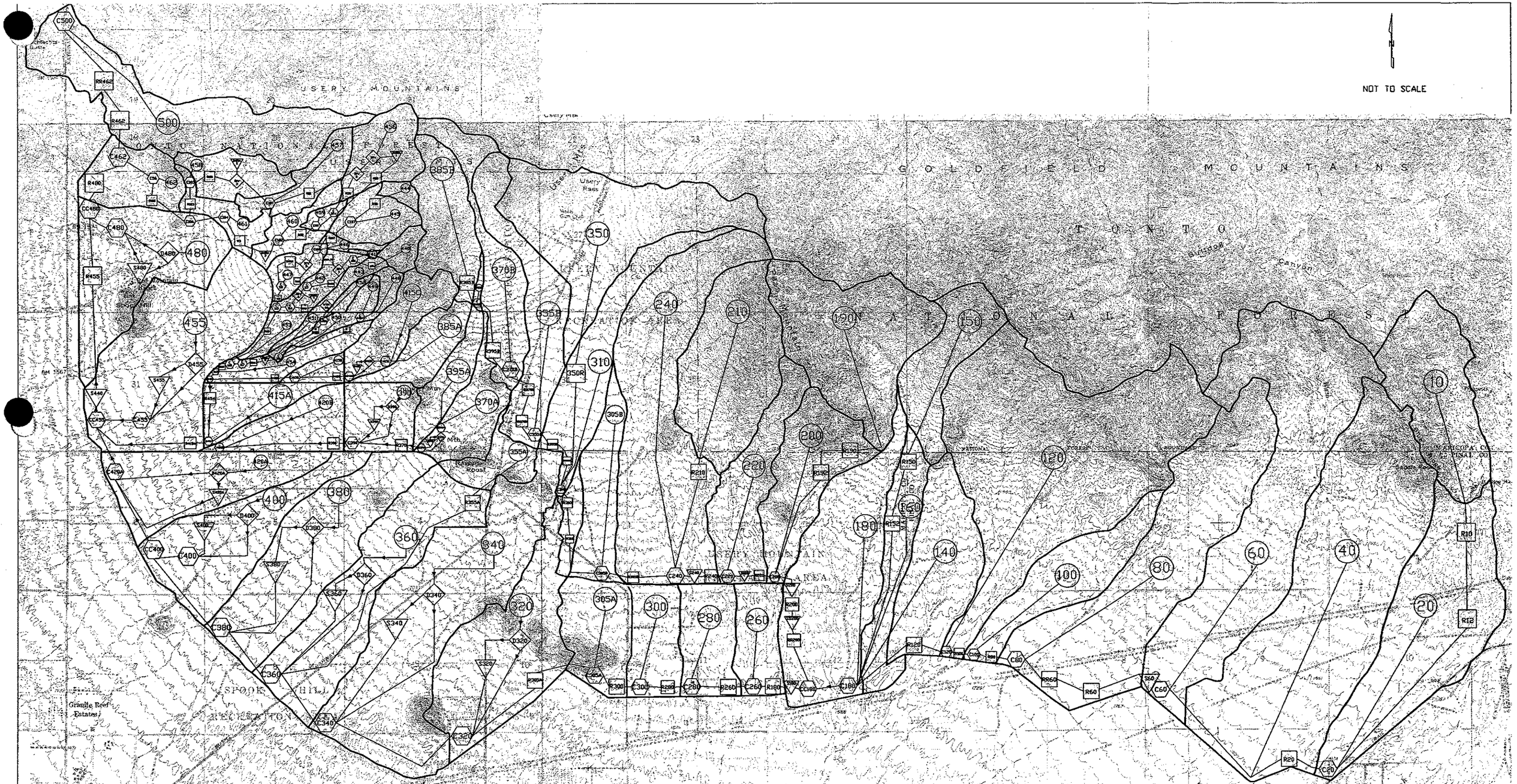
+	ROUTED TO R58	79.	12.07	5.	1.	0.	.04
	HYDROGRAPH AT 445	307.	12.03	19.	5.	2.	.19
+	2 COMBINED AT C107	382.	12.03	23.	6.	2.	.23
+	ROUTED TO R107	382.	12.07	23.	6.	2.	.23
+	HYDROGRAPH AT RTB2	98.	12.07	7.	2.	1.	.09
+	ROUTED TO RSPLIT	98.	12.07	7.	2.	1.	.09
+	HYDROGRAPH AT 446	66.	12.03	6.	2.	1.	.04
+	3 COMBINED AT C109	545.	12.07	36.	10.	3.	.27
+	DIVERSION TO WSH404	35.	11.70	8.	2.	1.	.27
+	HYDROGRAPH AT D5	510.	12.07	28.	7.	3.	.27
+	ROUTED TO R109	493.	12.10	28.	7.	3.	.27
+	HYDROGRAPH AT 447	141.	12.07	12.	4.	1.	.09
+	HYDROGRAPH AT RT404	35.	11.70	8.	2.	1.	.27
+	ROUTED TO R404	35.	11.83	8.	2.	1.	.27
+	3 COMBINED AT C110	666.	12.07	48.	13.	5.	.36
	ROUTED TO R110	663.	12.10	48.	13.	5.	.36
+	2 COMBINED AT C115	805.	12.07	61.	17.	7.	.63
+	ROUTED TO R115	799.	12.10	61.	17.	7.	.63
+	HYDROGRAPH AT 448	89.	12.03	6.	2.	1.	.05
+	HYDROGRAPH AT 449	81.	12.03	5.	1.	0.	.05
+	2 COMBINED AT C6364	170.	12.03	11.	3.	1.	.09
+	ROUTED TO R6364	145.	12.17	11.	3.	1.	.09
+	HYDROGRAPH AT 450	63.	12.20	7.	2.	1.	.07
+	HYDROGRAPH AT 451	18.	12.17	2.	1.	0.	.03
+	2 COMBINED AT C451	80.	12.20	9.	2.	1.	.09
+	HYDROGRAPH AT RT66	78.	11.87	12.	3.	1.	.08
+	HYDROGRAPH AT 452	63.	12.03	5.	1.	0.	.04
+	2 COMBINED AT C6465	141.	12.03	17.	4.	2.	.04
+	ROUTED TO R6566	137.	12.10	17.	4.	2.	.04
+	3 COMBINED AT C116	357.	12.17	36.	10.	3.	.23
	ROUTED TO BASIN5	159.	12.47	36.	10.	3.	.23
+	ROUTED TO R116	157.	12.53	36.	10.	3.	.23

+	HYDROGRAPH AT	453	63.	12.10	7.	2.	1.	.06
	2 COMBINED AT	C117	177.	12.47	43.	12.	4.	.29
+	2 COMBINED AT	C118	892.	12.10	104.	29.	11.	.92
+	ROUTED TO	R118	887.	12.13	104.	29.	11.	.92
+	DIVERSION TO	BASIN6	248.	12.13	7.	2.	1.	.92
+	HYDROGRAPH AT	D7	639.	12.13	97.	27.	10.	.92
+	HYDROGRAPH AT	RTD7	248.	12.13	7.	2.	1.	.92
+	ROUTED TO	SD7	1.	12.63	1.	1.	1.	.92
+	2 COMBINED AT	CD7	640.	12.13	97.	28.	11.	.92
+	HYDROGRAPH AT	454	162.	12.13	21.	6.	2.	.18
+	2 COMBINED AT	C454	801.	12.13	118.	34.	13.	1.10
+	ROUTED TO	R454	793.	12.23	118.	34.	13.	1.10
+	HYDROGRAPH AT	415A	267.	12.17	32.	9.	3.	.28
+	3 COMBINED AT	C415A	2063.	12.20	292.	90.	37.	3.03
+	ROUTED TO	R415A	2050.	12.23	292.	90.	37.	3.03
	HYDROGRAPH AT	455	1418.	12.13	150.	45.	16.	1.11
+	DIVERSION TO	BS455	1418.	12.13	139.	37.	13.	1.11
+	HYDROGRAPH AT	D455	145.	12.80	24.	8.	3.	1.11
+	HYDROGRAPH AT	RT455	1418.	12.13	139.	37.	13.	1.11
+	ROUTED TO	S455	23.	12.80	22.	18.	11.	1.11
+	2 COMBINED AT	C455	169.	12.80	46.	26.	14.	1.11
+	3 COMBINED AT	CC455	6100.	12.33	1233.	594.	281.	10.86
+	ROUTED TO	S440	363.	26.43	360.	324.	197.	10.86
+	ROUTED TO	R455	363.	27.10	360.	324.	194.	10.86
+	HYDROGRAPH AT	480	1102.	12.10	100.	31.	11.	.73
+	DIVERSION TO	BS480	487.	11.90	27.	8.	3.	.73
+	HYDROGRAPH AT	D480	1102.	12.10	83.	23.	8.	.73
+	HYDROGRAPH AT	RT480	487.	11.90	27.	8.	3.	.73
+	ROUTED TO	S480	5.	11.97	5.	4.	3.	.73
+	2 COMBINED AT	C480	1107.	12.10	88.	27.	11.	.73
	2 COMBINED AT	CC480	1107.	12.10	415.	374.	234.	.73
+	ROUTED TO	R480	878.	12.33	415.	374.	232.	.73

+	HYDROGRAPH AT	456	483.	12.07	37.	10.	4.	.26
	DIVERSION TO	BASIN1	193.	12.07	8.	2.	1.	.26
+	HYDROGRAPH AT	D1	290.	12.07	29.	8.	3.	.26
+	DIVERSION TO	WA30	59.	12.07	10.	3.	1.	.26
+	HYDROGRAPH AT	D2	231.	12.07	19.	5.	2.	.26
+	ROUTED TO	R456	218.	12.13	19.	5.	2.	.26
+	HYDROGRAPH AT	457	273.	12.07	21.	6.	2.	.19
+	2 COMBINED AT	C101	480.	12.10	40.	10.	4.	.45
+	DIVERSION TO	BASIN2	177.	12.10	8.	2.	1.	.45
+	HYDROGRAPH AT	D3	303.	12.10	32.	8.	3.	.45
+	HYDROGRAPH AT	RTD3	177.	12.10	8.	2.	1.	.45
+	ROUTED TO	SD3	1.	12.40	1.	1.	1.	.45
+	2 COMBINED AT	CD3	304.	12.10	33.	9.	4.	.45
+	ROUTED TO	R101	302.	12.10	33.	9.	4.	.45
+	HYDROGRAPH AT	458	366.	12.03	26.	7.	2.	.19
+	2 COMBINED AT	C103	655.	12.07	59.	16.	6.	.64
+	ROUTED TO	R103	651.	12.07	59.	16.	6.	.64
+	HYDROGRAPH AT	RT30	59.	12.07	10.	3.	1.	.26
+	ROUTED TO	R30	58.	12.10	10.	3.	1.	.26
+	HYDROGRAPH AT	RTB1	193.	12.07	8.	2.	1.	.26
+	ROUTED TO	B1	35.	12.20	8.	2.	1.	.26
+	ROUTED TO	RB1	35.	12.27	8.	2.	1.	.26
+	2 COMBINED AT	CDIV	87.	12.20	18.	5.	2.	.12
+	HYDROGRAPH AT	459	45.	12.03	3.	1.	0.	.03
+	2 COMBINED AT	C52	117.	12.10	21.	6.	2.	.15
+	ROUTED TO	R52	116.	12.17	21.	6.	2.	.15
+	HYDROGRAPH AT	460	221.	12.07	20.	6.	2.	.14
+	2 COMBINED AT	C102	323.	12.07	40.	12.	4.	.29
+	ROUTED TO	BASIN3	71.	12.63	40.	12.	4.	.29
+	ROUTED TO	R3	71.	12.77	40.	12.	4.	.29
	HYDROGRAPH AT	461	165.	12.10	17.	5.	2.	.12
+	2 COMBINED AT	C104	220.	12.10	57.	17.	6.	.41

	2 COMBINED AT							
+		C106	866.	12.07	115.	33.	12.	1.05
	ROUTED TO							
		R106	828.	12.13	115.	33.	12.	1.05
	HYDROGRAPH AT							
+		462	557.	12.07	42.	12.	4.	.30
	2 COMBINED AT							
+		C56	1306.	12.10	156.	44.	16.	1.35
	2 COMBINED AT							
+		C462	1641.	12.30	415.	375.	248.	2.09
	ROUTED TO							
+		R462	1575.	12.33	405.	366.	242.	2.09
	ROUTED TO							
+		RR462	1543.	12.40	405.	366.	242.	2.09
	HYDROGRAPH AT							
+		500	1126.	12.27	128.	35.	12.	.93
	2 COMBINED AT							
+		C500	2475.	12.33	433.	387.	251.	3.02

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



FLOOD CONTROL DISTRICT
OF MARICOPA COUNTY
ENGINEERING DIVISION

McDOWELL & PASS MTN. ALTERNATIVE 4R

	BY	DATE
DESIGNED	R. HIMER	06/00
DRAWN	S. CAMPBELL	06/00
CHECKED	A. PATEL	06/00

WOOD, PATEL & ASSOCIATES, INC.
2051 WEST NORTHERN, SUITE 100
PHOENIX, ARIZONA (602) 335-8500

DRAWING NO. MD3EPM4R.DWG SHEET OF

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1****************************************
 *                                      *
 *   FLOOD HYDROGRAPH PACKAGE  (HEC-1)  *
 *              JUN   1998              *
 *            VERSION 4.1               *
 *                                      *
 *  RUN DATE   02MAY01  TIME  08:35:19  *
 *                                      *
 ****************************************
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****************************************
*                                      *
*    U.S. ARMY CORPS OF ENGINEERS      *
*    HYDROLOGIC ENGINEERING CENTER     *
*          609 SECOND STREET           *
*       DAVIS, CALIFORNIA 95616        *
*           (916) 756-1104             *
*                                      *
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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
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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

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1                                    HEC-1 INPUT                                                    PAGE  1

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

   1          ID   DDMS MCUHP1 SPOOK HILL ADMP-EXISTING CONDITIONS MODEL-100YR, 24-HR STORM
   2          ID   Combined McDowell Road and Pass Mountain Alternatives MD3E and PM4R
   3          ID   McDowell Road Alternative - Option MD3E
   4          ID   FULL PASS MOUNTAIN DIVERSION WITH SPOOK HILL FRS STORAGE ROUTING;
   5          ID   OUTFLOW OF SIGNAL BUTTE IS QUADRUPLED, PASS MOUNTAIN DIVERSION ALTERNATIVE
   6          ID   Spook Hill FRS without Off-Line Basin
              *
              *  Original File Names: EC24PM4R.DAT, EC24MD3E.DAT
              *  Modified File Name:  MD3EPM4R.DAT, 4/23/01, WOOD/PATEL, SZ
              *
              *
              *DIAGRAM
   7          IT       2                    2000
   8          IO       5
   9          IN      15
  10          JD    3.81    0.01
  11          PC    .000    .002    .005    .008    .011    .014    .017    .020    .023    .026
  12          PC    .029    .032    .035    .038    .041    .044    .048    .052    .056    .060
  13          PC    .064    .068    .072    .076    .080    .085    .090    .095    .100    .105
  14          PC    .110    .115    .120    .126    .133    .140    .147    .155    .163    .172
  15          PC    .181    .191    .203    .218    .236    .257    .283    .387    .663    .707
  16          PC    .735    .758    .776    .791    .804    .815    .825    .834    .842    .849
  17          PC    .856    .863    .869    .875    .881    .887    .893    .898    .903    .908
  18          PC    .913    .918    .922    .926    .930    .934    .938    .942    .946    .950
  19          PC    .953    .956    .959    .962    .965    .968    .971    .974    .977    .980
  20          PC    .983    .986    .989    .992    .995    .998   1.000
  21          JD   3.787    1.00
  22          JD   3.677    5.80
  23          JD   3.574   10.66
  24          JD   3.539   13.70
  25          JD   3.467   20.00
  26          JD   3.315   50.00
              * DDM   ***** Updated *****

  27          KK      10
  28          KM   SUB-BASIN 10
  29          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
  30          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .996
  31          KM     L = 2.00  Kb = .044  Adj. Slope =  165.0
  32          BA    .702
  33          LG    .350    .320   7.600    .090  15.000
  34          UC    .421    .302
  35          UA       0       3       5       8      12      20      43      75      90      96
  36          UA     100
              * DDM   ***** Preserved *****

  37          KK     R10
  38          KM   ROUTING OF FLOW FROM SUB-BASIN 10 TO R12
  39          RS       4    FLOW      -1
  40          RC    .045     .03    .045    8700    .021
  41          RX       0       1       2      17      27      42      43      44
  42          RY       5       5       5       0       0       5       5       5
              * DDM   ***** Preserved *****
                                    HEC-1 INPUT                                                    PAGE  2

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

  43          KK     R12
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 44          KM   ROUTING OF FLOW FROM R12 TO SUB-BASIN 20
 45          RS       6    FLOW      -1
 46          RC    .045     .03    .045    4500     .01
 47          RX       0       1      45    52.5    72.5      80     124     125
 48          RY       4     2.5     2.5       0       0     2.5     2.5       4
             * DDM   ***** Updated *****

 49          KK      20
 50          KM   SUB-BASIN 20
 51          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
 52          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .993
 53          KM     L = 2.50  Kb = .041  Adj. Slope =   88.0
 54          BA   1.120
 55          LG    .350    .390   5.800    .190   1.000
 56          UC    .658    .454
 57          UA       0       3       5       8      12      20      43      75      90      96
 58          UA     100
             * DDM   ***** Preserved *****

 59          KK     C20
 60          KM   HYDROGRAPH COMBINATION OF SUB-BASINS 10 AND 20
 61          HC       2
             * DDM   ***** Preserved *****

 62          KK     R20
 63          KM        ROUTE FLOW THROUGH BULLDOG FLOODWAY FROM APACHE JUNCTION FRS
 64          RS       1    FLOW      -1
 65          RC    .016    .016    .016     990    .004
 66          RX       0       5       7    14.5    34.5      42      44      50
 67          RY       4       2       2       0       0       2       2       4
             * DDM   ***** Updated *****

 68          KK      40
 69          KM   SUB-BASIN 40
 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  .987
 72          KM     L = 3.08  Kb = .036  Adj. Slope =  189.0
 73          BA   2.233
 74          LG    .340    .340   4.900    .280   5.000
 75          UC    .496    .264
 76          UA       0       3       5       8      12      20      43      75      90      96
 77          UA     100
             * DDM   ***** Updated *****

 78          KK      60
 79          KM   SUB-BASIN 60
 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  .990
 82          KM     L = 4.19  Kb = .038  Adj. Slope =  209.6
 83          BA   1.746
 84          LG    .330    .350   5.800    .190   9.000
 85          UC    .596    .477
 86          UA       0       3       5       8      12      20      43      75      90      96
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LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 87          UA     100
             * DDM   ***** Preserved *****

 88          KK     C60
 89          KM   HYDROGRAPH COMBINATION FOR APACHE JUNCTION FRS
             *      1       2
 90          HC       3
             * DDM   ***** Preserved *****

 91          KK     S60
 92          KM   APACHE JUNCTION FRS AS-BUILT PLANS 12/19/88
 93          KM   OUTLET PIPE=30"RCP; L=136.6'; INLET INV.=1783.5; OUTLET INV.=1783
 94          KM   EMERGENCY SPILLWAY ELEV.=1799.77'; PRINCIPLE SPILLWAY ELEV.=1793.5'
 95          KM   STORAGE VOLUME BELOW PRINCIPLE SPILLWAY FOR SEDIMENT = 100 ACRE-FEET
             *  ESE = 1801.92 ft; PSE = 1795.65 ft; Sediment Vol. = 237 Ac-Ft.
 96          RS       1    STOR       0
 97          SV       0       0      77     242     371     439     563     687    2163
 98          SQ       0      12     103     114     120     362    1462    3101   30000
 99          SE    95.0    96.0    98.0   100.0   101.6   101.9   103.0   104.0   112.9
             * DDM   ***** Preserved *****

100          KK     R60
101          KM        ROUTE FLOW THROUGH BULLDOG FLOODWAY FROM APACHE JUNCTION FRS
102          RS       1    FLOW      -1
103          RC    .016    .016    .016    2850    .012
104          RX       0       1       2     2.1     5.6     5.7       6       7
105          RY     3.5     3.5     3.5       0       0     3.5     3.5     3.5
             * DDM   ***** Preserved *****

106          KK    RR60
107          KM   ROUTE FLOW FROM BULLDOG FLOODWAY TO SUB-BASIN 80
108          RS       3    FLOW      -1
109          RC    .016    .016    .016    3500    .005
110          RX       0       1       2     2.1     7.1     7.2       8       9
111          RY     3.5     3.5     3.5       0       0     3.5     3.5     3.5
             * DDM   ***** Updated *****

112          KK      80
113          KM   SUB-BASIN 80
114          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
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115          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .991
116          KM     L = 2.69  Kb = .039  Adj. Slope =  229.8
117          BA   1.475
118          LG    .330    .330   5.600    .210   4.000
119          UC    .433    .259
120          UA       0       3       5       8      12      20      43      75      90      96
121          UA     100
             * DDM   ***** Preserved *****

122          KK     C80
123          KM   HYDROGRAPH COMBINATION FOR FLOW FROM APACHE JUNCTION FRS & SUB-BASIN 80
124          HC       2   1.475
             * DDM   ***** Preserved *****
1                                          HEC-1 INPUT                                                    PAGE  4

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


125          KK     R80
126          KM   ROUTE FLOW FROM SUB-BASIN 80 TO SUB-BASIN 100
127          RS       1    FLOW      -1
128          RC    .025    .016    .025    1200    .003
129          RX       0       2       6     6.1    41.1    41.2    56.2    58.2
130          RY     5.5     4.5     4.5       0       0     4.5     4.5     5.5
             * DDM   ***** Updated *****

131          KK     100
132          KM   SUB-BASIN 100
133          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
134          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .997
135          KM     L = 1.94  Kb = .046  Adj. Slope =  108.0
136          BA    .484
137          LG    .320    .290   5.100    .260   3.000
138          UC    .533    .473
139          UA       0       5      16      30      65      77      84      90      94      97
140          UA     100
             * DDM   ***** Preserved *****

141          KK    C100
142          KM   HYDROGRAPH COMBINATION FOR FLOW FROM SUB-BASIN 80 & 100
143          HC       2
             * DDM   ***** Preserved *****

144          KK    R100
145          KM   ROUTE FLOW FROM SUB-BASIN 100 TO SUB-BASIN 120
146          RS       1    FLOW      -1
147          RC    .016    .016    .016     940    .005
148          RX       0       1       2     2.1    52.1    52.2      53      54
149          RY     4.5     4.5     4.5       0       0     4.5     4.5     4.5
             * DDM   ***** Updated *****

150          KK     120
151          KM   SUB-BASIN 120
152          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
153          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .987
154          KM     L = 3.07  Kb = .037  Adj. Slope =  239.0
155          BA   2.202
156          LG    .330    .280   6.800    .130  11.000
157          UC    .429    .226
158          UA       0       3       5       8      12      20      43      75      90      96
159          UA     100
             * DDM   ***** Preserved *****

160          KK    C120
161          KM   HYDROGRAPH COMBINATION FOR FLOW FROM SUB-BASIN 100 & 120
162          HC       2
             * DDM   ***** Preserved *****
1                                          HEC-1 INPUT                                                    PAGE  5

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


163          KK    R120
164          KM   ROUTE FLOW FROM SUB-BASIN 120 TO SIGNAL BUTTE FRS
165          RS       1    FLOW      -1
166          RC    .025    .016    .025    2100    .005
167          RX       0       6      10    10.1    60.1    60.2    74.2    80.2
168          RY       8       5       5       0       0       5       5       8
             * DDM   ***** Updated *****

169          KK     140
170          KM   SUB-BASIN 140
171          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
172          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .996
173          KM     L = 1.61  Kb = .044  Adj. Slope =  149.0
174          BA    .598
175          LG    .310    .280   4.200    .440   5.000
176          UC    .421    .278
177          UA       0       5      16      30      65      77      84      90      94      97
178          UA     100
             * DDM   ***** Updated *****

179          KK     150
180          KM   SUB-BASIN 150
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  .998
183          KM     L = 1.50  Kb = .047  Adj. Slope =  314.6
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 184          BA    .408
 185          LG    .350     .360   5.100    .260   7.000
 186          UC    .296     .221
 187          UA       0        3       5       8      12      20      43      75      90      96
 188          UA     100
              * DDM   ***** Preserved *****

 189          KK    R150
 190          KM   ROUTING OF FLOW FROM SUB-BASIN 150 TO R152
 191          RS       2    FLOW      -1
 192          RC    .045      .04    .045    3100    .032
 193          RX       0        1       2      23      33      54      55      56
 194          RY       7        7       7       0       0       7       7       7
              * DDM   ***** Preserved *****

 195          KK    R152
 196          KM   ROUTING OF FLOW FROM R152 TO SUB-BASIN 160
 197          RS       3    FLOW      -1
 198          RC    .045      .03    .045    5900    .019
 199          RX       0        1       2       8      33      39      40      41
 200          RY       2        2       2       0       0       2       2       2
              * DDM   ***** Updated *****

 201          KK     160
 202          KM   SUB-BASIN 160
 203          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
 204          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .998
 205          KM     L = 2.10  Kb = .047  Adj. Slope =  129.0
 206          BA    .369
1                                          HEC-1 INPUT                                          PAGE  6

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

 207          LG    .340     .330   4.150    .440   1.000
 208          UC    .587     .655
 209          UA       0        3       5       8      12      20      43      75      90      96
 210          UA     100
              * DDM   ***** Updated *****

 211          KK     180
 212          KM   SUB-BASIN 180
 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  .994
 215          KM     L = 2.42  Kb = .041  Adj. Slope =  140.0
 216          BA   1.000
 217          LG    .350     .350   4.150    .430    .000
 218          UC    .571     .403
 219          UA       0        3       5       8      12      20      43      75      90      96
 220          UA     100
              * DDM   ***** Preserved *****

 221          KK    C180
 222          KM   HYDROGRAPH COMBINATION FOR SIGNAL BUTTE FRS
              * KO      1
 223          HC       5
              * DDM   ***** Updated *****

 224          KK    385B
 225          KM   SUB-BASIN 385B
 226          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
 227          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .998
 228          KM     L = 1.47  Kb = .047  Adj. Slope =  315.0
 229          BA    .375
 230          LG    .350     .400   6.000    .170  17.000
 231          UC    .287     .221
 232          UA       0        3       5       8      12      20      43      75      90      96
 233          UA     100
              * DDM   ***** Preserved *****

 234          KK   R385B
 235          KM   CHANNEL GEOMETRY OBTAINED FROM 2' CONTOUR MAPPING & AERIAL MAPPING
 236          KM   ROUTING OF FLOW FROM SUB-BASIN 385B TO 395B
 237          KM   OVERBANK MANNINGS INCREASED TO ACCOUNT FOR SKEWED FLOW TO NATURAL
 238          KM   WATERCOURSE FLOW PATH
 239          RS       1    FLOW      -1
 240          RC     .07      .03     .07     500    .045
 241          RX       0        1       3       9      39      45      46      47
 242          RY       3        2       2       0       0       2       2       3
              * DDM   ***** Updated *****

 243          KK    395B
 244          KM   SUB-BASIN 395B
 245          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
 246          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF 1.000
 247          KM     L =  .71  Kb = .066  Adj. Slope =  249.8
 248          BA    .017
 249          LG    .350     .350   4.300    .400    .000
 250          UC    .262     .650
1                                          HEC-1 INPUT                                          PAGE  7

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

 251          UA       0        3       5       8      12      20      43      75      90      96
 252          UA     100
              * DDM   ***** Preserved *****

 253          KK   C395B
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254          KM   HYDROGRAPH COMBINATION OF SUB-BASINS 383 & 393
255          HC       2
             * DDM   ***** Preserved *****

256          KK   R395B
257          KM   CHANNEL GEOMETRY OBTAINED FROM 2' CONTOUR MAPPING & AERIAL MAPPING
258          KM   ROUTING OF FLOW FROM SUB-BASIN 393 TO SUB-BASIN 365
259          RS       2    FLOW      -1
260          RC    .055     .03    .055    3630    .045
261          RX       0       1       3       9      39      45      46      47
262          RY       3       2       2       0       0       2       2       3
             * DDM   ***** Updated *****

263          KK    370B
264          KM   SUB-BASIN 370B
265          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
266          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .998
267          KM     L = 2.20  Kb = .049  Adj. Slope =  299.5
268          BA    .264
269          LG    .350    .350   4.800    .290   5.000
270          UC    .408    .550
271          UA       0       3       5       8      12      20      43      75      90      96
272          UA     100
             * DDM   ***** Preserved *****

273          KK   C370C
274          KM   HYDROGRAPH COMBINATION OF SUB-BASINS 395B & 370B
275          HC       2
             * DDM   ***** Preserved *****

276          KK   R370B
277          KM   CHANNEL GEOMETRY OBTAINED FROM 2' CONTOUR MAPPING & AERIAL MAPPING
278          KM   ROUTING OF FLOW FROM SUB-BASIN 370B TO ROUTING RR370B
279          RS       2    FLOW      -1
280          RC    .045     .03    .045    1110    .025
281          RX       0       1      50      56      76      82     131     132
282          RY       3       2       2       0       0       2       2       3
             * DDM   ***** Preserved *****

283          KK  RR370B
284          KM   CHANNEL GEOMETRY OBTAINED FROM 2' CONTOUR MAPPING & AERIAL MAPPING
285          KM   ROUTING OF FLOW FROM RR370B TO SUB-BASIN 355B
286          KM   OVERBANK MANNINGS INCREASED TO ACCOUNT FOR SKEWED FLOW TO NATURAL
287          KM   WATERCOURSE FLOW PATH
288          RS       1    FLOW      -1
289          RC     .07     .03     .07    1550    .008
290          RX       0       3       5      11      41      47     147     247
291          RY     3.5     2.5       2       0       0       2     2.5     3.5
             * DDM   ***** Updated *****
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LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

292          KK    355B
293          KM   SUB-BASIN 355B
294          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
295          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .997
296          KM     L = 2.41  Kb = .045  Adj. Slope =  298.2
297          BA    .513
298          LG    .350    .350   4.400    .370   1.000
299          UC    .421    .419
300          UA       0       3       5       8      12      20      43      75      90      96
301          UA     100
             * DDM   ***** Preserved *****

302          KK   C355B
303          KM   HYDROGRAPH COMBINATION OF SUB-BASINS 370B & 355B
304          HC       2
             * DDM   ***** Preserved *****

305          KK   R355B
306          KM   CHANNEL GEOMETRY OBTAINED FROM 2' CONTOUR MAPPING & AERIAL MAPPING
307          KM   ROUTING OF FLOW FROM SUB-BASIN 355B TO ROUTING RR355B
308          KM   OVERBANK MANNINGS INCREASED TO ACCOUNT FOR SKEWED FLOW TO NATURAL
309          KM   WATERCOURSE FLOW PATH
310          RS       3    FLOW      -1
311          RC     .07     .03     .07     936    .009
312          RX       0       3       5      11      41      47     172     302
313          RY     3.5     2.5       2       0       0       2     2.5     3.5
             * DDM   ***** Preserved *****

314          KK  RR355B
315          KM   CHANNEL GEOMETRY OBTAINED FROM 2' CONTOUR MAPPING & AERIAL MAPPING
316          KM   ROUTING OF FLOW FROM R355B TO SUB-BASIN 310
317          RS       1    FLOW      -1
318          RC    .045     .03    .045    1725     .03
319          RX       0       1      25      31      51      57      81      82
320          RY       3       2       2       0       0       2       2       3
             * DDM   ***** Updated *****

321          KK     350
322          KM   SUB-BASIN 350
323          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
324          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .994
325          KM     L = 2.22  Kb = .042  Adj. Slope =  315.0
326          BA    .970
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327          LG    .350    .350   4.550    .340   4.000
328          UC    .367    .234
329          UA       0       3       5       8      12      20      43      75      90      96
330          UA     100
             * DDM   ***** Preserved *****
1                                        HEC-1 INPUT                                                    PAGE  9

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


331          KK    R350
332          KM   CHANNEL GEOMETRY OBTAINED FROM 2' CONTOUR MAPPING & AERIAL MAPPING
333          KM   ROUTING OF MAIN FLOW FROM DIVERSION OF SUB-BASIN 350 TO SUB-BASIN 310
334          RS       9    FLOW      -1
335          RC    .045    .035    .045    7650    .025
336          RX       0       1      50      56      86      92     141     142
337          RY       3       2       2       0       0       2       2       3
             * DDM   ***** Updated *****

338          KK     310
339          KM   SUB-BASIN 310
340          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
341          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .997
342          KM     L = 2.65  Kb = .046  Adj. Slope =  285.6
343          BA    .494
344          LG    .350    .350   3.910    .480    .000
345          UC    .483    .538
346          UA       0       3       5       8      12      20      43      75      90      96
347          UA     100
             * DDM   ***** Preserved *****

348          KK    C310
349          KM   HYDROGRAPH COMBINATION OF SUB-BASINS 350 & 310
350          HC       3
             * DDM   ***** Preserved *****

351          KK    R310
352          KM   CHANNEL GEOMETRY OBTAINED FROM 2' CONTOUR MAPPING & AERIAL MAPPING
353          KM   ROUTING OF FLOW FROM SUB-BASIN 310 TO R312
354          RS       3    FLOW      -1
355          RC    .045     .03    .045    2850    .021
356          RX       0       1     100     106     126     132     231     232
357          RY     3.5       2       2       0       0       2       2     3.5
             * DDM   ***** Preserved *****

358          KK    R312
359          KM   CHANNEL GEOMETRY OBTAINED FROM 2' CONTOUR MAPPING & AERIAL MAPPING
360          KM   ROUTING OF FLOW FROM SUB-BASIN 310 TO 305
361          KM   OVERBANK MANNINGS INCREASED TO ACCOUNT FOR SKEWED FLOW TO NATURAL
362          KM   WATERCOURSE FLOW PATH
363          RS       3    FLOW      -1
364          RC     .07     .03     .07    2560   .0124
365          RX       0       3       5      11      61      67     200     395
366          RY       4     2.5       2       0       0       2     2.5       4
             * DDM   ***** Updated *****

367          KK    305B
368          KM   SUB-BASIN 305B
369          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
370          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .998
371          KM     L = 1.65  Kb = .047  Adj. Slope =  127.0
372          BA    .414
373          LG    .350    .350   4.700    .300    .000
374          UC    .467    .392
1                                        HEC-1 INPUT                                                    PAGE 10

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

375          UA       0       3       5       8      12      20      43      75      90      96
376          UA     100
             * DDM   ***** Preserved *****

377          KK   C305B
378          KM   HYDROGRAPH COMBINATION OF SUB-BASINS 310 & 295
379          HC       2
             * DDM   ***** Preserved *****

380          KK   R305B
381          KM   CHANNEL GEOMETRY OBTAINED FROM 2' CONTOUR MAPPING & AERIAL MAPPING
382          KM   ROUTING OF FLOW FROM SUBBASIN 305B TO BEGINNING OF PASS MTN. DIVERSION.
383          KM   OVERBANK MANNINGS INCREASED TO ACCOUNT FOR SKEWED FLOW TO NATURAL
384          KM   WATERCOURSE FLOW PATH
385          RS       3    FLOW      -1
386          RC     .07     .03     .07    1100    .013
387          RX       0       3       5      11      51      57     200     400
388          RY       4     2.5       2       0       0       2     2.5       4
             * DDM   ***** Updated *****

389          KK     210
390          KM   SUB-BASIN 210
391          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
392          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .995
393          KM     L = 1.84  Kb = .043  Adj. Slope =  315.0
394          BA    .792
395          LG    .350    .360   6.800    .130   4.000
396          UC    .313    .189
397          UA       0       3       5       8      12      20      43      75      90      96
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398          UA     100
             * DDM   ***** Preserved *****

399          KK    R210
400          KM   ROUTING OF FLOW FROM SUB-BASIN 210 TO SUB-BASIN 220
401          RS       2    FLOW      -1
402          RC    .045     .03    .045    5100    .022
403          RX       0       1       2      14      34      46      47      48
404          RY       4       4       4       0       0       4       4       4
             * DDM   ***** Updated *****

405          KK     240
406          KM   SUB-BASIN 240
407          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
408          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .992
409          KM     L = 2.96  Kb = .039  Adj. Slope =  305.5
410          BA   1.408
411          LG    .350    .370   5.300    .230   2.000
412          UC    .417    .274
413          UA       0       3       5       8      12      20      43      75      90      96
414          UA     100
             * DDM   ***** Preserved *****
1                                          HEC-1 INPUT                                          PAGE 11

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

415          KK    C240
416          KM   HYDROGRAPH COMBINATION FOR SUB-BASIN 240 & 220
417          HC       3
             * DDM   ***** Preserved *****

418          KK    S240
419          KM   DIGITAL MAPPING SHOWS SEDIMENTATION.  FOR SIMPLICITY NO ADDITIONAL
420          KM   SEDIMENTATION WILL BE CONSIDERED FOR STORAGE ROUTING ANALYSIS. 5/11/00
421          KM    WEIR GEOMETRY OBTAINED FROM AS-BUILT PLANS @ PASS MTN. DIVERSION.
422          KM   WEIR STORAGE DATA OBTAINED FROM 2' CONTOUR MAPPING. Weir Width Changed
             *  from 42' to 45'
423          RS       1    STOR       0
424          SA    1.38    14.2    36.5
425          SE       0       5      11
426          SS       5      45       3     1.5
             * DDM   ***** Preserved *****

427          KK    R240
428          KM   ROUTE FLOW FROM SUB-BASIN 240 TO SUB-BASIN 220
429          KM   PASS MOUNTAIN DIVERSION
430          RS       3    FLOW      -1
431          RC    .035    .025    .035    1800    .005
432          RX       0      15      30      39      69      81      96     111
433          RY     4.6     3.3       3       0       0       3       3       4
             * DDM   ***** Updated *****

434          KK     220
435          KM   SUB-BASIN 220
436          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
437          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .997
438          KM     L = 1.85  Kb = .046  Adj. Slope =  315.0
439          BA    .473
440          LG    .350    .350   7.000    .120   5.000
441          UC    .325    .266
442          UA       0       3       5       8      12      20      43      75      90      96
443          UA     100
             * DDM   ***** Preserved *****

444          KK    C220
445          KM   HYDROGRAPH COMBINATION FOR SUB-BASIN 240 & 220
446          HC       2
             * DDM   ***** Preserved *****

447          KK    S220
448          KM   DIGITAL MAPPING SHOWS SEDIMENTATION.  FOR SIMPLICITY NO ADDITIONAL
449          KM   SEDIMENTATION WILL BE CONSIDERED FOR STORAGE ROUTING ANALYSIS. 5/11/00
450          KM    WEIR GEOMETRY OBTAINED FROM AS-BUILT PLANS @ PASS MTN. DIVERSION.
451          KM   WEIR STORAGE DATA OBTAINED FROM 2' CONTOUR MAPPING.
452          RS       1    STOR       0
453          SA     .78     4.1    13.7
454          SE       0       3      10
455          SS       3      65       3     1.5
             * DDM   ***** Preserved *****
1                                          HEC-1 INPUT                                          PAGE 12

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

456          KK    R220
457          KM   ROUTE FLOW FROM SUB-BASIN 220 TO SUB-BASIN 200
458          KM   PASS MOUNTAIN DIVERSION
459          RS       3    FLOW      -1
460          RC    .035    .025    .035    1250    .005
461          RX       0      50     100     109     139     148     178     184
462          RY       5       4       3       0       0       3       3       5
             * DDM   ***** Updated *****

463          KK     190
464          KM   SUB-BASIN 190
465          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
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466          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .994
467          KM     L = 1.91  Kb = .042  Adj. Slope =  315.0
468          BA    .918
469          LG    .350    .390   5.800    .190   8.000
470          UC    .321    .185
471          UA       0       3       5       8      12      20      43      75      90      96
472          UA     100
             * DDM   ***** Preserved *****

473          KK    R190
474          KM   ROUTING OF FLOW FROM SUB-BASIN 190 TO SUB-BASIN 200
475          RS       2    FLOW      -1
476          RC    .045     .03    .045    4740     .03
477          RX       0       1       2      17      37      52      53      54
478          RY       5       5       5       0       0       5       5       5
             * DDM   ***** Preserved *****

479          KK    R192
480          KM   ROUTING OF FLOW FROM SUB-BASIN 190 TO SUB-BASIN 200
481          RS       3    FLOW      -1
482          RC    .045    .035    .045    2200    .018
483          RX       0       1      50      59      79      88     137     138
484          RY     4.5       3       3       0       0       3       3     4.5
             * DDM   ***** Updated *****

485          KK     200
486          KM   SUB-BASIN 200
487          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
488          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .997
489          KM     L = 1.55  Kb = .045  Adj. Slope =  306.9
             * KO     1
490          BA    .530
491          LG    .350    .390   5.700    .200  10.000
492          UC    .296    .195
493          UA       0       3       5       8      12      20      43      75      90      96
494          UA     100
             * DDM   ***** Preserved *****
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LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

495          KK    C200
496          KM   HYDROGRAPH COMBINATION FOR SUB-BASIN 220 & 200
             * KO     1
497          HC       3
             * DDM   ***** Preserved *****

498          KK    S200
499          KM    WEIR GEOMETRY OBTAINED FROM AS-BUILT PLANS @ PASS MTN. DIVERSION.
500          KM   WEIR STORAGE DATA OBTAINED FROM 2' CONTOUR MAPPING.
             * KO     1
501          RS       1    STOR       0
502          SA    2.56     3.1     9.4
503          SE       0       3      10
504          SS       3     112       3     1.5
             * DDM   ***** Preserved *****

505          KK    R200
506          KM   ROUTE FLOW FROM SUB-BASIN 200 TO SIGNAL BUTTE FRS through storage
507          RS       1    FLOW      -1
508          RC    .035    .025    .035     650    .005
509          RX       0       1       2      17     117     132     133     134
510          RY       5       5       5       0       0       5       5       5
             * DDM   ***** Preserved *****

511          KK   SS200
512          KM    WEIR GEOMETRY OBTAINED FROM AS-BUILT PLANS @ PASS MTN. DIVERSION.
513          KM   WEIR STORAGE DATA OBTAINED FROM 2' CONTOUR MAPPING.
             * KO     1
514          RS       1    STOR       0
515          SA       8     9.2     9.2
516          SE       0       7      10
517          SS       7     251       3     1.5
             * DDM   ***** Preserved *****

518          KK   RR200
519          KM   ROUTE FLOW FROM SUB-BASIN 200 TO SIGNAL BUTTE FRS
520          RS       3    FLOW      -1
521          RC    .035    .025    .035    3150    .005
522          RX       0       1       2      17     117     132     133     134
523          RY       5       5       5       0       0       5       5       5
             * ****************************************************************
             * ************ END OF PASS MOUNTAIN ALTERNATIVE UPDATE. **************
             * DDM   ***** Preserved *****

524          KK   CC180
525          KM   HYDROGRAPH COMBINATION FOR SIGNAL BUTTE FRS
             * KO     1
526          HC       2
             * DDM   ***** Preserved *****
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LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

527          KK    S180
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528          KM   SIGNAL BUTTE FRS DATED 1/28/85
529          KM   OUTLET PIPE=36"RCP; L= 147';  INLET INV.=1690; OUTLET INV.=1687
530          KM   EMERGENCY SPILLWAY ELEV.=1712.4; PRINCIPLE SPILLWAY ELEV.=1701
531          KM   STORAGE VOLUME BELOW PRINCIPLE SPILLWAY FOR SEDIMENT = 250 ACRE-FEET
532          RS       1    STOR       0
533          SV       0      92      226      462      742     1197     1418     1776     1941     3114
534          SQ       0      40       42      392      532      596      620     1949     3032     6465
535          SE      99     101      103      106      109      113    114.6      117      118      120
             *
             * DDM   ***** Preserved *****

536          KK    R180
537          KM   Routing length updated using Signal Butte Floodway plans dated March 1983
538          KM   Routing length increased 100' from 1500' to 1600'    12/12/00
539          KM   CHANNEL GEOMETRY FOR SIGNAL BUTTE FRS OBTAINED FROM AS-BUILT PLANS.
540          KM   ROUTE FLOW FROM SIGNAL BUTTE FRS TO SUB-BASIN 260
541          RS       3    FLOW      -1
542          RC    .035    .025    .035    1600    .003
543          RX       0       1       2    22.6    38.6    59.2      60      61
544          RY     9.3     9.3     9.3       0       0     9.3     9.3     9.3
             * DDM   ***** Updated *****

545          KK     260
546          KM   SUB-BASIN 260
547          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
548          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .998
549          KM     L =  .85  Kb = .049  Adj. Slope =   65.0
550          BA    .262
551          LG    .300    .190   6.600    .170  15.000
552          UC    .379    .238
553          UA       0       5      16      30      65      77      84      90      94      97
554          UA     100
             * DDM   ***** Preserved *****

555          KK    C260
556          KM   HYDROGRAPH COMBINATION FOR OUTFLOW OF SIGNAL BUTTE FRS & SUB-BASIN 260
557          HC       2    .262
             * DDM   ***** Preserved *****

558          KK    R260
559          KM   Routing length updated using Signal Butte Floodway plans dated March 1983
560          KM   Routing length unchanged     12/12/00
561          KM   CHANNEL GEOMETRY FOR SIGNAL BUTTE FRS OBTAINED FROM AS-BUILT PLANS.
562          KM   ROUTE FLOW FROM SUB-BASIN 260 TO SUB-BASIN 280
563          RS       3    FLOW      -1
564          RC    .035    .025    .035    2300    .003
565          RX       0       1       2    23.4    43.4    64.8      65      66
566          RY     9.7     9.7     9.7       0       0     9.7     9.7     9.7
             * DDM   ***** Updated *****
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LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

567          KK     280
568          KM   SUB-BASIN 280
569          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
570          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .998
571          KM     L =  .82  Kb = .048  Adj. Slope =   79.0
572          BA    .319
573          LG    .300    .250   5.300    .290  15.000
574          UC    .350    .189
575          UA       0       5      16      30      65      77      84      90      94      97
576          UA     100
             * DDM   ***** Preserved *****

577          KK    C280
578          KM   HYDROGRAPH COMBINATION FOR SUB-BASIN 260 & SUB-BASIN 280
579          HC       2
             * DDM   ***** Preserved *****

580          KK    R280
581          KM   Routing length updated using Signal Butte Floodway plans dated March 1983
582          KM   Routing length decreased 400' from 2500' to 2100'    12/12/00
583          KM   CHANNEL GEOMETRY FOR SIGNAL BUTTE FRS OBTAINED FROM AS-BUILT PLANS.
584          KM   ROUTE FLOW FROM SUB-BASIN 280 TO SUB-BASIN 300
585          RS       3    FLOW      -1
586          RC    .035    .025    .035    2100    .003
587          RX       0       1       2    23.4    43.4    64.8      65      66
588          RY     9.7     9.7     9.7       0       0     9.7     9.7     9.7
             *
             * DDM   ***** Updated *****

589          KK     300
590          KM   SUB-BASIN 300
591          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
592          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .998
593          KM     L =  .82  Kb = .049  Adj. Slope =   98.0
594          BA    .289
595          LG    .320    .290   4.200    .480  11.000
596          UC    .346    .197
597          UA       0       5      16      30      65      77      84      90      94      97
598          UA     100
             * DDM   ***** Preserved *****

599          KK    C300
600          KM   HYDROGRAPH COMBINATION OF DIVERTED FLOW
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 601          HC       2
              * DDM   ***** Preserved *****

 602          KK    R300
 603          KM   Routing length updated using Signal Butte Floodway plans dated March 1983
 604          KM   Routing length increased 300' from 2200' to 2500'    12/12/00
 605          KM   CHANNEL GEOMETRY FOR SIGNAL BUTTE FRS OBTAINED FROM AS-BUILT PLANS.
 606          KM   ROUTE FLOW FROM SUB-BASIN 300 TO START OF FLOODWAY CONCRETE CHANNEL
 607          RS       2    FLOW      -1
 608          RC    .035    .025    .035    2500    .003
 609          RX       0       1       2    23.4    55.4    76.8      77      78
1                                          HEC-1 INPUT                                                    PAGE 16

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

 610          RY     9.7     9.7     9.7       0       0     9.7     9.7     9.7
              * DDM   ***** Updated *****

 611          KK    305A
 612          KM   SUB-BASIN 305A
 613          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
 614          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .998
 615          KM     L = 1.20  Kb = .047  Adj. Slope =   92.0
 616          BA    .372
 617          LG    .340    .330   4.500    .370  11.000
 618          UC    .433    .297
 619          UA       0       5      16      30      65      77      84      90      94      97
 620          UA     100
              * DDM   ***** Preserved *****

 621          KK   C305A
 622          KM   HYDROGRAPH COMBINATION OF SUB-BASIN 280 & 300 & 305A
 623          HC       2
              * DDM   ***** Preserved *****

 624          KK   R305A
 625          KM   Routing length updated using Signal Butte Floodway plans dated March 1983
 626          KM   Routing length decreased 50' from 6050' to 6000'     12/12/00
 627          KM   CHANNEL GEOMETRY FOR SPOOK HILL FRS OBTAINED FROM AS-BUILTS PLANS.
 628          KM   CONTINUE TO ROUTE FLOW WITHIN CONCRETE CHANNEL TO SPOOK HILL FRS
 629          RS       2    FLOW      -1
 630          RC    .016    .016    .016    6000   .0146
 631          RX       0       1       2     2.1    16.1    16.2      17      18
 632          RY     7.5     7.5     7.5       0       0     7.5     7.5     7.5
              *      1       2
              * DDM   ***** Updated *****

 633          KK     320
 634          KM   SUB-BASIN 320
 635          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
 636          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .995
 637          KM     L = 2.04  Kb = .042  Adj. Slope =  118.0
 638          BA    .865
 639          LG    .310    .290   4.500    .380  15.000
 640          UC    .508    .335
 641          UA       0       5      16      30      65      77      84      90      94      97
 642          UA     100
              * DDM   ***** Preserved *****

 643          KK    D320
 644          KM        DIVERT FLOW INTO ONLINE  DETENTION BASIN
 645          KM   DETENTION/RETENTION BASINS LOCATED WITHIN THREE SUBDIVISIONS
 646          KM   SIERRA HEIGHTS       FALCON RIDGE    & MARBLE CREEK
 647          KM        MAXIMUM VOLUME DIVERSION = 12.27acre-feet
              *      1
 648          DT   BS320   12.27
 649          DI       0   10000
 650          DQ       0   10000
              * DDM   ***** Preserved *****
1                                          HEC-1 INPUT                                                    PAGE 17

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

 651          KK   RT320
 652          KM   RETRIEVE FLOW FROM DIVERSION INTO ONLINE BASIN
 653          DR   BS320
              * DDM   ***** Preserved *****

 654          KK    S320
 655          KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
 656          KM   12.27 ACRE-FEETx43560/36x3600=4.1cfs
              *      1
 657          RS       1    STOR       0
 658          SV       0     .01    12.3
 659          SQ       0     3.0     4.2
              * DDM   ***** Preserved *****

 660          KK    C320
 661          KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
 662          HC       3
              * ADD ROUTING ALONG SPOOK HILL FRS
              * DDM   ***** Preserved *****
              * KK  R320
              * KM ROUTE FLOW THROUGH SPOOK HILL FRS FROM JUNCTION OF BROWN & ELLSWORTH ROAD
              * KM TO JUST NORTH OF JUNCTION OF MCDOWELL & POWER RD.
              * RS     9    FLOW      -1
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            * RC  .035    .035    .035    4500   .0007
            * RX     0       9      50      68     198     206     267     275
            * RY   100      97      97      91      91      97      97     100
            * DDM   ***** Updated *****

 663        KK     340
 664        KM   SUB-BASIN 340
 665        KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
 666        KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .991
 667        KM     L = 2.40  Kb = .042  Adj. Slope =  160.0
 668        BA   1.482
 669        LG    .280    .280   4.150    .520  20.000
 670        UC    .512    .284
 671        UA       0       5      16      30      65      77      84      90      94      97
 672        UA     100
            * DDM   ***** Preserved *****

 673        KK    D340
 674        KM        DIVERT FLOW INTO ONLINE  DETENTION BASIN
 675        KM   DETENTION/RETENTION BASINS LOCATED WITHIN THREE SUBDIVISIONS
 676        KM   GRANDVIEW ESTATES    BOULDER MOUNTAIN & 33% OF MESA HIGHLANDS
 677        KM        MAXIMUM VOLUME DIVERSION = 56.0 acre-feet
            *      1
 678        DT   BS340      56
 679        DI       0   10000
 680        DQ       0   10000
            * DDM   ***** Preserved *****
1                                    HEC-1 INPUT                                          PAGE 18

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

 681        KK   RT340
 682        KM   RETRIEVE FLOW FROM DIVERSION INTO ONLINE BASIN
 683        DR   BS340
            * DDM   ***** Preserved *****

 684        KK    S340
 685        KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
 686        KM    56.0 ACRE-FEETx43560/36x3600=18.8cfs
            *      1
 687        RS       1    STOR       0
 688        SV       0     .01      56
 689        SQ       0     3.0    18.9
            * DDM   ***** Preserved *****

 690        KK    C340
            * KO     1       2
 691        KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
 692        HC       3
            * ADD ROUTING ALONG SPOOK HILL FRS
            * DDM   ***** Preserved *****
            * KK  R340
            * KM ROUTE FLOW THROUGH SPOOK HILL FRS FROM JUNCTION OF BROWN & ELLSWORTH ROAD
            * KM TO JUST NORTH OF JUNCTION OF MCDOWELL & POWER RD.
            * RS     5    FLOW      -1
            * RC  .035    .035    .035    2300   .0007
            * RX     0       9      50      68     233     241     307     315
            * RY   100      97      97      91      91      97      97     100
            *      0       9      50      68     308     326     367     376
            *    100      97      97      91      91      97      97     100
            * DDM   ***** Updated *****

 693        KK    355A
 694        KM   SUB-BASIN 355A
 695        KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
 696        KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .999
 697        KM     L =  .80  Kb = .052  Adj. Slope =  125.0
 698        BA    .163
 699        LG    .320    .290   4.550    .360  14.000
 700        UC    .308    .236
 701        UA       0       5      16      30      65      77      84      90      94      97
 702        UA     100
            * DDM   ***** Preserved *****

 703        KK   R355A
 704        KM   CHANNEL GEOMETRY OBTAINED FROM 2' CONTOUR MAPPING.
 705        KM   ROUTING OF FLOW FROM SUB-BASIN 355A TO SUB-BASIN 360
 706        RS       9    FLOW      -1
 707        RC    .045    .035    .045   10100    .026
 708        RX       0       1      40      46      56      62     102     103
 709        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

 710        KK     360
 711        KM   SUB-BASIN 360
 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  .995
 714        KM     L = 2.10  Kb = .046  Adj. Slope =  124.0
 715        BA    .880
 716        LG    .280    .290   4.100    .520  15.000
 717        UC    .571    .387
 718        UA       0       5      16      30      65      77      84      90      94      97
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 719          UA     100
              * DDM   ***** Preserved *****

 720          KK    D360
 721          KM        DIVERT FLOW INTO ONLINE  DETENTION BASIN
 722          KM   DETENTION/RETENTION BASINS LOCATED WITHIN 33% OF MESA HIGHLANDS
 723          KM        MAXIMUM VOLUME DIVERSION = 28.6 acre-feet
              *      1
 724          DT   BS360    28.6
 725          DI       0   10000
 726          DQ       0   10000
              * DDM   ***** Preserved *****

 727          KK   RT360
 728          KM   RETRIEVE FLOW FROM DIVERSION INTO ONLINE BASIN
 729          DR   BS360
              * DDM   ***** Preserved *****

 730          KK    S360
 731          KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
 732          KM    28.6 ACRE-FEETx43560/36x3600=9.6cfs
 733          RS       1    STOR       0
 734          SV       0     .01    28.6
 735          SQ       0     3.0     9.6
              * DDM   ***** Preserved *****

 736          KK    C360
 737          KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
 738          HC       4
              * ADD ROUTING ALONG SPOOK HILL FRS
              * DDM   ***** Preserved *****
              * KK  R360
              * KM ROUTE FLOW THROUGH SPOOK HILL FRS FROM JUNCTION OF BROWN & ELLSWORTH ROAD
              * KM TO JUST NORTH OF JUNCTION OF MCDOWELL & POWER RD.
              * RS      6    FLOW      -1
              * RC   .035    .035    .035    2600    .0007
              * RX      0       9      50      68     268     286     337     345
              * RY    100      97      97      91      91      97      97     100
              *       0       9      50      68     308     326     367     376
              *     100      97      97      91      91      97      97     100
              *
              * DDM   ***** Updated *****
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 739          KK     380
 740          KM   SUB-BASIN 380
 741          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
 742          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .995
 743          KM     L = 2.20  Kb = .049  Adj. Slope =  114.0
 744          BA    .898
 745          LG    .300    .310   4.150    .500   7.000
 746          UC    .671    .475
 747          UA       0       5      16      30      65      77      84      90      94      97
 748          UA     100
              * DDM   ***** Preserved *****

 749          KK    D380
 750          KM        DIVERT FLOW INTO ONLINE  DETENTION BASIN
 751          KM   DETENTION/RETENTION BASINS LOCATED WITHIN 33% OF MESA HIGHLANDS
 752          KM        MAXIMUM VOLUME DIVERSION = 28.6 acre-feet
              *      1
 753          DT   BS380    28.6
 754          DI       0   10000
 755          DQ       0   10000
              * DDM   ***** Preserved *****

 756          KK   RT380
 757          KM   RETRIEVE FLOW FROM DIVERSION INTO ONLINE BASIN
 758          DR   BS380
              * DDM   ***** Preserved *****

 759          KK    S380
 760          KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
 761          KM    28.6 ACRE-FEETx43560/36x3600=9.6cfs
 762          RS       1    STOR       0
 763          SV       0     .01    28.6
 764          SQ       0     3.0     9.6
              * DDM   ***** Preserved *****

 765          KK    C380
 766          KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
 767          HC       3
              * DDM   ***** Updated *****

 768          KK     400
 769          KM   SUB-BASIN 400
 770          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
 771          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .996
 772          KM     L = 1.64  Kb = .046  Adj. Slope =  110.0
 773          BA    .616
 774          LG    .320    .300   4.150    .490   6.000
 775          UC    .508    .342
 776          UA       0       5      16      30      65      77      84      90      94      97
 777          UA     100
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                * DDM   ***** Preserved *****
LINE            ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 778            KK    D400
 779            KM        DIVERT FLOW INTO ONLINE  DETENTION BASIN
 780            KM   DETENTION/RETENTION BASIN LOCATED WITHIN SAGUARO VISTA SUBDIVISION
 781            KM        MAXIMUM VOLUME DIVERSION = 5.6 ACRE-FEET
                *      1
 782            DT   BS400     5.6
 783            DI       0   10000
 784            DQ       0   10000
                * DDM   ***** Preserved *****

 785            KK   RT400
 786            KM   RETRIEVE FLOW FROM DIVERSION INTO ONLINE BASIN
 787            DR   BS400
                * DDM   ***** Preserved *****

 788            KK    S400
 789            KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
 790            KM     5.6 ACRE-FEETx43560/36x3600 = 2 cfs
 791            RS       1    STOR       0
 792            SV       0     .01     5.6
 793            SQ       0       1       2
                * DDM   ***** Preserved *****

 794            KK    C400
 795            KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
 796            HC       2
                * DDM   ***** Preserved *****

 797            KK   CC400
 798            KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
 799            HC       2
                *
                * DDM   ***** Updated *****

 800            KK    420A
 801            KM   SUB-BASIN 420A
 802            KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
 803            KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .997
 804            KM     L = 1.91  Kb = .045  Adj. Slope =  120.0
 805            BA    .570
 806            LG    .320    .280   4.350    .440  10.000
 807            UC    .521    .415
 808            UA       0       5      16      30      65      77      84      90      94      97
 809            UA     100
                * DDM   ***** Preserved *****

 810            KK   D420A
 811            KM        DIVERT FLOW INTO ONLINE  DETENTION BASIN
 812            KM   DETENTION/RETENTION BASINS LOCATED WITHIN GRAY FOX SUBDIVISION
 813            KM        MAXIMUM VOLUME DIVERSION = 8.65 acre-feet
                *      1
 814            DT  BS420A    8.65
 815            DI       0   10000
 816            DQ       0   10000
                * DDM   ***** Preserved *****
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LINE            ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 817            KK  RT420A
 818            KM   RETRIEVE FLOW FROM DIVERSION INTO ONLINE BASIN
 819            DR  BS420A
                * DDM   ***** Preserved *****

 820            KK   S420A
 821            KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
 822            KM   38.55 ACRE-FEETx43560/36x3600=13cfs
 823            RS       1    STOR       0
 824            SV       0     .01   38.55
 825            SQ       0      13      13
                * DDM   ***** Preserved *****

 826            KK   C420A
 827            KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
 828            HC       3
                *

 829            KK    370A
 830            KM   SUB-BASIN 370A
 831            KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
 832            KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .998
 833            KM     L = 1.04  Kb = .047  Adj. Slope =  163.0
 834            BA    .408
 835            LG    .330    .300   4.650    .350  11.000
 836            UC    .308    .172
 837            UA       0       5      16      30      65      77      84      90      94      97
 838            UA     100
                * DDM   ***** Updated *****

 839            KK    395A
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840          KM   SUB-BASIN 395A
841          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
842          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .999
843          KM     L = 1.14  Kb = .052  Adj. Slope =  165.0
844          BA    .182
845          LG    .330     .320   5.000     .290  10.000
846          UC    .346     .334
847          UA       0        5      16       30       65       77       84       90       94       97
848          UA     100
             * DDM   ***** Preserved *****

849          KK   C370A
850          KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
851          HC       2
             * DDM   ***** Preserved *****

852          KK    D370
853          KM   DIVERT FLOW INTO OFFLINE DETENTION BASIN LOCATED WITHIN SUB-BASINS
854          KM   370 AND 395.
             * KO      1
855          DT   BS370
856          DI       0      140    5000
857          DQ       0        0    4860
             * DDM   ***** Preserved *****
1                                          HEC-1 INPUT                                                    PAGE 23

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

858          KK   RT370
859          KM   RETRIEVE FLOW FROM DIVERSION
860          DR   BS370
             * DDM   ***** Preserved *****

861          KK    S370
862          KM   RETRIEVE FLOW INTO OFFLINE BASIN AND BLEED OFF WITHIN 36 HOURS.
863          KM      30 ACRE-FEETx43560/36x3600 = 10cfs
864          RS       1    STOR       0
865          SV       0     .01      34       40
866          SQ       0       4      10       12
             * DDM   ***** Preserved *****

867          KK   CC370
868          KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
869          HC       2
             * DDM   ***** Preserved *****

870          KK    R370
871          KM   CHANNEL GEOMETRY OBTAINED FROM 2' CONTOUR MAPPING.
872          KM   ROUTING OF FLOW FROM SUB-BASINS 370 AND 395 TO SUB-BASIN 380.
873          RS       4    FLOW      -1
874          RC    .045     .035    .045    2600     .023
875          RX       0        1      40       46       56       62      102      103
876          RY       3        2       2        0        0        2        2        3
             * DDM   ***** Updated *****

877          KK     390
878          KM   SUB-BASIN 390
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  .999
881          KM     L =  .70  Kb = .050  Adj. Slope =  299.4
882          BA    .244
883          LG    .300     .250   4.700     .380  18.000
884          UC    .204     .107
885          UA       0        5      16       30       65       77       84       90       94       97
886          UA     100
             * DDM   ***** Preserved *****

887          KK    D390
888          KM        DIVERT FLOW INTO ONLINE  DETENTION BASIN
889          KM   DETENTION/RETENTION BASINS LOCATED WITHIN THUNDER MOUNTAIN ESTATES
890          KM        MAXIMUM VOLUME DIVERSION  = 3.5 acre-feet
             *      1
891          DT   BS390     3.5
892          DI       0   10000
893          DQ       0   10000
             * DDM   ***** Preserved *****
1                                          HEC-1 INPUT                                                    PAGE 24

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

894          KK   RT390
895          KM   RETRIEVE FLOW FROM DIVERSION INTO ONLINE BASIN
896          DR   BS390
             * DDM   ***** Preserved *****

897          KK    S390
898          KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
899          KM     3.5 ACRE-FEETx43560/36x3600=1.2cfs
900          RS       1    STOR       0
901          SV       0     .01     3.5
902          SQ       0     1.2     1.2
             * DDM   ***** Preserved *****

903          KK    C390
904          KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
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905          HC       3
             * DDM   ***** Preserved *****

906          KK    R390
907          KM   CHANNEL GEOMETRY OBTAINED FROM 2' CONTOUR MAPPING.
908          KM   FROM SUB-BASIN 390 TO SUB-BASIN 420B
909          RS       7    FLOW      -1
910          RC    .045    .045    .045    5500    .020
911          RX       0       1      40      46      56      62     102     103
912          RY       3       2       2       0       0       2       2       3
             * DDM   ***** Updated *****

913          KK    420B
914          KM   SUB-BASIN 420B
915          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
916          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .998
917          KM     L = 1.00  Kb = .049  Adj. Slope =  150.0
918          BA    .279
919          LG    .300    .250   3.910    .590  15.000
920          UC    .333    .226
921          UA       0       5      16      30      65      77      84      90      94      97
922          UA     100
             * DDM   ***** Preserved *****

923          KK   C420B
924          KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
925          HC       2
             *
             * DDM   ***** Updated *****

926          KK    385A
927          KM   SUB-BASIN 385A
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 =  .90  Kb = .051  Adj. Slope =  309.5
931          BA    .213
932          LG    .340    .320   4.900    .300   9.000
933          UC    .233    .163
934          UA       0       5      16      30      65      77      84      90      94      97
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LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

935          UA     100
             *
             * DDM   ***** Updated *****

936          KK    415C
937          KM   SUB-BASIN 415C
938          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
939          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .998
940          KM     L = 1.59  Kb = .048  Adj. Slope =  315.0
941          BA    .329
942          LG    .340    .340   5.300    .240  14.000
943          UC    .308    .274
944          UA       0       5      16      30      65      77      84      90      94      97
945          UA     100
             * DDM   ***** Preserved *****

946          KK   C415C
947          KM   HYDROGRAPH COMBINATION OF 415 DIVERSION.
             * KO      1
948          HC       2
             * DDM   ***** Preserved *****

949          KK   D415C
950          KM   DIVERT FLOW INTO OFFLINE DETENTION BASIN
951          KM   MAXIMUM STORAGE VOLUME FOR DIVERSION = 15 AC-FT @ 5' DEPTH.
             * KO      1
952          DT  BS415C
953          DI       0     190    5000
954          DQ       0       0    4810
             * DDM   ***** Preserved *****

955          KK  RT415C
956          KM   RETRIEVE FLOW FROM DIVERSION INTO OFFLINE BASIN
957          DR  BS415C
             * DDM   ***** Preserved *****

958          KK   S415C
959          KM   RETRIEVE FLOW INTO OFFLINE BASIN AND BLEED OFF WITHIN 36 HOURS.
960          KM      32 ACRE-FEETx43560/36x3600 = 10cfs
961          RS       1    STOR       0
962          SV       0     .01      32      40
963          SQ       0       5      10      12
             * DDM   ***** Preserved *****

964          KK  CC415C
965          KM   HYDROGRAPH COMBINATION OF 415 DIVERSION.
966          HC       2
             * DDM   ***** Preserved *****

967          KK   R415C
968          KM   CHANNEL GEOMETRY OBTAINED FROM 2' CONTOUR MAPPING.
969          KM   ROUTING OF FLOW FROM 415C TO 415B
970          RS       4    FLOW      -1
971          RC    .045     .03    .045    2500    .024
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 972          RX       0       1      40      46      56      62     102     103
1                                          HEC-1 INPUT                                                          PAGE 26

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

 973          RY       3       2       2       0       0       2       2       3
              * DDM   ***** Updated *****

 974          KK    415B
 975          KM   SUB-BASIN 415B
 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 =  .53  Kb = .058  Adj. Slope =  151.0
 979          BA    .063
 980          LG    .300    .250   4.100    .550  15.000
 981          UC    .242    .223
 982          UA       0       5      16      30      65      77      84      90      94      97
 983          UA     100
              * DDM   ***** Preserved *****

 984          KK   C415B
 985          KM   HYDROGRAPH COMBINATION OF SUB-BASINS 385, 415C, AND 415B.
 986          HC       2
              * DDM   ***** Preserved *****

 987          KK   R415B
 988          KM   CHANNEL GEOMETRY OBTAINED FROM 2' CONTOUR MAPPING.
 989          KM   ROUTING OF FLOW FROM R415C AND SUB BASIN 415B
 990          RS       4    FLOW      -1
 991          RC    .045    .035    .045    2900    .021
 992          RX       0       1      40      46      56      62     102     103
 993          RY       4       2       2       0       0       2       2       4
              *
              * DDM   ***** Updated *****

 994          KK     440
 995          KM   SUB-BASIN 440
 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 =  .40  Kb = .039  Adj. Slope =  315.0
 999          BA    .080
1000          LG    .190    .380   6.400    .140  13.000
1001          UC    .129    .077
1002          UA       0       3       5       8      12      20      43      75      90      96
1003          UA     100
              * DDM   ***** Preserved *****

1004          KK     R70
1005          KM   ROUTE FLOW FROM SUB-BASIN 440 TO C108
1006          RS       2    FLOW      -1
1007          RC     .05    .035     .05    2250     .08
1008          RX    1000    1025    1050    1070    1075    1095    1120    1145
1009          RY      30    22.9    15.7      10      10    15.7    22.9      30
              * DDM   ***** Updated *****
1                                          HEC-1 INPUT                                                          PAGE 27

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

1010          KK     441
1011          KM   SUB-BASIN 441
1012          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1013          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF 1.000
1014          KM     L =  .28  Kb = .069  Adj. Slope =  315.0
1015          BA    .010
1016          LG    .300    .250   5.600    .220   5.000
1017          UC    .150    .225
1018          UA       0       5      16      30      65      77      84      90      94      97
1019          UA     100
              * DDM   ***** Preserved *****

1020          KK    C108
1021          KM   COMBINE HYDROGRAPHS FROM SUB-BASINS 440 & 441
1022          HC       2
              * DDM   ***** Preserved *****

1023          KK      D4
1024          KM        SPLIT FLOW WITH TWO 42 INCH PIPES TO WEST AND SOUTH
              *      1
1025          DT   SPLIT
1026          DI       0      14      40      82     120     154     180
1027          DQ       0       7      20      41      60      77      90
              * DDM   ***** Preserved *****

1028          KK    R108
1029          KM        ROUTE FLOW FROM SUB-BASIN C108 TO C67
1030          RS       2    FLOW      -1
1031          RC     .05    .035     .05    3200      .1
1032          RX    1000    1025    1050    1070    1075    1095    1120    1145
1033          RY      30    22.9    15.7      10      10    15.7    22.9      30
              * DDM   ***** Updated *****

1034          KK     442
1035          KM   SUB-BASIN 442
1036          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1037          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .999
1038          KM     L =  .83  Kb = .055  Adj. Slope =  274.2
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1039          BA    .100
1040          LG    .300     .270   3.290    .770   5.000
1041          UC    .258     .264
1042          UA      0        5      16      30      65      77      84      90      94      97
1043          UA    100
              * DDM   ***** Preserved *****

1044          KK     C67
1045          KM   COMBINE FLOW FROM SUB-BASIN 442 & DIV4
1046          HC       2
              * DDM   ***** Preserved *****
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1047          KK      D6
1048          KM        OFFLINE BASIN WITH 25 FOOT WEIR SET AT 2.5 FEET ABOVE BOTTOM OF CHANNEL
1049          KM        FLOW CONTINUES BEYOND BASIN THROUGH 2-30" PIPES
              *      1
1050          DT  BASIN4     3.3
1051          DI       0      10      32      44    79.9   132.5     198   272.9   356.8
1052          DQ       0       0       0       0    23.9    67.5     124   190.9   266.8
              * DDM   ***** Preserved *****

1053          KK    RTD6
1054          KM   RETRIEVE FLOW FROM DIVERSION INTO OFFLINE BASIN
1055          DR  BASIN4
              * DDM   ***** Preserved *****

1056          KK     SD6
1057          KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
1058          KM     3.3 ACRE-FEETx43560/36x3600=1.1cfs
              *      1
1059          RS       1    STOR       0
1060          SV       0     .01     3.3
1061          SQ       0     0.2     1.1
              * DDM   ***** Preserved *****

1062          KK     CD6
1063          KM   HYDROGRAPH COMBINATION FOR OFFLINE BASIN BLEEDOFF
1064          HC       2
              * DDM   ***** Updated *****

1065          KK     443
1066          KM   SUB-BASIN 443
1067          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1068          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF 1.000
1069          KM     L =  .71  Kb = .050  Adj. Slope =  315.0
1070          BA    .080
1071          LG    .250     .190   8.000    .080  10.000
1072          UC    .196     .194
1073          UA      0        5      16      30      65      77      84      90      94      97
1074          UA    100
              * DDM   ***** Preserved *****

1075          KK     D66
1076          KM        DIVERT FLOW INTO 3 NATURAL WASHES WITH ONE 24" PIPE IN EACH WASH.
1077          KM        EACH PIPE CAPACITY BASED ON 4 FEET OF HEAD
1078          DT   WSH66
1079          DI       0      78     100     200
1080          DQ       0      78      78      78
              * DDM   ***** Preserved *****

1081          KK    R113
1082          KM        ROUTE FLOW FROM C113 TO C114
1083          RS       1    FLOW      -1
1084          RC    .019     .019    .019    1300    .029
1085          RX    1000     1004    1008    1012    1018    1022    1026    1030
1086          RY      17    15.33   12.67      10      10   12.67   15.33      17
              * DDM   ***** Preserved *****
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1087          KK    C114
1088          KM        COMBINE HYDROGRAPHS FROM SUB-BASIN 67 AND C113
1089          HC       2
              * DDM   ***** Updated *****

1090          KK     444
1091          KM   SUB-BASIN 444
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 1.000
1094          KM     L =  .33  Kb = .034  Adj. Slope =  315.0
1095          BA    .040
1096          LG    .130     .350   4.450    .320   1.000
1097          UC    .112     .084
1098          UA      0        3       5       8      12      20      43      75      90      96
1099          UA    100
              * DDM   ***** Preserved *****

1100          KK     R58
1101          KM   ROUTE FLOW FROM SUB-BASIN 444 TO C107
1102          RS       2    FLOW      -1
1103          RC     .05     .035     .05    2370   .0516
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1104          RX    1000    1010    1020    1050    1055    1085    1095    1105
1105          RY      19      18      17      10      10      17      18      19
              * DDM   ***** Updated *****

1106          KK     445
1107          KM   SUB-BASIN 445
1108          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1109          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .999
1110          KM     L =  .82  Kb = .036  Adj. Slope =  315.0
1111          BA    .190
1112          LG    .170    .320   3.470    .590   3.000
1113          UC    .192    .130
1114          UA       0       5      16      30      65      77      84      90      94      97
1115          UA     100
              * DDM   ***** Preserved *****

1116          KK    C107
1117          KM   COMBINE HYDROGRAPHS FROM SUB-BASINS 444 & 445
1118          HC       2
              * DDM   ***** Preserved *****

1119          KK    R107
1120          KM        ROUTE FLOW FROM C107 TO C109
1121          RS       2    FLOW      -1
1122          RC     .05    .035     .05     700   .0516
1123          RX    1000    1010    1020    1050    1055    1085    1095    1105
1124          RY      19      18      17      10      10      17      18      19
              * DDM   ***** Preserved *****
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1125          KK    RTB2
1126          KM        RETRIEVE DIVERTED FLOW FROM BASIN 1
              *      1
1127          DR   SPLIT
              * DDM   ***** Preserved *****

1128          KK  RSPLIT
1129          KM        ROUTE FLOW FROM SPLIT TO C109
1130          RS       1    FLOW      -1
1131          RC     .05    .035     .05     800     .05
1132          RX    1000    1025    1050    1070    1075    1095    1120    1145
1133          RY      30    22.9    15.7      10      10    15.7    22.9      30
              * DDM   ***** Updated *****

1134          KK     446
1135          KM   SUB-BASIN 446
1136          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1137          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF 1.000
1138          KM     L =  .46  Kb = .061  Adj. Slope =  303.9
1139          BA    .040
1140          LG    .270    .250   4.500    .400  19.000
1141          UC    .183    .189
1142          UA       0       5      16      30      65      77      84      90      94      97
1143          UA     100
              * DDM   ***** Preserved *****

1144          KK    C109
1145          KM        COMBINE HYDROGRAPHS FROM COMBINES C107 AND C108
1146          HC       3
              * DDM   ***** Preserved *****

1147          KK      D5
1148          KM        DIVERT FLOW INTO WASHES TOWARDS WEST
1149          KM        DIVERSION THROUGH 36" PIPE WITH 3 FEET OF HEAD
              *      1
1150          DT  WSH404
1151          DI       0    40.7    71.2   121.6     190     276   379.4   500.6
1152          DQ       0      35      35      35      35      35      35      35
              * DDM   ***** Preserved *****

1153          KK    R109
1154          KM        ROUTE FLOW FROM C109 TO C110
1155          RS       1    FLOW      -1
1156          RC    .019    .019    .019    3080     .05
1157          RX    1000    1005    1010    1015    1025    1030    1035    1040
1158          RY   13.75    12.5   11.25      10      10   11.25    12.5   13.75
              * DDM   ***** Updated *****

1159          KK     447
1160          KM   SUB-BASIN 447
1161          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1162          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .999
1163          KM     L =  .49  Kb = .056  Adj. Slope =  221.0
1164          BA    .090
```



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

1165          LG    .250    .270   3.350    .870  30.000
1166          UC    .208    .145
1167          UA       0       5      16      30      65      77      84      90      94      97
1168          UA     100
              * DDM   ***** Preserved *****
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1169          KK   RT404
1170          KM        RETRIEVE DIVERTED FLOW FOR WASH 109
1171          DR  WSH404
              * DDM   ***** Preserved *****

1172          KK    R404
1173          KM        ROUTE FLOW FROM C110 TO C110
1174          RS       6    FLOW      -1
1175          RC    .019    .019    .019    3540     .03
1176          RX    1000    1012    1016    1020    1025    1029    1033    1045
1177          RY      15      12      11      10      10      11      12      15
              * DDM   ***** Preserved *****

1178          KK    C110
1179          KM   COMBINE HYDROGRAPHS FROM SUB-BASIN 447 AND R404
1180          HC       3
              * DDM   ***** Preserved *****

1181          KK    R110
1182          KM        ROUTE FLOW FROM C110 TO C115
1183          RS       1    FLOW      -1
1184          RC    .019    .019    .019     580   .0291
1185          RX    1000    1012    1016    1020    1035    1039    1043    1055
1186          RY      15      12      11      10      10      11      12      15
              * DDM   ***** Preserved *****

1187          KK    C115
1188          KM        COMBINE HYDROGRAPHS FROM C114 AND C110
1189          HC       2
              * DDM   ***** Preserved *****

1190          KK    R115
              * ******OUTFLOW FROM THIS ROUTING IS GREATER THAN INFLOW TO THE
              * ******ROUTING BY 2cfs.  THIS IS NOTED BUT LEFT UNCHANGED WITHIN THE MODEL
1191          KM        ROUTE FLOW FROM C115 TO Sub 453
1192          RS       1    FLOW      -1
1193          RC    .019    .019    .019    2125    .029
1194          RX    1000    1012    1016    1020    1035    1039    1043    1055
1195          RY      15      12      11      10      10      11      12      15
              * DDM   ***** Updated *****

1196          KK     448
1197          KM   SUB-BASIN 448
1198          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1199          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF 1.000
1200          KM     L =  .36  Kb = .042  Adj. Slope =  315.0
1201          BA    .045
1202          LG    .170    .310   4.200    .390  11.000
1203          UC    .133    .102
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1204          UA       0       5      16      30      65      77      84      90      94      97
1205          UA     100
              * DDM   ***** Updated *****

1206          KK     449
1207          KM   SUB-BASIN 449
1208          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1209          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF 1.000
1210          KM     L =  .40  Kb = .054  Adj. Slope =  315.0
1211          BA    .050
1212          LG    .260    .280   3.500    .640   6.000
1213          UC    .167    .134
1214          UA       0       5      16      30      65      77      84      90      94      97
1215          UA     100
              * DDM   ***** Preserved *****

1216          KK   C6364
1217          KM   COMBINE HYDROGRAPHS FROM SUB-BASINS 448 & 449
1218          HC       2
              * DDM   ***** Preserved *****

1219          KK   R6364
1220          KM   ROUTE FLOW FROM C116 AND SUB-BASINS 448 AND 449
1221          RS       5    FLOW      -1
1222          RC     .05    .035     .05    4375   .0333
1223          RX    1000    1027    1053    1080    1090    1117    1143    1170
1224          RY      15   13.33   11.67      10      10   11.67   13.33      15
              * DDM   ***** Updated *****

1225          KK     450
1226          KM   SUB-BASIN 450
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 =  .85  Kb = .057  Adj. Slope =  210.5
1230          BA    .070
1231          LG    .340    .350   3.630    .570   4.000
1232          UC    .296    .383
1233          UA       0       3       5       8      12      20      43      75      90      96
1234          UA     100
              * DDM   ***** Updated *****

1235          KK     451
1236          KM   SUB-BASIN 451
1237          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
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1238          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF 1.000
1239          KM     L =  .57  Kb = .063  Adj. Slope =  175.0
1240          BA    .025
1241          LG    .340    .340   3.290    .750   3.000
1242          UC    .271    .453
1243          UA       0       3       5       8      12      20      43      75      90      96
1244          UA     100
              * DDM   ***** Preserved *****
1                                          HEC-1 INPUT                                          PAGE 33

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


1245          KK    C451
1246          KM   COMBINE HYDROGRAPHS FROM SUB-BASINS 450 & 451
1247          HC       2
              * DDM   ***** Preserved *****

1248          KK    RT66
1249          KM        RETRIEVE DIVERTED FLOW FROM SUB-BASIN 66
1250          DR   WSH66
              * DDM   ***** Updated *****

1251          KK     452
1252          KM   SUB-BASIN 452
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 1.000
1255          KM     L =  .43  Kb = .055  Adj. Slope =  315.0
1256          BA    .040
1257          LG    .260    .280   3.700    .550   9.000
1258          UC    .171    .166
1259          UA       0       5      16      30      65      77      84      90      94      97
1260          UA     100
              * DDM   ***** Preserved *****

1261          KK   C6465
1262          KM   COMBINE HYDROGRAPHS FROM SUB-BASINS 443 AND 452
1263          HC       2
              * DDM   ***** Preserved *****

1264          KK   R6566
1265          KM        ROUTE FLOW FROM DIVERSIONS 65 AND 66 TO C116
1266          RS       3    FLOW      -1
1267          RC     .05    .035     .05    2435   .0282
1268          RX    1000    1045    1090    1150    1160    1220    1265    1310
1269          RY      25      23      20      10      10      20      23      25
              * DDM   ***** Preserved *****

1270          KK    C116
1271          KM   COMBINE HYDROGRAPHS FROM SUB-BASINS 450 & 451 AND R6364 & R6465
1272          HC       3
              * DDM   ***** Preserved *****

1273          KK  BASIN5
1274          KM        RESERVOIR WITHIN PARCEL 31      2-48 INCH PIPES AT OUTFALL
1275          KM        BASIN 5 FEET DEEP
1276          RS       1    ELEV       0
1277          SV       0     4.5     9.9
1278          SQ       0      69     190
1279          SE       0     2.5       5
              * DDM   ***** Preserved *****
1                                          HEC-1 INPUT                                          PAGE 34

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


1280          KK    R116
1281          KM   ROUTE FLOW FROM C116 TO C117
1282          RS       2    FLOW      -1
1283          RC     .05    .035     .05    1300   .0333
1284          RX    1000    1100    1200    1300    1320    1420    1520    1620
1285          RY      13      12      11      10      10      11      12      13
              * DDM   ***** Updated *****

1286          KK     453
1287          KM   SUB-BASIN 453
1288          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1289          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF 1.000
1290          KM     L =  .58  Kb = .058  Adj. Slope =  138.0
1291          BA    .060
1292          LG    .290    .300   3.290    .820  18.000
1293          UC    .275    .284
1294          UA       0       5      16      30      65      77      84      90      94      97
1295          UA     100
              * DDM   ***** Preserved *****

1296          KK    C117
1297          KM   COMBINE HYDROGRAPHS FROM SUB-BASIN 453 AND R116
1298          HC       2
              * DDM   ***** Preserved *****

1299          KK    C118
1300          KM   COMBINE HYDROGRAPHS FROM R115 AND C117
1301          HC       2
              * DDM   ***** Preserved *****

1302          KK    R118
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1303        KM        ROUTE FLOW FROM C118 TO  DIV7
            * KO     1
1304        RS       1    FLOW      -1
1305        RC    .019    .019    .019    1500    .024
1306        RX    1000    1012    1016    1020    1035    1039    1043    1055
1307        RY      15      12      11      10      10      11      12      15
            * DDM   ***** Preserved *****

1308        KK      D7
1309        KM        OFFLINE BASIN AT NORTH MOUNTAIN RIDGE   FLOWS ENTER BASIN OVER
1310        KM        30' WEIR SET AT 5.3' ABOVE THE CHANNEL BOTTOM, Vol = 3.6 A-F
            * KO     1
1311        DT  BASIN6
1312        DI       0     363     487     563     645     900
1313        DQ       0       2      10      15      25     260
            * DDM   ***** Preserved *****

1314        KK    RTD7
1315        KM   RETRIEVE FLOW FROM DIVERSION INTO OFFLINE BASIN
1316        DR  BASIN6
            * DDM   ***** Preserved *****
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LINE        ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1317        KK     SD7
1318        KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
1319        KM     3.6 ACRE-FEETx43560/36x3600=1.2cfs
1320        RS       1    STOR       0
1321        SV       0     .01     3.6     4.0
1322        SQ       0     0.2     1.2     1.5
            * DDM   ***** Preserved *****

1323        KK     CD7
1324        KM   HYDROGRAPH COMBINATION FOR OFFLINE BASIN BLEEDOFF
1325        HC       2
            * DDM   ***** Updated *****

1326        KK     454
1327        KM   SUB-BASIN 454
1328        KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1329        KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .999
1330        KM     L = 1.23  Kb = .051  Adj. Slope =  163.0
1331        BA    .180
1332        LG    .300    .310   3.780    .560  14.000
1333        UC    .379    .395
1334        UA       0       5      16      30      65      77      84      90      94      97
1335        UA     100
            * DDM   ***** Preserved *****

1336        KK    C119
1337        KM        COMBINE HYDROGRAPHS FROM SUB-BASIN 454 AND C119
            *      1       2
1338        HC       2
            *
            * DDM   ***** Preserved *****

1339        KK    C454
1340        KM        COMBINE HYDROGRAPHS FROM SUB-BASIN 415B AND C119
            *      1       2
1341        HC       2
            * DDM   ***** Preserved *****

1342        KK    R454
1343        KM   CHANNEL GEOMETRY OBTAINED FROM 2' CONTOUR MAPPING.
1344        KM   ROUTE FLOW FROM C454 TO 415C
1345        RS       3    FLOW      -1
1346        RC    .045    .035    .045    2200    .009
1347        RX       0      .5       1      33      42      67    67.5      68
1348        RY       5       4       4       0       0       6       6       6
            *
            * DDM   ***** Updated *****

1349        KK    415A
1350        KM   SUB-BASIN 415A
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  .999
1353        KM     L = 1.09  Kb = .051  Adj. Slope =  138.0
1354        BA    .217
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LINE        ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1355        LG    .300    .260   3.500    .780  15.000
1356        UC    .392    .335
1357        UA       0       5      16      30      65      77      84      90      94      97
1358        UA     100
            * DDM   ***** Preserved *****

1359        KK   C415A
1360        KM        COMBINE HYDROGRAPHS FROM R454, 415B, AND 420B
            * KO     1
1361        HC       3
            * DDM   ***** Preserved *****
            * KK D415A
            * KM DIVERT FLOW INTO OFFLINE DETENTION BASIN
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                * KM MAXIMUM STORAGE VOLUME FOR DIVERSION = 15 AC-FT @ 5' DEPTH.
                * KO     1
                * DTBS415A
                * DI     0    1240    5000
                * DQ     0       0    3760
                * DDM   ***** Preserved *****
                * KKRT415A
                * KM RETRIEVE FLOW FROM DIVERSION INTO OFFLINE BASIN
                * DRBS415A
                * DDM   ***** Preserved *****
                * KK S415A
                * KM RETRIEVE FLOW INTO OFFLINE BASIN AND BLEED OFF WITHIN 36 HOURS.
                * KM    16 ACRE-FEETx43560/36x3600 = 5 cfs
                * RS     1    STOR       0
                * SV     0     .01      16      20
                * SQ     0       2       5       8
                * DDM   ***** Preserved *****
                * KKCC415A
                * KM HYDROGRAPH COMBINATION OF 415A DIVERSION.
                * HC     2
                * DDM   ***** Preserved *****

1362            KK   R415A
1363            KM   CHANNEL GEOMETRY OBTAINED FROM 2' CONTOUR MAPPING.
1364            KM   ROUTING OF FLOW FROM C415A TO 455C
1365            RS       4    FLOW      -1
1366            RC    .045     .03    .045    4100    .024
1367            RX       0      .5       1       8      16      23    23.5      24
1368            RY       8       8       8       0       0       8       8       8
                *
                * DDM   ***** Updated *****

1369            KK     455
1370            KM   SUB-BASIN 455
1371            KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1372            KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .993
1373            KM     L = 1.70  Kb = .041  Adj. Slope =  146.0
1374            BA   1.111
1375            LG    .270    .280   3.700    .640  24.000
1376            UC    .421    .204
1377            UA       0       5      16      30      65      77      84      90      94      97
1378            UA     100
                * DDM   ***** Preserved *****
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LINE            ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1379            KK    D455
1380            KM        DIVERT FLOW INTO ONLINE  DETENTION BASIN
1381            KM   DETENTION/RETENTION BASINS LOCATED WITHIN LAS SENDAS ADDENDUM III
1382            KM   FOR BASIN #: 30      34      43      47&58
1383            KM        MAXIMUM VOLUME DIVERSION = 74.1 acre-feet
                *      1
1384            DT   BS455    74.1
1385            DI       0   10000
1386            DQ       0   10000
                * DDM   ***** Preserved *****

1387            KK   RT455
1388            KM   RETRIEVE FLOW FROM DIVERSION INTO ONLINE BASIN
1389            DR   BS455
                * DDM   ***** Preserved *****

1390            KK    S455
1391            KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
1392            KM    74.1 ACRE-FEETx43560/36x3600=25cfs
1393            RS       1    STOR       0
1394            SV       0     .01    74.1
1395            SQ       0     3.0      25
                * DDM   ***** Preserved *****

1396            KK    C455
1397            KM   HYDROGRAPH COMBINATION FOR SUB-BASIN 455 AND DIVERTED BASIN STORAGE OF 455
1398            HC       2
                * DDM   ***** Preserved *****

1399            KK   CC455
1400            KM  HYDROGRAPH COMBINATION OF 420C, R415 AND C455
                * KO     1       2
1401            HC       3
                *

1402            KK    S440
1403            KM   SPOOK HILL FRS PLANS DATED 6/15/77
1404            KM   OUTLET PIPE=7'x7.5'RCBC; L=70 INLET INV.=1566; OUTLET INV.=1566
1405            KM   EMERGENCY SPILLWAY ELEV.=1582; PRINCIPLE SPILLWAY ELEV.=1577.5
1406            KM   STORAGE VOLUME BELOW PRINCIPLE SPILLWAY FOR SEDIMENT = 200 ACRE-FEET
                *  ESE = 1583.86 ft; PSE = 1579.36 ft; Sediment Vol. = 271 Ac-Ft.
1407            RS       1    STOR       0
1408            SV       0      81     363     533     719     925    1120    1399    1668  4051
1409            SQ       0       0      10     180     367     595     800    1231    2625 24500
1410            SE      76      78      80      81      82      83    83.9      85      86    92
                * DDM   ***** Preserved *****

1411            KK    R455
1412            KM   ROUTE FLOW FROM SPOOK HILL FRS TO SUB-BASIN 480
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1413        RS      15    FLOW      -1
1414        RC    .035    .025    .035    7000    .0002
1415        RX       0       1       2      28      58      84      85      86
1416        RY    13.5    13.5    13.5       0       0    13.5    13.5    13.5
            * DDM   ***** Updated *****
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LINE        ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1417        KK     480
1418        KM   SUB-BASIN 480
1419        KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1420        KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .996
1421        KM     L = 1.21  Kb = .042  Adj. Slope =  165.0
1422        BA    .731
1423        LG    .270    .270   3.580    .730  27.000
1424        UC    .325    .148
1425        UA       0       5      16      30      65      77      84      90      94      97
1426        UA     100
            * DDM   ***** Preserved *****

1427        KK    D480
1428        KM        DIVERT FLOW INTO ONLINE  DETENTION BASIN
1429        KM   DETENTION/RETENTION BASINS LOCATED WITHIN LAS SENDAS ADDENDUM III
1430        KM   FOR BASIN #: 18 & 26
1431        KM        MAXIMUM VOLUME DIVERSION = 16.5 acre-feet
            *      1
1432        DT   BS480    16.5
1433        DI       0   10000
1434        DQ       0   10000
            * DDM   ***** Preserved *****

1435        KK   RT480
1436        KM   RETRIEVE FLOW FROM DIVERSION INTO ONLINE BASIN
1437        DR   BS480
            * DDM   ***** Preserved *****

1438        KK    S480
1439        KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
1440        KM    16.5 ACRE-FEETx43560/36x3600=5.5cfs
1441        RS       1    STOR       0
1442        SV       0     .01    16.5
1443        SQ       0     3.0     5.6
            * DDM   ***** Preserved *****

1444        KK    C480
1445        KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
1446        HC       2
            * DDM   ***** Preserved *****

1447        KK   CC480
1448        KM   HYDROGRAPH COMBINATION AT SUBBASIN 480
1449        HC       2   0.731
            * DDM   ***** Preserved *****

1450        KK    R480
1451        KM   ROUTE FLOW FROM SUB-BASIN 480 TO SUBBASIN 462
1452        RS       6    FLOW      -1
1453        RC    .035    .025    .035    2800    .0002
1454        RX       0       1       2      28      58      84      85      86
1455        RY    13.5    13.5    13.5       0       0    13.5    13.5    13.5
            * DDM   ***** Updated *****
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LINE        ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1456        KK     456
1457        KM   SUB-BASIN 456
1458        KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1459        KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .998
1460        KM     L =  .94  Kb = .045  Adj. Slope =  315.0
1461        BA    .260
1462        LG    .300    .380   5.600    .200  12.000
1463        UC    .217    .139
1464        UA       0       5      16      30      65      77      84      90      94      97
1465        UA     100
            * DDM   ***** Preserved *****

1466        KK      D1
1467        KM        DIVERT FLOW INTO OFFLINE DETENTION BASIN
1468        KM        WEIR FOR BASIN SET AT 4 FEET ABOVE CHANNEL BOTTOM
            *      1
1469        DT  BASIN1     4.0
1470        DI       0    11.1   127.9   234.4   577.7   789.9  1025.5  1280.9  1555.7
1471        DQ       0       0       0    47.7     248   381.8   533.6   701.5     884
            * DDM   ***** Preserved *****

1472        KK      D2
1473        KM        SPLIT OUT FLOW FOR WASHES THAT FLOW TO THE SOUTH FROM
1474        KM        WASHES THAT DRAIN TO THE WES, SOUTHERN WASHES FED BY 30" & 24" PIPE
1475        DT    WA30
1476        DI       0    11.1   127.9   189.6   329.7     408   491.9   579.4   671.7
1477        DQ       0    11.1    38.4    48.2      63    69.5      76      81      86
            * DDM   ***** Preserved *****
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1478          KK    R456
1479          KM        ROUTE FLOW FROM SUB-BASIN 51 TO C101
1480          RS       2    FLOW      -1
1481          RC     .05    .035     .05    3800    .044
1482          RX    1000    1010    1020    1036    1041    1057    1067    1077
1483          RY   14.88   14.44      14      10      10      14   14.44   14.88
              * DDM   ***** Updated *****

1484          KK     457
1485          KM   SUB-BASIN 457
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  .999
1488          KM     L = 1.01  Kb = .045  Adj. Slope =  308.8
1489          BA    .190
1490          LG    .270    .330   3.950    .460   6.000
1491          UC    .237    .195
1492          UA       0       5      16      30      65      77      84      90      94      97
1493          UA     100
              * DDM   ***** Preserved *****
1                                        HEC-1 INPUT                                          PAGE 40

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

1494          KK    C101
1495          KM        COMBINE HYDROGRAPHS FROM SUB-BASINS 50 AND 51
1496          HC       2
              * DDM   ***** Preserved *****

1497          KK      D3
1498          KM        RESERVOIR AT THE EDGE OF THE PROPERTY   FLOW FROM CHANNEL
1499          KM        DIVERTED  INTO OFFLINE BASIN A 25' WEIR SET AT ELEVATION 1808 FT
              *      1
1500          DT  BASIN2     5.0
1501          DI       0      36      70     110     180   313.5     402   500.9
1502          DQ       0       0       0       0       0    67.5     124   190.9
              * DDM   ***** Preserved *****

1503          KK    RTD3
1504          KM   RETRIEVE FLOW FROM DIVERSION INTO OFFLINE BASIN
1505          DR  BASIN2
              * DDM   ***** Preserved *****

1506          KK     SD3
1507          KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
1508          KM     5.0 ACRE-FEETx43560/36x3600=1.7cfs
1509          RS       1    STOR       0
1510          SV       0     .01       5
1511          SQ       0     0.7     1.7
              * DDM   ***** Preserved *****

1512          KK     CD3
1513          KM   HYDROGRAPH COMBINATION FOR OFFLINE BASIN BLEEDOFF
1514          HC       2
              * DDM   ***** Preserved *****

1515          KK    R101
1516          KM        ROUTE FLOW FROM SUBBASIN C101 TO C103
1517          RS       1    FLOW      -1
1518          RC     .05    .035     .05    1450     .05
1519          RX    1000    1010    1020    1036    1041    1057    1067    1077
1520          RY      15    14.5      14      10      10      14    14.5      15
              * DDM   ***** Updated *****

1521          KK     458
1522          KM   SUB-BASIN 458
1523          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1524          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .999
1525          KM     L =  .76  Kb = .048  Adj. Slope =  299.0
1526          BA    .190
1527          LG    .290    .330   5.800    .190   6.000
1528          UC    .204    .131
1529          UA       0       5      16      30      65      77      84      90      94      97
1530          UA     100
              * DDM   ***** Preserved *****
1                                        HEC-1 INPUT                                          PAGE 41

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

1531          KK    C103
1532          KM        COMBINE HYDROGRAPHS FROM SUB-BASIN 55 AND C101
1533          HC       2
              * DDM   ***** Preserved *****

1534          KK    R103
1535          KM        ROUTE FLOW FROM SUBBASIN C103 TO C106
1536          RS       1    FLOW      -1
1537          RC     .05    .035     .05     900     .03
1538          RX    1000    1010    1020    1030    1050    1060    1070    1080
1539          RY   13.16   12.83    12.5      10      10    12.5   12.83   13.16
              * DDM   ***** Preserved *****

1540          KK    RT30
1541          KM        RETRIEVE DIVERTED FLOW FOR WASH BELOW 30 INCH PIPE
1542          DR    WA30
              * DDM   ***** Preserved *****
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1543          KK     R30
1544          KM        ROUTE FLOW FROM WASH DIVERSION TO COMBINE C52
1545          RS       1    FLOW      -1
1546          RC     .05    .035     .05    1630     .05
1547          RX    1000    1010    1020    1036    1041    1057    1067    1077
1548          RY      15    14.5      14      10      10      14    14.5      15
              * DDM   ***** Preserved *****

1549          KK    RTB1
1550          KM        RETRIEVE DIVERTED FLOW FROM BASIN 1
              *      1       2
1551          DR  BASIN1
              * DDM   ***** Preserved *****

1552          KK      B1
1553          KM        ROUTE FLOW THROUGH OFFLINE DETENTION BASIN
1554          KM        FLOW OUTLETS THROUGH A 30 INCH OUTLET PIPE
              *      1       2
1555          RS       1    ELEV       0
1556          SV              .7     1.4     2.3     2.7     4.0
1557          SQ       0       5      16      28    32.5      37
1558          SE       0       1       2       3     3.5       4
              * DDM   ***** Preserved *****

1559          KK     RB1
1560          KM        ROUTE FLOW FROM BASIN DIVERSION TO COMBINE C52
1561          RS       3    FLOW      -1
1562          RC     .05    .035     .05    1720     .05
1563          RX    1000    1010    1020    1036    1041    1057    1067    1077
1564          RY      15    14.5      14      10      10      14    14.5      15
              * DDM   ***** Preserved *****
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1565          KK    CDIV
1566          KM        COMBINE FLOWS FROM WA30 AND BASIN 1
1567          HC       2     .12
              * DDM   ***** Updated *****

1568          KK     459
1569          KM   SUB-BASIN 459
1570          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1571          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF 1.000
1572          KM     L =  .35  Kb = .052  Adj. Slope =  251.6
1573          BA    .030
1574          LG    .220    .300   3.330    .710   8.000
1575          UC    .162    .157
1576          UA       0       5      16      30      65      77      84      90      94      97
1577          UA     100
              * DDM   ***** Preserved *****

1578          KK     C52
1579          KM        COMBINE FLOWS FROM SUB-BASIN 52 WA30 AND BASIN 1
1580          HC       2
              * DDM   ***** Preserved *****

1581          KK     R52
1582          KM        ROUTE FLOW FROM SUBBASIN 52 TO C102
1583          RS       3    FLOW      -1
1584          RC     .05    .035     .05    2000     .05
1585          RX    1000    1010    1020    1036    1041    1057    1067    1077
1586          RY      15    14.5      14      10      10      14    14.5      15
              * DDM   ***** Updated *****

1587          KK     460
1588          KM   SUB-BASIN 460
1589          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1590          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .999
1591          KM     L =  .62  Kb = .058  Adj. Slope =  194.0
1592          BA    .140
1593          LG    .250    .260   3.740    .690  27.000
1594          UC    .242    .160
1595          UA       0       5      16      30      65      77      84      90      94      97
1596          UA     100
              * DDM   ***** Preserved *****

1597          KK    C102
1598          KM        COMBINE HYDROGRAPHS FROM SUB-BASINS 52 AND 53
1599          HC       2
              * DDM   ***** Preserved *****

1600          KK  BASIN3
1601          KM        RESERVOIR AT CLUBHOUSE LOCATION 1-30 INCH PIPE AT OUTFALL
1602          KM        BOTTOM OF BASIN AT 6 FEET ABOVE 1795 ELEVATION
1603          RS       1    ELEV       0
1604          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
1605          SQ       0      22      45    47.4      48      51      57      62      67      73
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1606          SE    1795  1797.5    1800  1800.4  1800.5    1801    1802    1803    1804  1805.5
              * DDM   ***** Preserved *****
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1607          KK      R3
1608          KM        ROUTE FLOW FROM C102 to C106
1609          RS       5    FLOW      -1
1610          RC     .05     .03     .05    2750    .0375
1611          RX    1000    1010    1020    1052    1086    1118    1128    1138
1612          RY    19.2    18.4      18      10      10      18    18.4    19.2
              * DDM   ***** Updated *****

1613          KK     461
1614          KM   SUB-BASIN 461
1615          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1616          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .999
1617          KM     L =  .83  Kb = .052  Adj. Slope =  181.0
1618          BA    .120
1619          LG    .270    .250   4.250    .450  21.000
1620          UC    .271    .250
1621          UA       0       5      16      30      65      77      84      90      94      97
1622          UA     100
              * DDM   ***** Preserved *****

1623          KK    C104
1624          KM        COMBINE HYDROGRAPHS FROM SUB-BASIN 54 AND R102
1625          HC       2
              * DDM   ***** Preserved *****

1626          KK    C106
1627          KM        COMBINE HYDROGRAPHS FROM SUB-BASIN C103 AND C104
1628          HC       2
              * DDM   ***** Preserved *****

1629          KK    R106
1630          KM        ROUTE FLOW FROM C106 TO C49
1631          RS       2    FLOW      -1
1632          RC     .05    .035     .05    3950    .033
1633          RX    1000    1010    1020    1030    1050    1060    1070    1080
1634          RY   13.16   12.83    12.5      10      10    12.5   12.83   13.16
              * DDM   ***** Updated *****

1635          KK     462
1636          KM   SUB-BASIN 462
1637          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1638          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .998
1639          KM     L =  .97  Kb = .045  Adj. Slope =  297.7
1640          BA    .301
1641          LG    .300    .330   5.300    .240  12.000
1642          UC    .225    .137
1643          UA       0       5      16      30      65      77      84      90      94      97
1644          UA     100
              * DDM   ***** Preserved *****
```



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

1645          KK     C56
1646          KM        COMBINE HYDROGRAPHS FROM SUB-BASIN 56 AND C106
              *      1       2
1647          HC       2
              * DDM   ***** Preserved *****

1648          KK    C462
1649          KM        COMBINE HYDROGRAPHS AT SUBBASIN 462
              *      1
1650          HC       2    2.09
              * DDM   ***** Preserved *****

1651          KK    R462
1652          KM   ROUTE FLOW FROM SUB-BASIN 462 TO SUB-BASIN 500 (First Channel Reach)
1653          RS       1    FLOW      -1
1654          RC    .025    .025    .025    1800    .005
1655          RX       0       1      20      32      62      74      93      94
1656          RY      13      12      12       0       0      12      12      13
              *

1657          KK   RR462
1658          KM   ROUTE FLOW FROM SUB-BASIN 462 TO SUB-BASIN 500 (Second Natural Wash Reach)
1659          RS       3    FLOW      -1
1660          RC    .055     .05    .055    4700     .05
1661          RX       0       1       2      28      58      84      85      86
1662          RY    13.5    13.5    13.5       0       0    13.5    13.5    13.5
              * DDM   ***** Updated *****

1663          KK     500
1664          KM   SUB-BASIN 500
1665          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1666          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .994
1667          KM     L = 2.77  Kb = .042  Adj. Slope =  286.8
1668          BA    .930
1669          LG    .350    .400   6.000    .170   9.000
1670          UC    .421    .333
1671          UA       0       3       5       8      12      20      43      75      90      96
1672          UA     100
              * DDM   ***** Preserved *****

1673          KK    C500
1674          KM   HYDROGRAPH COMBINATION FOR THE ENTIRE WATERSHED AT THE SALT RIVER
```

```
        1675          HC       2    3.02
        1676          ZZ
1
                SCHEMATIC DIAGRAM OF STREAM NETWORK
INPUT
LINE      (V) ROUTING          (--->) DIVERSION OR PUMP FLOW

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

 27          10
              V
              V
 37         R10
              V
              V
 43         R12
              .
              .
 49           .          20
              .           .
              .           .
 59         C20............
              V
              V
 62         R20
              .
              .
 68           .          40
              .           .
              .           .
 78           .           .          60
              .           .           .
              .           .           .
 88         C60......................
              V
              V
 91         S60
              V
              V
100         R60
              V
              V
106        RR60
              .
              .
112           .          80
              .           .
              .           .
122         C80............
              V
              V
125         R80
              .
              .
131           .         100
              .           .
              .           .
141        C100............
              V
              V
144        R100
              .
              .
150           .         120
              .           .
              .           .
160        C120............
              V
              V
163        R120
              .
              .
169           .         140
              .           .
              .           .
179           .           .         150
              .           .           V
              .           .           V
189           .           .        R150
              .           .           V
              .           .           V
195           .           .        R152
              .           .           .
              .           .           .
201           .           .           .        160
              .           .           .          .
              .           .           .          .
211           .           .           .          .         180
              .           .           .          .           .
              .           .           .          .           .
221        C180.............................................
              .
              .
224           .        385B
              .           V
              .           V
234           .       R385B
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                .
                .
243             .        395B
                .          .
                .          .
253             .     C395B...........
                .        V
                .        V
256             .     R395B
                .
                .
263             .        370B
                .          .
                .          .
273             .     C370C...........
                .        V
                .        V
276             .     R370B
                .        V
                .        V
283             .    RR370B
                .
                .
292             .        355B
                .          .
                .          .
302             .     C355B...........
                .        V
                .        V
305             .     R355B
                .        V
                .        V
314             .    RR355B
                .
                .
321             .         350
                .           V
                .           V
331             .        R350
                .          .
                .          .
338             .          .         310
                .          .           .
                .          .           .
348             .      C310.......................
                .        V
                .        V
351             .      R310
                .        V
                .        V
358             .      R312
                .
                .
367             .        305B
                .          .
                .          .
377             .     C305B...........
                .        V
                .        V
380             .     R305B
                .
                .
389             .         210
                .           V
                .           V
399             .        R210
                .          .
                .          .
405             .          .         240
                .          .           .
                .          .           .
415             .      C240.......................
                .        V
                .        V
418             .      S240
                .        V
                .        V
427             .      R240
                .
                .
434             .         220
                .          .
                .          .
444             .      C220...........
                .        V
                .        V
447             .      S220
                .        V
                .        V
456             .      R220
                .
                .
463             .         190
                .           V
                .           V
473             .        R190
                .           V
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                .          .          V
479             .          .       R192
                .          .          .
                .          .          .
485             .          .          .         200
                .          .          .           .
                .          .          .           .
495             .       C200.......................
                .          V
                .          V
498             .       S200
                .          V
                .          V
505             .       R200
                .          V
                .          V
511             .      SS200
                .          V
                .          V
518             .      RR200
                .          .
                .          .
524         CC180............
                V
                V
527          S180
                V
                V
536          R180
                .
                .
545             .         260
                .          .
                .          .
555          C260............
                V
                V
558          R260
                .
                .
567             .         280
                .          .
                .          .
577          C280............
                V
                V
580          R280
                .
                .
589             .         300
                .          .
                .          .
599          C300............
                V
                V
602          R300
                .
                .
611             .       305A
                .          .
                .          .
621         C305A............
                V
                V
624         R305A
                .
                .
633             .         320
                .          .
                .          .
648             .          .-------->   BS320
643             .       D320
                .          .
                .          .
653             .          .          .<-------   BS320
651             .          .      RT320
                .          .          V
                .          .          V
654             .          .       S320
                .          .          .
                .          .          .
660          C320.......................
                .
                .
663             .         340
                .          .
                .          .
678             .          .-------->   BS340
673             .       D340
                .          .
                .          .
683             .          .          .<-------   BS340
681             .          .      RT340
                .          .          V
                .          .          V
684             .          .       S340
                .          .          .
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690        C340.......................
693            355A
                 V
                 V
703            R355A
710                      360
724                      .------->   BS360
720                    D360
729                                     .<-------   BS360
727                              RT360
                                     V
                                     V
730                             S360
736        C360.................................
739             380
753             .------->   BS380
749            D380
758                      .<-------   BS380
756                    RT380
                         V
                         V
759                     S380
765        C380.......................
768             400
782             .------->   BS400
778            D400
787                      .<-------   BS400
785                    RT400
                         V
                         V
788                     S400
794            C400............
797       CC400............
800            420A
814            .------->  BS420A
810           D420A
819                      .<-------  BS420A
817                   RT420A
                         V
                         V
820                   S420A
826       C420A.......................
829            370A
839                     395A
849           C370A............
855            .------->   BS370
852            D370
860                      .<-------   BS370
858                    RT370
                         V
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                                V
861                          S370
                                .
                                .
867                  CC370............
                        V
                        V
870                  R370
                        .
                        .
877                     .        390
                        .          .
                        .          .
891                     .          .-------->   BS390
887                     .       D390
                        .          .
                        .          .
896                     .          .            .<-------   BS390
894                     .          .      RT390
                        .          .          V
                        .          .          V
897                     .          .       S390
                        .          .          .
                        .          .          .
903                  C390........................
                        V
                        V
906                  R390
                        .
                        .
913                     .       420B
                        .          .
                        .          .
923                  C420B............
                        .
                        .
926                     .       385A
                        .          .
                        .          .
936                     .          .       415C
                        .          .          .
                        .          .          .
946                     .     C415C............
                        .          .
                        .          .
952                     .          .-------->  BS415C
949                     .     D415C
                        .          .
                        .          .
957                     .          .            .<-------  BS415C
955                     .          .     RT415C
                        .          .          V
                        .          .          V
958                     .          .      S415C
                        .          .          .
                        .          .          .
964                     .    CC415C............
                        .          V
                        .          V
967                     .     R415C
                        .          .
                        .          .
974                     .          .       415B
                        .          .          .
                        .          .          .
984                     .     C415B............
                        .          V
                        .          V
987                     .     R415B
                        .          .
                        .          .
994                     .          .       440
                        .          .         V
                        .          .         V
1004                    .          .       R70
                        .          .          .
                        .          .          .
1010                    .          .          .         441
                        .          .          .           .
                        .          .          .           .
1020                    .          .      C108............
                        .          .          .
                        .          .          .
1025                    .          .          .-------->   SPLIT
1023                    .          .        D4
                        .          .         V
                        .          .         V
1028                    .          .      R108
                        .          .          .
                        .          .          .
1034                    .          .          .         442
                        .          .          .           .
                        .          .          .           .
1044                    .          .       C67............
                        .          .          .
                        .          .          .
1050                    .          .          .-------->  BASIN4
```

```
1047          .          .          .          D6
              .          .          .          .
1055          .          .          .          .<-------  BASIN4
1053          .          .          .       RTD6
              .          .          .          V
              .          .          .          V
1056          .          .          .         SD6
              .          .          .          .
              .          .          .          .
1062          .          .          .      CD6............
              .          .          .          .
1065          .          .          .         443
              .          .          .          .
              .          .          .          .
1078          .          .          .          .-------->  WSH66
1075          .          .          .         D66
              .          .          .          V
              .          .          .          V
1081          .          .          .       R113
              .          .          .          .
              .          .          .          .
1087          .          .          .     C114............
              .          .          .          .
1090          .          .          .         444
              .          .          .          V
              .          .          .          V
1100          .          .          .         R58
              .          .          .          .
              .          .          .          .
1106          .          .          .          .         445
              .          .          .          .           .
              .          .          .          .           .
1116          .          .          .       C107............
              .          .          .          V
              .          .          .          V
1119          .          .          .       R107
              .          .          .          .
              .          .          .          .
1127          .          .          .          .           .<-------   SPLIT
1125          .          .          .          .        RTB2
              .          .          .          .           V
              .          .          .          .           V
1128          .          .          .          .      RSPLIT
              .          .          .          .           .
              .          .          .          .           .
1134          .          .          .          .           .         446
              .          .          .          .           .           .
              .          .          .          .           .           .
1144          .          .          .       C109........................
              .          .          .          .
              .          .          .          .
1150          .          .          .          .-------->  WSH404
1147          .          .          .         D5
              .          .          .          V
              .          .          .          V
1153          .          .          .       R109
              .          .          .          .
              .          .          .          .
1159          .          .          .          .         447
              .          .          .          .           .
              .          .          .          .           .
1171          .          .          .          .           .           .<-------  WSH404
1169          .          .          .          .           .       RT404
              .          .          .          .           .           V
              .          .          .          .           .           V
1172          .          .          .          .           .        R404
              .          .          .          .           .           .
              .          .          .          .           .           .
1178          .          .          .       C110........................
              .          .          .          V
              .          .          .          V
1181          .          .          .       R110
              .          .          .          .
              .          .          .          .
1187          .          .          .     C115............
              .          .          .        V
              .          .          .        V
1190          .          .          .     R115
              .          .          .          .
              .          .          .          .
1196          .          .          .         448
              .          .          .          .
              .          .          .          .
1206          .          .          .          .         449
              .          .          .          .           .
              .          .          .          .           .
1216          .          .          .      C6364............
              .          .          .          V
              .          .          .          V
1219          .          .          .      R6364
              .          .          .          .
              .          .          .          .
1225          .          .          .          .         450
              .          .          .          .           .
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1235                                                                  451
1245                                                          C451............
1250                                                                          .<-------   WSH66
1248                                                                   RT66
1251                                                                                     452
1261                                                                 C6465............
                                                                        V
1264                                                                 R6566
1270                                                        C116........................
                                                               V
1273                                                        BASIN5
                                                               V
1280                                                        R116
1286                                                                  453
1296                                                        C117............
1299                                                 C118............
                                                        V
1302                                                 R118
1311                                                        .-------->  BASIN6
1308                                                    D7
1316                                                                .<-------  BASIN6
1314                                                        RTD7
                                                               V
1317                                                        SD7
1323                                                    CD7............
1326                                                        454
1336                                                 C119............
1339                                        C454............
                                               V
1342                                        R454
1349                                                 415A
1359                                 C415A........................
                                        V
1362                                 R415A
1369                                     455
1384                                        .-------->   BS455
1379                                        D455
1389                                                        .<-------   BS455
1387                                                 RT455
                                                        V
1390                                                 S455
1396                                        C455............
1399                         CC455........................
                                V
1402                         S440
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                V
                V
1411          R455
                .
                .
1[illegible]    .          480
                .            .
                .            .
1432            .            .-------->   BS480
1427            .         D480
                .            .
                .            .
1437            .            .           .<-------   BS480
1435            .            .       RT480
                .            .           V
                .            .           V
1438            .            .        S480
                .            .           .
                .            .           .
1444            .         C480............
                .            .
                .            .
1447         CC480............
                V
                V
1450          R480
                .
                .
1456            .          456
                .            .
                .            .
1469            .            .-------->  BASIN1
1466            .           D1
                .            .
                .            .
1475            .            .-------->    WA30
1472            .           D2
                .            V
                .            V
1478            .         R456
                .            .
                .            .
1484            .            .         457
                .            .           .
                .            .           .
1494            .         C101............
                .            .
                .            .
                .            .-------->  BASIN2
1497            .           D3
                .            .
                .            .
1505            .            .           .<-------  BASIN2
1503            .            .        RTD3
                .            .           V
                .            .           V
1506            .            .         SD3
                .            .           .
                .            .           .
1512            .          CD3............
                .            V
                .            V
1515            .         R101
                .            .
                .            .
1521            .            .         458
                .            .           .
                .            .           .
1531            .         C103............
                .            V
                .            V
1534            .         R103
                .            .
                .            .
1542            .            .           .<-------   WA30
1540            .            .        RT30
                .            .           V
                .            .           V
1543            .            .         R30
                .            .           .
                .            .           .
1551            .            .           .           .<-------  BASIN1
1549            .            .           .        RTB1
                .            .           .           V
                .            .           .           V
1552            .            .           .          B1
                .            .           .           V
                .            .           .           V
1559            .            .           .         RB1
                .            .           .           .
                .            .           .           .
                .            .        CDIV............
                .            .           .
                .            .           .
1568            .            .           .         459
                .            .           .           .
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1578          .           .         C52............
              .           .           V
              .           .           V
1581          .           .         R52
              .           .           .
              .           .           .
1587          .           .           .         460
              .           .           .           .
              .           .           .           .
1597          .           .       C102............
              .           .           V
              .           .           V
1600          .           .     BASIN3
              .           .           V
              .           .           V
1607          .           .          R3
              .           .           .
              .           .           .
1613          .           .           .         461
              .           .           .           .
              .           .           .           .
1623          .           .       C104............
              .           .           .
              .           .           .
1626          .       C106............
              .          V
              .          V
1629          .       R106
              .           .
              .           .
1635          .           .         462
              .           .           .
              .           .           .
1645          .        C56............
              .           .
              .           .
1648       C462............
              V
              V
1651       R462
              V
              V
1657      RR462
              .
              .
1663          .        500
              .           .
              .           .
1673       C500............
```

(***) RUNOFF ALSO COMPUTED AT THIS LOCATION

```
1*****************************************
 *                                       *
 *   FLOOD HYDROGRAPH PACKAGE  (HEC-1)   *
 *              JUN   1998               *
 *            VERSION 4.1                *
 *                                       *
 *  RUN DATE   02MAY01  TIME  08:35:19   *
 *                                       *
 *****************************************
```

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

DDMS MCUHP1 SPOOK HILL ADMP-EXISTING CONDITIONS MODEL-100YR, 24-HR STORM
Combined McDowell Road and Pass Mountain Alternatives MD3E and PM4R
McDowell Road Alternative - Option MD3E
FULL PASS MOUNTAIN DIVERSION WITH SPOOK HILL FRS STORAGE ROUTING;
OUTFLOW OF SIGNAL BUTTE IS QUADRUPLED, PASS MOUNTAIN DIVERSION ALTERNATIVE
Spook Hill FRS without Off-Line Basin

```
  8 IO          OUTPUT CONTROL VARIABLES
                      IPRNT           5  PRINT CONTROL
                      IPLOT           0  PLOT CONTROL
                      QSCAL          0.  HYDROGRAPH PLOT SCALE

    IT          HYDROGRAPH TIME DATA
                       NMIN           2  MINUTES IN COMPUTATION INTERVAL
                      IDATE      1    0  STARTING DATE
                      ITIME        0000  STARTING TIME
                         NQ        2000  NUMBER OF HYDROGRAPH ORDINATES
                     NDDATE      3    0  ENDING DATE
                     NDTIME        1838  ENDING TIME
                      ICENT          19  CENTURY MARK

                 COMPUTATION INTERVAL      .03 HOURS
                      TOTAL TIME BASE   66.63 HOURS

          ENGLISH UNITS
               DRAINAGE AREA          SQUARE MILES
               PRECIPITATION DEPTH    INCHES
               LENGTH, ELEVATION      FEET
               FLOW                   CUBIC FEET PER SECOND
               STORAGE VOLUME         ACRE-FEET
               SURFACE AREA           ACRES
               TEMPERATURE            DEGREES FAHRENHEIT
```

10 JD INDEX STORM NO. 1

STRM 3.81 PRECIPITATION DEPTH

TRDA .01 TRANSPOSITION DRAINAGE AREA

11 PI PRECIPITATION PATTERN

.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
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21 JD INDEX STORM NO. 2

STRM 3.79 PRECIPITATION DEPTH

TRDA 1.00 TRANSPOSITION DRAINAGE AREA

0 PI PRECIPITATION PATTERN

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22 JD INDEX STORM NO. 3

STRM 3.68 PRECIPITATION DEPTH

TRDA 5.80 TRANSPOSITION DRAINAGE AREA

0 PI PRECIPITATION PATTERN

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23 JD INDEX STORM NO. 4

STRM 3.57 PRECIPITATION DEPTH

TRDA 10.66 TRANSPOSITION DRAINAGE AREA

0 PI PRECIPITATION PATTERN

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24 JD INDEX STORM NO. 5

STRM 3.54 PRECIPITATION DEPTH

TRDA 13.70 TRANSPOSITION DRAINAGE AREA

0 PI PRECIPITATION PATTERN

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25 JD         INDEX STORM NO. 6
                 STRM        3.47  PRECIPITATION DEPTH
                 TRDA       20.00  TRANSPOSITION DRAINAGE AREA

 0 PI           PRECIPITATION PATTERN
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26 JD         INDEX STORM NO. 7
                 STRM        3.32  PRECIPITATION DEPTH
                 TRDA       50.00  TRANSPOSITION DRAINAGE AREA

 0 PI           PRECIPITATION PATTERN
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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			BASIN AREA	MAXIMUM STAGE	TIME OF MAX STAGE
				6-HOUR	24-HOUR	72-HOUR			
HYDROGRAPH AT	10	989.	12.27	119.	33.	12.	.70		
ROUTED TO	R10	920.	12.40	119.	33.	12.	.70		
ROUTED TO	R12	853.	12.60	119.	33.	12.	.70		
HYDROGRAPH AT	20	1011.	12.43	136.	34.	12.	1.12		
2 COMBINED AT	C20	1684.	12.53	252.	66.	24.	1.82		
ROUTED TO	R20	1683.	12.57	252.	66.	24.	1.82		
HYDROGRAPH AT	40	2695.	12.30	264.	69.	25.	2.23		
HYDROGRAPH AT	60	1623.	12.40	239.	64.	23.	1.75		
3 COMBINED AT									

+	C60	5371.	12.37	733.	194.	70.	5.80
ROUTED TO	S60	118.	14.27	118.	114.	70.	5.80
ROUTED TO +	R60	118.	14.37	118.	114.	70.	5.80
ROUTED TO +	RR60	118.	14.40	118.	114.	70.	5.80
HYDROGRAPH AT +	80	1956.	12.27	189.	49.	18.	1.48
2 COMBINED AT +	C80	2009.	12.27	295.	160.	90.	1.48
ROUTED TO +	R80	1981.	12.30	295.	160.	90.	1.48
HYDROGRAPH AT +	100	423.	12.20	60.	16.	6.	.48
2 COMBINED AT +	C100	2373.	12.27	351.	174.	95.	1.96
ROUTED TO +	R100	2370.	12.30	351.	174.	95.	1.96
HYDROGRAPH AT +	120	3352.	12.27	340.	92.	33.	2.20
2 COMBINED AT +	C120	5618.	12.27	673.	256.	126.	4.16
ROUTED TO +	R120	5546.	12.30	673.	256.	126.	4.16
HYDROGRAPH AT +	140	665.	12.13	67.	18.	6.	.60
HYDROGRAPH AT +	150	595.	12.17	51.	14.	5.	.41
ROUTED TO +	R150	568.	12.23	51.	14.	5.	.41
ROUTED TO	R152	514.	12.33	51.	14.	5.	.41
HYDROGRAPH AT +	160	228.	12.40	37.	9.	3.	.37
HYDROGRAPH AT +	180	836.	12.37	97.	24.	9.	1.00
5 COMBINED AT +	C180	7306.	12.30	898.	313.	146.	6.54
HYDROGRAPH AT +	385B	591.	12.17	57.	16.	6.	.38
ROUTED TO +	R385B	590.	12.17	57.	16.	6.	.38
HYDROGRAPH AT +	395B	12.	12.17	2.	0.	0.	.02
2 COMBINED AT +	C395B	601.	12.17	59.	17.	6.	.39
ROUTED TO +	R395B	580.	12.23	58.	16.	6.	.39
HYDROGRAPH AT +	370B	219.	12.27	32.	8.	3.	.26
2 COMBINED AT +	C370C	792.	12.23	90.	25.	9.	.66
ROUTED TO +	R370B	778.	12.27	90.	25.	9.	.66
ROUTED TO +	RR370B	715.	12.33	90.	25.	9.	.66
HYDROGRAPH AT +	355B	465.	12.27	54.	14.	5.	.51
2 COMBINED AT	C355B	1153.	12.30	143.	38.	14.	1.17
ROUTED TO +	R355B	1138.	12.37	143.	38.	14.	1.17
ROUTED TO +	RR355B	1121.	12.40	143.	38.	14.	1.17

+	HYDROGRAPH AT	350	1258.	12.20	109.	28.	10.	.97
	ROUTED TO	R350	1109.	12.47	109.	28.	10.	.97
+	HYDROGRAPH AT	310	342.	12.33	46.	12.	4.	.49
+	3 COMBINED AT	C310	2448.	12.43	290.	76.	27.	2.63
+	ROUTED TO	R310	2395.	12.53	290.	76.	27.	2.63
+	ROUTED TO	R312	2301.	12.63	290.	76.	27.	2.63
+	HYDROGRAPH AT	305B	405.	12.30	45.	11.	4.	.41
+	2 COMBINED AT	C305B	2484.	12.63	333.	87.	31.	3.05
+	ROUTED TO	R305B	2464.	12.67	333.	87.	31.	3.05
+	HYDROGRAPH AT	210	1322.	12.17	111.	29.	10.	.79
+	ROUTED TO	R210	1246.	12.23	111.	29.	10.	.79
+	HYDROGRAPH AT	240	1754.	12.27	167.	42.	15.	1.41
+	3 COMBINED AT	C240	3752.	12.27	593.	153.	55.	5.25
+	ROUTED TO	S240	1819.	12.93	528.	137.	49.	5.25
+	ROUTED TO	R240	1817.	13.00	527.	137.	49.	5.25
+	HYDROGRAPH AT	220	694.	12.20	68.	18.	6.	.47
+	2 COMBINED AT	C220	1864.	12.97	587.	153.	55.	5.72
+	ROUTED TO	S220	1775.	13.13	575.	150.	54.	5.72
+	ROUTED TO	R220	1774.	13.20	575.	150.	54.	5.72
+	HYDROGRAPH AT	190	1471.	12.17	123.	33.	12.	.92
+	ROUTED TO	R190	1415.	12.23	123.	33.	12.	.92
+	ROUTED TO	R192	1359.	12.30	123.	33.	12.	.92
+	HYDROGRAPH AT	200	843.	12.17	72.	20.	7.	.53
+	3 COMBINED AT	C200	2171.	12.30	741.	195.	71.	7.17
+	ROUTED TO	S200	2057.	12.37	736.	192.	69.	7.17
+	ROUTED TO	R200	2055.	12.40	735.	192.	69.	7.17
+	ROUTED TO	SS200	1788.	13.30	615.	162.	58.	7.17
+	ROUTED TO	RR200	1784.	13.37	612.	162.	58.	7.17
+	2 COMBINED AT	CC180	7306.	12.30	1505.	476.	204.	13.70
+	ROUTED TO	S180	449.	15.63	436.	313.	154.	13.70
	ROUTED TO	R180	449.	15.70	436.	313.	154.	13.70
+	HYDROGRAPH AT	260	399.	12.13	43.	12.	4.	.26
	2 COMBINED AT							

+	C260	491.	15.63	477.	362.	181.	.26
ROUTED TO	R260	491.	15.70	477.	362.	181.	.26
HYDROGRAPH AT +	280	498.	12.10	46.	13.	5.	.32
2 COMBINED AT +	C280	854.	12.13	479.	372.	185.	.58
ROUTED TO +	R280	837.	12.20	479.	372.	185.	.58
HYDROGRAPH AT +	300	392.	12.10	34.	9.	3.	.29
2 COMBINED AT +	C300	1173.	12.17	503.	379.	188.	.87
ROUTED TO +	R300	1131.	12.23	502.	379.	188.	.87
HYDROGRAPH AT +	305A	413.	12.17	46.	13.	5.	.37
2 COMBINED AT +	C305A	1501.	12.23	539.	388.	191.	1.24
ROUTED TO +	R305A	1470.	12.30	538.	387.	191.	1.24
HYDROGRAPH AT +	320	899.	12.20	116.	33.	12.	.87
DIVERSION TO +	BS320	439.	11.97	21.	6.	2.	.87
HYDROGRAPH AT +	D320	899.	12.20	102.	27.	10.	.87
HYDROGRAPH AT +	RT320	439.	11.97	21.	6.	2.	.87
ROUTED TO +	S320	4.	12.03	4.	4.	2.	.87
3 COMBINED AT	C320	2277.	12.27	633.	411.	200.	2.11
HYDROGRAPH AT +	340	1581.	12.17	196.	58.	21.	1.48
DIVERSION TO +	BS340	1581.	12.17	104.	28.	10.	1.48
HYDROGRAPH AT +	D340	1367.	12.30	108.	30.	11.	1.48
HYDROGRAPH AT +	RT340	1581.	12.17	104.	28.	10.	1.48
ROUTED TO +	S340	18.	12.30	17.	14.	9.	1.48
3 COMBINED AT +	C340	3564.	12.30	744.	446.	215.	3.59
HYDROGRAPH AT +	355A	226.	12.10	22.	6.	2.	.16
ROUTED TO +	R355A	197.	12.37	22.	6.	2.	.16
HYDROGRAPH AT +	360	761.	12.20	109.	31.	11.	.88
DIVERSION TO +	BS360	761.	12.20	54.	14.	5.	.88
HYDROGRAPH AT +	D360	665.	12.37	62.	17.	6.	.88
HYDROGRAPH AT +	RT360	761.	12.20	54.	14.	5.	.88
ROUTED TO +	S360	9.	12.37	8.	7.	5.	.88
4 COMBINED AT	C360	3921.	12.37	825.	471.	226.	4.63
HYDROGRAPH AT +	380	627.	12.27	97.	26.	9.	.90
DIVERSION TO +	BS380	627.	12.27	56.	14.	5.	.90

+	HYDROGRAPH AT	D380	461.	12.57	44.	12.	4.	.90
	HYDROGRAPH AT	RT380	627.	12.27	56.	14.	5.	.90
+	ROUTED TO	S380	9.	12.57	9.	7.	5.	.90
+	3 COMBINED AT	C380	3921.	12.37	872.	488.	235.	5.53
+	HYDROGRAPH AT	400	560.	12.20	66.	18.	6.	.62
+	DIVERSION TO	BS400	311.	12.00	10.	3.	1.	.62
+	HYDROGRAPH AT	D400	560.	12.20	58.	15.	5.	.62
+	HYDROGRAPH AT	RT400	311.	12.00	10.	3.	1.	.62
+	ROUTED TO	S400	2.	12.07	2.	2.	1.	.62
+	2 COMBINED AT	C400	562.	12.20	60.	16.	6.	.62
+	2 COMBINED AT	CC400	4250.	12.37	918.	498.	238.	6.15
+	HYDROGRAPH AT	420A	495.	12.20	68.	19.	7.	.57
+	DIVERSION TO	BS420A	377.	12.07	16.	4.	2.	.57
+	HYDROGRAPH AT	D420A	495.	12.20	56.	14.	5.	.57
+	HYDROGRAPH AT	RT420A	377.	12.07	16.	4.	2.	.57
+	ROUTED TO	S420A	13.	11.60	13.	4.	2.	.57
+	3 COMBINED AT	C420A	4562.	12.37	973.	510.	243.	6.72
+	HYDROGRAPH AT	370A	633.	12.10	52.	14.	5.	.41
+	HYDROGRAPH AT	395A	209.	12.13	24.	6.	2.	.18
+	2 COMBINED AT	C370A	838.	12.10	76.	21.	7.	.59
+	DIVERSION TO	BS370	698.	12.10	43.	11.	4.	.59
+	HYDROGRAPH AT	D370	140.	11.77	33.	10.	4.	.59
+	HYDROGRAPH AT	RT370	698.	12.10	43.	11.	4.	.59
+	ROUTED TO	S370	8.	12.57	7.	6.	4.	.59
+	2 COMBINED AT	CC370	148.	12.57	39.	15.	7.	.59
+	ROUTED TO	R370	148.	12.57	39.	15.	7.	.59
+	HYDROGRAPH AT	390	477.	12.03	35.	10.	4.	.24
+	DIVERSION TO	BS390	101.	11.73	6.	2.	1.	.24
+	HYDROGRAPH AT	D390	477.	12.03	31.	8.	3.	.24
+	HYDROGRAPH AT	RT390	101.	11.73	6.	2.	1.	.24
	ROUTED TO	S390	1.	.70	1.	1.	1.	.24
+	3 COMBINED AT	C390	622.	12.03	71.	24.	11.	.83
	ROUTED TO							

+	R390	531.	12.27	71.	24.	11.	.83
HYDROGRAPH AT	420B	356.	12.10	34.	10.	4.	.28
2 COMBINED AT +	C420B	797.	12.23	104.	33.	15.	1.11
HYDROGRAPH AT +	385A	358.	12.07	27.	7.	3.	.21
HYDROGRAPH AT +	415C	443.	12.10	46.	13.	5.	.33
2 COMBINED AT +	C415C	785.	12.07	73.	20.	7.	.54
DIVERSION TO +	BS415C	595.	12.07	34.	8.	3.	.54
HYDROGRAPH AT +	D415C	190.	11.83	40.	12.	4.	.54
HYDROGRAPH AT +	RT415C	595.	12.07	34.	8.	3.	.54
ROUTED TO +	S415C	8.	12.50	7.	7.	3.	.54
2 COMBINED AT +	CC415C	198.	12.47	45.	17.	7.	.54
ROUTED TO +	R415C	198.	12.47	45.	17.	7.	.54
HYDROGRAPH AT +	415B	86.	12.07	8.	2.	1.	.06
2 COMBINED AT +	C415B	282.	12.07	53.	19.	8.	.61
ROUTED TO +	R415B	271.	12.23	53.	19.	8.	.61
HYDROGRAPH AT +	440	184.	12.03	12.	3.	1.	.08
ROUTED TO	R70	181.	12.07	12.	3.	1.	.08
HYDROGRAPH AT +	441	16.	12.03	1.	0.	0.	.01
2 COMBINED AT +	C108	197.	12.07	14.	4.	1.	.09
DIVERSION TO +	SPLIT	98.	12.07	7.	2.	1.	.09
HYDROGRAPH AT +	D4	98.	12.07	7.	2.	1.	.09
ROUTED TO +	R108	92.	12.13	7.	2.	1.	.09
HYDROGRAPH AT +	442	105.	12.10	9.	2.	1.	.10
2 COMBINED AT +	C67	195.	12.10	16.	4.	2.	.19
DIVERSION TO +	BASIN4	121.	12.10	6.	2.	1.	.19
HYDROGRAPH AT +	D6	74.	12.10	10.	3.	1.	.19
HYDROGRAPH AT +	RTD6	121.	12.10	6.	2.	1.	.19
ROUTED TO +	SD6	1.	12.47	1.	1.	0.	.19
2 COMBINED AT +	CD6	74.	12.10	10.	3.	1.	.19
HYDROGRAPH AT +	443	151.	12.07	15.	4.	1.	.08
DIVERSION TO	WSH66	78.	11.87	12.	3.	1.	.08
HYDROGRAPH AT +	D66	73.	12.07	3.	1.	0.	.08
ROUTED TO +	R113	71.	12.07	3.	1.	0.	.08

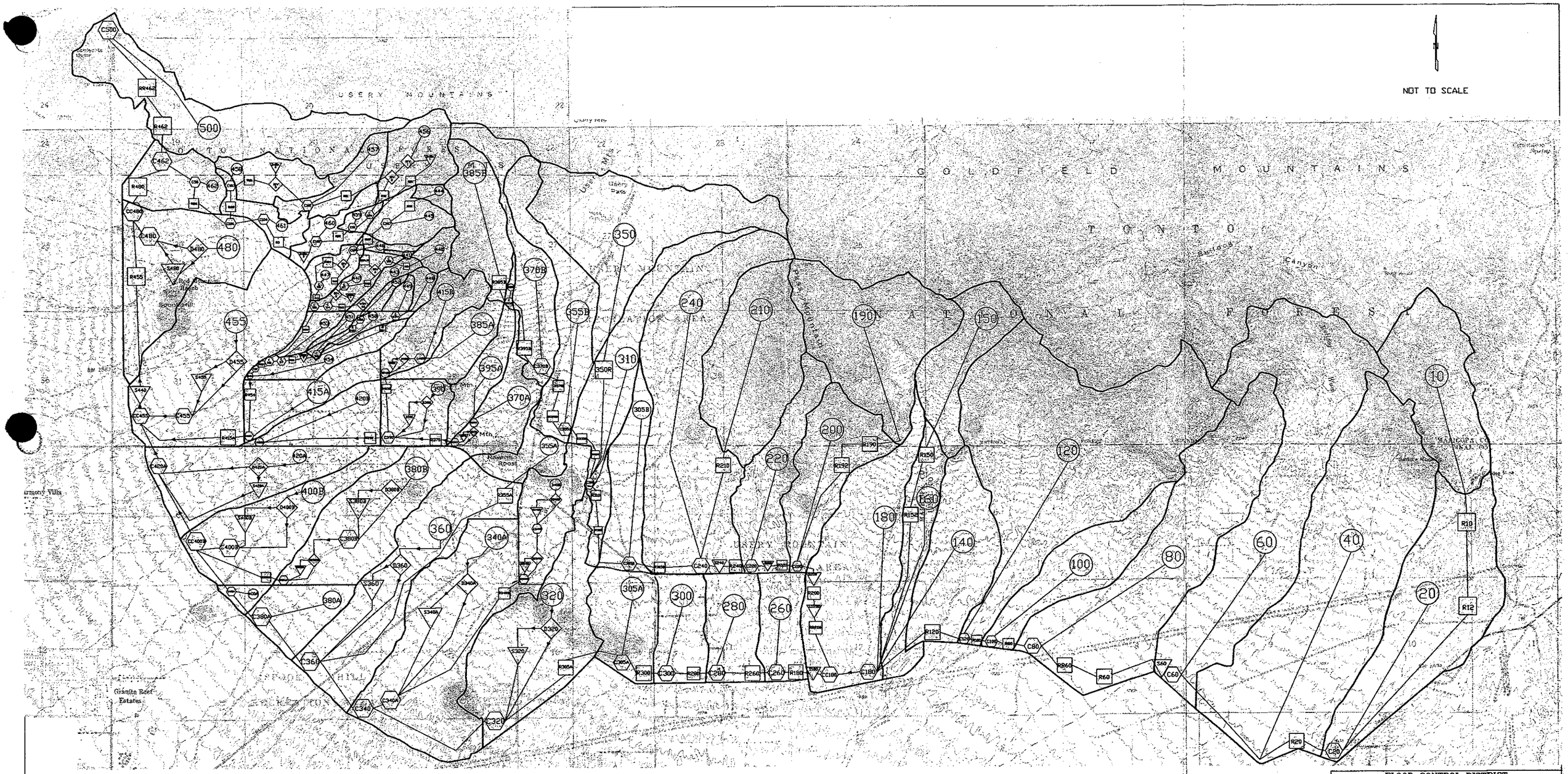
+	2 COMBINED AT	C114	144.	12.07	13.	4.	2.	.27
	HYDROGRAPH AT	444	83.	12.03	5.	1.	0.	.04
+	ROUTED TO	R58	79.	12.07	5.	1.	0.	.04
+	HYDROGRAPH AT	445	307.	12.03	19.	5.	2.	.19
+	2 COMBINED AT	C107	382.	12.03	23.	6.	2.	.23
+	ROUTED TO	R107	382.	12.07	23.	6.	2.	.23
+	HYDROGRAPH AT	RTB2	98.	12.07	7.	2.	1.	.09
+	ROUTED TO	RSPLIT	98.	12.07	7.	2.	1.	.09
+	HYDROGRAPH AT	446	66.	12.03	6.	2.	1.	.04
+	3 COMBINED AT	C109	545.	12.07	36.	10.	3.	.27
+	DIVERSION TO	WSH404	35.	11.70	8.	2.	1.	.27
+	HYDROGRAPH AT	D5	510.	12.07	28.	7.	3.	.27
+	ROUTED TO	R109	493.	12.10	28.	7.	3.	.27
+	HYDROGRAPH AT	447	141.	12.07	12.	4.	1.	.09
+	HYDROGRAPH AT	RT404	35.	11.70	8.	2.	1.	.27
+	ROUTED TO	R404	35.	11.83	8.	2.	1.	.27
+	3 COMBINED AT	C110	666.	12.07	48.	13.	5.	.36
+	ROUTED TO	R110	663.	12.10	48.	13.	5.	.36
+	2 COMBINED AT	C115	805.	12.07	61.	17.	7.	.63
+	ROUTED TO	R115	799.	12.10	61.	17.	7.	.63
+	HYDROGRAPH AT	448	89.	12.03	6.	2.	1.	.05
+	HYDROGRAPH AT	449	81.	12.03	5.	1.	0.	.05
+	2 COMBINED AT	C6364	170.	12.03	11.	3.	1.	.09
+	ROUTED TO	R6364	145.	12.17	11.	3.	1.	.09
+	HYDROGRAPH AT	450	63.	12.20	7.	2.	1.	.07
+	HYDROGRAPH AT	451	18.	12.17	2.	1.	0.	.03
+	2 COMBINED AT	C451	80.	12.20	9.	2.	1.	.09
+	HYDROGRAPH AT	RT66	78.	11.87	12.	3.	1.	.08
+	HYDROGRAPH AT	452	63.	12.03	5.	1.	0.	.04
+	2 COMBINED AT	C6465	141.	12.03	17.	4.	2.	.04
	ROUTED TO	R6566	137.	12.10	17.	4.	2.	.04
+	3 COMBINED AT	C116	357.	12.17	36.	10.	3.	.23
	ROUTED TO							

+	BASIN5	159.	12.47	36.	10.	3.	.23
ROUTED TO	R116	157.	12.53	36.	10.	3.	.23
+ HYDROGRAPH AT	453	63.	12.10	7.	2.	1.	.06
+ 2 COMBINED AT	C117	177.	12.47	43.	12.	4.	.29
+ 2 COMBINED AT	C118	892.	12.10	104.	29.	11.	.92
+ ROUTED TO	R118	887.	12.13	104.	29.	11.	.92
+ DIVERSION TO	BASIN6	248.	12.13	7.	2.	1.	.92
+ HYDROGRAPH AT	D7	639.	12.13	97.	27.	10.	.92
+ HYDROGRAPH AT	RTD7	248.	12.13	7.	2.	1.	.92
+ ROUTED TO	SD7	1.	12.63	1.	1.	1.	.92
+ 2 COMBINED AT	CD7	640.	12.13	97.	28.	11.	.92
+ HYDROGRAPH AT	454	162.	12.13	21.	6.	2.	.18
+ 2 COMBINED AT	C119	801.	12.13	118.	34.	13.	1.10
+ 2 COMBINED AT	C454	1060.	12.17	170.	51.	21.	1.70
+ ROUTED TO	R454	1055.	12.23	170.	51.	21.	1.70
+ HYDROGRAPH AT	415A	196.	12.13	24.	7.	2.	.22
3 COMBINED AT	C415A	2002.	12.23	292.	90.	37.	3.03
+ ROUTED TO	R415A	1996.	12.27	292.	90.	37.	3.03
+ HYDROGRAPH AT	455	1418.	12.13	150.	45.	16.	1.11
+ DIVERSION TO	BS455	1418.	12.13	139.	37.	13.	1.11
+ HYDROGRAPH AT	D455	145.	12.80	24.	8.	3.	1.11
+ HYDROGRAPH AT	RT455	1418.	12.13	139.	37.	13.	1.11
+ ROUTED TO	S455	23.	12.80	22.	18.	11.	1.11
+ 2 COMBINED AT	C455	169.	12.80	46.	26.	14.	1.11
+ 3 COMBINED AT	CC455	6116.	12.33	1234.	594.	281.	10.86
+ ROUTED TO	S440	363.	26.43	360.	324.	197.	10.86
+ ROUTED TO	R455	363.	27.10	360.	324.	194.	10.86
+ HYDROGRAPH AT	480	1102.	12.10	100.	31.	11.	.73
+ DIVERSION TO	BS480	487.	11.90	27.	8.	3.	.73
+ HYDROGRAPH AT	D480	1102.	12.10	83.	23.	8.	.73
HYDROGRAPH AT	RT480	487.	11.90	27.	8.	3.	.73
+ ROUTED TO	S480	5.	11.97	5.	4.	3.	.73
+ 2 COMBINED AT	C480	1107.	12.10	88.	27.	11.	.73

+	2 COMBINED AT	CC480	1107.	12.10	416.	374.	234.	.73
	ROUTED TO	R480	878.	12.33	416.	374.	232.	.73
+	HYDROGRAPH AT	456	483.	12.07	37.	10.	4.	.26
+	DIVERSION TO	BASIN1	193.	12.07	8.	2.	1.	.26
+	HYDROGRAPH AT	D1	290.	12.07	29.	8.	3.	.26
+	DIVERSION TO	WA30	59.	12.07	10.	3.	1.	.26
+	HYDROGRAPH AT	D2	231.	12.07	19.	5.	2.	.26
+	ROUTED TO	R456	218.	12.13	19.	5.	2.	.26
+	HYDROGRAPH AT	457	273.	12.07	21.	6.	2.	.19
+	2 COMBINED AT	C101	480.	12.10	40.	10.	4.	.45
+	DIVERSION TO	BASIN2	177.	12.10	8.	2.	1.	.45
+	HYDROGRAPH AT	D3	303.	12.10	32.	8.	3.	.45
+	HYDROGRAPH AT	RTD3	177.	12.10	8.	2.	1.	.45
+	ROUTED TO	SD3	1.	12.40	1.	1.	1.	.45
+	2 COMBINED AT	CD3	304.	12.10	33.	9.	4.	.45
+	ROUTED TO	R101	302.	12.10	33.	9.	4.	.45
+	HYDROGRAPH AT	458	366.	12.03	26.	7.	2.	.19
+	2 COMBINED AT	C103	655.	12.07	59.	16.	6.	.64
+	ROUTED TO	R103	651.	12.07	59.	16.	6.	.64
+	HYDROGRAPH AT	RT30	59.	12.07	10.	3.	1.	.26
+	ROUTED TO	R30	58.	12.10	10.	3.	1.	.26
+	HYDROGRAPH AT	RTB1	193.	12.07	8.	2.	1.	.26
+	ROUTED TO	B1	35.	12.20	8.	2.	1.	.26
+	ROUTED TO	RB1	35.	12.27	8.	2.	1.	.26
+	2 COMBINED AT	CDIV	87.	12.20	18.	5.	2.	.12
+	HYDROGRAPH AT	459	45.	12.03	3.	1.	0.	.03
+	2 COMBINED AT	C52	117.	12.10	21.	6.	2.	.15
+	ROUTED TO	R52	116.	12.17	21.	6.	2.	.15
+	HYDROGRAPH AT	460	221.	12.07	20.	6.	2.	.14
+	2 COMBINED AT	C102	323.	12.07	40.	12.	4.	.29
	ROUTED TO	BASIN3	71.	12.63	40.	12.	4.	.29
+	ROUTED TO	R3	71.	12.77	40.	12.	4.	.29
	HYDROGRAPH AT							

+		461	165.	12.10	17.	5.	2.	.12
	2 COMBINED AT	C104	220.	12.10	57.	17.	6.	.41
+	2 COMBINED AT	C106	866.	12.07	115.	33.	12.	1.05
+	ROUTED TO	R106	828.	12.13	115.	33.	12.	1.05
+	HYDROGRAPH AT	462	557.	12.07	42.	12.	4.	.30
+	2 COMBINED AT	C56	1306.	12.10	156.	44.	16.	1.35
+	2 COMBINED AT	C462	1641.	12.30	416.	376.	248.	2.09
+	ROUTED TO	R462	1575.	12.33	406.	367.	242.	2.09
+	ROUTED TO	RR462	1543.	12.40	406.	367.	242.	2.09
+	HYDROGRAPH AT	500	1126.	12.27	128.	35.	12.	.93
+	2 COMBINED AT	C500	2475.	12.33	433.	388.	251.	3.02

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



FLOOD CONTROL DISTRICT OF MARICOPA COUNTY ENGINEERING DIVISION

McDOWELL/McKELLIPS/PASS MTN. ALTERNATIVE

	BY	DATE
DESIGNED	R. HINER	06/00
DRAWN	S. CAMPBELL	06/00
CHECKED	A. PATEL	06/00

WOOD, PATEL & ASSOCIATES, INC.
2051 WEST NORTHERN, SUITE 100
PHOENIX, ARIZONA (602) 335-8500

DRAWING NO. MD2PMMK2.DWG SHEET OF

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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   01MAY01  TIME  16:52:47  *                                    *          (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   DDMS MCUHP1 SPOOK HILL ADMP-EXISTING CONDITIONS MODEL-100YR, 24-HR STORM
    2           ID   Combined McDowell Road, McKellips Road & Pass Mountain Alternatives
    3           ID   McDowell Road Alternative - Option MD2E
    4           ID   McKellips Road Alternative - Option MK2E
    5           ID   FULL PASS MOUNTAIN DIVERSION WITH SPOOK HILL FRS STORAGE ROUTING - PM4R
    6           ID   OUTFLOW OF SIGNAL BUTTE IS QUADRUPLED
    7           ID   Spook Hill FRS without Off-Line Basin
                *
                *  Original File Names: MD2EPM4R.DAT, EC24MK2E.DAT
                *  Modified File Name:  MD2PMMK2.DAT, 4/23/01, WOOD/PATEL, SZ
                *
                *
                *DIAGRAM
    8           IT       2                    2000
    9           IO       5
   10           IN      15
   11           JD    3.81    0.01
   12           PC    .000    .002    .005    .008    .011    .014    .017    .020    .023    .026
   13           PC    .029    .032    .035    .038    .041    .044    .048    .052    .056    .060
   14           PC    .064    .068    .072    .076    .080    .085    .090    .095    .100    .105
   15           PC    .110    .115    .120    .126    .133    .140    .147    .155    .163    .172
   16           PC    .181    .191    .203    .218    .236    .257    .283    .387    .663    .707
   17           PC    .735    .758    .776    .791    .804    .815    .825    .834    .842    .849
   18           PC    .856    .863    .869    .875    .881    .887    .893    .898    .903    .908
   19           PC    .913    .918    .922    .926    .930    .934    .938    .942    .946    .950
   20           PC    .953    .956    .959    .962    .965    .968    .971    .974    .977    .980
   21           PC    .983    .986    .989    .992    .995    .998   1.000
   22           JD   3.787    1.00
   23           JD   3.677    5.80
   24           JD   3.574   10.66
   25           JD   3.539   13.70
   26           JD   3.467   20.00
   27           JD   3.315   50.00
                * DDM   ***** Updated *****

   28           KK      10
   29           KM   SUB-BASIN 10
   30           KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
   31           KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .996
   32           KM     L = 2.00  Kb = .044  Adj. Slope =  165.0
   33           BA    .702
   34           LG    .350    .320   7.600    .090  15.000
   35           UC    .421    .302
   36           UA       0       3       5       8      12      20      43      75      90      96
   37           UA     100
                * DDM   ***** Preserved *****

   38           KK     R10
   39           KM   ROUTING OF FLOW FROM SUB-BASIN 10 TO R12
   40           RS       4    FLOW      -1
   41           RC    .045     .03    .045    8700    .021
   42           RX       0       1       2      17      27      42      43      44
   43           RY       5       5       5       0       0       5       5       5
                * DDM   ***** Preserved *****
1                                                HEC-1 INPUT                                                    PAGE  2

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

   44           KK     R12
   45           KM   ROUTING OF FLOW FROM R12 TO SUB-BASIN 20
   46           RS       6    FLOW      -1
   47           RC    .045     .03    .045    4500     .01
   48           RX       0       1      45    52.5    72.5      80     124     125
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 49          RY       4     2.5     2.5       0       0     2.5     2.5       4
             * DDM   ***** Updated *****

 50          KK      20
 51          KM   SUB-BASIN 20
 52          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
 53          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .993
 54          KM     L = 2.50  Kb = .041  Adj. Slope =   88.0
 55          BA   1.120
 56          LG    .350    .390   5.800    .190   1.000
 57          UC    .658    .454
 58          UA       0       3       5       8      12      20      43      75      90      96
 59          UA     100
             * DDM   ***** Preserved *****

 60          KK     C20
 61          KM   HYDROGRAPH COMBINATION OF SUB-BASINS 10 AND 20
 62          HC       2
             * DDM   ***** Preserved *****

 63          KK     R20
 64          KM        ROUTE FLOW THROUGH BULLDOG FLOODWAY FROM APACHE JUNCTION FRS
 65          RS       1    FLOW      -1
 66          RC    .016    .016    .016     990    .004
 67          RX       0       5       7    14.5    34.5      42      44      50
 68          RY       4       2       2       0       0       2       2       4
             * DDM   ***** Updated *****

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

 79          KK      60
 80          KM   SUB-BASIN 60
 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  .990
 83          KM     L = 4.19  Kb = .038  Adj. Slope =  209.6
 84          BA   1.746
 85          LG    .330    .350   5.800    .190   9.000
 86          UC    .596    .477
 87          UA       0       3       5       8      12      20      43      75      90      96
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LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 88          UA     100
             * DDM   ***** Preserved *****

 89          KK     C60
 90          KM   HYDROGRAPH COMBINATION FOR APACHE JUNCTION FRS
             *      1       2
 91          HC       3
             * DDM   ***** Preserved *****

 92          KK     S60
 93          KM   APACHE JUNCTION FRS AS-BUILT PLANS 12/19/88
 94          KM   OUTLET PIPE=30"RCP; L=136.6'; INLET INV.=1783.5; OUTLET INV.=1783
 95          KM   EMERGENCY SPILLWAY ELEV.=1799.77'; PRINCIPLE SPILLWAY ELEV.=1793.5'
 96          KM   STORAGE VOLUME BELOW PRINCIPLE SPILLWAY FOR SEDIMENT = 100 ACRE-FEET
             *  ESE = 1801.92 ft; PSE = 1795.65 ft; Sediment Vol. = 237 Ac-Ft.
 97          RS       1    STOR       0
 98          SV       0       0      77     242     371     439     563     687    2163
 99          SQ       0      12     103     114     120     362    1462    3101   30000
100          SE    95.0    96.0    98.0   100.0   101.6   101.9   103.0   104.0   112.9
             * DDM   ***** Preserved *****

101          KK     R60
102          KM        ROUTE FLOW THROUGH BULLDOG FLOODWAY FROM APACHE JUNCTION FRS
103          RS       1    FLOW      -1
104          RC    .016    .016    .016    2850    .012
105          RX       0       1       2     2.1     5.6     5.7       6       7
106          RY     3.5     3.5     3.5       0       0     3.5     3.5     3.5
             * DDM   ***** Preserved *****

107          KK    RR60
108          KM   ROUTE FLOW FROM BULLDOG FLOODWAY TO SUB-BASIN 80
109          RS       3    FLOW      -1
110          RC    .016    .016    .016    3500    .005
111          RX       0       1       2     2.1     7.1     7.2       8       9
112          RY     3.5     3.5     3.5       0       0     3.5     3.5     3.5
             * DDM   ***** Updated *****

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

 123            KK     C80
 124            KM   HYDROGRAPH COMBINATION FOR FLOW FROM APACHE JUNCTION FRS & SUB-BASIN 80
 125            HC       2   1.475
                * DDM   ***** Preserved *****
1                                          HEC-1 INPUT                                                    PAGE  4

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


 126            KK     R80
 127            KM   ROUTE FLOW FROM SUB-BASIN 80 TO SUB-BASIN 100
 128            RS       1    FLOW      -1
 129            RC    .025    .016    .025    1200    .003
 130            RX       0       2       6     6.1    41.1    41.2    56.2    58.2
 131            RY     5.5     4.5     4.5       0       0     4.5     4.5     5.5
                * DDM   ***** Updated *****

 132            KK     100
 133            KM   SUB-BASIN 100
 134            KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
 135            KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .997
 136            KM     L = 1.94  Kb = .046  Adj. Slope =  108.0
 137            BA    .484
 138            LG    .320    .290   5.100    .260   3.000
 139            UC    .533    .473
 140            UA       0       5      16      30      65      77      84      90      94      97
 141            UA     100
                * DDM   ***** Preserved *****

 142            KK    C100
 143            KM   HYDROGRAPH COMBINATION FOR FLOW FROM SUB-BASIN 80 & 100
 144            HC       2
                * DDM   ***** Preserved *****

 145            KK    R100
 146            KM   ROUTE FLOW FROM SUB-BASIN 100 TO SUB-BASIN 120
 147            RS       1    FLOW      -1
 148            RC    .016    .016    .016     940    .005
 149            RX       0       1       2     2.1    52.1    52.2      53      54
 150            RY     4.5     4.5     4.5       0       0     4.5     4.5     4.5
                * DDM   ***** Updated *****

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

 161            KK    C120
 162            KM   HYDROGRAPH COMBINATION FOR FLOW FROM SUB-BASIN 100 & 120
 163            HC       2
                * DDM   ***** Preserved *****
1                                          HEC-1 INPUT                                                    PAGE  5

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


 164            KK    R120
 165            KM   ROUTE FLOW FROM SUB-BASIN 120 TO SIGNAL BUTTE FRS
 166            RS       1    FLOW      -1
 167            RC    .025    .016    .025    2100    .005
 168            RX       0       6      10    10.1    60.1    60.2    74.2    80.2
 169            RY       8       5       5       0       0       5       5       8
                * DDM   ***** Updated *****

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

 180            KK     150
 181            KM   SUB-BASIN 150
 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  .998
 184            KM     L = 1.50  Kb = .047  Adj. Slope =  314.6
 185            BA    .408
 186            LG    .350    .360   5.100    .260   7.000
 187            UC    .296    .221
 188            UA       0       3       5       8      12      20      43      75      90      96
 189            UA     100
                * DDM   ***** Preserved *****

 190            KK    R150
 191            KM   ROUTING OF FLOW FROM SUB-BASIN 150 TO R152
 192            RS       2    FLOW      -1
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193          RC    .045     .04    .045    3100    .032
194          RX       0       1       2      23      33      54      55      56
195          RY       7       7       7       0       0       7       7       7
             * DDM   ***** Preserved *****

196          KK    R152
197          KM   ROUTING OF FLOW FROM R152 TO SUB-BASIN 160
198          RS       3    FLOW      -1
199          RC    .045     .03    .045    5900    .019
200          RX       0       1       2       8      33      39      40      41
201          RY       2       2       2       0       0       2       2       2
             * DDM   ***** Updated *****

202          KK     160
203          KM   SUB-BASIN 160
204          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
205          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .998
206          KM     L = 2.10  Kb = .047  Adj. Slope =  129.0
207          BA    .369
1                                        HEC-1 INPUT                                                    PAGE  6

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

208          LG    .340    .330   4.150    .440   1.000
209          UC    .587    .655
210          UA       0       3       5       8      12      20      43      75      90      96
211          UA     100
             * DDM   ***** Updated *****

212          KK     180
213          KM   SUB-BASIN 180
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  .994
216          KM     L = 2.42  Kb = .041  Adj. Slope =  140.0
217          BA   1.000
218          LG    .350    .350   4.150    .430    .000
219          UC    .571    .403
220          UA       0       3       5       8      12      20      43      75      90      96
221          UA     100
             * DDM   ***** Preserved *****

222          KK    C180
223          KM   HYDROGRAPH COMBINATION FOR SIGNAL BUTTE FRS
             * KO     1
224          HC       5
             * DDM   ***** Updated *****

225          KK    385B
226          KM   SUB-BASIN 385B
227          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
228          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .998
229          KM     L = 1.47  Kb = .047  Adj. Slope =  315.0
230          BA    .375
231          LG    .350    .400   6.000    .170  17.000
232          UC    .287    .221
233          UA       0       3       5       8      12      20      43      75      90      96
234          UA     100
             * DDM   ***** Preserved *****

235          KK   R385B
236          KM   CHANNEL GEOMETRY OBTAINED FROM 2' CONTOUR MAPPING & AERIAL MAPPING
237          KM   ROUTING OF FLOW FROM SUB-BASIN 385B TO 395B
238          KM   OVERBANK MANNINGS INCREASED TO ACCOUNT FOR SKEWED FLOW TO NATURAL
239          KM   WATERCOURSE FLOW PATH
240          RS       1    FLOW      -1
241          RC     .07     .03     .07     500    .045
242          RX       0       1       3       9      39      45      46      47
243          RY       3       2       2       0       0       2       2       3
             * DDM   ***** Updated *****

244          KK    395B
245          KM   SUB-BASIN 395B
246          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
247          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF 1.000
248          KM     L =  .71  Kb = .066  Adj. Slope =  249.8
249          BA    .017
250          LG    .350    .350   4.300    .400    .000
251          UC    .262    .650
1                                        HEC-1 INPUT                                                    PAGE  7

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

252          UA       0       3       5       8      12      20      43      75      90      96
253          UA     100
             * DDM   ***** Preserved *****

254          KK   C395B
255          KM   HYDROGRAPH COMBINATION OF SUB-BASINS 383 & 393
256          HC       2
             * DDM   ***** Preserved *****

257          KK   R395B
258          KM   CHANNEL GEOMETRY OBTAINED FROM 2' CONTOUR MAPPING & AERIAL MAPPING
259          KM   ROUTING OF FLOW FROM SUB-BASIN 393 TO SUB-BASIN 365
260          RS       2    FLOW      -1
261          RC    .055     .03    .055    3630    .045
262          RX       0       1       3       9      39      45      46      47
263          RY       3       2       2       0       0       2       2       3
             * DDM   ***** Updated *****
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264          KK    370B
265          KM   SUB-BASIN 370B
266          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
267          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .998
268          KM     L = 2.20  Kb = .049  Adj. Slope =  299.5
269          BA    .264
270          LG    .350    .350   4.800    .290   5.000
271          UC    .408    .550
272          UA       0       3       5       8      12      20      43      75      90      96
273          UA     100
             * DDM   ***** Preserved *****

274          KK   C370C
275          KM   HYDROGRAPH COMBINATION OF SUB-BASINS 395B & 370B
276          HC       2
             * DDM   ***** Preserved *****

277          KK   R370B
278          KM   CHANNEL GEOMETRY OBTAINED FROM 2' CONTOUR MAPPING & AERIAL MAPPING
279          KM   ROUTING OF FLOW FROM SUB-BASIN 370B TO ROUTING RR370B
280          RS       2    FLOW      -1
281          RC    .045     .03    .045    1110    .025
282          RX       0       1      50      56      76      82     131     132
283          RY       3       2       2       0       0       2       2       3
             * DDM   ***** Preserved *****

284          KK  RR370B
285          KM   CHANNEL GEOMETRY OBTAINED FROM 2' CONTOUR MAPPING & AERIAL MAPPING
286          KM   ROUTING OF FLOW FROM RR370B TO SUB-BASIN 355B
287          KM   OVERBANK MANNINGS INCREASED TO ACCOUNT FOR SKEWED FLOW TO NATURAL
288          KM   WATERCOURSE FLOW PATH
289          RS       1    FLOW      -1
290          RC     .07     .03     .07    1550    .008
291          RX       0       3       5      11      41      47     147     247
292          RY     3.5     2.5       2       0       0       2     2.5     3.5
             * DDM   ***** Updated *****
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LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

293          KK    355B
294          KM   SUB-BASIN 355B
295          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
296          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .997
297          KM     L = 2.41  Kb = .045  Adj. Slope =  298.2
298          BA    .513
299          LG    .350    .350   4.400    .370   1.000
300          UC    .421    .419
301          UA       0       3       5       8      12      20      43      75      90      96
302          UA     100
             * DDM   ***** Preserved *****

303          KK   C355B
304          KM   HYDROGRAPH COMBINATION OF SUB-BASINS 370B & 355B
305          HC       2
             * DDM   ***** Preserved *****

306          KK   R355B
307          KM   CHANNEL GEOMETRY OBTAINED FROM 2' CONTOUR MAPPING & AERIAL MAPPING
308          KM   ROUTING OF FLOW FROM SUB-BASIN 355B TO ROUTING RR355B
309          KM   OVERBANK MANNINGS INCREASED TO ACCOUNT FOR SKEWED FLOW TO NATURAL
310          KM   WATERCOURSE FLOW PATH
311          RS       3    FLOW      -1
312          RC     .07     .03     .07     936    .009
313          RX       0       3       5      11      41      47     172     302
314          RY     3.5     2.5       2       0       0       2     2.5     3.5
             * DDM   ***** Preserved *****

315          KK  RR355B
316          KM   CHANNEL GEOMETRY OBTAINED FROM 2' CONTOUR MAPPING & AERIAL MAPPING
317          KM   ROUTING OF FLOW FROM R355B TO SUB-BASIN 310
318          RS       1    FLOW      -1
319          RC    .045     .03    .045    1725     .03
320          RX       0       1      25      31      51      57      81      82
321          RY       3       2       2       0       0       2       2       3
             * DDM   ***** Updated *****

322          KK     350
323          KM   SUB-BASIN 350
324          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
325          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .994
326          KM     L = 2.22  Kb = .042  Adj. Slope =  315.0
327          BA    .970
328          LG    .350    .350   4.550    .340   4.000
329          UC    .367    .234
330          UA       0       3       5       8      12      20      43      75      90      96
331          UA     100
             * DDM   ***** Preserved *****
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LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

332          KK    R350
333          KM   CHANNEL GEOMETRY OBTAINED FROM 2' CONTOUR MAPPING & AERIAL MAPPING
334          KM   ROUTING OF MAIN FLOW FROM DIVERSION OF SUB-BASIN 350 TO SUB-BASIN 310
335          RS       9    FLOW      -1
336          RC    .045    .035    .045    7650    .025
337          RX       0       1      50      56      86      92     141     142
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338          RY       3       2       2       0       0       2       2       3
             * DDM   ***** Updated *****

339          KK     310
340          KM   SUB-BASIN 310
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  .997
343          KM     L = 2.65  Kb = .046  Adj. Slope =  285.6
344          BA    .494
345          LG    .350    .350   3.910    .480    .000
346          UC    .483    .538
347          UA       0       3       5       8      12      20      43      75      90      96
348          UA     100
             * DDM   ***** Preserved *****

349          KK    C310
350          KM   HYDROGRAPH COMBINATION OF SUB-BASINS 350 & 310
351          HC       3
             * DDM   ***** Preserved *****

352          KK    R310
353          KM   CHANNEL GEOMETRY OBTAINED FROM 2' CONTOUR MAPPING & AERIAL MAPPING
354          KM   ROUTING OF FLOW FROM SUB-BASIN 310 TO R312
355          RS       3    FLOW      -1
356          RC    .045     .03    .045    2850    .021
357          RX       0       1     100     106     126     132     231     232
358          RY     3.5       2       2       0       0       2       2     3.5
             * DDM   ***** Preserved *****

359          KK    R312
360          KM   CHANNEL GEOMETRY OBTAINED FROM 2' CONTOUR MAPPING & AERIAL MAPPING
361          KM   ROUTING OF FLOW FROM SUB-BASIN 310 TO 305
362          KM   OVERBANK MANNINGS INCREASED TO ACCOUNT FOR SKEWED FLOW TO NATURAL
363          KM   WATERCOURSE FLOW PATH
364          RS       3    FLOW      -1
365          RC     .07     .03     .07    2560   .0124
366          RX       0       3       5      11      61      67     200     395
367          RY       4     2.5       2       0       0       2     2.5       4
             * DDM   ***** Updated *****

368          KK    305B
369          KM   SUB-BASIN 305B
370          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
371          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .998
372          KM     L = 1.65  Kb = .047  Adj. Slope =  127.0
373          BA    .414
374          LG    .350    .350   4.700    .300    .000
375          UC    .467    .392
                                        HEC-1 INPUT                                          PAGE 10

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

376          UA       0       3       5       8      12      20      43      75      90      96
377          UA     100
             * DDM   ***** Preserved *****

378          KK   C305B
379          KM   HYDROGRAPH COMBINATION OF SUB-BASINS 310 & 295
380          HC       2
             * DDM   ***** Preserved *****

381          KK   R305B
382          KM   CHANNEL GEOMETRY OBTAINED FROM 2' CONTOUR MAPPING & AERIAL MAPPING
383          KM   ROUTING OF FLOW FROM SUBBASIN 305B TO BEGINNING OF PASS MTN. DIVERSION.
384          KM   OVERBANK MANNINGS INCREASED TO ACCOUNT FOR SKEWED FLOW TO NATURAL
385          KM   WATERCOURSE FLOW PATH
386          RS       3    FLOW      -1
387          RC     .07     .03     .07    1100    .013
388          RX       0       3       5      11      51      57     200     400
389          RY       4     2.5       2       0       0       2     2.5       4
             * 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  .995
394          KM     L = 1.84  Kb = .043  Adj. Slope =  315.0
395          BA    .792
396          LG    .350    .360   6.800    .130   4.000
397          UC    .313    .189
398          UA       0       3       5       8      12      20      43      75      90      96
399          UA     100
             * DDM   ***** Preserved *****

400          KK    R210
401          KM   ROUTING OF FLOW FROM SUB-BASIN 210 TO SUB-BASIN 220
402          RS       2    FLOW      -1
403          RC    .045     .03    .045    5100    .022
404          RX       0       1       2      14      34      46      47      48
405          RY       4       4       4       0       0       4       4       4
             * DDM   ***** Updated *****

406          KK     240
407          KM   SUB-BASIN 240
408          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
409          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .992
410          KM     L = 2.96  Kb = .039  Adj. Slope =  305.5
411          BA   1.408
412          LG    .350    .370   5.300    .230   2.000
413          UC    .417    .274
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414          UA       0       3       5       8      12      20      43      75      90      96
415          UA     100
             * DDM   ***** Preserved *****
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LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

416          KK    C240
417          KM   HYDROGRAPH COMBINATION FOR SUB-BASIN 240 & 220
418          HC       3
             * DDM   ***** Preserved *****

419          KK    S240
420          KM   DIGITAL MAPPING SHOWS SEDIMENTATION.  FOR SIMPLICITY NO ADDITIONAL
421          KM   SEDIMENTATION WILL BE CONSIDERED FOR STORAGE ROUTING ANALYSIS. 5/11/00
422          KM    WEIR GEOMETRY OBTAINED FROM AS-BUILT PLANS @ PASS MTN. DIVERSION.
423          KM   WEIR STORAGE DATA OBTAINED FROM 2' CONTOUR MAPPING. Weir Width Changed
             *  from 42' to 45'
424          RS       1    STOR       0
425          SA    1.38    14.2    36.5
426          SE       0       5      11
427          SS       5      45       3     1.5
             * DDM   ***** Preserved *****

428          KK    R240
429          KM   ROUTE FLOW FROM SUB-BASIN 240 TO SUB-BASIN 220
430          KM   PASS MOUNTAIN DIVERSION
431          RS       3    FLOW      -1
432          RC    .035    .025    .035    1800    .005
433          RX       0      15      30      39      69      81      96     111
434          RY     4.6     3.3       3       0       0       3       3       4
             * DDM   ***** Updated *****

435          KK     220
436          KM   SUB-BASIN 220
437          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
438          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .997
439          KM     L = 1.85  Kb = .046  Adj. Slope =  315.0
440          BA    .473
441          LG    .350    .350   7.000    .120   5.000
442          UC    .325    .266
443          UA       0       3       5       8      12      20      43      75      90      96
444          UA     100
             * DDM   ***** Preserved *****

445          KK    C220
446          KM   HYDROGRAPH COMBINATION FOR SUB-BASIN 240 & 220
447          HC       2
             * DDM   ***** Preserved *****

448          KK    S220
449          KM   DIGITAL MAPPING SHOWS SEDIMENTATION.  FOR SIMPLICITY NO ADDITIONAL
450          KM   SEDIMENTATION WILL BE CONSIDERED FOR STORAGE ROUTING ANALYSIS. 5/11/00
451          KM    WEIR GEOMETRY OBTAINED FROM AS-BUILT PLANS @ PASS MTN. DIVERSION.
452          KM   WEIR STORAGE DATA OBTAINED FROM 2' CONTOUR MAPPING.
453          RS       1    STOR       0
454          SA     .78     4.1    13.7
455          SE       0       3      10
456          SS       3      65       3     1.5
             * DDM   ***** Preserved *****
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LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

457          KK    R220
458          KM   ROUTE FLOW FROM SUB-BASIN 220 TO SUB-BASIN 200
459          KM   PASS MOUNTAIN DIVERSION
460          RS       3    FLOW      -1
461          RC    .035    .025    .035    1250    .005
462          RX       0      50     100     109     139     148     178     184
463          RY       5       4       3       0       0       3       3       5
             * DDM   ***** Updated *****

464          KK     190
465          KM   SUB-BASIN 190
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 = 1.91  Kb = .042  Adj. Slope =  315.0
469          BA    .918
470          LG    .350    .390   5.800    .190   8.000
471          UC    .321    .185
472          UA       0       3       5       8      12      20      43      75      90      96
473          UA     100
             * DDM   ***** Preserved *****

474          KK    R190
475          KM   ROUTING OF FLOW FROM SUB-BASIN 190 TO SUB-BASIN 200
476          RS       2    FLOW      -1
477          RC    .045     .03    .045    4740     .03
478          RX       0       1       2      17      37      52      53      54
479          RY       5       5       5       0       0       5       5       5
             * DDM   ***** Preserved *****

480          KK    R192
481          KM   ROUTING OF FLOW FROM SUB-BASIN 190 TO SUB-BASIN 200
482          RS       3    FLOW      -1
483          RC    .045    .035    .045    2200    .018
484          RX       0       1      50      59      79      88     137     138
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485          RY     4.5       3       3       0       0       3       3     4.5
             * DDM   ***** Updated *****

486          KK     200
487          KM   SUB-BASIN 200
488          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
489          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .997
490          KM     L = 1.55  Kb = .045  Adj. Slope =  306.9
             * KO     1
491          BA    .530
492          LG    .350    .390   5.700    .200  10.000
493          UC    .296    .195
494          UA       0       3       5       8      12      20      43      75      90      96
495          UA     100
             * DDM   ***** Preserved *****
                                        HEC-1 INPUT                                                    PAGE 13

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


496          KK    C200
497          KM   HYDROGRAPH COMBINATION FOR SUB-BASIN 220 & 200
             * KO     1
498          HC       3
             * DDM   ***** Preserved *****

499          KK    S200
500          KM    WEIR GEOMETRY OBTAINED FROM AS-BUILT PLANS @ PASS MTN. DIVERSION.
501          KM   WEIR STORAGE DATA OBTAINED FROM 2' CONTOUR MAPPING.
             * KO     1
502          RS       1    STOR       0
503          SA    2.56     3.1     9.4
504          SE       0       3      10
505          SS       3     112       3     1.5
             * DDM   ***** Preserved *****

506          KK    R200
507          KM   ROUTE FLOW FROM SUB-BASIN 200 TO SIGNAL BUTTE FRS through storage
508          RS       1    FLOW      -1
509          RC    .035    .025    .035     650    .005
510          RX       0       1       2      17     117     132     133     134
511          RY       5       5       5       0       0       5       5       5
             * DDM   ***** Preserved *****

512          KK   SS200
513          KM    WEIR GEOMETRY OBTAINED FROM AS-BUILT PLANS @ PASS MTN. DIVERSION.
514          KM   WEIR STORAGE DATA OBTAINED FROM 2' CONTOUR MAPPING.
             * KO     1
515          RS       1    STOR       0
516          SA       8     9.2     9.2
517          SE       0       7      10
518          SS       7     251       3     1.5
             * DDM   ***** Preserved *****

519          KK   RR200
520          KM   ROUTE FLOW FROM SUB-BASIN 200 TO SIGNAL BUTTE FRS
521          RS       3    FLOW      -1
522          RC    .035    .025    .035    3150    .005
523          RX       0       1       2      17     117     132     133     134
524          RY       5       5       5       0       0       5       5       5
             * ****************************************************************
             * ************ END OF PASS MOUNTAIN ALTERNATIVE UPDATE. **************
             * DDM   ***** Preserved *****

525          KK   CC180
526          KM   HYDROGRAPH COMBINATION FOR SIGNAL BUTTE FRS
             * KO     1
527          HC       2
             * DDM   ***** Preserved *****
                                        HEC-1 INPUT                                                    PAGE 14

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


528          KK    S180
529          KM   SIGNAL BUTTE FRS DATED 1/28/85
530          KM   OUTLET PIPE=36"RCP; L= 147';  INLET INV.=1690; OUTLET INV.=1687
531          KM   EMERGENCY SPILLWAY ELEV.=1712.4; PRINCIPLE SPILLWAY ELEV.=1701
532          KM   STORAGE VOLUME BELOW PRINCIPLE SPILLWAY FOR SEDIMENT = 250 ACRE-FEET
533          RS       1    STOR       0
534          SV       0      92     226     462     742    1197    1418    1776    1941    3114
535          SQ       0      40      42     392     532     596     620    1949    3032    6465
536          SE      99     101     103     106     109     113   114.6     117     118     120
             *
             * DDM   ***** Preserved *****

537          KK    R180
538          KM   Routing length updated using Signal Butte Floodway plans dated March 1983
539          KM   Routing length increased 100' from 1500' to 1600'    12/12/00
540          KM   CHANNEL GEOMETRY FOR SIGNAL BUTTE FRS OBTAINED FROM AS-BUILT PLANS.
541          KM   ROUTE FLOW FROM SIGNAL BUTTE FRS TO SUB-BASIN 260
542          RS       3    FLOW      -1
543          RC    .035    .025    .035    1600    .003
544          RX       0       1       2    22.6    38.6    59.2      60      61
545          RY     9.3     9.3     9.3       0       0     9.3     9.3     9.3
             * DDM   ***** Updated *****

546          KK     260
547          KM   SUB-BASIN 260
548          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
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549          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .998
550          KM     L =  .85  Kb = .049  Adj. Slope =   65.0
551          BA    .262
552          LG    .300     .190   6.600     .170  15.000
553          UC    .379     .238
554          UA       0        5      16       30       65       77       84       90       94       97
555          UA     100
             * DDM   ***** Preserved *****

556          KK    C260
557          KM   HYDROGRAPH COMBINATION FOR OUTFLOW OF SIGNAL BUTTE FRS & SUB-BASIN 260
558          HC       2     .262
             * DDM   ***** Preserved *****

559          KK    R260
560          KM   Routing length updated using Signal Butte Floodway plans dated March 1983
561          KM   Routing length unchanged     12/12/00
562          KM   CHANNEL GEOMETRY FOR SIGNAL BUTTE FRS OBTAINED FROM AS-BUILT PLANS.
563          KM   ROUTE FLOW FROM SUB-BASIN 260 TO SUB-BASIN 280
564          RS       3    FLOW      -1
565          RC    .035     .025    .035    2300     .003
566          RX       0        1       2    23.4     43.4     64.8       65       66
567          RY     9.7      9.7     9.7       0        0      9.7      9.7      9.7
             * DDM   ***** Updated *****
1                                          HEC-1 INPUT                                                    PAGE 15

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

568          KK     280
569          KM   SUB-BASIN 280
570          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
571          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .998
572          KM     L =  .82  Kb = .048  Adj. Slope =   79.0
573          BA    .319
574          LG    .300     .250   5.300     .290  15.000
575          UC    .350     .189
576          UA       0        5      16       30       65       77       84       90       94       97
577          UA     100
             * DDM   ***** Preserved *****

578          KK    C280
579          KM   HYDROGRAPH COMBINATION FOR SUB-BASIN 260 & SUB-BASIN 280
580          HC       2
             * DDM   ***** Preserved *****

581          KK    R280
582          KM   Routing length updated using Signal Butte Floodway plans dated March 1983
583          KM   Routing length decreased 400' from 2500' to 2100'    12/12/00
584          KM   CHANNEL GEOMETRY FOR SIGNAL BUTTE FRS OBTAINED FROM AS-BUILT PLANS.
585          KM   ROUTE FLOW FROM SUB-BASIN 280 TO SUB-BASIN 300
586          RS       3    FLOW      -1
587          RC    .035     .025    .035    2100     .003
588          RX       0        1       2    23.4     43.4     64.8       65       66
589          RY     9.7      9.7     9.7       0        0      9.7      9.7      9.7
             *
             * DDM   ***** Updated *****

590          KK     300
591          KM   SUB-BASIN 300
592          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
593          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .998
594          KM     L =  .82  Kb = .049  Adj. Slope =   98.0
595          BA    .289
596          LG    .320     .290   4.200     .480  11.000
597          UC    .346     .197
598          UA       0        5      16       30       65       77       84       90       94       97
599          UA     100
             * DDM   ***** Preserved *****

600          KK    C300
601          KM   HYDROGRAPH COMBINATION OF DIVERTED FLOW
602          HC       2
             * DDM   ***** Preserved *****

603          KK    R300
604          KM   Routing length updated using Signal Butte Floodway plans dated March 1983
605          KM   Routing length increased 300' from 2200' to 2500'    12/12/00
606          KM   CHANNEL GEOMETRY FOR SIGNAL BUTTE FRS OBTAINED FROM AS-BUILT PLANS.
607          KM   ROUTE FLOW FROM SUB-BASIN 300 TO START OF FLOODWAY CONCRETE CHANNEL
608          RS       2    FLOW      -1
609          RC    .035     .025    .035    2500     .003
610          RX       0        1       2    23.4     55.4     76.8       77       78
1                                          HEC-1 INPUT                                                    PAGE 16

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

611          RY     9.7      9.7     9.7       0        0      9.7      9.7      9.7
             * DDM   ***** Updated *****

612          KK    305A
613          KM   SUB-BASIN 305A
614          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
615          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .998
616          KM     L = 1.20  Kb = .047  Adj. Slope =   92.0
617          BA    .372
618          LG    .340     .330   4.500     .370  11.000
619          UC    .433     .297
620          UA       0        5      16       30       65       77       84       90       94       97
621          UA     100
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            * DDM   ***** Preserved *****

622         KK   C305A
623         KM   HYDROGRAPH COMBINATION OF SUB-BASIN 280 & 300 & 305A
624         HC       2
            * DDM   ***** Preserved *****

625         KK   R305A
626         KM   Routing length updated using Signal Butte Floodway plans dated March 1983
627         KM   Routing length decreased 50' from 6050' to 6000'    12/12/00
628         KM   CHANNEL GEOMETRY FOR SPOOK HILL FRS OBTAINED FROM AS-BUILTS PLANS.
629         KM   CONTINUE TO ROUTE FLOW WITHIN CONCRETE CHANNEL TO SPOOK HILL FRS
630         RS       2    FLOW      -1
631         RC    .016    .016    .016    6000   .0146
632         RX       0       1       2     2.1    16.1    16.2      17      18
633         RY     7.5     7.5     7.5       0       0     7.5     7.5     7.5
            *        1       2
            * DDM   ***** Updated *****

634         KK     320
635         KM   SUB-BASIN 320
636         KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
637         KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .995
638         KM     L = 2.04  Kb = .042  Adj. Slope =  118.0
639         BA    .865
640         LG    .310    .290   4.500    .380  15.000
641         UC    .508    .335
642         UA       0       5      16      30      65      77      84      90      94      97
643         UA     100
            * DDM   ***** Preserved *****

644         KK    D320
645         KM        DIVERT FLOW INTO ONLINE  DETENTION BASIN
646         KM   DETENTION/RETENTION BASINS LOCATED WITHIN THREE SUBDIVISIONS
647         KM   SIERRA HEIGHTS        FALCON RIDGE    & MARBLE CREEK
648         KM        MAXIMUM VOLUME DIVERSION = 12.27acre-feet
            *        1
649         DT   BS320   12.27
650         DI       0   10000
651         DQ       0   10000
            * DDM   ***** Preserved *****
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LINE        ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

652         KK   RT320
653         KM   RETRIEVE FLOW FROM DIVERSION INTO ONLINE BASIN
654         DR   BS320
            * DDM   ***** Preserved *****

655         KK    S320
656         KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
657         KM   12.27 ACRE-FEETx43560/36x3600=4.1cfs
            *        1
658         RS       1    STOR       0
659         SV       0     .01    12.3
660         SQ       0     3.0     4.2
            * DDM   ***** Preserved *****

661         KK    C320
662         KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
663         HC       3
            * ADD ROUTING ALONG SPOOK HILL FRS
            * DDM   ***** Preserved *****
            * KK  R320
            * KM ROUTE FLOW THROUGH SPOOK HILL FRS FROM JUNCTION OF BROWN & ELLSWORTH ROAD
            * KM TO JUST NORTH OF JUNCTION OF MCDOWELL & POWER RD.
            * RS     9    FLOW      -1
            * RC  .035    .035    .035    4500   .0007
            * RX     0       9      50      68     198     206     267     275
            * RY   100      97      97      91      91      97      97     100
            *
            * DDM   ***** Updated *****

664         KK    340B
665         KM   SUB-BASIN 340B
666         KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
667         KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .998
668         KM     L =  .85  Kb = .049  Adj. Slope =  238.5
669         BA    .290
670         LG    .320    .280   4.000    .520  13.000
671         UC    .246    .139
672         UA       0       5      16      30      65      77      84      90      94      97
673         UA     100
            *
            * DDM   ***** Preserved *****

674         KK   D340B
675         KM        DIVERT FLOW INTO ONLINE  DETENTION BASIN
676         KM   DETENTION/RETENTION BASINS LOCATED WITHIN THREE SUBDIVISIONS
677         KM   GRANDVIEW ESTATES    BOULDER MOUNTAIN & 33% OF MESA HIGHLANDS
678         KM        MAXIMUM VOLUME DIVERSION = 11.0 acre-feet
            *        1
679         DT  BS340B      11
680         DI       0   10000
681         DQ       0   10000
            * DDM   ***** Preserved *****
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 682          KK  RT340B
 683          KM   RETRIEVE FLOW FROM DIVERSION INTO ONLINE BASIN
 684          DR  BS340B
              * DDM   ***** Preserved *****

 685          KK   S340B
 686          KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
 687          KM    11.0 ACRE-FEETx43560/36x3600= 3.7cfs
              *      1
 688          RS       1    STOR       0
 689          SV       0     .01      11      15
 690          SQ       0     2.0     3.7     4.0
              * DDM   ***** Preserved *****

 691          KK   C340B
 692          KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
              * KO     1
 693          HC       2
              *
              * DDM   ***** Preserved *****

 694          KK  DD340B
 695          KM   DIVERT FLOW INTO OFFLINE DETENTION BASIN LOCATED WITHIN SUB-BASINS 340B.
              * KO     1
 696          DT   BS340
 697          DI       0      18    5000
 698          DQ       0       0    4982
              * DDM   ***** Preserved *****

 699          KK   RT340
 700          KM   RETRIEVE FLOW FROM DIVERSION
 701          DR   BS340
              * DDM   ***** Preserved *****

 702          KK  SS340B
 703          KM   RETRIEVE FLOW INTO OFFLINE BASIN AND BLEED OFF WITHIN 36 HOURS.
 704          KM       6 ACRE-FEETx43560/36x3600 = 2 cfs
 705          RS       1    STOR       0
 706          SV       0     .01       6       8
 707          SQ       0     1.5       2       4
              * DDM   ***** Preserved *****

 708          KK  CC340B
 709          KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
 710          HC       2
              * DDM   ***** Preserved *****

 711          KK   R340B
 712          KM   CHANNEL GEOMETRY OBTAINED FROM 2' CONTOUR MAPPING.
 713          KM   ROUTING OF FLOW FROM SUB-BASINS 370 AND 395 TO SUB-BASIN 380.
 714          RS       4    FLOW      -1
 715          RC    .045    .035    .045    2600    .023
 716          RX       0       1      40      46      56      62     102     103
 717          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

 718          KK    340A
 719          KM   SUB-BASIN 340A
 720          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
 721          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .993
 722          KM     L = 1.80  Kb = .044  Adj. Slope =  117.0
 723          BA   1.150
 724          LG    .260    .280   4.200    .510  23.000
 725          UC    .492    .249
 726          UA       0       5      16      30      65      77      84      90      94      97
 727          UA     100
              *
              * DDM   ***** Preserved *****

 728          KK   D340A
 729          KM        DIVERT FLOW INTO ONLINE  DETENTION BASIN
 730          KM   DETENTION/RETENTION BASINS LOCATED WITHIN THREE SUBDIVISIONS
 731          KM   GRANDVIEW ESTATES    BOULDER MOUNTAIN & 33% OF MESA HIGHLANDS
 732          KM        MAXIMUM VOLUME DIVERSION = 45.0 acre-feet
              * KO     1
 733          DT  BS340A      45
 734          DI       0   10000
 735          DQ       0   10000
              * DDM   ***** Preserved *****

 736          KK  RT340A
 737          KM   RETRIEVE FLOW FROM DIVERSION INTO ONLINE BASIN
 738          DR  BS340A
              * DDM   ***** Preserved *****

 739          KK   S340A
 740          KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
 741          KM    45.0 ACRE-FEETx43560/36x3600=15.2cfs
              *      1
 742          RS       1    STOR       0
 743          SV       0     .01      45      50
 744          SQ       0     3.0    15.2      16
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                *
                * DDM   ***** Preserved *****

 745            KK   C340A
 746            KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
 747            HC       3
                *
                * DDM   ***** Preserved *****

 748            KK    C340
 749            KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
 750            HC       2
                *
                * ADD ROUTING ALONG SPOOK HILL FRS
                * DDM   ***** Preserved *****
                * KK  R340
                * KM ROUTE FLOW THROUGH SPOOK HILL FRS FROM JUNCTION OF BROWN & ELLSWORTH ROAD
                * KM TO JUST NORTH OF JUNCTION OF MCDOWELL & POWER RD.
                * RS      5    FLOW      -1
                * RC  .035    .035    .035    2300   .0007
                * RX      0       9      50      68     233     241     307     315
                * RY    100      97      97      91      91      97      97     100
                *       0       9      50      68     308     326     367     376
                *     100      97      97      91      91      97      97     100
                * DDM   ***** Updated *****
1                                          HEC-1 INPUT                                                    PAGE 20

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

 751            KK    355A
 752            KM   SUB-BASIN 355A
 753            KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
 754            KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .999
 755            KM     L =  .80  Kb = .052  Adj. Slope =  125.0
 756            BA    .163
 757            LG    .320    .290   4.550    .360  14.000
 758            UC    .308    .236
 759            UA       0       5      16      30      65      77      84      90      94      97
 760            UA     100
                * DDM   ***** Preserved *****

 761            KK   R355A
 762            KM   CHANNEL GEOMETRY OBTAINED FROM 2' CONTOUR MAPPING.
 763            KM   ROUTING OF FLOW FROM SUB-BASIN 355A TO SUB-BASIN 360
 764            RS       9    FLOW      -1
 765            RC    .045    .035    .045   10100    .026
 766            RX       0       1      40      46      56      62     102     103
 767            RY       3       2       2       0       0       2       2       3
                * DDM   ***** Updated *****

 768            KK     360
 769            KM   SUB-BASIN 360
 770            KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
 771            KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .995
 772            KM     L = 2.10  Kb = .046  Adj. Slope =  124.0
 773            BA    .880
 774            LG    .280    .290   4.100    .520  15.000
 775            UC    .571    .387
 776            UA       0       5      16      30      65      77      84      90      94      97
 777            UA     100
                * DDM   ***** Preserved *****

 778            KK    D360
 779            KM        DIVERT FLOW INTO ONLINE  DETENTION BASIN
 780            KM   DETENTION/RETENTION BASINS LOCATED WITHIN 33% OF MESA HIGHLANDS
 781            KM        MAXIMUM VOLUME DIVERSION = 28.6 acre-feet
                *      1
 782            DT   BS360    28.6
 783            DI       0   10000
 784            DQ       0   10000
                * DDM   ***** Preserved *****

 785            KK   RT360
 786            KM   RETRIEVE FLOW FROM DIVERSION INTO ONLINE BASIN
 787            DR   BS360
                * DDM   ***** Preserved *****

 788            KK    S360
 789            KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
 790            KM    28.6 ACRE-FEETx43560/36x3600=9.6cfs
 791            RS       1    STOR       0
 792            SV       0     .01    28.6
 793            SQ       0     3.0     9.6
                * DDM   ***** Preserved *****
1                                          HEC-1 INPUT                                                    PAGE 21

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

 794            KK    C360
 795            KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
 796            HC       4
                * ADD ROUTING ALONG SPOOK HILL FRS
                * DDM   ***** Preserved *****
                * KK  R360
                * KM ROUTE FLOW THROUGH SPOOK HILL FRS FROM JUNCTION OF BROWN & ELLSWORTH ROAD
                * KM TO JUST NORTH OF JUNCTION OF MCDOWELL & POWER RD.
                * RS      6    FLOW      -1
                * RC  .035    .035    .035    2600   .0007
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            * RX      0       9      50      68     268     286     337     345
            * RY    100      97      97      91      91      97      97     100
            *       0       9      50      68     308     326     367     376
            *     100      97      97      91      91      97      97     100
            *
            * DDM   ***** Updated *****

797         KK    380A
798         KM   SUB-BASIN 380A
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  .998
801         KM     L =  .66  Kb = .076  Adj. Slope =   91.0
802         BA    .261
803         LG    .170    .250   4.100    .710  21.000
804         UC    .425    .221
805         UA       0       3       5       8      12      20      43      75      90      96
806         UA     100
            *
            * DDM   ***** Preserved *****

807         KK   C380A
808         KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
809         HC       2
            *
            * DDM   ***** Updated *****

810         KK    400A
811         KM   SUB-BASIN 400A
812         KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
813         KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF 1.000
814         KM     L =  .28  Kb = .094  Adj. Slope =   71.0
815         BA    .048
816         LG    .250    .290   4.000    .640    .000
817         UC    .317    .211
818         UA       0       3       5       8      12      20      43      75      90      96
819         UA     100
            *
            * DDM   ***** Preserved *****
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LINE        ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

820         KK   C400A
821         KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
822         HC       2
            *
            * DDM   ***** Updated *****

823         KK    380B
824         KM   SUB-BASIN 380B
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  .996
827         KM     L = 1.80  Kb = .044  Adj. Slope =  122.0
828         BA    .637
829         LG    .340    .330   4.200    .440   4.000
830         UC    .504    .358
831         UA       0       5      16      30      65      77      84      90      94      97
832         UA     100
            *
            * DDM   ***** Preserved *****

833         KK   D380B
834         KM        DIVERT FLOW INTO ONLINE  DETENTION BASIN
835         KM   DETENTION/RETENTION BASINS LOCATED WITHIN 33% OF MESA HIGHLANDS
836         KM        MAXIMUM VOLUME DIVERSION = 28.6 acre-feet
            *      1
837         DT  BS380B    28.6
838         DI       0   10000
839         DQ       0   10000
            * DDM   ***** Preserved *****

840         KK  RT380B
841         KM   RETRIEVE FLOW FROM DIVERSION INTO ONLINE BASIN
842         DR  BS380B
            * DDM   ***** Preserved *****

843         KK   S380B
844         KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
845         KM    28.6 ACRE-FEETx43560/36x3600=9.6cfs
846         RS       1    STOR       0
847         SV       0     .01    28.6
848         SQ       0     3.0     9.6
            * DDM   ***** Preserved *****

849         KK   C380B
850         KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
            * KO     1
851         HC       2
            *
            * DDM   ***** Preserved *****
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LINE        ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

852         KK  DD380B
853         KM   DIVERT FLOW INTO OFFLINE DETENTION BASIN LOCATED WITHIN SUB-BASINS 380B.
            * KO     1
854         DT   BS380
```

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855          DI        0       86    5000
856          DQ        0        0    4914
             * DDM   ***** Preserved *****

857          KK   RT380
858          KM   RETRIEVE FLOW FROM DIVERSION
859          DR   BS380
             * DDM   ***** Preserved *****

860          KK  SS380B
861          KM   RETRIEVE FLOW INTO OFFLINE BASIN AND BLEED OFF WITHIN 36 HOURS.
862          KM      44 ACRE-FEETx43560/36x3600 = 15cfs
863          RS       1    STOR       0
864          SV       0     .01      44      50
865          SQ       0       4      15      20
             * DDM   ***** Preserved *****

866          KK  CC380B
867          KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
868          HC       2
             * DDM   ***** Preserved *****

869          KK   R380B
870          KM   CHANNEL GEOMETRY OBTAINED FROM 2' CONTOUR MAPPING.
871          KM   ROUTING OF FLOW FROM SUB-BASINS 370 AND 395 TO SUB-BASIN 380.
872          RS       4    FLOW      -1
873          RC    .045    .035    .045    2600    .023
874          RX       0       1      40      46      56      62     102     103
875          RY       3       2       2       0       0       2       2       3
             *
             *
             * DDM   ***** Updated *****

876          KK    400B
877          KM   SUB-BASIN 400B
878          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
879          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .997
880          KM     L = 1.64  Kb = .045  Adj. Slope =  110.0
881          BA    .568
882          LG    .330    .300   4.150    .480   7.000
883          UC    .500    .352
884          UA       0       5      16      30      65      77      84      90      94      97
885          UA     100
             *
             * DDM   ***** Preserved *****
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LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

886          KK   D400B
887          KM        DIVERT FLOW INTO ONLINE  DETENTION BASIN
888          KM   DETENTION/RETENTION BASIN LOCATED WITHIN SAGUARO VISTA SUBDIVISION
889          KM        MAXIMUM VOLUME DIVERSION = 5.6 ACRE-FEET
             *     1
890          DT  BS400B     5.6
891          DI       0   10000
892          DQ       0   10000
             * DDM   ***** Preserved *****

893          KK  RT400B
894          KM   RETRIEVE FLOW FROM DIVERSION INTO ONLINE BASIN
895          DR  BS400B
             * DDM   ***** Preserved *****

896          KK   S400B
897          KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
898          KM     5.6 ACRE-FEETx43560/36x3600 = 2 cfs
899          RS       1    STOR       0
900          SV       0     .01     5.6
901          SQ       0       1       2
             * DDM   ***** Preserved *****

902          KK   C400B
903          KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
904          HC       2
             * DDM   ***** Preserved *****

905          KK  CC400B
906          KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
907          HC       3
             *
             * DDM   ***** Updated *****

908          KK    420A
909          KM   SUB-BASIN 420A
910          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
911          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .995
912          KM     L = 1.91  Kb = .045  Adj. Slope =  120.0
913          BA    .570
914          LG    .320    .280   4.350    .440  10.000
915          UC    .521    .415
916          UA       0       5      16      30      65      77      84      90      94      97
917          UA     100
             * DDM   ***** Preserved *****

918          KK   D420A
919          KM        DIVERT FLOW INTO ONLINE  DETENTION BASIN
920          KM   DETENTION/RETENTION BASINS LOCATED WITHIN GRAY FOX SUBDIVISION
921          KM        MAXIMUM VOLUME DIVERSION = 8.65 acre-feet
```

```
                 *      1
922              DT  BS420A    8.65
923              DI       0   10000
924              DQ       0   10000
                 * DDM   ***** Preserved *****
                                          HEC-1 INPUT                                                          PAGE 25

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


925              KK  RT420A
926              KM   RETRIEVE FLOW FROM DIVERSION INTO ONLINE BASIN
927              DR  BS420A
                 * DDM   ***** Preserved *****

928              KK   S420A
929              KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
930              KM   38.55 ACRE-FEETx43560/36x3600=13cfs
931              RS       1    STOR       0
932              SV       0     .01   38.55
933              SQ       0      13      13
                 * DDM   ***** Preserved *****

934              KK   C420A
935              KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
936              HC       3
                 *

937              KK    370A
938              KM   SUB-BASIN 370A
939              KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
940              KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .998
941              KM     L = 1.04  Kb = .047  Adj. Slope =  163.0
942              BA    .408
943              LG    .330    .300   4.650    .350  11.000
944              UC    .308    .172
945              UA       0       5      16      30      65      77      84      90      94      97
946              UA     100
                 * DDM   ***** Updated *****

947              KK    395A
948              KM   SUB-BASIN 395A
949              KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
950              KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .999
951              KM     L = 1.14  Kb = .052  Adj. Slope =  165.0
952              BA    .182
953              LG    .330    .320   5.000    .290  10.000
954              UC    .346    .334
955              UA       0       5      16      30      65      77      84      90      94      97
956              UA     100
                 * DDM   ***** Preserved *****

957              KK   C370A
958              KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
959              HC       2
                 *
                 * DDM   ***** Preserved *****

960              KK    D370
961              KM   DIVERT FLOW INTO OFFLINE DETENTION BASIN LOCATED WITHIN SUB-BASINS
962              KM   370 AND 395.
                 * KO      1
963              DT   BS370
964              DI       0     140    5000
1                                         HEC-1 INPUT                                                          PAGE 26

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

965              DQ       0       0    4860
                 * DDM   ***** Preserved *****

966              KK   RT370
967              KM   RETRIEVE FLOW FROM DIVERSION
968              DR   BS370
                 * DDM   ***** Preserved *****

969              KK    S370
970              KM   RETRIEVE FLOW INTO OFFLINE BASIN AND BLEED OFF WITHIN 36 HOURS.
971              KM      30 ACRE-FEETx43560/36x3600 = 10cfs
972              RS       1    STOR       0
973              SV       0     .01      34      40
974              SQ       0       4      10      12
                 * DDM   ***** Preserved *****

975              KK   CC370
976              KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
977              HC       2
                 * DDM   ***** Preserved *****

978              KK    R370
979              KM   CHANNEL GEOMETRY OBTAINED FROM 2' CONTOUR MAPPING.
980              KM   ROUTING OF FLOW FROM SUB-BASINS 370 AND 395 TO SUB-BASIN 380.
981              RS       4    FLOW      -1
982              RC    .045    .035    .045    2600    .023
983              RX       0       1      40      46      56      62     102     103
984              RY       3       2       2       0       0       2       2       3
                 *
                 * DDM   ***** Updated *****

985              KK    385A
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 986          KM   SUB-BASIN 385A
 987          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
 988          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .999
 989          KM     L =  .90  Kb = .051  Adj. Slope =  309.5
 990          BA    .213
 991          LG    .340    .320   4.900    .300   9.000
 992          UC    .233    .163
 993          UA       0       5      16      30      65      77      84      90      94      97
 994          UA     100
              *
              * DDM   ***** Updated *****

 995          KK    415B
 996          KM   SUB-BASIN 415B
 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  .998
 999          KM     L = 1.59  Kb = .048  Adj. Slope =  315.0
1000          BA    .329
1001          LG    .340    .340   5.300    .240  14.000
1002          UC    .308    .274
1003          UA       0       5      16      30      65      77      84      90      94      97
1004          UA     100
              * DDM   ***** Preserved *****
1                                          HEC-1 INPUT                                          PAGE 27

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

1005          KK   C415B
1006          KM   HYDROGRAPH COMBINATION OF 415 DIVERSION.
1007          HC       2
              * DDM   ***** Preserved *****

1008          KK   D415B
1009          KM   DIVERT FLOW INTO OFFLINE DETENTION BASIN
1010          KM   MAXIMUM STORAGE VOLUME FOR DIVERSION = 32 AC-FT @ 5' DEPTH.
              *      1
1011          DT  BS415B
1012          DI       0     190    5000
1013          DQ       0       0    4810
              * DDM   ***** Preserved *****

1014          KK  RT415B
1015          KM   RETRIEVE FLOW FROM DIVERSION INTO OFFLINE BASIN
1016          DR  BS415B
              * DDM   ***** Preserved *****

1017          KK   S415B
1018          KM   RETRIEVE FLOW INTO OFFLINE BASIN AND BLEED OFF WITHIN 36 HOURS.
1019          KM      32 ACRE-FEETx43560/36x3600 = 10cfs
1020          RS       1    STOR       0
1021          SV       0     .01      34      40
1022          SQ       0       5      10      12
              * DDM   ***** Preserved *****

1023          KK  CC415B
1024          KM   HYDROGRAPH COMBINATION OF 415 DIVERSION.
1025          HC       2
              * DDM   ***** Preserved *****

1026          KK   R415B
1027          KM   CHANNEL GEOMETRY OBTAINED FROM 2' CONTOUR MAPPING.
1028          KM   ROUTING OF FLOW FROM 415C TO 415B
1029          RS       4    FLOW      -1
1030          RC    .045     .03    .045    2590    .024
1031          RX       0       1      40      46      56      62     102     103
1032          RY       3       2       2       0       0       2       2       3
              * DDM   ***** Updated *****

1033          KK     390
1034          KM   SUB-BASIN 390
1035          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1036          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .999
1037          KM     L =  .70  Kb = .050  Adj. Slope =  299.4
1038          BA    .244
1039          LG    .300    .250   4.700    .380  18.000
1040          UC    .204    .107
1041          UA       0       5      16      30      65      77      84      90      94      97
1042          UA     100
              * DDM   ***** Preserved *****
1                                          HEC-1 INPUT                                          PAGE 28

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

1043          KK    D390
1044          KM        DIVERT FLOW INTO ONLINE  DETENTION BASIN
1045          KM   DETENTION/RETENTION BASINS LOCATED WITHIN THUNDER MOUNTAIN ESTATES
1046          KM        MAXIMUM VOLUME DIVERSION  = 3.5 acre-feet
              *      1
1047          DT   BS390     3.5
1048          DI       0   10000
1049          DQ       0   10000
              * DDM   ***** Preserved *****

1050          KK   RT390
1051          KM   RETRIEVE FLOW FROM DIVERSION INTO ONLINE BASIN
1052          DR   BS390
              * DDM   ***** Preserved *****
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1053          KK    S390
1054          KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
1055          KM     3.5 ACRE-FEETx43560/36x3600=1.2cfs
1056          RS       1    STOR       0
1057          SV       0     .01     3.5
1058          SQ       0     0.5     1.2
              * DDM   ***** Preserved *****

1059          KK    C390
1060          KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
1061          HC       4
              * DDM   ***** Preserved *****

1062          KK    R390
1063          KM   CHANNEL GEOMETRY OBTAINED FROM 2' CONTOUR MAPPING.
1064          KM   FROM SUB-BASIN 390 TO SUB-BASIN 420B
1065          RS       7    FLOW      -1
1066          RC    .045    .045    .045    5500    .020
1067          RX       0       1      40      46      56      62     102     103
1068          RY       3       2       2       0       0       2       2       3
              * DDM   ***** Updated *****

1069          KK    420B
1070          KM   SUB-BASIN 420B
1071          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1072          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .998
1073          KM     L = 1.00  Kb = .049  Adj. Slope =  150.0
1074          BA    .279
1075          LG    .300    .250   3.910    .590  15.000
1076          UC    .333    .226
1077          UA       0       5      16      30      65      77      84      90      94      97
1078          UA     100
              * DDM   ***** Preserved *****
1                                        HEC-1 INPUT                                          PAGE 29

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


1079          KK   C420B
1080          KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
1081          HC       2
              *
              * DDM   ***** Updated *****

1082          KK     440
1083          KM   SUB-BASIN 440
1084          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1085          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF 1.000
1086          KM     L =  .40  Kb = .039  Adj. Slope =  315.0
1087          BA    .080
1088          LG    .190    .380   6.400    .140  13.000
1089          UC    .129    .077
1090          UA       0       3       5       8      12      20      43      75      90      96
1091          UA     100
              * DDM   ***** Preserved *****

1092          KK     R70
1093          KM   ROUTE FLOW FROM SUB-BASIN 440 TO C108
1094          RS       2    FLOW      -1
1095          RC     .05    .035     .05    2250     .08
1096          RX    1000    1025    1050    1070    1075    1095    1120    1145
1097          RY      30    22.9    15.7      10      10    15.7    22.9      30
              * DDM   ***** Updated *****

1098          KK     441
1099          KM   SUB-BASIN 441
1100          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1101          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF 1.000
1102          KM     L =  .28  Kb = .069  Adj. Slope =  315.0
1103          BA    .010
1104          LG    .300    .250   5.600    .220   5.000
1105          UC    .150    .225
1106          UA       0       5      16      30      65      77      84      90      94      97
1107          UA     100
              * DDM   ***** Preserved *****

1108          KK    C108
1109          KM   COMBINE HYDROGRAPHS FROM SUB-BASINS 440 & 441
1110          HC       2
              * DDM   ***** Preserved *****

1111          KK      D4
1112          KM        SPLIT FLOW WITH TWO 42 INCH PIPES TO WEST AND SOUTH
              *      1
1113          DT   SPLIT
1114          DI       0      14      40      82     120     154     180
1115          DQ       0       7      20      41      60      77      90
              * DDM   ***** Preserved *****
1                                        HEC-1 INPUT                                          PAGE 30

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


1116          KK    R108
1117          KM        ROUTE FLOW FROM SUB-BASIN C108 TO C67
1118          RS       2    FLOW      -1
1119          RC     .05    .035     .05    3200      .1
1120          RX    1000    1025    1050    1070    1075    1095    1120    1145
1121          RY      30    22.9    15.7      10      10    15.7    22.9      30
              * DDM   ***** Updated *****
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1122          KK     442
1123          KM   SUB-BASIN 442
1124          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1125          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .999
1126          KM     L =  .83  Kb = .055  Adj. Slope =  274.2
1127          BA    .100
1128          LG    .300    .270   3.290    .770   5.000
1129          UC    .258    .264
1130          UA       0       5      16      30      65      77      84      90      94      97
1131          UA     100
              * DDM   ***** Preserved *****

1132          KK     C67
1133          KM   COMBINE FLOW FROM SUB-BASIN 442 & DIV4
1134          HC       2
              * DDM   ***** Preserved *****

1135          KK      D6
1136          KM        OFFLINE BASIN WITH 25 FOOT WEIR SET AT 2.5 FEET ABOVE BOTTOM OF CHANNEL
1137          KM        FLOW CONTINUES BEYOND BASIN THROUGH 2-30" PIPES
              *      1
1138          DT  BASIN4     3.3
1139          DI       0      10      32      44    79.9   132.5     198   272.9   356.8
1140          DQ       0       0       0       0    23.9    67.5     124   190.9   266.8
              * DDM   ***** Preserved *****

1141          KK    RTD6
1142          KM   RETRIEVE FLOW FROM DIVERSION INTO OFFLINE BASIN
1143          DR  BASIN4
              * DDM   ***** Preserved *****

1144          KK     SD6
1145          KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
1146          KM     3.3 ACRE-FEETx43560/36x3600=1.1cfs
              *      1
1147          RS       1    STOR       0
1148          SV       0     .01     3.3
1149          SQ       0     0.2     1.1
              * DDM   ***** Preserved *****

1150          KK     CD6
1151          KM   HYDROGRAPH COMBINATION FOR OFFLINE BASIN BLEEDOFF
1152          HC       2
              * DDM   ***** Updated *****
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1153          KK     443
1154          KM   SUB-BASIN 443
1155          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1156          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF 1.000
1157          KM     L =  .71  Kb = .050  Adj. Slope =  315.0
1158          BA    .080
1159          LG    .250    .190   8.000    .080  10.000
1160          UC    .196    .194
1161          UA       0       5      16      30      65      77      84      90      94      97
1162          UA     100
              * DDM   ***** Preserved *****

1163          KK     D66
1164          KM        DIVERT FLOW INTO 3 NATURAL WASHES WITH ONE 24" PIPE IN EACH WASH.
1165          KM        EACH PIPE CAPACITY BASED ON 4 FEET OF HEAD
1166          DT   WSH66
1167          DI       0      78     100     200
1168          DQ       0      78      78      78
              * DDM   ***** Preserved *****

1169          KK    R113
1170          KM        ROUTE FLOW FROM C113 TO C114
1171          RS       1    FLOW      -1
1172          RC    .019    .019    .019    1300    .029
1173          RX    1000    1004    1008    1012    1018    1022    1026    1030
1174          RY      17   15.33   12.67      10      10   12.67   15.33      17
              * DDM   ***** Preserved *****

1175          KK    C114
1176          KM        COMBINE HYDROGRAPHS FROM SUB-BASIN 67 AND C113
1177          HC       2
              * DDM   ***** Updated *****

1178          KK     444
1179          KM   SUB-BASIN 444
1180          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1181          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF 1.000
1182          KM     L =  .33  Kb = .034  Adj. Slope =  315.0
1183          BA    .040
1184          LG    .130    .350   4.450    .320   1.000
1185          UC    .112    .084
1186          UA       0       3       5       8      12      20      43      75      90      96
1187          UA     100
              * DDM   ***** Preserved *****

1188          KK     R58
1189          KM   ROUTE FLOW FROM SUB-BASIN 444 TO C107
1190          RS       2    FLOW      -1
1191          RC     .05    .035     .05    2370   .0516
1192          RX    1000    1010    1020    1050    1055    1085    1095    1105
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1193          RY      19      18      17      10      10      17      18      19
              * DDM   ***** Updated *****
1                                          HEC-1 INPUT                                                    PAGE 32

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

1194          KK     445
1195          KM   SUB-BASIN 445
1196          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1197          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .999
1198          KM     L =  .82  Kb = .036  Adj. Slope =  315.0
1199          BA    .190
1200          LG    .170    .320   3.470    .590   3.000
1201          UC    .192    .130
1202          UA       0       5      16      30      65      77      84      90      94      97
1203          UA     100
              * DDM   ***** Preserved *****

1204          KK    C107
1205          KM   COMBINE HYDROGRAPHS FROM SUB-BASINS 444 & 445
1206          HC       2
              * DDM   ***** Preserved *****

1207          KK    R107
1208          KM        ROUTE FLOW FROM C107 TO C109
1209          RS       2    FLOW      -1
1210          RC     .05    .035     .05     700   .0516
1211          RX    1000    1010    1020    1050    1055    1085    1095    1105
1212          RY      19      18      17      10      10      17      18      19
              * DDM   ***** Preserved *****

1213          KK    RTB2
1214          KM        RETRIEVE DIVERTED FLOW FROM BASIN 1
              *      1
1215          DR   SPLIT
              * DDM   ***** Preserved *****

1216          KK  RSPLIT
1217          KM        ROUTE FLOW FROM SPLIT TO C109
1218          RS       1    FLOW      -1
1219          RC     .05    .035     .05     800     .05
1220          RX    1000    1025    1050    1070    1075    1095    1120    1145
1221          RY      30    22.9    15.7      10      10    15.7    22.9      30
              * DDM   ***** Updated *****

1222          KK     446
1223          KM   SUB-BASIN 446
1224          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1225          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF 1.000
1226          KM     L =  .46  Kb = .061  Adj. Slope =  303.9
1227          BA    .040
1228          LG    .270    .250   4.500    .400  19.000
1229          UC    .183    .189
1230          UA       0       5      16      30      65      77      84      90      94      97
1231          UA     100
              * DDM   ***** Preserved *****
1                                          HEC-1 INPUT                                                    PAGE 33

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

1232          KK    C109
1233          KM        COMBINE HYDROGRAPHS FROM COMBINES C107 AND C108
1234          HC       3
              * DDM   ***** Preserved *****

1235          KK      D5
1236          KM        DIVERT FLOW INTO WASHES TOWARDS WEST
1237          KM        DIVERSION THROUGH 36" PIPE WITH 3 FEET OF HEAD
              *      1
1238          DT  WSH404
1239          DI       0    40.7    71.2   121.6     190     276   379.4   500.6
1240          DQ       0      35      35      35      35      35      35      35
              * DDM   ***** Preserved *****

1241          KK    R109
1242          KM        ROUTE FLOW FROM C109 TO C110
1243          RS       1    FLOW      -1
1244          RC    .019    .019    .019    3080     .05
1245          RX    1000    1005    1010    1015    1025    1030    1035    1040
1246          RY   13.75    12.5   11.25      10      10   11.25    12.5   13.75
              * DDM   ***** Updated *****

1247          KK     447
1248          KM   SUB-BASIN 447
1249          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1250          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .999
1251          KM     L =  .49  Kb = .056  Adj. Slope =  221.0
1252          BA    .090
1253          LG    .250    .270   3.350    .870  30.000
1254          UC    .208    .145
1255          UA       0       5      16      30      65      77      84      90      94      97
1256          UA     100
              * DDM   ***** Preserved *****

1257          KK   RT404
1258          KM        RETRIEVE DIVERTED FLOW FOR WASH 109
1259          DR  WSH404
              * DDM   ***** Preserved *****
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1260          KK    R404
1261          KM        ROUTE FLOW FROM C110 TO C110
1262          RS       6    FLOW      -1
1263          RC    .019    .019    .019    3540     .03
1264          RX    1000    1012    1016    1020    1025    1029    1033    1045
1265          RY      15      12      11      10      10      11      12      15
              * DDM   ***** Preserved *****

1266          KK    C110
1267          KM   COMBINE HYDROGRAPHS FROM SUB-BASIN 447 AND R404
1268          HC       3
              * DDM   ***** Preserved *****
1                                        HEC-1 INPUT                                                    PAGE 34

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

1269          KK    R110
1270          KM        ROUTE FLOW FROM C110 TO C115
1271          RS       1    FLOW      -1
1272          RC    .019    .019    .019     580   .0291
1273          RX    1000    1012    1016    1020    1035    1039    1043    1055
1274          RY      15      12      11      10      10      11      12      15
              * DDM   ***** Preserved *****

1275          KK    C115
1276          KM        COMBINE HYDROGRAPHS FROM C114 AND C110
1277          HC       2
              * DDM   ***** Preserved *****

1278          KK    R115
              * ******OUTFLOW FROM THIS ROUTING IS GREATER THAN INFLOW TO THE
              * ******ROUTING BY 2cfs.  THIS IS NOTED BUT LEFT UNCHANGED WITHIN THE MODEL
1279          KM        ROUTE FLOW FROM C115 TO Sub 453
1280          RS       1    FLOW      -1
1281          RC    .019    .019    .019    2125    .029
1282          RX    1000    1012    1016    1020    1035    1039    1043    1055
1283          RY      15      12      11      10      10      11      12      15
              * DDM   ***** Updated *****

1284          KK     448
1285          KM   SUB-BASIN 448
1286          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1287          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF 1.000
1288          KM     L =  .36  Kb = .042  Adj. Slope =  315.0
1289          BA    .045
1290          LG    .170    .310   4.200    .390  11.000
1291          UC    .133    .102
1292          UA       0       5      16      30      65      77      84      90      94      97
1293          UA     100
              * DDM   ***** Updated *****

1294          KK     449
1295          KM   SUB-BASIN 449
1296          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1297          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF 1.000
1298          KM     L =  .40  Kb = .054  Adj. Slope =  315.0
1299          BA    .050
1300          LG    .260    .280   3.500    .640   6.000
1301          UC    .167    .134
1302          UA       0       5      16      30      65      77      84      90      94      97
1303          UA     100
              * DDM   ***** Preserved *****

1304          KK   C6364
1305          KM   COMBINE HYDROGRAPHS FROM SUB-BASINS 448 & 449
1306          HC       2
              * DDM   ***** Preserved *****
1                                        HEC-1 INPUT                                                    PAGE 35

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

1307          KK   R6364
1308          KM   ROUTE FLOW FROM C116 AND SUB-BASINS 448 AND 449
1309          RS       5    FLOW      -1
1310          RC     .05    .035     .05    4375   .0333
1311          RX    1000    1027    1053    1080    1090    1117    1143    1170
1312          RY      15   13.33   11.67      10      10   11.67   13.33      15
              * DDM   ***** Updated *****

1313          KK     450
1314          KM   SUB-BASIN 450
1315          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1316          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF 1.000
1317          KM     L =  .85  Kb = .057  Adj. Slope =  210.5
1318          BA    .070
1319          LG    .340    .350   3.630    .570   4.000
1320          UC    .296    .383
1321          UA       0       3       5       8      12      20      43      75      90      96
1322          UA     100
              * DDM   ***** Updated *****

1323          KK     451
1324          KM   SUB-BASIN 451
1325          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1326          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF 1.000
1327          KM     L =  .57  Kb = .063  Adj. Slope =  175.0
1328          BA    .025
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1329          LG    .340    .340   3.290    .750   3.000
1330          UC    .271    .453
1331          UA       0       3       5       8      12      20      43      75      90      96
1332          UA     100
              * DDM   ***** Preserved *****

1333          KK    C451
1334          KM   COMBINE HYDROGRAPHS FROM SUB-BASINS 450 & 451
1335          HC       2
              * DDM   ***** Preserved *****

1336          KK    RT66
1337          KM        RETRIEVE DIVERTED FLOW FROM SUB-BASIN 66
1338          DR   WSH66
              * DDM   ***** Updated *****

1339          KK     452
1340          KM   SUB-BASIN 452
1341          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1342          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF 1.000
1343          KM     L =  .43  Kb = .055  Adj. Slope =  315.0
1344          BA    .040
1345          LG    .260    .280   3.700    .550   9.000
1346          UC    .171    .166
1347          UA       0       5      16      30      65      77      84      90      94      97
1348          UA     100
              * DDM   ***** Preserved *****
1                                        HEC-1 INPUT                                          PAGE 36

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


1349          KK   C6465
1350          KM   COMBINE HYDROGRAPHS FROM SUB-BASINS 443 AND 452
1351          HC       2
              * DDM   ***** Preserved *****

1352          KK   R6566
1353          KM        ROUTE FLOW FROM DIVERSIONS 65 AND 66 TO C116
1354          RS       3    FLOW      -1
1355          RC     .05    .035     .05    2435   .0282
1356          RX    1000    1045    1090    1150    1160    1220    1265    1310
1357          RY      25      23      20      10      10      20      23      25
              * DDM   ***** Preserved *****

1358          KK    C116
1359          KM   COMBINE HYDROGRAPHS FROM SUB-BASINS 450 & 451 AND R6364 & R6465
1360          HC       3
              * DDM   ***** Preserved *****

1361          KK  BASIN5
1362          KM        RESERVOIR WITHIN PARCEL 31      2-48 INCH PIPES AT OUTFALL
1363          KM        BASIN 5 FEET DEEP
1364          RS       1    ELEV       0
1365          SV       0     4.5     9.9
1366          SQ       0      69     190
1367          SE       0     2.5       5
              * DDM   ***** Preserved *****

1368          KK    R116
1369          KM   ROUTE FLOW FROM C116 TO C117
1370          RS       2    FLOW      -1
1371          RC     .05    .035     .05    1300   .0333
1372          RX    1000    1100    1200    1300    1320    1420    1520    1620
1373          RY      13      12      11      10      10      11      12      13
              * DDM   ***** Updated *****

1374          KK     453
1375          KM   SUB-BASIN 453
1376          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1377          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF 1.000
1378          KM     L =  .58  Kb = .058  Adj. Slope =  138.0
1379          BA    .060
1380          LG    .290    .300   3.290    .820  18.000
1381          UC    .275    .284
1382          UA       0       5      16      30      65      77      84      90      94      97
1383          UA     100
              * DDM   ***** Preserved *****

1384          KK    C117
1385          KM   COMBINE HYDROGRAPHS FROM SUB-BASIN 453 AND R116
1386          HC       2
              * DDM   ***** Preserved *****
1                                        HEC-1 INPUT                                          PAGE 37

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


1387          KK    C118
1388          KM   COMBINE HYDROGRAPHS FROM R115 AND C117
1389          HC       2
              * DDM   ***** Preserved *****

1390          KK    R118
1391          KM        ROUTE FLOW FROM C118 TO  DIV7
              * KO     1
1392          RS       1    FLOW      -1
1393          RC    .019    .019    .019    1500    .024
1394          RX    1000    1012    1016    1020    1035    1039    1043    1055
1395          RY      15      12      11      10      10      11      12      15
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            * DDM   ***** Preserved *****

1396        KK      D7
1397        KM        OFFLINE BASIN AT NORTH MOUNTAIN RIDGE   FLOWS ENTER BASIN OVER
1398        KM        30' WEIR SET AT 5.3' ABOVE THE CHANNEL BOTTOM, Vol = 3.6 A-F
            * KO     1
1399        DT  BASIN6
1400        DI       0     363     487     563     645     900
1401        DQ       0       2      10      15      25     260
            * DDM   ***** Preserved *****

1402        KK    RTD7
1403        KM   RETRIEVE FLOW FROM DIVERSION INTO OFFLINE BASIN
1404        DR  BASIN6
            * DDM   ***** Preserved *****

1405        KK     SD7
1406        KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
1407        KM     3.6 ACRE-FEETx43560/36x3600=1.2cfs
1408        RS       1    STOR       0
1409        SV       0     .01     3.6     4.0
1410        SQ       0     0.2     1.2     1.5
            * DDM   ***** Preserved *****

1411        KK     CD7
1412        KM   HYDROGRAPH COMBINATION FOR OFFLINE BASIN BLEEDOFF
1413        HC       2
            * DDM   ***** Updated *****

1414        KK     454
1415        KM   SUB-BASIN 454
1416        KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1417        KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .999
1418        KM     L = 1.23  Kb = .051  Adj. Slope =  163.0
1419        BA    .180
1420        LG    .300    .310   3.780    .560  14.000
1421        UC    .379    .395
1422        UA       0       5      16      30      65      77      84      90      94      97
1423        UA     100
            *
            * DDM   ***** Preserved *****
1                                HEC-1 INPUT                                          PAGE 38

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

1424        KK    C454
1425        KM        COMBINE HYDROGRAPHS FROM SUB-BASIN 454 AND CDIV7
            *      1       2
1426        HC       2
            * DDM   ***** Preserved *****

1427        KK    R454
1428        KM   CHANNEL GEOMETRY OBTAINED FROM 2' CONTOUR MAPPING.
1429        KM   ROUTE FLOW FROM C454 TO 415C
1430        RS       3    FLOW      -1
1431        RC    .045    .035    .045    2200    .009
1432        RX       0      .5       1      33      42      67    67.5      68
1433        RY       5       4       4       0       0       6       6       6
            *
            * DDM   ***** Updated *****

1434        KK    415A
1435        KM   SUB-BASIN 415A
1436        KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1437        KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .998
1438        KM     L = 1.21  Kb = .049  Adj. Slope =  140.0
1439        BA    .280
1440        LG    .300    .260   3.630    .710  15.000
1441        UC    .400    .322
1442        UA       0       5      16      30      65      77      84      90      94      97
1443        UA     100
            * DDM   ***** Preserved *****

1444        KK   C415A
1445        KM        COMBINE HYDROGRAPHS FROM R454, 415B, AND 420B
            * KO     1
1446        HC       3
            * DDM   ***** Preserved *****
            * KK D415A
            * KM DIVERT FLOW INTO OFFLINE DETENTION BASIN
            * KM MAXIMUM STORAGE VOLUME FOR DIVERSION = 15 AC-FT @ 5' DEPTH.
            * KO     1
            * DTBS415A
            * DI     0    1240    5000
            * DQ     0       0    3760
            * DDM   ***** Preserved *****
            * KKRT415A
            * KM RETRIEVE FLOW FROM DIVERSION INTO OFFLINE BASIN
            * DRBS415A
            * DDM   ***** Preserved *****
            * KK S415A
            * KM RETRIEVE FLOW INTO OFFLINE BASIN AND BLEED OFF WITHIN 36 HOURS.
            * KM    15 ACRE-FEETx43560/36x3600 = 5 cfs
            * RS     1    STOR       0
            * SV     0     .01      15      20
            * SQ     0       2       5       8
            * DDM   ***** Preserved *****
            * KKCC415A
            * KM HYDROGRAPH COMBINATION OF 415A DIVERSION.
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                * HC      2
                * DDM    ***** Preserved *****
1                                          HEC-1 INPUT                                                          PAGE 39

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

1447            KK   R415A
1448            KM   CHANNEL GEOMETRY OBTAINED FROM 2' CONTOUR MAPPING.
1449            KM   ROUTING OF FLOW FROM C415A TO 455C
1450            RS       4    FLOW      -1
1451            RC    .045     .03    .045    4100    .024
1452            RX       0      .5       1       8      16      23    23.5      24
1453            RY       8       8       8       0       0       8       8       8
                *
                * DDM    ***** Updated *****

1454            KK     455
1455            KM   SUB-BASIN 455
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  .993
1458            KM     L = 1.70  Kb = .041  Adj. Slope =  146.0
1459            BA   1.111
1460            LG    .270    .280   3.700    .640  24.000
1461            UC    .421    .204
1462            UA       0       5      16      30      65      77      84      90      94      97
1463            UA     100
                * DDM    ***** Preserved *****

1464            KK    D455
1465            KM        DIVERT FLOW INTO ONLINE  DETENTION BASIN
1466            KM   DETENTION/RETENTION BASINS LOCATED WITHIN LAS SENDAS ADDENDUM III
1467            KM   FOR BASIN #: 30      34      43      47&58
1468            KM        MAXIMUM VOLUME DIVERSION = 74.1 acre-feet
                *      1
1469            DT   BS455    74.1
1470            DI       0   10000
1471            DQ       0   10000
                * DDM    ***** Preserved *****

1472            KK   RT455
1473            KM   RETRIEVE FLOW FROM DIVERSION INTO ONLINE BASIN
1474            DR   BS455
                * DDM    ***** Preserved *****

1475            KK    S455
1476            KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
1477            KM    74.1 ACRE-FEETx43560/36x3600=25cfs
1478            RS       1    STOR       0
1479            SV       0     .01    74.1
1480            SQ       0     3.0      25
                * DDM    ***** Preserved *****

1481            KK    C455
1482            KM   HYDROGRAPH COMBINATION FOR SUB-BASIN 455 AND DIVERTED BASIN STORAGE OF 455
1483            HC       2
                * DDM    ***** Preserved *****
1                                          HEC-1 INPUT                                                          PAGE 40

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

1484            KK   CC455
1485            KM  HYDROGRAPH COMBINATION OF 420C, R415 AND C455
                * KO     1       2
1486            HC       3
                *

1487            KK    S440
1488            KM   SPOOK HILL FRS PLANS DATED 6/15/77
1489            KM   OUTLET PIPE=7'x7.5'RCBC; L=70 INLET INV.=1566; OUTLET INV.=1566
1490            KM   EMERGENCY SPILLWAY ELEV.=1582; PRINCIPLE SPILLWAY ELEV.=1577.5
1491            KM   STORAGE VOLUME BELOW PRINCIPLE SPILLWAY FOR SEDIMENT = 200 ACRE-FEET
                *  ESE = 1583.86 ft; PSE = 1579.36 ft; Sediment Vol. = 271 Ac-Ft.
1492            RS       1    STOR       0
1493            SV       0      81     363     533     719     925    1120    1399    1668  4051
1494            SQ       0       0      10     180     367     595     800    1231    2625 24500
1495            SE      76      78      80      81      82      83    83.9      85      86    92
                * DDM    ***** Preserved *****

1496            KK    R455
1497            KM   ROUTE FLOW FROM SPOOK HILL FRS TO SUB-BASIN 480
1498            RS      15    FLOW      -1
1499            RC    .035    .025    .035    7000   .0002
1500            RX       0       1       2      28      58      84      85      86
1501            RY    13.5    13.5    13.5       0       0    13.5    13.5    13.5
                * DDM    ***** Updated *****

1502            KK     480
1503            KM   SUB-BASIN 480
1504            KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1505            KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .996
1506            KM     L = 1.21  Kb = .042  Adj. Slope =  165.0
1507            BA    .731
1508            LG    .270    .270   3.580    .730  27.000
1509            UC    .325    .148
1510            UA       0       5      16      30      65      77      84      90      94      97
1511            UA     100
                * DDM    ***** Preserved *****
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1512        KK    D480
1513        KM        DIVERT FLOW INTO ONLINE  DETENTION BASIN
1514        KM   DETENTION/RETENTION BASINS LOCATED WITHIN LAS SENDAS ADDENDUM III
1515        KM   FOR BASIN #: 18 & 26
1516        KM        MAXIMUM VOLUME DIVERSION = 16.5 acre-feet
            *      1
1517        DT   BS480    16.5
1518        DI       0   10000
1519        DQ       0   10000
            * DDM   ***** Preserved *****
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LINE        ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1520        KK   RT480
1521        KM   RETRIEVE FLOW FROM DIVERSION INTO ONLINE BASIN
1522        DR   BS480
            * DDM   ***** Preserved *****

1523        KK    S480
1524        KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
1525        KM    16.5 ACRE-FEETx43560/36x3600=5.5cfs
1526        RS       1    STOR       0
1527        SV       0     .01    16.5
1528        SQ       0     3.0     5.6
            * DDM   ***** Preserved *****

1529        KK    C480
1530        KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
1531        HC       2
            * DDM   ***** Preserved *****

1532        KK   CC480
1533        KM   HYDROGRAPH COMBINATION AT SUBBASIN 480
1534        HC       2   0.731
            * DDM   ***** Preserved *****

1535        KK    R480
1536        KM   ROUTE FLOW FROM SUB-BASIN 480 TO SUBBASIN 462
1537        RS       6    FLOW      -1
1538        RC    .035    .025    .035    2800   .0002
1539        RX       0       1       2      28      58      84      85      86
1540        RY    13.5    13.5    13.5       0       0    13.5    13.5    13.5
            * DDM   ***** Updated *****

1541        KK     456
1542        KM   SUB-BASIN 456
1543        KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1544        KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .998
1545        KM     L =  .94  Kb = .045  Adj. Slope =  315.0
1546        BA    .260
1547        LG    .300    .380   5.600    .200  12.000
1548        UC    .217    .139
1549        UA       0       5      16      30      65      77      84      90      94      97
1550        UA     100
            * DDM   ***** Preserved *****

1551        KK      D1
1552        KM        DIVERT FLOW INTO OFFLINE DETENTION BASIN
1553        KM        WEIR FOR BASIN SET AT 4 FEET ABOVE CHANNEL BOTTOM
            *      1
1554        DT  BASIN1     4.0
1555        DI       0    11.1   127.9   234.4   577.7   789.9  1025.5  1280.9  1555.7
1556        DQ       0       0       0    47.7     248   381.8   533.6   701.5     884
            * DDM   ***** Preserved *****
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LINE        ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1557        KK      D2
1558        KM        SPLIT OUT FLOW FOR WASHES THAT FLOW TO THE SOUTH FROM
1559        KM        WASHES THAT DRAIN TO THE WES, SOUTHERN WASHES FED BY 30" & 24" PIPE
1560        DT    WA30
1561        DI       0    11.1   127.9   189.6   329.7     408   491.9   579.4   671.7
1562        DQ       0    11.1    38.4    48.2      63    69.5      76      81      86
            * DDM   ***** Preserved *****

1563        KK    R456
1564        KM        ROUTE FLOW FROM SUB-BASIN 51 TO C101
1565        RS       2    FLOW      -1
1566        RC     .05    .035     .05    3800    .044
1567        RX    1000    1010    1020    1036    1041    1057    1067    1077
1568        RY   14.88   14.44      14      10      10      14   14.44   14.88
            * DDM   ***** Updated *****

1569        KK     457
1570        KM   SUB-BASIN 457
1571        KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1572        KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .999
1573        KM     L = 1.01  Kb = .045  Adj. Slope =  308.8
1574        BA    .190
1575        LG    .270    .330   3.950    .460   6.000
1576        UC    .237    .195
1577        UA       0       5      16      30      65      77      84      90      94      97
1578        UA     100
            * DDM   ***** Preserved *****

1579        KK    C101
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1580          KM        COMBINE HYDROGRAPHS FROM SUB-BASINS 50 AND 51
1581          HC       2
              * DDM   ***** Preserved *****

1582          KK      D3
1583          KM        RESERVOIR AT THE EDGE OF THE PROPERTY   FLOW FROM CHANNEL
1584          KM        DIVERTED  INTO OFFLINE BASIN A 25' WEIR SET AT ELEVATION 1808 FT
              *      1
1585          DT  BASIN2      5.0
1586          DI       0       36      70     110     180   313.5     402   500.9
1587          DQ       0        0       0       0       0    67.5     124   190.9
              * DDM   ***** Preserved *****

1588          KK    RTD3
1589          KM   RETRIEVE FLOW FROM DIVERSION INTO OFFLINE BASIN
1590          DR  BASIN2
              * DDM   ***** Preserved *****

1591          KK     SD3
1592          KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
1593          KM     5.0 ACRE-FEETx43560/36x3600=1.7cfs
1594          RS       1    STOR       0
1595          SV       0     .01       5
1596          SQ       0     0.7     1.7
              * DDM   ***** Preserved *****
1                                   HEC-1 INPUT                                          PAGE 43

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

1597          KK     CD3
1598          KM   HYDROGRAPH COMBINATION FOR OFFLINE BASIN BLEEDOFF
1599          HC       2
              * DDM   ***** Preserved *****

1600          KK    R101
1601          KM        ROUTE FLOW FROM SUBBASIN C101 TO C103
1602          RS       1    FLOW      -1
1603          RC     .05    .035     .05    1450     .05
1604          RX    1000    1010    1020    1036    1041    1057    1067    1077
1605          RY      15    14.5      14      10      10      14    14.5      15
              * DDM   ***** Updated *****

1606          KK     458
1607          KM   SUB-BASIN 458
1608          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1609          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .999
1610          KM     L =  .76  Kb = .048  Adj. Slope =  299.0
1611          BA    .190
1612          LG    .290    .330   5.800    .190   6.000
1613          UC    .204    .131
1614          UA       0       5      16      30      65      77      84      90      94      97
1615          UA     100
              * DDM   ***** Preserved *****

1616          KK    C103
1617          KM        COMBINE HYDROGRAPHS FROM SUB-BASIN 55 AND C101
1618          HC       2
              * DDM   ***** Preserved *****

1619          KK    R103
1620          KM        ROUTE FLOW FROM SUBBASIN C103 TO C106
1621          RS       1    FLOW      -1
1622          RC     .05    .035     .05     900     .03
1623          RX    1000    1010    1020    1030    1050    1060    1070    1080
1624          RY   13.16   12.83    12.5      10      10    12.5   12.83   13.16
              * DDM   ***** Preserved *****

1625          KK    RT30
1626          KM        RETRIEVE DIVERTED FLOW FOR WASH BELOW 30 INCH PIPE
1627          DR    WA30
              * DDM   ***** Preserved *****

1628          KK     R30
1629          KM        ROUTE FLOW FROM WASH DIVERSION TO COMBINE C52
1630          RS       1    FLOW      -1
1631          RC     .05    .035     .05    1630     .05
1632          RX    1000    1010    1020    1036    1041    1057    1067    1077
1633          RY      15    14.5      14      10      10      14    14.5      15
              * DDM   ***** Preserved *****
1                                   HEC-1 INPUT                                          PAGE 44

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

1634          KK    RTB1
1635          KM        RETRIEVE DIVERTED FLOW FROM BASIN 1
              *      1       2
1636          DR  BASIN1
              * DDM   ***** Preserved *****

1637          KK      B1
1638          KM        ROUTE FLOW THROUGH OFFLINE DETENTION BASIN
1639          KM        FLOW OUTLETS THROUGH A 30 INCH OUTLET PIPE
              *      1       2
1640          RS       1    ELEV       0
1641          SV              .7     1.4     2.3     2.7     4.0
1642          SQ       0       5      16      28    32.5      37
1643          SE       0       1       2       3     3.5       4
              * DDM   ***** Preserved *****
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1644          KK     RB1
1645          KM        ROUTE FLOW FROM BASIN DIVERSION TO COMBINE C52
1646          RS       3    FLOW       -1
1647          RC     .05    .035     .05    1720     .05
1648          RX    1000    1010    1020    1036    1041    1057    1067    1077
1649          RY      15    14.5      14      10      10      14    14.5      15
              * DDM   ***** Preserved *****

1650          KK    CDIV
1651          KM        COMBINE FLOWS FROM WA30 AND BASIN 1
1652          HC       2     .12
              * DDM   ***** Updated *****

1653          KK     459
1654          KM   SUB-BASIN 459
1655          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1656          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF 1.000
1657          KM     L =  .35  Kb = .052  Adj. Slope =  251.6
1658          BA    .030
1659          LG    .220    .300   3.330    .710   8.000
1660          UC    .162    .157
1661          UA       0       5      16      30      65      77      84      90      94      97
1662          UA     100
              * DDM   ***** Preserved *****

1663          KK     C52
1664          KM        COMBINE FLOWS FROM SUB-BASIN 52 WA30 AND BASIN 1
1665          HC       2
              * DDM   ***** Preserved *****

1666          KK     R52
1667          KM        ROUTE FLOW FROM SUBBASIN 52 TO C102
1668          RS       3    FLOW       -1
1669          RC     .05    .035     .05    2000     .05
1670          RX    1000    1010    1020    1036    1041    1057    1067    1077
1671          RY      15    14.5      14      10      10      14    14.5      15
              * DDM   ***** Updated *****
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1672          KK     460
1673          KM   SUB-BASIN 460
1674          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1675          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .999
1676          KM     L =  .62  Kb = .058  Adj. Slope =  194.0
1677          BA    .140
1678          LG    .250    .260   3.740    .690  27.000
1679          UC    .242    .160
1680          UA       0       5      16      30      65      77      84      90      94      97
1681          UA     100
              * DDM   ***** Preserved *****

1682          KK    C102
1683          KM        COMBINE HYDROGRAPHS FROM SUB-BASINS 52 AND 53
1684          HC       2
              * DDM   ***** Preserved *****

1685          KK  BASIN3
1686          KM        RESERVOIR AT CLUBHOUSE LOCATION 1-30 INCH PIPE AT OUTFALL
1687          KM        BOTTOM OF BASIN AT 6 FEET ABOVE 1795 ELEVATION
1688          RS       1    ELEV        0
1689          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
1690          SQ       0      22      45    47.4      48      51      57      62      67      73
1691          SE    1795  1797.5    1800  1800.4  1800.5    1801    1802    1803    1804  1805.5
              * DDM   ***** Preserved *****

1692          KK      R3
1693          KM        ROUTE FLOW FROM C102 to C106
1694          RS       5    FLOW       -1
1695          RC     .05     .03     .05    2750   .0375
1696          RX    1000    1010    1020    1052    1086    1118    1128    1138
1697          RY    19.2    18.4      18      10      10      18    18.4    19.2
              * DDM   ***** Updated *****

1698          KK     461
1699          KM   SUB-BASIN 461
1700          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1701          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .999
1702          KM     L =  .83  Kb = .052  Adj. Slope =  181.0
1703          BA    .120
1704          LG    .270    .250   4.250    .450  21.000
1705          UC    .271    .250
1706          UA       0       5      16      30      65      77      84      90      94      97
1707          UA     100
              * DDM   ***** Preserved *****

1708          KK    C104
1709          KM        COMBINE HYDROGRAPHS FROM SUB-BASIN 54 AND R102
1710          HC       2
              * DDM   ***** Preserved *****
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1711          KK    C106
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1712          KM        COMBINE HYDROGRAPHS FROM SUB-BASIN C103 AND C104
1713          HC       2
              * DDM   ***** Preserved *****

1714          KK    R106
1715          KM        ROUTE FLOW FROM C106 TO C49
1716          RS       2    FLOW      -1
1717          RC     .05    .035     .05    3950    .033
1718          RX    1000    1010    1020    1030    1050    1060    1070    1080
1719          RY   13.16   12.83    12.5      10      10    12.5   12.83   13.16
              * DDM   ***** Updated *****

1720          KK     462
1721          KM   SUB-BASIN 462
1722          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1723          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .998
1724          KM     L =  .97  Kb = .045  Adj. Slope =  297.7
1725          BA    .301
1726          LG    .300    .330   5.300    .240  12.000
1727          UC    .225    .137
1728          UA       0       5      16      30      65      77      84      90      94      97
1729          UA     100
              * DDM   ***** Preserved *****

1730          KK     C56
1731          KM        COMBINE HYDROGRAPHS FROM SUB-BASIN 56 AND C106
              *      1       2
1732          HC       2
              * DDM   ***** Preserved *****

1733          KK    C462
1734          KM        COMBINE HYDROGRAPHS AT SUBBASIN 462
              *      1
1735          HC       2    2.09
              * DDM   ***** Preserved *****

1736          KK    R462
1737          KM   ROUTE FLOW FROM SUB-BASIN 462 TO SUB-BASIN 500 (First Channel Reach)
1738          RS       1    FLOW      -1
1739          RC    .025    .025    .025    1800    .005
1740          RX       0       1      20      32      62      74      93      94
1741          RY      13      12      12       0       0      12      12      13
              *

1742          KK   RR462
1743          KM   ROUTE FLOW FROM SUB-BASIN 462 TO SUB-BASIN 500 (Second Natural Wash Reach)
1744          RS       3    FLOW      -1
1745          RC    .055     .05    .055    4700     .05
1746          RX       0       1       2      28      58      84      85      86
1747          RY    13.5    13.5    13.5       0       0    13.5    13.5    13.5
              * DDM   ***** Updated *****
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1748          KK     500
1749          KM   SUB-BASIN 500
1750          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1751          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .994
1752          KM     L = 2.77  Kb = .042  Adj. Slope =  286.8
1753          BA    .930
1754          LG    .350    .400   6.000    .170   9.000
1755          UC    .421    .333
1756          UA       0       3       5       8      12      20      43      75      90      96
1757          UA     100
              * DDM   ***** Preserved *****

1758          KK    C500
1759          KM   HYDROGRAPH COMBINATION FOR THE ENTIRE WATERSHED AT THE SALT RIVER
1760          HC       2    3.02
1761          ZZ
```

1

SCHEMATIC DIAGRAM OF STREAM NETWORK

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

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

   28         10
               V
               V
   38        R10
               V
               V
   44        R12
               .
               .
   50          .          20
               .           .
               .           .
   60        C20............
               V
               V
   63        R20
               .
               .
   69          .          40
               .           .
               .           .
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 79          .          .          60
             .          .           .
             .          .           .
 89        C60.......................
             V
             V
 92        S60
             V
             V
101        R60
             V
             V
107       RR60
             .
             .
113          .         80
             .          .
             .          .
123        C80............
             V
             V
126        R80
             .
             .
132          .        100
             .          .
             .          .
142       C100............
             V
             V
145       R100
             .
             .
151          .        120
             .          .
             .          .
161       C120............
             V
             V
164       R120
             .
             .
170          .        140
             .          .
             .          .
180          .          .        150
             .          .          V
             .          .          V
190          .          .       R150
             .          .          V
             .          .          V
196          .          .       R152
             .          .          .
             .          .          .
202          .          .          .        160
             .          .          .          .
             .          .          .          .
212          .          .          .          .        180
             .          .          .          .          .
             .          .          .          .          .
222       C180.............................................
             .
             .
225          .       385B
             .          V
             .          V
235          .      R385B
             .          .
             .          .
244          .          .       395B
             .          .          .
             .          .          .
254          .      C395B............
             .          V
             .          V
257          .      R395B
             .          .
             .          .
264          .          .       370B
             .          .          .
             .          .          .
274          .      C370C............
             .          V
             .          V
277          .      R370B
             .          V
             .          V
284          .     RR370B
             .          .
             .          .
293          .          .       355B
             .          .          .
             .          .          .
303          .      C355B............
             .          V
             .          V
306          .      R355B
             .          V
             .          V
315          .     RR355B
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                .          .
                .          .
322             .          .        350
                .          .         V
                .          .         V
332             .          .       R350
                .          .          .
                .          .          .
339             .          .          .        310
                .          .          .         .
                .          .          .         .
349             .       C310.......................
                .          V
                .          V
352             .       R310
                .          V
                .          V
359             .       R312
                .          .
                .          .
368             .          .       305B
                .          .          .
                .          .          .
378             .      C305B............
                .          V
                .          V
381             .      R305B
                .          .
                .          .
390             .          .        210
                .          .         V
                .          .         V
400             .          .       R210
                .          .          .
                .          .          .
406             .          .          .        240
                .          .          .         .
                .          .          .         .
416             .       C240.......................
                .          V
                .          V
419             .       S240
                .          V
                .          V
428             .       R240
                .          .
                .          .
435             .          .        220
                .          .          .
                .          .          .
445             .       C220............
                .          V
                .          V
448             .       S220
                .          V
                .          V
457             .       R220
                .          .
                .          .
464             .          .        190
                .          .         V
                .          .         V
474             .          .       R190
                .          .          V
                .          .          V
480             .          .       R192
                .          .          .
                .          .          .
486             .          .          .        200
                .          .          .         .
                .          .          .         .
496             .       C200.......................
                .          V
                .          V
499             .       S200
                .          V
                .          V
506             .       R200
                .          V
                .          V
512             .      SS200
                .          V
                .          V
519             .      RR200
                .          .
                .          .
525        CC180............
              V
              V
528         S180
              V
              V
537         R180
                .
                .
546             .        260
                .          .
                .          .
556         C260............
              V
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                V
559          R260
                .
                .
568             .          280
                .            .
                .            .
578          C280............
                V
                V
581          R280
                .
                .
590             .          300
                .            .
                .            .
600          C300............
                V
                V
603          R300
                .
                .
612             .         305A
                .            .
                .            .
622         C305A............
                V
                V
625         R305A
                .
                .
634             .          320
                .            .
                .            .
649             .            .-------->   BS320
644             .         D320
                .            .
                .            .
654             .            .            .<-------   BS320
652             .            .        RT320
                .            .            V
                .            .            V
655             .            .         S320
                .            .            .
                .            .            .
661          C320........................
                .
                .
664             .         340B
                .            .
                .            .
679             .            .-------->  BS340B
674             .        D340B
                .            .
                .            .
684             .            .            .<-------  BS340B
682             .            .       RT340B
                .            .            V
                .            .            V
685             .            .        S340B
                .            .            .
                .            .            .
691             .        C340B............
                .            .
                .            .
696             .            .-------->   BS340
694             .       DD340B
                .            .
                .            .
701             .            .            .<-------   BS340
699             .            .        RT340
                .            .            V
                .            .            V
702             .            .       SS340B
                .            .            .
                .            .            .
708             .       CC340B............
                .            V
                .            V
711             .        R340B
                .            .
                .            .
718             .            .         340A
                .            .            .
                .            .            .
733             .            .            .-------->  BS340A
728             .            .        D340A
                .            .            .
                .            .            .
738             .            .            .            .<-------  BS340A
736             .            .            .       RT340A
                .            .            .            V
                .            .            .            V
739             .            .            .        S340A
                .            .            .            .
                .            .            .            .
745             .        C340A........................
                .            .
                .            .
748          C340............
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751          .        355A
             .          V
             .          V
761          .       R355A
             .          .
             .          .
768          .          .         360
             .          .          .
             .          .          .
782          .          .          .-------->   BS360
778          .          .       D360
             .          .          .
             .          .          .
787          .          .          .           .<--------   BS360
785          .          .          .       RT360
             .          .          .          .V
             .          .          .           V
788          .          .          .        S360
             .          .          .           .
             .          .          .           .
794       C360.................................
             .
             .
797          .        380A
             .          .
             .          .
807      C380A............
             .
             .
810          .        400A
             .          .
             .          .
820      C400A............
             .
             .
823          .        380B
             .          .
             .          .
837          .          .-------->  BS380B
833          .       D380B
             .          .
             .          .
842          .          .           .<--------  BS380B
840          .          .      RT380B
             .          .          V
             .          .          V
843          .          .       S380B
             .          .          .
             .          .          .
849          .       C380B............
             .          .
             .          .
854          .          .-------->   BS380
852          .      DD380B
             .          .
             .          .
859          .          .           .<--------   BS380
857          .          .       RT380
             .          .          V
             .          .          V
860          .          .      SS380B
             .          .          .
             .          .          .
866          .      CC380B............
             .          V
             .          V
869          .       R380B
             .          .
             .          .
876          .          .        400B
             .          .          .
             .          .          .
890          .          .          .-------->  BS400B
886          .          .       D400B
             .          .          .
             .          .          .
895          .          .          .           .<--------  BS400B
893          .          .          .      RT400B
             .          .          .           V
             .          .          .           V
896          .          .          .       S400B
             .          .          .           .
             .          .          .           .
902          .          .       C400B............
             .          .          .
             .          .          .
905      CC400B........................
             .
             .
908          .        420A
             .          .
             .          .
922          .          .-------->  BS420A
918          .       D420A
             .          .
             .          .
927          .          .           .<--------  BS420A
925          .          .      RT420A
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                 .           .           V
                 .           .           V
928              .           .       S420A
                 .           .           .
                 .           .           .
934          C420A.......................
                 .
                 .
937              .        370A
                 .           .
                 .           .
947              .           .        395A
                 .           .           .
                 .           .           .
957              .       C370A............
                 .           .
                 .           .
963              .           .-------->   BS370
960              .        D370
                 .           .
                 .           .
968              .           .           .<-------   BS370
966              .           .       RT370
                 .           .           V
                 .           .           V
969              .           .        S370
                 .           .           .
                 .           .           .
975              .       CC370............
                 .           V
                 .           V
978              .        R370
                 .           .
                 .           .
985              .           .        385A
                 .           .           .
                 .           .           .
995              .           .           .        415B
                 .           .           .           .
                 .           .           .           .
1005             .           .       C415B............
                 .           .           .
                 .           .           .
1011             .           .           .-------->  BS415B
1008             .           .       D415B
                 .           .           .           .
                 .           .           .
1016             .           .           .           .<-------  BS415B
1014             .           .           .      RT415B
                 .           .           .           V
                 .           .           .           V
1017             .           .           .       S415B
                 .           .           .           .
                 .           .           .           .
1023             .           .      CC415B............
                 .           .           V
                 .           .           V
1026             .           .       R415B
                 .           .           .
                 .           .           .
1033             .           .           .         390
                 .           .           .           .
                 .           .           .           .
1047             .           .           .           .-------->   BS390
1043             .           .           .        D390
                 .           .           .           .
                 .           .           .           .
1052             .           .           .           .           .<-------   BS390
1050             .           .           .           .       RT390
                 .           .           .           .           V
                 .           .           .           .           V
1053             .           .           .           .        S390
                 .           .           .           .           .
                 .           .           .           .           .
1059             .        C390.....................................
                 .           V
                 .           V
1062             .        R390
                 .           .
                 .           .
1069             .           .        420B
                 .           .           .
                 .           .           .
1079             .       C420B............
                 .           .
                 .           .
1082             .           .         440
                 .           .           V
                 .           .           V
1092             .           .         R70
                 .           .           .
                 .           .           .
1098             .           .           .         441
                 .           .           .           .
                 .           .           .           .
1108             .           .       C108............
                 .           .           .
                 .           .           .
1113             .           .           .-------->   SPLIT
1111             .           .          D4
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                 .          .          V
                 .          .          V
1116             .          .       R108
                 .          .          .
                 .          .          .
1122             .          .          .        442
                 .          .          .          .
                 .          .          .          .
1132             .          .       C67...........
                 .          .          .
                 .          .          .
1138             .          .          .-------> BASIN4
1135             .          .        D6
                 .          .          .
                 .          .          .
1143             .          .          .          .<-------  BASIN4
1141             .          .          .       RTD6
                 .          .          .          V
                 .          .          .          V
1144             .          .          .        SD6
                 .          .          .          .
                 .          .          .          .
1150             .          .       CD6...........
                 .          .          .
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1153             .          .          .        443
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1166             .          .          .          .-------> WSH66
1163             .          .          .        D66
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                 .          .          .          V
1169             .          .          .       R113
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1175             .          .       C114...........
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1178             .          .          .        444
                 .          .          .          V
                 .          .          .          V
1188             .          .          .        R58
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1194             .          .          .          .        445
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1204             .          .          .       C107...........
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                 .          .          .          V
1207             .          .          .       R107
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1215             .          .          .          .          .<-------  SPLIT
1213             .          .          .          .       RTB2
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                 .          .          .          .          V
1216             .          .          .          .     RSPLIT
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1222             .          .          .          .          .        446
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1232             .          .          .       C109.......................
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1238             .          .          .          .-------> WSH404
1235             .          .          .        D5
                 .          .          .          V
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1241             .          .          .       R109
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1247             .          .          .          .        447
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1259             .          .          .          .          .          .<-------  WSH404
1257             .          .          .          .          .      RT404
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1260             .          .          .          .          .       R404
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1266             .          .          .       C110.......................
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                 .          .          .          V
1269             .          .          .       R110
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1275             .          .       C115...........
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1278             .          .       R115
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1284             .          .          .        448
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1294             .          .          .          .        449
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1304                C6364............
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1307                R6364
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1313                    .         450
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1323                    .           .         451
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1333                    .       C451............
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1338                    .           .           .<-------   WSH66
1336                    .           .       RT66
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1339                    .           .           .         452
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1349                    .           .       C6465............
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1352                    .           .       R6566
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1358                C116........................
                        V
                        V
1361               BASIN5
                        V
                        V
1368                R116
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1374                    .         453
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1384                C117............
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1387            C118............
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                    V
1390            R118
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1399                .-------> BASIN6
1396              D7
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1404                    .<-------  BASIN6
1402                RTD7
                        V
                        V
1405                 SD7
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1411             CD7............
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1414                 454
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1424            C454............
                    V
                    V
1427            R454
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1434                415A
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1444        C415A........................
                V
                V
1447        R415A
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1454             455
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1469                .------->   BS455
1464            D455
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1474                    .<-------   BS455
1472               RT455
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                        V
1475                S455
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1481            C455............
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1484     CC455........................
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1487         S440
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1496         R455
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1502            .         480
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1517            .           .-------->   BS480
1512            .        `D480
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1522            .           .           .<-------   BS480
1520            .           .       RT480
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1523            .           .        S480
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1529            .        C480............
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1532        CC480............
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1535         R480
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1541            .         456
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1554            .           .-------->  BASIN1
1551            .          D1
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1560            .           .-------->    WA30
1557            .          D2
                .           V
                .           V
1563            .        R456
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1569            .           .         457
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1579            .        C101............
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1585            .           .-------->  BASIN2
1582            .          D3
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1590            .           .           .<-------  BASIN2
1588            .           .        RTD3
                .           .           V
                .           .           V
1591            .           .         SD3
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1597            .         CD3............
                .           V
                .           V
1600            .        R101
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1606            .           .         458
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1616            .        C103............
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                .           V
1619            .        R103
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1627            .           .           .<-------    WA30
1625            .           .        RT30
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1628            .           .         R30
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1636            .           .           .           .<-------  BASIN1
1634            .           .           .        RTB1
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1637            .           .           .          B1
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1644            .           .           .         RB1
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1650            .           .        CDIV............
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1653            .           .           .         459
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1663          .           .        C52...........
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1666          .           .        R52
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1672          .           .          .        460
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1682          .           .      C102...........
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1685          .           .     BASIN3
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1692          .           .         R3
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1698          .           .          .        461
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1708          .           .      C104...........
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1711          .       C106...........
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              .          V
1714          .       R106
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1720          .           .        462
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1730          .        C56...........
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1733       C462...........
              V
              V
1736       R462
              V
              V
1742      RR462
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1748          .        500
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1758       C500...........
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(***) RUNOFF ALSO COMPUTED AT THIS LOCATION

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1****************************************
*                                      *
*   FLOOD HYDROGRAPH PACKAGE  (HEC-1)  *
*              JUN   1998              *
*           VERSION 4.1                *
*                                      *
*  RUN DATE   01MAY01  TIME  16:52:47  *
*                                      *
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*                                      *
*    U.S. ARMY CORPS OF ENGINEERS      *
*    HYDROLOGIC ENGINEERING CENTER     *
*          609 SECOND STREET           *
*       DAVIS, CALIFORNIA 95616        *
*           (916) 756-1104             *
*                                      *
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```

DDMS MCUHP1 SPOOK HILL ADMP-EXISTING CONDITIONS MODEL-100YR, 24-HR STORM
Combined McDowell Road, McKellips Road & Pass Mountain Alternatives
McDowell Road Alternative - Option MD2E
McKellips Road Alternative - Option MK2E
FULL PASS MOUNTAIN DIVERSION WITH SPOOK HILL FRS STORAGE ROUTING - PM4R
OUTFLOW OF SIGNAL BUTTE IS QUADRUPLED
Spook Hill FRS without Off-Line Basin

```
  9 IO          OUTPUT CONTROL VARIABLES
                      IPRNT           5  PRINT CONTROL
                      IPLOT           0  PLOT CONTROL
                      QSCAL          0.  HYDROGRAPH PLOT SCALE

    IT          HYDROGRAPH TIME DATA
                       NMIN           2  MINUTES IN COMPUTATION INTERVAL
                      IDATE      1    0  STARTING DATE
                      ITIME        0000  STARTING TIME
                         NQ        2000  NUMBER OF HYDROGRAPH ORDINATES
                     NDDATE      3    0  ENDING DATE
                     NDTIME        1838  ENDING TIME
                      ICENT          19  CENTURY MARK

                 COMPUTATION INTERVAL     .03 HOURS
                      TOTAL TIME BASE   66.63 HOURS

         ENGLISH UNITS
              DRAINAGE AREA          SQUARE MILES
              PRECIPITATION DEPTH    INCHES
              LENGTH, ELEVATION      FEET
              FLOW                   CUBIC FEET PER SECOND
              STORAGE VOLUME         ACRE-FEET
              SURFACE AREA           ACRES
              TEMPERATURE            DEGREES FAHRENHEIT

 11 JD          INDEX STORM NO. 1
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STRM 3.81 PRECIPITATION DEPTH
TRDA .01 TRANSPOSITION DRAINAGE AREA

12 PI PRECIPITATION PATTERN

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22 JD INDEX STORM NO. 2
STRM 3.79 PRECIPITATION DEPTH
TRDA 1.00 TRANSPOSITION DRAINAGE AREA

0 PI PRECIPITATION PATTERN

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23 JD INDEX STORM NO. 3

STRM 3.68 PRECIPITATION DEPTH

TRDA 5.80 TRANSPOSITION DRAINAGE AREA

0 PI PRECIPITATION PATTERN

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24 JD INDEX STORM NO. 4

STRM 3.57 PRECIPITATION DEPTH

TRDA 10.66 TRANSPOSITION DRAINAGE AREA

0 PI PRECIPITATION PATTERN

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25 JD INDEX STORM NO. 5
STRM 3.54 PRECIPITATION DEPTH
TRDA 13.70 TRANSPOSITION DRAINAGE AREA

0 PI PRECIPITATION PATTERN

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26 JD INDEX STORM NO. 6
STRM 3.47 PRECIPITATION DEPTH
TRDA 20.00 TRANSPOSITION DRAINAGE AREA

0 PI PRECIPITATION PATTERN

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27 JD INDEX STORM NO. 7

STRM 3.32 PRECIPITATION DEPTH

TRDA 50.00 TRANSPOSITION DRAINAGE AREA

0 PI PRECIPITATION PATTERN

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WARNING EXCESS AT PONDING LESS THAN ZERO FOR PERIOD. EXCESS SET TO ZERO
WARNING EXCESS AT PONDING LESS THAN ZERO FOR PERIOD. EXCESS SET TO ZERO
WARNING EXCESS AT PONDING LESS THAN ZERO FOR PERIOD. EXCESS SET TO ZERO

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	989.	12.27	119.	33.	12.	.70		
+	ROUTED TO	R10	920.	12.40	119.	33.	12.	.70		
+	ROUTED TO	R12	853.	12.60	119.	33.	12.	.70		
+	HYDROGRAPH AT	20	1011.	12.43	136.	34.	12.	1.12		
+	2 COMBINED AT	C20	1684.	12.53	252.	66.	24.	1.82		
+	ROUTED TO	R20	1683.	12.57	252.	66.	24.	1.82		
+	HYDROGRAPH AT	40	2695.	12.30	264.	69.	25.	2.23		
+	HYDROGRAPH AT	60	1623.	12.40	239.	64.	23.	1.75		
+	3 COMBINED AT	C60	5371.	12.37	733.	194.	70.	5.80		
+	ROUTED TO	S60	118.	14.27	118.	114.	70.	5.80		
+	ROUTED TO	R60	118.	14.37	118.	114.	70.	5.80		
+	ROUTED TO	RR60	118.	14.40	118.	114.	70.	5.80		
	HYDROGRAPH AT	80	1956.	12.27	189.	49.	18.	1.48		
+	2 COMBINED AT	C80	2009.	12.27	295.	160.	90.	1.48		
+	ROUTED TO	R80	1981.	12.30	295.	160.	90.	1.48		

+	HYDROGRAPH AT	100	423.	12.20	60.	16.	6.	.48
	2 COMBINED AT	C100	2373.	12.27	351.	174.	95.	1.96
+	ROUTED TO	R100	2370.	12.30	351.	174.	95.	1.96
+	HYDROGRAPH AT	120	3352.	12.27	340.	92.	33.	2.20
+	2 COMBINED AT	C120	5618.	12.27	673.	256.	126.	4.16
+	ROUTED TO	R120	5546.	12.30	673.	256.	126.	4.16
+	HYDROGRAPH AT	140	665.	12.13	67.	18.	6.	.60
+	HYDROGRAPH AT	150	595.	12.17	51.	14.	5.	.41
+	ROUTED TO	R150	568.	12.23	51.	14.	5.	.41
+	ROUTED TO	R152	514.	12.33	51.	14.	5.	.41
+	HYDROGRAPH AT	160	228.	12.40	37.	9.	3.	.37
+	HYDROGRAPH AT	180	836.	12.37	97.	24.	9.	1.00
+	5 COMBINED AT	C180	7306.	12.30	898.	313.	146.	6.54
+	HYDROGRAPH AT	385B	591.	12.17	57.	16.	6.	.38
+	ROUTED TO	R385B	590.	12.17	57.	16.	6.	.38
+	HYDROGRAPH AT	395B	12.	12.17	2.	0.	0.	.02
	2 COMBINED AT	C395B	601.	12.17	59.	17.	6.	.39
+	ROUTED TO	R395B	580.	12.23	58.	16.	6.	.39
+	HYDROGRAPH AT	370B	219.	12.27	32.	8.	3.	.26
+	2 COMBINED AT	C370C	792.	12.23	90.	25.	9.	.66
+	ROUTED TO	R370B	778.	12.27	90.	25.	9.	.66
+	ROUTED TO	RR370B	715.	12.33	90.	25.	9.	.66
+	HYDROGRAPH AT	355B	465.	12.27	54.	14.	5.	.51
+	2 COMBINED AT	C355B	1153.	12.30	143.	38.	14.	1.17
+	ROUTED TO	R355B	1138.	12.37	143.	38.	14.	1.17
+	ROUTED TO	RR355B	1121.	12.40	143.	38.	14.	1.17
+	HYDROGRAPH AT	350	1258.	12.20	109.	28.	10.	.97
+	ROUTED TO	R350	1109.	12.47	109.	28.	10.	.97
+	HYDROGRAPH AT	310	342.	12.33	46.	12.	4.	.49
+	3 COMBINED AT	C310	2448.	12.43	290.	76.	27.	2.63
	ROUTED TO	R310	2395.	12.53	290.	76.	27.	2.63
+	ROUTED TO	R312	2301.	12.63	290.	76.	27.	2.63
+	HYDROGRAPH AT	305B	405.	12.30	45.	11.	4.	.41
	2 COMBINED AT							

+	C305B	2484.	12.63	333.	87.	31.	3.05
ROUTED TO +	R305B	2464.	12.67	333.	87.	31.	3.05
HYDROGRAPH AT +	210	1322.	12.17	111.	29.	10.	.79
ROUTED TO +	R210	1246.	12.23	111.	29.	10.	.79
HYDROGRAPH AT +	240	1754.	12.27	167.	42.	15.	1.41
3 COMBINED AT +	C240	3752.	12.27	593.	153.	55.	5.25
ROUTED TO +	S240	1819.	12.93	528.	137.	49.	5.25
ROUTED TO +	R240	1817.	13.00	527.	137.	49.	5.25
HYDROGRAPH AT +	220	694.	12.20	68.	18.	6.	.47
2 COMBINED AT +	C220	1864.	12.97	587.	153.	55.	5.72
ROUTED TO +	S220	1775.	13.13	575.	150.	54.	5.72
ROUTED TO +	R220	1774.	13.20	575.	150.	54.	5.72
HYDROGRAPH AT +	190	1471.	12.17	123.	33.	12.	.92
ROUTED TO +	R190	1415.	12.23	123.	33.	12.	.92
ROUTED TO +	R192	1359.	12.30	123.	33.	12.	.92
HYDROGRAPH AT +	200	843.	12.17	72.	20.	7.	.53
3 COMBINED AT	C200	2171.	12.30	741.	195.	71.	7.17
ROUTED TO +	S200	2057.	12.37	736.	192.	69.	7.17
ROUTED TO +	R200	2055.	12.40	735.	192.	69.	7.17
ROUTED TO +	SS200	1788.	13.30	615.	162.	58.	7.17
ROUTED TO +	RR200	1784.	13.37	612.	162.	58.	7.17
2 COMBINED AT +	CC180	7306.	12.30	1505.	476.	204.	13.70
ROUTED TO +	S180	449.	15.63	436.	313.	154.	13.70
ROUTED TO +	R180	449.	15.70	436.	313.	154.	13.70
HYDROGRAPH AT +	260	399.	12.13	43.	12.	4.	.26
2 COMBINED AT +	C260	491.	15.63	477.	362.	181.	.26
ROUTED TO +	R260	491.	15.70	477.	362.	181.	.26
HYDROGRAPH AT +	280	498.	12.10	46.	13.	5.	.32
2 COMBINED AT +	C280	854.	12.13	479.	372.	185.	.58
ROUTED TO +	R280	837.	12.20	479.	372.	185.	.58
HYDROGRAPH AT +	300	392.	12.10	34.	9.	3.	.29
2 COMBINED AT	C300	1173.	12.17	503.	379.	188.	.87
ROUTED TO +	R300	1131.	12.23	502.	379.	188.	.87
HYDROGRAPH AT +	305A	413.	12.17	46.	13.	5.	.37

+	2 COMBINED AT	C305A	1501.	12.23	539.	388.	191.	1.24
	ROUTED TO	R305A	1470.	12.30	538.	387.	191.	1.24
+	HYDROGRAPH AT	320	899.	12.20	116.	33.	12.	.87
+	DIVERSION TO	BS320	439.	11.97	21.	6.	2.	.87
+	HYDROGRAPH AT	D320	899.	12.20	102.	27.	10.	.87
+	HYDROGRAPH AT	RT320	439.	11.97	21.	6.	2.	.87
+	ROUTED TO	S320	4.	12.03	4.	4.	2.	.87
+	3 COMBINED AT	C320	2277.	12.27	633.	411.	200.	2.11
+	HYDROGRAPH AT	340B	475.	12.07	35.	10.	4.	.29
+	DIVERSION TO	BS340B	475.	12.07	21.	6.	2.	.29
+	HYDROGRAPH AT	D340B	390.	12.13	16.	4.	2.	.29
+	HYDROGRAPH AT	RT340B	475.	12.07	21.	6.	2.	.29
+	ROUTED TO	S340B	3.	12.13	3.	3.	2.	.29
+	2 COMBINED AT	C340B	394.	12.13	19.	7.	4.	.29
+	DIVERSION TO	BS340	376.	12.13	12.	3.	1.	.29
+	HYDROGRAPH AT	DD340B	18.	12.10	8.	4.	3.	.29
	HYDROGRAPH AT	RT340	376.	12.13	12.	3.	1.	.29
+	ROUTED TO	SS340B	2.	12.63	2.	2.	1.	.29
+	2 COMBINED AT	CC340B	20.	12.63	10.	6.	4.	.29
+	ROUTED TO	R340B	20.	12.70	10.	6.	4.	.29
+	HYDROGRAPH AT	340A	1361.	12.17	161.	48.	17.	1.15
+	DIVERSION TO	BS340A	1361.	12.17	82.	23.	8.	1.15
+	HYDROGRAPH AT	D340A	1217.	12.23	93.	25.	9.	1.15
+	HYDROGRAPH AT	RT340A	1361.	12.17	82.	23.	8.	1.15
+	ROUTED TO	S340A	14.	12.27	13.	11.	7.	1.15
+	3 COMBINED AT	C340A	1212.	12.27	115.	42.	20.	1.44
+	2 COMBINED AT	C340	3432.	12.27	735.	446.	216.	3.55
+	HYDROGRAPH AT	355A	226.	12.10	22.	6.	2.	.16
+	ROUTED TO	R355A	197.	12.37	22.	6.	2.	.16
+	HYDROGRAPH AT	360	761.	12.20	109.	31.	11.	.88
	DIVERSION TO	BS360	761.	12.20	54.	14.	5.	.88
+	HYDROGRAPH AT	D360	665.	12.37	62.	17.	6.	.88
+	HYDROGRAPH AT	RT360	761.	12.20	54.	14.	5.	.88
	ROUTED TO							

+	S360	9.	12.37	8.	7.	5.	.88
+ 4 COMBINED AT	C360	3690.	12.37	816.	470.	227.	4.59
+ HYDROGRAPH AT	380A	322.	12.27	33.	10.	4.	.26
+ 2 COMBINED AT	C380A	3922.	12.37	843.	477.	230.	4.85
+ HYDROGRAPH AT	400A	56.	12.20	4.	1.	0.	.05
+ 2 COMBINED AT	C400A	3948.	12.37	846.	478.	230.	4.90
+ HYDROGRAPH AT	380B	567.	12.20	67.	17.	6.	.64
+ DIVERSION TO	BS380B	567.	12.20	57.	14.	5.	.64
+ HYDROGRAPH AT	D380B	147.	12.80	12.	3.	1.	.64
+ HYDROGRAPH AT	RT380B	567.	12.20	57.	14.	5.	.64
+ ROUTED TO	S380B	9.	12.80	9.	7.	5.	.64
+ 2 COMBINED AT	C380B	156.	12.80	20.	11.	6.	.64
+ DIVERSION TO	BS380	70.	12.80	2.	0.	0.	.64
+ HYDROGRAPH AT	DD380B	86.	12.77	18.	10.	6.	.64
+ HYDROGRAPH AT	RT380	70.	12.80	2.	0.	0.	.64
+ ROUTED TO	SS380B	4.	13.03	2.	0.	0.	.64
2 COMBINED AT	CC380B	90.	13.03	20.	11.	6.	.64
+ ROUTED TO	R380B	90.	13.03	20.	11.	6.	.64
+ HYDROGRAPH AT	400B	516.	12.20	62.	17.	6.	.57
+ DIVERSION TO	BS400B	292.	12.00	10.	3.	1.	.57
+ HYDROGRAPH AT	D400B	516.	12.20	54.	14.	5.	.57
+ HYDROGRAPH AT	RT400B	292.	12.00	10.	3.	1.	.57
+ ROUTED TO	S400B	2.	12.07	2.	2.	1.	.57
+ 2 COMBINED AT	C400B	518.	12.20	56.	15.	6.	.57
+ 3 COMBINED AT	CC400B	4334.	12.27	907.	498.	239.	6.10
+ HYDROGRAPH AT	420A	495.	12.20	68.	19.	7.	.57
+ DIVERSION TO	BS420A	377.	12.07	16.	4.	2.	.57
+ HYDROGRAPH AT	D420A	495.	12.20	56.	14.	5.	.57
+ HYDROGRAPH AT	RT420A	377.	12.07	16.	4.	2.	.57
+ ROUTED TO	S420A	13.	11.60	13.	4.	2.	.57
+ 3 COMBINED AT	C420A	4746.	12.27	963.	510.	244.	6.67
HYDROGRAPH AT	370A	633.	12.10	52.	14.	5.	.41
+ HYDROGRAPH AT	395A	209.	12.13	24.	6.	2.	.18
+ 2 COMBINED AT	C370A	838.	12.10	76.	21.	7.	.59

+	DIVERSION TO	BS370	698.	12.10	43.	11.	4.	.59
	HYDROGRAPH AT	D370	140.	11.77	33.	10.	4.	.59
+	HYDROGRAPH AT	RT370	698.	12.10	43.	11.	4.	.59
+	ROUTED TO	S370	8.	12.57	7.	6.	4.	.59
+	2 COMBINED AT	CC370	148.	12.57	39.	15.	7.	.59
+	ROUTED TO	R370	148.	12.57	39.	15.	7.	.59
+	HYDROGRAPH AT	385A	358.	12.07	27.	7.	3.	.21
+	HYDROGRAPH AT	415B	443.	12.10	46.	13.	5.	.33
+	2 COMBINED AT	C415B	785.	12.07	73.	20.	7.	.54
+	DIVERSION TO	BS415B	595.	12.07	34.	8.	3.	.54
+	HYDROGRAPH AT	D415B	190.	11.83	40.	12.	4.	.54
+	HYDROGRAPH AT	RT415B	595.	12.07	34.	8.	3.	.54
+	ROUTED TO	S415B	7.	12.50	7.	6.	3.	.54
+	2 COMBINED AT	CC415B	197.	12.47	45.	17.	7.	.54
+	ROUTED TO	R415B	197.	12.47	45.	17.	7.	.54
+	HYDROGRAPH AT	390	477.	12.03	35.	10.	4.	.24
	DIVERSION TO	BS390	101.	11.73	6.	2.	1.	.24
+	HYDROGRAPH AT	D390	477.	12.03	31.	8.	3.	.24
+	HYDROGRAPH AT	RT390	101.	11.73	6.	2.	1.	.24
+	ROUTED TO	S390	1.	11.80	1.	1.	1.	.24
+	4 COMBINED AT	C390	814.	12.03	115.	41.	18.	1.38
+	ROUTED TO	R390	746.	12.23	115.	41.	18.	1.38
+	HYDROGRAPH AT	420B	356.	12.10	34.	10.	4.	.28
+	2 COMBINED AT	C420B	1039.	12.20	148.	50.	22.	1.65
+	HYDROGRAPH AT	440	184.	12.03	12.	3.	1.	.08
+	ROUTED TO	R70	181.	12.07	12.	3.	1.	.08
+	HYDROGRAPH AT	441	16.	12.03	1.	0.	0.	.01
+	2 COMBINED AT	C108	197.	12.07	14.	4.	1.	.09
+	DIVERSION TO	SPLIT	98.	12.07	7.	2.	1.	.09
+	HYDROGRAPH AT	D4	98.	12.07	7.	2.	1.	.09
	ROUTED TO	R108	92.	12.13	7.	2.	1.	.09
+	HYDROGRAPH AT	442	105.	12.10	9.	2.	1.	.10
+	2 COMBINED AT	C67	195.	12.10	16.	4.	2.	.19
	DIVERSION TO							

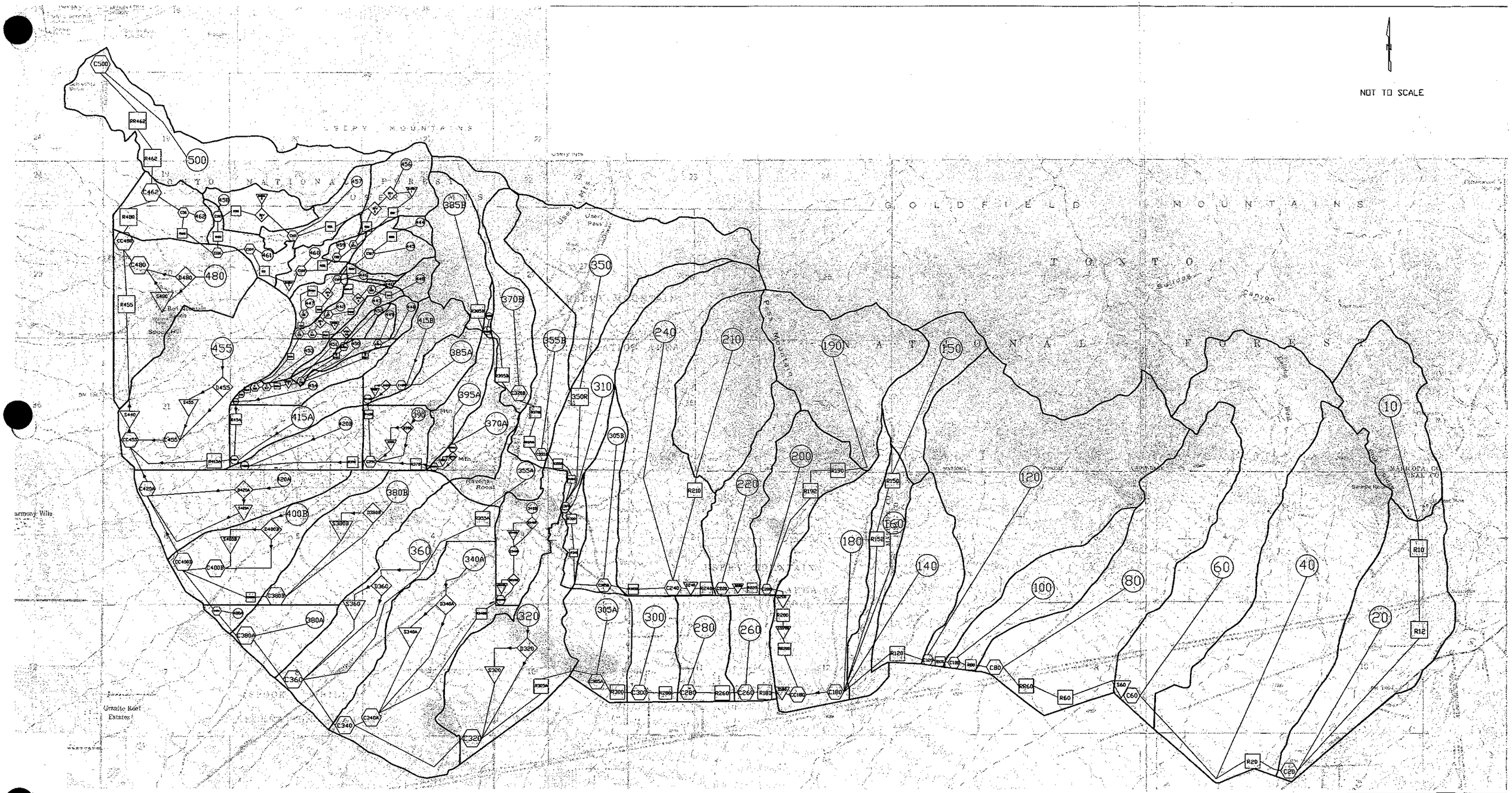
+	BASIN4	121.	12.10	6.	2.	1.	.19
+ HYDROGRAPH AT	D6	74.	12.10	10.	3.	1.	.19
HYDROGRAPH AT	RTD6	121.	12.10	6.	2.	1.	.19
+ ROUTED TO	SD6	1.	12.47	1.	1.	0.	.19
+ 2 COMBINED AT	CD6	74.	12.10	10.	3.	1.	.19
+ HYDROGRAPH AT	443	151.	12.07	15.	4.	1.	.08
+ DIVERSION TO	WSH66	78.	11.87	12.	3.	1.	.08
+ HYDROGRAPH AT	D66	73.	12.07	3.	1.	0.	.08
+ ROUTED TO	R113	71.	12.07	3.	1.	0.	.08
+ 2 COMBINED AT	C114	144.	12.07	13.	4.	2.	.27
+ HYDROGRAPH AT	444	83.	12.03	5.	1.	0.	.04
+ ROUTED TO	R58	79.	12.07	5.	1.	0.	.04
+ HYDROGRAPH AT	445	307.	12.03	19.	5.	2.	.19
+ 2 COMBINED AT	C107	382.	12.03	23.	6.	2.	.23
+ ROUTED TO	R107	382.	12.07	23.	6.	2.	.23
+ HYDROGRAPH AT	RTB2	98.	12.07	7.	2.	1.	.09
ROUTED TO	RSPLIT	98.	12.07	7.	2.	1.	.09
+ HYDROGRAPH AT	446	66.	12.03	6.	2.	1.	.04
+ 3 COMBINED AT	C109	545.	12.07	36.	10.	3.	.27
+ DIVERSION TO	WSH404	35.	11.70	8.	2.	1.	.27
+ HYDROGRAPH AT	D5	510.	12.07	28.	7.	3.	.27
+ ROUTED TO	R109	493.	12.10	28.	7.	3.	.27
+ HYDROGRAPH AT	447	141.	12.07	12.	4.	1.	.09
+ HYDROGRAPH AT	RT404	35.	11.70	8.	2.	1.	.27
+ ROUTED TO	R404	35.	11.83	8.	2.	1.	.27
+ 3 COMBINED AT	C110	666.	12.07	48.	13.	5.	.36
+ ROUTED TO	R110	663.	12.10	48.	13.	5.	.36
+ 2 COMBINED AT	C115	805.	12.07	61.	17.	7.	.63
+ ROUTED TO	R115	799.	12.10	61.	17.	7.	.63
+ HYDROGRAPH AT	448	89.	12.03	6.	2.	1.	.05
+ HYDROGRAPH AT	449	81.	12.03	5.	1.	0.	.05
2 COMBINED AT	C6364	170.	12.03	11.	3.	1.	.09
+ ROUTED TO	R6364	145.	12.17	11.	3.	1.	.09
+ HYDROGRAPH AT	450	63.	12.20	7.	2.	1.	.07

+	HYDROGRAPH AT 451	18.	12.17	2.	1.	0.	.03
	2 COMBINED AT C451	80.	12.20	9.	2.	1.	.09
+	HYDROGRAPH AT RT66	78.	11.87	12.	3.	1.	.08
+	HYDROGRAPH AT 452	63.	12.03	5.	1.	0.	.04
+	2 COMBINED AT C6465	141.	12.03	17.	4.	2.	.04
+	ROUTED TO R6566	137.	12.10	17.	4.	2.	.04
+	3 COMBINED AT C116	357.	12.17	36.	10.	3.	.23
+	ROUTED TO BASIN5	159.	12.47	36.	10.	3.	.23
+	ROUTED TO R116	157.	12.53	36.	10.	3.	.23
+	HYDROGRAPH AT 453	63.	12.10	7.	2.	1.	.06
+	2 COMBINED AT C117	177.	12.47	43.	12.	4.	.29
+	2 COMBINED AT C118	892.	12.10	104.	29.	11.	.92
+	ROUTED TO R118	887.	12.13	104.	29.	11.	.92
+	DIVERSION TO BASIN6	248.	12.13	7.	2.	1.	.92
+	HYDROGRAPH AT D7	639.	12.13	97.	27.	10.	.92
+	HYDROGRAPH AT RTD7	248.	12.13	7.	2.	1.	.92
	ROUTED TO SD7	1.	12.63	1.	1.	1.	.92
+	2 COMBINED AT CD7	640.	12.13	97.	28.	11.	.92
+	HYDROGRAPH AT 454	162.	12.13	21.	6.	2.	.18
+	2 COMBINED AT C454	801.	12.13	118.	34.	13.	1.10
+	ROUTED TO R454	793.	12.23	118.	34.	13.	1.10
+	HYDROGRAPH AT 415A	267.	12.17	32.	9.	3.	.28
+	3 COMBINED AT C415A	2063.	12.20	292.	90.	37.	3.03
+	ROUTED TO R415A	2050.	12.23	292.	90.	37.	3.03
+	HYDROGRAPH AT 455	1418.	12.13	150.	45.	16.	1.11
+	DIVERSION TO BS455	1418.	12.13	139.	37.	13.	1.11
+	HYDROGRAPH AT D455	145.	12.80	24.	8.	3.	1.11
+	HYDROGRAPH AT RT455	1418.	12.13	139.	37.	13.	1.11
+	ROUTED TO S455	23.	12.80	22.	18.	11.	1.11
+	2 COMBINED AT C455	169.	12.80	46.	26.	14.	1.11
	3 COMBINED AT CC455	6428.	12.27	1225.	594.	282.	10.82
+	ROUTED TO S440	364.	26.47	361.	325.	197.	10.82
+	ROUTED TO R455	364.	27.17	361.	325.	195.	10.82
	HYDROGRAPH AT						

+	480	1102.	12.10	100.	31.	11.	.73
+ DIVERSION TO	BS480	487.	11.90	27.	8.	3.	.73
+ HYDROGRAPH AT	D480	1102.	12.10	83.	23.	8.	.73
+ HYDROGRAPH AT	RT480	487.	11.90	27.	8.	3.	.73
+ ROUTED TO	S480	5.	11.97	5.	4.	3.	.73
+ 2 COMBINED AT	C480	1107.	12.10	88.	27.	11.	.73
+ 2 COMBINED AT	CC480	1107.	12.10	416.	375.	234.	.73
+ ROUTED TO	R480	878.	12.33	416.	375.	233.	.73
+ HYDROGRAPH AT	456	483.	12.07	37.	10.	4.	.26
+ DIVERSION TO	BASIN1	193.	12.07	8.	2.	1.	.26
+ HYDROGRAPH AT	D1	290.	12.07	29.	8.	3.	.26
+ DIVERSION TO	WA30	59.	12.07	10.	3.	1.	.26
+ HYDROGRAPH AT	D2	231.	12.07	19.	5.	2.	.26
+ ROUTED TO	R456	218.	12.13	19.	5.	2.	.26
+ HYDROGRAPH AT	457	273.	12.07	21.	6.	2.	.19
+ 2 COMBINED AT	C101	480.	12.10	40.	10.	4.	.45
DIVERSION TO	BASIN2	177.	12.10	8.	2.	1.	.45
+ HYDROGRAPH AT	D3	303.	12.10	32.	8.	3.	.45
+ HYDROGRAPH AT	RTD3	177.	12.10	8.	2.	1.	.45
+ ROUTED TO	SD3	1.	12.40	1.	1.	1.	.45
+ 2 COMBINED AT	CD3	304.	12.10	33.	9.	4.	.45
+ ROUTED TO	R101	302.	12.10	33.	9.	4.	.45
+ HYDROGRAPH AT	458	366.	12.03	26.	7.	2.	.19
+ 2 COMBINED AT	C103	655.	12.07	59.	16.	6.	.64
+ ROUTED TO	R103	651.	12.07	59.	16.	6.	.64
+ HYDROGRAPH AT	RT30	59.	12.07	10.	3.	1.	.26
+ ROUTED TO	R30	58.	12.10	10.	3.	1.	.26
+ HYDROGRAPH AT	RTB1	193.	12.07	8.	2.	1.	.26
+ ROUTED TO	B1	35.	12.20	8.	2.	1.	.26
+ ROUTED TO	RB1	35.	12.27	8.	2.	1.	.26
+ 2 COMBINED AT	CDIV	87.	12.20	18.	5.	2.	.12
HYDROGRAPH AT	459	45.	12.03	3.	1.	0.	.03
+ 2 COMBINED AT	C52	117.	12.10	21.	6.	2.	.15
+ ROUTED TO	R52	116.	12.17	21.	6.	2.	.15

+	HYDROGRAPH AT	460	221.	12.07	20.	6.	2.	.14
	2 COMBINED AT	C102	323.	12.07	40.	12.	4.	.29
+	ROUTED TO	BASIN3	71.	12.63	40.	12.	4.	.29
+	ROUTED TO	R3	71.	12.77	40.	12.	4.	.29
+	HYDROGRAPH AT	461	165.	12.10	17.	5.	2.	.12
+	2 COMBINED AT	C104	220.	12.10	57.	17.	6.	.41
+	2 COMBINED AT	C106	866.	12.07	115.	33.	12.	1.05
+	ROUTED TO	R106	828.	12.13	115.	33.	12.	1.05
+	HYDROGRAPH AT	462	557.	12.07	42.	12.	4.	.30
+	2 COMBINED AT	C56	1306.	12.10	156.	44.	16.	1.35
+	2 COMBINED AT	C462	1641.	12.30	416.	376.	249.	2.09
+	ROUTED TO	R462	1575.	12.33	406.	367.	243.	2.09
+	ROUTED TO	RR462	1543.	12.40	406.	367.	242.	2.09
+	HYDROGRAPH AT	500	1126.	12.27	128.	35.	12.	.93
+	2 COMBINED AT	C500	2475.	12.33	431.	387.	251.	3.02

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



FLOOD CONTROL DISTRICT
OF MARICOPA COUNTY
ENGINEERING DIVISION

McDOWELL/McKELLIPS/PASS MTN. ALTERNATIVE

	BY	DATE
DESIGNED	R. HINER	06/00
DRAWN	S. CAMPBELL	06/00
CHECKED	A. PATEL	06/00

WOOD, PATEL & ASSOCIATES, INC.
2051 WEST NORTHERN, SUITE 100
PHOENIX, ARIZONA (602) 335-8500

DRAWING NO. MD2PMMK1.DWG SHEET OF

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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   01MAY01  TIME  16:52:12  *                    *          (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   DDMS MCUHP1 SPOOK HILL ADMP-EXISTING CONDITIONS MODEL-100YR, 24-HR STORM
  2           ID   Combined McDowell Road, McKellips Road & Pass Mountain Alternatives
  3           ID   McDowell Road Alternative - Option MD2E
  4           ID   McKellips Road Alternative - Option MK1C
  5           ID   FULL PASS MOUNTAIN DIVERSION WITH SPOOK HILL FRS STORAGE ROUTING - PM4R
  6           ID   OUTFLOW OF SIGNAL BUTTE IS QUADRUPLED
  7           ID   Spook Hill FRS without Off-Line Basin
              *
              *  Original File Names: MD2EPM4R.DAT, EC24MK1C.DAT
              *  Modified File Name:  MD2PMMK1.DAT, 4/23/01, WOOD/PATEL, SZ
              *
              *
              *DIAGRAM
  8           IT       2                    2000
  9           IO       5
 10           IN      15
 11           JD    3.81    0.01
 12           PC    .000    .002    .005    .008    .011    .014    .017    .020    .023    .026
 13           PC    .029    .032    .035    .038    .041    .044    .048    .052    .056    .060
 14           PC    .064    .068    .072    .076    .080    .085    .090    .095    .100    .105
 15           PC    .110    .115    .120    .126    .133    .140    .147    .155    .163    .172
 16           PC    .181    .191    .203    .218    .236    .257    .283    .387    .663    .707
 17           PC    .735    .758    .776    .791    .804    .815    .825    .834    .842    .849
 18           PC    .856    .863    .869    .875    .881    .887    .893    .898    .903    .908
 19           PC    .913    .918    .922    .926    .930    .934    .938    .942    .946    .950
 20           PC    .953    .956    .959    .962    .965    .968    .971    .974    .977    .980
 21           PC    .983    .986    .989    .992    .995    .998   1.000
 22           JD   3.787    1.00
 23           JD   3.677    5.80
 24           JD   3.574   10.66
 25           JD   3.539   13.70
 26           JD   3.467   20.00
 27           JD   3.315   50.00
              * DDM   ***** Updated *****

 28           KK      10
 29           KM   SUB-BASIN 10
 30           KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
 31           KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .996
 32           KM     L = 2.00  Kb = .044  Adj. Slope =  165.0
 33           BA    .702
 34           LG    .350    .320   7.600    .090  15.000
 35           UC    .421    .302
 36           UA       0       3       5       8      12      20      43      75      90      96
 37           UA     100
              * DDM   ***** Preserved *****

 38           KK     R10
 39           KM   ROUTING OF FLOW FROM SUB-BASIN 10 TO R12
 40           RS       4    FLOW      -1
 41           RC    .045     .03    .045    8700    .021
 42           RX       0       1       2      17      27      42      43      44
 43           RY       5       5       5       0       0       5       5       5
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                 * DDM   ***** Preserved *****
                                          HEC-1 INPUT                                                    PAGE  2
LINE             ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

  44             KK     R12
  45             KM   ROUTING OF FLOW FROM R12 TO SUB-BASIN 20
  46             RS       6    FLOW      -1
  47             RC    .045     .03    .045    4500     .01
  48             RX       0       1      45    52.5    72.5      80     124     125
  49             RY       4     2.5     2.5       0       0     2.5     2.5       4
                 * DDM   ***** Updated *****

  50             KK      20
  51             KM   SUB-BASIN 20
  52             KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
  53             KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .993
  54             KM     L = 2.50  Kb = .041  Adj. Slope =   88.0
  55             BA   1.120
  56             LG    .350    .390   5.800    .190   1.000
  57             UC    .658    .454
  58             UA       0       3       5       8      12      20      43      75      90      96
  59             UA     100
                 * DDM   ***** Preserved *****

  60             KK     C20
  61             KM   HYDROGRAPH COMBINATION OF SUB-BASINS 10 AND 20
  62             HC       2
                 * DDM   ***** Preserved *****

  63             KK     R20
  64             KM        ROUTE FLOW THROUGH BULLDOG FLOODWAY FROM APACHE JUNCTION FRS
  65             RS       1    FLOW      -1
  66             RC    .016    .016    .016     990    .004
  67             RX       0       5       7    14.5    34.5      42      44      50
  68             RY       4       2       2       0       0       2       2       4
                 * DDM   ***** Updated *****

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

  79             KK      60
  80             KM   SUB-BASIN 60
  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  .990
  83             KM     L = 4.19  Kb = .038  Adj. Slope =  209.6
  84             BA   1.746
  85             LG    .330    .350   5.800    .190   9.000
  86             UC    .596    .477
  87             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

  88             UA     100
                 * DDM   ***** Preserved *****

  89             KK     C60
  90             KM   HYDROGRAPH COMBINATION FOR APACHE JUNCTION FRS
                 *      1       2
  91             HC       3
                 * DDM   ***** Preserved *****

  92             KK     S60
  93             KM   APACHE JUNCTION FRS AS-BUILT PLANS 12/19/88
  94             KM   OUTLET PIPE=30"RCP; L=136.6'; INLET INV.=1783.5; OUTLET INV.=1783
  95             KM   EMERGENCY SPILLWAY ELEV.=1799.77'; PRINCIPLE SPILLWAY ELEV.=1793.5'
  96             KM   STORAGE VOLUME BELOW PRINCIPLE SPILLWAY FOR SEDIMENT = 100 ACRE-FEET
                 *  ESE = 1801.92 ft; PSE = 1795.65 ft; Sediment Vol. = 237 Ac-Ft.
  97             RS       1    STOR       0
  98             SV       0       0      77     242     371     439     563     687    2163
  99             SQ       0      12     103     114     120     362    1462    3101   30000
 100             SE    95.0    96.0    98.0   100.0   101.6   101.9   103.0   104.0   112.9
                 * DDM   ***** Preserved *****

 101             KK     R60
 102             KM        ROUTE FLOW THROUGH BULLDOG FLOODWAY FROM APACHE JUNCTION FRS
 103             RS       1    FLOW      -1
 104             RC    .016    .016    .016    2850    .012
 105             RX       0       1       2     2.1     5.6     5.7       6       7
 106             RY     3.5     3.5     3.5       0       0     3.5     3.5     3.5
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                * DDM   ***** Preserved *****

 107            KK    RR60
 108            KM   ROUTE FLOW FROM BULLDOG FLOODWAY TO SUB-BASIN 80
 109            RS       3    FLOW      -1
 110            RC    .016    .016    .016    3500    .005
 111            RX       0       1       2     2.1     7.1     7.2       8       9
 112            RY     3.5     3.5     3.5       0       0     3.5     3.5     3.5
                * DDM   ***** Updated *****

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

 123            KK     C80
 124            KM   HYDROGRAPH COMBINATION FOR FLOW FROM APACHE JUNCTION FRS & SUB-BASIN 80
 125            HC       2   1.475
                * DDM   ***** Preserved *****
1                                          HEC-1 INPUT                                          PAGE  4

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

 126            KK     R80
 127            KM   ROUTE FLOW FROM SUB-BASIN 80 TO SUB-BASIN 100
 128            RS       1    FLOW      -1
 129            RC    .025    .016    .025    1200    .003
 130            RX       0       2       6     6.1    41.1    41.2    56.2    58.2
 131            RY     5.5     4.5     4.5       0       0     4.5     4.5     5.5
                * DDM   ***** Updated *****

 132            KK     100
 133            KM   SUB-BASIN 100
 134            KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
 135            KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .997
 136            KM     L = 1.94  Kb = .046  Adj. Slope =  108.0
 137            BA    .484
 138            LG    .320    .290   5.100    .260   3.000
 139            UC    .533    .473
 140            UA       0       5      16      30      65      77      84      90      94      97
 141            UA     100
                * DDM   ***** Preserved *****

 142            KK    C100
 143            KM   HYDROGRAPH COMBINATION FOR FLOW FROM SUB-BASIN 80 & 100
 144            HC       2
                * DDM   ***** Preserved *****

 145            KK    R100
 146            KM   ROUTE FLOW FROM SUB-BASIN 100 TO SUB-BASIN 120
 147            RS       1    FLOW      -1
 148            RC    .016    .016    .016     940    .005
 149            RX       0       1       2     2.1    52.1    52.2      53      54
 150            RY     4.5     4.5     4.5       0       0     4.5     4.5     4.5
                * DDM   ***** Updated *****

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

 161            KK    C120
 162            KM   HYDROGRAPH COMBINATION FOR FLOW FROM SUB-BASIN 100 & 120
 163            HC       2
                * DDM   ***** Preserved *****
1                                          HEC-1 INPUT                                          PAGE  5

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

 164            KK    R120
 165            KM   ROUTE FLOW FROM SUB-BASIN 120 TO SIGNAL BUTTE FRS
 166            RS       1    FLOW      -1
 167            RC    .025    .016    .025    2100    .005
 168            RX       0       6      10    10.1    60.1    60.2    74.2    80.2
 169            RY       8       5       5       0       0       5       5       8
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            * DDM   ***** Updated *****

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

180         KK     150
181         KM   SUB-BASIN 150
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  .998
184         KM     L = 1.50  Kb = .047  Adj. Slope =  314.6
185         BA    .408
186         LG    .350    .360   5.100    .260   7.000
187         UC    .296    .221
188         UA       0       3       5       8      12      20      43      75      90      96
189         UA     100
            * DDM   ***** Preserved *****

190         KK    R150
191         KM   ROUTING OF FLOW FROM SUB-BASIN 150 TO R152
192         RS       2    FLOW      -1
193         RC    .045     .04    .045    3100    .032
194         RX       0       1       2      23      33      54      55      56
195         RY       7       7       7       0       0       7       7       7
            * DDM   ***** Preserved *****

196         KK    R152
197         KM   ROUTING OF FLOW FROM R152 TO SUB-BASIN 160
198         RS       3    FLOW      -1
199         RC    .045     .03    .045    5900    .019
200         RX       0       1       2       8      33      39      40      41
201         RY       2       2       2       0       0       2       2       2
            * DDM   ***** Updated *****

202         KK     160
203         KM   SUB-BASIN 160
204         KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
205         KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .998
206         KM     L = 2.10  Kb = .047  Adj. Slope =  129.0
207         BA    .369
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LINE        ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

208         LG    .340    .330   4.150    .440   1.000
209         UC    .587    .655
210         UA       0       3       5       8      12      20      43      75      90      96
211         UA     100
            * DDM   ***** Updated *****

212         KK     180
213         KM   SUB-BASIN 180
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  .994
216         KM     L = 2.42  Kb = .041  Adj. Slope =  140.0
217         BA   1.000
218         LG    .350    .350   4.150    .430    .000
219         UC    .571    .403
220         UA       0       3       5       8      12      20      43      75      90      96
221         UA     100
            * DDM   ***** Preserved *****

222         KK    C180
223         KM   HYDROGRAPH COMBINATION FOR SIGNAL BUTTE FRS
            * KO     1
224         HC       5
            * DDM   ***** Updated *****

225         KK    385B
226         KM   SUB-BASIN 385B
227         KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
228         KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .998
229         KM     L = 1.47  Kb = .047  Adj. Slope =  315.0
230         BA    .375
231         LG    .350    .400   6.000    .170  17.000
232         UC    .287    .221
233         UA       0       3       5       8      12      20      43      75      90      96
234         UA     100
            * DDM   ***** Preserved *****

235         KK   R385B
236         KM   CHANNEL GEOMETRY OBTAINED FROM 2' CONTOUR MAPPING & AERIAL MAPPING
237         KM   ROUTING OF FLOW FROM SUB-BASIN 385B TO 395B
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238          KM   OVERBANK MANNINGS INCREASED TO ACCOUNT FOR SKEWED FLOW TO NATURAL
239          KM   WATERCOURSE FLOW PATH
240          RS       1    FLOW      -1
241          RC     .07     .03     .07     500    .045
242          RX       0       1       3       9      39      45      46      47
243          RY       3       2       2       0       0       2       2       3
             * DDM   ***** Updated *****

244          KK    395B
245          KM   SUB-BASIN 395B
246          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
247          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF 1.000
248          KM     L =  .71  Kb = .066  Adj. Slope =  249.8
249          BA    .017
250          LG    .350    .350   4.300    .400    .000
251          UC    .262    .650
1                                        HEC-1 INPUT                                                    PAGE  7

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

252          UA       0       3       5       8      12      20      43      75      90      96
253          UA     100
             * DDM   ***** Preserved *****

254          KK   C395B
255          KM   HYDROGRAPH COMBINATION OF SUB-BASINS 383 & 393
256          HC       2
             * DDM   ***** Preserved *****

257          KK   R395B
258          KM   CHANNEL GEOMETRY OBTAINED FROM 2' CONTOUR MAPPING & AERIAL MAPPING
259          KM   ROUTING OF FLOW FROM SUB-BASIN 393 TO SUB-BASIN 365
260          RS       2    FLOW      -1
261          RC    .055     .03    .055    3630    .045
262          RX       0       1       3       9      39      45      46      47
263          RY       3       2       2       0       0       2       2       3
             * DDM   ***** Updated *****

264          KK    370B
265          KM   SUB-BASIN 370B
266          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
267          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .998
268          KM     L = 2.20  Kb = .049  Adj. Slope =  299.5
269          BA    .264
270          LG    .350    .350   4.800    .290   5.000
271          UC    .408    .550
272          UA       0       3       5       8      12      20      43      75      90      96
273          UA     100
             * DDM   ***** Preserved *****

274          KK   C370C
275          KM   HYDROGRAPH COMBINATION OF SUB-BASINS 395B & 370B
276          HC       2
             * DDM   ***** Preserved *****

277          KK   R370B
278          KM   CHANNEL GEOMETRY OBTAINED FROM 2' CONTOUR MAPPING & AERIAL MAPPING
279          KM   ROUTING OF FLOW FROM SUB-BASIN 370B TO ROUTING RR370B
280          RS       2    FLOW      -1
281          RC    .045     .03    .045    1110    .025
282          RX       0       1      50      56      76      82     131     132
283          RY       3       2       2       0       0       2       2       3
             * DDM   ***** Preserved *****

284          KK  RR370B
285          KM   CHANNEL GEOMETRY OBTAINED FROM 2' CONTOUR MAPPING & AERIAL MAPPING
286          KM   ROUTING OF FLOW FROM RR370B TO SUB-BASIN 355B
287          KM   OVERBANK MANNINGS INCREASED TO ACCOUNT FOR SKEWED FLOW TO NATURAL
288          KM   WATERCOURSE FLOW PATH
289          RS       1    FLOW      -1
290          RC     .07     .03     .07    1550    .008
291          RX       0       3       5      11      41      47     147     247
292          RY     3.5     2.5       2       0       0       2     2.5     3.5
             * DDM   ***** Updated *****
1                                        HEC-1 INPUT                                                    PAGE  8

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

293          KK    355B
294          KM   SUB-BASIN 355B
295          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
296          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .997
297          KM     L = 2.41  Kb = .045  Adj. Slope =  298.2
298          BA    .513
299          LG    .350    .350   4.400    .370   1.000
300          UC    .421    .419
301          UA       0       3       5       8      12      20      43      75      90      96
302          UA     100
             * DDM   ***** Preserved *****
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303          KK   C355B
304          KM   HYDROGRAPH COMBINATION OF SUB-BASINS 370B & 355B
305          HC       2
             * DDM   ***** Preserved *****

306          KK   R355B
307          KM   CHANNEL GEOMETRY OBTAINED FROM 2' CONTOUR MAPPING & AERIAL MAPPING
308          KM   ROUTING OF FLOW FROM SUB-BASIN 355B TO ROUTING RR355B
309          KM   OVERBANK MANNINGS INCREASED TO ACCOUNT FOR SKEWED FLOW TO NATURAL
310          KM   WATERCOURSE FLOW PATH
311          RS       3    FLOW      -1
312          RC     .07     .03     .07     936    .009
313          RX       0       3       5      11      41      47     172     302
314          RY     3.5     2.5       2       0       0       2     2.5     3.5
             * DDM   ***** Preserved *****

315          KK  RR355B
316          KM   CHANNEL GEOMETRY OBTAINED FROM 2' CONTOUR MAPPING & AERIAL MAPPING
317          KM   ROUTING OF FLOW FROM R355B TO SUB-BASIN 310
318          RS       1    FLOW      -1
319          RC    .045     .03    .045    1725     .03
320          RX       0       1      25      31      51      57      81      82
321          RY       3       2       2       0       0       2       2       3
             * DDM   ***** Updated *****

322          KK     350
323          KM   SUB-BASIN 350
324          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
325          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .994
326          KM     L = 2.22  Kb = .042  Adj. Slope =  315.0
327          BA    .970
328          LG    .350    .350   4.550    .340   4.000
329          UC    .367    .234
330          UA       0       3       5       8      12      20      43      75      90      96
331          UA     100
             * DDM   ***** Preserved *****
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LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

332          KK    R350
333          KM   CHANNEL GEOMETRY OBTAINED FROM 2' CONTOUR MAPPING & AERIAL MAPPING
334          KM   ROUTING OF MAIN FLOW FROM DIVERSION OF SUB-BASIN 350 TO SUB-BASIN 310
335          RS       9    FLOW      -1
336          RC    .045    .035    .045    7650    .025
337          RX       0       1      50      56      86      92     141     142
338          RY       3       2       2       0       0       2       2       3
             * DDM   ***** Updated *****

339          KK     310
340          KM   SUB-BASIN 310
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  .997
343          KM     L = 2.65  Kb = .046  Adj. Slope =  285.6
344          BA    .494
345          LG    .350    .350   3.910    .480    .000
346          UC    .483    .538
347          UA       0       3       5       8      12      20      43      75      90      96
348          UA     100
             * DDM   ***** Preserved *****

349          KK    C310
350          KM   HYDROGRAPH COMBINATION OF SUB-BASINS 350 & 310
351          HC       3
             * DDM   ***** Preserved *****

352          KK    R310
353          KM   CHANNEL GEOMETRY OBTAINED FROM 2' CONTOUR MAPPING & AERIAL MAPPING
354          KM   ROUTING OF FLOW FROM SUB-BASIN 310 TO R312
355          RS       3    FLOW      -1
356          RC    .045     .03    .045    2850    .021
357          RX       0       1     100     106     126     132     231     232
358          RY     3.5       2       2       0       0       2       2     3.5
             * DDM   ***** Preserved *****

359          KK    R312
360          KM   CHANNEL GEOMETRY OBTAINED FROM 2' CONTOUR MAPPING & AERIAL MAPPING
361          KM   ROUTING OF FLOW FROM SUB-BASIN 310 TO 305
362          KM   OVERBANK MANNINGS INCREASED TO ACCOUNT FOR SKEWED FLOW TO NATURAL
363          KM   WATERCOURSE FLOW PATH
364          RS       3    FLOW      -1
365          RC     .07     .03     .07    2560   .0124
366          RX       0       3       5      11      61      67     200     395
367          RY       4     2.5       2       0       0       2     2.5       4
             * DDM   ***** Updated *****

368          KK    305B
369          KM   SUB-BASIN 305B
370          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
371          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .998
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372          KM     L = 1.65  Kb = .047  Adj. Slope =  127.0
373          BA    .414
374          LG    .350     .350   4.700     .300     .000
375          UC    .467     .392
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LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

376          UA       0       3       5       8      12      20      43      75      90      96
377          UA     100
             * DDM   ***** Preserved *****

378          KK   C305B
379          KM   HYDROGRAPH COMBINATION OF SUB-BASINS 310 & 295
380          HC       2
             * DDM   ***** Preserved *****

381          KK   R305B
382          KM   CHANNEL GEOMETRY OBTAINED FROM 2' CONTOUR MAPPING & AERIAL MAPPING
383          KM   ROUTING OF FLOW FROM SUBBASIN 305B TO BEGINNING OF PASS MTN. DIVERSION.
384          KM   OVERBANK MANNINGS INCREASED TO ACCOUNT FOR SKEWED FLOW TO NATURAL
385          KM   WATERCOURSE FLOW PATH
386          RS       3    FLOW      -1
387          RC     .07     .03     .07    1100    .013
388          RX       0       3       5      11      51      57     200     400
389          RY       4     2.5       2       0       0       2     2.5       4
             * 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  .995
394          KM     L = 1.84  Kb = .043  Adj. Slope =  315.0
395          BA    .792
396          LG    .350     .360   6.800     .130   4.000
397          UC    .313     .189
398          UA       0       3       5       8      12      20      43      75      90      96
399          UA     100
             * DDM   ***** Preserved *****

400          KK    R210
401          KM   ROUTING OF FLOW FROM SUB-BASIN 210 TO SUB-BASIN 220
402          RS       2    FLOW      -1
403          RC    .045     .03    .045    5100    .022
404          RX       0       1       2      14      34      46      47      48
405          RY       4       4       4       0       0       4       4       4
             * DDM   ***** Updated *****

406          KK     240
407          KM   SUB-BASIN 240
408          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
409          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .992
410          KM     L = 2.96  Kb = .039  Adj. Slope =  305.5
411          BA   1.408
412          LG    .350     .370   5.300     .230   2.000
413          UC    .417     .274
414          UA       0       3       5       8      12      20      43      75      90      96
415          UA     100
             * DDM   ***** Preserved *****
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LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

416          KK    C240
417          KM   HYDROGRAPH COMBINATION FOR SUB-BASIN 240 & 220
418          HC       3
             * DDM   ***** Preserved *****

419          KK    S240
420          KM   DIGITAL MAPPING SHOWS SEDIMENTATION.  FOR SIMPLICITY NO ADDITIONAL
421          KM   SEDIMENTATION WILL BE CONSIDERED FOR STORAGE ROUTING ANALYSIS. 5/11/00
422          KM    WEIR GEOMETRY OBTAINED FROM AS-BUILT PLANS @ PASS MTN. DIVERSION.
423          KM   WEIR STORAGE DATA OBTAINED FROM 2' CONTOUR MAPPING. Weir Width Changed
             *  from 42' to 45'
424          RS       1    STOR       0
425          SA    1.38    14.2    36.5
426          SE       0       5      11
427          SS       5      45       3     1.5
             * DDM   ***** Preserved *****

428          KK    R240
429          KM   ROUTE FLOW FROM SUB-BASIN 240 TO SUB-BASIN 220
430          KM   PASS MOUNTAIN DIVERSION
431          RS       3    FLOW      -1
432          RC    .035    .025    .035    1800    .005
433          RX       0      15      30      39      69      81      96     111
434          RY     4.6     3.3       3       0       0       3       3       4
             * DDM   ***** Updated *****

435          KK     220
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436          KM   SUB-BASIN 220
437          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
438          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .997
439          KM     L = 1.85  Kb = .046  Adj. Slope =  315.0
440          BA    .473
441          LG    .350    .350   7.000    .120   5.000
442          UC    .325    .266
443          UA       0       3       5       8      12      20      43      75      90      96
444          UA     100
             * DDM   ***** Preserved *****

445          KK    C220
446          KM   HYDROGRAPH COMBINATION FOR SUB-BASIN 240 & 220
447          HC       2
             * DDM   ***** Preserved *****

448          KK    S220
449          KM   DIGITAL MAPPING SHOWS SEDIMENTATION.  FOR SIMPLICITY NO ADDITIONAL
450          KM   SEDIMENTATION WILL BE CONSIDERED FOR STORAGE ROUTING ANALYSIS. 5/11/00
451          KM    WEIR GEOMETRY OBTAINED FROM AS-BUILT PLANS @ PASS MTN. DIVERSION.
452          KM   WEIR STORAGE DATA OBTAINED FROM 2' CONTOUR MAPPING.
453          RS       1    STOR       0
454          SA     .78     4.1    13.7
455          SE       0       3      10
456          SS       3      65       3     1.5
             * DDM   ***** Preserved *****
1                                    HEC-1 INPUT                                          PAGE 12

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

457          KK    R220
458          KM   ROUTE FLOW FROM SUB-BASIN 220 TO SUB-BASIN 200
459          KM   PASS MOUNTAIN DIVERSION
460          RS       3    FLOW      -1
461          RC    .035    .025    .035    1250    .005
462          RX       0      50     100     109     139     148     178     184
463          RY       5       4       3       0       0       3       3       5
             * DDM   ***** Updated *****

464          KK     190
465          KM   SUB-BASIN 190
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 = 1.91  Kb = .042  Adj. Slope =  315.0
469          BA    .918
470          LG    .350    .390   5.800    .190   8.000
471          UC    .321    .185
472          UA       0       3       5       8      12      20      43      75      90      96
473          UA     100
             * DDM   ***** Preserved *****

474          KK    R190
475          KM   ROUTING OF FLOW FROM SUB-BASIN 190 TO SUB-BASIN 200
476          RS       2    FLOW      -1
477          RC    .045     .03    .045    4740     .03
478          RX       0       1       2      17      37      52      53      54
479          RY       5       5       5       0       0       5       5       5
             * DDM   ***** Preserved *****

480          KK    R192
481          KM   ROUTING OF FLOW FROM SUB-BASIN 190 TO SUB-BASIN 200
482          RS       3    FLOW      -1
483          RC    .045    .035    .045    2200    .018
484          RX       0       1      50      59      79      88     137     138
485          RY     4.5       3       3       0       0       3       3     4.5
             * DDM   ***** Updated *****

486          KK     200
487          KM   SUB-BASIN 200
488          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
489          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .997
490          KM     L = 1.55  Kb = .045  Adj. Slope =  306.9
             * KO     1
491          BA    .530
492          LG    .350    .390   5.700    .200  10.000
493          UC    .296    .195
494          UA       0       3       5       8      12      20      43      75      90      96
495          UA     100
             * DDM   ***** Preserved *****
1                                    HEC-1 INPUT                                          PAGE 13

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

496          KK    C200
497          KM   HYDROGRAPH COMBINATION FOR SUB-BASIN 220 & 200
             * KO     1
498          HC       3
             * DDM   ***** Preserved *****
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499          KK    S200
500          KM    WEIR GEOMETRY OBTAINED FROM AS-BUILT PLANS @ PASS MTN. DIVERSION.
501          KM   WEIR STORAGE DATA OBTAINED FROM 2' CONTOUR MAPPING.
             * KO      1
502          RS        1    STOR       0
503          SA     2.56     3.1     9.4
504          SE        0       3      10
505          SS        3     112       3     1.5
             * DDM   ***** Preserved *****

506          KK    R200
507          KM   ROUTE FLOW FROM SUB-BASIN 200 TO SIGNAL BUTTE FRS through storage
508          RS        1    FLOW      -1
509          RC     .035    .025    .035     650    .005
510          RX        0       1       2      17     117     132     133     134
511          RY        5       5       5       0       0       5       5       5
             * DDM   ***** Preserved *****

512          KK   SS200
513          KM    WEIR GEOMETRY OBTAINED FROM AS-BUILT PLANS @ PASS MTN. DIVERSION.
514          KM   WEIR STORAGE DATA OBTAINED FROM 2' CONTOUR MAPPING.
             * KO      1
515          RS        1    STOR       0
516          SA        8     9.2     9.2
517          SE        0       7      10
518          SS        7     251       3     1.5
             * DDM   ***** Preserved *****

519          KK   RR200
520          KM   ROUTE FLOW FROM SUB-BASIN 200 TO SIGNAL BUTTE FRS
521          RS        3    FLOW      -1
522          RC     .035    .025    .035    3150    .005
523          RX        0       1       2      17     117     132     133     134
524          RY        5       5       5       0       0       5       5       5
             * ****************************************************************
             * ************ END OF PASS MOUNTAIN ALTERNATIVE UPDATE. **************
             * DDM   ***** Preserved *****

525          KK   CC180
526          KM   HYDROGRAPH COMBINATION FOR SIGNAL BUTTE FRS
             * KO      1
527          HC        2
             * DDM   ***** Preserved *****
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LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

528          KK    S180
529          KM   SIGNAL BUTTE FRS DATED 1/28/85
530          KM   OUTLET PIPE=36"RCP; L= 147';  INLET INV.=1690; OUTLET INV.=1687
531          KM   EMERGENCY SPILLWAY ELEV.=1712.4; PRINCIPLE SPILLWAY ELEV.=1701
532          KM   STORAGE VOLUME BELOW PRINCIPLE SPILLWAY FOR SEDIMENT = 250 ACRE-FEET
533          RS        1    STOR       0
534          SV        0      92     226     462     742    1197    1418    1776    1941    3114
535          SQ        0      40      42     392     532     596     620    1949    3032    6465
536          SE       99     101     103     106     109     113   114.6     117     118     120
             *
             * DDM   ***** Preserved *****

537          KK    R180
538          KM   Routing length updated using Signal Butte Floodway plans dated March 1983
539          KM   Routing length increased 100' from 1500' to 1600'    12/12/00
540          KM   CHANNEL GEOMETRY FOR SIGNAL BUTTE FRS OBTAINED FROM AS-BUILT PLANS.
541          KM   ROUTE FLOW FROM SIGNAL BUTTE FRS TO SUB-BASIN 260
542          RS        3    FLOW      -1
543          RC     .035    .025    .035    1600    .003
544          RX        0       1       2    22.6    38.6    59.2      60      61
545          RY      9.3     9.3     9.3       0       0     9.3     9.3     9.3
             * DDM   ***** Updated *****

546          KK     260
547          KM   SUB-BASIN 260
548          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
549          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .998
550          KM     L =  .85  Kb = .049  Adj. Slope =   65.0
551          BA    .262
552          LG    .300    .190   6.600    .170  15.000
553          UC    .379    .238
554          UA       0       5      16      30      65      77      84      90      94      97
555          UA     100
             * DDM   ***** Preserved *****

556          KK    C260
557          KM   HYDROGRAPH COMBINATION FOR OUTFLOW OF SIGNAL BUTTE FRS & SUB-BASIN 260
558          HC        2    .262
             * DDM   ***** Preserved *****

559          KK    R260
560          KM   Routing length updated using Signal Butte Floodway plans dated March 1983
561          KM   Routing length unchanged     12/12/00
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562          KM   CHANNEL GEOMETRY FOR SIGNAL BUTTE FRS OBTAINED FROM AS-BUILT PLANS.
563          KM   ROUTE FLOW FROM SUB-BASIN 260 TO SUB-BASIN 280
564          RS       3    FLOW      -1
565          RC    .035    .025    .035    2300    .003
566          RX       0       1       2    23.4    43.4    64.8      65      66
567          RY     9.7     9.7     9.7       0       0     9.7     9.7     9.7
             * DDM   ***** Updated *****
1                                        HEC-1 INPUT                                                    PAGE 15

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

568          KK     280
569          KM   SUB-BASIN 280
570          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
571          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .998
572          KM     L =  .82  Kb = .048  Adj. Slope =   79.0
573          BA    .319
574          LG    .300    .250   5.300    .290  15.000
575          UC    .350    .189
576          UA       0       5      16      30      65      77      84      90      94      97
577          UA     100
             * DDM   ***** Preserved *****

578          KK    C280
579          KM   HYDROGRAPH COMBINATION FOR SUB-BASIN 260 & SUB-BASIN 280
580          HC       2
             * DDM   ***** Preserved *****

581          KK    R280
582          KM   Routing length updated using Signal Butte Floodway plans dated March 1983
583          KM   Routing length decreased 400' from 2500' to 2100'    12/12/00
584          KM   CHANNEL GEOMETRY FOR SIGNAL BUTTE FRS OBTAINED FROM AS-BUILT PLANS.
585          KM   ROUTE FLOW FROM SUB-BASIN 280 TO SUB-BASIN 300
586          RS       3    FLOW      -1
587          RC    .035    .025    .035    2100    .003
588          RX       0       1       2    23.4    43.4    64.8      65      66
589          RY     9.7     9.7     9.7       0       0     9.7     9.7     9.7
             *
             * DDM   ***** Updated *****

590          KK     300
591          KM   SUB-BASIN 300
592          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
593          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .998
594          KM     L =  .82  Kb = .049  Adj. Slope =   98.0
595          BA    .289
596          LG    .320    .290   4.200    .480  11.000
597          UC    .346    .197
598          UA       0       5      16      30      65      77      84      90      94      97
599          UA     100
             * DDM   ***** Preserved *****

600          KK    C300
601          KM   HYDROGRAPH COMBINATION OF DIVERTED FLOW
602          HC       2
             * DDM   ***** Preserved *****

603          KK    R300
604          KM   Routing length updated using Signal Butte Floodway plans dated March 1983
605          KM   Routing length increased 300' from 2200' to 2500'    12/12/00
606          KM   CHANNEL GEOMETRY FOR SIGNAL BUTTE FRS OBTAINED FROM AS-BUILT PLANS.
607          KM   ROUTE FLOW FROM SUB-BASIN 300 TO START OF FLOODWAY CONCRETE CHANNEL
608          RS       2    FLOW      -1
609          RC    .035    .025    .035    2500    .003
610          RX       0       1       2    23.4    55.4    76.8      77      78
1                                        HEC-1 INPUT                                                    PAGE 16

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

611          RY     9.7     9.7     9.7       0       0     9.7     9.7     9.7
             * DDM   ***** Updated *****

612          KK    305A
613          KM   SUB-BASIN 305A
614          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
615          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .998
616          KM     L = 1.20  Kb = .047  Adj. Slope =   92.0
617          BA    .372
618          LG    .340    .330   4.500    .370  11.000
619          UC    .433    .297
620          UA       0       5      16      30      65      77      84      90      94      97
621          UA     100
             * DDM   ***** Preserved *****

622          KK   C305A
623          KM   HYDROGRAPH COMBINATION OF SUB-BASIN 280 & 300 & 305A
624          HC       2
             * DDM   ***** Preserved *****

625          KK   R305A
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626          KM   Routing length updated using Signal Butte Floodway plans dated March 1983
627          KM   Routing length decreased 50' from 6050' to 6000'     12/12/00
628          KM   CHANNEL GEOMETRY FOR SPOOK HILL FRS OBTAINED FROM AS-BUILTS PLANS.
629          KM   CONTINUE TO ROUTE FLOW WITHIN CONCRETE CHANNEL TO SPOOK HILL FRS
630          RS       2    FLOW      -1
631          RC    .016    .016    .016    6000   .0146
632          RX       0       1       2     2.1    16.1    16.2      17      18
633          RY     7.5     7.5     7.5       0       0     7.5     7.5     7.5
             *      1       2
             * DDM   ***** Updated *****

634          KK     320
635          KM   SUB-BASIN 320
636          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
637          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .995
638          KM     L = 2.04  Kb = .042  Adj. Slope =  118.0
639          BA    .865
640          LG    .310    .290   4.500    .380  15.000
641          UC    .508    .335
642          UA       0       5      16      30      65      77      84      90      94      97
643          UA     100
             * DDM   ***** Preserved *****

644          KK    D320
645          KM        DIVERT FLOW INTO ONLINE  DETENTION BASIN
646          KM   DETENTION/RETENTION BASINS LOCATED WITHIN THREE SUBDIVISIONS
647          KM   SIERRA HEIGHTS        FALCON RIDGE    & MARBLE CREEK
648          KM        MAXIMUM VOLUME DIVERSION = 12.27acre-feet
             *      1
649          DT   BS320   12.27
650          DI       0   10000
651          DQ       0   10000
             * DDM   ***** Preserved *****
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LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

652          KK   RT320
653          KM   RETRIEVE FLOW FROM DIVERSION INTO ONLINE BASIN
654          DR   BS320
             * DDM   ***** Preserved *****

655          KK    S320
656          KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
657          KM   12.27 ACRE-FEETx43560/36x3600=4.1cfs
             *      1
658          RS       1    STOR       0
659          SV       0     .01    12.3
660          SQ       0     3.0     4.2
             * DDM   ***** Preserved *****

661          KK    C320
662          KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
663          HC       3
             * ADD ROUTING ALONG SPOOK HILL FRS
             * DDM   ***** Preserved *****
             * KK  R320
             * KM ROUTE FLOW THROUGH SPOOK HILL FRS FROM JUNCTION OF BROWN & ELLSWORTH ROAD
             * KM TO JUST NORTH OF JUNCTION OF MCDOWELL & POWER RD.
             * RS      9    FLOW      -1
             * RC   .035    .035    .035    4500   .0007
             * RX      0       9      50      68     198     206     267     275
             * RY    100      97      97      91      91      97      97     100
             *
             * DDM   ***** Updated *****

664          KK    340B
665          KM   SUB-BASIN 340B
666          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
667          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .998
668          KM     L =  .85  Kb = .049  Adj. Slope =  238.5
669          BA    .290
670          LG    .320    .280   4.000    .520  13.000
671          UC    .246    .139
672          UA       0       5      16      30      65      77      84      90      94      97
673          UA     100
             *
             * DDM   ***** Preserved *****

674          KK   D340B
675          KM        DIVERT FLOW INTO ONLINE  DETENTION BASIN
676          KM   DETENTION/RETENTION BASINS LOCATED WITHIN THREE SUBDIVISIONS
677          KM   GRANDVIEW ESTATES    BOULDER MOUNTAIN & 33% OF MESA HIGHLANDS
678          KM        MAXIMUM VOLUME DIVERSION = 11.0 acre-feet
             *      1
679          DT  BS340B      11
680          DI       0   10000
681          DQ       0   10000
             * DDM   ***** Preserved *****
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 682          KK  RT340B
 683          KM   RETRIEVE FLOW FROM DIVERSION INTO ONLINE BASIN
 684          DR  BS340B
              * DDM   ***** Preserved *****

 685          KK   S340B
 686          KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
 687          KM    11.0 ACRE-FEETx43560/36x3600= 3.7cfs
              *      1
 688          RS       1    STOR       0
 689          SV       0     .01      11      15
 690          SQ       0     2.0     3.7     4.0
              * DDM   ***** Preserved *****

 691          KK   C340B
 692          KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
              * KO     1
 693          HC       2
              *
              * DDM   ***** Preserved *****

 694          KK  DD340B
 695          KM   DIVERT FLOW INTO OFFLINE DETENTION BASIN LOCATED WITHIN SUB-BASINS 340B.
              * KO     1
 696          DT   BS340
 697          DI       0      18    5000
 698          DQ       0       0    4982
              * DDM   ***** Preserved *****

 699          KK   RT340
 700          KM   RETRIEVE FLOW FROM DIVERSION
 701          DR   BS340
              * DDM   ***** Preserved *****

 702          KK  SS340B
 703          KM   RETRIEVE FLOW INTO OFFLINE BASIN AND BLEED OFF WITHIN 36 HOURS.
 704          KM       6 ACRE-FEETx43560/36x3600 = 2 cfs
 705          RS       1    STOR       0
 706          SV       0     .01       6       8
 707          SQ       0     1.5       2       4
              * DDM   ***** Preserved *****

 708          KK  CC340B
 709          KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
 710          HC       2
              * DDM   ***** Preserved *****

 711          KK   R340B
 712          KM   CHANNEL GEOMETRY OBTAINED FROM 2' CONTOUR MAPPING.
 713          KM   ROUTING OF FLOW FROM SUB-BASINS 370 AND 395 TO SUB-BASIN 380.
 714          RS       4    FLOW      -1
 715          RC    .045    .035    .045    2600    .023
 716          RX       0       1      40      46      56      62     102     103
 717          RY       3       2       2       0       0       2       2       3
              *
              * DDM   ***** Updated *****
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 718          KK    340A
 719          KM   SUB-BASIN 340A
 720          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
 721          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .993
 722          KM     L = 1.80  Kb = .044  Adj. Slope =  117.0
 723          BA   1.150
 724          LG    .260    .280   4.200    .510  23.000
 725          UC    .492    .249
 726          UA       0       5      16      30      65      77      84      90      94      97
 727          UA     100
              *
              * DDM   ***** Preserved *****

 728          KK   D340A
 729          KM        DIVERT FLOW INTO ONLINE  DETENTION BASIN
 730          KM   DETENTION/RETENTION BASINS LOCATED WITHIN THREE SUBDIVISIONS
 731          KM   GRANDVIEW ESTATES    BOULDER MOUNTAIN & 33% OF MESA HIGHLANDS
 732          KM        MAXIMUM VOLUME DIVERSION = 45.0 acre-feet
              * KO     1
 733          DT  BS340A      45
 734          DI       0   10000
 735          DQ       0   10000
              * DDM   ***** Preserved *****

 736          KK  RT340A
 737          KM   RETRIEVE FLOW FROM DIVERSION INTO ONLINE BASIN
 738          DR  BS340A
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                * DDM   ***** Preserved *****

 739            KK   S340A
 740            KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
 741            KM    45.0 ACRE-FEETx43560/36x3600=15.2cfs
                *      1
 742            RS       1    STOR       0
 743            SV       0     .01      45      50
 744            SQ       0     3.0    15.2      16
                *
                * DDM   ***** Preserved *****

 745            KK   C340A
 746            KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
 747            HC       3
                *
                * DDM   ***** Preserved *****

 748            KK    C340
 749            KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
 750            HC       2
                *
                * ADD ROUTING ALONG SPOOK HILL FRS
                * DDM   ***** Preserved *****
                * KK  R340
                * KM ROUTE FLOW THROUGH SPOOK HILL FRS FROM JUNCTION OF BROWN & ELLSWORTH ROAD
                * KM TO JUST NORTH OF JUNCTION OF MCDOWELL & POWER RD.
                * RS     5    FLOW      -1
                * RC  .035    .035    .035    2300    .0007
                * RX     0       9      50      68     233     241     307     315
                * RY   100      97      97      91      91      97      97     100
                *      0       9      50      68     308     326     367     376
                *    100      97      97      91      91      97      97     100
                * DDM   ***** Updated *****
1                                          HEC-1 INPUT                                                    PAGE 20

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

 751            KK    355A
 752            KM   SUB-BASIN 355A
 753            KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
 754            KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .999
 755            KM     L =  .80  Kb = .052  Adj. Slope =  125.0
 756            BA    .163
 757            LG    .320    .290   4.550    .360  14.000
 758            UC    .308    .236
 759            UA       0       5      16      30      65      77      84      90      94      97
 760            UA     100
                * DDM   ***** Preserved *****

 761            KK   R355A
 762            KM   CHANNEL GEOMETRY OBTAINED FROM 2' CONTOUR MAPPING.
 763            KM   ROUTING OF FLOW FROM SUB-BASIN 355A TO SUB-BASIN 360
 764            RS       9    FLOW      -1
 765            RC    .045    .035    .045   10100    .026
 766            RX       0       1      40      46      56      62     102     103
 767            RY       3       2       2       0       0       2       2       3
                * DDM   ***** Updated *****

 768            KK     360
 769            KM   SUB-BASIN 360
 770            KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
 771            KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .995
 772            KM     L = 2.10  Kb = .046  Adj. Slope =  124.0
 773            BA    .880
 774            LG    .280    .290   4.100    .520  15.000
 775            UC    .571    .387
 776            UA       0       5      16      30      65      77      84      90      94      97
 777            UA     100
                * DDM   ***** Preserved *****

 778            KK    D360
 779            KM        DIVERT FLOW INTO ONLINE  DETENTION BASIN
 780            KM   DETENTION/RETENTION BASINS LOCATED WITHIN 33% OF MESA HIGHLANDS
 781            KM        MAXIMUM VOLUME DIVERSION = 28.6 acre-feet
                *      1
 782            DT   BS360    28.6
 783            DI       0   10000
 784            DQ       0   10000
                * DDM   ***** Preserved *****

 785            KK   RT360
 786            KM   RETRIEVE FLOW FROM DIVERSION INTO ONLINE BASIN
 787            DR   BS360
                * DDM   ***** Preserved *****

 788            KK    S360
 789            KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
 790            KM    28.6 ACRE-FEETx43560/36x3600=9.6cfs
 791            RS       1    STOR       0
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792          SV       0     .01    28.6
793          SQ       0     3.0     9.6
             * DDM   ***** Preserved *****
1                                   HEC-1 INPUT                                                    PAGE 21

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


794          KK    C360
795          KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
796          HC       4
             * ADD ROUTING ALONG SPOOK HILL FRS
             * DDM   ***** Preserved *****
             * KK  R360
             * KM ROUTE FLOW THROUGH SPOOK HILL FRS FROM JUNCTION OF BROWN & ELLSWORTH ROAD
             * KM TO JUST NORTH OF JUNCTION OF MCDOWELL & POWER RD.
             * RS     6    FLOW      -1
             * RC  .035    .035    .035    2600   .0007
             * RX     0       9      50      68     268     286     337     345
             * RY   100      97      97      91      91      97      97     100
             *      0       9      50      68     308     326     367     376
             *    100      97      97      91      91      97      97     100
             *
             * DDM   ***** Updated *****

797          KK    380A
798          KM   SUB-BASIN 380A
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  .998
801          KM     L =  .66  Kb = .076  Adj. Slope =   91.0
802          BA    .261
803          LG    .170    .250   4.100    .710  21.000
804          UC    .425    .221
805          UA       0       3       5       8      12      20      43      75      90      96
806          UA     100
             *
             * DDM   ***** Preserved *****

807          KK   C380A
808          KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
809          HC       2
             *
             * DDM   ***** Updated *****

810          KK    400A
811          KM   SUB-BASIN 400A
812          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
813          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF 1.000
814          KM     L =  .28  Kb = .094  Adj. Slope =   71.0
815          BA    .048
816          LG    .250    .290   4.000    .640    .000
817          UC    .317    .211
818          UA       0       3       5       8      12      20      43      75      90      96
819          UA     100
             *
             * DDM   ***** Preserved *****
1                                   HEC-1 INPUT                                                    PAGE 22

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


820          KK   C400A
821          KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
822          HC       2
             *
             * DDM   ***** Updated *****

823          KK    380B
824          KM   SUB-BASIN 380B
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  .996
827          KM     L = 1.80  Kb = .044  Adj. Slope =  122.0
828          BA    .637
829          LG    .340    .330   4.200    .440   4.000
830          UC    .504    .358
831          UA       0       5      16      30      65      77      84      90      94      97
832          UA     100
             *
             * DDM   ***** Preserved *****

833          KK   D380B
834          KM        DIVERT FLOW INTO ONLINE  DETENTION BASIN
835          KM   DETENTION/RETENTION BASINS LOCATED WITHIN 33% OF MESA HIGHLANDS
836          KM        MAXIMUM VOLUME DIVERSION = 28.6 acre-feet
             *      1
837          DT  BS380B    28.6
838          DI       0   10000
839          DQ       0   10000
             * DDM   ***** Preserved *****

840          KK  RT380B
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841          KM   RETRIEVE FLOW FROM DIVERSION INTO ONLINE BASIN
842          DR  BS380B
             * DDM   ***** Preserved *****

843          KK   S380B
844          KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
845          KM    28.6 ACRE-FEETx43560/36x3600=9.6cfs
846          RS       1    STOR       0
847          SV       0     .01    28.6
848          SQ       0     3.0     9.6
             * DDM   ***** Preserved *****

849          KK   C380B
850          KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
             * KO      1
851          HC       2
             *
             * DDM   ***** Preserved *****
1                                    HEC-1 INPUT                                                    PAGE 23

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

852          KK   R380B
853          KM   CHANNEL GEOMETRY OBTAINED FROM 2' CONTOUR MAPPING.
854          KM   ROUTING OF FLOW FROM SUB-BASINS 370 AND 395 TO SUB-BASIN 380.
855          RS       4    FLOW      -1
856          RC    .045    .035    .045    2600    .023
857          RX       0       1      40      46      56      62     102     103
858          RY       3       2       2       0       0       2       2       3
             *
             *
             * DDM   ***** Updated *****

859          KK    400B
860          KM   SUB-BASIN 400B
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  .997
863          KM     L = 1.64  Kb = .045  Adj. Slope =  110.0
864          BA    .568
865          LG    .330    .300   4.150    .480   7.000
866          UC    .500    .352
867          UA       0       5      16      30      65      77      84      90      94      97
868          UA     100
             *
             * DDM   ***** Preserved *****

869          KK   D400B
870          KM        DIVERT FLOW INTO ONLINE  DETENTION BASIN
871          KM   DETENTION/RETENTION BASIN LOCATED WITHIN SAGUARO VISTA SUBDIVISION
872          KM        MAXIMUM VOLUME DIVERSION = 5.6 ACRE-FEET
             *      1
873          DT  BS400B     5.6
874          DI       0   10000
875          DQ       0   10000
             * DDM   ***** Preserved *****

876          KK  RT400B
877          KM   RETRIEVE FLOW FROM DIVERSION INTO ONLINE BASIN
878          DR  BS400B
             * DDM   ***** Preserved *****

879          KK   S400B
880          KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
881          KM     5.6 ACRE-FEETx43560/36x3600 = 2 cfs
882          RS       1    STOR       0
883          SV       0     .01     5.6
884          SQ       0       1       2
             * DDM   ***** Preserved *****

885          KK   C400B
886          KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
887          HC       2
             * DDM   ***** Preserved *****
1                                    HEC-1 INPUT                                                    PAGE 24

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

888          KK  CC400B
889          KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
890          HC       3
             *
             * DDM   ***** Updated *****

891          KK    420A
892          KM   SUB-BASIN 420A
893          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
894          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .995
895          KM     L = 1.91  Kb = .045  Adj. Slope =  120.0
896          BA    .570
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897          LG    .320    .280   4.350    .440  10.000
898          UC    .521    .415
899          UA      0       5      16      30      65      77      84      90      94      97
900          UA    100
             * DDM   ***** Preserved *****

901          KK   D420A
902          KM        DIVERT FLOW INTO ONLINE  DETENTION BASIN
903          KM   DETENTION/RETENTION BASINS LOCATED WITHIN GRAY FOX SUBDIVISION
904          KM        MAXIMUM VOLUME DIVERSION = 8.65 acre-feet
             *      1
905          DT  BS420A    8.65
906          DI       0   10000
907          DQ       0   10000
             * DDM   ***** Preserved *****

908          KK  RT420A
909          KM   RETRIEVE FLOW FROM DIVERSION INTO ONLINE BASIN
910          DR  BS420A
             * DDM   ***** Preserved *****

911          KK   S420A
912          KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
913          KM   38.55 ACRE-FEETx43560/36x3600=13cfs
914          RS       1    STOR       0
915          SV       0     .01   38.55
916          SQ       0      13      13
             * DDM   ***** Preserved *****

917          KK   C420A
918          KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
919          HC       3
             *

920          KK    370A
921          KM   SUB-BASIN 370A
922          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
923          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .998
924          KM     L = 1.04  Kb = .047  Adj. Slope =  163.0
925          BA    .408
926          LG    .330    .300   4.650    .350  11.000
927          UC    .308    .172
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LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

928          UA      0       5      16      30      65      77      84      90      94      97
929          UA    100
             * DDM   ***** Updated *****

930          KK    395A
931          KM   SUB-BASIN 395A
932          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
933          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .999
934          KM     L = 1.14  Kb = .052  Adj. Slope =  165.0
935          BA    .182
936          LG    .330    .320   5.000    .290  10.000
937          UC    .346    .334
938          UA      0       5      16      30      65      77      84      90      94      97
939          UA    100
             * DDM   ***** Preserved *****

940          KK   C370A
941          KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
942          HC       2
             *
             * DDM   ***** Preserved *****

943          KK    D370
944          KM   DIVERT FLOW INTO OFFLINE DETENTION BASIN LOCATED WITHIN SUB-BASINS
945          KM   370 AND 395.
             * KO      1
946          DT   BS370
947          DI       0     140    5000
948          DQ       0       0    4860
             * DDM   ***** Preserved *****

949          KK   RT370
950          KM   RETRIEVE FLOW FROM DIVERSION
951          DR   BS370
             * DDM   ***** Preserved *****

952          KK    S370
953          KM   RETRIEVE FLOW INTO OFFLINE BASIN AND BLEED OFF WITHIN 36 HOURS.
954          KM      30 ACRE-FEETx43560/36x3600 = 10cfs
955          RS       1    STOR       0
956          SV       0     .01      34      40
957          SQ       0       4      10      12
             * DDM   ***** Preserved *****

958          KK   CC370
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 959          KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
 960          HC       2
              * DDM   ***** Preserved *****

 961          KK    R370
 962          KM   CHANNEL GEOMETRY OBTAINED FROM 2' CONTOUR MAPPING.
 963          KM   ROUTING OF FLOW FROM SUB-BASINS 370 AND 395 TO SUB-BASIN 380.
 964          RS       4    FLOW      -1
 965          RC    .045    .035    .045    2600    .023
 966          RX       0       1      40      46      56      62     102     103
1                                          HEC-1 INPUT                                                          PAGE 26

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

 967          RY       3       2       2       0       0       2       2       3
              *
              * DDM   ***** Updated *****

 968          KK    385A
 969          KM   SUB-BASIN 385A
 970          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
 971          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .999
 972          KM     L =  .90  Kb = .051  Adj. Slope =  309.5
 973          BA    .213
 974          LG    .340    .320   4.900    .300   9.000
 975          UC    .233    .163
 976          UA       0       5      16      30      65      77      84      90      94      97
 977          UA     100
              *
              * DDM   ***** Updated *****

 978          KK    415B
 979          KM   SUB-BASIN 415B
 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  .998
 982          KM     L = 1.59  Kb = .048  Adj. Slope =  315.0
 983          BA    .329
 984          LG    .340    .340   5.300    .240  14.000
 985          UC    .308    .274
 986          UA       0       5      16      30      65      77      84      90      94      97
 987          UA     100
              * DDM   ***** Preserved *****

 988          KK   C415B
 989          KM   HYDROGRAPH COMBINATION OF 415 DIVERSION.
 990          HC       2
              * DDM   ***** Preserved *****

 991          KK   D415B
 992          KM   DIVERT FLOW INTO OFFLINE DETENTION BASIN
 993          KM   MAXIMUM STORAGE VOLUME FOR DIVERSION = 32 AC-FT @ 5' DEPTH.
              *      1
 994          DT  BS415B
 995          DI       0     190    5000
 996          DQ       0       0    4810
              * DDM   ***** Preserved *****

 997          KK  RT415B
 998          KM   RETRIEVE FLOW FROM DIVERSION INTO OFFLINE BASIN
 999          DR  BS415B
              * DDM   ***** Preserved *****

1000          KK   S415B
1001          KM   RETRIEVE FLOW INTO OFFLINE BASIN AND BLEED OFF WITHIN 36 HOURS.
1002          KM      32 ACRE-FEETx43560/36x3600 = 10cfs
1003          RS       1    STOR       0
1004          SV       0     .01      34      40
1005          SQ       0       5      10      12
              * DDM   ***** Preserved *****
1                                          HEC-1 INPUT                                                          PAGE 27

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

1006          KK  CC415B
1007          KM   HYDROGRAPH COMBINATION OF 415 DIVERSION.
1008          HC       2
              * DDM   ***** Preserved *****

1009          KK   R415B
1010          KM   CHANNEL GEOMETRY OBTAINED FROM 2' CONTOUR MAPPING.
1011          KM   ROUTING OF FLOW FROM 415C TO 415B
1012          RS       4    FLOW      -1
1013          RC    .045     .03    .045    2590    .024
1014          RX       0       1      40      46      56      62     102     103
1015          RY       3       2       2       0       0       2       2       3
              * DDM   ***** Updated *****

1016          KK     390
1017          KM   SUB-BASIN 390
1018          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
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1019          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .999
1020          KM     L =  .70  Kb = .050  Adj. Slope =  299.4
1021          BA    .244
1022          LG    .300     .250   4.700     .380  18.000
1023          UC    .204     .107
1024          UA       0       5      16       30      65      77      84      90      94      97
1025          UA     100
              * DDM   ***** Preserved *****

1026          KK    D390
1027          KM        DIVERT FLOW INTO ONLINE  DETENTION BASIN
1028          KM   DETENTION/RETENTION BASINS LOCATED WITHIN THUNDER MOUNTAIN ESTATES
1029          KM        MAXIMUM VOLUME DIVERSION  = 3.5 acre-feet
              *      1
1030          DT   BS390      3.5
1031          DI       0    10000
1032          DQ       0    10000
              * DDM   ***** Preserved *****

1033          KK   RT390
1034          KM   RETRIEVE FLOW FROM DIVERSION INTO ONLINE BASIN
1035          DR   BS390
              * DDM   ***** Preserved *****

1036          KK    S390
1037          KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
1038          KM     3.5 ACRE-FEETx43560/36x3600=1.2cfs
1039          RS       1     STOR       0
1040          SV       0      .01     3.5
1041          SQ       0      0.5     1.2
              * DDM   ***** Preserved *****
1                                        HEC-1 INPUT                                          PAGE 28

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


1042          KK    C390
1043          KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
1044          HC       4
              * DDM   ***** Preserved *****

1045          KK    R390
1046          KM   CHANNEL GEOMETRY OBTAINED FROM 2' CONTOUR MAPPING.
1047          KM   FROM SUB-BASIN 390 TO SUB-BASIN 420B
1048          RS       7     FLOW      -1
1049          RC    .045     .045    .045    5500    .020
1050          RX       0        1      40      46      56      62     102     103
1051          RY       3        2       2       0       0       2       2       3
              * DDM   ***** Updated *****

1052          KK    420B
1053          KM   SUB-BASIN 420B
1054          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1055          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .998
1056          KM     L = 1.00  Kb = .049  Adj. Slope =  150.0
1057          BA    .279
1058          LG    .300     .250   3.910     .590  15.000
1059          UC    .333     .226
1060          UA       0        5      16      30      65      77      84      90      94      97
1061          UA     100
              * DDM   ***** Preserved *****

1062          KK   C420B
1063          KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
1064          HC       2
              *
              * DDM   ***** Updated *****

1065          KK     440
1066          KM   SUB-BASIN 440
1067          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1068          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF 1.000
1069          KM     L =  .40  Kb = .039  Adj. Slope =  315.0
1070          BA    .080
1071          LG    .190     .380   6.400     .140  13.000
1072          UC    .129     .077
1073          UA       0        3       5       8      12      20      43      75      90      96
1074          UA     100
              * DDM   ***** Preserved *****

1075          KK     R70
1076          KM   ROUTE FLOW FROM SUB-BASIN 440 TO C108
1077          RS       2     FLOW      -1
1078          RC     .05     .035     .05    2250     .08
1079          RX    1000     1025    1050    1070    1075    1095    1120    1145
1080          RY      30     22.9    15.7      10      10    15.7    22.9      30
              * DDM   ***** Updated *****
                                         HEC-1 INPUT                                          PAGE 29

LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10
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1081          KK     441
1082          KM   SUB-BASIN 441
1083          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1084          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF 1.000
1085          KM     L =  .28  Kb = .069  Adj. Slope =  315.0
1086          BA    .010
1087          LG    .300    .250   5.600    .220   5.000
1088          UC    .150    .225
1089          UA       0       5      16      30      65      77      84      90      94      97
1090          UA     100
              * DDM   ***** Preserved *****

1091          KK    C108
1092          KM   COMBINE HYDROGRAPHS FROM SUB-BASINS 440 & 441
1093          HC       2
              * DDM   ***** Preserved *****

1094          KK      D4
1095          KM        SPLIT FLOW WITH TWO 42 INCH PIPES TO WEST AND SOUTH
              *      1
1096          DT   SPLIT
1097          DI       0      14      40      82     120     154     180
1098          DQ       0       7      20      41      60      77      90
              * DDM   ***** Preserved *****

1099          KK    R108
1100          KM        ROUTE FLOW FROM SUB-BASIN C108 TO C67
1101          RS       2    FLOW      -1
1102          RC     .05    .035     .05    3200      .1
1103          RX    1000    1025    1050    1070    1075    1095    1120    1145
1104          RY      30    22.9    15.7      10      10    15.7    22.9      30
              * DDM   ***** Updated *****

1105          KK     442
1106          KM   SUB-BASIN 442
1107          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1108          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .999
1109          KM     L =  .83  Kb = .055  Adj. Slope =  274.2
1110          BA    .100
1111          LG    .300    .270   3.290    .770   5.000
1112          UC    .258    .264
1113          UA       0       5      16      30      65      77      84      90      94      97
1114          UA     100
              * DDM   ***** Preserved *****

1115          KK     C67
1116          KM   COMBINE FLOW FROM SUB-BASIN 442 & DIV4
1117          HC       2
              * DDM   ***** Preserved *****
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1118          KK      D6
1119          KM        OFFLINE BASIN WITH 25 FOOT WEIR SET AT 2.5 FEET ABOVE BOTTOM OF CHANNEL
1120          KM        FLOW CONTINUES BEYOND BASIN THROUGH 2-30" PIPES
              *      1
1121          DT  BASIN4     3.3
1122          DI       0      10      32      44    79.9   132.5     198   272.9   356.8
1123          DQ       0       0       0       0    23.9    67.5     124   190.9   266.8
              * DDM   ***** Preserved *****

1124          KK    RTD6
1125          KM   RETRIEVE FLOW FROM DIVERSION INTO OFFLINE BASIN
1126          DR  BASIN4
              * DDM   ***** Preserved *****

1127          KK     SD6
1128          KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
1129          KM     3.3 ACRE-FEETx43560/36x3600=1.1cfs
              *      1
1130          RS       1    STOR       0
1131          SV       0     .01     3.3
1132          SQ       0     0.2     1.1
              * DDM   ***** Preserved *****

1133          KK     CD6
1134          KM   HYDROGRAPH COMBINATION FOR OFFLINE BASIN BLEEDOFF
1135          HC       2
              * DDM   ***** Updated *****

1136          KK     443
1137          KM   SUB-BASIN 443
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 1.000
1140          KM     L =  .71  Kb = .050  Adj. Slope =  315.0
1141          BA    .080
1142          LG    .250    .190   8.000    .080  10.000
1143          UC    .196    .194
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1144        UA       0       5      16      30      65      77      84      90      94      97
1145        UA     100
            * DDM   ***** Preserved *****

1146        KK     D66
1147        KM        DIVERT FLOW INTO 3 NATURAL WASHES WITH ONE 24" PIPE IN EACH WASH.
1148        KM        EACH PIPE CAPACITY BASED ON 4 FEET OF HEAD
1149        DT   WSH66
1150        DI       0      78     100     200
1151        DQ       0      78      78      78
            * DDM   ***** Preserved *****

1152        KK    R113
1153        KM        ROUTE FLOW FROM C113 TO C114
1154        RS       1    FLOW      -1
1155        RC    .019    .019    .019    1300    .029
1156        RX    1000    1004    1008    1012    1018    1022    1026    1030
1157        RY      17   15.33   12.67      10      10   12.67   15.33      17
            * DDM   ***** Preserved *****
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LINE        ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1158        KK    C114
1159        KM        COMBINE HYDROGRAPHS FROM SUB-BASIN 67 AND C113
1160        HC       2
            * DDM   ***** Updated *****

1161        KK     444
1162        KM   SUB-BASIN 444
1163        KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1164        KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF 1.000
1165        KM     L =  .33  Kb = .034  Adj. Slope =  315.0
1166        BA    .040
1167        LG    .130    .350   4.450    .320   1.000
1168        UC    .112    .084
1169        UA       0       3       5       8      12      20      43      75      90      96
1170        UA     100
            * DDM   ***** Preserved *****

1171        KK     R58
1172        KM   ROUTE FLOW FROM SUB-BASIN 444 TO C107
1173        RS       2    FLOW      -1
1174        RC     .05    .035     .05    2370   .0516
1175        RX    1000    1010    1020    1050    1055    1085    1095    1105
1176        RY      19      18      17      10      10      17      18      19
            * DDM   ***** Updated *****

1177        KK     445
1178        KM   SUB-BASIN 445
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  .999
1181        KM     L =  .82  Kb = .036  Adj. Slope =  315.0
1182        BA    .190
1183        LG    .170    .320   3.470    .590   3.000
1184        UC    .192    .130
1185        UA       0       5      16      30      65      77      84      90      94      97
1186        UA     100
            * DDM   ***** Preserved *****

1187        KK    C107
1188        KM   COMBINE HYDROGRAPHS FROM SUB-BASINS 444 & 445
1189        HC       2
            * DDM   ***** Preserved *****

1190        KK    R107
1191        KM        ROUTE FLOW FROM C107 TO C109
1192        RS       2    FLOW      -1
1193        RC     .05    .035     .05     700   .0516
1194        RX    1000    1010    1020    1050    1055    1085    1095    1105
1195        RY      19      18      17      10      10      17      18      19
            * DDM   ***** Preserved *****
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LINE        ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1196        KK    RTB2
1197        KM        RETRIEVE DIVERTED FLOW FROM BASIN 1
            *      1
1198        DR   SPLIT
            * DDM   ***** Preserved *****

1199        KK  RSPLIT
1200        KM        ROUTE FLOW FROM SPLIT TO C109
1201        RS       1    FLOW      -1
1202        RC     .05    .035     .05     800     .05
1203        RX    1000    1025    1050    1070    1075    1095    1120    1145
1204        RY      30    22.9    15.7      10      10    15.7    22.9      30
            * DDM   ***** Updated *****
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1205          KK     446
1206          KM   SUB-BASIN 446
1207          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1208          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF 1.000
1209          KM     L =  .46  Kb = .061  Adj. Slope =  303.9
1210          BA    .040
1211          LG    .270    .250   4.500    .400  19.000
1212          UC    .183    .189
1213          UA       0       5      16      30      65      77      84      90      94      97
1214          UA     100
              * DDM   ***** Preserved *****

1215          KK    C109
1216          KM        COMBINE HYDROGRAPHS FROM COMBINES C107 AND C108
1217          HC       3
              * DDM   ***** Preserved *****

1218          KK      D5
1219          KM        DIVERT FLOW INTO WASHES TOWARDS WEST
1220          KM        DIVERSION THROUGH 36" PIPE WITH 3 FEET OF HEAD
              *      1
1221          DT  WSH404
1222          DI       0    40.7    71.2   121.6     190     276   379.4   500.6
1223          DQ       0      35      35      35      35      35      35      35
              * DDM   ***** Preserved *****

1224          KK    R109
1225          KM        ROUTE FLOW FROM C109 TO C110
1226          RS       1    FLOW      -1
1227          RC    .019    .019    .019    3080     .05
1228          RX    1000    1005    1010    1015    1025    1030    1035    1040
1229          RY   13.75    12.5   11.25      10      10   11.25    12.5   13.75
              * DDM   ***** Updated *****

1230          KK     447
1231          KM   SUB-BASIN 447
1232          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1233          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .999
1234          KM     L =  .49  Kb = .056  Adj. Slope =  221.0
1235          BA    .090
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1236          LG    .250    .270   3.350    .870  30.000
1237          UC    .208    .145
1238          UA       0       5      16      30      65      77      84      90      94      97
1239          UA     100
              * DDM   ***** Preserved *****

1240          KK   RT404
1241          KM        RETRIEVE DIVERTED FLOW FOR WASH 109
1242          DR  WSH404
              * DDM   ***** Preserved *****

1243          KK    R404
1244          KM        ROUTE FLOW FROM C110 TO C110
1245          RS       6    FLOW      -1
1246          RC    .019    .019    .019    3540     .03
1247          RX    1000    1012    1016    1020    1025    1029    1033    1045
1248          RY      15      12      11      10      10      11      12      15
              * DDM   ***** Preserved *****

1249          KK    C110
1250          KM   COMBINE HYDROGRAPHS FROM SUB-BASIN 447 AND R404
1251          HC       3
              * DDM   ***** Preserved *****

1252          KK    R110
1253          KM        ROUTE FLOW FROM C110 TO C115
1254          RS       1    FLOW      -1
1255          RC    .019    .019    .019     580   .0291
1256          RX    1000    1012    1016    1020    1035    1039    1043    1055
1257          RY      15      12      11      10      10      11      12      15
              * DDM   ***** Preserved *****

1258          KK    C115
1259          KM        COMBINE HYDROGRAPHS FROM C114 AND C110
1260          HC       2
              * DDM   ***** Preserved *****

1261          KK    R115
              * ******OUTFLOW FROM THIS ROUTING IS GREATER THAN INFLOW TO THE
              * ******ROUTING BY 2cfs.  THIS IS NOTED BUT LEFT UNCHANGED WITHIN THE MODEL
1262          KM        ROUTE FLOW FROM C115 TO Sub 453
1263          RS       1    FLOW      -1
1264          RC    .019    .019    .019    2125    .029
1265          RX    1000    1012    1016    1020    1035    1039    1043    1055
1266          RY      15      12      11      10      10      11      12      15
              * DDM   ***** Updated *****
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```
1267          KK     448
1268          KM   SUB-BASIN 448
1269          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1270          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF 1.000
1271          KM     L =  .36  Kb = .042  Adj. Slope =  315.0
1272          BA    .045
1273          LG    .170    .310   4.200    .390  11.000
1274          UC    .133    .102
1                                        HEC-1 INPUT                                                    PAGE 34

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

1275          UA       0       5      16      30      65      77      84      90      94      97
1276          UA     100
              * DDM   ***** Updated *****

1277          KK     449
1278          KM   SUB-BASIN 449
1279          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1280          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF 1.000
1281          KM     L =  .40  Kb = .054  Adj. Slope =  315.0
1282          BA    .050
1283          LG    .260    .280   3.500    .640   6.000
1284          UC    .167    .134
1285          UA       0       5      16      30      65      77      84      90      94      97
1286          UA     100
              * DDM   ***** Preserved *****

1287          KK   C6364
1288          KM   COMBINE HYDROGRAPHS FROM SUB-BASINS 448 & 449
1289          HC       2
              * DDM   ***** Preserved *****

1290          KK   R6364
1291          KM   ROUTE FLOW FROM C116 AND SUB-BASINS 448 AND 449
1292          RS       5    FLOW      -1
1293          RC     .05    .035     .05    4375   .0333
1294          RX    1000    1027    1053    1080    1090    1117    1143    1170
1295          RY      15   13.33   11.67      10      10   11.67   13.33      15
              * DDM   ***** Updated *****

1296          KK     450
1297          KM   SUB-BASIN 450
1298          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1299          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF 1.000
1300          KM     L =  .85  Kb = .057  Adj. Slope =  210.5
1301          BA    .070
1302          LG    .340    .350   3.630    .570   4.000
1303          UC    .296    .383
1304          UA       0       3       5       8      12      20      43      75      90      96
1305          UA     100
              * DDM   ***** Updated *****

1306          KK     451
1307          KM   SUB-BASIN 451
1308          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1309          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF 1.000
1310          KM     L =  .57  Kb = .063  Adj. Slope =  175.0
1311          BA    .025
1312          LG    .340    .340   3.290    .750   3.000
1313          UC    .271    .453
1314          UA       0       3       5       8      12      20      43      75      90      96
1315          UA     100
              * DDM   ***** Preserved *****
1                                        HEC-1 INPUT                                                    PAGE 35

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

1316          KK    C451
1317          KM   COMBINE HYDROGRAPHS FROM SUB-BASINS 450 & 451
1318          HC       2
              * DDM   ***** Preserved *****

1319          KK    RT66
1320          KM        RETRIEVE DIVERTED FLOW FROM SUB-BASIN 66
1321          DR   WSH66
              * DDM   ***** Updated *****

1322          KK     452
1323          KM   SUB-BASIN 452
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 =  .43  Kb = .055  Adj. Slope =  315.0
1327          BA    .040
1328          LG    .260    .280   3.700    .550   9.000
1329          UC    .171    .166
1330          UA       0       5      16      30      65      77      84      90      94      97
1331          UA     100
              * DDM   ***** Preserved *****
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1332          KK   C6465
1333          KM   COMBINE HYDROGRAPHS FROM SUB-BASINS 443 AND 452
1334          HC       2
              * DDM   ***** Preserved *****

1335          KK   R6566
1336          KM        ROUTE FLOW FROM DIVERSIONS 65 AND 66 TO C116
1337          RS       3    FLOW      -1
1338          RC     .05    .035     .05    2435   .0282
1339          RX    1000    1045    1090    1150    1160    1220    1265    1310
1340          RY      25      23      20      10      10      20      23      25
              * DDM   ***** Preserved *****

1341          KK    C116
1342          KM   COMBINE HYDROGRAPHS FROM SUB-BASINS 450 & 451 AND R6364 & R6465
1343          HC       3
              * DDM   ***** Preserved *****

1344          KK  BASIN5
1345          KM        RESERVOIR WITHIN PARCEL 31      2-48 INCH PIPES AT OUTFALL
1346          KM        BASIN 5 FEET DEEP
1347          RS       1    ELEV       0
1348          SV       0     4.5     9.9
1349          SQ       0      69     190
1350          SE       0     2.5       5
              * DDM   ***** Preserved *****
1                                        HEC-1 INPUT                                                    PAGE 36

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


1351          KK    R116
1352          KM   ROUTE FLOW FROM C116 TO C117
1353          RS       2    FLOW      -1
1354          RC     .05    .035     .05    1300   .0333
1355          RX    1000    1100    1200    1300    1320    1420    1520    1620
1356          RY      13      12      11      10      10      11      12      13
              * DDM   ***** Updated *****

1357          KK     453
1358          KM   SUB-BASIN 453
1359          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1360          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF 1.000
1361          KM     L =  .58  Kb = .058  Adj. Slope =  138.0
1362          BA    .060
1363          LG    .290    .300   3.290    .820  18.000
1364          UC    .275    .284
1365          UA       0       5      16      30      65      77      84      90      94      97
1366          UA     100
              * DDM   ***** Preserved *****

1367          KK    C117
1368          KM   COMBINE HYDROGRAPHS FROM SUB-BASIN 453 AND R116
1369          HC       2
              * DDM   ***** Preserved *****

1370          KK    C118
1371          KM   COMBINE HYDROGRAPHS FROM R115 AND C117
1372          HC       2
              * DDM   ***** Preserved *****

1373          KK    R118
1374          KM        ROUTE FLOW FROM C118 TO  DIV7
              * KO     1
1375          RS       1    FLOW      -1
1376          RC    .019    .019    .019    1500    .024
1377          RX    1000    1012    1016    1020    1035    1039    1043    1055
1378          RY      15      12      11      10      10      11      12      15
              * DDM   ***** Preserved *****

1379          KK      D7
1380          KM        OFFLINE BASIN AT NORTH MOUNTAIN RIDGE   FLOWS ENTER BASIN OVER
1381          KM        30' WEIR SET AT 5.3' ABOVE THE CHANNEL BOTTOM, Vol = 3.6 A-F
              * KO     1
1382          DT  BASIN6
1383          DI       0     363     487     563     645     900
1384          DQ       0       2      10      15      25     260
              * DDM   ***** Preserved *****

1385          KK    RTD7
1386          KM   RETRIEVE FLOW FROM DIVERSION INTO OFFLINE BASIN
1387          DR  BASIN6
              * DDM   ***** Preserved *****
1                                        HEC-1 INPUT                                                    PAGE 37

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


1388          KK     SD7
1389          KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
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1390          KM     3.6 ACRE-FEETx43560/36x3600=1.2cfs
1391          RS       1    STOR       0
1392          SV       0     .01     3.6     4.0
1393          SQ       0     0.2     1.2     1.5
              * DDM   ***** Preserved *****

1394          KK     CD7
1395          KM   HYDROGRAPH COMBINATION FOR OFFLINE BASIN BLEEDOFF
1396          HC       2
              * DDM   ***** Updated *****

1397          KK     454
1398          KM   SUB-BASIN 454
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  .999
1401          KM     L = 1.23  Kb = .051  Adj. Slope =  163.0
1402          BA    .180
1403          LG    .300    .310   3.780    .560  14.000
1404          UC    .379    .395
1405          UA       0       5      16      30      65      77      84      90      94      97
1406          UA     100
              *
              * DDM   ***** Preserved *****

1407          KK    C454
1408          KM        COMBINE HYDROGRAPHS FROM SUB-BASIN 454 AND CDIV7
              *      1       2
1409          HC       2
              * DDM   ***** Preserved *****

1410          KK    R454
1411          KM   CHANNEL GEOMETRY OBTAINED FROM 2' CONTOUR MAPPING.
1412          KM   ROUTE FLOW FROM C454 TO 415C
1413          RS       3    FLOW      -1
1414          RC    .045    .035    .045    2200    .009
1415          RX       0      .5       1      33      42      67    67.5      68
1416          RY       5       4       4       0       0       6       6       6
              *
              * DDM   ***** Updated *****

1417          KK    415A
1418          KM   SUB-BASIN 415A
1419          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1420          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .998
1421          KM     L = 1.21  Kb = .049  Adj. Slope =  140.0
1422          BA    .280
1423          LG    .300    .260   3.630    .710  15.000
1424          UC    .400    .322
1425          UA       0       5      16      30      65      77      84      90      94      97
1426          UA     100
              * DDM   ***** Preserved *****
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1427          KK   C415A
1428          KM        COMBINE HYDROGRAPHS FROM R454, 415B, AND 420B
              * KO     1
1429          HC       3
              * DDM   ***** Preserved *****
              * KK D415A
              * KM DIVERT FLOW INTO OFFLINE DETENTION BASIN
              * KM MAXIMUM STORAGE VOLUME FOR DIVERSION = 15 AC-FT @ 5' DEPTH.
              * KO     1
              * DTBS415A
              * DI     0    1240    5000
              * DQ     0       0    3760
              * DDM   ***** Preserved *****
              * KKRT415A
              * KM RETRIEVE FLOW FROM DIVERSION INTO OFFLINE BASIN
              * DRBS415A
              * DDM   ***** Preserved *****
              * KK S415A
              * KM RETRIEVE FLOW INTO OFFLINE BASIN AND BLEED OFF WITHIN 36 HOURS.
              * KM    15 ACRE-FEETx43560/36x3600 = 5 cfs
              * RS     1    STOR       0
              * SV     0     .01      15      20
              * SQ     0       2       5       8
              * DDM   ***** Preserved *****
              * KKCC415A
              * KM HYDROGRAPH COMBINATION OF 415A DIVERSION.
              * HC     2
              * DDM   ***** Preserved *****

1430          KK   R415A
1431          KM   CHANNEL GEOMETRY OBTAINED FROM 2' CONTOUR MAPPING.
1432          KM   ROUTING OF FLOW FROM C415A TO 455C
1433          RS       4    FLOW      -1
1434          RC    .045     .03    .045    4100    .024
1435          RX       0      .5       1       8      16      23    23.5      24
```

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1436        RY       8       8       8       0       0       8       8       8
            *
            * DDM   ***** Updated *****

1437        KK     455
1438        KM   SUB-BASIN 455
1439        KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1440        KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .993
1441        KM     L = 1.70  Kb = .041  Adj. Slope =  146.0
1442        BA   1.111
1443        LG    .270    .280   3.700    .640  24.000
1444        UC    .421    .204
1445        UA       0       5      16      30      65      77      84      90      94      97
1446        UA     100
            * DDM   ***** Preserved *****
1                                        HEC-1 INPUT                                          PAGE 39

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

1447        KK    D455
1448        KM        DIVERT FLOW INTO ONLINE  DETENTION BASIN
1449        KM   DETENTION/RETENTION BASINS LOCATED WITHIN LAS SENDAS ADDENDUM III
1450        KM   FOR BASIN #: 30      34      43      47&58
1451        KM        MAXIMUM VOLUME DIVERSION = 74.1 acre-feet
            *      1
1452        DT   BS455    74.1
1453        DI       0   10000
1454        DQ       0   10000
            * DDM   ***** Preserved *****

1455        KK   RT455
1456        KM   RETRIEVE FLOW FROM DIVERSION INTO ONLINE BASIN
1457        DR   BS455
            * DDM   ***** Preserved *****

1458        KK    S455
1459        KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
1460        KM    74.1 ACRE-FEETx43560/36x3600=25cfs
1461        RS       1    STOR       0
1462        SV       0     .01    74.1
1463        SQ       0     3.0      25
            * DDM   ***** Preserved *****

1464        KK    C455
1465        KM   HYDROGRAPH COMBINATION FOR SUB-BASIN 455 AND DIVERTED BASIN STORAGE OF 455
1466        HC       2
            * DDM   ***** Preserved *****

1467        KK   CC455
1468        KM  HYDROGRAPH COMBINATION OF 420C, R415 AND C455
            * KO     1       2
1469        HC       3
            *

1470        KK    S440
1471        KM   SPOOK HILL FRS PLANS DATED 6/15/77
1472        KM   OUTLET PIPE=7'x7.5'RCBC; L=70 INLET INV.=1566; OUTLET INV.=1566
1473        KM   EMERGENCY SPILLWAY ELEV.=1582; PRINCIPLE SPILLWAY ELEV.=1577.5
1474        KM   STORAGE VOLUME BELOW PRINCIPLE SPILLWAY FOR SEDIMENT = 200 ACRE-FEET
            *  ESE = 1583.86 ft; PSE = 1579.36 ft; Sediment Vol. = 271 Ac-Ft.
1475        RS       1    STOR       0
1476        SV       0      81     363     533     719     925    1120    1399    1668  4051
1477        SQ       0       0      10     180     367     595     800    1231    2625 24500
1478        SE      76      78      80      81      82      83    83.9      85      86    92
            * DDM   ***** Preserved *****

1479        KK    R455
1480        KM   ROUTE FLOW FROM SPOOK HILL FRS TO SUB-BASIN 480
1481        RS      15    FLOW      -1
1482        RC    .035    .025    .035    7000   .0002
1483        RX       0       1       2      28      58      84      85      86
1484        RY    13.5    13.5    13.5       0       0    13.5    13.5    13.5
            * DDM   ***** Updated *****
1                                        HEC-1 INPUT                                          PAGE 40

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

1485        KK     480
1486        KM   SUB-BASIN 480
1487        KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1488        KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .996
1489        KM     L = 1.21  Kb = .042  Adj. Slope =  165.0
1490        BA    .731
1491        LG    .270    .270   3.580    .730  27.000
1492        UC    .325    .148
1493        UA       0       5      16      30      65      77      84      90      94      97
1494        UA     100
            * DDM   ***** Preserved *****
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1495          KK    D480
1496          KM        DIVERT FLOW INTO ONLINE  DETENTION BASIN
1497          KM   DETENTION/RETENTION BASINS LOCATED WITHIN LAS SENDAS ADDENDUM III
1498          KM   FOR BASIN #: 18 & 26
1499          KM        MAXIMUM VOLUME DIVERSION = 16.5 acre-feet
              *      1
1500          DT   BS480    16.5
1501          DI       0   10000
1502          DQ       0   10000
              * DDM   ***** Preserved *****

1503          KK   RT480
1504          KM   RETRIEVE FLOW FROM DIVERSION INTO ONLINE BASIN
1505          DR   BS480
              * DDM   ***** Preserved *****

1506          KK    S480
1507          KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
1508          KM    16.5 ACRE-FEETx43560/36x3600=5.5cfs
1509          RS       1    STOR       0
1510          SV       0     .01    16.5
1511          SQ       0     3.0     5.6
              * DDM   ***** Preserved *****

1512          KK    C480
1513          KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
1514          HC       2
              * DDM   ***** Preserved *****

1515          KK   CC480
1516          KM   HYDROGRAPH COMBINATION AT SUBBASIN 480
1517          HC       2   0.731
              * DDM   ***** Preserved *****

1518          KK    R480
1519          KM   ROUTE FLOW FROM SUB-BASIN 480 TO SUBBASIN 462
1520          RS       6    FLOW      -1
1521          RC    .035    .025    .035    2800   .0002
1522          RX       0       1       2      28      58      84      85      86
1523          RY    13.5    13.5    13.5       0       0    13.5    13.5    13.5
              * DDM   ***** Updated *****
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1524          KK     456
1525          KM   SUB-BASIN 456
1526          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1527          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .998
1528          KM     L =  .94  Kb = .045  Adj. Slope =  315.0
1529          BA    .260
1530          LG    .300    .380   5.600    .200  12.000
1531          UC    .217    .139
1532          UA       0       5      16      30      65      77      84      90      94      97
1533          UA     100
              * DDM   ***** Preserved *****

1534          KK      D1
1535          KM        DIVERT FLOW INTO OFFLINE DETENTION BASIN
1536          KM        WEIR FOR BASIN SET AT 4 FEET ABOVE CHANNEL BOTTOM
              *      1
1537          DT  BASIN1     4.0
1538          DI       0    11.1   127.9   234.4   577.7   789.9  1025.5  1280.9  1555.7
1539          DQ       0       0       0    47.7     248   381.8   533.6   701.5     884
              * DDM   ***** Preserved *****

1540          KK      D2
1541          KM        SPLIT OUT FLOW FOR WASHES THAT FLOW TO THE SOUTH FROM
1542          KM        WASHES THAT DRAIN TO THE WES, SOUTHERN WASHES FED BY 30" & 24" PIPE
1543          DT    WA30
1544          DI       0    11.1   127.9   189.6   329.7     408   491.9   579.4   671.7
1545          DQ       0    11.1    38.4    48.2      63    69.5      76      81      86
              * DDM   ***** Preserved *****

1546          KK    R456
1547          KM        ROUTE FLOW FROM SUB-BASIN 51 TO C101
1548          RS       2    FLOW      -1
1549          RC     .05    .035     .05    3800    .044
1550          RX    1000    1010    1020    1036    1041    1057    1067    1077
1551          RY   14.88   14.44      14      10      10      14   14.44   14.88
              * DDM   ***** Updated *****

1552          KK     457
1553          KM   SUB-BASIN 457
1554          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1555          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .999
1556          KM     L = 1.01  Kb = .045  Adj. Slope =  308.8
1557          BA    .190
1558          LG    .270    .330   3.950    .460   6.000
1559          UC    .237    .195
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1560          UA       0       5      16      30      65      77      84      90      94      97
1561          UA     100
              * DDM   ***** Preserved *****
1                                          HEC-1 INPUT                                          PAGE 42

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


1562          KK    C101
1563          KM        COMBINE HYDROGRAPHS FROM SUB-BASINS 50 AND 51
1564          HC       2
              * DDM   ***** Preserved *****

1565          KK      D3
1566          KM        RESERVOIR AT THE EDGE OF THE PROPERTY   FLOW FROM CHANNEL
1567          KM        DIVERTED  INTO OFFLINE BASIN A 25' WEIR SET AT ELEVATION 1808 FT
              *       1
1568          DT  BASIN2     5.0
1569          DI       0      36      70     110     180   313.5     402   500.9
1570          DQ       0       0       0       0       0    67.5     124   190.9
              * DDM   ***** Preserved *****

1571          KK    RTD3
1572          KM   RETRIEVE FLOW FROM DIVERSION INTO OFFLINE BASIN
1573          DR  BASIN2
              * DDM   ***** Preserved *****

1574          KK     SD3
1575          KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
1576          KM     5.0 ACRE-FEETx43560/36x3600=1.7cfs
1577          RS       1    STOR       0
1578          SV       0     .01       5
1579          SQ       0     0.7     1.7
              * DDM   ***** Preserved *****

1580          KK     CD3
1581          KM   HYDROGRAPH COMBINATION FOR OFFLINE BASIN BLEEDOFF
1582          HC       2
              * DDM   ***** Preserved *****

1583          KK    R101
1584          KM        ROUTE FLOW FROM SUBBASIN C101 TO C103
1585          RS       1    FLOW      -1
1586          RC     .05    .035     .05    1450     .05
1587          RX    1000    1010    1020    1036    1041    1057    1067    1077
1588          RY      15    14.5      14      10      10      14    14.5      15
              * DDM   ***** Updated *****

1589          KK     458
1590          KM   SUB-BASIN 458
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  .999
1593          KM     L =  .76  Kb = .048  Adj. Slope =  299.0
1594          BA    .190
1595          LG    .290    .330   5.800    .190   6.000
1596          UC    .204    .131
1597          UA       0       5      16      30      65      77      84      90      94      97
1598          UA     100
              * DDM   ***** Preserved *****
1                                          HEC-1 INPUT                                          PAGE 43

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


1599          KK    C103
1600          KM        COMBINE HYDROGRAPHS FROM SUB-BASIN 55 AND C101
1601          HC       2
              * DDM   ***** Preserved *****

1602          KK    R103
1603          KM        ROUTE FLOW FROM SUBBASIN C103 TO C106
1604          RS       1    FLOW      -1
1605          RC     .05    .035     .05     900     .03
1606          RX    1000    1010    1020    1030    1050    1060    1070    1080
1607          RY   13.16   12.83    12.5      10      10    12.5   12.83   13.16
              * DDM   ***** Preserved *****

1608          KK    RT30
1609          KM        RETRIEVE DIVERTED FLOW FOR WASH BELOW 30 INCH PIPE
1610          DR    WA30
              * DDM   ***** Preserved *****

1611          KK     R30
1612          KM        ROUTE FLOW FROM WASH DIVERSION TO COMBINE C52
1613          RS       1    FLOW      -1
1614          RC     .05    .035     .05    1630     .05
1615          RX    1000    1010    1020    1036    1041    1057    1067    1077
1616          RY      15    14.5      14      10      10      14    14.5      15
              * DDM   ***** Preserved *****

1617          KK    RTB1
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1618          KM        RETRIEVE DIVERTED FLOW FROM BASIN 1
              *      1       2
1619          DR  BASIN1
              * DDM   ***** Preserved *****

1620          KK      B1
1621          KM        ROUTE FLOW THROUGH OFFLINE DETENTION BASIN
1622          KM        FLOW OUTLETS THROUGH A 30 INCH OUTLET PIPE
              *      1       2
1623          RS       1    ELEV       0
1624          SV              .7     1.4     2.3     2.7     4.0
1625          SQ       0       5      16      28    32.5      37
1626          SE       0       1       2       3     3.5       4
              * DDM   ***** Preserved *****

1627          KK     RB1
1628          KM        ROUTE FLOW FROM BASIN DIVERSION TO COMBINE C52
1629          RS       3    FLOW      -1
1630          RC     .05    .035     .05    1720     .05
1631          RX    1000    1010    1020    1036    1041    1057    1067    1077
1632          RY      15    14.5      14      10      10      14    14.5      15
              * DDM   ***** Preserved *****
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1633          KK    CDIV
1634          KM        COMBINE FLOWS FROM WA30 AND BASIN 1
1635          HC       2     .12
              * DDM   ***** Updated *****

1636          KK     459
1637          KM   SUB-BASIN 459
1638          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1639          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF 1.000
1640          KM     L =  .35  Kb = .052  Adj. Slope =  251.6
1641          BA    .030
1642          LG    .220    .300   3.330    .710   8.000
1643          UC    .162    .157
1644          UA       0       5      16      30      65      77      84      90      94      97
1645          UA     100
              * DDM   ***** Preserved *****

1646          KK     C52
1647          KM        COMBINE FLOWS FROM SUB-BASIN 52 WA30 AND BASIN 1
1648          HC       2
              * DDM   ***** Preserved *****

1649          KK     R52
1650          KM        ROUTE FLOW FROM SUBBASIN 52 TO C102
1651          RS       3    FLOW      -1
1652          RC     .05    .035     .05    2000     .05
1653          RX    1000    1010    1020    1036    1041    1057    1067    1077
1654          RY      15    14.5      14      10      10      14    14.5      15
              * DDM   ***** Updated *****

1655          KK     460
1656          KM   SUB-BASIN 460
1657          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1658          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .999
1659          KM     L =  .62  Kb = .058  Adj. Slope =  194.0
1660          BA    .140
1661          LG    .250    .260   3.740    .690  27.000
1662          UC    .242    .160
1663          UA       0       5      16      30      65      77      84      90      94      97
1664          UA     100
              * DDM   ***** Preserved *****

1665          KK    C102
1666          KM        COMBINE HYDROGRAPHS FROM SUB-BASINS 52 AND 53
1667          HC       2
              * DDM   ***** Preserved *****

1668          KK  BASIN3
1669          KM        RESERVOIR AT CLUBHOUSE LOCATION 1-30 INCH PIPE AT OUTFALL
1670          KM        BOTTOM OF BASIN AT 6 FEET ABOVE 1795 ELEVATION
1671          RS       1    ELEV       0
1672          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
1673          SQ       0      22      45    47.4      48      51      57      62      67      73
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1674          SE    1795  1797.5    1800  1800.4  1800.5    1801    1802    1803    1804  1805.5
              * DDM   ***** Preserved *****

1675          KK      R3
1676          KM        ROUTE FLOW FROM C102 to C106
1677          RS       5    FLOW      -1
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1678          RC     .05     .03     .05    2750   .0375
1679          RX    1000    1010    1020    1052    1086    1118    1128    1138
1680          RY    19.2    18.4      18      10      10      18    18.4    19.2
              * DDM   ***** Updated *****

1681          KK     461
1682          KM   SUB-BASIN 461
1683          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1684          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .999
1685          KM     L =  .83  Kb = .052  Adj. Slope =  181.0
1686          BA    .120
1687          LG    .270    .250   4.250    .450  21.000
1688          UC    .271    .250
1689          UA       0       5      16      30      65      77      84      90      94      97
1690          UA     100
              * DDM   ***** Preserved *****

1691          KK    C104
1692          KM        COMBINE HYDROGRAPHS FROM SUB-BASIN 54 AND R102
1693          HC       2
              * DDM   ***** Preserved *****

1694          KK    C106
1695          KM        COMBINE HYDROGRAPHS FROM SUB-BASIN C103 AND C104
1696          HC       2
              * DDM   ***** Preserved *****

1697          KK    R106
1698          KM        ROUTE FLOW FROM C106 TO C49
1699          RS       2    FLOW      -1
1700          RC     .05    .035     .05    3950    .033
1701          RX    1000    1010    1020    1030    1050    1060    1070    1080
1702          RY   13.16   12.83    12.5      10      10    12.5   12.83   13.16
              * DDM   ***** Updated *****

1703          KK     462
1704          KM   SUB-BASIN 462
1705          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1706          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .998
1707          KM     L =  .97  Kb = .045  Adj. Slope =  297.7
1708          BA    .301
1709          LG    .300    .330   5.300    .240  12.000
1710          UC    .225    .137
1711          UA       0       5      16      30      65      77      84      90      94      97
1712          UA     100
              * DDM   ***** Preserved *****
                                        HEC-1 INPUT                                          PAGE 46

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

1713          KK     C56
1714          KM        COMBINE HYDROGRAPHS FROM SUB-BASIN 56 AND C106
              *      1       2
1715          HC       2
              * DDM   ***** Preserved *****

1716          KK    C462
1717          KM        COMBINE HYDROGRAPHS AT SUBBASIN 462
              *      1
1718          HC       2    2.09
              * DDM   ***** Preserved *****

1719          KK    R462
1720          KM   ROUTE FLOW FROM SUB-BASIN 462 TO SUB-BASIN 500 (First Channel Reach)
1721          RS       1    FLOW      -1
1722          RC    .025    .025    .025    1800    .005
1723          RX       0       1      20      32      62      74      93      94
1724          RY      13      12      12       0       0      12      12      13
              *

1725          KK   RR462
1726          KM   ROUTE FLOW FROM SUB-BASIN 462 TO SUB-BASIN 500 (Second Natural Wash Reach)
1727          RS       3    FLOW      -1
1728          RC    .055     .05    .055    4700     .05
1729          RX       0       1       2      28      58      84      85      86
1730          RY    13.5    13.5    13.5       0       0    13.5    13.5    13.5
              * DDM   ***** Updated *****

1731          KK     500
1732          KM   SUB-BASIN 500
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  .994
1735          KM     L = 2.77  Kb = .042  Adj. Slope =  286.8
1736          BA    .930
1737          LG    .350    .400   6.000    .170   9.000
1738          UC    .421    .333
1739          UA       0       3       5       8      12      20      43      75      90      96
1740          UA     100
              * DDM   ***** Preserved *****
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1741          KK    C500
1742          KM   HYDROGRAPH COMBINATION FOR THE ENTIRE WATERSHED AT THE SALT RIVER
1743          HC       2     3.02
1744          ZZ
```

1

SCHEMATIC DIAGRAM OF STREAM NETWORK

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

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

   28         10
               V
               V
   38        R10
               V
               V
   44        R12
               .
               .
   50          .          20
               .           .
               .           .
   60        C20............
               V
               V
   63        R20
               .
               .
   69          .          40
               .           .
               .           .
   79          .           .          60
               .           .           .
               .           .           .
   89        C60........................
               V
               V
   92        S60
               V
               V
  101        R60
               V
               V
  107       RR60
               .
               .
  113          .          80
               .           .
               .           .
  123        C80............
               V
               V
  126        R80
               .
               .
  132          .         100
               .           .
               .           .
  142       C100............
               V
               V
  145       R100
               .
               .
  151          .         120
               .           .
               .           .
  161       C120............
               V
               V
  164       R120
               .
               .
  170          .         140
               .           .
               .           .
  180          .           .         150
               .           .           V
               .           .           V
  190          .           .        R150
               .           .           V
               .           .           V
  196          .           .        R152
               .           .           .
               .           .           .
  202          .           .           .         160
               .           .           .           .
               .           .           .           .
  212          .           .           .           .         180
               .           .           .           .           .
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222        C180.............................................
           .
           .
225        .        385B
           .          V
           .          V
235        .       R385B
           .          .
           .          .
244        .          .        395B
           .          .          .
           .          .          .
254        .       C395B............
           .          V
           .          V
257        .       R395B
           .          .
           .          .
264        .          .        370B
           .          .          .
           .          .          .
274        .       C370C............
           .          V
           .          V
277        .       R370B
           .          V
           .          V
284        .      RR370B
           .          .
           .          .
293        .          .        355B
           .          .          .
           .          .          .
303        .       C355B............
           .          V
           .          V
306        .       R355B
           .          V
           .          V
315        .      RR355B
           .          .
           .          .
322        .          .         350
           .          .           V
           .          .           V
332        .          .        R350
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339        .          .          .         310
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349        .        C310........................
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352        .        R310
           .          V
           .          V
359        .        R312
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368        .          .        305B
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378        .       C305B............
           .          V
           .          V
381        .       R305B
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390        .          .         210
           .          .           V
           .          .           V
400        .          .        R210
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406        .          .          .         240
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416        .        C240........................
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419        .        S240
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428        .        R240
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435        .          .         220
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445          .        C220............
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448          .        S220
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457          .        R220
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464          .           .         190
             .           .           V
             .           .           V
474          .           .        R190
             .           .           V
             .           .           V
480          .           .        R192
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486          .           .           .         200
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496          .        C200......................
             .           V
             .           V
499          .        S200
             .           V
             .           V
506          .        R200
             .           V
             .           V
512          .       SS200
             .           V
             .           V
519          .       RR200
             .           .
             .           .
525       CC180............
             V
             V
528        S180
             V
             V
537        R180
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546          .         260
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             .           .
556        C260............
             V
             V
559        R260
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568          .         280
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578        C280............
             V
             V
581        R280
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590          .         300
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600        C300............
             V
             V
603        R300
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612          .        305A
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622       C305A............
             V
             V
625       R305A
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634          .         320
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649          .           .-------->   BS320
644          .        D320
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654          .           .           .<--------   BS320
652          .           .        RT320
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655             .           .        S320
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661         C320.......................
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664             .        340B
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679             .           .-------> BS340B
674             .       D340B
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684             .           .           .<-------  BS340B
682             .           .      RT340B
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685             .           .       S340B
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691             .       C340B............
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696             .           .------->   BS340
694             .      DD340B
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701             .           .           .<-------   BS340
699             .           .       RT340
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                .           .           V
702             .           .      SS340B
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708             .      CC340B............
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                .           V
711             .       R340B
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718             .           .        340A
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733             .           .           .-------> BS340A
728             .           .       D340A
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738             .           .           .           .<-------  BS340A
736             .           .           .      RT340A
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739             .           .           .       S340A
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745             .       C340A........................
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748         C340............
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751             .        355A
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761             .       R355A
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768             .           .         360
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782             .           .           .------->   BS360
778             .           .        D360
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787             .           .           .           .<-------   BS360
785             .           .           .      RT360
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788             .           .           .        S360
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794         C360.....................................
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797             .        380A
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807        C380A............
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810             .        400A
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820       C400A............
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823             .       380B
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837             .           .-------> BS380B
833             .      D380B
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842             .           .          .<-------  BS380B
840             .           .     RT380B
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843             .           .      S380B
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849             .      C380B............
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852             .      R380B
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859             .           .       400B
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873             .           .           .-------> BS400B
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878             .           .           .          .<-------  BS400B
876             .           .           .     RT400B
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879             .           .           .      S400B
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885             .           .      C400B............
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888      CC400B........................
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891             .       420A
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905             .           .-------> BS420A
901             .      D420A
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910             .           .          .<-------  BS420A
908             .           .     RT420A
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911             .           .      S420A
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917       C420A........................
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920             .       370A
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930             .           .       395A
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940             .      C370A............
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946             .           .------->  BS370
943             .       D370
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951             .           .          .<-------  BS370
949             .           .     RT370
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952             .           .      S370
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958             .      CC370............
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961             .       R370
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968             .           .      385A
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 988          .           .       C415B............
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 994          .           .           .-------> BS415B
 991          .           .       D415B
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 999          .           .           .           .<-------  BS415B
 997          .           .           .      RT415B
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1000          .           .           .       S415B
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1006          .           .      CC415B............
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1009          .           .       R415B
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1016          .           .           .         390
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1030          .           .           .           .------->   BS390
1026          .           .           .       D390
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1035          .           .           .           .           .<-------   BS390
1033          .           .           .           .       RT390
              .           .           .           .           V
              .           .           .           .           V
1036          .           .           .           .        S390
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1042          .       C390.................................
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1045          .       R390
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1052          .           .       420B
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1062          .      C420B............
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1065          .           .        440
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1075          .           .        R70
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1081          .           .           .         441
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1091          .           .       C108............
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1096          .           .           .------->   SPLIT
1094          .           .         D4
              .           .          V
              .           .          V
1099          .           .       R108
              .           .           .
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1105          .           .           .         442
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1115          .           .        C67............
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1121          .           .           .-------> BASIN4
1118          .           .         D6
              .           .           .
              .           .           .
1126          .           .           .           .<-------  BASIN4
1124          .           .           .       RTD6
              .           .           .           V
              .           .           .           V
1127          .           .           .        SD6
              .           .           .           .
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1133          .           .        CD6............
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1136          .           .           .         443
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1149                                  .-------->   WSH66
1146                            D66
                                  V
                                  V
1152                           R113
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1158                     C114............
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1161                            444
                                  V
                                  V
1171                            R58
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1177                                  .         445
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1187                           C107............
                                  V
                                  V
1190                           R107
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1198                                  .           .<-------   SPLIT
1196                                  .        RTB2
                                  .           V
                                  .           V
1199                                  .      RSPLIT
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1205                                  .           .         446
                                  .           .           .
                                  .           .           .
1215                           C109.......................
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1221                                  .-------> WSH404
1218                             D5
                                  V
                                  V
1224                           R109
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1230                                  .         447
                                  .           .
                                  .           .
1242                                  .           .           .<-------  WSH404
1240                                  .           .       RT404
                                  .           .           V
                                  .           .           V
1243                                  .           .        R404
                                  .           .           .
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1249                           C110.......................
                                  V
                                  V
1252                           R110
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1258                     C115............
                                V
                                V
1261                     R115
                                .
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1267                            448
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1277                                  .         449
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1287                          C6364............
                                  V
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1290                          R6364
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1296                                  .         450
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1306                                  .           .         451
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1316                                  .        C451............
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1321                                  .           .           .<-------   WSH66
1319                                  .           .        RT66
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1322                                                                452
1332                                                   C6465............
                                                           V
                                                           V
1335                                                   R6566
1341                                  C116......................
                                         V
                                         V
1344                                BASIN5
                                         V
                                         V
1351                                  R116
1357                                                 453
1367                                  C117............
1370                            C118............
                                   V
                                   V
1373                            R118
1382                                 -------> BASIN6
1379                              D7
1387                                        <-------  BASIN6
1385                                  RTD7
                                         V
                                         V
1388                                   SD7
1394                             CD7............
1397                                    454
1407                            C454............
                                   V
                                   V
1410                            R454
1417                                  415A
1427                       C415A......................
                              V
                              V
1430                       R415A
1437                             455
1452                                 -------> BS455
1447                            D455
1457                                        <-------  BS455
1455                                 RT455
                                         V
                                         V
1458                                  S455
1464                            C455............
1467                 CC455......................
                        V
                        V
1470                  S440
                        V
                        V
1479                  R455
1485                       480
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1500          .           .-------->   BS480
1495          .        D480
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1505          .           .           .<--------   BS480
1503          .           .       RT480
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              .           .          V
1506          .           .        S480
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1512          .        C480............
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1515       CC480............
              V
              V
1518        R480
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1524          .         456
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1537          .           .-------->  BASIN1
1534          .          D1
              .           .
              .           .
1543          .           .-------->    WA30
1540          .          D2
              .           V
              .           V
1546          .        R456
              .           .
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1552          .           .         457
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1562          .        C101............
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1568          .           .-------->  BASIN2
1565          .          D3
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              .           .
1573          .           .           .<--------  BASIN2
1571          .           .        RTD3
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1574          .           .         SD3
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1580          .         CD3............
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1583          .        R101
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1589          ..          .         458
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1599          .        C103............
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1602          .        R103
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1610          .           .           .<--------    WA30
1608          .           .        RT30
              .           .          V
              .           .          V
1611          .           .         R30
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1619          .           .           .           .<--------  BASIN1
1617          .           .           .        RTB1
              .           .           .           V
              .           .           .           V
1620          .           .           .          B1
              .           .           .           V
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1627          .           .           .         RB1
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1633          .           .        CDIV............
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1636          .           .           .         459
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1646          .           .         C52............
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 1649           .          .        R52
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 1665           .          .      C102............
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 1668           .          .    BASIN3
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 1675           .          .         R3
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 1681           .          .          .        461
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 1691           .          .      C104............
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 1694           .       C106............
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                .          V
 1697           .       R106
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 1703           .          .        462
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 1713           .        C56............
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 1716       C462............
               V
               V
 1719       R462
               V
               V
 1725      RR462
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               .
 1731           .        500
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                .          .
 1741       C500............
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(***) RUNOFF ALSO COMPUTED AT THIS LOCATION

```
1****************************************
 *                                      *
 *   FLOOD HYDROGRAPH PACKAGE  (HEC-1)  *
 *              JUN   1998              *
 *           VERSION 4.1                *
 *                                      *
 *  RUN DATE   01MAY01  TIME  16:52:12  *
 *                                      *
 ****************************************
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****************************************
*                                      *
*    U.S. ARMY CORPS OF ENGINEERS      *
*    HYDROLOGIC ENGINEERING CENTER     *
*          609 SECOND STREET           *
*       DAVIS, CALIFORNIA 95616        *
*           (916) 756-1104             *
*                                      *
****************************************
```

DDMS MCUHP1 SPOOK HILL ADMP-EXISTING CONDITIONS MODEL-100YR, 24-HR STORM
Combined McDowell Road, McKellips Road & Pass Mountain Alternatives
McDowell Road Alternative - Option MD2E
McKellips Road Alternative - Option MK1C
FULL PASS MOUNTAIN DIVERSION WITH SPOOK HILL FRS STORAGE ROUTING - PM4R
OUTFLOW OF SIGNAL BUTTE IS QUADRUPLED
Spook Hill FRS without Off-Line Basin

```
  9 IO          OUTPUT CONTROL VARIABLES
                      IPRNT           5  PRINT CONTROL
                      IPLOT           0  PLOT CONTROL
                      QSCAL          0.  HYDROGRAPH PLOT SCALE

    IT          HYDROGRAPH TIME DATA
                       NMIN           2  MINUTES IN COMPUTATION INTERVAL
                      IDATE      1    0  STARTING DATE
                      ITIME        0000  STARTING TIME
                         NQ        2000  NUMBER OF HYDROGRAPH ORDINATES
                     NDDATE      3    0  ENDING DATE
                     NDTIME        1838  ENDING TIME
                      ICENT          19  CENTURY MARK

                 COMPUTATION INTERVAL     .03 HOURS
                      TOTAL TIME BASE   66.63 HOURS

        ENGLISH UNITS
             DRAINAGE AREA         SQUARE MILES
```

PRECIPITATION DEPTH INCHES
LENGTH, ELEVATION FEET
FLOW CUBIC FEET PER SECOND
STORAGE VOLUME ACRE-FEET
SURFACE AREA ACRES
TEMPERATURE DEGREES FAHRENHEIT

11 JD INDEX STORM NO. 1
STRM 3.81 PRECIPITATION DEPTH
TRDA .01 TRANSPOSITION DRAINAGE AREA

12 PI PRECIPITATION PATTERN

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22 JD INDEX STORM NO. 2
STRM 3.79 PRECIPITATION DEPTH
TRDA 1.00 TRANSPOSITION DRAINAGE AREA

0 PI PRECIPITATION PATTERN

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23 JD INDEX STORM NO. 3

STRM	3.68	PRECIPITATION DEPTH
TRDA	5.80	TRANSPOSITION DRAINAGE AREA

0 PI PRECIPITATION PATTERN

.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
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24 JD INDEX STORM NO. 4

STRM 3.57 PRECIPITATION DEPTH

TRDA 10.66 TRANSPOSITION DRAINAGE AREA

0 PI PRECIPITATION PATTERN

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25 JD INDEX STORM NO. 5

STRM 3.54 PRECIPITATION DEPTH

TRDA 13.70 TRANSPOSITION DRAINAGE AREA

0 PI PRECIPITATION PATTERN

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26 JD INDEX STORM NO. 6

STRM 3.47 PRECIPITATION DEPTH

TRDA 20.00 TRANSPOSITION DRAINAGE AREA

0 PI PRECIPITATION PATTERN

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27 JD INDEX STORM NO. 7
STRM 3.32 PRECIPITATION DEPTH
TRDA 50.00 TRANSPOSITION DRAINAGE AREA

0 PI PRECIPITATION PATTERN

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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	989.	12.27	119.	33.	12.	.70		
+ ROUTED TO	R10	920.	12.40	119.	33.	12.	.70		
+ ROUTED TO	R12	853.	12.60	119.	33.	12.	.70		
+ HYDROGRAPH AT	20	1011.	12.43	136.	34.	12.	1.12		
+ 2 COMBINED AT	C20	1684.	12.53	252.	66.	24.	1.82		
+ ROUTED TO	R20	1683.	12.57	252.	66.	24.	1.82		
+ HYDROGRAPH AT	40	2695.	12.30	264.	69.	25.	2.23		
+ HYDROGRAPH AT	60	1623.	12.40	239.	64.	23.	1.75		
+ 3 COMBINED AT	C60	5371.	12.37	733.	194.	70.	5.80		
ROUTED TO	S60	118.	14.27	118.	114.	70.	5.80		
+ ROUTED TO	R60	118.	14.37	118.	114.	70.	5.80		
+ ROUTED TO	RR60	118.	14.40	118.	114.	70.	5.80		
+ HYDROGRAPH AT	80	1956.	12.27	189.	49.	18.	1.48		
+ 2 COMBINED AT	C80	2009.	12.27	295.	160.	90.	1.48		
+ ROUTED TO	R80	1981.	12.30	295.	160.	90.	1.48		
+ HYDROGRAPH AT	100	423.	12.20	60.	16.	6.	.48		
+ 2 COMBINED AT	C100	2373.	12.27	351.	174.	95.	1.96		
+ ROUTED TO	R100	2370.	12.30	351.	174.	95.	1.96		
+ HYDROGRAPH AT	120	3352.	12.27	340.	92.	33.	2.20		
+ 2 COMBINED AT	C120	5618.	12.27	673.	256.	126.	4.16		
+ ROUTED TO	R120	5546.	12.30	673.	256.	126.	4.16		
+ HYDROGRAPH AT	140	665.	12.13	67.	18.	6.	.60		
+ HYDROGRAPH AT	150	595.	12.17	51.	14.	5.	.41		
ROUTED TO	R150	568.	12.23	51.	14.	5.	.41		
ROUTED TO									

+	R152	514.	12.33	51.	14.	5.	.41
+ HYDROGRAPH AT	160	228.	12.40	37.	9.	3.	.37
+ HYDROGRAPH AT	180	836.	12.37	97.	24.	9.	1.00
+ 5 COMBINED AT	C180	7306.	12.30	898.	313.	146.	6.54
+ HYDROGRAPH AT	385B	591.	12.17	57.	16.	6.	.38
+ ROUTED TO	R385B	590.	12.17	57.	16.	6.	.38
+ HYDROGRAPH AT	395B	12.	12.17	2.	0.	0.	.02
+ 2 COMBINED AT	C395B	601.	12.17	59.	17.	6.	.39
+ ROUTED TO	R395B	580.	12.23	58.	16.	6.	.39
+ HYDROGRAPH AT	370B	219.	12.27	32.	8.	3.	.26
+ 2 COMBINED AT	C370C	792.	12.23	90.	25.	9.	.66
+ ROUTED TO	R370B	778.	12.27	90.	25.	9.	.66
+ ROUTED TO	RR370B	715.	12.33	90.	25.	9.	.66
+ HYDROGRAPH AT	355B	465.	12.27	54.	14.	5.	.51
+ 2 COMBINED AT	C355B	1153.	12.30	143.	38.	14.	1.17
ROUTED TO	R355B	1138.	12.37	143.	38.	14.	1.17
+ ROUTED TO	RR355B	1121.	12.40	143.	38.	14.	1.17
+ HYDROGRAPH AT	350	1258.	12.20	109.	28.	10.	.97
+ ROUTED TO	R350	1109.	12.47	109.	28.	10.	.97
+ HYDROGRAPH AT	310	342.	12.33	46.	12.	4.	.49
+ 3 COMBINED AT	C310	2448.	12.43	290.	76.	27.	2.63
+ ROUTED TO	R310	2395.	12.53	290.	76.	27.	2.63
+ ROUTED TO	R312	2301.	12.63	290.	76.	27.	2.63
+ HYDROGRAPH AT	305B	405.	12.30	45.	11.	4.	.41
+ 2 COMBINED AT	C305B	2484.	12.63	333.	87.	31.	3.05
+ ROUTED TO	R305B	2464.	12.67	333.	87.	31.	3.05
+ HYDROGRAPH AT	210	1322.	12.17	111.	29.	10.	.79
+ ROUTED TO	R210	1246.	12.23	111.	29.	10.	.79
+ HYDROGRAPH AT	240	1754.	12.27	167.	42.	15.	1.41
3 COMBINED AT	C240	3752.	12.27	593.	153.	55.	5.25
ROUTED TO	S240	1819.	12.93	528.	137.	49.	5.25

ROUTED TO	R240	1817.	13.00	527.	137.	49.	5.25
+ HYDROGRAPH AT	220	694.	12.20	68.	18.	6.	.47
+ 2 COMBINED AT	C220	1864.	12.97	587.	153.	55.	5.72
+ ROUTED TO	S220	1775.	13.13	575.	150.	54.	5.72
+ ROUTED TO	R220	1774.	13.20	575.	150.	54.	5.72
+ HYDROGRAPH AT	190	1471.	12.17	123.	33.	12.	.92
+ ROUTED TO	R190	1415.	12.23	123.	33.	12.	.92
+ ROUTED TO	R192	1359.	12.30	123.	33.	12.	.92
+ HYDROGRAPH AT	200	843.	12.17	72.	20.	7.	.53
+ 3 COMBINED AT	C200	2171.	12.30	741.	195.	71.	7.17
+ ROUTED TO	S200	2057.	12.37	736.	192.	69.	7.17
+ ROUTED TO	R200	2055.	12.40	735.	192.	69.	7.17
+ ROUTED TO	SS200	1788.	13.30	615.	162.	58.	7.17
+ ROUTED TO	RR200	1784.	13.37	612.	162.	58.	7.17
+ 2 COMBINED AT	CC180	7306.	12.30	1505.	476.	204.	13.70
ROUTED TO	S180	449.	15.63	436.	313.	154.	13.70
+ ROUTED TO	R180	449.	15.70	436.	313.	154.	13.70
+ HYDROGRAPH AT	260	399.	12.13	43.	12.	4.	.26
+ 2 COMBINED AT	C260	491.	15.63	477.	362.	181.	.26
+ ROUTED TO	R260	491.	15.70	477.	362.	181.	.26
+ HYDROGRAPH AT	280	498.	12.10	46.	13.	5.	.32
+ 2 COMBINED AT	C280	854.	12.13	479.	372.	185.	.58
+ ROUTED TO	R280	837.	12.20	479.	372.	185.	.58
+ HYDROGRAPH AT	300	392.	12.10	34.	9.	3.	.29
+ 2 COMBINED AT	C300	1173.	12.17	503.	379.	188.	.87
+ ROUTED TO	R300	1131.	12.23	502.	379.	188.	.87
+ HYDROGRAPH AT	305A	413.	12.17	46.	13.	5.	.37
+ 2 COMBINED AT	C305A	1501.	12.23	539.	388.	191.	1.24
+ ROUTED TO	R305A	1470.	12.30	538.	387.	191.	1.24
HYDROGRAPH AT	320	899.	12.20	116.	33.	12.	.87
DIVERSION TO							

+	BS320	439.	11.97	21.	6.	2.	.87
+ HYDROGRAPH AT	D320	899.	12.20	102.	27.	10.	.87
+ HYDROGRAPH AT	RT320	439.	11.97	21.	6.	2.	.87
+ ROUTED TO	S320	4.	12.03	4.	4.	2.	.87
+ 3 COMBINED AT	C320	2277.	12.27	633.	411.	200.	2.11
+ HYDROGRAPH AT	340B	475.	12.07	35.	10.	4.	.29
+ DIVERSION TO	BS340B	475.	12.07	21.	6.	2.	.29
+ HYDROGRAPH AT	D340B	390.	12.13	16.	4.	2.	.29
+ HYDROGRAPH AT	RT340B	475.	12.07	21.	6.	2.	.29
+ ROUTED TO	S340B	3.	12.13	3.	3.	2.	.29
+ 2 COMBINED AT	C340B	394.	12.13	19.	7.	4.	.29
+ DIVERSION TO	BS340	376.	12.13	12.	3.	1.	.29
+ HYDROGRAPH AT	DD340B	18.	12.10	8.	4.	3.	.29
+ HYDROGRAPH AT	RT340	376.	12.13	12.	3.	1.	.29
+ ROUTED TO	SS340B	2.	12.63	2.	2.	1.	.29
2 COMBINED AT	CC340B	20.	12.63	10.	6.	4.	.29
+ ROUTED TO	R340B	20.	12.70	10.	6.	4.	.29
+ HYDROGRAPH AT	340A	1361.	12.17	161.	48.	17.	1.15
+ DIVERSION TO	BS340A	1361.	12.17	82.	23.	8.	1.15
+ HYDROGRAPH AT	D340A	1217.	12.23	93.	25.	9.	1.15
+ HYDROGRAPH AT	RT340A	1361.	12.17	82.	23.	8.	1.15
+ ROUTED TO	S340A	14.	12.27	13.	11.	7.	1.15
+ 3 COMBINED AT	C340A	1212.	12.27	115.	42.	20.	1.44
+ 2 COMBINED AT	C340	3432.	12.27	735.	446.	216.	3.55
+ HYDROGRAPH AT	355A	226.	12.10	22.	6.	2.	.16
+ ROUTED TO	R355A	197.	12.37	22.	6.	2.	.16
+ HYDROGRAPH AT	360	761.	12.20	109.	31.	11.	.88
+ DIVERSION TO	BS360	761.	12.20	54.	14.	5.	.88
+ HYDROGRAPH AT	D360	665.	12.37	62.	17.	6.	.88
+ HYDROGRAPH AT	RT360	761.	12.20	54.	14.	5.	.88
ROUTED TO	S360	9.	12.37	8.	7.	5.	.88

4 COMBINED AT	C360	3690.	12.37	816.	470.	227.	4.59
+ HYDROGRAPH AT	380A	322.	12.27	33.	10.	4.	.26
+ 2 COMBINED AT	C380A	3922.	12.37	843.	477.	230.	4.85
+ HYDROGRAPH AT	400A	56.	12.20	4.	1.	0.	.05
+ 2 COMBINED AT	C400A	3948.	12.37	846.	478.	230.	4.90
+ HYDROGRAPH AT	380B	567.	12.20	67.	17.	6.	.64
+ DIVERSION TO	BS380B	567.	12.20	57.	14.	5.	.64
+ HYDROGRAPH AT	D380B	147.	12.80	12.	3.	1.	.64
+ HYDROGRAPH AT	RT380B	567.	12.20	57.	14.	5.	.64
+ ROUTED TO	S380B	9.	12.80	9.	7.	5.	.64
+ 2 COMBINED AT	C380B	156.	12.80	20.	11.	6.	.64
+ ROUTED TO	R380B	137.	12.90	20.	11.	6.	.64
+ HYDROGRAPH AT	400B	516.	12.20	62.	17.	6.	.57
+ DIVERSION TO	BS400B	292.	12.00	10.	3.	1.	.57
+ HYDROGRAPH AT	D400B	516.	12.20	54.	14.	5.	.57
HYDROGRAPH AT	RT400B	292.	12.00	10.	3.	1.	.57
+ ROUTED TO	S400B	2.	12.07	2.	2.	1.	.57
+ 2 COMBINED AT	C400B	518.	12.20	56.	15.	6.	.57
+ 3 COMBINED AT	CC400B	4334.	12.27	907.	498.	239.	6.10
+ HYDROGRAPH AT	420A	495.	12.20	68.	19.	7.	.57
+ DIVERSION TO	BS420A	377.	12.07	16.	4.	2.	.57
+ HYDROGRAPH AT	D420A	495.	12.20	56.	14.	5.	.57
+ HYDROGRAPH AT	RT420A	377.	12.07	16.	4.	2.	.57
+ ROUTED TO	S420A	13.	11.60	13.	4.	2.	.57
+ 3 COMBINED AT	C420A	4746.	12.27	963.	510.	244.	6.67
+ HYDROGRAPH AT	370A	633.	12.10	52.	14.	5.	.41
+ HYDROGRAPH AT	395A	209.	12.13	24.	6.	2.	.18
+ 2 COMBINED AT	C370A	838.	12.10	76.	21.	7.	.59
+ DIVERSION TO	BS370	698.	12.10	43.	11.	4.	.59
HYDROGRAPH AT	D370	140.	11.77	33.	10.	4.	.59
HYDROGRAPH AT							

+	RT370	698.	12.10	43.	11.	4.	.59
ROUTED TO +	S370	8.	12.57	7.	6.	4.	.59
2 COMBINED AT +	CC370	148.	12.57	39.	15.	7.	.59
ROUTED TO +	R370	148.	12.57	39.	15.	7.	.59
HYDROGRAPH AT +	385A	358.	12.07	27.	7.	3.	.21
HYDROGRAPH AT +	415B	443.	12.10	46.	13.	5.	.33
2 COMBINED AT +	C415B	785.	12.07	73.	20.	7.	.54
DIVERSION TO +	BS415B	595.	12.07	34.	8.	3.	.54
HYDROGRAPH AT +	D415B	190.	11.83	40.	12.	4.	.54
HYDROGRAPH AT +	RT415B	595.	12.07	34.	8.	3.	.54
ROUTED TO +	S415B	7.	12.50	7.	6.	3.	.54
2 COMBINED AT +	CC415B	197.	12.47	45.	17.	7.	.54
ROUTED TO +	R415B	197.	12.47	45.	17.	7.	.54
HYDROGRAPH AT +	390	477.	12.03	35.	10.	4.	.24
DIVERSION TO +	BS390	101.	11.73	6.	2.	1.	.24
HYDROGRAPH AT +	D390	477.	12.03	31.	8.	3.	.24
HYDROGRAPH AT +	RT390	101.	11.73	6.	2.	1.	.24
ROUTED TO +	S390	1.	11.80	1.	1.	1.	.24
4 COMBINED AT +	C390	814.	12.03	115.	41.	18.	1.38
ROUTED TO +	R390	746.	12.23	115.	41.	18.	1.38
HYDROGRAPH AT +	420B	356.	12.10	34.	10.	4.	.28
2 COMBINED AT +	C420B	1039.	12.20	148.	50.	22.	1.65
HYDROGRAPH AT +	440	184.	12.03	12.	3.	1.	.08
ROUTED TO +	R70	181.	12.07	12.	3.	1.	.08
HYDROGRAPH AT +	441	16.	12.03	1.	0.	0.	.01
2 COMBINED AT +	C108	197.	12.07	14.	4.	1.	.09
DIVERSION TO +	SPLIT	98.	12.07	7.	2.	1.	.09
HYDROGRAPH AT +	D4	98.	12.07	7.	2.	1.	.09
ROUTED TO +	R108	92.	12.13	7.	2.	1.	.09
HYDROGRAPH AT +	442	105.	12.10	9.	2.	1.	.10
2 COMBINED AT +	C67	195.	12.10	16.	4.	2.	.19

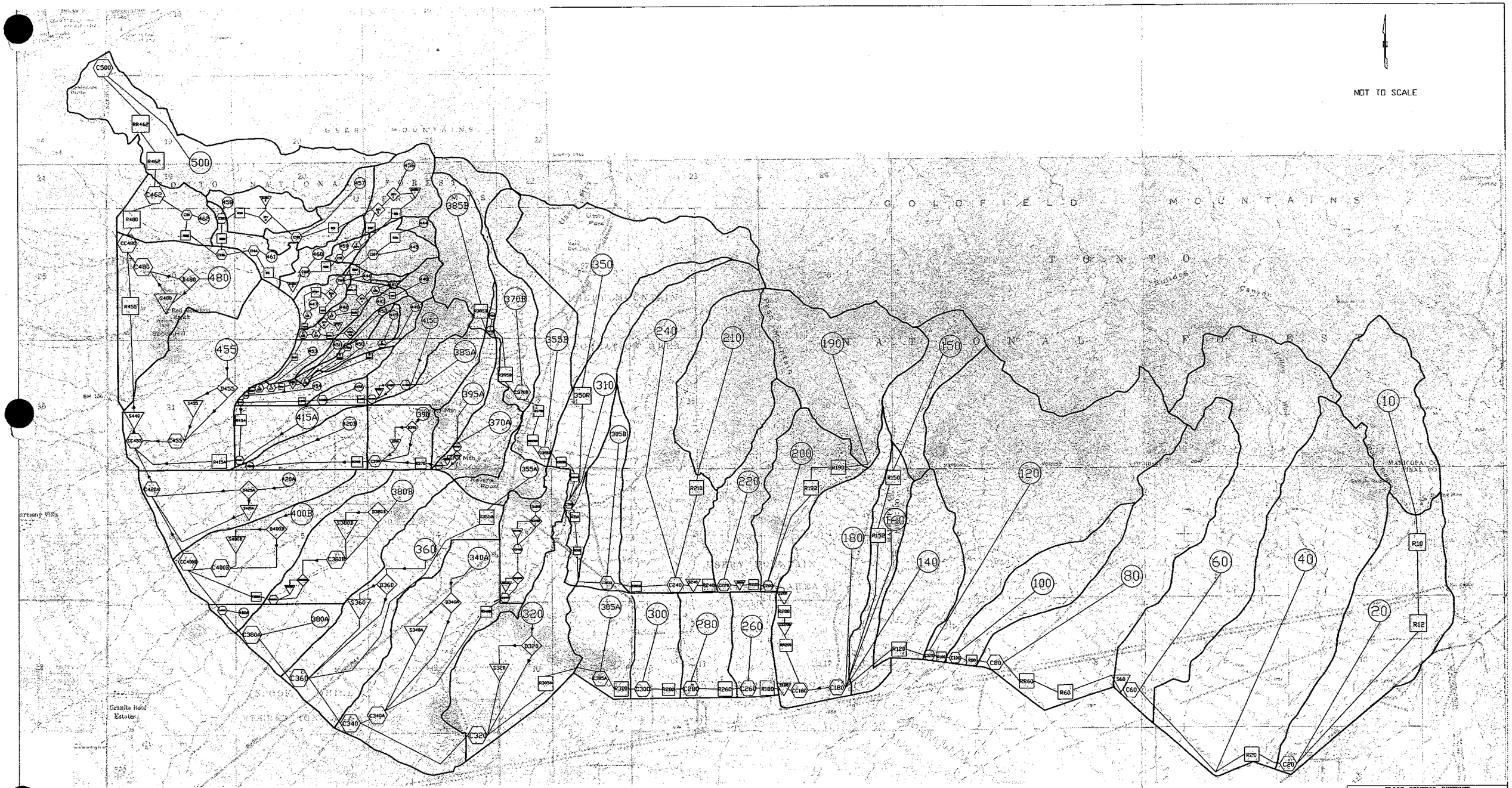
	DIVERSION TO	BASIN4	121.	12.10	6.	2.	1.	.19
+	HYDROGRAPH AT	D6	74.	12.10	10.	3.	1.	.19
+	HYDROGRAPH AT	RTD6	121.	12.10	6.	2.	1.	.19
+	ROUTED TO	SD6	1.	12.47	1.	1.	0.	.19
+	2 COMBINED AT	CD6	74.	12.10	10.	3.	1.	.19
+	HYDROGRAPH AT	443	151.	12.07	15.	4.	1.	.08
+	DIVERSION TO	WSH66	78.	11.87	12.	3.	1.	.08
+	HYDROGRAPH AT	D66	73.	12.07	3.	1.	0.	.08
+	ROUTED TO	R113	71.	12.07	3.	1.	0.	.08
+	2 COMBINED AT	C114	144.	12.07	13.	4.	2.	.27
+	HYDROGRAPH AT	444	83.	12.03	5.	1.	0.	.04
+	ROUTED TO	R58	79.	12.07	5.	1.	0.	.04
+	HYDROGRAPH AT	445	307.	12.03	19.	5.	2.	.19
+	2 COMBINED AT	C107	382.	12.03	23.	6.	2.	.23
+	ROUTED TO	R107	382.	12.07	23.	6.	2.	.23
	HYDROGRAPH AT	RTB2	98.	12.07	7.	2.	1.	.09
+	ROUTED TO	RSPLIT	98.	12.07	7.	2.	1.	.09
+	HYDROGRAPH AT	446	66.	12.03	6.	2.	1.	.04
+	3 COMBINED AT	C109	545.	12.07	36.	10.	3.	.27
+	DIVERSION TO	WSH404	35.	11.70	8.	2.	1.	.27
+	HYDROGRAPH AT	D5	510.	12.07	28.	7.	3.	.27
+	ROUTED TO	R109	493.	12.10	28.	7.	3.	.27
+	HYDROGRAPH AT	447	141.	12.07	12.	4.	1.	.09
+	HYDROGRAPH AT	RT404	35.	11.70	8.	2.	1.	.27
+	ROUTED TO	R404	35.	11.83	8.	2.	1.	.27
+	3 COMBINED AT	C110	666.	12.07	48.	13.	5.	.36
+	ROUTED TO	R110	663.	12.10	48.	13.	5.	.36
+	2 COMBINED AT	C115	805.	12.07	61.	17.	7.	.63
+	ROUTED TO	R115	799.	12.10	61.	17.	7.	.63
	HYDROGRAPH AT	448	89.	12.03	6.	2.	1.	.05
	HYDROGRAPH AT							

+	449	81.	12.03	5.	1.	0.	.05
+ 2 COMBINED AT	C6364	170.	12.03	11.	3.	1.	.09
+ ROUTED TO	R6364	145.	12.17	11.	3.	1.	.09
+ HYDROGRAPH AT	450	63.	12.20	7.	2.	1.	.07
+ HYDROGRAPH AT	451	18.	12.17	2.	1.	0.	.03
+ 2 COMBINED AT	C451	80.	12.20	9.	2.	1.	.09
+ HYDROGRAPH AT	RT66	78.	11.87	12.	3.	1.	.08
+ HYDROGRAPH AT	452	63.	12.03	5.	1.	0.	.04
+ 2 COMBINED AT	C6465	141.	12.03	17.	4.	2.	.04
+ ROUTED TO	R6566	137.	12.10	17.	4.	2.	.04
+ 3 COMBINED AT	C116	357.	12.17	36.	10.	3.	.23
+ ROUTED TO	BASIN5	159.	12.47	36.	10.	3.	.23
+ ROUTED TO	R116	157.	12.53	36.	10.	3.	.23
+ HYDROGRAPH AT	453	63.	12.10	7.	2.	1.	.06
+ 2 COMBINED AT	C117	177.	12.47	43.	12.	4.	.29
2 COMBINED AT	C118	892.	12.10	104.	29.	11.	.92
+ ROUTED TO	R118	887.	12.13	104.	29.	11.	.92
+ DIVERSION TO	BASIN6	248.	12.13	7.	2.	1.	.92
+ HYDROGRAPH AT	D7	639.	12.13	97.	27.	10.	.92
+ HYDROGRAPH AT	RTD7	248.	12.13	7.	2.	1.	.92
+ ROUTED TO	SD7	1.	12.63	1.	1.	1.	.92
+ 2 COMBINED AT	CD7	640.	12.13	97.	28.	11.	.92
+ HYDROGRAPH AT	454	162.	12.13	21.	6.	2.	.18
+ 2 COMBINED AT	C454	801.	12.13	118.	34.	13.	1.10
+ ROUTED TO	R454	793.	12.23	118.	34.	13.	1.10
+ HYDROGRAPH AT	415A	267.	12.17	32.	9.	3.	.28
+ 3 COMBINED AT	C415A	2063.	12.20	292.	90.	37.	3.03
+ ROUTED TO	R415A	2050.	12.23	292.	90.	37.	3.03
+ HYDROGRAPH AT	455	1418.	12.13	150.	45.	16.	1.11
DIVERSION TO	BS455	1418.	12.13	139.	37.	13.	1.11
+ HYDROGRAPH AT	D455	145.	12.80	24.	8.	3.	1.11

HYDROGRAPH AT	RT455	1418.	12.13	139.	37.	13.	1.11
+ ROUTED TO	S455	23.	12.80	22.	18.	11.	1.11
+ 2 COMBINED AT	C455	169.	12.80	46.	26.	14.	1.11
+ 3 COMBINED AT	CC455	6428.	12.27	1225.	594.	282.	10.82
+ ROUTED TO	S440	364.	26.47	361.	325.	197.	10.82
+ ROUTED TO	R455	364.	27.17	361.	325.	195.	10.82
+ HYDROGRAPH AT	480	1102.	12.10	100.	31.	11.	.73
+ DIVERSION TO	BS480	487.	11.90	27.	8.	3.	.73
+ HYDROGRAPH AT	D480	1102.	12.10	83.	23.	8.	.73
+ HYDROGRAPH AT	RT480	487.	11.90	27.	8.	3.	.73
+ ROUTED TO	S480	5.	11.97	5.	4.	3.	.73
+ 2 COMBINED AT	C480	1107.	12.10	88.	27.	11.	.73
+ 2 COMBINED AT	CC480	1107.	12.10	416.	375.	234.	.73
+ ROUTED TO	R480	878.	12.33	416.	375.	233.	.73
+ HYDROGRAPH AT	456	483.	12.07	37.	10.	4.	.26
DIVERSION TO	BASIN1	193.	12.07	8.	2.	1.	.26
+ HYDROGRAPH AT	D1	290.	12.07	29.	8.	3.	.26
+ DIVERSION TO	WA30	59.	12.07	10.	3.	1.	.26
+ HYDROGRAPH AT	D2	231.	12.07	19.	5.	2.	.26
+ ROUTED TO	R456	218.	12.13	19.	5.	2.	.26
+ HYDROGRAPH AT	457	273.	12.07	21.	6.	2.	.19
+ 2 COMBINED AT	C101	480.	12.10	40.	10.	4.	.45
+ DIVERSION TO	BASIN2	177.	12.10	8.	2.	1.	.45
+ HYDROGRAPH AT	D3	303.	12.10	32.	8.	3.	.45
+ HYDROGRAPH AT	RTD3	177.	12.10	8.	2.	1.	.45
+ ROUTED TO	SD3	1.	12.40	1.	1.	1.	.45
+ 2 COMBINED AT	CD3	304.	12.10	33.	9.	4.	.45
+ ROUTED TO	R101	302.	12.10	33.	9.	4.	.45
+ HYDROGRAPH AT	458	366.	12.03	26.	7.	2.	.19
2 COMBINED AT	C103	655.	12.07	59.	16.	6.	.64
ROUTED TO							

+	R103	651.	12.07	59.	16.	6.	.64
+ HYDROGRAPH AT	RT30	59.	12.07	10.	3.	1.	.26
+ ROUTED TO	R30	58.	12.10	10.	3.	1.	.26
+ HYDROGRAPH AT	RTB1	193.	12.07	8.	2.	1.	.26
+ ROUTED TO	B1	35.	12.20	8.	2.	1.	.26
+ ROUTED TO	RB1	35.	12.27	8.	2.	1.	.26
+ 2 COMBINED AT	CDIV	87.	12.20	18.	5.	2.	.12
+ HYDROGRAPH AT	459	45.	12.03	3.	1.	0.	.03
+ 2 COMBINED AT	C52	117.	12.10	21.	6.	2.	.15
+ ROUTED TO	R52	116.	12.17	21.	6.	2.	.15
+ HYDROGRAPH AT	460	221.	12.07	20.	6.	2.	.14
+ 2 COMBINED AT	C102	323.	12.07	40.	12.	4.	.29
+ ROUTED TO	BASIN3	71.	12.63	40.	12.	4.	.29
+ ROUTED TO	R3	71.	12.77	40.	12.	4.	.29
+ HYDROGRAPH AT	461	165.	12.10	17.	5.	2.	.12
2 COMBINED AT	C104	220.	12.10	57.	17.	6.	.41
+ 2 COMBINED AT	C106	866.	12.07	115.	33.	12.	1.05
+ ROUTED TO	R106	828.	12.13	115.	33.	12.	1.05
+ HYDROGRAPH AT	462	557.	12.07	42.	12.	4.	.30
+ 2 COMBINED AT	C56	1306.	12.10	156.	44.	16.	1.35
+ 2 COMBINED AT	C462	1641.	12.30	416.	376.	249.	2.09
+ ROUTED TO	R462	1575.	12.33	406.	367.	243.	2.09
+ ROUTED TO	RR462	1543.	12.40	406.	367.	242.	2.09
+ HYDROGRAPH AT	500	1126.	12.27	128.	35.	12.	.93
+ 2 COMBINED AT	C500	2475.	12.33	431.	387.	251.	3.02

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



FLOOD CONTROL DISTRICT OF MARICOPA COUNTY ENGINEERING DIVISION		
McDOWELL/McKELLIPS/PASS MTN. ALTERNATIVE		
	BY	DATE
DESIGNED	R. HINER	06/00
DRAWN	S. CAMPBELL	06/00
CHECKED	A. PATEL	06/00
WOOD, PATEL & ASSOCIATES, INC. 2051 WEST NORTHERN, SUITE 100 PHOENIX, ARIZONA (602) 335-8500		
DRAWING NO.	MD3PMMK2.DWG	SHEET OF

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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   01MAY01  TIME  16:54:03  *                                    *           (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   DDMS MCUHP1 SPOOK HILL ADMP-EXISTING CONDITIONS MODEL-100YR, 24-HR STORM
        2           ID   Combined McDowell Road, McKellips Road & Pass Mountain Alternatives
        3           ID   McDowell Road Alternative - Option MD3E
        4           ID   McKellips Road Alternative - Option MK2E
        5           ID   FULL PASS MOUNTAIN DIVERSION WITH SPOOK HILL FRS STORAGE ROUTING - PM4R
        6           ID   OUTFLOW OF SIGNAL BUTTE IS QUADRUPLED
        7           ID   Spook Hill FRS without Off-Line Basin
                    *
                    *  Original File Names: MD3EPM4R.DAT, EC24MK2E.DAT
                    *  Modified File Name:  MD3PMMK2.DAT, 4/23/01, WOOD/PATEL, SZ
                    *
                    *
                    *DIAGRAM
        8           IT       2                    2000
        9           IO       5
       10           IN      15
       11           JD    3.81    0.01
       12           PC    .000    .002    .005    .008    .011    .014    .017    .020    .023    .026
       13           PC    .029    .032    .035    .038    .041    .044    .048    .052    .056    .060
       14           PC    .064    .068    .072    .076    .080    .085    .090    .095    .100    .105
       15           PC    .110    .115    .120    .126    .133    .140    .147    .155    .163    .172
       16           PC    .181    .191    .203    .218    .236    .257    .283    .387    .663    .707
       17           PC    .735    .758    .776    .791    .804    .815    .825    .834    .842    .849
       18           PC    .856    .863    .869    .875    .881    .887    .893    .898    .903    .908
       19           PC    .913    .918    .922    .926    .930    .934    .938    .942    .946    .950
       20           PC    .953    .956    .959    .962    .965    .968    .971    .974    .977    .980
       21           PC    .983    .986    .989    .992    .995    .998   1.000
       22           JD   3.787    1.00
       23           JD   3.677    5.80
       24           JD   3.574   10.66
       25           JD   3.539   13.70
       26           JD   3.467   20.00
       27           JD   3.315   50.00
                    * DDM   ***** Updated *****

       28           KK      10
       29           KM   SUB-BASIN 10
       30           KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
       31           KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .996
       32           KM     L = 2.00  Kb = .044  Adj. Slope =  165.0
       33           BA    .702
       34           LG    .350    .320   7.600    .090  15.000
       35           UC    .421    .302
       36           UA       0       3       5       8      12      20      43      75      90      96
       37           UA     100
                    * DDM   ***** Preserved *****

       38           KK     R10
       39           KM   ROUTING OF FLOW FROM SUB-BASIN 10 TO R12
       40           RS       4    FLOW      -1
       41           RC    .045     .03    .045    8700    .021
       42           RX       0       1       2      17      27      42      43      44
       43           RY       5       5       5       0       0       5       5       5
                    * DDM   ***** Preserved *****
1                                                   HEC-1 INPUT                                                    PAGE  2

      LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10
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 44          KK     R12
 45          KM   ROUTING OF FLOW FROM R12 TO SUB-BASIN 20
 46          RS       6    FLOW      -1
 47          RC    .045     .03    .045    4500     .01
 48          RX       0       1      45    52.5    72.5      80     124     125
 49          RY       4     2.5     2.5       0       0     2.5     2.5       4
             * DDM   ***** Updated *****

 50          KK      20
 51          KM   SUB-BASIN 20
 52          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
 53          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .993
 54          KM     L = 2.50  Kb = .041  Adj. Slope =   88.0
 55          BA   1.120
 56          LG    .350    .390   5.800    .190   1.000
 57          UC    .658    .454
 58          UA       0       3       5       8      12      20      43      75      90      96
 59          UA     100
             * DDM   ***** Preserved *****

 60          KK     C20
 61          KM   HYDROGRAPH COMBINATION OF SUB-BASINS 10 AND 20
 62          HC       2
             * DDM   ***** Preserved *****

 63          KK     R20
 64          KM        ROUTE FLOW THROUGH BULLDOG FLOODWAY FROM APACHE JUNCTION FRS
 65          RS       1    FLOW      -1
 66          RC    .016    .016    .016     990    .004
 67          RX       0       5       7    14.5    34.5      42      44      50
 68          RY       4       2       2       0       0       2       2       4
             * DDM   ***** Updated *****

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

 79          KK      60
 80          KM   SUB-BASIN 60
 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  .990
 83          KM     L = 4.19  Kb = .038  Adj. Slope =  209.6
 84          BA   1.746
 85          LG    .330    .350   5.800    .190   9.000
 86          UC    .596    .477
 87          UA       0       3       5       8      12      20      43      75      90      96
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LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 88          UA     100
             * DDM   ***** Preserved *****

 89          KK     C60
 90          KM   HYDROGRAPH COMBINATION FOR APACHE JUNCTION FRS
             *      1       2
 91          HC       3
             * DDM   ***** Preserved *****

 92          KK     S60
 93          KM   APACHE JUNCTION FRS AS-BUILT PLANS 12/19/88
 94          KM   OUTLET PIPE=30"RCP; L=136.6'; INLET INV.=1783.5; OUTLET INV.=1783
 95          KM   EMERGENCY SPILLWAY ELEV.=1799.77'; PRINCIPLE SPILLWAY ELEV.=1793.5'
 96          KM   STORAGE VOLUME BELOW PRINCIPLE SPILLWAY FOR SEDIMENT = 100 ACRE-FEET
             *  ESE = 1801.92 ft; PSE = 1795.65 ft; Sediment Vol. = 237 Ac-Ft.
 97          RS       1    STOR       0
 98          SV       0       0      77     242     371     439     563     687    2163
 99          SQ       0      12     103     114     120     362    1462    3101   30000
100          SE    95.0    96.0    98.0   100.0   101.6   101.9   103.0   104.0   112.9
             * DDM   ***** Preserved *****

101          KK     R60
102          KM        ROUTE FLOW THROUGH BULLDOG FLOODWAY FROM APACHE JUNCTION FRS
103          RS       1    FLOW      -1
104          RC    .016    .016    .016    2850    .012
105          RX       0       1       2     2.1     5.6     5.7       6       7
106          RY     3.5     3.5     3.5       0       0     3.5     3.5     3.5
             * DDM   ***** Preserved *****

107          KK    RR60
108          KM   ROUTE FLOW FROM BULLDOG FLOODWAY TO SUB-BASIN 80
109          RS       3    FLOW      -1
110          RC    .016    .016    .016    3500    .005
111          RX       0       1       2     2.1     7.1     7.2       8       9
112          RY     3.5     3.5     3.5       0       0     3.5     3.5     3.5
             * DDM   ***** Updated *****
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113          KK      80
114          KM   SUB-BASIN 80
115          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
116          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .991
117          KM     L = 2.69  Kb = .039  Adj. Slope =  229.8
118          BA   1.475
119          LG    .330    .330   5.600    .210   4.000
120          UC    .433    .259
121          UA       0       3       5       8      12      20      43      75      90      96
122          UA     100
             * DDM   ***** Preserved *****

123          KK     C80
124          KM   HYDROGRAPH COMBINATION FOR FLOW FROM APACHE JUNCTION FRS & SUB-BASIN 80
125          HC       2   1.475
             * DDM   ***** Preserved *****
1                                        HEC-1 INPUT                                          PAGE  4

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

126          KK     R80
127          KM   ROUTE FLOW FROM SUB-BASIN 80 TO SUB-BASIN 100
128          RS       1    FLOW      -1
129          RC    .025    .016    .025    1200    .003
130          RX       0       2       6     6.1    41.1    41.2    56.2    58.2
131          RY     5.5     4.5     4.5       0       0     4.5     4.5     5.5
             * DDM   ***** Updated *****

132          KK     100
133          KM   SUB-BASIN 100
134          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
135          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .997
136          KM     L = 1.94  Kb = .046  Adj. Slope =  108.0
137          BA    .484
138          LG    .320    .290   5.100    .260   3.000
139          UC    .533    .473
140          UA       0       5      16      30      65      77      84      90      94      97
141          UA     100
             * DDM   ***** Preserved *****

142          KK    C100
143          KM   HYDROGRAPH COMBINATION FOR FLOW FROM SUB-BASIN 80 & 100
144          HC       2
             * DDM   ***** Preserved *****

145          KK    R100
146          KM   ROUTE FLOW FROM SUB-BASIN 100 TO SUB-BASIN 120
147          RS       1    FLOW      -1
148          RC    .016    .016    .016     940    .005
149          RX       0       1       2     2.1    52.1    52.2      53      54
150          RY     4.5     4.5     4.5       0       0     4.5     4.5     4.5
             * DDM   ***** Updated *****

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

161          KK    C120
162          KM   HYDROGRAPH COMBINATION FOR FLOW FROM SUB-BASIN 100 & 120
163          HC       2
             * DDM   ***** Preserved *****
1                                        HEC-1 INPUT                                          PAGE  5

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

164          KK    R120
165          KM   ROUTE FLOW FROM SUB-BASIN 120 TO SIGNAL BUTTE FRS
166          RS       1    FLOW      -1
167          RC    .025    .016    .025    2100    .005
168          RX       0       6      10    10.1    60.1    60.2    74.2    80.2
169          RY       8       5       5       0       0       5       5       8
             * DDM   ***** Updated *****

170          KK     140
171          KM   SUB-BASIN 140
172          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
173          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .996
174          KM     L = 1.61  Kb = .044  Adj. Slope =  149.0
175          BA    .598
176          LG    .310    .280   4.200    .440   5.000
177          UC    .421    .278
178          UA       0       5      16      30      65      77      84      90      94      97
179          UA     100
             * DDM   ***** Updated *****
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180          KK     150
181          KM   SUB-BASIN 150
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  .998
184          KM     L = 1.50  Kb = .047  Adj. Slope =  314.6
185          BA    .408
186          LG    .350    .360   5.100    .260   7.000
187          UC    .296    .221
188          UA       0       3       5       8      12      20      43      75      90      96
189          UA     100
             * DDM   ***** Preserved *****

190          KK    R150
191          KM   ROUTING OF FLOW FROM SUB-BASIN 150 TO R152
192          RS       2    FLOW      -1
193          RC    .045     .04    .045    3100    .032
194          RX       0       1       2      23      33      54      55      56
195          RY       7       7       7       0       0       7       7       7
             * DDM   ***** Preserved *****

196          KK    R152
197          KM   ROUTING OF FLOW FROM R152 TO SUB-BASIN 160
198          RS       3    FLOW      -1
199          RC    .045     .03    .045    5900    .019
200          RX       0       1       2       8      33      39      40      41
201          RY       2       2       2       0       0       2       2       2
             * DDM   ***** Updated *****

202          KK     160
203          KM   SUB-BASIN 160
204          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
205          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .998
206          KM     L = 2.10  Kb = .047  Adj. Slope =  129.0
207          BA    .369
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LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

208          LG    .340    .330   4.150    .440   1.000
209          UC    .587    .655
210          UA       0       3       5       8      12      20      43      75      90      96
211          UA     100
             * DDM   ***** Updated *****

212          KK     180
213          KM   SUB-BASIN 180
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  .994
216          KM     L = 2.42  Kb = .041  Adj. Slope =  140.0
217          BA   1.000
218          LG    .350    .350   4.150    .430    .000
219          UC    .571    .403
220          UA       0       3       5       8      12      20      43      75      90      96
221          UA     100
             * DDM   ***** Preserved *****

222          KK    C180
223          KM   HYDROGRAPH COMBINATION FOR SIGNAL BUTTE FRS
             * KO     1
224          HC       5
             * DDM   ***** Updated *****

225          KK    385B
226          KM   SUB-BASIN 385B
227          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
228          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .998
229          KM     L = 1.47  Kb = .047  Adj. Slope =  315.0
230          BA    .375
231          LG    .350    .400   6.000    .170  17.000
232          UC    .287    .221
233          UA       0       3       5       8      12      20      43      75      90      96
234          UA     100
             * DDM   ***** Preserved *****

235          KK   R385B
236          KM   CHANNEL GEOMETRY OBTAINED FROM 2' CONTOUR MAPPING & AERIAL MAPPING
237          KM   ROUTING OF FLOW FROM SUB-BASIN 385B TO 395B
238          KM   OVERBANK MANNINGS INCREASED TO ACCOUNT FOR SKEWED FLOW TO NATURAL
239          KM   WATERCOURSE FLOW PATH
240          RS       1    FLOW      -1
241          RC     .07     .03     .07     500    .045
242          RX       0       1       3       9      39      45      46      47
243          RY       3       2       2       0       0       2       2       3
             * DDM   ***** Updated *****

244          KK    395B
245          KM   SUB-BASIN 395B
246          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
247          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF 1.000
248          KM     L =  .71  Kb = .066  Adj. Slope =  249.8
249          BA    .017
250          LG    .350    .350   4.300    .400    .000
251          UC    .262    .650
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 252          UA       0       3       5       8      12      20      43      75      90      96
 253          UA     100
              * DDM   ***** Preserved *****

 254          KK   C395B
 255          KM   HYDROGRAPH COMBINATION OF SUB-BASINS 383 & 393
 256          HC       2
              * DDM   ***** Preserved *****

 257          KK   R395B
 258          KM   CHANNEL GEOMETRY OBTAINED FROM 2' CONTOUR MAPPING & AERIAL MAPPING
 259          KM   ROUTING OF FLOW FROM SUB-BASIN 393 TO SUB-BASIN 365
 260          RS       2    FLOW      -1
 261          RC    .055     .03    .055    3630    .045
 262          RX       0       1       3       9      39      45      46      47
 263          RY       3       2       2       0       0       2       2       3
              * DDM   ***** Updated *****

 264          KK    370B
 265          KM   SUB-BASIN 370B
 266          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
 267          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .998
 268          KM     L = 2.20  Kb = .049  Adj. Slope =  299.5
 269          BA    .264
 270          LG    .350    .350   4.800    .290   5.000
 271          UC    .408    .550
 272          UA       0       3       5       8      12      20      43      75      90      96
 273          UA     100
              * DDM   ***** Preserved *****

 274          KK   C370C
 275          KM   HYDROGRAPH COMBINATION OF SUB-BASINS 395B & 370B
 276          HC       2
              * DDM   ***** Preserved *****

 277          KK   R370B
 278          KM   CHANNEL GEOMETRY OBTAINED FROM 2' CONTOUR MAPPING & AERIAL MAPPING
 279          KM   ROUTING OF FLOW FROM SUB-BASIN 370B TO ROUTING RR370B
 280          RS       2    FLOW      -1
 281          RC    .045     .03    .045    1110    .025
 282          RX       0       1      50      56      76      82     131     132
 283          RY       3       2       2       0       0       2       2       3
              * DDM   ***** Preserved *****

 284          KK  RR370B
 285          KM   CHANNEL GEOMETRY OBTAINED FROM 2' CONTOUR MAPPING & AERIAL MAPPING
 286          KM   ROUTING OF FLOW FROM RR370B TO SUB-BASIN 355B
 287          KM   OVERBANK MANNINGS INCREASED TO ACCOUNT FOR SKEWED FLOW TO NATURAL
 288          KM   WATERCOURSE FLOW PATH
 289          RS       1    FLOW      -1
 290          RC     .07     .03     .07    1550    .008
 291          RX       0       3       5      11      41      47     147     247
 292          RY     3.5     2.5       2       0       0       2     2.5     3.5
              * DDM   ***** Updated *****
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 293          KK    355B
 294          KM   SUB-BASIN 355B
 295          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
 296          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .997
 297          KM     L = 2.41  Kb = .045  Adj. Slope =  298.2
 298          BA    .513
 299          LG    .350    .350   4.400    .370   1.000
 300          UC    .421    .419
 301          UA       0       3       5       8      12      20      43      75      90      96
 302          UA     100
              * DDM   ***** Preserved *****

 303          KK   C355B
 304          KM   HYDROGRAPH COMBINATION OF SUB-BASINS 370B & 355B
 305          HC       2
              * DDM   ***** Preserved *****

 306          KK   R355B
 307          KM   CHANNEL GEOMETRY OBTAINED FROM 2' CONTOUR MAPPING & AERIAL MAPPING
 308          KM   ROUTING OF FLOW FROM SUB-BASIN 355B TO ROUTING RR355B
 309          KM   OVERBANK MANNINGS INCREASED TO ACCOUNT FOR SKEWED FLOW TO NATURAL
 310          KM   WATERCOURSE FLOW PATH
 311          RS       3    FLOW      -1
 312          RC     .07     .03     .07     936    .009
 313          RX       0       3       5      11      41      47     172     302
 314          RY     3.5     2.5       2       0       0       2     2.5     3.5
              * DDM   ***** Preserved *****

 315          KK  RR355B
 316          KM   CHANNEL GEOMETRY OBTAINED FROM 2' CONTOUR MAPPING & AERIAL MAPPING
 317          KM   ROUTING OF FLOW FROM R355B TO SUB-BASIN 310
 318          RS       1    FLOW      -1
 319          RC    .045     .03    .045    1725     .03
 320          RX       0       1      25      31      51      57      81      82
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321          RY       3       2       2       0       0       2       2       3
             * DDM   ***** Updated *****

322          KK     350
323          KM   SUB-BASIN 350
324          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
325          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .994
326          KM     L = 2.22  Kb = .042  Adj. Slope =  315.0
327          BA    .970
328          LG    .350    .350   4.550    .340   4.000
329          UC    .367    .234
330          UA       0       3       5       8      12      20      43      75      90      96
331          UA     100
             * DDM   ***** Preserved *****
1                                          HEC-1 INPUT                                          PAGE  9

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

332          KK    R350
333          KM   CHANNEL GEOMETRY OBTAINED FROM 2' CONTOUR MAPPING & AERIAL MAPPING
334          KM   ROUTING OF MAIN FLOW FROM DIVERSION OF SUB-BASIN 350 TO SUB-BASIN 310
335          RS       9    FLOW      -1
336          RC    .045    .035    .045    7650    .025
337          RX       0       1      50      56      86      92     141     142
338          RY       3       2       2       0       0       2       2       3
             * DDM   ***** Updated *****

339          KK     310
340          KM   SUB-BASIN 310
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  .997
343          KM     L = 2.65  Kb = .046  Adj. Slope =  285.6
344          BA    .494
345          LG    .350    .350   3.910    .480    .000
346          UC    .483    .538
347          UA       0       3       5       8      12      20      43      75      90      96
348          UA     100
             * DDM   ***** Preserved *****

349          KK    C310
350          KM   HYDROGRAPH COMBINATION OF SUB-BASINS 350 & 310
351          HC       3
             * DDM   ***** Preserved *****

352          KK    R310
353          KM   CHANNEL GEOMETRY OBTAINED FROM 2' CONTOUR MAPPING & AERIAL MAPPING
354          KM   ROUTING OF FLOW FROM SUB-BASIN 310 TO R312
355          RS       3    FLOW      -1
356          RC    .045     .03    .045    2850    .021
357          RX       0       1     100     106     126     132     231     232
358          RY     3.5       2       2       0       0       2       2     3.5
             * DDM   ***** Preserved *****

359          KK    R312
360          KM   CHANNEL GEOMETRY OBTAINED FROM 2' CONTOUR MAPPING & AERIAL MAPPING
361          KM   ROUTING OF FLOW FROM SUB-BASIN 310 TO 305
362          KM   OVERBANK MANNINGS INCREASED TO ACCOUNT FOR SKEWED FLOW TO NATURAL
363          KM   WATERCOURSE FLOW PATH
364          RS       3    FLOW      -1
365          RC     .07     .03     .07    2560   .0124
366          RX       0       3       5      11      61      67     200     395
367          RY       4     2.5       2       0       0       2     2.5       4
             * DDM   ***** Updated *****

368          KK    305B
369          KM   SUB-BASIN 305B
370          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
371          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .998
372          KM     L = 1.65  Kb = .047  Adj. Slope =  127.0
373          BA    .414
374          LG    .350    .350   4.700    .300    .000
375          UC    .467    .392
1                                          HEC-1 INPUT                                          PAGE 10

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

376          UA       0       3       5       8      12      20      43      75      90      96
377          UA     100
             * DDM   ***** Preserved *****

378          KK   C305B
379          KM   HYDROGRAPH COMBINATION OF SUB-BASINS 310 & 295
380          HC       2
             * DDM   ***** Preserved *****

381          KK   R305B
382          KM   CHANNEL GEOMETRY OBTAINED FROM 2' CONTOUR MAPPING & AERIAL MAPPING
383          KM   ROUTING OF FLOW FROM SUBBASIN 305B TO BEGINNING OF PASS MTN. DIVERSION.
384          KM   OVERBANK MANNINGS INCREASED TO ACCOUNT FOR SKEWED FLOW TO NATURAL
385          KM   WATERCOURSE FLOW PATH
386          RS       3    FLOW      -1
387          RC     .07     .03     .07    1100    .013
388          RX       0       3       5      11      51      57     200     400
389          RY       4     2.5       2       0       0       2     2.5       4
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                * 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  .995
 394            KM     L = 1.84  Kb = .043  Adj. Slope =  315.0
 395            BA    .792
 396            LG    .350    .360   6.800    .130   4.000
 397            UC    .313    .189
 398            UA       0       3       5       8      12      20      43      75      90      96
 399            UA     100
                * DDM   ***** Preserved *****

 400            KK    R210
 401            KM   ROUTING OF FLOW FROM SUB-BASIN 210 TO SUB-BASIN 220
 402            RS       2    FLOW      -1
 403            RC    .045     .03    .045    5100    .022
 404            RX       0       1       2      14      34      46      47      48
 405            RY       4       4       4       0       0       4       4       4
                * DDM   ***** Updated *****

 406            KK     240
 407            KM   SUB-BASIN 240
 408            KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
 409            KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .992
 410            KM     L = 2.96  Kb = .039  Adj. Slope =  305.5
 411            BA   1.408
 412            LG    .350    .370   5.300    .230   2.000
 413            UC    .417    .274
 414            UA       0       3       5       8      12      20      43      75      90      96
 415            UA     100
                * DDM   ***** Preserved *****
1                                          HEC-1 INPUT                                          PAGE 11

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

 416            KK    C240
 417            KM   HYDROGRAPH COMBINATION FOR SUB-BASIN 240 & 220
 418            HC       3
                * DDM   ***** Preserved *****

 419            KK    S240
 420            KM   DIGITAL MAPPING SHOWS SEDIMENTATION.  FOR SIMPLICITY NO ADDITIONAL
 421            KM   SEDIMENTATION WILL BE CONSIDERED FOR STORAGE ROUTING ANALYSIS. 5/11/00
 422            KM    WEIR GEOMETRY OBTAINED FROM AS-BUILT PLANS @ PASS MTN. DIVERSION.
 423            KM   WEIR STORAGE DATA OBTAINED FROM 2' CONTOUR MAPPING. Weir Width Changed
                *  from 42' to 45'
 424            RS       1    STOR       0
 425            SA    1.38    14.2    36.5
 426            SE       0       5      11
 427            SS       5      45       3     1.5
                * DDM   ***** Preserved *****

 428            KK    R240
 429            KM   ROUTE FLOW FROM SUB-BASIN 240 TO SUB-BASIN 220
 430            KM   PASS MOUNTAIN DIVERSION
 431            RS       3    FLOW      -1
 432            RC    .035    .025    .035    1800    .005
 433            RX       0      15      30      39      69      81      96     111
 434            RY     4.6     3.3       3       0       0       3       3       4
                * DDM   ***** Updated *****

 435            KK     220
 436            KM   SUB-BASIN 220
 437            KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
 438            KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .997
 439            KM     L = 1.85  Kb = .046  Adj. Slope =  315.0
 440            BA    .473
 441            LG    .350    .350   7.000    .120   5.000
 442            UC    .325    .266
 443            UA       0       3       5       8      12      20      43      75      90      96
 444            UA     100
                * DDM   ***** Preserved *****

 445            KK    C220
 446            KM   HYDROGRAPH COMBINATION FOR SUB-BASIN 240 & 220
 447            HC       2
                * DDM   ***** Preserved *****

 448            KK    S220
 449            KM   DIGITAL MAPPING SHOWS SEDIMENTATION.  FOR SIMPLICITY NO ADDITIONAL
 450            KM   SEDIMENTATION WILL BE CONSIDERED FOR STORAGE ROUTING ANALYSIS. 5/11/00
 451            KM    WEIR GEOMETRY OBTAINED FROM AS-BUILT PLANS @ PASS MTN. DIVERSION.
 452            KM   WEIR STORAGE DATA OBTAINED FROM 2' CONTOUR MAPPING.
 453            RS       1    STOR       0
 454            SA     .78     4.1    13.7
 455            SE       0       3      10
 456            SS       3      65       3     1.5
                * DDM   ***** Preserved *****
                                           HEC-1 INPUT                                          PAGE 12

LINE            ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10
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457          KK    R220
458          KM   ROUTE FLOW FROM SUB-BASIN 220 TO SUB-BASIN 200
459          KM   PASS MOUNTAIN DIVERSION
460          RS       3    FLOW      -1
461          RC    .035     .025    .035    1250    .005
462          RX       0       50     100     109     139     148     178     184
463          RY       5        4       3       0       0       3       3       5
             * DDM   ***** Updated *****

464          KK     190
465          KM   SUB-BASIN 190
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 = 1.91  Kb = .042  Adj. Slope =  315.0
469          BA    .918
470          LG    .350     .390   5.800    .190   8.000
471          UC    .321     .185
472          UA       0        3       5       8      12      20      43      75      90      96
473          UA     100
             * DDM   ***** Preserved *****

474          KK    R190
475          KM   ROUTING OF FLOW FROM SUB-BASIN 190 TO SUB-BASIN 200
476          RS       2    FLOW      -1
477          RC    .045      .03    .045    4740     .03
478          RX       0        1       2      17      37      52      53      54
479          RY       5        5       5       0       0       5       5       5
             * DDM   ***** Preserved *****

480          KK    R192
481          KM   ROUTING OF FLOW FROM SUB-BASIN 190 TO SUB-BASIN 200
482          RS       3    FLOW      -1
483          RC    .045     .035    .045    2200    .018
484          RX       0        1      50      59      79      88     137     138
485          RY     4.5        3       3       0       0       3       3     4.5
             * DDM   ***** Updated *****

486          KK     200
487          KM   SUB-BASIN 200
488          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
489          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .997
490          KM     L = 1.55  Kb = .045  Adj. Slope =  306.9
             * KO     1
491          BA    .530
492          LG    .350     .390   5.700    .200  10.000
493          UC    .296     .195
494          UA       0        3       5       8      12      20      43      75      90      96
495          UA     100
             * DDM   ***** Preserved *****
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LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

496          KK    C200
497          KM   HYDROGRAPH COMBINATION FOR SUB-BASIN 220 & 200
             * KO     1
498          HC       3
             * DDM   ***** Preserved *****

499          KK    S200
500          KM    WEIR GEOMETRY OBTAINED FROM AS-BUILT PLANS @ PASS MTN. DIVERSION.
501          KM   WEIR STORAGE DATA OBTAINED FROM 2' CONTOUR MAPPING.
             * KO     1
502          RS       1    STOR       0
503          SA    2.56      3.1     9.4
504          SE       0        3      10
505          SS       3      112       3     1.5
             * DDM   ***** Preserved *****

506          KK    R200
507          KM   ROUTE FLOW FROM SUB-BASIN 200 TO SIGNAL BUTTE FRS through storage
508          RS       1    FLOW      -1
509          RC    .035     .025    .035     650    .005
510          RX       0        1       2      17     117     132     133     134
511          RY       5        5       5       0       0       5       5       5
             * DDM   ***** Preserved *****

512          KK   SS200
513          KM    WEIR GEOMETRY OBTAINED FROM AS-BUILT PLANS @ PASS MTN. DIVERSION.
514          KM   WEIR STORAGE DATA OBTAINED FROM 2' CONTOUR MAPPING.
             * KO     1
515          RS       1    STOR       0
516          SA       8     9.2     9.2
517          SE       0       7      10
518          SS       7     251       3     1.5
             * DDM   ***** Preserved *****

519          KK   RR200
520          KM   ROUTE FLOW FROM SUB-BASIN 200 TO SIGNAL BUTTE FRS
521          RS       3    FLOW      -1
522          RC    .035     .025    .035    3150    .005
523          RX       0        1       2      17     117     132     133     134
524          RY       5        5       5       0       0       5       5       5
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                * ****************************************************************
                * ************ END OF PASS MOUNTAIN ALTERNATIVE UPDATE. **************
                * DDM    ***** Preserved *****

 525            KK   CC180
 526            KM   HYDROGRAPH COMBINATION FOR SIGNAL BUTTE FRS
                * KO      1
 527            HC       2
                * DDM    ***** Preserved *****
1                                          HEC-1 INPUT                                                    PAGE 14

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


 528            KK    S180
 529            KM   SIGNAL BUTTE FRS DATED 1/28/85
 530            KM   OUTLET PIPE=36"RCP; L= 147';  INLET INV.=1690; OUTLET INV.=1687
 531            KM   EMERGENCY SPILLWAY ELEV.=1712.4; PRINCIPLE SPILLWAY ELEV.=1701
 532            KM   STORAGE VOLUME BELOW PRINCIPLE SPILLWAY FOR SEDIMENT = 250 ACRE-FEET
 533            RS       1    STOR       0
 534            SV       0      92     226     462     742    1197    1418    1776    1941    3114
 535            SQ       0      40      42     392     532     596     620    1949    3032    6465
 536            SE      99     101     103     106     109     113   114.6     117     118     120
                *
                * DDM    ***** Preserved *****

 537            KK    R180
 538            KM   Routing length updated using Signal Butte Floodway plans dated March 1983
 539            KM   Routing length increased 100' from 1500' to 1600'    12/12/00
 540            KM   CHANNEL GEOMETRY FOR SIGNAL BUTTE FRS OBTAINED FROM AS-BUILT PLANS.
 541            KM   ROUTE FLOW FROM SIGNAL BUTTE FRS TO SUB-BASIN 260
 542            RS       3    FLOW      -1
 543            RC    .035    .025    .035    1600    .003
 544            RX       0       1       2    22.6    38.6    59.2      60      61
 545            RY     9.3     9.3     9.3       0       0     9.3     9.3     9.3
                * DDM    ***** Updated *****

 546            KK     260
 547            KM   SUB-BASIN 260
 548            KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
 549            KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .998
 550            KM     L =  .85  Kb = .049  Adj. Slope =   65.0
 551            BA    .262
 552            LG    .300    .190   6.600    .170  15.000
 553            UC    .379    .238
 554            UA       0       5      16      30      65      77      84      90      94      97
 555            UA     100
                * DDM    ***** Preserved *****

 556            KK    C260
 557            KM   HYDROGRAPH COMBINATION FOR OUTFLOW OF SIGNAL BUTTE FRS & SUB-BASIN 260
 558            HC       2    .262
                * DDM    ***** Preserved *****

 559            KK    R260
 560            KM   Routing length updated using Signal Butte Floodway plans dated March 1983
 561            KM   Routing length unchanged     12/12/00
 562            KM   CHANNEL GEOMETRY FOR SIGNAL BUTTE FRS OBTAINED FROM AS-BUILT PLANS.
 563            KM   ROUTE FLOW FROM SUB-BASIN 260 TO SUB-BASIN 280
 564            RS       3    FLOW      -1
 565            RC    .035    .025    .035    2300    .003
 566            RX       0       1       2    23.4    43.4    64.8      65      66
 567            RY     9.7     9.7     9.7       0       0     9.7     9.7     9.7
                * DDM    ***** Updated *****
1                                          HEC-1 INPUT                                                    PAGE 15

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


 568            KK     280
 569            KM   SUB-BASIN 280
 570            KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
 571            KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .998
 572            KM     L =  .82  Kb = .048  Adj. Slope =   79.0
 573            BA    .319
 574            LG    .300    .250   5.300    .290  15.000
 575            UC    .350    .189
 576            UA       0       5      16      30      65      77      84      90      94      97
 577            UA     100
                * DDM    ***** Preserved *****

 578            KK    C280
 579            KM   HYDROGRAPH COMBINATION FOR SUB-BASIN 260 & SUB-BASIN 280
 580            HC       2
                * DDM    ***** Preserved *****

 581            KK    R280
 582            KM   Routing length updated using Signal Butte Floodway plans dated March 1983
 583            KM   Routing length decreased 400' from 2500' to 2100'    12/12/00
 584            KM   CHANNEL GEOMETRY FOR SIGNAL BUTTE FRS OBTAINED FROM AS-BUILT PLANS.
 585            KM   ROUTE FLOW FROM SUB-BASIN 280 TO SUB-BASIN 300
 586            RS       3    FLOW      -1
 587            RC    .035    .025    .035    2100    .003
 588            RX       0       1       2    23.4    43.4    64.8      65      66
 589            RY     9.7     9.7     9.7       0       0     9.7     9.7     9.7
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                *
                * DDM   ***** Updated *****

 590            KK     300
 591            KM   SUB-BASIN 300
 592            KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
 593            KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .998
 594            KM     L =  .82  Kb = .049  Adj. Slope =   98.0
 595            BA    .289
 596            LG    .320    .290   4.200    .480  11.000
 597            UC    .346    .197
 598            UA       0       5      16      30      65      77      84      90      94      97
 599            UA     100
                * DDM   ***** Preserved *****

 600            KK    C300
 601            KM   HYDROGRAPH COMBINATION OF DIVERTED FLOW
 602            HC       2
                * DDM   ***** Preserved *****

 603            KK    R300
 604            KM   Routing length updated using Signal Butte Floodway plans dated March 1983
 605            KM   Routing length increased 300' from 2200' to 2500'    12/12/00
 606            KM   CHANNEL GEOMETRY FOR SIGNAL BUTTE FRS OBTAINED FROM AS-BUILT PLANS.
 607            KM   ROUTE FLOW FROM SUB-BASIN 300 TO START OF FLOODWAY CONCRETE CHANNEL
 608            RS       2    FLOW      -1
 609            RC    .035    .025    .035    2500    .003
 610            RX       0       1       2    23.4    55.4    76.8      77      78
1                                            HEC-1 INPUT                                                    PAGE 16

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

 611            RY     9.7     9.7     9.7       0       0     9.7     9.7     9.7
                * DDM   ***** Updated *****

 612            KK    305A
 613            KM   SUB-BASIN 305A
 614            KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
 615            KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .998
 616            KM     L = 1.20  Kb = .047  Adj. Slope =   92.0
 617            BA    .372
 618            LG    .340    .330   4.500    .370  11.000
 619            UC    .433    .297
 620            UA       0       5      16      30      65      77      84      90      94      97
 621            UA     100
                * DDM   ***** Preserved *****

 622            KK   C305A
 623            KM   HYDROGRAPH COMBINATION OF SUB-BASIN 280 & 300 & 305A
 624            HC       2
                * DDM   ***** Preserved *****

 625            KK   R305A
 626            KM   Routing length updated using Signal Butte Floodway plans dated March 1983
 627            KM   Routing length decreased 50' from 6050' to 6000'     12/12/00
 628            KM   CHANNEL GEOMETRY FOR SPOOK HILL FRS OBTAINED FROM AS-BUILTS PLANS.
 629            KM   CONTINUE TO ROUTE FLOW WITHIN CONCRETE CHANNEL TO SPOOK HILL FRS
 630            RS       2    FLOW      -1
 631            RC    .016    .016    .016    6000   .0146
 632            RX       0       1       2     2.1    16.1    16.2      17      18
 633            RY     7.5     7.5     7.5       0       0     7.5     7.5     7.5
                *       1       2
                * DDM   ***** Updated *****

 634            KK     320
 635            KM   SUB-BASIN 320
 636            KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
 637            KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .995
 638            KM     L = 2.04  Kb = .042  Adj. Slope =  118.0
 639            BA    .865
 640            LG    .310    .290   4.500    .380  15.000
 641            UC    .508    .335
 642            UA       0       5      16      30      65      77      84      90      94      97
 643            UA     100
                * DDM   ***** Preserved *****

 644            KK    D320
 645            KM        DIVERT FLOW INTO ONLINE  DETENTION BASIN
 646            KM   DETENTION/RETENTION BASINS LOCATED WITHIN THREE SUBDIVISIONS
 647            KM   SIERRA HEIGHTS        FALCON RIDGE    & MARBLE CREEK
 648            KM        MAXIMUM VOLUME DIVERSION = 12.27acre-feet
                *       1
 649            DT   BS320   12.27
 650            DI       0   10000
 651            DQ       0   10000
                * DDM   ***** Preserved *****
1                                            HEC-1 INPUT                                                    PAGE 17

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

 652            KK   RT320
 653            KM   RETRIEVE FLOW FROM DIVERSION INTO ONLINE BASIN
 654            DR   BS320
                * DDM   ***** Preserved *****
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655          KK    S320
656          KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
657          KM   12.27 ACRE-FEETx43560/36x3600=4.1cfs
             *      1
658          RS       1     STOR        0
659          SV       0      .01     12.3
660          SQ       0      3.0      4.2
             * DDM   ***** Preserved *****

661          KK    C320
662          KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
663          HC       3
             * ADD ROUTING ALONG SPOOK HILL FRS
             * DDM   ***** Preserved *****
             * KK  R320
             * KM ROUTE FLOW THROUGH SPOOK HILL FRS FROM JUNCTION OF BROWN & ELLSWORTH ROAD
             * KM TO JUST NORTH OF JUNCTION OF MCDOWELL & POWER RD.
             * RS      9    FLOW       -1
             * RC   .035    .035     .035    4500    .0007
             * RX      0       9       50      68     198      206      267      275
             * RY    100      97       97      91      91       97       97      100
             *
             * DDM   ***** Updated *****

664          KK    340B
665          KM   SUB-BASIN 340B
666          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
667          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .998
668          KM     L =  .85  Kb = .049  Adj. Slope =  238.5
669          BA    .290
670          LG    .320     .280   4.000     .520  13.000
671          UC    .246     .139
672          UA       0       5       16      30      65       77       84       90       94       97
673          UA     100
             *
             * DDM   ***** Preserved *****

674          KK   D340B
675          KM        DIVERT FLOW INTO ONLINE  DETENTION BASIN
676          KM   DETENTION/RETENTION BASINS LOCATED WITHIN THREE SUBDIVISIONS
677          KM   GRANDVIEW ESTATES    BOULDER MOUNTAIN & 33% OF MESA HIGHLANDS
678          KM        MAXIMUM VOLUME DIVERSION = 11.0 acre-feet
             *      1
679          DT  BS340B      11
680          DI       0   10000
681          DQ       0   10000
             * DDM   ***** Preserved *****
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LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

682          KK  RT340B
683          KM   RETRIEVE FLOW FROM DIVERSION INTO ONLINE BASIN
684          DR  BS340B
             * DDM   ***** Preserved *****

685          KK   S340B
686          KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
687          KM    11.0 ACRE-FEETx43560/36x3600= 3.7cfs
             *      1
688          RS       1     STOR        0
689          SV       0      .01       11       15
690          SQ       0     2.0      3.7      4.0
             * DDM   ***** Preserved *****

691          KK   C340B
692          KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
             * KO      1
693          HC       2
             *
             * DDM   ***** Preserved *****

694          KK  DD340B
695          KM   DIVERT FLOW INTO OFFLINE DETENTION BASIN LOCATED WITHIN SUB-BASINS 340B.
             * KO      1
696          DT   BS340
697          DI       0       18     5000
698          DQ       0        0     4982
             * DDM   ***** Preserved *****

699          KK   RT340
700          KM   RETRIEVE FLOW FROM DIVERSION
701          DR   BS340
             * DDM   ***** Preserved *****

702          KK  SS340B
703          KM   RETRIEVE FLOW INTO OFFLINE BASIN AND BLEED OFF WITHIN 36 HOURS.
704          KM       6 ACRE-FEETx43560/36x3600 = 2 cfs
705          RS       1     STOR        0
706          SV       0      .01        6        8
707          SQ       0      1.5        2        4
             * DDM   ***** Preserved *****
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 708          KK  CC340B
 709          KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
 710          HC       2
              * DDM   ***** Preserved *****

 711          KK   R340B
 712          KM   CHANNEL GEOMETRY OBTAINED FROM 2' CONTOUR MAPPING.
 713          KM   ROUTING OF FLOW FROM SUB-BASINS 370 AND 395 TO SUB-BASIN 380.
 714          RS       4    FLOW      -1
 715          RC    .045    .035    .045    2600    .023
 716          RX       0       1      40      46      56      62     102     103
 717          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

 718          KK    340A
 719          KM   SUB-BASIN 340A
 720          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
 721          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .993
 722          KM     L = 1.80  Kb = .044  Adj. Slope =  117.0
 723          BA   1.150
 724          LG    .260    .280   4.200    .510  23.000
 725          UC    .492    .249
 726          UA       0       5      16      30      65      77      84      90      94      97
 727          UA     100
              *
              * DDM   ***** Preserved *****

 728          KK   D340A
 729          KM        DIVERT FLOW INTO ONLINE  DETENTION BASIN
 730          KM   DETENTION/RETENTION BASINS LOCATED WITHIN THREE SUBDIVISIONS
 731          KM   GRANDVIEW ESTATES    BOULDER MOUNTAIN & 33% OF MESA HIGHLANDS
 732          KM        MAXIMUM VOLUME DIVERSION = 45.0 acre-feet
              * KO     1
 733          DT  BS340A      45
 734          DI       0   10000
 735          DQ       0   10000
              * DDM   ***** Preserved *****

 736          KK  RT340A
 737          KM   RETRIEVE FLOW FROM DIVERSION INTO ONLINE BASIN
 738          DR  BS340A
              * DDM   ***** Preserved *****

 739          KK   S340A
 740          KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
 741          KM    45.0 ACRE-FEETx43560/36x3600=15.2cfs
              *      1
 742          RS       1    STOR       0
 743          SV       0     .01      45      50
 744          SQ       0     3.0    15.2      16
              *
              * DDM   ***** Preserved *****

 745          KK   C340A
 746          KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
 747          HC       3
              *
              * DDM   ***** Preserved *****

 748          KK    C340
 749          KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
 750          HC       2
              *
              * ADD ROUTING ALONG SPOOK HILL FRS
              * DDM   ***** Preserved *****
              * KK  R340
              * KM ROUTE FLOW THROUGH SPOOK HILL FRS FROM JUNCTION OF BROWN & ELLSWORTH ROAD
              * KM TO JUST NORTH OF JUNCTION OF MCDOWELL & POWER RD.
              * RS      5    FLOW      -1
              * RC  .035    .035    .035    2300   .0007
              * RX     0       9      50      68     233     241     307     315
              * RY   100      97      97      91      91      97      97     100
              *      0       9      50      68     308     326     367     376
              *    100      97      97      91      91      97      97     100
              * DDM   ***** Updated *****
1                                        HEC-1 INPUT                                                    PAGE 20

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

 751          KK    355A
 752          KM   SUB-BASIN 355A
 753          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
 754          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .999
 755          KM     L =  .80  Kb = .052  Adj. Slope =  125.0
 756          BA    .163
 757          LG    .320    .290   4.550    .360  14.000
 758          UC    .308    .236
 759          UA       0       5      16      30      65      77      84      90      94      97
 760          UA     100
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            * DDM   ***** Preserved *****

761         KK   R355A
762         KM   CHANNEL GEOMETRY OBTAINED FROM 2' CONTOUR MAPPING.
763         KM   ROUTING OF FLOW FROM SUB-BASIN 355A TO SUB-BASIN 360
764         RS       9     FLOW      -1
765         RC    .045    .035    .045   10100    .026
766         RX       0       1      40      46      56      62     102     103
767         RY       3       2       2       0       0       2       2       3
            * DDM   ***** Updated *****

768         KK     360
769         KM   SUB-BASIN 360
770         KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
771         KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .995
772         KM     L = 2.10  Kb = .046  Adj. Slope =  124.0
773         BA    .880
774         LG    .280    .290   4.100    .520  15.000
775         UC    .571    .387
776         UA       0       5      16      30      65      77      84      90      94      97
777         UA     100
            * DDM   ***** Preserved *****

778         KK    D360
779         KM        DIVERT FLOW INTO ONLINE  DETENTION BASIN
780         KM   DETENTION/RETENTION BASINS LOCATED WITHIN 33% OF MESA HIGHLANDS
781         KM        MAXIMUM VOLUME DIVERSION = 28.6 acre-feet
            *      1
782         DT   BS360    28.6
783         DI       0   10000
784         DQ       0   10000
            * DDM   ***** Preserved *****

785         KK   RT360
786         KM   RETRIEVE FLOW FROM DIVERSION INTO ONLINE BASIN
787         DR   BS360
            * DDM   ***** Preserved *****

788         KK    S360
789         KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
790         KM    28.6 ACRE-FEETx43560/36x3600=9.6cfs
791         RS       1     STOR       0
792         SV       0      .01    28.6
793         SQ       0      3.0     9.6
            * DDM   ***** Preserved *****
                                        HEC-1 INPUT                                          PAGE 21
LINE        ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

794         KK    C360
795         KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
796         HC       4
            * ADD ROUTING ALONG SPOOK HILL FRS
            * DDM   ***** Preserved *****
            * KK  R360
            * KM ROUTE FLOW THROUGH SPOOK HILL FRS FROM JUNCTION OF BROWN & ELLSWORTH ROAD
            * KM TO JUST NORTH OF JUNCTION OF MCDOWELL & POWER RD.
            * RS      6     FLOW      -1
            * RC   .035    .035    .038    2600   .0007
            * RX      0       9      50      68     268     286     337     345
            * RY    100      97      97      91      91      97      97     100
            *       0       9      50      68     308     326     367     376
            *     100      97      97      91      91      97      97     100
            *
            * DDM   ***** Updated *****

797         KK    380A
798         KM   SUB-BASIN 380A
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  .998
801         KM     L =  .66  Kb = .076  Adj. Slope =   91.0
802         BA    .261
803         LG    .170    .250   4.100    .710  21.000
804         UC    .425    .221
805         UA       0       3       5       8      12      20      43      75      90      96
806         UA     100
            *
            * DDM   ***** Preserved *****

807         KK   C380A
808         KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
809         HC       2
            *
            * DDM   ***** Updated *****

810         KK    400A
811         KM   SUB-BASIN 400A
812         KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
813         KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF 1.000
814         KM     L =  .28  Kb = .094  Adj. Slope =   71.0
815         BA    .048
816         LG    .250    .290   4.000    .640    .000
817         UC    .317    .211
818         UA       0       3       5       8      12      20      43      75      90      96
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 819          UA     100
              *
              * DDM   ***** Preserved *****
                                          HEC-1 INPUT                                                    PAGE 22
LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 820          KK   C400A
 821          KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
 822          HC       2
              *
              * DDM   ***** Updated *****

 823          KK    380B
 824          KM   SUB-BASIN 380B
 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  .996
 827          KM     L = 1.80  Kb = .044  Adj. Slope =  122.0
 828          BA    .637
 829          LG    .340    .330   4.200    .440   4.000
 830          UC    .504    .358
 831          UA       0       5      16      30      65      77      84      90      94      97
 832          UA     100
              *
              * DDM   ***** Preserved *****

 833          KK   D380B
 834          KM        DIVERT FLOW INTO ONLINE  DETENTION BASIN
 835          KM   DETENTION/RETENTION BASINS LOCATED WITHIN 33% OF MESA HIGHLANDS
 836          KM        MAXIMUM VOLUME DIVERSION = 28.6 acre-feet
              *      1
 837          DT  BS380B    28.6
 838          DI       0   10000
 839          DQ       0   10000
              * DDM   ***** Preserved *****

 840          KK  RT380B
 841          KM   RETRIEVE FLOW FROM DIVERSION INTO ONLINE BASIN
 842          DR  BS380B
              * DDM   ***** Preserved *****

 843          KK   S380B
 844          KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
 845          KM    28.6 ACRE-FEETx43560/36x3600=9.6cfs
 846          RS       1    STOR       0
 847          SV       0     .01    28.6
 848          SQ       0     3.0     9.6
              * DDM   ***** Preserved *****

 849          KK   C380B
 850          KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
              * KO     1
 851          HC       2
              *
              * DDM   ***** Preserved *****
1                                         HEC-1 INPUT                                                    PAGE 23
LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 852          KK  DD380B
 853          KM   DIVERT FLOW INTO OFFLINE DETENTION BASIN LOCATED WITHIN SUB-BASINS 380B.
              * KO     1
 854          DT   BS380
 855          DI       0      86    5000
 856          DQ       0       0    4914
              * DDM   ***** Preserved *****

 857          KK   RT380
 858          KM   RETRIEVE FLOW FROM DIVERSION
 859          DR   BS380
              * DDM   ***** Preserved *****

 860          KK  SS380B
 861          KM   RETRIEVE FLOW INTO OFFLINE BASIN AND BLEED OFF WITHIN 36 HOURS.
 862          KM      44 ACRE-FEETx43560/36x3600 = 15cfs
 863          RS       1    STOR       0
 864          SV       0     .01      44      50
 865          SQ       0       4      15      20
              * DDM   ***** Preserved *****

 866          KK  CC380B
 867          KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
 868          HC       2
              * DDM   ***** Preserved *****

 869          KK   R380B
 870          KM   CHANNEL GEOMETRY OBTAINED FROM 2' CONTOUR MAPPING.
 871          KM   ROUTING OF FLOW FROM SUB-BASINS 370 AND 395 TO SUB-BASIN 380.
 872          RS       4    FLOW      -1
 873          RC    .045    .035    .045    2600    .023
 874          RX       0       1      40      46      56      62     102     103
 875          RY       3       2       2       0       0       2       2       3
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                *
                * DDM   ***** Updated *****

 876            KK    400B
 877            KM   SUB-BASIN 400B
 878            KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
 879            KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .997
 880            KM     L = 1.64  Kb = .045  Adj. Slope =  110.0
 881            BA    .568
 882            LG    .330    .300   4.150    .480   7.000
 883            UC    .500    .352
 884            UA       0       5      16      30      65      77      84      90      94      97
 885            UA     100
                *
                * DDM   ***** Preserved *****
1                                          HEC-1 INPUT                                          PAGE 24

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


 886            KK   D400B
 887            KM        DIVERT FLOW INTO ONLINE  DETENTION BASIN
 888            KM   DETENTION/RETENTION BASIN LOCATED WITHIN SAGUARO VISTA SUBDIVISION
 889            KM        MAXIMUM VOLUME DIVERSION = 5.6 ACRE-FEET
                *      1
 890            DT  BS400B     5.6
 891            DI       0   10000
 892            DQ       0   10000
                * DDM   ***** Preserved *****

 893            KK  RT400B
 894            KM   RETRIEVE FLOW FROM DIVERSION INTO ONLINE BASIN
 895            DR  BS400B
                * DDM   ***** Preserved *****

 896            KK   S400B
 897            KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
 898            KM     5.6 ACRE-FEETx43560/36x3600 = 2 cfs
 899            RS       1    STOR       0
 900            SV       0     .01     5.6
 901            SQ       0       1       2
                * DDM   ***** Preserved *****

 902            KK   C400B
 903            KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
 904            HC       2
                * DDM   ***** Preserved *****

 905            KK  CC400B
 906            KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
 907            HC       3
                *
                * DDM   ***** Updated *****

 908            KK    420A
 909            KM   SUB-BASIN 420A
 910            KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
 911            KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .997
 912            KM     L = 1.91  Kb = .045  Adj. Slope =  120.0
 913            BA    .570
 914            LG    .320    .280   4.350    .440  10.000
 915            UC    .521    .415
 916            UA       0       5      16      30      65      77      84      90      94      97
 917            UA     100
                * DDM   ***** Preserved *****

 918            KK   D420A
 919            KM        DIVERT FLOW INTO ONLINE  DETENTION BASIN
 920            KM   DETENTION/RETENTION BASINS LOCATED WITHIN GRAY FOX SUBDIVISION
 921            KM        MAXIMUM VOLUME DIVERSION = 8.65 acre-feet
                *      1
 922            DT  BS420A    8.65
 923            DI       0   10000
 924            DQ       0   10000
                * DDM   ***** Preserved *****
1                                          HEC-1 INPUT                                          PAGE 25

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


 925            KK  RT420A
 926            KM   RETRIEVE FLOW FROM DIVERSION INTO ONLINE BASIN
 927            DR  BS420A
                * DDM   ***** Preserved *****

 928            KK   S420A
 929            KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
 930            KM   38.55 ACRE-FEETx43560/36x3600=13cfs
 931            RS       1    STOR       0
 932            SV       0     .01   38.55
 933            SQ       0      13      13
                * DDM   ***** Preserved *****

 934            KK   C420A
 935            KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
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936          HC       3
             *

937          KK    370A
938          KM   SUB-BASIN 370A
939          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
940          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .998
941          KM     L = 1.04  Kb = .047  Adj. Slope =  163.0
942          BA    .408
943          LG    .330    .300   4.650    .350  11.000
944          UC    .308    .172
945          UA       0       5      16      30      65      77      84      90      94      97
946          UA     100
             * DDM   ***** Updated *****

947          KK    395A
948          KM   SUB-BASIN 395A
949          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
950          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .999
951          KM     L = 1.14  Kb = .052  Adj. Slope =  165.0
952          BA    .182
953          LG    .330    .320   5.000    .290  10.000
954          UC    .346    .334
955          UA       0       5      16      30      65      77      84      90      94      97
956          UA     100
             * DDM   ***** Preserved *****

957          KK   C370A
958          KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
959          HC       2
             * DDM   ***** Preserved *****

960          KK    D370
961          KM   DIVERT FLOW INTO OFFLINE DETENTION BASIN LOCATED WITHIN SUB-BASINS
962          KM   370 AND 395.
             * KO     1
963          DT   BS370
964          DI       0     140    5000
965          DQ       0       0    4860
             * DDM   ***** Preserved *****
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LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

966          KK   RT370
967          KM   RETRIEVE FLOW FROM DIVERSION
968          DR   BS370
             * DDM   ***** Preserved *****

969          KK    S370
970          KM   RETRIEVE FLOW INTO OFFLINE BASIN AND BLEED OFF WITHIN 36 HOURS.
971          KM      30 ACRE-FEETx43560/36x3600 = 10cfs
972          RS       1    STOR       0
973          SV       0     .01      34      40
974          SQ       0       4      10      12
             * DDM   ***** Preserved *****

975          KK   CC370
976          KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
977          HC       2
             * DDM   ***** Preserved *****

978          KK    R370
979          KM   CHANNEL GEOMETRY OBTAINED FROM 2' CONTOUR MAPPING.
980          KM   ROUTING OF FLOW FROM SUB-BASINS 370 AND 395 TO SUB-BASIN 380.
981          RS       4    FLOW      -1
982          RC    .045    .035    .045    2600    .023
983          RX       0       1      40      46      56      62     102     103
984          RY       3       2       2       0       0       2       2       3
             * DDM   ***** Updated *****

985          KK     390
986          KM   SUB-BASIN 390
987          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
988          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .999
989          KM     L =  .70  Kb = .050  Adj. Slope =  299.4
990          BA    .244
991          LG    .300    .250   4.700    .380  18.000
992          UC    .204    .107
993          UA       0       5      16      30      65      77      84      90      94      97
994          UA     100
             * DDM   ***** Preserved *****

995          KK    D390
996          KM        DIVERT FLOW INTO ONLINE  DETENTION BASIN
997          KM   DETENTION/RETENTION BASINS LOCATED WITHIN THUNDER MOUNTAIN ESTATES
998          KM        MAXIMUM VOLUME DIVERSION  = 3.5 acre-feet
             *      1
999          DT   BS390     3.5
1000         DI       0   10000
1001         DQ       0   10000
             * DDM   ***** Preserved *****
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1002          KK   RT390
1003          KM   RETRIEVE FLOW FROM DIVERSION INTO ONLINE BASIN
1004          DR   BS390
              * DDM   ***** Preserved *****

1005          KK    S390
1006          KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
1007          KM     3.5 ACRE-FEETx43560/36x3600=1.2cfs
1008          RS       1    STOR       0
1009          SV       0     .01     3.5
1010          SQ       0     1.2     1.2
              * DDM   ***** Preserved *****

1011          KK    C390
1012          KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
1013          HC       3
              * DDM   ***** Preserved *****

1014          KK    R390
1015          KM   CHANNEL GEOMETRY OBTAINED FROM 2' CONTOUR MAPPING.
1016          KM   FROM SUB-BASIN 390 TO SUB-BASIN 420B
1017          RS       7    FLOW      -1
1018          RC    .045    .045    .045    5500    .020
1019          RX       0       1      40      46      56      62     102     103
1020          RY       3       2       2       0       0       2       2       3
              * DDM   ***** Updated *****

1021          KK    420B
1022          KM   SUB-BASIN 420B
1023          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1024          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .998
1025          KM     L = 1.00  Kb = .049  Adj. Slope =  150.0
1026          BA    .279
1027          LG    .300    .250   3.910    .590  15.000
1028          UC    .333    .226
1029          UA       0       5      16      30      65      77      84      90      94      97
1030          UA     100
              * DDM   ***** Preserved *****

1031          KK   C420B
1032          KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
1033          HC       2
              *
              * DDM   ***** Updated *****

1034          KK    385A
1035          KM   SUB-BASIN 385A
1036          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1037          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .999
1038          KM     L =  .90  Kb = .051  Adj. Slope =  309.5
1039          BA    .213
1040          LG    .340    .320   4.900    .300   9.000
1041          UC    .233    .163
1042          UA       0       5      16      30      65      77      84      90      94      97
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1043          UA     100
              *
              * DDM   ***** Updated *****

1044          KK    415C
1045          KM   SUB-BASIN 415C
1046          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1047          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .998
1048          KM     L = 1.59  Kb = .048  Adj. Slope =  315.0
1049          BA    .329
1050          LG    .340    .340   5.300    .240  14.000
1051          UC    .308    .274
1052          UA       0       5      16      30      65      77      84      90      94      97
1053          UA     100
              * DDM   ***** Preserved *****

1054          KK   C415C
1055          KM   HYDROGRAPH COMBINATION OF 415 DIVERSION.
              * KO     1
1056          HC       2
              * DDM   ***** Preserved *****

1057          KK   D415C
1058          KM   DIVERT FLOW INTO OFFLINE DETENTION BASIN
1059          KM   MAXIMUM STORAGE VOLUME FOR DIVERSION = 15 AC-FT @ 5' DEPTH.
              * KO     1
1060          DT  BS415C
1061          DI       0     190    5000
1062          DQ       0       0    4810
              * DDM   ***** Preserved *****

1063          KK  RT415C
1064          KM   RETRIEVE FLOW FROM DIVERSION INTO OFFLINE BASIN
1065          DR  BS415C
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                * DDM   ***** Preserved *****

1066            KK   S415C
1067            KM   RETRIEVE FLOW INTO OFFLINE BASIN AND BLEED OFF WITHIN 36 HOURS.
1068            KM      32 ACRE-FEETx43560/36x3600 = 10cfs
1069            RS       1    STOR       0
1070            SV       0     .01      32       40
1071            SQ       0       5      10       12
                * DDM   ***** Preserved *****

1072            KK  CC415C
1073            KM   HYDROGRAPH COMBINATION OF 415 DIVERSION.
1074            HC       2
                * DDM   ***** Preserved *****

1075            KK   R415C
1076            KM   CHANNEL GEOMETRY OBTAINED FROM 2' CONTOUR MAPPING.
1077            KM   ROUTING OF FLOW FROM 415C TO 415B
1078            RS       4    FLOW      -1
1079            RC    .045     .03    .045    2500    .024
1080            RX       0       1      40      46      56      62     102     103
1                                          HEC-1 INPUT                                                    PAGE 29

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

1081            RY       3       2       2       0       0       2       2       3
                * DDM   ***** Updated *****

1082            KK    415B
1083            KM   SUB-BASIN 415B
1084            KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1085            KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF 1.000
1086            KM     L =  .53  Kb = .058  Adj. Slope =  151.0
1087            BA    .063
1088            LG    .300    .250   4.100    .550  15.000
1089            UC    .242    .223
1090            UA       0       5      16      30      65      77      84      90      94      97
1091            UA     100
                * DDM   ***** Preserved *****

1092            KK   C415B
1093            KM   HYDROGRAPH COMBINATION OF SUB-BASINS 385, 415C, AND 415B.
1094            HC       2
                * DDM   ***** Preserved *****

1095            KK   R415B
1096            KM   CHANNEL GEOMETRY OBTAINED FROM 2' CONTOUR MAPPING.
1097            KM   ROUTING OF FLOW FROM R415C AND SUB BASIN 415B
1098            RS       4    FLOW      -1
1099            RC    .045    .035    .045    2900    .021
1100            RX       0       1      40      46      56      62     102     103
1101            RY       4       2       2       0       0       2       2       4
                *
                * DDM   ***** Updated *****

1102            KK     440
1103            KM   SUB-BASIN 440
1104            KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1105            KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF 1.000
1106            KM     L =  .40  Kb = .039  Adj. Slope =  315.0
1107            BA    .080
1108            LG    .190    .380   6.400    .140  13.000
1109            UC    .129    .077
1110            UA       0       3       5       8      12      20      43      75      90      96
1111            UA     100
                * DDM   ***** Preserved *****

1112            KK     R70
1113            KM   ROUTE FLOW FROM SUB-BASIN 440 TO C108
1114            RS       2    FLOW      -1
1115            RC     .05    .035     .05    2250     .08
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 30

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

1118            KK     441
1119            KM   SUB-BASIN 441
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 =  .28  Kb = .069  Adj. Slope =  315.0
1123            BA    .010
1124            LG    .300    .250   5.600    .220   5.000
1125            UC    .150    .225
1126            UA       0       5      16      30      65      77      84      90      94      97
1127            UA     100
                * DDM   ***** Preserved *****

1128            KK    C108
1129            KM   COMBINE HYDROGRAPHS FROM SUB-BASINS 440 & 441
1130            HC       2
                * DDM   ***** Preserved *****
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1131        KK      D4
1132        KM        SPLIT FLOW WITH TWO 42 INCH PIPES TO WEST AND SOUTH
            *      1
1133        DT   SPLIT
1134        DI       0       14       40       82      120      154      180
1135        DQ       0        7       20       41       60       77       90
            * DDM   ***** Preserved *****

1136        KK    R108
1137        KM        ROUTE FLOW FROM SUB-BASIN C108 TO C67
1138        RS       2     FLOW      -1
1139        RC     .05     .035      .05     3200       .1
1140        RX    1000     1025     1050     1070     1075     1095     1120     1145
1141        RY      30     22.9     15.7       10       10     15.7     22.9       30
            * DDM   ***** Updated *****

1142        KK     442
1143        KM   SUB-BASIN 442
1144        KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1145        KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .999
1146        KM     L =  .83  Kb = .055  Adj. Slope =  274.2
1147        BA    .100
1148        LG    .300     .270   3.290     .770   5.000
1149        UC    .258     .264
1150        UA       0        5       16       30       65       77       84       90       94       97
1151        UA     100
            * DDM   ***** Preserved *****

1152        KK     C67
1153        KM   COMBINE FLOW FROM SUB-BASIN 442 & DIV4
1154        HC       2
            * DDM   ***** Preserved *****
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LINE        ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1155        KK      D6
1156        KM        OFFLINE BASIN WITH 25 FOOT WEIR SET AT 2.5 FEET ABOVE BOTTOM OF CHANNEL
1157        KM        FLOW CONTINUES BEYOND BASIN THROUGH 2-30" PIPES
            *      1
1158        DT  BASIN4      3.3
1159        DI       0       10       32       44     79.9    132.5      198    272.9    356.8
1160        DQ       0        0        0        0     23.9     67.5      124    190.9    266.8
            * DDM   ***** Preserved *****

1161        KK    RTD6
1162        KM   RETRIEVE FLOW FROM DIVERSION INTO OFFLINE BASIN
1163        DR  BASIN4
            * DDM   ***** Preserved *****

1164        KK     SD6
1165        KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
1166        KM     3.3 ACRE-FEETx43560/36x3600=1.1cfs
            *      1
1167        RS       1     STOR        0
1168        SV       0      .01      3.3
1169        SQ       0      0.2      1.1
            * DDM   ***** Preserved *****

1170        KK     CD6
1171        KM   HYDROGRAPH COMBINATION FOR OFFLINE BASIN BLEEDOFF
1172        HC       2
            * DDM   ***** Updated *****

1173        KK     443
1174        KM   SUB-BASIN 443
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 1.000
1177        KM     L =  .71  Kb = .050  Adj. Slope =  315.0
1178        BA    .080
1179        LG    .250     .190   8.000     .080  10.000
1180        UC    .196     .194
1181        UA       0        5       16       30       65       77       84       90       94       97
1182        UA     100
            * DDM   ***** Preserved *****

1183        KK     D66
1184        KM        DIVERT FLOW INTO 3 NATURAL WASHES WITH ONE 24" PIPE IN EACH WASH.
1185        KM        EACH PIPE CAPACITY BASED ON 4 FEET OF HEAD
1186        DT   WSH66
1187        DI       0       78      100      200
1188        DQ       0       78       78       78
            * DDM   ***** Preserved *****

1189        KK    R113
1190        KM        ROUTE FLOW FROM C113 TO C114
1191        RS       1     FLOW      -1
1192        RC    .019     .019     .019     1300     .029
1193        RX    1000     1004     1008     1012     1018     1022     1026     1030
1194        RY      17    15.33    12.67       10       10    12.67    15.33       17
            * DDM   ***** Preserved *****
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1195          KK    C114
1196          KM        COMBINE HYDROGRAPHS FROM SUB-BASIN 67 AND C113
1197          HC       2
              * DDM   ***** Updated *****

1198          KK     444
1199          KM   SUB-BASIN 444
1200          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1201          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF 1.000
1202          KM     L =  .33  Kb = .034  Adj. Slope =  315.0
1203          BA    .040
1204          LG    .130    .350   4.450    .320   1.000
1205          UC    .112    .084
1206          UA       0       3       5       8      12      20      43      75      90      96
1207          UA     100
              * DDM   ***** Preserved *****

1208          KK     R58
1209          KM   ROUTE FLOW FROM SUB-BASIN 444 TO C107
1210          RS       2    FLOW      -1
1211          RC     .05    .035     .05    2370   .0516
1212          RX    1000    1010    1020    1050    1055    1085    1095    1105
1213          RY      19      18      17      10      10      17      18      19
              * DDM   ***** Updated *****

1214          KK     445
1215          KM   SUB-BASIN 445
1216          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1217          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .999
1218          KM     L =  .82  Kb = .036  Adj. Slope =  315.0
1219          BA    .190
1220          LG    .170    .320   3.470    .590   3.000
1221          UC    .192    .130
1222          UA       0       5      16      30      65      77      84      90      94      97
1223          UA     100
              * DDM   ***** Preserved *****

1224          KK    C107
1225          KM   COMBINE HYDROGRAPHS FROM SUB-BASINS 444 & 445
1226          HC       2
              * DDM   ***** Preserved *****

1227          KK    R107
1228          KM        ROUTE FLOW FROM C107 TO C109
1229          RS       2    FLOW      -1
1230          RC     .05    .035     .05     700   .0516
1231          RX    1000    1010    1020    1050    1055    1085    1095    1105
1232          RY      19      18      17      10      10      17      18      19
              * DDM   ***** Preserved *****
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1233          KK    RTB2
1234          KM        RETRIEVE DIVERTED FLOW FROM BASIN 1
              *      1
1235          DR   SPLIT
              * DDM   ***** Preserved *****

1236          KK  RSPLIT
1237          KM        ROUTE FLOW FROM SPLIT TO C109
1238          RS       1    FLOW      -1
1239          RC     .05    .035     .05     800     .05
1240          RX    1000    1025    1050    1070    1075    1095    1120    1145
1241          RY      30    22.9    15.7      10      10    15.7    22.9      30
              * DDM   ***** Updated *****

1242          KK     446
1243          KM   SUB-BASIN 446
1244          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1245          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF 1.000
1246          KM     L =  .46  Kb = .061  Adj. Slope =  303.9
1247          BA    .040
1248          LG    .270    .250   4.500    .400  19.000
1249          UC    .183    .189
1250          UA       0       5      16      30      65      77      84      90      94      97
1251          UA     100
              * DDM   ***** Preserved *****

1252          KK    C109
1253          KM        COMBINE HYDROGRAPHS FROM COMBINES C107 AND C108
1254          HC       3
              * DDM   ***** Preserved *****

1255          KK      D5
1256          KM        DIVERT FLOW INTO WASHES TOWARDS WEST
1257          KM        DIVERSION THROUGH 36" PIPE WITH 3 FEET OF HEAD
              *      1
1258          DT  WSH404
1259          DI       0    40.7    71.2   121.6     190     276   379.4   500.6
1260          DQ       0      35      35      35      35      35      35      35
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                * DDM   ***** Preserved *****

1261            KK    R109
1262            KM        ROUTE FLOW FROM C109 TO C110
1263            RS       1    FLOW      -1
1264            RC    .019    .019    .019    3080     .05
1265            RX    1000    1005    1010    1015    1025    1030    1035    1040
1266            RY   13.75    12.5   11.25      10      10   11.25    12.5   13.75
                * DDM   ***** Updated *****

1267            KK     447
1268            KM   SUB-BASIN 447
1269            KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1270            KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .999
1271            KM     L =  .49  Kb = .056  Adj. Slope =  221.0
1272            BA    .090
1                                        HEC-1 INPUT                                          PAGE 34

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

1273            LG    .250    .270   3.350    .870  30.000
1274            UC    .208    .145
1275            UA       0       5      16      30      65      77      84      90      94      97
1276            UA     100
                * DDM   ***** Preserved *****

1277            KK   RT404
1278            KM        RETRIEVE DIVERTED FLOW FOR WASH 109
1279            DR  WSH404
                * DDM   ***** Preserved *****

1280            KK    R404
1281            KM        ROUTE FLOW FROM C110 TO C110
1282            RS       6    FLOW      -1
1283            RC    .019    .019    .019    3540     .03
1284            RX    1000    1012    1016    1020    1025    1029    1033    1045
1285            RY      15      12      11      10      10      11      12      15
                * DDM   ***** Preserved *****

1286            KK    C110
1287            KM   COMBINE HYDROGRAPHS FROM SUB-BASIN 447 AND R404
1288            HC       3
                * DDM   ***** Preserved *****

1289            KK    R110
1290            KM        ROUTE FLOW FROM C110 TO C115
1291            RS       1    FLOW      -1
1292            RC    .019    .019    .019     580   .0291
1293            RX    1000    1012    1016    1020    1035    1039    1043    1055
1294            RY      15      12      11      10      10      11      12      15
                * DDM   ***** Preserved *****

1295            KK    C115
1296            KM        COMBINE HYDROGRAPHS FROM C114 AND C110
1297            HC       2
                * DDM   ***** Preserved *****

1298            KK    R115
                * ******OUTFLOW FROM THIS ROUTING IS GREATER THAN INFLOW TO THE
                * ******ROUTING BY 2cfs.  THIS IS NOTED BUT LEFT UNCHANGED WITHIN THE MODEL
1299            KM        ROUTE FLOW FROM C115 TO Sub 453
1300            RS       1    FLOW      -1
1301            RC    .019    .019    .019    2125    .029
1302            RX    1000    1012    1016    1020    1035    1039    1043    1055
1303            RY      15      12      11      10      10      11      12      15
                * DDM   ***** Updated *****

1304            KK     448
1305            KM   SUB-BASIN 448
1306            KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1307            KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF 1.000
1308            KM     L =  .36  Kb = .042  Adj. Slope =  315.0
1309            BA    .045
1310            LG    .170    .310   4.200    .390  11.000
1311            UC    .133    .102
1                                        HEC-1 INPUT                                          PAGE 35

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

1312            UA       0       5      16      30      65      77      84      90      94      97
1313            UA     100
                * DDM   ***** Updated *****

1314            KK     449
1315            KM   SUB-BASIN 449
1316            KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1317            KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF 1.000
1318            KM     L =  .40  Kb = .054  Adj. Slope =  315.0
1319            BA    .050
1320            LG    .260    .280   3.500    .640   6.000
1321            UC    .167    .134
1322            UA       0       5      16      30      65      77      84      90      94      97
1323            UA     100
                * DDM   ***** Preserved *****
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1324          KK   C6364
1325          KM   COMBINE HYDROGRAPHS FROM SUB-BASINS 448 & 449
1326          HC       2
              * DDM   ***** Preserved *****

1327          KK   R6364
1328          KM   ROUTE FLOW FROM C116 AND SUB-BASINS 448 AND 449
1329          RS       5    FLOW      -1
1330          RC     .05    .035     .05    4375   .0333
1331          RX    1000    1027    1053    1080    1090    1117    1143    1170
1332          RY      15   13.33   11.67      10      10   11.67   13.33      15
              * DDM   ***** Updated *****

1333          KK     450
1334          KM   SUB-BASIN 450
1335          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1336          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF 1.000
1337          KM     L =  .85  Kb = .057  Adj. Slope =  210.5
1338          BA    .070
1339          LG    .340    .350   3.630    .570   4.000
1340          UC    .296    .383
1341          UA       0       3       5       8      12      20      43      75      90      96
1342          UA     100
              * DDM   ***** Updated *****

1343          KK     451
1344          KM   SUB-BASIN 451
1345          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1346          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF 1.000
1347          KM     L =  .57  Kb = .063  Adj. Slope =  175.0
1348          BA    .025
1349          LG    .340    .340   3.290    .750   3.000
1350          UC    .271    .453
1351          UA       0       3       5       8      12      20      43      75      90      96
1352          UA     100
              * DDM   ***** Preserved *****
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1353          KK    C451
1354          KM   COMBINE HYDROGRAPHS FROM SUB-BASINS 450 & 451
1355          HC       2
              * DDM   ***** Preserved *****

1356          KK    RT66
1357          KM        RETRIEVE DIVERTED FLOW FROM SUB-BASIN 66
1358          DR   WSH66
              * DDM   ***** Updated *****

1359          KK     452
1360          KM   SUB-BASIN 452
1361          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1362          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF 1.000
1363          KM     L =  .43  Kb = .055  Adj. Slope =  315.0
1364          BA    .040
1365          LG    .260    .280   3.700    .550   9.000
1366          UC    .171    .166
1367          UA       0       5      16      30      65      77      84      90      94      97
1368          UA     100
              * DDM   ***** Preserved *****

1369          KK   C6465
1370          KM   COMBINE HYDROGRAPHS FROM SUB-BASINS 443 AND 452
1371          HC       2
              * DDM   ***** Preserved *****

1372          KK   R6566
1373          KM        ROUTE FLOW FROM DIVERSIONS 65 AND 66 TO C116
1374          RS       3    FLOW      -1
1375          RC     .05    .035     .05    2435   .0282
1376          RX    1000    1045    1090    1150    1160    1220    1265    1310
1377          RY      25      23      20      10      10      20      23      25
              * DDM   ***** Preserved *****

1378          KK    C116
1379          KM   COMBINE HYDROGRAPHS FROM SUB-BASINS 450 & 451 AND R6364 & R6465
1380          HC       3
              * DDM   ***** Preserved *****

1381          KK  BASIN5
1382          KM        RESERVOIR WITHIN PARCEL 31      2-48 INCH PIPES AT OUTFALL
1383          KM        BASIN 5 FEET DEEP
1384          RS       1    ELEV       0
1385          SV       0     4.5     9.9
1386          SQ       0      69     190
1387          SE       0     2.5       5
              * DDM   ***** Preserved *****
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1388          KK    R116
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1389          KM   ROUTE FLOW FROM C116 TO C117
1390          RS       2    FLOW      -1
1391          RC     .05    .035     .05    1300   .0333
1392          RX    1000    1100    1200    1300    1320    1420    1520    1620
1393          RY      13      12      11      10      10      11      12      13
              * DDM   ***** Updated *****

1394          KK     453
1395          KM   SUB-BASIN 453
1396          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1397          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF 1.000
1398          KM     L =  .58  Kb = .058  Adj. Slope =  138.0
1399          BA    .060
1400          LG    .290    .300   3.290    .820  18.000
1401          UC    .275    .284
1402          UA       0       5      16      30      65      77      84      90      94      97
1403          UA     100
              * DDM   ***** Preserved *****

1404          KK    C117
1405          KM   COMBINE HYDROGRAPHS FROM SUB-BASIN 453 AND R116
1406          HC       2
              * DDM   ***** Preserved *****

1407          KK    C118
1408          KM   COMBINE HYDROGRAPHS FROM R115 AND C117
1409          HC       2
              * DDM   ***** Preserved *****

1410          KK    R118
1411          KM        ROUTE FLOW FROM C118 TO  DIV7
              * KO     1
1412          RS       1    FLOW      -1
1413          RC    .019    .019    .019    1500    .024
1414          RX    1000    1012    1016    1020    1035    1039    1043    1055
1415          RY      15      12      11      10      10      11      12      15
              * DDM   ***** Preserved *****

1416          KK      D7
1417          KM        OFFLINE BASIN AT NORTH MOUNTAIN RIDGE   FLOWS ENTER BASIN OVER
1418          KM        30' WEIR SET AT 5.3' ABOVE THE CHANNEL BOTTOM, Vol = 3.6 A-F
              * KO     1
1419          DT  BASIN6
1420          DI       0     363     487     563     645     900
1421          DQ       0       2      10      15      25     260
              * DDM   ***** Preserved *****

1422          KK    RTD7
1423          KM   RETRIEVE FLOW FROM DIVERSION INTO OFFLINE BASIN
1424          DR  BASIN6
              * DDM   ***** Preserved *****
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1425          KK     SD7
1426          KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
1427          KM     3.6 ACRE-FEETx43560/36x3600=1.2cfs
1428          RS       1    STOR       0
1429          SV       0     .01     3.6     4.0
1430          SQ       0     0.2     1.2     1.5
              * DDM   ***** Preserved *****

1431          KK     CD7
1432          KM   HYDROGRAPH COMBINATION FOR OFFLINE BASIN BLEEDOFF
1433          HC       2
              * DDM   ***** Updated *****

1434          KK     454
1435          KM   SUB-BASIN 454
1436          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1437          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .999
1438          KM     L = 1.23  Kb = .051  Adj. Slope =  163.0
1439          BA    .180
1440          LG    .300    .310   3.780    .560  14.000
1441          UC    .379    .395
1442          UA       0       5      16      30      65      77      84      90      94      97
1443          UA     100
              * DDM   ***** Preserved *****

1444          KK    C119
1445          KM        COMBINE HYDROGRAPHS FROM SUB-BASIN 454 AND C119
              *      1       2
1446          HC       2
              *
              * DDM   ***** Preserved *****

1447          KK    C454
1448          KM        COMBINE HYDROGRAPHS FROM SUB-BASIN 415B AND C119
              *      1       2
1449          HC       2
              * DDM   ***** Preserved *****

1450          KK    R454
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1451          KM   CHANNEL GEOMETRY OBTAINED FROM 2' CONTOUR MAPPING.
1452          KM   ROUTE FLOW FROM C454 TO 415C
1453          RS       3    FLOW      -1
1454          RC    .045    .035    .045    2200    .009
1455          RX       0      .5       1      33      42      67    67.5      68
1456          RY       5       4       4       0       0       6       6       6
              *
              * DDM   ***** Updated *****

1457          KK    415A
1458          KM   SUB-BASIN 415A
1459          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1460          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .999
1461          KM     L = 1.09  Kb = .051  Adj. Slope =  138.0
1462          BA    .217
1                                        HEC-1 INPUT                                                    PAGE 39

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

1463          LG    .300    .260   3.500    .780  15.000
1464          UC    .392    .335
1465          UA       0       5      16      30      65      77      84      90      94      97
1466          UA     100
              * DDM   ***** Preserved *****

1467          KK   C415A
1468          KM        COMBINE HYDROGRAPHS FROM R454, 415B, AND 420B
              * KO     1
1469          HC       3
              * DDM   ***** Preserved *****
              * KK D415A
              * KM DIVERT FLOW INTO OFFLINE DETENTION BASIN
              * KM MAXIMUM STORAGE VOLUME FOR DIVERSION = 15 AC-FT @ 5' DEPTH.
              * KO     1
              * DTBS415A
              * DI     0    1240    5000
              * DQ     0       0    3760
              * DDM   ***** Preserved *****
              * KKRT415A
              * KM RETRIEVE FLOW FROM DIVERSION INTO OFFLINE BASIN
              * DRBS415A
              * DDM   ***** Preserved *****
              * KK S415A
              * KM RETRIEVE FLOW INTO OFFLINE BASIN AND BLEED OFF WITHIN 36 HOURS.
              * KM    16 ACRE-FEETx43560/36x3600 = 5 cfs
              * RS     1    STOR       0
              * SV     0     .01      16      20
              * SQ     0       2       5       8
              * DDM   ***** Preserved *****
              * KKCC415A
              * KM HYDROGRAPH COMBINATION OF 415A DIVERSION.
              * HC     2
              * DDM   ***** Preserved *****

1470          KK   R415A
1471          KM   CHANNEL GEOMETRY OBTAINED FROM 2' CONTOUR MAPPING.
1472          KM   ROUTING OF FLOW FROM C415A TO 455C
1473          RS       4    FLOW      -1
1474          RC    .045     .03    .045    4100    .024
1475          RX       0      .5       1       8      16      23    23.5      24
1476          RY       8       8       8       0       0       8       8       8
              *
              * DDM   ***** Updated *****

1477          KK     455
1478          KM   SUB-BASIN 455
1479          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1480          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .993
1481          KM     L = 1.70  Kb = .041  Adj. Slope =  146.0
1482          BA   1.111
1483          LG    .270    .280   3.700    .640  24.000
1484          UC    .421    .204
1485          UA       0       5      16      30      65      77      84      90      94      97
1486          UA     100
              * DDM   ***** Preserved *****
1                                        HEC-1 INPUT                                                    PAGE 40

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

1487          KK    D455
1488          KM        DIVERT FLOW INTO ONLINE  DETENTION BASIN
1489          KM   DETENTION/RETENTION BASINS LOCATED WITHIN LAS SENDAS ADDENDUM III
1490          KM   FOR BASIN #: 30      34      43      47&58
1491          KM        MAXIMUM VOLUME DIVERSION = 74.1 acre-feet
              *      1
1492          DT   BS455    74.1
1493          DI       0   10000
1494          DQ       0   10000
              * DDM   ***** Preserved *****

1495          KK   RT455
1496          KM   RETRIEVE FLOW FROM DIVERSION INTO ONLINE BASIN
1497          DR   BS455
              * DDM   ***** Preserved *****
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1498          KK    S455
1499          KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
1500          KM    74.1 ACRE-FEETx43560/36x3600=25cfs
1501          RS       1    STOR       0
1502          SV       0     .01    74.1
1503          SQ       0     3.0      25
              * DDM   ***** Preserved *****

1504          KK    C455
1505          KM   HYDROGRAPH COMBINATION FOR SUB-BASIN 455 AND DIVERTED BASIN STORAGE OF 455
1506          HC       2
              * DDM   ***** Preserved *****

1507          KK   CC455
1508          KM  HYDROGRAPH COMBINATION OF 420C, R415 AND C455
              * KO     1       2
1509          HC       3
              *

1510          KK    S440
1511          KM   SPOOK HILL FRS PLANS DATED 6/15/77
1512          KM   OUTLET PIPE=7'x7.5'RCBC; L=70 INLET INV.=1566; OUTLET INV.=1566
1513          KM   EMERGENCY SPILLWAY ELEV.=1582; PRINCIPLE SPILLWAY ELEV.=1577.5
1514          KM   STORAGE VOLUME BELOW PRINCIPLE SPILLWAY FOR SEDIMENT = 200 ACRE-FEET
              *  ESE = 1583.86 ft; PSE = 1579.36 ft; Sediment Vol. = 271 Ac-Ft.
1515          RS       1    STOR       0
1516          SV       0      81     363     533     719     925    1120    1399    1668  4051
1517          SQ       0       0      10     180     367     595     800    1231    2625 24500
1518          SE      76      78      80      81      82      83    83.9      85      86    92
              * DDM   ***** Preserved *****

1519          KK    R455
1520          KM   ROUTE FLOW FROM SPOOK HILL FRS TO SUB-BASIN 480
1521          RS      15    FLOW      -1
1522          RC    .035    .025    .035    7000   .0002
1523          RX       0       1       2      28      58      84      85      86
1524          RY    13.5    13.5    13.5       0       0    13.5    13.5    13.5
              * DDM   ***** Updated *****
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1525          KK     480
1526          KM   SUB-BASIN 480
1527          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1528          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .996
1529          KM     L = 1.21  Kb = .042  Adj. Slope =  165.0
1530          BA    .731
1531          LG    .270    .270   3.580    .730  27.000
1532          UC    .325    .148
1533          UA       0       5      16      30      65      77      84      90      94      97
1534          UA     100
              * DDM   ***** Preserved *****

1535          KK    D480
1536          KM        DIVERT FLOW INTO ONLINE  DETENTION BASIN
1537          KM   DETENTION/RETENTION BASINS LOCATED WITHIN LAS SENDAS ADDENDUM III
1538          KM   FOR BASIN #: 18 & 26
1539          KM        MAXIMUM VOLUME DIVERSION = 16.5 acre-feet
              *      1
1540          DT   BS480    16.5
1541          DI       0   10000
1542          DQ       0   10000
              * DDM   ***** Preserved *****

1543          KK   RT480
1544          KM   RETRIEVE FLOW FROM DIVERSION INTO ONLINE BASIN
1545          DR   BS480
              * DDM   ***** Preserved *****

1546          KK    S480
1547          KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
1548          KM    16.5 ACRE-FEETx43560/36x3600=5.5cfs
1549          RS       1    STOR       0
1550          SV       0     .01    16.5
1551          SQ       0     3.0     5.6
              * DDM   ***** Preserved *****

1552          KK    C480
1553          KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
1554          HC       2
              * DDM   ***** Preserved *****

1555          KK   CC480
1556          KM   HYDROGRAPH COMBINATION AT SUBBASIN 480
1557          HC       2   0.731
              * DDM   ***** Preserved *****

1558          KK    R480
1559          KM   ROUTE FLOW FROM SUB-BASIN 480 TO SUBBASIN 462
1560          RS       6    FLOW      -1
1561          RC    .035    .025    .035    2800   .0002
1562          RX       0       1       2      28      58      84      85      86
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1563          RY    13.5    13.5    13.5       0       0    13.5    13.5    13.5
              * DDM   ***** Updated *****
                                          HEC-1 INPUT                                                    PAGE 42

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


1564          KK     456
1565          KM   SUB-BASIN 456
1566          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1567          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .998
1568          KM     L =  .94  Kb = .045  Adj. Slope =  315.0
1569          BA    .260
1570          LG    .300    .380   5.600    .200  12.000
1571          UC    .217    .139
1572          UA       0       5      16      30      65      77      84      90      94      97
1573          UA     100
              * DDM   ***** Preserved *****

1574          KK      D1
1575          KM        DIVERT FLOW INTO OFFLINE DETENTION BASIN
1576          KM        WEIR FOR BASIN SET AT 4 FEET ABOVE CHANNEL BOTTOM
              *      1
1577          DT  BASIN1     4.0
1578          DI       0    11.1   127.9   234.4   577.7   789.9  1025.5  1280.9  1555.7
1579          DQ       0       0       0    47.7     248   381.8   533.6   701.5     884
              * DDM   ***** Preserved *****

1580          KK      D2
1581          KM        SPLIT OUT FLOW FOR WASHES THAT FLOW TO THE SOUTH FROM
1582          KM        WASHES THAT DRAIN TO THE WES, SOUTHERN WASHES FED BY 30" & 24" PIPE
1583          DT    WA30
1584          DI       0    11.1   127.9   189.6   329.7     408   491.9   579.4   671.7
1585          DQ       0    11.1    38.4    48.2      63    69.5      76      81      86
              * DDM   ***** Preserved *****

1586          KK    R456
1587          KM        ROUTE FLOW FROM SUB-BASIN 51 TO C101
1588          RS       2    FLOW      -1
1589          RC     .05    .035     .05    3800    .044
1590          RX    1000    1010    1020    1036    1041    1057    1067    1077
1591          RY   14.88   14.44      14      10      10      14   14.44   14.88
              * DDM   ***** Updated *****

1592          KK     457
1593          KM   SUB-BASIN 457
1594          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1595          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .999
1596          KM     L = 1.01  Kb = .045  Adj. Slope =  308.8
1597          BA    .190
1598          LG    .270    .330   3.950    .460   6.000
1599          UC    .237    .195
1600          UA       0       5      16      30      65      77      84      90      94      97
1601          UA     100
              * DDM   ***** Preserved *****
1                                         HEC-1 INPUT                                                    PAGE 43

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


1602          KK    C101
1603          KM        COMBINE HYDROGRAPHS FROM SUB-BASINS 50 AND 51
1604          HC       2
              * DDM   ***** Preserved *****

1605          KK      D3
1606          KM        RESERVOIR AT THE EDGE OF THE PROPERTY   FLOW FROM CHANNEL
1607          KM        DIVERTED  INTO OFFLINE BASIN A 25' WEIR SET AT ELEVATION 1808 FT
              *      1
1608          DT  BASIN2     5.0
1609          DI       0      36      70     110     180   313.5     402   500.9
1610          DQ       0       0       0       0       0    67.5     124   190.9
              * DDM   ***** Preserved *****

1611          KK    RTD3
1612          KM   RETRIEVE FLOW FROM DIVERSION INTO OFFLINE BASIN
1613          DR  BASIN2
              * DDM   ***** Preserved *****

1614          KK     SD3
1615          KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
1616          KM     5.0 ACRE-FEETx43560/36x3600=1.7cfs
1617          RS       1    STOR       0
1618          SV       0     .01       5
1619          SQ       0     0.7     1.7
              * DDM   ***** Preserved *****

1620          KK     CD3
1621          KM   HYDROGRAPH COMBINATION FOR OFFLINE BASIN BLEEDOFF
1622          HC       2
              * DDM   ***** Preserved *****

1623          KK    R101
1624          KM        ROUTE FLOW FROM SUBBASIN C101 TO C103
1625          RS       1    FLOW      -1
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1626          RC     .05    .035     .05    1450     .05
1627          RX    1000    1010    1020    1036    1041    1057    1067    1077
1628          RY      15    14.5      14      10      10      14    14.5      15
              * DDM   ***** Updated *****

1629          KK     458
1630          KM   SUB-BASIN 458
1631          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1632          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .999
1633          KM     L =  .76  Kb = .048  Adj. Slope =  299.0
1634          BA    .190
1635          LG    .290    .330   5.800    .190   6.000
1636          UC    .204    .131
1637          UA       0       5      16      30      65      77      84      90      94      97
1638          UA     100
              * DDM   ***** Preserved *****
1                                        HEC-1 INPUT                                          PAGE 44

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

1639          KK    C103
1640          KM        COMBINE HYDROGRAPHS FROM SUB-BASIN 55 AND C101
1641          HC       2
              * DDM   ***** Preserved *****

1642          KK    R103
1643          KM        ROUTE FLOW FROM SUBBASIN C103 TO C106
1644          RS       1    FLOW      -1
1645          RC     .05    .035     .05     900     .03
1646          RX    1000    1010    1020    1030    1050    1060    1070    1080
1647          RY   13.16   12.83    12.5      10      10    12.5   12.83   13.16
              * DDM   ***** Preserved *****

1648          KK    RT30
1649          KM        RETRIEVE DIVERTED FLOW FOR WASH BELOW 30 INCH PIPE
1650          DR    WA30
              * DDM   ***** Preserved *****

1651          KK     R30
1652          KM        ROUTE FLOW FROM WASH DIVERSION TO COMBINE C52
1653          RS       1    FLOW      -1
1654          RC     .05    .035     .05    1630     .05
1655          RX    1000    1010    1020    1036    1041    1057    1067    1077
1656          RY      15    14.5      14      10      10      14    14.5      15
              * DDM   ***** Preserved *****

1657          KK    RTB1
1658          KM        RETRIEVE DIVERTED FLOW FROM BASIN 1
              *      1       2
1659          DR  BASIN1
              * DDM   ***** Preserved *****

1660          KK      B1
1661          KM        ROUTE FLOW THROUGH OFFLINE DETENTION BASIN
1662          KM        FLOW OUTLETS THROUGH A 30 INCH OUTLET PIPE
              *      1       2
1663          RS       1    ELEV       0
1664          SV              .7     1.4     2.3     2.7     4.0
1665          SQ       0       5      16      28    32.5      37
1666          SE       0       1       2       3     3.5       4
              * DDM   ***** Preserved *****

1667          KK     RB1
1668          KM        ROUTE FLOW FROM BASIN DIVERSION TO COMBINE C52
1669          RS       3    FLOW      -1
1670          RC     .05    .035     .05    1720     .05
1671          RX    1000    1010    1020    1036    1041    1057    1067    1077
1672          RY      15    14.5      14      10      10      14    14.5      15
              * DDM   ***** Preserved *****
1                                        HEC-1 INPUT                                          PAGE 45

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

1673          KK    CDIV
1674          KM        COMBINE FLOWS FROM WA30 AND BASIN 1
1675          HC       2     .12
              * DDM   ***** Updated *****

1676          KK     459
1677          KM   SUB-BASIN 459
1678          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1679          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF 1.000
1680          KM     L =  .35  Kb = .052  Adj. Slope =  251.6
1681          BA    .030
1682          LG    .220    .300   3.330    .710   8.000
1683          UC    .162    .157
1684          UA       0       5      16      30      65      77      84      90      94      97
1685          UA     100
              * DDM   ***** Preserved *****

1686          KK     C52
1687          KM        COMBINE FLOWS FROM SUB-BASIN 52 WA30 AND BASIN 1
1688          HC       2
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                * DDM   ***** Preserved *****

1689            KK     R52
1690            KM        ROUTE FLOW FROM SUBBASIN 52 TO C102
1691            RS       3    FLOW      -1
1692            RC     .05    .035     .05    2000     .05
1693            RX    1000    1010    1020    1036    1041    1057    1067    1077
1694            RY      15    14.5      14      10      10      14    14.5      15
                * DDM   ***** Updated *****

1695            KK     460
1696            KM   SUB-BASIN 460
1697            KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1698            KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .999
1699            KM     L =  .62  Kb = .058  Adj. Slope =  194.0
1700            BA    .140
1701            LG    .250    .260   3.740    .690  27.000
1702            UC    .242    .160
1703            UA       0       5      16      30      65      77      84      90      94      97
1704            UA     100
                * DDM   ***** Preserved *****

1705            KK    C102
1706            KM        COMBINE HYDROGRAPHS FROM SUB-BASINS 52 AND 53
1707            HC       2
                * DDM   ***** Preserved *****

1708            KK  BASIN3
1709            KM        RESERVOIR AT CLUBHOUSE LOCATION 1-30 INCH PIPE AT OUTFALL
1710            KM        BOTTOM OF BASIN AT 6 FEET ABOVE 1795 ELEVATION
1711            RS       1    ELEV       0
1712            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
1713            SQ       0      22      45    47.4      48      51      57      62      67      73
1                                          HEC-1 INPUT                                          PAGE 46

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

1714            SE    1795  1797.5    1800  1800.4  1800.5    1801    1802    1803    1804  1805.5
                * DDM   ***** Preserved *****

1715            KK      R3
1716            KM        ROUTE FLOW FROM C102 to C106
1717            RS       5    FLOW      -1
1718            RC     .05     .03     .05    2750   .0375
1719            RX    1000    1010    1020    1052    1086    1118    1128    1138
1720            RY    19.2    18.4      18      10      10      18    18.4    19.2
                * DDM   ***** Updated *****

1721            KK     461
1722            KM   SUB-BASIN 461
1723            KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1724            KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .999
1725            KM     L =  .83  Kb = .052  Adj. Slope =  181.0
1726            BA    .120
1727            LG    .270    .250   4.250    .450  21.000
1728            UC    .271    .250
1729            UA       0       5      16      30      65      77      84      90      94      97
1730            UA     100
                * DDM   ***** Preserved *****

1731            KK    C104
1732            KM        COMBINE HYDROGRAPHS FROM SUB-BASIN 54 AND R102
1733            HC       2
                * DDM   ***** Preserved *****

1734            KK    C106
1735            KM        COMBINE HYDROGRAPHS FROM SUB-BASIN C103 AND C104
1736            HC       2
                * DDM   ***** Preserved *****

1737            KK    R106
1738            KM        ROUTE FLOW FROM C106 TO C49
1739            RS       2    FLOW      -1
1740            RC     .05    .035     .05    3950    .033
1741            RX    1000    1010    1020    1030    1050    1060    1070    1080
1742            RY   13.16   12.83    12.5      10      10    12.5   12.83   13.16
                * DDM   ***** Updated *****

1743            KK     462
1744            KM   SUB-BASIN 462
1745            KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1746            KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .998
1747            KM     L =  .97  Kb = .045  Adj. Slope =  297.7
1748            BA    .301
1749            LG    .300    .330   5.300    .240  12.000
1750            UC    .225    .137
1751            UA       0       5      16      30      65      77      84      90      94      97
1752            UA     100
                * DDM   ***** Preserved *****
                                           HEC-1 INPUT                                          PAGE 47

LINE            ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10
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1753          KK     C56
1754          KM        COMBINE HYDROGRAPHS FROM SUB-BASIN 56 AND C106
              *      1       2
1755          HC       2
              * DDM   ***** Preserved *****

1756          KK    C462
1757          KM        COMBINE HYDROGRAPHS AT SUBBASIN 462
              *      1
1758          HC       2    2.09
              * DDM   ***** Preserved *****

1759          KK    R462
1760          KM   ROUTE FLOW FROM SUB-BASIN 462 TO SUB-BASIN 500 (First Channel Reach)
1761          RS       1    FLOW      -1
1762          RC    .025    .025    .025    1800    .005
1763          RX       0       1      20      32      62      74      93      94
1764          RY      13      12      12       0       0      12      12      13
              *

1765          KK   RR462
1766          KM   ROUTE FLOW FROM SUB-BASIN 462 TO SUB-BASIN 500 (Second Natural Wash Reach)
1767          RS       3    FLOW      -1
1768          RC    .055     .05    .055    4700     .05
1769          RX       0       1       2      28      58      84      85      86
1770          RY    13.5    13.5    13.5       0       0    13.5    13.5    13.5
              * DDM   ***** Updated *****

1771          KK     500
1772          KM   SUB-BASIN 500
1773          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1774          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .994
1775          KM     L = 2.77  Kb = .042  Adj. Slope =  286.8
1776          BA    .930
1777          LG    .350    .400   6.000    .170   9.000
1778          UC    .421    .333
1779          UA       0       3       5       8      12      20      43      75      90      96
1780          UA     100
              * DDM   ***** Preserved *****

1781          KK    C500
1782          KM   HYDROGRAPH COMBINATION FOR THE ENTIRE WATERSHED AT THE SALT RIVER
1783          HC       2    3.02
1784          ZZ
```

1

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          SCHEMATIC DIAGRAM OF STREAM NETWORK
INPUT
 LINE     (V) ROUTING          (--->) DIVERSION OR PUMP FLOW

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

  28          10
               V
               V
  38         R10
               V
               V
  44         R12
               .
               .
  50           .          20
               .           .
               .           .
  60         C20............
               V
               V
  63         R20
               .
               .
  69           .          40
               .           .
               .           .
  79           .           .          60
               .           .           .
               .           .           .
  89         C60........................
               V
               V
  92         S60
               V
               V
 101         R60
               V
               V
 107        RR60
               .
               .
 113           .          80
               .           .
               .           .
 123         C80............
               V
               V
 126         R80
               .
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132          .
             .        100
             .          .
             .          .
142       C100...........
             V
             V
145       R100
             .
             .
151          .        120
             .          .
             .          .
161       C120...........
             V
             V
164       R120
             .
             .
170          .        140
             .          .
             .          .
180          .          .        150
             .          .          V
             .          .          V
190          .          .       R150
             .          .          V
             .          .          V
196          .          .       R152
             .          .          .
             .          .          .
202          .          .          .        160
             .          .          .          .
             .          .          .          .
212          .          .          .          .        180
             .          .          .          .          .
             .          .          .          .          .
222       C180.............................................
             .
             .
225          .       385B
             .          V
             .          V
235          .      R385B
             .          .
             .          .
244          .          .       395B
             .          .          .
             .          .          .
254          .      C395B...........
             .          V
             .          V
257          .      R395B
             .          .
             .          .
264          .          .       370B
             .          .          .
             .          .          .
274          .      C370C...........
             .          V
             .          V
277          .      R370B
             .          V
             .          V
284          .     RR370B
             .          .
             .          .
293          .          .       355B
             .          .          .
             .          .          .
303          .      C355B...........
             .          V
             .          V
306          .      R355B
             .          V
             .          V
315          .     RR355B
             .          .
             .          .
322          .          .        350
             .          .          V
             .          .          V
332          .          .       R350
             .          .          .
             .          .          .
339          .          .          .        310
             .          .          .          .
             .          .          .          .
349          .       C310......................
             .          V
             .          V
352          .       R310
             .          V
             .          V
359          .       R312
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                .           .
                .           .
368             .           .        305B
                .           .           .
                .           .           .
378             .       C305B............
                .           V
                .           V
381             .       R305B
                .           .
                .           .
390             .           .         210
                .           .           V
                .           .           V
400             .           .        R210
                .           .           .
                .           .           .
406             .           .           .         240
                .           .           .           .
                .           .           .           .
416             .        C240........................
                .           V
                .           V
419             .        S240
                .           V
                .           V
428             .        R240
                .           .
                .           .
435             .           .         220
                .           .           .
                .           .           .
445             .        C220............
                .           V
                .           V
448             .        S220
                .           V
                .           V
457             .        R220
                .           .
                .           .
464             .           .         190
                .           .           V
                .           .           V
474             .           .        R190
                .           .           V
                .           .           V
480             .           .        R192
                .           .           .
                .           .           .
486             .           .           .         200
                .           .           .           .
                .           .           .           .
496             .        C200........................
                .           V
                .           V
499             .        S200
                .           V
                .           V
506             .        R200
                .           V
                .           V
512             .       SS200
                .           V
                .           V
519             .       RR200
                .           .
                .           .
525        CC180............
               V
               V
528         S180
               V
               V
537         R180
                .
                .
546             .         260
                .           .
                .           .
556         C260............
               V
               V
559         R260
                .
                .
568             .         280
                .           .
                .           .
578         C280............
               V
               V
581         R280
                .
                .
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590          .        300
             .          .
             .          .
600       C300...........
             V
             V
603       R300
             .
             .
612          .       305A
             .          .
             .          .
622      C305A...........
             V
             V
625      R305A
             .
             .
634          .        320
             .          .
             .          .
649          .          .-------->   BS320
644          .       D320
             .          .
             .          .
654          .          .           .<-------   BS320
652          .          .       RT320
             .          .           V
             .          .           V
655          .          .        S320
             .          .           .
             .          .           .
661       C320........................
             .
             .
664          .       340B
             .          .
             .          .
679          .          .-------->  BS340B
674          .      D340B
             .          .
             .          .
684          .          .           .<-------  BS340B
682          .          .      RT340B
             .          .           V
             .          .           V
685          .          .       S340B
             .          .           .
             .          .           .
691          .      C340B............
             .          .
             .          .
696          .          .-------->   BS340
694          .     DD340B
             .          .
             .          .
701          .          .           .<-------   BS340
699          .          .       RT340
             .          .           V
             .          .           V
702          .          .      SS340B
             .          .           .
             .          .           .
708          .     CC340B............
             .          V
             .          V
711          .      R340B
             .          .
             .          .
718          .          .        340A
             .          .           .
             .          .           .
733          .          .           .-------->  BS340A
728          .          .       D340A
             .          .           .
             .          .           .
738          .          .           .           .<-------  BS340A
736          .          .           .      RT340A
             .          .           .           V
             .          .           .           V
739          .          .           .       S340A
             .          .           .           .
             .          .           .           .
745          .      C340A........................
             .          .
             .          .
748       C340............
             .
             .
751          .       355A
             .          V
             .          V
761          .      R355A
             .          .
             .          .
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768          .           .         360
             .           .           .
             .           .           .
782          .           .           .-------->   BS360
778          .           .       D360
             .           .           .
             .           .           .
787          .           .           .           .<-------   BS360
785          .           .           .      RT360
             .           .           .          V
             .           .           .          V
788          .           .           .       S360
             .           .           .           .
             .           .           .           .
794       C360.................................
             .
             .
797          .        380A
             .           .
             .           .
807      C380A...........
             .
             .
810          .        400A
             .           .
             .           .
820      C400A............
             .
             .
823          .        380B
             .           .
             .           .
837          .           .-------->  BS380B
833          .      D380B
             .           .
             .           .
842          .           .           .<-------  BS380B
840          .           .     RT380B
             .           .          V
             .           .          V
843          .           .      S380B
             .           .           .
             .           .           .
849          .      C380B............
             .           .
             .           .
854          .           .-------->   BS380
852          .     DD380B
             .           .
             .           .
859          .           .           .<-------   BS380
857          .           .      RT380
             .           .          V
             .           .          V
860          .           .     SS380B
             .           .           .
             .           .           .
866          .     CC380B............
             .          V
             .          V
869          .      R380B
             .           .
             .           .
876          .           .       400B
             .           .           .
             .           .           .
890          .           .           .-------->  BS400B
886          .           .      D400B
             .           .           .
             .           .           .
895          .           .           .           .<-------  BS400B
893          .           .           .      RT400B
             .           .           .          V
             .           .           .          V
896          .           .           .      S400B
             .           .           .           .
             .           .           .           .
902          .           .      C400B............
             .           .           .
             .           .           .
905      CC400B........................
             .
             .
908          .        420A
             .           .
             .           .
922          .           .-------->  BS420A
918          .      D420A
             .           .
             .           .
927          .           .           .<-------  BS420A
925          .           .     RT420A
             .           .          V
             .           .          V
928          .           .      S420A
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                .          .          .
                .          .          .
934       C420A.......................
                .
                .
937             .       370A
                .          .
                .          .
947             .          .       395A
                .          .          .
                .          .          .
957             .      C370A...........
                .          .
                .          .
963             .          .-------->  BS370
960             .       D370
                .          .
                .          .
968             .          .          .<--------  BS370
966             .          .      RT370
                .          .          V
                .          .          V
969             .          .       S370
                .          .          .
                .          .          .
975             .      CC370...........
                .          V
                .          V
978             .       R370
                .          .
                .          .
985             .          .        390
                .          .          .
                .          .          .
999             .          .          .-------->  BS390
995             .          .       D390
                .          .          .
                .          .          .
1004            .          .          .          .<--------  BS390
1002            .          .          .      RT390
                .          .          .          V
                .          .          .          V
1005            .          .          .       S390
                .          .          .          .
                .          .          .          .
1011            .       C390........................
                .          V
                .          V
1014            .       R390
                .          .
                .          .
1021            .          .       420B
                .          .          .
                .          .          .
1031            .      C420B...........
                .          .
                .          .
1034            .          .       385A
                .          .          .
                .          .          .
1044            .          .          .       415C
                .          .          .          .
                .          .          .          .
1054            .          .      C415C...........
                .          .          .
                .          .          .
1060            .          .          .-------->  BS415C
1057            .          .      D415C
                .          .          .
                .          .          .
1065            .          .          .          .<--------  BS415C
1063            .          .          .     RT415C
                .          .          .          V
                .          .          .          V
1066            .          .          .      S415C
                .          .          .          .
                .          .          .          .
1072            .          .     CC415C...........
                .          .          V
                .          .          V
1075            .          .      R415C
                .          .          .
                .          .          .
1082            .          .          .       415B
                .          .          .          .
                .          .          .          .
1092            .          .      C415B...........
                .          .          V
                .          .          V
1095            .          .      R415B
                .          .          .
                .          .          .
1102            .          .          .        440
                .          .          .          V
                .          .          .          V
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1112                R70
                     .
                     .
1118                 .        441
                     .          .
                     .          .
1128            C108...........
                     .
                     .
1133                 .-------> SPLIT
1131              D4
                   V
                   V
1136            R108
                     .
                     .
1142                 .        442
                     .          .
                     .          .
1152             C67...........
                     .
                     .
1158                 .-------> BASIN4
1155              D6
                     .
                     .
1163                 .          .<------- BASIN4
1161                 .      RTD6
                     .         V
                     .         V
1164                 .       SD6
                     .          .
                     .          .
1170             CD6...........
                     .
                     .
1173                 .        443
                     .          .
                     .          .
1186                 .          .-------> WSH66
1183                 .       D66
                     .         V
                     .         V
1189                 .      R113
                     .          .
                     .          .
1195            C114...........
                     .
                     .
1198                 .        444
                     .          V
                     .          V
1208                 .       R58
                     .          .
                     .          .
1214                 .          .        445
                     .          .          .
                     .          .          .
1224                 .      C107...........
                     .         V
                     .         V
1227                 .      R107
                     .          .
                     .          .
1235                 .          .          .<------- SPLIT
1233                 .          .      RTB2
                     .          .         V
                     .          .         V
1236                 .          .    RSPLIT
                     .          .          .
                     .          .          .
1242                 .          .          .        446
                     .          .          .          .
                     .          .          .          .
1252                 .      C109.......................
                     .          .
                     .          .
1258                 .          .-------> WSH404
1255                 .        D5
                     .         V
                     .         V
1261                 .      R109
                     .          .
                     .          .
1267                 .          .        447
                     .          .          .
                     .          .          .
1279                 .          .          .          .<------- WSH404
1277                 .          .          .      RT404
                     .          .          .         V
                     .          .          .         V
1280                 .          .          .       R404
                     .          .          .          .
                     .          .          .          .
1286                 .      C110.......................
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                                                  V
                                                  V
1289                                            R110
                                                   .
                                                   .
1295                                   C115............
                                          V
                                          V
1298                                   R115
                                                   .
                                                   .
1304                                            448
                                                   .
                                                   .
1314                                                .         449
                                                   .           .
                                                   .           .
1324                                        C6364...........
                                                  V
                                                  V
1327                                        R6364
                                                   .
                                                   .
1333                                                .         450
                                                   .           .
                                                   .           .
1343                                                .           .         451
                                                   .           .           .
                                                   .           .           .
1353                                                .       C451...........
                                                   .           .
                                                   .           .
1358                                                .           .           .<-------   WSH66
1356                                                .           .       RT66
                                                   .           .           .
                                                   .           .           .
1359                                                .           .           .         452
                                                   .           .           .           .
                                                   .           .           .           .
1369                                                .           .       C6465...........
                                                   .           .           V
                                                   .           .           V
1372                                                .           .       R6566
                                                   .           .           .
                                                   .           .           .
1378                                            C116......................
                                                  V
                                                  V
1381                                           BASIN5
                                                  V
                                                  V
1388                                            R116
                                                   .
                                                   .
1394                                                .         453
                                                   .           .
                                                   .           .
1404                                            C117...........
                                                   .
                                                   .
1407                                   C118...........
                                          V
                                          V
1410                                   R118
                                                   .
                                                   .
1419                                               .-------> BASIN6
1416                                         D7
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1424                                               .<-------  BASIN6
1422                                            RTD7
                                                  V
                                                  V
1425                                             SD7
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1431                                          CD7...........
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1434                                             454
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1444                                   C119...........
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1447                            C454...........
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                                   V
1450                            R454
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1457                                   415A
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1467          .       C415A.......................
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              .           V
1470          .       R415A
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1477          .           .         455
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1492          .           .           .-------->   BS455
1487          .           .        D455
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1497          .           .           .           .<-------   BS455
1495          .           .           .       RT455
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              .           .           .           V
1498          .           .           .        S455
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1504          .           .        C455............
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1507       CC455........................
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1510        S440
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1519        R455
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1525          .         480
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1540          .           .-------->   BS480
1535          .        D480
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1545          .           .           .<-------   BS480
1543          .           .       RT480
              .           .           V
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1546          .           .        S480
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1552          .        C480............
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1555       CC480............
              V
              V
1558        R480
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1564          .         456
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              .           .
1577          .           .-------->  BASIN1
1574          .          D1
              .           .
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1583          .           .-------->    WA30
1580          .          D2
              .           V
              .           V
1586          .        R456
              .           .
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1592          .           .         457
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1602          .        C101............
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              .           .
1608          .           .-------->  BASIN2
1605          .          D3
              .           .
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1613          .           .           .<-------  BASIN2
1611          .           .        RTD3
              .           .           V
              .           .           V
1614          .           .         SD3
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1620          .         CD3............
              .           V
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1623          .        R101
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1629          .           .         458
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1639            .        C103............
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                .           V
1642            .        R103
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1650            .           .           .<-------    WA30
1648            .           .        RT30
                .           .           V
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1651            .           .         R30
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1659            .           .           .           .<-------  BASIN1
1657            .           .           .        RTB1
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1660            .           .           .          B1
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1667            .           .           .         RB1
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1673            .           .        CDIV............
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1676            .           .           .         459
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1686            .           .         C52............
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1689            .           .         R52
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1695            .           .           .         460
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1705            .           .        C102............
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1708            .           .      BASIN3
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1715            .           .          R3
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1721            .           .           .         461
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1731            .           .        C104............
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1734            .        C106............
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1737            .        R106
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1743            .           .         462
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1753            .         C56............
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1756        C462............
               V
               V
1759        R462
               V
               V
1765       RR462
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1771            .         500
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1781        C500............
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(***) RUNOFF ALSO COMPUTED AT THIS LOCATION

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1****************************************
 *                                      *
 *   FLOOD HYDROGRAPH PACKAGE  (HEC-1)  *
 *              JUN   1998              *
 *            VERSION 4.1               *
 *                                      *
 *  RUN DATE   01MAY01  TIME  16:54:03  *
 *                                      *
 ****************************************
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*                                      *
*    U.S. ARMY CORPS OF ENGINEERS      *
*    HYDROLOGIC ENGINEERING CENTER     *
*          609 SECOND STREET           *
*       DAVIS, CALIFORNIA 95616        *
*           (916) 756-1104             *
*                                      *
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                    Combined McDowell Road, McKellips Road & Pass Mountain Alternatives
                    McDowell Road Alternative - Option MD3E
                    McKellips Road Alternative - Option MK2E
                    FULL PASS MOUNTAIN DIVERSION WITH SPOOK HILL FRS STORAGE ROUTING - PM4R
                    OUTFLOW OF SIGNAL BUTTE IS QUADRUPLED
                    Spook Hill FRS without Off-Line Basin

 9 IO         OUTPUT CONTROL VARIABLES
                    IPRNT          5  PRINT CONTROL
                    IPLOT          0  PLOT CONTROL
                    QSCAL         0.  HYDROGRAPH PLOT SCALE

   IT         HYDROGRAPH TIME DATA
                    NMIN           2  MINUTES IN COMPUTATION INTERVAL
                   IDATE      1    0  STARTING DATE
                   ITIME        0000  STARTING TIME
                      NQ        2000  NUMBER OF HYDROGRAPH ORDINATES
                  NDDATE      3    0  ENDING DATE
                  NDTIME        1838  ENDING TIME
                   ICENT          19  CENTURY MARK

           COMPUTATION INTERVAL    .03 HOURS
                TOTAL TIME BASE  66.63 HOURS

      ENGLISH UNITS
           DRAINAGE AREA          SQUARE MILES
           PRECIPITATION DEPTH    INCHES
           LENGTH, ELEVATION      FEET
           FLOW                   CUBIC FEET PER SECOND
           STORAGE VOLUME         ACRE-FEET
           SURFACE AREA           ACRES
           TEMPERATURE            DEGREES FAHRENHEIT

11 JD         INDEX STORM NO. 1
                    STRM        3.81  PRECIPITATION DEPTH
                    TRDA         .01  TRANSPOSITION DRAINAGE AREA

12 PI           PRECIPITATION PATTERN
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22 JD INDEX STORM NO. 2

STRM 3.79 PRECIPITATION DEPTH

TRDA 1.00 TRANSPOSITION DRAINAGE AREA

0 PI PRECIPITATION PATTERN

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23 JD INDEX STORM NO. 3

STRM 3.68 PRECIPITATION DEPTH
TRDA 5.80 TRANSPOSITION DRAINAGE AREA

0 PI PRECIPITATION PATTERN

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24 JD INDEX STORM NO. 4
STRM 3.57 PRECIPITATION DEPTH
TRDA 10.66 TRANSPOSITION DRAINAGE AREA

0 PI PRECIPITATION PATTERN

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25 JD INDEX STORM NO. 5
STRM 3.54 PRECIPITATION DEPTH
TRDA 13.70 TRANSPOSITION DRAINAGE AREA

0 PI PRECIPITATION PATTERN

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26 JD INDEX STORM NO. 6.

STRM 3.47 PRECIPITATION DEPTH

TRDA 20.00 TRANSPOSITION DRAINAGE AREA

0 PI PRECIPITATION PATTERN

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27 JD INDEX STORM NO. 7
STRM 3.32 PRECIPITATION DEPTH
TRDA 50.00 TRANSPOSITION DRAINAGE AREA

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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	989.	12.27	119.	33.	12.	.70		
+	ROUTED TO	R10	920.	12.40	119.	33.	12.	.70		
+	ROUTED TO	R12	853.	12.60	119.	33.	12.	.70		
+	HYDROGRAPH AT	20	1011.	12.43	136.	34.	12.	1.12		
+	2 COMBINED AT	C20	1684.	12.53	252.	66.	24.	1.82		
+	ROUTED TO	R20	1683.	12.57	252.	66.	24.	1.82		
+	HYDROGRAPH AT	40	2695.	12.30	264.	69.	25.	2.23		
+	HYDROGRAPH AT	60	1623.	12.40	239.	64.	23.	1.75		
+	3 COMBINED AT	C60	5371.	12.37	733.	194.	70.	5.80		
+	ROUTED TO	S60	118.	14.27	118.	114.	70.	5.80		
+	ROUTED TO	R60	118.	14.37	118.	114.	70.	5.80		
+	ROUTED TO	RR60	118.	14.40	118.	114.	70.	5.80		
+	HYDROGRAPH AT	80	1956.	12.27	189.	49.	18.	1.48		
+	2 COMBINED AT	C80	2009.	12.27	295.	160.	90.	1.48		
+	ROUTED TO	R80	1981.	12.30	295.	160.	90.	1.48		
+	HYDROGRAPH AT	100	423.	12.20	60.	16.	6.	.48		
+	2 COMBINED AT	C100	2373.	12.27	351.	174.	95.	1.96		
+	ROUTED TO	R100	2370.	12.30	351.	174.	95.	1.96		
+	HYDROGRAPH AT	120	3352.	12.27	340.	92.	33.	2.20		
+	2 COMBINED AT	C120	5618.	12.27	673.	256.	126.	4.16		
+	ROUTED TO	R120	5546.	12.30	673.	256.	126.	4.16		
+	HYDROGRAPH AT	140	665.	12.13	67.	18.	6.	.60		
+	HYDROGRAPH AT	150	595.	12.17	51.	14.	5.	.41		
+	ROUTED TO	R150	568.	12.23	51.	14.	5.	.41		
+	ROUTED TO	R152	514.	12.33	51.	14.	5.	.41		

+	HYDROGRAPH AT 160	228.	12.40	37.	9.	3.	.37
	HYDROGRAPH AT 180	836.	12.37	97.	24.	9.	1.00
+	5 COMBINED AT C180	7306.	12.30	898.	313.	146.	6.54
+	HYDROGRAPH AT 385B	591.	12.17	57.	16.	6.	.38
+	ROUTED TO R385B	590.	12.17	57.	16.	6.	.38
+	HYDROGRAPH AT 395B	12.	12.17	2.	0.	0.	.02
+	2 COMBINED AT C395B	601.	12.17	59.	17.	6.	.39
+	ROUTED TO R395B	580.	12.23	58.	16.	6.	.39
+	HYDROGRAPH AT 370B	219.	12.27	32.	8.	3.	.26
+	2 COMBINED AT C370C	792.	12.23	90.	25.	9.	.66
+	ROUTED TO R370B	778.	12.27	90.	25.	9.	.66
+	ROUTED TO RR370B	715.	12.33	90.	25.	9.	.66
+	HYDROGRAPH AT 355B	465.	12.27	54.	14.	5.	.51
+	2 COMBINED AT C355B	1153.	12.30	143.	38.	14.	1.17
+	ROUTED TO R355B	1138.	12.37	143.	38.	14.	1.17
	ROUTED TO RR355B	1121.	12.40	143.	38.	14.	1.17
+	HYDROGRAPH AT 350	1258.	12.20	109.	28.	10.	.97
+	ROUTED TO R350	1109.	12.47	109.	28.	10.	.97
+	HYDROGRAPH AT 310	342.	12.33	46.	12.	4.	.49
+	3 COMBINED AT C310	2448.	12.43	290.	76.	27.	2.63
+	ROUTED TO R310	2395.	12.53	290.	76.	27.	2.63
+	ROUTED TO R312	2301.	12.63	290.	76.	27.	2.63
+	HYDROGRAPH AT 305B	405.	12.30	45.	11.	4.	.41
+	2 COMBINED AT C305B	2484.	12.63	333.	87.	31.	3.05
+	ROUTED TO R305B	2464.	12.67	333.	87.	31.	3.05
+	HYDROGRAPH AT 210	1322.	12.17	111.	29.	10.	.79
+	ROUTED TO R210	1246.	12.23	111.	29.	10.	.79
+	HYDROGRAPH AT 240	1754.	12.27	167.	42.	15.	1.41
+	3 COMBINED AT C240	3752.	12.27	593.	153.	55.	5.25
+	ROUTED TO S240	1819.	12.93	528.	137.	49.	5.25
	ROUTED TO R240	1817.	13.00	527.	137.	49.	5.25
+	HYDROGRAPH AT 220	694.	12.20	68.	18.	6.	.47

+	2 COMBINED AT	C220	1864.	12.97	587.	153.	55.	5.72
+	ROUTED TO	S220	1775.	13.13	575.	150.	54.	5.72
+	ROUTED TO	R220	1774.	13.20	575.	150.	54.	5.72
+	HYDROGRAPH AT	190	1471.	12.17	123.	33.	12.	.92
+	ROUTED TO	R190	1415.	12.23	123.	33.	12.	.92
+	ROUTED TO	R192	1359.	12.30	123.	33.	12.	.92
+	HYDROGRAPH AT	200	843.	12.17	72.	20.	7.	.53
+	3 COMBINED AT	C200	2171.	12.30	741.	195.	71.	7.17
+	ROUTED TO	S200	2057.	12.37	736.	192.	69.	7.17
+	ROUTED TO	R200	2055.	12.40	735.	192.	69.	7.17
+	ROUTED TO	SS200	1788.	13.30	615.	162.	58.	7.17
+	ROUTED TO	RR200	1784.	13.37	612.	162.	58.	7.17
+	2 COMBINED AT	CC180	7306.	12.30	1505.	476.	204.	13.70
+	ROUTED TO	S180	449.	15.63	436.	313.	154.	13.70
+	ROUTED TO	R180	449.	15.70	436.	313.	154.	13.70
	HYDROGRAPH AT	260	399.	12.13	43.	12.	4.	.26
+	2 COMBINED AT	C260	491.	15.63	477.	362.	181.	.26
+	ROUTED TO	R260	491.	15.70	477.	362.	181.	.26
+	HYDROGRAPH AT	280	498.	12.10	46.	13.	5.	.32
+	2 COMBINED AT	C280	854.	12.13	479.	372.	185.	.58
+	ROUTED TO	R280	837.	12.20	479.	372.	185.	.58
+	HYDROGRAPH AT	300	392.	12.10	34.	9.	3.	.29
+	2 COMBINED AT	C300	1173.	12.17	503.	379.	188.	.87
+	ROUTED TO	R300	1131.	12.23	502.	379.	188.	.87
+	HYDROGRAPH AT	305A	413.	12.17	46.	13.	5.	.37
+	2 COMBINED AT	C305A	1501.	12.23	539.	388.	191.	1.24
+	ROUTED TO	R305A	1470.	12.30	538.	387.	191.	1.24
+	HYDROGRAPH AT	320	899.	12.20	116.	33.	12.	.87
+	DIVERSION TO	BS320	439.	11.97	21.	6.	2.	.87
+	HYDROGRAPH AT	D320	899.	12.20	102.	27.	10.	.87
	HYDROGRAPH AT	RT320	439.	11.97	21.	6.	2.	.87
+	ROUTED TO	S320	4.	12.03	4.	4.	2.	.87

+	3 COMBINED AT	C320	2277.	12.27	633.	411.	200.	2.11
+	HYDROGRAPH AT	340B	475.	12.07	35.	10.	4.	.29
+	DIVERSION TO	BS340B	475.	12.07	21.	6.	2.	.29
+	HYDROGRAPH AT	D340B	390.	12.13	16.	4.	2.	.29
+	HYDROGRAPH AT	RT340B	475.	12.07	21.	6.	2.	.29
+	ROUTED TO	S340B	3.	12.13	3.	3.	2.	.29
+	2 COMBINED AT	C340B	394.	12.13	19.	7.	4.	.29
+	DIVERSION TO	BS340	376.	12.13	12.	3.	1.	.29
+	HYDROGRAPH AT	DD340B	18.	12.10	8.	4.	3.	.29
+	HYDROGRAPH AT	RT340	376.	12.13	12.	3.	1.	.29
+	ROUTED TO	SS340B	2.	12.63	2.	2.	1.	.29
+	2 COMBINED AT	CC340B	20.	12.63	10.	6.	4.	.29
+	ROUTED TO	R340B	20.	12.70	10.	6.	4.	.29
+	HYDROGRAPH AT	340A	1361.	12.17	161.	48.	17.	1.15
+	DIVERSION TO	BS340A	1361.	12.17	82.	23.	8.	1.15
+	HYDROGRAPH AT	D340A	1217.	12.23	93.	25.	9.	1.15
+	HYDROGRAPH AT	RT340A	1361.	12.17	82.	23.	8.	1.15
+	ROUTED TO	S340A	14.	12.27	13.	11.	7.	1.15
+	3 COMBINED AT	C340A	1212.	12.27	115.	42.	20.	1.44
+	2 COMBINED AT	C340	3432.	12.27	735.	446.	216.	3.55
+	HYDROGRAPH AT	355A	226.	12.10	22.	6.	2.	.16
+	ROUTED TO	R355A	197.	12.37	22.	6.	2.	.16
+	HYDROGRAPH AT	360	761.	12.20	109.	31.	11.	.88
+	DIVERSION TO	BS360	761.	12.20	54.	14.	5.	.88
+	HYDROGRAPH AT	D360	665.	12.37	62.	17.	6.	.88
+	HYDROGRAPH AT	RT360	761.	12.20	54.	14.	5.	.88
+	ROUTED TO	S360	9.	12.37	8.	7.	5.	.88
+	4 COMBINED AT	C360	3690.	12.37	816.	470.	227.	4.59
+	HYDROGRAPH AT	380A	322.	12.27	33.	10.	4.	.26
+	2 COMBINED AT	C380A	3922.	12.37	843.	477.	230.	4.85
+	HYDROGRAPH AT	400A	56.	12.20	4.	1.	0.	.05
+	2 COMBINED AT	C400A	3948.	12.37	846.	478.	230.	4.90

+	HYDROGRAPH AT 380B	567.	12.20	67.	17.	6.	.64
+	DIVERSION TO BS380B	567.	12.20	57.	14.	5.	.64
+	HYDROGRAPH AT D380B	147.	12.80	12.	3.	1.	.64
+	HYDROGRAPH AT RT380B	567.	12.20	57.	14.	5.	.64
+	ROUTED TO S380B	9.	12.80	9.	7.	5.	.64
+	2 COMBINED AT C380B	156.	12.80	20.	11.	6.	.64
+	DIVERSION TO BS380	70.	12.80	2.	0.	0.	.64
+	HYDROGRAPH AT DD380B	86.	12.77	18.	10.	6.	.64
+	HYDROGRAPH AT RT380	70.	12.80	2.	0.	0.	.64
+	ROUTED TO SS380B	4.	13.03	2.	0.	0.	.64
+	2 COMBINED AT CC380B	90.	13.03	20.	11.	6.	.64
+	ROUTED TO R380B	90.	13.03	20.	11.	6.	.64
+	HYDROGRAPH AT 400B	516.	12.20	62.	17.	6.	.57
+	DIVERSION TO BS400B	292.	12.00	10.	3.	1.	.57
+	HYDROGRAPH AT D400B	516.	12.20	54.	14.	5.	.57
	HYDROGRAPH AT RT400B	292.	12.00	10.	3.	1.	.57
+	ROUTED TO S400B	2.	12.07	2.	2.	1.	.57
+	2 COMBINED AT C400B	518.	12.20	56.	15.	6.	.57
+	3 COMBINED AT CC400B	4334.	12.27	907.	498.	239.	6.10
+	HYDROGRAPH AT 420A	495.	12.20	68.	19.	7.	.57
+	DIVERSION TO BS420A	377.	12.07	16.	4.	2.	.57
+	HYDROGRAPH AT D420A	495.	12.20	56.	14.	5.	.57
+	HYDROGRAPH AT RT420A	377.	12.07	16.	4.	2.	.57
+	ROUTED TO S420A	13.	11.60	13.	4.	2.	.57
+	3 COMBINED AT C420A	4746.	12.27	963.	510.	244.	6.67
+	HYDROGRAPH AT 370A	633.	12.10	52.	14.	5.	.41
+	HYDROGRAPH AT 395A	209.	12.13	24.	6.	2.	.18
+	2 COMBINED AT C370A	838.	12.10	76.	21.	7.	.59
+	DIVERSION TO BS370	698.	12.10	43.	11.	4.	.59
+	HYDROGRAPH AT D370	140.	11.77	33.	10.	4.	.59
	HYDROGRAPH AT RT370	698.	12.10	43.	11.	4.	.59
+	ROUTED TO S370	8.	12.57	7.	6.	4.	.59

+	2 COMBINED AT	CC370	148.	12.57	39.	15.	7.	.59
+	ROUTED TO	R370	148.	12.57	39.	15.	7.	.59
+	HYDROGRAPH AT	390	477.	12.03	35.	10.	4.	.24
+	DIVERSION TO	BS390	101.	11.73	6.	2.	1.	.24
+	HYDROGRAPH AT	D390	477.	12.03	31.	8.	3.	.24
+	HYDROGRAPH AT	RT390	101.	11.73	6.	2.	1.	.24
+	ROUTED TO	S390	1.	.70	1.	1.	1.	.24
+	3 COMBINED AT	C390	622.	12.03	71.	24.	11.	.83
+	ROUTED TO	R390	531.	12.27	71.	24.	11.	.83
+	HYDROGRAPH AT	420B	356.	12.10	34.	10.	4.	.28
+	2 COMBINED AT	C420B	797.	12.23	104.	33.	15.	1.11
+	HYDROGRAPH AT	385A	358.	12.07	27.	7.	3.	.21
+	HYDROGRAPH AT	415C	443.	12.10	46.	13.	5.	.33
+	2 COMBINED AT	C415C	785.	12.07	73.	20.	7.	.54
+	DIVERSION TO	BS415C	595.	12.07	34.	8.	3.	.54
+	HYDROGRAPH AT	D415C	190.	11.83	40.	12.	4.	.54
+	HYDROGRAPH AT	RT415C	595.	12.07	34.	8.	3.	.54
+	ROUTED TO	S415C	8.	12.50	7.	7.	3.	.54
+	2 COMBINED AT	CC415C	198.	12.47	45.	17.	7.	.54
+	ROUTED TO	R415C	198.	12.47	45.	17.	7.	.54
+	HYDROGRAPH AT	415B	86.	12.07	8.	2.	1.	.06
+	2 COMBINED AT	C415B	282.	12.07	53.	19.	8.	.61
+	ROUTED TO	R415B	271.	12.23	53.	19.	8.	.61
+	HYDROGRAPH AT	440	184.	12.03	12.	3.	1.	.08
+	ROUTED TO	R70	181.	12.07	12.	3.	1.	.08
+	HYDROGRAPH AT	441	16.	12.03	1.	0.	0.	.01
+	2 COMBINED AT	C108	197.	12.07	14.	4.	1.	.09
+	DIVERSION TO	SPLIT	98.	12.07	7.	2.	1.	.09
+	HYDROGRAPH AT	D4	98.	12.07	7.	2.	1.	.09
+	ROUTED TO	R108	92.	12.13	7.	2.	1.	.09
+	HYDROGRAPH AT	442	105.	12.10	9.	2.	1.	.10
+	2 COMBINED AT	C67	195.	12.10	16.	4.	2.	.19

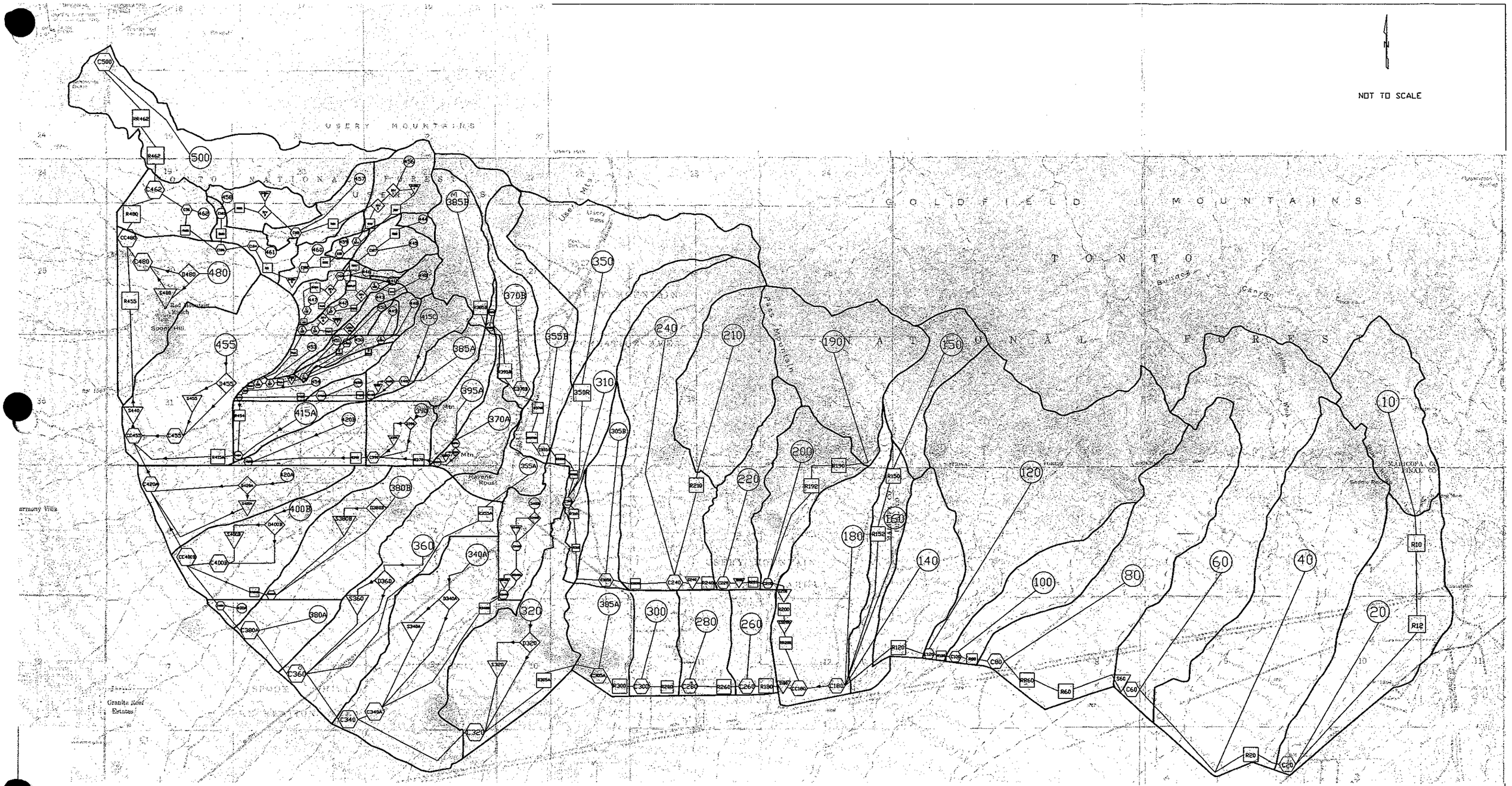
+ DIVERSION TO	BASIN4	121.	12.10	6.	2.	1.	.19
HYDROGRAPH AT	D6	74.	12.10	10.	3.	1.	.19
+ HYDROGRAPH AT	RTD6	121.	12.10	6.	2.	1.	.19
+ ROUTED TO	SD6	1.	12.47	1.	1.	0.	.19
+ 2 COMBINED AT	CD6	74.	12.10	10.	3.	1.	.19
+ HYDROGRAPH AT	443	151.	12.07	15.	4.	1.	.08
+ DIVERSION TO	WSH66	78.	11.87	12.	3.	1.	.08
+ HYDROGRAPH AT	D66	73.	12.07	3.	1.	0.	.08
+ ROUTED TO	R113	71.	12.07	3.	1.	0.	.08
+ 2 COMBINED AT	C114	144.	12.07	13.	4.	2.	.27
+ HYDROGRAPH AT	444	83.	12.03	5.	1.	0.	.04
+ ROUTED TO	R58	79.	12.07	5.	1.	0.	.04
+ HYDROGRAPH AT	445	307.	12.03	19.	5.	2.	.19
+ 2 COMBINED AT	C107	382.	12.03	23.	6.	2.	.23
+ ROUTED TO	R107	382.	12.07	23.	6.	2.	.23
HYDROGRAPH AT	RTB2	98.	12.07	7.	2.	1.	.09
+ ROUTED TO	RSPLIT	98.	12.07	7.	2.	1.	.09
+ HYDROGRAPH AT	446	66.	12.03	6.	2.	1.	.04
+ 3 COMBINED AT	C109	545.	12.07	36.	10.	3.	.27
+ DIVERSION TO	WSH404	35.	11.70	8.	2.	1.	.27
+ HYDROGRAPH AT	D5	510.	12.07	28.	7.	3.	.27
+ ROUTED TO	R109	493.	12.10	28.	7.	3.	.27
+ HYDROGRAPH AT	447	141.	12.07	12.	4.	1.	.09
+ HYDROGRAPH AT	RT404	35.	11.70	8.	2.	1.	.27
+ ROUTED TO	R404	35.	11.83	8.	2.	1.	.27
+ 3 COMBINED AT	C110	666.	12.07	48.	13.	5.	.36
+ ROUTED TO	R110	663.	12.10	48.	13.	5.	.36
+ 2 COMBINED AT	C115	805.	12.07	61.	17.	7.	.63
+ ROUTED TO	R115	799.	12.10	61.	17.	7.	.63
HYDROGRAPH AT	448	89.	12.03	6.	2.	1.	.05
HYDROGRAPH AT	449	81.	12.03	5.	1.	0.	.05
+ 2 COMBINED AT	C6364	170.	12.03	11.	3.	1.	.09

+	ROUTED TO R6364	145.	12.17	11.	3.	1.	.09
+	HYDROGRAPH AT 450	63.	12.20	7.	2.	1.	.07
+	HYDROGRAPH AT 451	18.	12.17	2.	1.	0.	.03
+	2 COMBINED AT C451	80.	12.20	9.	2.	1.	.09
+	HYDROGRAPH AT RT66	78.	11.87	12.	3.	1.	.08
+	HYDROGRAPH AT 452	63.	12.03	5.	1.	0.	.04
+	2 COMBINED AT C6465	141.	12.03	17.	4.	2.	.04
+	ROUTED TO R6566	137.	12.10	17.	4.	2.	.04
+	3 COMBINED AT C116	357.	12.17	36.	10.	3.	.23
+	ROUTED TO BASIN5	159.	12.47	36.	10.	3.	.23
+	ROUTED TO R116	157.	12.53	36.	10.	3.	.23
+	HYDROGRAPH AT 453	63.	12.10	7.	2.	1.	.06
+	2 COMBINED AT C117	177.	12.47	43.	12.	4.	.29
+	2 COMBINED AT C118	892.	12.10	104.	29.	11.	.92
+	ROUTED TO R118	887.	12.13	104.	29.	11.	.92
	DIVERSION TO BASIN6	248.	12.13	7.	2.	1.	.92
+	HYDROGRAPH AT D7	639.	12.13	97.	27.	10.	.92
+	HYDROGRAPH AT RTD7	248.	12.13	7.	2.	1.	.92
+	ROUTED TO SD7	1.	12.63	1.	1.	1.	.92
+	2 COMBINED AT CD7	640.	12.13	97.	28.	11.	.92
+	HYDROGRAPH AT 454	162.	12.13	21.	6.	2.	.18
+	2 COMBINED AT C119	801.	12.13	118.	34.	13.	1.10
+	2 COMBINED AT C454	1060.	12.17	170.	51.	21.	1.70
+	ROUTED TO R454	1055.	12.23	170.	51.	21.	1.70
+	HYDROGRAPH AT 415A	196.	12.13	24.	7.	2.	.22
+	3 COMBINED AT C415A	2002.	12.23	292.	90.	37.	3.03
+	ROUTED TO R415A	1996.	12.27	292.	90.	37.	3.03
+	HYDROGRAPH AT 455	1418.	12.13	150.	45.	16.	1.11
+	DIVERSION TO BS455	1418.	12.13	139.	37.	13.	1.11
+	HYDROGRAPH AT D455	145.	12.80	24.	8.	3.	1.11
+	HYDROGRAPH AT RT455	1418.	12.13	139.	37.	13.	1.11
+	ROUTED TO S455	23.	12.80	22.	18.	11.	1.11

+	2 COMBINED AT						
		C455	169.	12.80	46.	26.	14.	1.11
+	3 COMBINED AT						
		CC455	6397.	12.30	1225.	595.	282.	10.82
+	ROUTED TO						
		S440	364.	26.47	361.	325.	197.	10.82
+	ROUTED TO						
		R455	364.	27.17	361.	325.	195.	10.82
+	HYDROGRAPH AT						
		480	1102.	12.10	100.	31.	11.	.73
+	DIVERSION TO						
		BS480	487.	11.90	27.	8.	3.	.73
+	HYDROGRAPH AT						
		D480	1102.	12.10	83.	23.	8.	.73
+	HYDROGRAPH AT						
		RT480	487.	11.90	27.	8.	3.	.73
+	ROUTED TO						
		S480	5.	11.97	5.	4.	3.	.73
+	2 COMBINED AT						
		C480	1107.	12.10	88.	27.	11.	.73
+	2 COMBINED AT						
		CC480	1107.	12.10	416.	375.	234.	.73
+	ROUTED TO						
		R480	878.	12.33	416.	375.	233.	.73
+	HYDROGRAPH AT						
		456	483.	12.07	37.	10.	4.	.26
+	DIVERSION TO						
		BASIN1	193.	12.07	8.	2.	1.	.26
+	HYDROGRAPH AT						
		D1	290.	12.07	29.	8.	3.	.26
	DIVERSION TO						
		WA30	59.	12.07	10.	3.	1.	.26
+	HYDROGRAPH AT						
		D2	231.	12.07	19.	5.	2.	.26
+	ROUTED TO						
		R456	218.	12.13	19.	5.	2.	.26
+	HYDROGRAPH AT						
		457	273.	12.07	21.	6.	2.	.19
+	2 COMBINED AT						
		C101	480.	12.10	40.	10.	4.	.45
+	DIVERSION TO						
		BASIN2	177.	12.10	8.	2.	1.	.45
+	HYDROGRAPH AT						
		D3	303.	12.10	32.	8.	3.	.45
+	HYDROGRAPH AT						
		RTD3	177.	12.10	8.	2.	1.	.45
+	ROUTED TO						
		SD3	1.	12.40	1.	1.	1.	.45
+	2 COMBINED AT						
		CD3	304.	12.10	33.	9.	4.	.45
+	ROUTED TO						
		R101	302.	12.10	33.	9.	4.	.45
+	HYDROGRAPH AT						
		458	366.	12.03	26.	7.	2.	.19
+	2 COMBINED AT						
		C103	655.	12.07	59.	16.	6.	.64
+	ROUTED TO						
		R103	651.	12.07	59.	16.	6.	.64
+	HYDROGRAPH AT						
		RT30	59.	12.07	10.	3.	1.	.26
+	ROUTED TO						
		R30	58.	12.10	10.	3.	1.	.26
+	HYDROGRAPH AT						
		RTB1	193.	12.07	8.	2.	1.	.26

+	ROUTED TO	B1	35.	12.20	8.	2.	1.	.26
+	ROUTED TO	RB1	35.	12.27	8.	2.	1.	.26
+	2 COMBINED AT	CDIV	87.	12.20	18.	5.	2.	.12
+	HYDROGRAPH AT	459	45.	12.03	3.	1.	0.	.03
+	2 COMBINED AT	C52	117.	12.10	21.	6.	2.	.15
+	ROUTED TO	R52	116.	12.17	21.	6.	2.	.15
+	HYDROGRAPH AT	460	221.	12.07	20.	6.	2.	.14
+	2 COMBINED AT	C102	323.	12.07	40.	12.	4.	.29
+	ROUTED TO	BASIN3	71.	12.63	40.	12.	4.	.29
+	ROUTED TO	R3	71.	12.77	40.	12.	4.	.29
+	HYDROGRAPH AT	461	165.	12.10	17.	5.	2.	.12
+	2 COMBINED AT	C104	220.	12.10	57.	17.	6.	.41
+	2 COMBINED AT	C106	866.	12.07	115.	33.	12.	1.05
+	ROUTED TO	R106	828.	12.13	115.	33.	12.	1.05
+	HYDROGRAPH AT	462	557.	12.07	42.	12.	4.	.30
	2 COMBINED AT	C56	1306.	12.10	156.	44.	16.	1.35
+	2 COMBINED AT	C462	1641.	12.30	416.	376.	249.	2.09
+	ROUTED TO	R462	1575.	12.33	407.	368.	243.	2.09
+	ROUTED TO	RR462	1543.	12.40	407.	368.	242.	2.09
+	HYDROGRAPH AT	500	1126.	12.27	128.	35.	12.	.93
+	2 COMBINED AT	C500	2475.	12.33	432.	388.	251.	3.02

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



FLOOD CONTROL DISTRICT
OF MARICOPA COUNTY
ENGINEERING DIVISION

McDOWELL/McKELLIPS/PASS MTN. ALTERNATIVE

	BY	DATE
DESIGNED	R. HINER	06/00
DRAWN	S. CAMPBELL	06/00
CHECKED	A. PATEL	06/00

WOOD, PATEL & ASSOCIATES, INC.
2051 WEST NORTHERN, SUITE 100
PHOENIX, ARIZONA (602) 335-8500

DRAWING NO. MD3PMMK1.DWG SHEET OF

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1****************************************
*                                      *
*   FLOOD HYDROGRAPH PACKAGE  (HEC-1)  *
*              JUN   1998              *
*            VERSION 4.1               *
*                                      *
*  RUN DATE   02MAY01  TIME  08:46:55  *
*                                      *
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*                                      *
*   U.S. ARMY CORPS OF ENGINEERS       *
*   HYDROLOGIC ENGINEERING CENTER      *
*         609 SECOND STREET            *
*      DAVIS, CALIFORNIA 95616         *
*          (916) 756-1104              *
*                                      *
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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
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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

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1                                        HEC-1 INPUT                                                    PAGE  1

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

  1           ID   DDMS MCUHP1 SPOOK HILL ADMP-EXISTING CONDITIONS MODEL-100YR, 24-HR STORM
  2           ID   Combined McDowell Road, McKellips Road & Pass Mountain Alternatives
  3           ID   McDowell Road Alternative - Option MD3E
  4           ID   McKellips Road Alternative - Option MK1C
  5           ID   FULL PASS MOUNTAIN DIVERSION WITH SPOOK HILL FRS STORAGE ROUTING - PM4R
  6           ID   OUTFLOW OF SIGNAL BUTTE IS QUADRUPLED
  7           ID   Spook Hill FRS without Off-Line Basin
              *
              *  Original File Names: MD3EPM4R.DAT, EC24MK1C.DAT
              *  Modified File Name:  MD3PMMK1.DAT, 4/23/01, WOOD/PATEL, SZ
              *
              *
              *DIAGRAM
  8           IT       2                    2000
  9           IO       5
 10           IN      15
 11           JD    3.81    0.01
 12           PC    .000    .002    .005    .008    .011    .014    .017    .020    .023    .026
 13           PC    .029    .032    .035    .038    .041    .044    .048    .052    .056    .060
 14           PC    .064    .068    .072    .076    .080    .085    .090    .095    .100    .105
 15           PC    .110    .115    .120    .126    .133    .140    .147    .155    .163    .172
 16           PC    .181    .191    .203    .218    .236    .257    .283    .387    .663    .707
 17           PC    .735    .758    .776    .791    .804    .815    .825    .834    .842    .849
 18           PC    .856    .863    .869    .875    .881    .887    .893    .898    .903    .908
 19           PC    .913    .918    .922    .926    .930    .934    .938    .942    .946    .950
 20           PC    .953    .956    .959    .962    .965    .968    .971    .974    .977    .980
 21           PC    .983    .986    .989    .992    .995    .998   1.000
 22           JD   3.787    1.00
 23           JD   3.677    5.80
 24           JD   3.574   10.66
 25           JD   3.539   13.70
 26           JD   3.467   20.00
 27           JD   3.315   50.00
              * DDM   ***** Updated *****

 28           KK      10
 29           KM   SUB-BASIN 10
 30           KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
 31           KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .996
 32           KM     L = 2.00  Kb = .044  Adj. Slope =  165.0
 33           BA    .702
 34           LG    .350    .320   7.600    .090  15.000
 35           UC    .421    .302
 36           UA       0       3       5       8      12      20      43      75      90      96
 37           UA     100
              * DDM   ***** Preserved *****

 38           KK     R10
 39           KM   ROUTING OF FLOW FROM SUB-BASIN 10 TO R12
 40           RS       4    FLOW      -1
 41           RC    .045     .03    .045    8700    .021
 42           RX       0       1       2      17      27      42      43      44
 43           RY       5       5       5       0       0       5       5       5
              * DDM   ***** Preserved *****
                                         HEC-1 INPUT                                                    PAGE  2

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

 44           KK     R12
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 45          KM   ROUTING OF FLOW FROM R12 TO SUB-BASIN 20
 46          RS       6    FLOW      -1
 47          RC    .045     .03    .045    4500     .01
 48          RX       0       1      45    52.5    72.5      80     124     125
 49          RY       4     2.5     2.5       0       0     2.5     2.5       4
             * DDM   ***** Updated *****

 50          KK      20
 51          KM   SUB-BASIN 20
 52          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
 53          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .993
 54          KM     L = 2.50  Kb = .041  Adj. Slope =   88.0
 55          BA   1.120
 56          LG    .350    .390   5.800    .190   1.000
 57          UC    .658    .454
 58          UA       0       3       5       8      12      20      43      75      90      96
 59          UA     100
             * DDM   ***** Preserved *****

 60          KK     C20
 61          KM   HYDROGRAPH COMBINATION OF SUB-BASINS 10 AND 20
 62          HC       2
             * DDM   ***** Preserved *****

 63          KK     R20
 64          KM        ROUTE FLOW THROUGH BULLDOG FLOODWAY FROM APACHE JUNCTION FRS
 65          RS       1    FLOW      -1
 66          RC    .016    .016    .016     990    .004
 67          RX       0       5       7    14.5    34.5      42      44      50
 68          RY       4       2       2       0       0       2       2       4
             * DDM   ***** Updated *****

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

 79          KK      60
 80          KM   SUB-BASIN 60
 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  .990
 83          KM     L = 4.19  Kb = .038  Adj. Slope =  209.6
 84          BA   1.746
 85          LG    .330    .350   5.800    .190   9.000
 86          UC    .596    .477
 87          UA       0       3       5       8      12      20      43      75      90      96
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LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 88          UA     100
             * DDM   ***** Preserved *****

 89          KK     C60
 90          KM   HYDROGRAPH COMBINATION FOR APACHE JUNCTION FRS
             *      1       2
 91          HC       3
             * DDM   ***** Preserved *****

 92          KK     S60
 93          KM   APACHE JUNCTION FRS AS-BUILT PLANS 12/19/88
 94          KM   OUTLET PIPE=30"RCP; L=136.6'; INLET INV.=1783.5; OUTLET INV.=1783
 95          KM   EMERGENCY SPILLWAY ELEV.=1799.77'; PRINCIPLE SPILLWAY ELEV.=1793.5'
 96          KM   STORAGE VOLUME BELOW PRINCIPLE SPILLWAY FOR SEDIMENT = 100 ACRE-FEET
             *  ESE = 1801.92 ft; PSE = 1795.65 ft; Sediment Vol. = 237 Ac-Ft.
 97          RS       1    STOR       0
 98          SV       0       0      77     242     371     439     563     687    2163
 99          SQ       0      12     103     114     120     362    1462    3101   30000
100          SE    95.0    96.0    98.0   100.0   101.6   101.9   103.0   104.0   112.9
             * DDM   ***** Preserved *****

101          KK     R60
102          KM        ROUTE FLOW THROUGH BULLDOG FLOODWAY FROM APACHE JUNCTION FRS
103          RS       1    FLOW      -1
104          RC    .016    .016    .016    2850    .012
105          RX       0       1       2     2.1     5.6     5.7       6       7
106          RY     3.5     3.5     3.5       0       0     3.5     3.5     3.5
             * DDM   ***** Preserved *****

107          KK    RR60
108          KM   ROUTE FLOW FROM BULLDOG FLOODWAY TO SUB-BASIN 80
109          RS       3    FLOW      -1
110          RC    .016    .016    .016    3500    .005
111          RX       0       1       2     2.1     7.1     7.2       8       9
112          RY     3.5     3.5     3.5       0       0     3.5     3.5     3.5
             * DDM   ***** Updated *****

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

123          KK     C80
124          KM   HYDROGRAPH COMBINATION FOR FLOW FROM APACHE JUNCTION FRS & SUB-BASIN 80
125          HC       2   1.475
             * DDM   ***** Preserved *****
1                                        HEC-1 INPUT                                                    PAGE  4

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

126          KK     R80
127          KM   ROUTE FLOW FROM SUB-BASIN 80 TO SUB-BASIN 100
128          RS       1    FLOW      -1
129          RC    .025    .016    .025    1200    .003
130          RX       0       2       6     6.1    41.1    41.2    56.2    58.2
131          RY     5.5     4.5     4.5       0       0     4.5     4.5     5.5
             * DDM   ***** Updated *****

132          KK     100
133          KM   SUB-BASIN 100
134          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
135          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .997
136          KM     L = 1.94  Kb = .046  Adj. Slope =  108.0
137          BA    .484
138          LG    .320    .290   5.100    .260   3.000
139          UC    .533    .473
140          UA       0       5      16      30      65      77      84      90      94      97
141          UA     100
             * DDM   ***** Preserved *****

142          KK    C100
143          KM   HYDROGRAPH COMBINATION FOR FLOW FROM SUB-BASIN 80 & 100
144          HC       2
             * DDM   ***** Preserved *****

145          KK    R100
146          KM   ROUTE FLOW FROM SUB-BASIN 100 TO SUB-BASIN 120
147          RS       1    FLOW      -1
148          RC    .016    .016    .016     940    .005
149          RX       0       1       2     2.1    52.1    52.2      53      54
150          RY     4.5     4.5     4.5       0       0     4.5     4.5     4.5
             * DDM   ***** Updated *****

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

161          KK    C120
162          KM   HYDROGRAPH COMBINATION FOR FLOW FROM SUB-BASIN 100 & 120
163          HC       2
             * DDM   ***** Preserved *****
1                                        HEC-1 INPUT                                                    PAGE  5

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

164          KK    R120
165          KM   ROUTE FLOW FROM SUB-BASIN 120 TO SIGNAL BUTTE FRS
166          RS       1    FLOW      -1
167          RC    .025    .016    .025    2100    .005
168          RX       0       6      10    10.1    60.1    60.2    74.2    80.2
169          RY       8       5       5       0       0       5       5       8
             * DDM   ***** Updated *****

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

180          KK     150
181          KM   SUB-BASIN 150
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  .998
184          KM     L = 1.50  Kb = .047  Adj. Slope =  314.6
185          BA    .408
186          LG    .350    .360   5.100    .260   7.000
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187          UC    .296    .221
188          UA       0       3       5       8      12      20      43      75      90      96
189          UA     100
             * DDM   ***** Preserved *****

190          KK    R150
191          KM   ROUTING OF FLOW FROM SUB-BASIN 150 TO R152
192          RS       2    FLOW      -1
193          RC    .045     .04    .045    3100    .032
194          RX       0       1       2      23      33      54      55      56
195          RY       7       7       7       0       0       7       7       7
             * DDM   ***** Preserved *****

196          KK    R152
197          KM   ROUTING OF FLOW FROM R152 TO SUB-BASIN 160
198          RS       3    FLOW      -1
199          RC    .045     .03    .045    5900    .019
200          RX       0       1       2       8      33      39      40      41
201          RY       2       2       2       0       0       2       2       2
             * DDM   ***** Updated *****

202          KK     160
203          KM   SUB-BASIN 160
204          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
205          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .998
206          KM     L = 2.10  Kb = .047  Adj. Slope =  129.0
207          BA    .369
1                                        HEC-1 INPUT                                          PAGE  6

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

208          LG    .340    .330   4.150    .440   1.000
209          UC    .587    .655
210          UA       0       3       5       8      12      20      43      75      90      96
211          UA     100
             * DDM   ***** Updated *****

212          KK     180
213          KM   SUB-BASIN 180
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  .994
216          KM     L = 2.42  Kb = .041  Adj. Slope =  140.0
217          BA   1.000
218          LG    .350    .350   4.150    .430    .000
219          UC    .571    .403
220          UA       0       3       5       8      12      20      43      75      90      96
221          UA     100
             * DDM   ***** Preserved *****

222          KK    C180
223          KM   HYDROGRAPH COMBINATION FOR SIGNAL BUTTE FRS
             * KO      1
224          HC       5
             * DDM   ***** Updated *****

225          KK    385B
226          KM   SUB-BASIN 385B
227          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
228          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .998
229          KM     L = 1.47  Kb = .047  Adj. Slope =  315.0
230          BA    .375
231          LG    .350    .400   6.000    .170  17.000
232          UC    .287    .221
233          UA       0       3       5       8      12      20      43      75      90      96
234          UA     100
             * DDM   ***** Preserved *****

235          KK   R385B
236          KM   CHANNEL GEOMETRY OBTAINED FROM 2' CONTOUR MAPPING & AERIAL MAPPING
237          KM   ROUTING OF FLOW FROM SUB-BASIN 385B TO 395B
238          KM   OVERBANK MANNINGS INCREASED TO ACCOUNT FOR SKEWED FLOW TO NATURAL
239          KM   WATERCOURSE FLOW PATH
240          RS       1    FLOW      -1
241          RC     .07     .03     .07     500    .045
242          RX       0       1       3       9      39      45      46      47
243          RY       3       2       2       0       0       2       2       3
             * DDM   ***** Updated *****

244          KK    395B
245          KM   SUB-BASIN 395B
246          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
247          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF 1.000
248          KM     L =  .71  Kb = .066  Adj. Slope =  249.8
249          BA    .017
250          LG    .350    .350   4.300    .400    .000
251          UC    .262    .650
1                                        HEC-1 INPUT                                          PAGE  7

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

252          UA       0       3       5       8      12      20      43      75      90      96
253          UA     100
             * DDM   ***** Preserved *****

254          KK   C395B
255          KM   HYDROGRAPH COMBINATION OF SUB-BASINS 383 & 393
256          HC       2
             * DDM   ***** Preserved *****
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257          KK   R395B
258          KM   CHANNEL GEOMETRY OBTAINED FROM 2' CONTOUR MAPPING & AERIAL MAPPING
259          KM   ROUTING OF FLOW FROM SUB-BASIN 393 TO SUB-BASIN 365
260          RS       2    FLOW      -1
261          RC    .055     .03    .055    3630    .045
262          RX       0       1       3       9      39      45      46      47
263          RY       3       2       2       0       0       2       2       3
             * DDM   ***** Updated *****

264          KK    370B
265          KM   SUB-BASIN 370B
266          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
267          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .998
268          KM     L = 2.20  Kb = .049  Adj. Slope =  299.5
269          BA    .264
270          LG    .350    .350   4.800    .290   5.000
271          UC    .408    .550
272          UA       0       3       5       8      12      20      43      75      90      96
273          UA     100
             * DDM   ***** Preserved *****

274          KK   C370C
275          KM   HYDROGRAPH COMBINATION OF SUB-BASINS 395B & 370B
276          HC       2
             * DDM   ***** Preserved *****

277          KK   R370B
278          KM   CHANNEL GEOMETRY OBTAINED FROM 2' CONTOUR MAPPING & AERIAL MAPPING
279          KM   ROUTING OF FLOW FROM SUB-BASIN 370B TO ROUTING RR370B
280          RS       2    FLOW      -1
281          RC    .045     .03    .045    1110    .025
282          RX       0       1      50      56      76      82     131     132
283          RY       3       2       2       0       0       2       2       3
             * DDM   ***** Preserved *****

284          KK  RR370B
285          KM   CHANNEL GEOMETRY OBTAINED FROM 2' CONTOUR MAPPING & AERIAL MAPPING
286          KM   ROUTING OF FLOW FROM RR370B TO SUB-BASIN 355B
287          KM   OVERBANK MANNINGS INCREASED TO ACCOUNT FOR SKEWED FLOW TO NATURAL
288          KM   WATERCOURSE FLOW PATH
289          RS       1    FLOW      -1
290          RC     .07     .03     .07    1550    .008
291          RX       0       3       5      11      41      47     147     247
292          RY     3.5     2.5       2       0       0       2     2.5     3.5
             * DDM   ***** Updated *****
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LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

293          KK    355B
294          KM   SUB-BASIN 355B
295          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
296          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .997
297          KM     L = 2.41  Kb = .045  Adj. Slope =  298.2
298          BA    .513
299          LG    .350    .350   4.400    .370   1.000
300          UC    .421    .419
301          UA       0       3       5       8      12      20      43      75      90      96
302          UA     100
             * DDM   ***** Preserved *****

303          KK   C355B
304          KM   HYDROGRAPH COMBINATION OF SUB-BASINS 370B & 355B
305          HC       2
             * DDM   ***** Preserved *****

306          KK   R355B
307          KM   CHANNEL GEOMETRY OBTAINED FROM 2' CONTOUR MAPPING & AERIAL MAPPING
308          KM   ROUTING OF FLOW FROM SUB-BASIN 355B TO ROUTING RR355B
309          KM   OVERBANK MANNINGS INCREASED TO ACCOUNT FOR SKEWED FLOW TO NATURAL
310          KM   WATERCOURSE FLOW PATH
311          RS       3    FLOW      -1
312          RC     .07     .03     .07     936    .009
313          RX       0       3       5      11      41      47     172     302
314          RY     3.5     2.5       2       0       0       2     2.5     3.5
             * DDM   ***** Preserved *****

315          KK  RR355B
316          KM   CHANNEL GEOMETRY OBTAINED FROM 2' CONTOUR MAPPING & AERIAL MAPPING
317          KM   ROUTING OF FLOW FROM R355B TO SUB-BASIN 310
318          RS       1    FLOW      -1
319          RC    .045     .03    .045    1725     .03
320          RX       0       1      25      31      51      57      81      82
321          RY       3       2       2       0       0       2       2       3
             * DDM   ***** Updated *****

322          KK     350
323          KM   SUB-BASIN 350
324          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
325          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .994
326          KM     L = 2.22  Kb = .042  Adj. Slope =  315.0
327          BA    .970
328          LG    .350    .350   4.550    .340   4.000
329          UC    .367    .234
330          UA       0       3       5       8      12      20      43      75      90      96
331          UA     100
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                  * DDM   ***** Preserved *****
LINE              ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 332              KK    R350
 333              KM   CHANNEL GEOMETRY OBTAINED FROM 2' CONTOUR MAPPING & AERIAL MAPPING
 334              KM   ROUTING OF MAIN FLOW FROM DIVERSION OF SUB-BASIN 350 TO SUB-BASIN 310
 335              RS       9    FLOW      -1
 336              RC    .045    .035    .045    7650    .025
 337              RX       0       1      50      56      86      92     141     142
 338              RY       3       2       2       0       0       2       2       3
                  * DDM   ***** Updated *****

 339              KK     310
 340              KM   SUB-BASIN 310
 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  .997
 343              KM     L = 2.65  Kb = .046  Adj. Slope =  285.6
 344              BA    .494
 345              LG    .350    .350   3.910    .480    .000
 346              UC    .483    .538
 347              UA       0       3       5       8      12      20      43      75      90      96
 348              UA     100
                  * DDM   ***** Preserved *****

 349              KK    C310
 350              KM   HYDROGRAPH COMBINATION OF SUB-BASINS 350 & 310
 351              HC       3
                  * DDM   ***** Preserved *****

 352              KK    R310
 353              KM   CHANNEL GEOMETRY OBTAINED FROM 2' CONTOUR MAPPING & AERIAL MAPPING
 354              KM   ROUTING OF FLOW FROM SUB-BASIN 310 TO R312
 355              RS       3    FLOW      -1
 356              RC    .045     .03    .045    2850    .021
 357              RX       0       1     100     106     126     132     231     232
 358              RY     3.5       2       2       0       0       2       2     3.5
                  * DDM   ***** Preserved *****

 359              KK    R312
 360              KM   CHANNEL GEOMETRY OBTAINED FROM 2' CONTOUR MAPPING & AERIAL MAPPING
 361              KM   ROUTING OF FLOW FROM SUB-BASIN 310 TO 305
 362              KM   OVERBANK MANNINGS INCREASED TO ACCOUNT FOR SKEWED FLOW TO NATURAL
 363              KM   WATERCOURSE FLOW PATH
 364              RS       3    FLOW      -1
 365              RC     .07     .03     .07    2560   .0124
 366              RX       0       3       5      11      61      67     200     395
 367              RY       4     2.5       2       0       0       2     2.5       4
                  * DDM   ***** Updated *****

 368              KK    305B
 369              KM   SUB-BASIN 305B
 370              KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
 371              KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .998
 372              KM     L = 1.65  Kb = .047  Adj. Slope =  127.0
 373              BA    .414
 374              LG    .350    .350   4.700    .300    .000
 375              UC    .467    .392
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LINE              ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 376              UA       0       3       5       8      12      20      43      75      90      96
 377              UA     100
                  * DDM   ***** Preserved *****

 378              KK   C305B
 379              KM   HYDROGRAPH COMBINATION OF SUB-BASINS 310 & 295
 380              HC       2
                  * DDM   ***** Preserved *****

 381              KK   R305B
 382              KM   CHANNEL GEOMETRY OBTAINED FROM 2' CONTOUR MAPPING & AERIAL MAPPING
 383              KM   ROUTING OF FLOW FROM SUBBASIN 305B TO BEGINNING OF PASS MTN. DIVERSION.
 384              KM   OVERBANK MANNINGS INCREASED TO ACCOUNT FOR SKEWED FLOW TO NATURAL
 385              KM   WATERCOURSE FLOW PATH
 386              RS       3    FLOW      -1
 387              RC     .07     .03     .07    1100    .013
 388              RX       0       3       5      11      51      57     200     400
 389              RY       4     2.5       2       0       0       2     2.5       4
                  * 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  .995
 394              KM     L = 1.84  Kb = .043  Adj. Slope =  315.0
 395              BA    .792
 396              LG    .350    .360   6.800    .130   4.000
 397              UC    .313    .189
 398              UA       0       3       5       8      12      20      43      75      90      96
 399              UA     100
                  * DDM   ***** Preserved *****

 400              KK    R210
 401              KM   ROUTING OF FLOW FROM SUB-BASIN 210 TO SUB-BASIN 220
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402          RS       2    FLOW      -1
403          RC    .045     .03    .045    5100    .022
404          RX       0       1       2      14      34      46      47      48
405          RY       4       4       4       0       0       4       4       4
             * DDM   ***** Updated *****

406          KK     240
407          KM   SUB-BASIN 240
408          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
409          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .992
410          KM     L = 2.96  Kb = .039  Adj. Slope =  305.5
411          BA   1.408
412          LG    .350    .370   5.300    .230   2.000
413          UC    .417    .274
414          UA       0       3       5       8      12      20      43      75      90      96
415          UA     100
             * DDM   ***** Preserved *****
1                                          HEC-1 INPUT                                          PAGE 11

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

416          KK    C240
417          KM   HYDROGRAPH COMBINATION FOR SUB-BASIN 240 & 220
418          HC       3
             * DDM   ***** Preserved *****

419          KK    S240
420          KM   DIGITAL MAPPING SHOWS SEDIMENTATION.  FOR SIMPLICITY NO ADDITIONAL
421          KM   SEDIMENTATION WILL BE CONSIDERED FOR STORAGE ROUTING ANALYSIS. 5/11/00
422          KM    WEIR GEOMETRY OBTAINED FROM AS-BUILT PLANS @ PASS MTN. DIVERSION.
423          KM   WEIR STORAGE DATA OBTAINED FROM 2' CONTOUR MAPPING. Weir Width Changed
             *  from 42' to 45'
424          RS       1    STOR       0
425          SA    1.38    14.2    36.5
426          SE       0       5      11
427          SS       5      45       3     1.5
             * DDM   ***** Preserved *****

428          KK    R240
429          KM   ROUTE FLOW FROM SUB-BASIN 240 TO SUB-BASIN 220
430          KM   PASS MOUNTAIN DIVERSION
431          RS       3    FLOW      -1
432          RC    .035    .025    .035    1800    .005
433          RX       0      15      30      39      69      81      96     111
434          RY     4.6     3.3       3       0       0       3       3       4
             * DDM   ***** Updated *****

435          KK     220
436          KM   SUB-BASIN 220
437          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
438          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .997
439          KM     L = 1.85  Kb = .046  Adj. Slope =  315.0
440          BA    .473
441          LG    .350    .350   7.000    .120   5.000
442          UC    .325    .266
443          UA       0       3       5       8      12      20      43      75      90      96
444          UA     100
             * DDM   ***** Preserved *****

445          KK    C220
446          KM   HYDROGRAPH COMBINATION FOR SUB-BASIN 240 & 220
447          HC       2
             * DDM   ***** Preserved *****

448          KK    S220
449          KM   DIGITAL MAPPING SHOWS SEDIMENTATION.  FOR SIMPLICITY NO ADDITIONAL
450          KM   SEDIMENTATION WILL BE CONSIDERED FOR STORAGE ROUTING ANALYSIS. 5/11/00
451          KM    WEIR GEOMETRY OBTAINED FROM AS-BUILT PLANS @ PASS MTN. DIVERSION.
452          KM   WEIR STORAGE DATA OBTAINED FROM 2' CONTOUR MAPPING.
453          RS       1    STOR       0
454          SA     .78     4.1    13.7
455          SE       0       3      10
456          SS       3      65       3     1.5
             * DDM   ***** Preserved *****
1                                          HEC-1 INPUT                                          PAGE 12

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

457          KK    R220
458          KM   ROUTE FLOW FROM SUB-BASIN 220 TO SUB-BASIN 200
459          KM   PASS MOUNTAIN DIVERSION
460          RS       3    FLOW      -1
461          RC    .035    .025    .035    1250    .005
462          RX       0      50     100     109     139     148     178     184
463          RY       5       4       3       0       0       3       3       5
             * DDM   ***** Updated *****

464          KK     190
465          KM   SUB-BASIN 190
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 = 1.91  Kb = .042  Adj. Slope =  315.0
469          BA    .918
470          LG    .350    .390   5.800    .190   8.000
471          UC    .321    .185
472          UA       0       3       5       8      12      20      43      75      90      96
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473          UA     100
             * DDM   ***** Preserved *****

474          KK    R190
475          KM   ROUTING OF FLOW FROM SUB-BASIN 190 TO SUB-BASIN 200
476          RS       2    FLOW      -1
477          RC    .045     .03    .045    4740     .03
478          RX       0       1       2      17      37      52      53      54
479          RY       5       5       5       0       0       5       5       5
             * DDM   ***** Preserved *****

480          KK    R192
481          KM   ROUTING OF FLOW FROM SUB-BASIN 190 TO SUB-BASIN 200
482          RS       3    FLOW      -1
483          RC    .045    .035    .045    2200    .018
484          RX       0       1      50      59      79      88     137     138
485          RY     4.5       3       3       0       0       3       3     4.5
             * DDM   ***** Updated *****

486          KK     200
487          KM   SUB-BASIN 200
488          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
489          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .997
490          KM     L = 1.55  Kb = .045  Adj. Slope =  306.9
             * KO     1
491          BA    .530
492          LG    .350    .390   5.700    .200  10.000
493          UC    .296    .195
494          UA       0       3       5       8      12      20      43      75      90      96
495          UA     100
             * DDM   ***** Preserved *****
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LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

496          KK    C200
497          KM   HYDROGRAPH COMBINATION FOR SUB-BASIN 220 & 200
             * KO     1
498          HC       3
             * DDM   ***** Preserved *****

499          KK    S200
500          KM    WEIR GEOMETRY OBTAINED FROM AS-BUILT PLANS @ PASS MTN. DIVERSION.
501          KM   WEIR STORAGE DATA OBTAINED FROM 2' CONTOUR MAPPING.
             * KO     1
502          RS       1    STOR       0
503          SA    2.56     3.1     9.4
504          SE       0       3      10
505          SS       3     112       3     1.5
             * DDM   ***** Preserved *****

506          KK    R200
507          KM   ROUTE FLOW FROM SUB-BASIN 200 TO SIGNAL BUTTE FRS through storage
508          RS       1    FLOW      -1
509          RC    .035    .025    .035     650    .005
510          RX       0       1       2      17     117     132     133     134
511          RY       5       5       5       0       0       5       5       5
             * DDM   ***** Preserved *****

512          KK   SS200
513          KM    WEIR GEOMETRY OBTAINED FROM AS-BUILT PLANS @ PASS MTN. DIVERSION.
514          KM   WEIR STORAGE DATA OBTAINED FROM 2' CONTOUR MAPPING.
             * KO     1
515          RS       1    STOR       0
516          SA       8     9.2     9.2
517          SE       0       7      10
518          SS       7     251       3     1.5
             * DDM   ***** Preserved *****

519          KK   RR200
520          KM   ROUTE FLOW FROM SUB-BASIN 200 TO SIGNAL BUTTE FRS
521          RS       3    FLOW      -1
522          RC    .035    .025    .035    3150    .005
523          RX       0       1       2      17     117     132     133     134
524          RY       5       5       5       0       0       5       5       5
             * ******************************************************************
             * ************ END OF PASS MOUNTAIN ALTERNATIVE UPDATE. **************
             * DDM   ***** Preserved *****

525          KK   CC180
526          KM   HYDROGRAPH COMBINATION FOR SIGNAL BUTTE FRS
             * KO     1
527          HC       2
             * DDM   ***** Preserved *****
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LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

528          KK    S180
529          KM   SIGNAL BUTTE FRS DATED 1/28/85
530          KM   OUTLET PIPE=36"RCP; L= 147';  INLET INV.=1690; OUTLET INV.=1687
531          KM   EMERGENCY SPILLWAY ELEV.=1712.4; PRINCIPLE SPILLWAY ELEV.=1701
532          KM   STORAGE VOLUME BELOW PRINCIPLE SPILLWAY FOR SEDIMENT = 250 ACRE-FEET
533          RS       1    STOR       0
534          SV       0      92     226     462     742    1197    1418    1776    1941    3114
535          SQ       0      40      42     392     532     596     620    1949    3032    6465
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536          SE      99     101     103     106     109     113   114.6     117     118     120
             *
             * DDM   ***** Preserved *****

537          KK    R180
538          KM   Routing length updated using Signal Butte Floodway plans dated March 1983
539          KM   Routing length increased 100' from 1500' to 1600'    12/12/00
540          KM   CHANNEL GEOMETRY FOR SIGNAL BUTTE FRS OBTAINED FROM AS-BUILT PLANS.
541          KM   ROUTE FLOW FROM SIGNAL BUTTE FRS TO SUB-BASIN 260
542          RS       3    FLOW      -1
543          RC    .035    .025    .035    1600    .003
544          RX       0       1       2    22.6    38.6    59.2      60      61
545          RY     9.3     9.3     9.3       0       0     9.3     9.3     9.3
             * DDM   ***** Updated *****

546          KK     260
547          KM   SUB-BASIN 260
548          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
549          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .998
550          KM     L =  .85  Kb = .049  Adj. Slope =   65.0
551          BA    .262
552          LG    .300    .190   6.600    .170  15.000
553          UC    .379    .238
554          UA       0       5      16      30      65      77      84      90      94      97
555          UA     100
             * DDM   ***** Preserved *****

556          KK    C260
557          KM   HYDROGRAPH COMBINATION FOR OUTFLOW OF SIGNAL BUTTE FRS & SUB-BASIN 260
558          HC       2    .262
             * DDM   ***** Preserved *****

559          KK    R260
560          KM   Routing length updated using Signal Butte Floodway plans dated March 1983
561          KM   Routing length unchanged     12/12/00
562          KM   CHANNEL GEOMETRY FOR SIGNAL BUTTE FRS OBTAINED FROM AS-BUILT PLANS.
563          KM   ROUTE FLOW FROM SUB-BASIN 260 TO SUB-BASIN 280
564          RS       3    FLOW      -1
565          RC    .035    .025    .035    2300    .003
566          RX       0       1       2    23.4    43.4    64.8      65      66
567          RY     9.7     9.7     9.7       0       0     9.7     9.7     9.7
             * DDM   ***** Updated *****
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LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

568          KK     280
569          KM   SUB-BASIN 280
570          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
571          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .998
572          KM     L =  .82  Kb = .048  Adj. Slope =   79.0
573          BA    .319
574          LG    .300    .250   5.300    .290  15.000
575          UC    .350    .189
576          UA       0       5      16      30      65      77      84      90      94      97
577          UA     100
             * DDM   ***** Preserved *****

578          KK    C280
579          KM   HYDROGRAPH COMBINATION FOR SUB-BASIN 260 & SUB-BASIN 280
580          HC       2
             * DDM   ***** Preserved *****

581          KK    R280
582          KM   Routing length updated using Signal Butte Floodway plans dated March 1983
583          KM   Routing length decreased 400' from 2500' to 2100'    12/12/00
584          KM   CHANNEL GEOMETRY FOR SIGNAL BUTTE FRS OBTAINED FROM AS-BUILT PLANS.
585          KM   ROUTE FLOW FROM SUB-BASIN 280 TO SUB-BASIN 300
586          RS       3    FLOW      -1
587          RC    .035    .025    .035    2100    .003
588          RX       0       1       2    23.4    43.4    64.8      65      66
589          RY     9.7     9.7     9.7       0       0     9.7     9.7     9.7
             *
             * DDM   ***** Updated *****

590          KK     300
591          KM   SUB-BASIN 300
592          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
593          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .998
594          KM     L =  .82  Kb = .049  Adj. Slope =   98.0
595          BA    .289
596          LG    .320    .290   4.200    .480  11.000
597          UC    .346    .197
598          UA       0       5      16      30      65      77      84      90      94      97
599          UA     100
             * DDM   ***** Preserved *****

600          KK    C300
601          KM   HYDROGRAPH COMBINATION OF DIVERTED FLOW
602          HC       2
             * DDM   ***** Preserved *****

603          KK    R300
604          KM   Routing length updated using Signal Butte Floodway plans dated March 1983
605          KM   Routing length increased 300' from 2200' to 2500'    12/12/00
606          KM   CHANNEL GEOMETRY FOR SIGNAL BUTTE FRS OBTAINED FROM AS-BUILT PLANS.
607          KM   ROUTE FLOW FROM SUB-BASIN 300 TO START OF FLOODWAY CONCRETE CHANNEL
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 608          RS       2    FLOW      -1
 609          RC    .035    .025    .035    2500    .003
 610          RX       0       1       2    23.4    55.4    76.8      77      78
1                                           HEC-1 INPUT                                                          PAGE 16

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

 611          RY     9.7     9.7     9.7       0       0     9.7     9.7     9.7
              * DDM   ***** Updated *****

 612          KK    305A
 613          KM   SUB-BASIN 305A
 614          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
 615          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .998
 616          KM     L = 1.20  Kb = .047  Adj. Slope =   92.0
 617          BA    .372
 618          LG    .340    .330   4.500    .370  11.000
 619          UC    .433    .297
 620          UA       0       5      16      30      65      77      84      90      94      97
 621          UA     100
              * DDM   ***** Preserved *****

 622          KK   C305A
 623          KM   HYDROGRAPH COMBINATION OF SUB-BASIN 280 & 300 & 305A
 624          HC       2
              * DDM   ***** Preserved *****

 625          KK   R305A
 626          KM   Routing length updated using Signal Butte Floodway plans dated March 1983
 627          KM   Routing length decreased 50' from 6050' to 6000'     12/12/00
 628          KM   CHANNEL GEOMETRY FOR SPOOK HILL FRS OBTAINED FROM AS-BUILTS PLANS.
 629          KM   CONTINUE TO ROUTE FLOW WITHIN CONCRETE CHANNEL TO SPOOK HILL FRS
 630          RS       2    FLOW      -1
 631          RC    .016    .016    .016    6000   .0146
 632          RX       0       1       2     2.1    16.1    16.2      17      18
 633          RY     7.5     7.5     7.5       0       0     7.5     7.5     7.5
              *       1       2
              * DDM   ***** Updated *****

 634          KK     320
 635          KM   SUB-BASIN 320
 636          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
 637          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .995
 638          KM     L = 2.04  Kb = .042  Adj. Slope =  118.0
 639          BA    .865
 640          LG    .310    .290   4.500    .380  15.000
 641          UC    .508    .335
 642          UA       0       5      16      30      65      77      84      90      94      97
 643          UA     100
              * DDM   ***** Preserved *****

 644          KK    D320
 645          KM        DIVERT FLOW INTO ONLINE  DETENTION BASIN
 646          KM   DETENTION/RETENTION BASINS LOCATED WITHIN THREE SUBDIVISIONS
 647          KM   SIERRA HEIGHTS       FALCON RIDGE    & MARBLE CREEK
 648          KM        MAXIMUM VOLUME DIVERSION = 12.27acre-feet
              *       1
 649          DT   BS320   12.27
 650          DI       0   10000
 651          DQ       0   10000
              * DDM   ***** Preserved *****
1                                           HEC-1 INPUT                                                          PAGE 17

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

 652          KK   RT320
 653          KM   RETRIEVE FLOW FROM DIVERSION INTO ONLINE BASIN
 654          DR   BS320
              * DDM   ***** Preserved *****

 655          KK    S320
 656          KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
 657          KM   12.27 ACRE-FEETx43560/36x3600=4.1cfs
              *       1
 658          RS       1    STOR       0
 659          SV       0     .01    12.3
 660          SQ       0     3.0     4.2
              * DDM   ***** Preserved *****

 661          KK    C320
 662          KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
 663          HC       3
              * ADD ROUTING ALONG SPOOK HILL FRS
              * DDM   ***** Preserved *****
              * KK  R320
              * KM ROUTE FLOW THROUGH SPOOK HILL FRS FROM JUNCTION OF BROWN & ELLSWORTH ROAD
              * KM TO JUST NORTH OF JUNCTION OF MCDOWELL & POWER RD.
              * RS      9    FLOW      -1
              * RC   .035    .035    .035    4500   .0007
              * RX      0       9      50      68     198     206     267     275
              * RY    100      97      97      91      91      97      97     100
              *
              * DDM   ***** Updated *****

 664          KK    340B
 665          KM   SUB-BASIN 340B
 666          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
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667          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .998
668          KM     L =  .85  Kb = .049  Adj. Slope =  238.5
669          BA    .290
670          LG    .320    .280   4.000    .520  13.000
671          UC    .246    .139
672          UA       0       5      16      30      65      77      84      90      94      97
673          UA     100
             *
             * DDM   ***** Preserved *****

674          KK   D340B
675          KM        DIVERT FLOW INTO ONLINE  DETENTION BASIN
676          KM   DETENTION/RETENTION BASINS LOCATED WITHIN THREE SUBDIVISIONS
677          KM   GRANDVIEW ESTATES    BOULDER MOUNTAIN & 33% OF MESA HIGHLANDS
678          KM        MAXIMUM VOLUME DIVERSION = 11.0 acre-feet
             *      1
679          DT  BS340B      11
680          DI       0   10000
681          DQ       0   10000
             * DDM   ***** Preserved *****
1                                        HEC-1 INPUT                                          PAGE 18

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

682          KK  RT340B
683          KM   RETRIEVE FLOW FROM DIVERSION INTO ONLINE BASIN
684          DR  BS340B
             * DDM   ***** Preserved *****

685          KK   S340B
686          KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
687          KM    11.0 ACRE-FEETx43560/36x3600= 3.7cfs
             *      1
688          RS       1    STOR       0
689          SV       0     .01      11      15
690          SQ       0     2.0     3.7     4.0
             * DDM   ***** Preserved *****

691          KK   C340B
692          KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
             * KO     1
693          HC       2
             *
             * DDM   ***** Preserved *****

694          KK  DD340B
695          KM   DIVERT FLOW INTO OFFLINE DETENTION BASIN LOCATED WITHIN SUB-BASINS 340B.
             * KO     1
696          DT   BS340
697          DI       0      18    5000
698          DQ       0       0    4982
             * DDM   ***** Preserved *****

699          KK   RT340
700          KM   RETRIEVE FLOW FROM DIVERSION
701          DR   BS340
             * DDM   ***** Preserved *****

702          KK  SS340B
703          KM   RETRIEVE FLOW INTO OFFLINE BASIN AND BLEED OFF WITHIN 36 HOURS.
704          KM       6 ACRE-FEETx43560/36x3600 = 2 cfs
705          RS       1    STOR       0
706          SV       0     .01       6       8
707          SQ       0     1.5       2       4
             * DDM   ***** Preserved *****

708          KK  CC340B
709          KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
710          HC       2
             * DDM   ***** Preserved *****

711          KK   R340B
712          KM   CHANNEL GEOMETRY OBTAINED FROM 2' CONTOUR MAPPING.
713          KM   ROUTING OF FLOW FROM SUB-BASINS 370 AND 395 TO SUB-BASIN 380.
714          RS       4    FLOW      -1
715          RC    .045    .035    .045    2600    .023
716          RX       0       1      40      46      56      62     102     103
717          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

718          KK    340A
719          KM   SUB-BASIN 340A
720          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
721          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .993
722          KM     L = 1.80  Kb = .044  Adj. Slope =  117.0
723          BA   1.150
724          LG    .260    .280   4.200    .510  23.000
725          UC    .492    .249
726          UA       0       5      16      30      65      77      84      90      94      97
727          UA     100
             *
             * DDM   ***** Preserved *****
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728          KK   D340A
729          KM        DIVERT FLOW INTO ONLINE  DETENTION BASIN
730          KM   DETENTION/RETENTION BASINS LOCATED WITHIN THREE SUBDIVISIONS
731          KM   GRANDVIEW ESTATES    BOULDER MOUNTAIN & 33% OF MESA HIGHLANDS
732          KM        MAXIMUM VOLUME DIVERSION = 45.0 acre-feet
             * KO     1
733          DT  BS340A      45
734          DI       0   10000
735          DQ       0   10000
             * DDM   ***** Preserved *****

736          KK  RT340A
737          KM   RETRIEVE FLOW FROM DIVERSION INTO ONLINE BASIN
738          DR  BS340A
             * DDM   ***** Preserved *****

739          KK   S340A
740          KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
741          KM    45.0 ACRE-FEETx43560/36x3600=15.2cfs
             *      1
742          RS       1    STOR       0
743          SV       0     .01      45      50
744          SQ       0     3.0    15.2      16
             *
             * DDM   ***** Preserved *****

745          KK   C340A
746          KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
747          HC       3
             *
             * DDM   ***** Preserved *****

748          KK    C340
749          KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
750          HC       2
             *
             * ADD ROUTING ALONG SPOOK HILL FRS
             * DDM   ***** Preserved *****
             * KK  R340
             * KM ROUTE FLOW THROUGH SPOOK HILL FRS FROM JUNCTION OF BROWN & ELLSWORTH ROAD
             * KM TO JUST NORTH OF JUNCTION OF MCDOWELL & POWER RD.
             * RS     5    FLOW      -1
             * RC  .035    .035    .035    2300   .0007
             * RX     0       9      50      68     233     241     307     315
             * RY   100      97      97      91      91      97      97     100
             *      0       9      50      68     308     326     367     376
             *    100      97      97      91      91      97      97     100
             * DDM   ***** Updated *****
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LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

751          KK    355A
752          KM   SUB-BASIN 355A
753          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
754          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .999
755          KM     L =  .80  Kb = .052  Adj. Slope =  125.0
756          BA    .163
757          LG    .320    .290   4.550    .360  14.000
758          UC    .308    .236
759          UA       0       5      16      30      65      77      84      90      94      97
760          UA     100
             * DDM   ***** Preserved *****

761          KK   R355A
762          KM   CHANNEL GEOMETRY OBTAINED FROM 2' CONTOUR MAPPING.
763          KM   ROUTING OF FLOW FROM SUB-BASIN 355A TO SUB-BASIN 360
764          RS       9    FLOW      -1
765          RC    .045    .035    .045   10100    .026
766          RX       0       1      40      46      56      62     102     103
767          RY       3       2       2       0       0       2       2       3
             * DDM   ***** Updated *****

768          KK     360
769          KM   SUB-BASIN 360
770          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
771          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .995
772          KM     L = 2.10  Kb = .046  Adj. Slope =  124.0
773          BA    .880
774          LG    .280    .290   4.100    .520  15.000
775          UC    .571    .387
776          UA       0       5      16      30      65      77      84      90      94      97
777          UA     100
             * DDM   ***** Preserved *****

778          KK    D360
779          KM        DIVERT FLOW INTO ONLINE  DETENTION BASIN
780          KM   DETENTION/RETENTION BASINS LOCATED WITHIN 33% OF MESA HIGHLANDS
781          KM        MAXIMUM VOLUME DIVERSION = 28.6 acre-feet
             *      1
782          DT   BS360    28.6
783          DI       0   10000
784          DQ       0   10000
             * DDM   ***** Preserved *****

785          KK   RT360
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786          KM   RETRIEVE FLOW FROM DIVERSION INTO ONLINE BASIN
787          DR   BS360
             * DDM   ***** Preserved *****

788          KK    S360
789          KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
790          KM    28.6 ACRE-FEETx43560/36x3600=9.6cfs
791          RS       1    STOR       0
792          SV       0     .01    28.6
793          SQ       0     3.0     9.6
             * DDM   ***** Preserved *****
1                                        HEC-1 INPUT                                                    PAGE 21

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

794          KK    C360
795          KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
796          HC       4
             * ADD ROUTING ALONG SPOOK HILL FRS
             * DDM   ***** Preserved *****
             * KK  R360
             * KM ROUTE FLOW THROUGH SPOOK HILL FRS FROM JUNCTION OF BROWN & ELLSWORTH ROAD
             * KM TO JUST NORTH OF JUNCTION OF MCDOWELL & POWER RD.
             * RS      6    FLOW      -1
             * RC   .035    .035    .035    2600    .0007
             * RX      0       9      50      68     268     286     337     345
             * RY    100      97      97      91      91      97      97     100
             *       0       9      50      68     308     326     367     376
             *     100      97      97      91      91      97      97     100
             *
             * DDM   ***** Updated *****

797          KK    380A
798          KM   SUB-BASIN 380A
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  .998
801          KM     L =  .66  Kb = .076  Adj. Slope =   91.0
802          BA    .261
803          LG    .170    .250   4.100    .710  21.000
804          UC    .425    .221
805          UA       0       3       5       8      12      20      43      75      90      96
806          UA     100
             *
             * DDM   ***** Preserved *****

807          KK   C380A
808          KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
809          HC       2
             *
             * DDM   ***** Updated *****

810          KK    400A
811          KM   SUB-BASIN 400A
812          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
813          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF 1.000
814          KM     L =  .28  Kb = .094  Adj. Slope =   71.0
815          BA    .048
816          LG    .250    .290   4.000    .640    .000
817          UC    .317    .211
818          UA       0       3       5       8      12      20      43      75      90      96
819          UA     100
             *
             * DDM   ***** Preserved *****
1                                        HEC-1 INPUT                                                    PAGE 22

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

820          KK   C400A
821          KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
822          HC       2
             *
             * DDM   ***** Updated *****

823          KK    380B
824          KM   SUB-BASIN 380B
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  .996
827          KM     L = 1.80  Kb = .044  Adj. Slope =  122.0
828          BA    .637
829          LG    .340    .330   4.200    .440   4.000
830          UC    .504    .358
831          UA       0       5      16      30      65      77      84      90      94      97
832          UA     100
             *
             * DDM   ***** Preserved *****

833          KK   D380B
834          KM        DIVERT FLOW INTO ONLINE  DETENTION BASIN
835          KM   DETENTION/RETENTION BASINS LOCATED WITHIN 33% OF MESA HIGHLANDS
836          KM        MAXIMUM VOLUME DIVERSION = 28.6 acre-feet
             *      1
837          DT  BS380B    28.6
838          DI       0   10000
839          DQ       0   10000
             * DDM   ***** Preserved *****
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```
 840          KK  RT380B
 841          KM   RETRIEVE FLOW FROM DIVERSION INTO ONLINE BASIN
 842          DR  BS380B
              * DDM   ***** Preserved *****

 843          KK   S380B
 844          KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
 845          KM    28.6 ACRE-FEETx43560/36x3600=9.6cfs
 846          RS       1    STOR       0
 847          SV       0     .01    28.6
 848          SQ       0     3.0     9.6
              * DDM   ***** Preserved *****

 849          KK   C380B
 850          KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
              * KO     1
 851          HC       2
              *
              * DDM   ***** Preserved *****
1                                        HEC-1 INPUT                                                    PAGE 23

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

 852          KK   R380B
 853          KM   CHANNEL GEOMETRY OBTAINED FROM 2' CONTOUR MAPPING.
 854          KM   ROUTING OF FLOW FROM SUB-BASINS 370 AND 395 TO SUB-BASIN 380.
 855          RS       4    FLOW      -1
 856          RC    .045    .035    .045    2600    .023
 857          RX       0       1      40      46      56      62     102     103
 858          RY       3       2       2       0       0       2       2       3
              *
              *
              * DDM   ***** Updated *****

 859          KK    400B
 860          KM   SUB-BASIN 400B
 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  .997
 863          KM     L = 1.64  Kb = .045  Adj. Slope =  110.0
 864          BA    .568
 865          LG    .330    .300   4.150    .480   7.000
 866          UC    .500    .352
 867          UA       0       5      16      30      65      77      84      90      94      97
 868          UA     100
              *
              * DDM   ***** Preserved *****

 869          KK   D400B
 870          KM        DIVERT FLOW INTO ONLINE  DETENTION BASIN
 871          KM   DETENTION/RETENTION BASIN LOCATED WITHIN SAGUARO VISTA SUBDIVISION
 872          KM        MAXIMUM VOLUME DIVERSION = 5.6 ACRE-FEET
              *      1
 873          DT  BS400B     5.6
 874          DI       0   10000
 875          DQ       0   10000
              * DDM   ***** Preserved *****

 876          KK  RT400B
 877          KM   RETRIEVE FLOW FROM DIVERSION INTO ONLINE BASIN
 878          DR  BS400B
              * DDM   ***** Preserved *****

 879          KK   S400B
 880          KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
 881          KM     5.6 ACRE-FEETx43560/36x3600 = 2 cfs
 882          RS       1    STOR       0
 883          SV       0     .01     5.6
 884          SQ       0       1       2
              * DDM   ***** Preserved *****

 885          KK   C400B
 886          KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
 887          HC       2
              * DDM   ***** Preserved *****
1                                        HEC-1 INPUT                                                    PAGE 24

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

 888          KK  CC400B
 889          KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
 890          HC       3
              *
              * DDM   ***** Updated *****

 891          KK    420A
 892          KM   SUB-BASIN 420A
 893          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
 894          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .997
 895          KM     L = 1.91  Kb = .045  Adj. Slope =  120.0
 896          BA    .570
 897          LG    .320    .280   4.350    .440  10.000
 898          UC    .521    .415
 899          UA       0       5      16      30      65      77      84      90      94      97
 900          UA     100
              * DDM   ***** Preserved *****
```

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901          KK   D420A
902          KM        DIVERT FLOW INTO ONLINE  DETENTION BASIN
903          KM   DETENTION/RETENTION BASINS LOCATED WITHIN GRAY FOX SUBDIVISION
904          KM        MAXIMUM VOLUME DIVERSION = 8.65 acre-feet
             *      1
905          DT  BS420A    8.65
906          DI       0   10000
907          DQ       0   10000
             * DDM   ***** Preserved *****

908          KK  RT420A
909          KM   RETRIEVE FLOW FROM DIVERSION INTO ONLINE BASIN
910          DR  BS420A
             * DDM   ***** Preserved *****

911          KK   S420A
912          KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
913          KM   38.55 ACRE-FEETx43560/36x3600=13cfs
914          RS       1    STOR       0
915          SV       0     .01   38.55
916          SQ       0      13      13
             * DDM   ***** Preserved *****

917          KK   C420A
918          KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
919          HC       3
             *

920          KK    370A
921          KM   SUB-BASIN 370A
922          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
923          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .998
924          KM     L = 1.04  Kb = .047  Adj. Slope =  163.0
925          BA    .408
926          LG    .330    .300   4.650    .350  11.000
927          UC    .308    .172
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LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

928          UA       0       5      16      30      65      77      84      90      94      97
929          UA     100
             * DDM   ***** Updated *****

930          KK    395A
931          KM   SUB-BASIN 395A
932          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
933          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .999
934          KM     L = 1.14  Kb = .052  Adj. Slope =  165.0
935          BA    .182
936          LG    .330    .320   5.000    .290  10.000
937          UC    .346    .334
938          UA       0       5      16      30      65      77      84      90      94      97
939          UA     100
             * DDM   ***** Preserved *****

940          KK   C370A
941          KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
942          HC       2
             * DDM   ***** Preserved *****

943          KK    D370
944          KM   DIVERT FLOW INTO OFFLINE DETENTION BASIN LOCATED WITHIN SUB-BASINS
945          KM   370 AND 395.
             * KO      1
946          DT   BS370
947          DI       0     140    5000
948          DQ       0       0    4860
             * DDM   ***** Preserved *****

949          KK   RT370
950          KM   RETRIEVE FLOW FROM DIVERSION
951          DR   BS370
             * DDM   ***** Preserved *****

952          KK    S370
953          KM   RETRIEVE FLOW INTO OFFLINE BASIN AND BLEED OFF WITHIN 36 HOURS.
954          KM      30 ACRE-FEETx43560/36x3600 = 10cfs
955          RS       1    STOR       0
956          SV       0     .01      34      40
957          SQ       0       4      10      12
             * DDM   ***** Preserved *****

958          KK   CC370
959          KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
960          HC       2
             * DDM   ***** Preserved *****

961          KK    R370
962          KM   CHANNEL GEOMETRY OBTAINED FROM 2' CONTOUR MAPPING.
963          KM   ROUTING OF FLOW FROM SUB-BASINS 370 AND 395 TO SUB-BASIN 380.
964          RS       4    FLOW      -1
965          RC    .045    .035    .045    2600    .023
966          RX       0       1      40      46      56      62     102     103
967          RY       3       2       2       0       0       2       2       3
             * DDM   ***** Updated *****
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 968          KK     390
 969          KM   SUB-BASIN 390
 970          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
 971          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .999
 972          KM     L =  .70  Kb = .050  Adj. Slope =  299.4
 973          BA    .244
 974          LG    .300    .250   4.700    .380  18.000
 975          UC    .204    .107
 976          UA       0       5      16      30      65      77      84      90      94      97
 977          UA     100
              * DDM   ***** Preserved *****

 978          KK    D390
 979          KM        DIVERT FLOW INTO ONLINE  DETENTION BASIN
 980          KM   DETENTION/RETENTION BASINS LOCATED WITHIN THUNDER MOUNTAIN ESTATES
 981          KM        MAXIMUM VOLUME DIVERSION  = 3.5 acre-feet
              *      1
 982          DT   BS390     3.5
 983          DI       0   10000
 984          DQ       0   10000
              * DDM   ***** Preserved *****

 985          KK   RT390
 986          KM   RETRIEVE FLOW FROM DIVERSION INTO ONLINE BASIN
 987          DR   BS390
              * DDM   ***** Preserved *****

 988          KK    S390
 989          KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
 990          KM     3.5 ACRE-FEETx43560/36x3600=1.2cfs
 991          RS       1    STOR       0
 992          SV       0     .01     3.5
 993          SQ       0     1.2     1.2
              * DDM   ***** Preserved *****

 994          KK    C390
 995          KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
 996          HC       3
              * DDM   ***** Preserved *****

 997          KK    R390
 998          KM   CHANNEL GEOMETRY OBTAINED FROM 2' CONTOUR MAPPING.
 999          KM   FROM SUB-BASIN 390 TO SUB-BASIN 420B
1000          RS       7    FLOW      -1
1001          RC    .045    .045    .045    5500    .020
1002          RX       0       1      40      46      56      62     102     103
1003          RY       3       2       2       0       0       2       2       3
              * DDM   ***** Updated *****
1                                    HEC-1 INPUT                                          PAGE 27

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

1004          KK    420B
1005          KM   SUB-BASIN 420B
1006          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1007          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .998
1008          KM     L = 1.00  Kb = .049  Adj. Slope =  150.0
1009          BA    .279
1010          LG    .300    .250   3.910    .590  15.000
1011          UC    .333    .226
1012          UA       0       5      16      30      65      77      84      90      94      97
1013          UA     100
              * DDM   ***** Preserved *****

1014          KK   C420B
1015          KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
1016          HC       2
              *
              * DDM   ***** Updated *****

1017          KK    385A
1018          KM   SUB-BASIN 385A
1019          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1020          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .999
1021          KM     L =  .90  Kb = .051  Adj. Slope =  309.5
1022          BA    .213
1023          LG    .340    .320   4.900    .300   9.000
1024          UC    .233    .163
1025          UA       0       5      16      30      65      77      84      90      94      97
1026          UA     100
              *
              * DDM   ***** Updated *****

1027          KK    415C
1028          KM   SUB-BASIN 415C
1029          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1030          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .998
1031          KM     L = 1.59  Kb = .048  Adj. Slope =  315.0
1032          BA    .329
1033          LG    .340    .340   5.300    .240  14.000
1034          UC    .308    .274
1035          UA       0       5      16      30      65      77      84      90      94      97
1036          UA     100
              * DDM   ***** Preserved *****
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1037          KK   C415C
1038          KM   HYDROGRAPH COMBINATION OF 415 DIVERSION.
              * KO      1
1039          HC        2
              * DDM   ***** Preserved *****
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1040          KK   D415C
1041          KM   DIVERT FLOW INTO OFFLINE DETENTION BASIN
1042          KM   MAXIMUM STORAGE VOLUME FOR DIVERSION = 15 AC-FT @ 5' DEPTH.
              * KO      1
1043          DT  BS415C
1044          DI        0     190    5000
1045          DQ        0       0    4810
              * DDM   ***** Preserved *****

1046          KK  RT415C
1047          KM   RETRIEVE FLOW FROM DIVERSION INTO OFFLINE BASIN
1048          DR  BS415C
              * DDM   ***** Preserved *****

1049          KK   S415C
1050          KM   RETRIEVE FLOW INTO OFFLINE BASIN AND BLEED OFF WITHIN 36 HOURS.
1051          KM      32 ACRE-FEETx43560/36x3600 = 10cfs
1052          RS        1    STOR       0
1053          SV        0     .01      32      40
1054          SQ        0       5      10      12
              * DDM   ***** Preserved *****

1055          KK  CC415C
1056          KM   HYDROGRAPH COMBINATION OF 415 DIVERSION.
1057          HC        2
              * DDM   ***** Preserved *****

1058          KK   R415C
1059          KM   CHANNEL GEOMETRY OBTAINED FROM 2' CONTOUR MAPPING.
1060          KM   ROUTING OF FLOW FROM 415C TO 415B
1061          RS        4    FLOW      -1
1062          RC     .045     .03    .045    2500    .024
1063          RX        0       1      40      46      56      62     102     103
1064          RY        3       2       2       0       0       2       2       3
              * DDM   ***** Updated *****

1065          KK    415B
1066          KM   SUB-BASIN 415B
1067          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1068          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF 1.000
1069          KM     L =  .53  Kb = .058  Adj. Slope =  151.0
1070          BA    .063
1071          LG    .300    .250   4.100    .550  15.000
1072          UC    .242    .223
1073          UA       0       5      16      30      65      77      84      90      94      97
1074          UA     100
              * DDM   ***** Preserved *****

1075          KK   C415B
1076          KM   HYDROGRAPH COMBINATION OF SUB-BASINS 385, 415C, AND 415B.
1077          HC        2
              * DDM   ***** Preserved *****
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1078          KK   R415B
1079          KM   CHANNEL GEOMETRY OBTAINED FROM 2' CONTOUR MAPPING.
1080          KM   ROUTING OF FLOW FROM R415C AND SUB BASIN 415B
1081          RS        4    FLOW      -1
1082          RC     .045    .035    .045    2900    .021
1083          RX        0       1      40      46      56      62     102     103
1084          RY        4       2       2       0       0       2       2       4
              *
              * DDM   ***** Updated *****

1085          KK     440
1086          KM   SUB-BASIN 440
1087          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1088          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF 1.000
1089          KM     L =  .40  Kb = .039  Adj. Slope =  315.0
1090          BA    .080
1091          LG    .190    .380   6.400    .140  13.000
1092          UC    .129    .077
1093          UA       0       3       5       8      12      20      43      75      90      96
1094          UA     100
              * DDM   ***** Preserved *****

1095          KK     R70
1096          KM   ROUTE FLOW FROM SUB-BASIN 440 TO C108
1097          RS        2    FLOW      -1
1098          RC      .05    .035     .05    2250     .08
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 *****
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1101          KK     441
1102          KM   SUB-BASIN 441
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 1.000
1105          KM     L =  .28  Kb = .069  Adj. Slope =  315.0
1106          BA    .010
1107          LG    .300    .250   5.600    .220   5.000
1108          UC    .150    .225
1109          UA       0       5      16      30      65      77      84      90      94      97
1110          UA     100
              * DDM   ***** Preserved *****

1111          KK    C108
1112          KM   COMBINE HYDROGRAPHS FROM SUB-BASINS 440 & 441
1113          HC       2
              * DDM   ***** Preserved *****

1114          KK      D4
1115          KM        SPLIT FLOW WITH TWO 42 INCH PIPES TO WEST AND SOUTH
              *       1
1116          DT   SPLIT
1117          DI       0      14      40      82     120     154     180
1118          DQ       0       7      20      41      60      77      90
              * DDM   ***** Preserved *****
1                                        HEC-1 INPUT                                                    PAGE 30

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


1119          KK    R108
1120          KM        ROUTE FLOW FROM SUB-BASIN C108 TO C67
1121          RS       2    FLOW      -1
1122          RC     .05    .035     .05    3200      .1
1123          RX    1000    1025    1050    1070    1075    1095    1120    1145
1124          RY      30    22.9    15.7      10      10    15.7    22.9      30
              * DDM   ***** Updated *****

1125          KK     442
1126          KM   SUB-BASIN 442
1127          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1128          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .999
1129          KM     L =  .83  Kb = .055  Adj. Slope =  274.2
1130          BA    .100
1131          LG    .300    .270   3.290    .770   5.000
1132          UC    .258    .264
1133          UA       0       5      16      30      65      77      84      90      94      97
1134          UA     100
              * DDM   ***** Preserved *****

1135          KK     C67
1136          KM   COMBINE FLOW FROM SUB-BASIN 442 & DIV4
1137          HC       2
              * DDM   ***** Preserved *****

1138          KK      D6
1139          KM        OFFLINE BASIN WITH 25 FOOT WEIR SET AT 2.5 FEET ABOVE BOTTOM OF CHANNEL
1140          KM        FLOW CONTINUES BEYOND BASIN THROUGH 2-30" PIPES
              *       1
1141          DT  BASIN4     3.3
1142          DI       0      10      32      44    79.9   132.5     198   272.9   356.8
1143          DQ       0       0       0       0    23.9    67.5     124   190.9   266.8
              * DDM   ***** Preserved *****

1144          KK    RTD6
1145          KM   RETRIEVE FLOW FROM DIVERSION INTO OFFLINE BASIN
1146          DR  BASIN4
              * DDM   ***** Preserved *****

1147          KK     SD6
1148          KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
1149          KM     3.3 ACRE-FEETx43560/36x3600=1.1cfs
              *       1
1150          RS       1    STOR       0
1151          SV       0     .01     3.3
1152          SQ       0     0.2     1.1
              * DDM   ***** Preserved *****

1153          KK     CD6
1154          KM   HYDROGRAPH COMBINATION FOR OFFLINE BASIN BLEEDOFF
1155          HC       2
              * DDM   ***** Updated *****
1                                        HEC-1 INPUT                                                    PAGE 31

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


1156          KK     443
1157          KM   SUB-BASIN 443
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 1.000
1160          KM     L =  .71  Kb = .050  Adj. Slope =  315.0
1161          BA    .080
1162          LG    .250    .190   8.000    .080  10.000
1163          UC    .196    .194
1164          UA       0       5      16      30      65      77      84      90      94      97
1165          UA     100
              * DDM   ***** Preserved *****
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1166          KK     D66
1167          KM        DIVERT FLOW INTO 3 NATURAL WASHES WITH ONE 24" PIPE IN EACH WASH.
1168          KM        EACH PIPE CAPACITY BASED ON 4 FEET OF HEAD
1169          DT   WSH66
1170          DI       0      78     100     200
1171          DQ       0      78      78      78
              * DDM   ***** Preserved *****

1172          KK    R113
1173          KM        ROUTE FLOW FROM C113 TO C114
1174          RS       1    FLOW      -1
1175          RC    .019    .019    .019    1300    .029
1176          RX    1000    1004    1008    1012    1018    1022    1026    1030
1177          RY      17   15.33   12.67      10      10   12.67   15.33      17
              * DDM   ***** Preserved *****

1178          KK    C114
1179          KM        COMBINE HYDROGRAPHS FROM SUB-BASIN 67 AND C113
1180          HC       2
              * DDM   ***** Updated *****

1181          KK     444
1182          KM   SUB-BASIN 444
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 =  .33  Kb = .034  Adj. Slope =  315.0
1186          BA    .040
1187          LG    .130    .350   4.450    .320   1.000
1188          UC    .112    .084
1189          UA       0       3       5       8      12      20      43      75      90      96
1190          UA     100
              * DDM   ***** Preserved *****

1191          KK     R58
1192          KM   ROUTE FLOW FROM SUB-BASIN 444 TO C107
1193          RS       2    FLOW      -1
1194          RC     .05    .035     .05    2370   .0516
1195          RX    1000    1010    1020    1050    1055    1085    1095    1105
1196          RY      19      18      17      10      10      17      18      19
              * DDM   ***** Updated *****
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1197          KK     445
1198          KM   SUB-BASIN 445
1199          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1200          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .999
1201          KM     L =  .82  Kb = .036  Adj. Slope =  315.0
1202          BA    .190
1203          LG    .170    .320   3.470    .590   3.000
1204          UC    .192    .130
1205          UA       0       5      16      30      65      77      84      90      94      97
1206          UA     100
              * DDM   ***** Preserved *****

1207          KK    C107
1208          KM   COMBINE HYDROGRAPHS FROM SUB-BASINS 444 & 445
1209          HC       2
              * DDM   ***** Preserved *****

1210          KK    R107
1211          KM        ROUTE FLOW FROM C107 TO C109
1212          RS       2    FLOW      -1
1213          RC     .05    .035     .05     700   .0516
1214          RX    1000    1010    1020    1050    1055    1085    1095    1105
1215          RY      19      18      17      10      10      17      18      19
              * DDM   ***** Preserved *****

1216          KK    RTB2
1217          KM        RETRIEVE DIVERTED FLOW FROM BASIN 1
              *      1
1218          DR   SPLIT
              * DDM   ***** Preserved *****

1219          KK  RSPLIT
1220          KM        ROUTE FLOW FROM SPLIT TO C109
1221          RS       1    FLOW      -1
1222          RC     .05    .035     .05     800     .05
1223          RX    1000    1025    1050    1070    1075    1095    1120    1145
1224          RY      30    22.9    15.7      10      10    15.7    22.9      30
              * DDM   ***** Updated *****

1225          KK     446
1226          KM   SUB-BASIN 446
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 =  .46  Kb = .061  Adj. Slope =  303.9
1230          BA    .040
1231          LG    .270    .250   4.500    .400  19.000
1232          UC    .183    .189
1233          UA       0       5      16      30      65      77      84      90      94      97
1234          UA     100
              * DDM   ***** Preserved *****
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10
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1235          KK    C109
1236          KM        COMBINE HYDROGRAPHS FROM COMBINES C107 AND C108
1237          HC       3
              * DDM   ***** Preserved *****

1238          KK      D5
1239          KM        DIVERT FLOW INTO WASHES TOWARDS WEST
1240          KM        DIVERSION THROUGH 36" PIPE WITH 3 FEET OF HEAD
              *      1
1241          DT  WSH404
1242          DI       0    40.7    71.2   121.6     190     276   379.4   500.6
1243          DQ       0      35      35      35      35      35      35      35
              * DDM   ***** Preserved *****

1244          KK    R109
1245          KM        ROUTE FLOW FROM C109 TO C110
1246          RS       1    FLOW      -1
1247          RC    .019    .019    .019    3080     .05
1248          RX    1000    1005    1010    1015    1025    1030    1035    1040
1249          RY   13.75    12.5   11.25      10      10   11.25    12.5   13.75
              * DDM   ***** Updated *****

1250          KK     447
1251          KM   SUB-BASIN 447
1252          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1253          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .999
1254          KM     L =  .49  Kb = .056  Adj. Slope =  221.0
1255          BA    .090
1256          LG    .250    .270   3.350    .870  30.000
1257          UC    .208    .145
1258          UA       0       5      16      30      65      77      84      90      94      97
1259          UA     100
              * DDM   ***** Preserved *****

1260          KK   RT404
1261          KM        RETRIEVE DIVERTED FLOW FOR WASH 109
1262          DR  WSH404
              * DDM   ***** Preserved *****

1263          KK    R404
1264          KM        ROUTE FLOW FROM C110 TO C110
1265          RS       6    FLOW      -1
1266          RC    .019    .019    .019    3540     .03
1267          RX    1000    1012    1016    1020    1025    1029    1033    1045
1268          RY      15      12      11      10      10      11      12      15
              * DDM   ***** Preserved *****

1269          KK    C110
1270          KM   COMBINE HYDROGRAPHS FROM SUB-BASIN 447 AND R404
1271          HC       3
              * DDM   ***** Preserved *****
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1272          KK    R110
1273          KM        ROUTE FLOW FROM C110 TO C115
1274          RS       1    FLOW      -1
1275          RC    .019    .019    .019     580   .0291
1276          RX    1000    1012    1016    1020    1035    1039    1043    1055
1277          RY      15      12      11      10      10      11      12      15
              * DDM   ***** Preserved *****

1278          KK    C115
1279          KM        COMBINE HYDROGRAPHS FROM C114 AND C110
1280          HC       2
              * DDM   ***** Preserved *****

1281          KK    R115
              * ******OUTFLOW FROM THIS ROUTING IS GREATER THAN INFLOW TO THE
              * ******ROUTING BY 2cfs.  THIS IS NOTED BUT LEFT UNCHANGED WITHIN THE MODEL
1282          KM        ROUTE FLOW FROM C115 TO Sub 453
1283          RS       1    FLOW      -1
1284          RC    .019    .019    .019    2125    .029
1285          RX    1000    1012    1016    1020    1035    1039    1043    1055
1286          RY      15      12      11      10      10      11      12      15
              * DDM   ***** Updated *****

1287          KK     448
1288          KM   SUB-BASIN 448
1289          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1290          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF 1.000
1291          KM     L =  .36  Kb = .042  Adj. Slope =  315.0
1292          BA    .045
1293          LG    .170    .310   4.200    .390  11.000
1294          UC    .133    .102
1295          UA       0       5      16      30      65      77      84      90      94      97
1296          UA     100
              * DDM   ***** Updated *****

1297          KK     449
1298          KM   SUB-BASIN 449
1299          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1300          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF 1.000
1301          KM     L =  .40  Kb = .054  Adj. Slope =  315.0
1302          BA    .050
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1303          LG    .260    .280   3.500    .640   6.000
1304          UC    .167    .134
1305          UA       0       5      16      30      65      77      84      90      94      97
1306          UA     100
              * DDM   ***** Preserved *****

1307          KK   C6364
1308          KM   COMBINE HYDROGRAPHS FROM SUB-BASINS 448 & 449
1309          HC       2
              * DDM   ***** Preserved *****
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1310          KK   R6364
1311          KM   ROUTE FLOW FROM C116 AND SUB-BASINS 448 AND 449
1312          RS       5    FLOW      -1
1313          RC     .05    .035     .05    4375   .0333
1314          RX    1000    1027    1053    1080    1090    1117    1143    1170
1315          RY      15   13.33   11.67      10      10   11.67   13.33      15
              * DDM   ***** Updated *****

1316          KK     450
1317          KM   SUB-BASIN 450
1318          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1319          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF 1.000
1320          KM     L =  .85  Kb = .057  Adj. Slope =  210.5
1321          BA    .070
1322          LG    .340    .350   3.630    .570   4.000
1323          UC    .296    .383
1324          UA       0       3       5       8      12      20      43      75      90      96
1325          UA     100
              * DDM   ***** Updated *****

1326          KK     451
1327          KM   SUB-BASIN 451
1328          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1329          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF 1.000
1330          KM     L =  .57  Kb = .063  Adj. Slope =  175.0
1331          BA    .025
1332          LG    .340    .340   3.290    .750   3.000
1333          UC    .271    .453
1334          UA       0       3       5       8      12      20      43      75      90      96
1335          UA     100
              * DDM   ***** Preserved *****

1336          KK    C451
1337          KM   COMBINE HYDROGRAPHS FROM SUB-BASINS 450 & 451
1338          HC       2
              * DDM   ***** Preserved *****

1339          KK    RT66
1340          KM        RETRIEVE DIVERTED FLOW FROM SUB-BASIN 66
1341          DR   WSH66
              * DDM   ***** Updated *****

1342          KK     452
1343          KM   SUB-BASIN 452
1344          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1345          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF 1.000
1346          KM     L =  .43  Kb = .055  Adj. Slope =  315.0
1347          BA    .040
1348          LG    .260    .280   3.700    .550   9.000
1349          UC    .171    .166
1350          UA       0       5      16      30      65      77      84      90      94      97
1351          UA     100
              * DDM   ***** Preserved *****
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1352          KK   C6465
1353          KM   COMBINE HYDROGRAPHS FROM SUB-BASINS 443 AND 452
1354          HC       2
              * DDM   ***** Preserved *****

1355          KK   R6566
1356          KM        ROUTE FLOW FROM DIVERSIONS 65 AND 66 TO C116
1357          RS       3    FLOW      -1
1358          RC     .05    .035     .05    2435   .0282
1359          RX    1000    1045    1090    1150    1160    1220    1265    1310
1360          RY      25      23      20      10      10      20      23      25
              * DDM   ***** Preserved *****

1361          KK    C116
1362          KM   COMBINE HYDROGRAPHS FROM SUB-BASINS 450 & 451 AND R6364 & R6465
1363          HC       3
              * DDM   ***** Preserved *****

1364          KK  BASIN5
1365          KM        RESERVOIR WITHIN PARCEL 31      2-48 INCH PIPES AT OUTFALL
1366          KM        BASIN 5 FEET DEEP
1367          RS       1    ELEV       0
1368          SV       0     4.5     9.9
1369          SQ       0      69     190
1370          SE       0     2.5       5
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            * DDM   ***** Preserved *****

1371        KK    R116
1372        KM   ROUTE FLOW FROM C116 TO C117
1373        RS       2    FLOW      -1
1374        RC     .05     .035     .05    1300    .0333
1375        RX    1000     1100    1200    1300    1320    1420    1520    1620
1376        RY      13       12      11      10      10      11      12      13
            * DDM   ***** Updated *****

1377        KK     453
1378        KM   SUB-BASIN 453
1379        KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1380        KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF 1.000
1381        KM     L =  .58  Kb = .058  Adj. Slope =  138.0
1382        BA    .060
1383        LG    .290     .300   3.290    .820  18.000
1384        UC    .275     .284
1385        UA       0        5      16      30      65      77      84      90      94      97
1386        UA     100
            * DDM   ***** Preserved *****

1387        KK    C117
1388        KM   COMBINE HYDROGRAPHS FROM SUB-BASIN 453 AND R116
1389        HC       2
            * DDM   ***** Preserved *****
1                                   HEC-1 INPUT                                          PAGE 37

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

1390        KK    C118
1391        KM   COMBINE HYDROGRAPHS FROM R115 AND C117
1392        HC       2
            * DDM   ***** Preserved *****

1393        KK    R118
1394        KM        ROUTE FLOW FROM C118 TO  DIV7
            * KO     1
1395        RS       1    FLOW      -1
1396        RC    .019     .019    .019    1500    .024
1397        RX    1000     1012    1016    1020    1035    1039    1043    1055
1398        RY      15       12      11      10      10      11      12      15
            * DDM   ***** Preserved *****

1399        KK      D7
1400        KM        OFFLINE BASIN AT NORTH MOUNTAIN RIDGE   FLOWS ENTER BASIN OVER
1401        KM        30' WEIR SET AT 5.3' ABOVE THE CHANNEL BOTTOM, Vol = 3.6 A-F
            * KO     1
1402        DT  BASIN6
1403        DI       0      363     487     563     645     900
1404        DQ       0        2      10      15      25     260
            * DDM   ***** Preserved *****

1405        KK    RTD7
1406        KM   RETRIEVE FLOW FROM DIVERSION INTO OFFLINE BASIN
1407        DR  BASIN6
            * DDM   ***** Preserved *****

1408        KK     SD7
1409        KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
1410        KM     3.6 ACRE-FEETx43560/36x3600=1.2cfs
1411        RS       1    STOR       0
1412        SV       0     .01     3.6     4.0
1413        SQ       0     0.2     1.2     1.5
            * DDM   ***** Preserved *****

1414        KK     CD7
1415        KM   HYDROGRAPH COMBINATION FOR OFFLINE BASIN BLEEDOFF
1416        HC       2
            * DDM   ***** Updated *****

1417        KK     454
1418        KM   SUB-BASIN 454
1419        KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1420        KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .999
1421        KM     L = 1.23  Kb = .051  Adj. Slope =  163.0
1422        BA    .180
1423        LG    .300     .310   3.780    .560  14.000
1424        UC    .379     .395
1425        UA       0        5      16      30      65      77      84      90      94      97
1426        UA     100
            * DDM   ***** Preserved *****
1                                   HEC-1 INPUT                                          PAGE 38

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

1427        KK    C119
1428        KM        COMBINE HYDROGRAPHS FROM SUB-BASIN 454 AND C119
            *      1       2
1429        HC       2
            *
            * DDM   ***** Preserved *****

1430        KK    C454
1431        KM        COMBINE HYDROGRAPHS FROM SUB-BASIN 415B AND C119
            *      1       2
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1432        HC       2
            * DDM   ***** Preserved *****

1433        KK    R454
1434        KM   CHANNEL GEOMETRY OBTAINED FROM 2' CONTOUR MAPPING.
1435        KM   ROUTE FLOW FROM C454 TO 415C
1436        RS       3    FLOW      -1
1437        RC    .045    .035    .045    2200    .009
1438        RX       0      .5       1      33      42      67    67.5      68
1439        RY       5       4       4       0       0       6       6       6
            *
            * DDM   ***** Updated *****

1440        KK    415A
1441        KM   SUB-BASIN 415A
1442        KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1443        KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .999
1444        KM     L = 1.09  Kb = .051  Adj. Slope =  138.0
1445        BA    .217
1446        LG    .300    .260   3.500    .780  15.000
1447        UC    .392    .335
1448        UA       0       5      16      30      65      77      84      90      94      97
1449        UA     100
            * DDM   ***** Preserved *****

1450        KK   C415A
1451        KM        COMBINE HYDROGRAPHS FROM R454, 415B, AND 420B
            * KO     1
1452        HC       3
            * DDM   ***** Preserved *****
            * KK D415A
            * KM DIVERT FLOW INTO OFFLINE DETENTION BASIN
            * KM MAXIMUM STORAGE VOLUME FOR DIVERSION = 15 AC-FT @ 5' DEPTH.
            * KO     1
            * DTBS415A
            * DI     0    1240    5000
            * DQ     0       0    3760
            * DDM   ***** Preserved *****
            * KKRT415A
            * KM RETRIEVE FLOW FROM DIVERSION INTO OFFLINE BASIN
            * DRBS415A
            * DDM   ***** Preserved *****
            * KK S415A
            * KM RETRIEVE FLOW INTO OFFLINE BASIN AND BLEED OFF WITHIN 36 HOURS.
            * KM    16 ACRE-FEETx43560/36x3600 = 5 cfs
            * RS     1    STOR       0
            * SV     0     .01      16      20
            * SQ     0       2       5       8
            * DDM   ***** Preserved *****
            * KKCC415A
            * KM HYDROGRAPH COMBINATION OF 415A DIVERSION.
            * HC     2
            * DDM   ***** Preserved *****
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LINE        ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1453        KK   R415A
1454        KM   CHANNEL GEOMETRY OBTAINED FROM 2' CONTOUR MAPPING.
1455        KM   ROUTING OF FLOW FROM C415A TO 455C
1456        RS       4    FLOW      -1
1457        RC    .045     .03    .045    4100    .024
1458        RX       0      .5       1       8      16      23    23.5      24
1459        RY       8       8       8       0       0       8       8       8
            *
            * DDM   ***** Updated *****

1460        KK     455
1461        KM   SUB-BASIN 455
1462        KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1463        KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .993
1464        KM     L = 1.70  Kb = .041  Adj. Slope =  146.0
1465        BA   1.111
1466        LG    .270    .280   3.700    .640  24.000
1467        UC    .421    .204
1468        UA       0       5      16      30      65      77      84      90      94      97
1469        UA     100
            * DDM   ***** Preserved *****

1470        KK    D455
1471        KM        DIVERT FLOW INTO ONLINE  DETENTION BASIN
1472        KM   DETENTION/RETENTION BASINS LOCATED WITHIN LAS SENDAS ADDENDUM III
1473        KM   FOR BASIN #: 30      34      43      47&58
1474        KM        MAXIMUM VOLUME DIVERSION = 74.1 acre-feet
            *     1
1475        DT   BS455    74.1
1476        DI       0   10000
1477        DQ       0   10000
            * DDM   ***** Preserved *****

1478        KK   RT455
1479        KM   RETRIEVE FLOW FROM DIVERSION INTO ONLINE BASIN
1480        DR   BS455
            * DDM   ***** Preserved *****

1481        KK    S455
1482        KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
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1483          KM    74.1 ACRE-FEETx43560/36x3600=25cfs
1484          RS       1    STOR       0
1485          SV       0     .01    74.1
1486          SQ       0     3.0      25
              * DDM   ***** Preserved *****

1487          KK    C455
1488          KM   HYDROGRAPH COMBINATION FOR SUB-BASIN 455 AND DIVERTED BASIN STORAGE OF 455
1489          HC       2
              * DDM   ***** Preserved *****
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1490          KK   CC455
1491          KM  HYDROGRAPH COMBINATION OF 420C, R415 AND C455
              * KO     1       2
1492          HC       3
              *

1493          KK    S440
1494          KM   SPOOK HILL FRS PLANS DATED 6/15/77
1495          KM   OUTLET PIPE=7'x7.5'RCBC; L=70 INLET INV.=1566; OUTLET INV.=1566
1496          KM   EMERGENCY SPILLWAY ELEV.=1582; PRINCIPLE SPILLWAY ELEV.=1577.5
1497          KM   STORAGE VOLUME BELOW PRINCIPLE SPILLWAY FOR SEDIMENT = 200 ACRE-FEET
              *  ESE = 1583.86 ft; PSE = 1579.36 ft; Sediment Vol. = 271 Ac-Ft.
1498          RS       1    STOR       0
1499          SV       0      81     363     533     719     925    1120    1399    1668  4051
1500          SQ       0       0      10     180     367     595     800    1231    2625 24500
1501          SE      76      78      80      81      82      83    83.9      85      86    92
              * DDM   ***** Preserved *****

1502          KK    R455
1503          KM   ROUTE FLOW FROM SPOOK HILL FRS TO SUB-BASIN 480
1504          RS      15    FLOW      -1
1505          RC    .035    .025    .035    7000   .0002
1506          RX       0       1       2      28      58      84      85      86
1507          RY    13.5    13.5    13.5       0       0    13.5    13.5    13.5
              * DDM   ***** Updated *****

1508          KK     480
1509          KM   SUB-BASIN 480
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  .996
1512          KM     L = 1.21  Kb = .042  Adj. Slope =  165.0
1513          BA    .731
1514          LG    .270    .270   3.580    .730  27.000
1515          UC    .325    .148
1516          UA       0       5      16      30      65      77      84      90      94      97
1517          UA     100
              * DDM   ***** Preserved *****

1518          KK    D480
1519          KM        DIVERT FLOW INTO ONLINE  DETENTION BASIN
1520          KM   DETENTION/RETENTION BASINS LOCATED WITHIN LAS SENDAS ADDENDUM III
1521          KM   FOR BASIN #: 18 & 26
1522          KM        MAXIMUM VOLUME DIVERSION = 16.5 acre-feet
              *      1
1523          DT   BS480    16.5
1524          DI       0   10000
1525          DQ       0   10000
              * DDM   ***** Preserved *****
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1526          KK   RT480
1527          KM   RETRIEVE FLOW FROM DIVERSION INTO ONLINE BASIN
1528          DR   BS480
              * DDM   ***** Preserved *****

1529          KK    S480
1530          KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
1531          KM    16.5 ACRE-FEETx43560/36x3600=5.5cfs
1532          RS       1    STOR       0
1533          SV       0     .01    16.5
1534          SQ       0     3.0     5.6
              * DDM   ***** Preserved *****

1535          KK    C480
1536          KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
1537          HC       2
              * DDM   ***** Preserved *****

1538          KK   CC480
1539          KM   HYDROGRAPH COMBINATION AT SUBBASIN 480
1540          HC       2   0.731
              * DDM   ***** Preserved *****

1541          KK    R480
1542          KM   ROUTE FLOW FROM SUB-BASIN 480 TO SUBBASIN 462
1543          RS       6    FLOW      -1
1544          RC    .035    .025    .035    2800   .0002
1545          RX       0       1       2      28      58      84      85      86
1546          RY    13.5    13.5    13.5       0       0    13.5    13.5    13.5
              * DDM   ***** Updated *****
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1547          KK     456
1548          KM   SUB-BASIN 456
1549          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1550          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .998
1551          KM     L =  .94  Kb = .045  Adj. Slope =  315.0
1552          BA    .260
1553          LG    .300     .380   5.600     .200  12.000
1554          UC    .217     .139
1555          UA       0        5      16       30       65       77       84       90       94       97
1556          UA     100
              * DDM   ***** Preserved *****

1557          KK      D1
1558          KM        DIVERT FLOW INTO OFFLINE DETENTION BASIN
1559          KM        WEIR FOR BASIN SET AT 4 FEET ABOVE CHANNEL BOTTOM
              *       1
1560          DT  BASIN1      4.0
1561          DI       0     11.1    127.9    234.4    577.7    789.9   1025.5   1280.9   1555.7
1562          DQ       0        0        0     47.7      248    381.8    533.6    701.5      884
              * DDM   ***** Preserved *****
1                                          HEC-1 INPUT                                                PAGE 42

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

1563          KK      D2
1564          KM        SPLIT OUT FLOW FOR WASHES THAT FLOW TO THE SOUTH FROM
1565          KM        WASHES THAT DRAIN TO THE WES, SOUTHERN WASHES FED BY 30" & 24" PIPE
1566          DT    WA30
1567          DI       0     11.1    127.9    189.6    329.7      408    491.9    579.4    671.7
1568          DQ       0     11.1     38.4     48.2       63     69.5       76       81       86
              * DDM   ***** Preserved *****

1569          KK    R456
1570          KM        ROUTE FLOW FROM SUB-BASIN 51 TO C101
1571          RS       2     FLOW      -1
1572          RC     .05     .035      .05     3800     .044
1573          RX    1000     1010     1020     1036     1041     1057     1067     1077
1574          RY   14.88    14.44       14       10       10       14    14.44    14.88
              * DDM   ***** Updated *****

1575          KK     457
1576          KM   SUB-BASIN 457
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  .999
1579          KM     L = 1.01  Kb = .045  Adj. Slope =  308.8
1580          BA    .190
1581          LG    .270     .330   3.950     .460   6.000
1582          UC    .237     .195
1583          UA       0        5      16       30       65       77       84       90       94       97
1584          UA     100
              * DDM   ***** Preserved *****

1585          KK    C101
1586          KM        COMBINE HYDROGRAPHS FROM SUB-BASINS 50 AND 51
1587          HC       2
              * DDM   ***** Preserved *****

1588          KK      D3
1589          KM        RESERVOIR AT THE EDGE OF THE PROPERTY   FLOW FROM CHANNEL
1590          KM        DIVERTED  INTO OFFLINE BASIN A 25' WEIR SET AT ELEVATION 1808 FT
              *       1
1591          DT  BASIN2      5.0
1592          DI       0       36       70      110      180    313.5      402    500.9
1593          DQ       0        0        0        0        0     67.5      124    190.9
              * DDM   ***** Preserved *****

1594          KK    RTD3
1595          KM   RETRIEVE FLOW FROM DIVERSION INTO OFFLINE BASIN
1596          DR  BASIN2
              * DDM   ***** Preserved *****

1597          KK     SD3
1598          KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
1599          KM     5.0 ACRE-FEETx43560/36x3600=1.7cfs
1600          RS       1     STOR       0
1601          SV       0      .01       5
1602          SQ       0      0.7     1.7
              * DDM   ***** Preserved *****
1                                          HEC-1 INPUT                                                PAGE 43

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

1603          KK     CD3
1604          KM   HYDROGRAPH COMBINATION FOR OFFLINE BASIN BLEEDOFF
1605          HC       2
              * DDM   ***** Preserved *****

1606          KK    R101
1607          KM        ROUTE FLOW FROM SUBBASIN C101 TO C103
1608          RS       1     FLOW      -1
1609          RC     .05     .035      .05     1450      .05
1610          RX    1000     1010     1020     1036     1041     1057     1067     1077
1611          RY      15     14.5       14       10       10       14     14.5       15
              * DDM   ***** Updated *****
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1612        KK     458
1613        KM   SUB-BASIN 458
1614        KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1615        KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .999
1616        KM     L =  .76  Kb = .048  Adj. Slope =  299.0
1617        BA    .190
1618        LG    .290    .330   5.800    .190   6.000
1619        UC    .204    .131
1620        UA       0       5      16      30      65      77      84      90      94      97
1621        UA     100
            * DDM   ***** Preserved *****

1622        KK    C103
1623        KM        COMBINE HYDROGRAPHS FROM SUB-BASIN 55 AND C101
1624        HC       2
            * DDM   ***** Preserved *****

1625        KK    R103
1626        KM        ROUTE FLOW FROM SUBBASIN C103 TO C106
1627        RS       1    FLOW      -1
1628        RC     .05    .035     .05     900     .03
1629        RX    1000    1010    1020    1030    1050    1060    1070    1080
1630        RY   13.16   12.83    12.5      10      10    12.5   12.83   13.16
            * DDM   ***** Preserved *****

1631        KK    RT30
1632        KM        RETRIEVE DIVERTED FLOW FOR WASH BELOW 30 INCH PIPE
1633        DR    WA30
            * DDM   ***** Preserved *****

1634        KK     R30
1635        KM        ROUTE FLOW FROM WASH DIVERSION TO COMBINE C52
1636        RS       1    FLOW      -1
1637        RC     .05    .035     .05    1630     .05
1638        RX    1000    1010    1020    1036    1041    1057    1067    1077
1639        RY      15    14.5      14      10      10      14    14.5      15
            * DDM   ***** Preserved *****
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LINE        ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1640        KK    RTB1
1641        KM        RETRIEVE DIVERTED FLOW FROM BASIN 1
            *      1       2
1642        DR  BASIN1
            * DDM   ***** Preserved *****

1643        KK      B1
1644        KM        ROUTE FLOW THROUGH OFFLINE DETENTION BASIN
1645        KM        FLOW OUTLETS THROUGH A 30 INCH OUTLET PIPE
            *      1       2
1646        RS       1    ELEV       0
1647        SV              .7     1.4     2.3     2.7     4.0
1648        SQ       0       5      16      28    32.5      37
1649        SE       0       1       2       3     3.5       4
            * DDM   ***** Preserved *****

1650        KK     RB1
1651        KM        ROUTE FLOW FROM BASIN DIVERSION TO COMBINE C52
1652        RS       3    FLOW      -1
1653        RC     .05    .035     .05    1720     .05
1654        RX    1000    1010    1020    1036    1041    1057    1067    1077
1655        RY      15    14.5      14      10      10      14    14.5      15
            * DDM   ***** Preserved *****

1656        KK    CDIV
1657        KM        COMBINE FLOWS FROM WA30 AND BASIN 1
1658        HC       2     .12
            * DDM   ***** Updated *****

1659        KK     459
1660        KM   SUB-BASIN 459
1661        KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1662        KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF 1.000
1663        KM     L =  .35  Kb = .052  Adj. Slope =  251.6
1664        BA    .030
1665        LG    .220    .300   3.330    .710   8.000
1666        UC    .162    .157
1667        UA       0       5      16      30      65      77      84      90      94      97
1668        UA     100
            * DDM   ***** Preserved *****

1669        KK     C52
1670        KM        COMBINE FLOWS FROM SUB-BASIN 52 WA30 AND BASIN 1
1671        HC       2
            * DDM   ***** Preserved *****

1672        KK     R52
1673        KM        ROUTE FLOW FROM SUBBASIN 52 TO C102
1674        RS       3    FLOW      -1
1675        RC     .05    .035     .05    2000     .05
1676        RX    1000    1010    1020    1036    1041    1057    1067    1077
1677        RY      15    14.5      14      10      10      14    14.5      15
            * DDM   ***** Updated *****
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LINE        ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10
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1678          KK     460
1679          KM   SUB-BASIN 460
1680          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1681          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .999
1682          KM     L =  .62  Kb = .058  Adj. Slope =  194.0
1683          BA    .140
1684          LG    .250    .260   3.740    .690  27.000
1685          UC    .242    .160
1686          UA       0       5      16      30      65      77      84      90      94      97
1687          UA     100
              * DDM   ***** Preserved *****

1688          KK    C102
1689          KM        COMBINE HYDROGRAPHS FROM SUB-BASINS 52 AND 53
1690          HC       2
              * DDM   ***** Preserved *****

1691          KK  BASIN3
1692          KM        RESERVOIR AT CLUBHOUSE LOCATION 1-30 INCH PIPE AT OUTFALL
1693          KM        BOTTOM OF BASIN AT 6 FEET ABOVE 1795 ELEVATION
1694          RS       1    ELEV       0
1695          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
1696          SQ       0      22      45    47.4      48      51      57      62      67      73
1697          SE    1795  1797.5    1800  1800.4  1800.5    1801    1802    1803    1804  1805.5
              * DDM   ***** Preserved *****

1698          KK      R3
1699          KM        ROUTE FLOW FROM C102 to C106
1700          RS       5    FLOW      -1
1701          RC     .05     .03     .05    2750   .0375
1702          RX    1000    1010    1020    1052    1086    1118    1128    1138
1703          RY    19.2    18.4      18      10      10      18    18.4    19.2
              * DDM   ***** Updated *****

1704          KK     461
1705          KM   SUB-BASIN 461
1706          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1707          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .999
1708          KM     L =  .83  Kb = .052  Adj. Slope =  181.0
1709          BA    .120
1710          LG    .270    .250   4.250    .450  21.000
1711          UC    .271    .250
1712          UA       0       5      16      30      65      77      84      90      94      97
1713          UA     100
              * DDM   ***** Preserved *****

1714          KK    C104
1715          KM        COMBINE HYDROGRAPHS FROM SUB-BASIN 54 AND R102
1716          HC       2
              * DDM   ***** Preserved *****
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1717          KK    C106
1718          KM        COMBINE HYDROGRAPHS FROM SUB-BASIN C103 AND C104
1719          HC       2
              * DDM   ***** Preserved *****

1720          KK    R106
1721          KM        ROUTE FLOW FROM C106 TO C49
1722          RS       2    FLOW      -1
1723          RC     .05    .035     .05    3950    .033
1724          RX    1000    1010    1020    1030    1050    1060    1070    1080
1725          RY   13.16   12.83    12.5      10      10    12.5   12.83   13.16
              * DDM   ***** Updated *****

1726          KK     462
1727          KM   SUB-BASIN 462
1728          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1729          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .998
1730          KM     L =  .97  Kb = .045  Adj. Slope =  297.7
1731          BA    .301
1732          LG    .300    .330   5.300    .240  12.000
1733          UC    .225    .137
1734          UA       0       5      16      30      65      77      84      90      94      97
1735          UA     100
              * DDM   ***** Preserved *****

1736          KK     C56
1737          KM        COMBINE HYDROGRAPHS FROM SUB-BASIN 56 AND C106
              *      1       2
1738          HC       2
              * DDM   ***** Preserved *****

1739          KK    C462
1740          KM        COMBINE HYDROGRAPHS AT SUBBASIN 462
              *      1
1741          HC       2    2.09
              * DDM   ***** Preserved *****

1742          KK    R462
1743          KM   ROUTE FLOW FROM SUB-BASIN 462 TO SUB-BASIN 500 (First Channel Reach)
1744          RS       1    FLOW      -1
1745          RC    .025    .025    .025    1800    .005
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1746          RX       0       1      20      32      62      74      93      94
1747          RY      13      12      12       0       0      12      12      13
              *

1748          KK   RR462
1749          KM   ROUTE FLOW FROM SUB-BASIN 462 TO SUB-BASIN 500 (Second Natural Wash Reach)
1750          RS       3    FLOW      -1
1751          RC    .055     .05    .055    4700     .05
1752          RX       0       1       2      28      58      84      85      86
1753          RY    13.5    13.5    13.5       0       0    13.5    13.5    13.5
              * DDM   ***** Updated *****
1                                          HEC-1 INPUT                                                    PAGE 47

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


1754          KK     500
1755          KM   SUB-BASIN 500
1756          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1757          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .994
1758          KM     L = 2.77  Kb = .042  Adj. Slope =  286.8
1759          BA    .930
1760          LG    .350    .400   6.000    .170   9.000
1761          UC    .421    .333
1762          UA       0       3       5       8      12      20      43      75      90      96
1763          UA     100
              * DDM   ***** Preserved *****

1764          KK    C500
1765          KM   HYDROGRAPH COMBINATION FOR THE ENTIRE WATERSHED AT THE SALT RIVER
1766          HC       2    3.02
1767          ZZ
1
              SCHEMATIC DIAGRAM OF STREAM NETWORK
 INPUT
 LINE      (V) ROUTING          (--->) DIVERSION OR PUMP FLOW

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

  28          10
               V
               V
  38         R10
               V
               V
  44         R12
               .
               .
  50           .          20
               .           .
               .           .
  60         C20............
               V
               V
  63         R20
               .
               .
  69           .          40
               .           .
               .           .
  79           .           .          60
               .           .           .
               .           .           .
  89         C60........................
               V
               V
  92         S60
               V
               V
 101         R60
               V
               V
 107        RR60
               .
               .
 113           .          80
               .           .
               .           .
 123         C80............
               V
               V
 126         R80
               .
               .
 132           .         100
               .           .
               .           .
 142        C100............
               V
               V
 145        R100
               .
               .
 151           .         120
               .           .
               .           .
 161        C120............
               V
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                V
164         R120
                .
                .
170             .        140
                .          .
                .          .
180             .          .        150
                .          .          V
                .          .          V
190             .          .       R150
                .          .          V
                .          .          V
196             .          .       R152
                .          .          .
                .          .          .
202             .          .          .        160
                .          .          .          .
                .          .          .          .
212             .          .          .          .        180
                .          .          .          .          .
                .          .          .          .          .
222         C180.............................................
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                .
225             .       385B
                .          V
                .          V
235             .      R385B
                .          .
                .          .
244             .          .       395B
                .          .          .
                .          .          .
254             .      C395B............
                .          V
                .          V
257             .      R395B
                .          .
                .          .
264             .          .       370B
                .          .          .
                .          .          .
274             .      C370C............
                .          V
                .          V
277             .      R370B
                .          V
                .          V
284             .     RR370B
                .          .
                .          .
293             .          .       355B
                .          .          .
                .          .          .
303             .      C355B............
                .          V
                .          V
306             .      R355B
                .          V
                .          V
315             .     RR355B
                .          .
                .          .
322             .          .        350
                .          .          V
                .          .          V
332             .          .       R350
                .          .          .
                .          .          .
339             .          .          .        310
                .          .          .          .
                .          .          .          .
349             .       C310........................
                .          V
                .          V
352             .      R310
                .          V
                .          V
359             .      R312
                .          .
                .          .
368             .          .       305B
                .          .          .
                .          .          .
378             .     C305B............
                .          V
                .          V
381             .     R305B
                .          .
                .          .
390             .          .        210
                .          .          V
                .          .          V
400             .          .       R210
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406             .          .          .        240
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                .           .           .           .
                .           .           .           .
416             .        C240.......................
                .           V
                .           V
419             .        S240
                .           V
                .           V
428             .        R240
                .           .
                .           .
435             .           .        220
                .           .          .
                .           .          .
445             .        C220............
                .           V
                .           V
448             .        S220
                .           V
                .           V
457             .        R220
                .           .
                .           .
464             .           .        190
                .           .          V
                .           .          V
474             .           .       R190
                .           .          V
                .           .          V
480             .           .       R192
                .           .          .
                .           .          .
486             .           .          .         200
                .           .          .           .
                .           .          .           .
496             .        C200.......................
                .           V
                .           V
499             .        S200
                .           V
                .           V
506             .        R200
                .           V
                .           V
512             .       SS200
                .           V
                .           V
519             .       RR200
                .           .
                .           .
525       CC180............
             V
             V
528        S180
             V
             V
537        R180
             .
             .
546           .         260
              .           .
              .           .
556        C260............
             V
             V
559        R260
             .
             .
568           .         280
              .           .
              .           .
578        C280............
             V
             V
581        R280
             .
             .
590           .         300
              .           .
              .           .
600        C300............
             V
             V
603        R300
             .
             .
612           .        305A
              .           .
              .           .
622       C305A............
             V
             V
625       R305A
             .
             .
634           .         320
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649          .          .------->   BS320
644          .       D320
             .          .
             .          .
654          .          .          .<-------   BS320
652          .          .      RT320
             .          .          V
             .          .          V
655          .          .       S320
             .          .          .
             .          .          .
661       C320.......................
             .
             .
664          .       340B
             .          .
             .          .
679          .          .------->  BS340B
674          .      D340B
             .          .
             .          .
684          .          .          .<-------  BS340B
682          .          .     RT340B
             .          .          V
             .          .          V
685          .          .      S340B
             .          .          .
             .          .          .
691          .      C340B............
             .          .
             .          .
696          .          .------->   BS340
694          .     DD340B
             .          .
             .          .
701          .          .          .<-------   BS340
699          .          .      RT340
             .          .          V
             .          .          V
702          .          .     SS340B
             .          .          .
             .          .          .
708          .     CC340B............
             .          V
             .          V
711          .      R340B
             .          .
             .          .
718          .          .       340A
             .          .          .
             .          .          .
733          .          .          .------->  BS340A
728          .          .      D340A
             .          .          .
             .          .          .
738          .          .          .          .<-------  BS340A
736          .          .          .     RT340A
             .          .          .          V
             .          .          .          V
739          .          .          .      S340A
             .          .          .          .
             .          .          .          .
745          .      C340A........................
             .          .
             .          .
748       C340............
             .
             .
751          .       355A
             .          V
             .          V
761          .      R355A
             .          .
             .          .
768          .          .        360
             .          .          .
             .          .          .
782          .          .          .------->   BS360
778          .          .       D360
             .          .          .
             .          .          .
787          .          .          .          .<-------   BS360
785          .          .          .      RT360
             .          .          .          V
             .          .          .          V
788          .          .          .       S360
             .          .          .          .
             .          .          .          .
794       C360.....................................
             .
             .
797          .       380A
             .          .
             .          .
807      C380A............
             .
             .
810          .       400A
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                .           .
                .           .
820       C400A............
                .
                .
823             .        380B
                .           .
                .           .
837             .           .-------->  BS380B
833             .       D380B
                .           .
                .           .
842             .           .           .<-------  BS380B
840             .           .      RT380B
                .           .           V
                .           .           V
843             .           .       S380B
                .           .           .
                .           .           .
849             .       C380B............
                .           V
                .           V
852             .       R380B
                .           .
                .           .
859             .           .        400B
                .           .           .
                .           .           .
873             .           .           .------->  BS400B
869             .           .       D400B
                .           .           .
                .           .           .
878             .           .           .           .<-------  BS400B
876             .           .           .      RT400B
                .           .           .           V
                .           .           .           V
879             .           .           .       S400B
                .           .           .           .
                .           .           .           .
885             .           .       C400B............
                .           .           .
                .           .           .
888       CC400B........................
                .
                .
891             .        420A
                .           .
                .           .
905             .           .------->  BS420A
901             .       D420A
                .           .
                .           .
910             .           .           .<-------  BS420A
908             .           .      RT420A
                .           .           V
                .           .           V
911             .           .       S420A
                .           .           .
                .           .           .
917       C420A........................
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                .
920             .        370A
                .           .
                .           .
930             .           .        395A
                .           .           .
                .           .           .
940             .       C370A............
                .           .
                .           .
946             .           .------->   BS370
943             .        D370
                .           .
                .           .
951             .           .           .<-------   BS370
949             .           .      RT370
                .           .           V
                .           .           V
952             .           .       S370
                .           .           .
                .           .           .
958             .      CC370............
                .           V
                .           V
961             .       R370
                .           .
                .           .
968             .           .         390
                .           .           .
                .           .           .
982             .           .           .------->   BS390
978             .           .       D390
                .           .           .
                .           .           .
987             .           .           .           .<-------   BS390
985             .           .           .      RT390
                .           .           .           V
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988                                  V
                                   S390
                                     .
                                     .
994                C390.......................
                     V
                     V
997                R390
                     .
                     .
1004                   420B
                       .
                       .
1014               C420B............
                       .
                       .
1017                   385A
                       .
                       .
1027                                 415C
                                     .
                                     .
1037                   C415C............
                       .
                       .
1043                   .-------> BS415C
1040                   D415C
                       .
                       .
1048                                 .<-------  BS415C
1046                               RT415C
                                     V
                                     V
1049                               S415C
                                     .
                                     .
1055                 CC415C............
                       V
                       V
1058                   R415C
                       .
                       .
1065                                 415B
                                     .
                                     .
1075                   C415B............
                       V
                       V
1078                   R415B
                       .
                       .
1085                                 440
                                     V
                                     V
1095                                 R70
                                     .
                                     .
1101                                 .          441
                                     .            .
                                     .            .
1111                                 C108............
                                     .
                                     .
1116                                 .------->   SPLIT
1114                                 D4
                                     V
                                     V
1119                                 R108
                                     .
                                     .
1125                                 .          442
                                     .            .
                                     .            .
1135                                 C67............
                                     .
                                     .
1141                                 .-------> BASIN4
1138                                 D6
                                     .
                                     .
1146                                 .            .<-------  BASIN4
1144                                 .         RTD6
                                     .            V
                                     .            V
1147                                 .          SD6
                                     .            .
                                     .            .
1153                                 CD6............
                                     .
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1156                                 .          443
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1169                                 .            .------->   WSH66
1166                                 .          D66
                                     .            V
                                     .            V
1172                                 .         R113
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1178                C114...........
1181                        444
                             V
                             V
1191                        R58
1197                                     445
1207                       C107...........
                             V
                             V
1210                       R107
1218                                      .<-------   SPLIT
1216                                  RTB2
                                         V
                                         V
1219                                RSPLIT
1225                                                   446
1235                       C109......................
1241                                  .------->  WSH404
1238                         D5
                             V
                             V
1244                       R109
1250                                     447
1262                                                     .<-------  WSH404
1260                                                RT404
                                                       V
                                                       V
1263                                                R404
1269                       C110......................
                             V
                             V
1272                       R110
1278                C115...........
                       V
                       V
1281                R115
1287                        448
1297                                     449
1307                      C6364...........
                             V
                             V
1310                      R6364
1316                                     450
1326                                                   451
1336                                    C451...........
1341                                                     .<-------   WSH66
1339                                                RT66
1342                                                                   452
1352                                                C6465...........
                                                       V
                                                       V
1355                                                R6566
1361                      C116......................
                             V
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                                                  V
1364                                          BASIN5
                                                  V
                                                  V
1371                                           R116
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                                                   .
1377                                               .          453
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1387                                           C117............
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1390                                   C118............
                                          V
                                          V
1393                                   R118
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1402                                      .-------> BASIN6
1399                                     D7
                                          .
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1407                                      .          .<-------- BASIN6
1405                                      .        RTD7
                                          .           V
                                          .           V
1408                                      .          SD7
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1414                                    CD7............
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1417                                      .          454
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1427                                   C119............
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1430                           C454............
                                  V
                                  V
1433                           R454
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1440                                   415A
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1450                   C415A......................
                          V
                          V
1453                   R415A
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1460                           455
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1475                              .-------> BS455
1470                           D455
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1480                              .          .<-------- BS455
1478                              .       RT455
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                                  .          V
1481                              .       S455
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1487                           C455............
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1490                CC455......................
                       V
                       V
1493                 S440
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                       V
1502                 R455
                       .
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1508                   .        480
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                       .          .
1523                   .          .-------> BS480
1518                   .       D480
                       .          .
                       .          .
1528                   .          .          .<-------- BS480
1526                   .          .       RT480
                       .          .          V
                       .          .          V
1529                   .          .        S480
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1535                   .       C480............
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1538                CC480............
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                 V
                 V
1541          R480
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1547             .          456
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                 .            .
1560             .            .-------> BASIN1
1557             .          D1
                 .            .
                 .            .
1566             .            .------->   WA30
1563             .          D2
                 .            V
                 .            V
1569             .        R456
                 .            .
                 .            .
1575             .            .         457
                 .            .           .
                 .            .           .
1585             .        C101............
                 .            .
                 .            .
1591             .            .-------> BASIN2
1588             .          D3
                 .            .
                 .            .
1596             .            .           .<-------  BASIN2
1594             .            .        RTD3
                 .            .           V
                 .            .           V
1597             .            .         SD3
                 .            .           .
                 .            .           .
1603             .         CD3............
                 .            V
                 .            V
1606             .        R101
                 .            .
                 .            .
1612             .            .         458
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                 .            .           .
1622             .        C103............
                 .            V
                 .            V
1625             .        R103
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                 .            .
1633             .            .           .<-------    WA30
1631             .            .        RT30
                 .            .           V
                 .            .           V
1634             .            .         R30
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1642             .            .           .          .<-------  BASIN1
1640             .            .           .       RTB1
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1643             .            .           .         B1
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1650             .            .           .        RB1
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1656             .            .        CDIV............
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1659             .            .           .        459
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1669             .            .         C52............
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1672             .            .         R52
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1678             .            .           .        460
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1688             .            .        C102............
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1691             .            .      BASIN3
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1698             .            .          R3
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1704             .            .           .        461
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1714             .            .        C104............
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1717            .        C106............
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1720            .        R106
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1726            .           .         462
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1736            .         C56............
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1739         C462............
                V
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1742         R462
                V
                V
1748        RR462
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1754            .         500
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1764         C500............
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(***) RUNOFF ALSO COMPUTED AT THIS LOCATION

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1*****************************************
*                                       *
*   FLOOD HYDROGRAPH PACKAGE  (HEC-1)   *
*              JUN   1998               *
*            VERSION 4.1                *
*                                       *
*  RUN DATE   02MAY01  TIME  08:46:55   *
*                                       *
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*                                       *
*    U.S. ARMY CORPS OF ENGINEERS       *
*    HYDROLOGIC ENGINEERING CENTER      *
*          609 SECOND STREET            *
*       DAVIS, CALIFORNIA 95616         *
*           (916) 756-1104              *
*                                       *
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                    DDMS MCUHP1 SPOOK HILL ADMP-EXISTING CONDITIONS MODEL-100YR, 24-HR STORM
                    Combined McDowell Road, McKellips Road & Pass Mountain Alternatives
                    McDowell Road Alternative - Option MD3E
                    McKellips Road Alternative - Option MK1C
                    FULL PASS MOUNTAIN DIVERSION WITH SPOOK HILL FRS STORAGE ROUTING - PM4R
                    OUTFLOW OF SIGNAL BUTTE IS QUADRUPLED
                    Spook Hill FRS without Off-Line Basin

  9 IO        OUTPUT CONTROL VARIABLES
                    IPRNT          5  PRINT CONTROL
                    IPLOT          0  PLOT CONTROL
                    QSCAL         0.  HYDROGRAPH PLOT SCALE

    IT        HYDROGRAPH TIME DATA
                     NMIN          2  MINUTES IN COMPUTATION INTERVAL
                    IDATE      1   0  STARTING DATE
                    ITIME       0000  STARTING TIME
                       NQ       2000  NUMBER OF HYDROGRAPH ORDINATES
                   NDDATE      3   0  ENDING DATE
                   NDTIME       1838  ENDING TIME
                    ICENT         19  CENTURY MARK

                COMPUTATION INTERVAL     .03 HOURS
                     TOTAL TIME BASE   66.63 HOURS

          ENGLISH UNITS
               DRAINAGE AREA          SQUARE MILES
               PRECIPITATION DEPTH    INCHES
               LENGTH, ELEVATION      FEET
               FLOW                   CUBIC FEET PER SECOND
               STORAGE VOLUME         ACRE-FEET
               SURFACE AREA           ACRES
               TEMPERATURE            DEGREES FAHRENHEIT

 11 JD        INDEX STORM NO. 1
                     STRM        3.81  PRECIPITATION DEPTH
                     TRDA         .01  TRANSPOSITION DRAINAGE AREA

 12 PI          PRECIPITATION PATTERN
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22 JD          INDEX STORM NO. 2
                      STRM       3.79  PRECIPITATION DEPTH
                      TRDA       1.00  TRANSPOSITION DRAINAGE AREA

 0 PI             PRECIPITATION PATTERN
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23 JD INDEX STORM NO. 3

STRM 3.68 PRECIPITATION DEPTH

TRDA 5.80 TRANSPOSITION DRAINAGE AREA

0 PI PRECIPITATION PATTERN

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24 JD INDEX STORM NO. 4

STRM 3.57 PRECIPITATION DEPTH

TRDA 10.66 TRANSPOSITION DRAINAGE AREA

0 PI PRECIPITATION PATTERN

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25 JD INDEX STORM NO. 5

STRM 3.54 PRECIPITATION DEPTH

TRDA 13.70 TRANSPOSITION DRAINAGE AREA

0 PI PRECIPITATION PATTERN

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26 JD INDEX STORM NO. 6

STRM 3.47 PRECIPITATION DEPTH

TRDA 20.00 TRANSPOSITION DRAINAGE AREA

0 PI PRECIPITATION PATTERN

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27 JD INDEX STORM NO. 7

STRM 3.32 PRECIPITATION DEPTH

TRDA 50.00 TRANSPOSITION DRAINAGE AREA

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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	989.	12.27	119.	33.	12.	.70		
	ROUTED TO	R10	920.	12.40	119.	33.	12.	.70		
+	ROUTED TO	R12	853.	12.60	119.	33.	12.	.70		
+	HYDROGRAPH AT	20	1011.	12.43	136.	34.	12.	1.12		
+	2 COMBINED AT	C20	1684.	12.53	252.	66.	24.	1.82		
+	ROUTED TO	R20	1683.	12.57	252.	66.	24.	1.82		
+	HYDROGRAPH AT	40	2695.	12.30	264.	69.	25.	2.23		
+	HYDROGRAPH AT	60	1623.	12.40	239.	64.	23.	1.75		
+	3 COMBINED AT	C60	5371.	12.37	733.	194.	70.	5.80		
+	ROUTED TO	S60	118.	14.27	118.	114.	70.	5.80		
+	ROUTED TO	R60	118.	14.37	118.	114.	70.	5.80		
+	ROUTED TO	RR60	118.	14.40	118.	114.	70.	5.80		
+	HYDROGRAPH AT	80	1956.	12.27	189.	49.	18.	1.48		
+	2 COMBINED AT	C80	2009.	12.27	295.	160.	90.	1.48		
+	ROUTED TO	R80	1981.	12.30	295.	160.	90.	1.48		
+	HYDROGRAPH AT	100	423.	12.20	60.	16.	6.	.48		
+	2 COMBINED AT	C100	2373.	12.27	351.	174.	95.	1.96		
+	ROUTED TO	R100	2370.	12.30	351.	174.	95.	1.96		

+	HYDROGRAPH AT 120	3352.	12.27	340.	92.	33.	2.20
	2 COMBINED AT C120	5618.	12.27	673.	256.	126.	4.16
+	ROUTED TO R120	5546.	12.30	673.	256.	126.	4.16
+	HYDROGRAPH AT 140	665.	12.13	67.	18.	6.	.60
+	HYDROGRAPH AT 150	595.	12.17	51.	14.	5.	.41
+	ROUTED TO R150	568.	12.23	51.	14.	5.	.41
+	ROUTED TO R152	514.	12.33	51.	14.	5.	.41
+	HYDROGRAPH AT 160	228.	12.40	37.	9.	3.	.37
+	HYDROGRAPH AT 180	836.	12.37	97.	24.	9.	1.00
+	5 COMBINED AT C180	7306.	12.30	898.	313.	146.	6.54
+	HYDROGRAPH AT 385B	591.	12.17	57.	16.	6.	.38
+	ROUTED TO R385B	590.	12.17	57.	16.	6.	.38
+	HYDROGRAPH AT 395B	12.	12.17	2.	0.	0.	.02
+	2 COMBINED AT C395B	601.	12.17	59.	17.	6.	.39
+	ROUTED TO R395B	580.	12.23	58.	16.	6.	.39
+	HYDROGRAPH AT 370B	219.	12.27	32.	8.	3.	.26
	2 COMBINED AT C370C	792.	12.23	90.	25.	9.	.66
+	ROUTED TO R370B	778.	12.27	90.	25.	9.	.66
+	ROUTED TO RR370B	715.	12.33	90.	25.	9.	.66
+	HYDROGRAPH AT 355B	465.	12.27	54.	14.	5.	.51
+	2 COMBINED AT C355B	1153.	12.30	143.	38.	14.	1.17
+	ROUTED TO R355B	1138.	12.37	143.	38.	14.	1.17
+	ROUTED TO RR355B	1121.	12.40	143.	38.	14.	1.17
+	HYDROGRAPH AT 350	1258.	12.20	109.	28.	10.	.97
+	ROUTED TO R350	1109.	12.47	109.	28.	10.	.97
+	HYDROGRAPH AT 310	342.	12.33	46.	12.	4.	.49
+	3 COMBINED AT C310	2448.	12.43	290.	76.	27.	2.63
+	ROUTED TO R310	2395.	12.53	290.	76.	27.	2.63
+	ROUTED TO R312	2301.	12.63	290.	76.	27.	2.63
+	HYDROGRAPH AT 305B	405.	12.30	45.	11.	4.	.41
	2 COMBINED AT C305B	2484.	12.63	333.	87.	31.	3.05
+	ROUTED TO R305B	2464.	12.67	333.	87.	31.	3.05
+	HYDROGRAPH AT 210	1322.	12.17	111.	29.	10.	.79

+	ROUTED TO	R210	1246.	12.23	111.	29.	10.	.79
	HYDROGRAPH AT	240	1754.	12.27	167.	42.	15.	1.41
+	3 COMBINED AT	C240	3752.	12.27	593.	153.	55.	5.25
+	ROUTED TO	S240	1819.	12.93	528.	137.	49.	5.25
+	ROUTED TO	R240	1817.	13.00	527.	137.	49.	5.25
+	HYDROGRAPH AT	220	694.	12.20	68.	18.	6.	.47
+	2 COMBINED AT	C220	1864.	12.97	587.	153.	55.	5.72
+	ROUTED TO	S220	1775.	13.13	575.	150.	54.	5.72
+	ROUTED TO	R220	1774.	13.20	575.	150.	54.	5.72
+	HYDROGRAPH AT	190	1471.	12.17	123.	33.	12.	.92
+	ROUTED TO	R190	1415.	12.23	123.	33.	12.	.92
+	ROUTED TO	R192	1359.	12.30	123.	33.	12.	.92
+	HYDROGRAPH AT	200	843.	12.17	72.	20.	7.	.53
+	3 COMBINED AT	C200	2171.	12.30	741.	195.	71.	7.17
+	ROUTED TO	S200	2057.	12.37	736.	192.	69.	7.17
+	ROUTED TO	R200	2055.	12.40	735.	192.	69.	7.17
	ROUTED TO	SS200	1788.	13.30	615.	162.	58.	7.17
+	ROUTED TO	RR200	1784.	13.37	612.	162.	58.	7.17
+	2 COMBINED AT	CC180	7306.	12.30	1505.	476.	204.	13.70
+	ROUTED TO	S180	449.	15.63	436.	313.	154.	13.70
+	ROUTED TO	R180	449.	15.70	436.	313.	154.	13.70
+	HYDROGRAPH AT	260	399.	12.13	43.	12.	4.	.26
+	2 COMBINED AT	C260	491.	15.63	477.	362.	181.	.26
+	ROUTED TO	R260	491.	15.70	477.	362.	181.	.26
+	HYDROGRAPH AT	280	498.	12.10	46.	13.	5.	.32
+	2 COMBINED AT	C280	854.	12.13	479.	372.	185.	.58
+	ROUTED TO	R280	837.	12.20	479.	372.	185.	.58
+	HYDROGRAPH AT	300	392.	12.10	34.	9.	3.	.29
+	2 COMBINED AT	C300	1173.	12.17	503.	379.	188.	.87
+	ROUTED TO	R300	1131.	12.23	502.	379.	188.	.87
	HYDROGRAPH AT	305A	413.	12.17	46.	13.	5.	.37
+	2 COMBINED AT	C305A	1501.	12.23	539.	388.	191.	1.24
+	ROUTED TO	R305A	1470.	12.30	538.	387.	191.	1.24

+ HYDROGRAPH AT	320	899.	12.20	116.	33.	12.	.87
DIVERSION TO	BS320	439.	11.97	21.	6.	2.	.87
+ HYDROGRAPH AT	D320	899.	12.20	102.	27.	10.	.87
+ HYDROGRAPH AT	RT320	439.	11.97	21.	6.	2.	.87
+ ROUTED TO	S320	4.	12.03	4.	4.	2.	.87
+ 3 COMBINED AT	C320	2277.	12.27	633.	411.	200.	2.11
+ HYDROGRAPH AT	340B	475.	12.07	35.	10.	4.	.29
+ DIVERSION TO	BS340B	475.	12.07	21.	6.	2.	.29
+ HYDROGRAPH AT	D340B	390.	12.13	16.	4.	2.	.29
+ HYDROGRAPH AT	RT340B	475.	12.07	21.	6.	2.	.29
+ ROUTED TO	S340B	3.	12.13	3.	3.	2.	.29
+ 2 COMBINED AT	C340B	394.	12.13	19.	7.	4.	.29
+ DIVERSION TO	BS340	376.	12.13	12.	3.	1.	.29
+ HYDROGRAPH AT	DD340B	18.	12.10	8.	4.	3.	.29
+ HYDROGRAPH AT	RT340	376.	12.13	12.	3.	1.	.29
+ ROUTED TO	SS340B	2.	12.63	2.	2.	1.	.29
2 COMBINED AT	CC340B	20.	12.63	10.	6.	4.	.29
+ ROUTED TO	R340B	20.	12.70	10.	6.	4.	.29
+ HYDROGRAPH AT	340A	1361.	12.17	161.	48.	17.	1.15
+ DIVERSION TO	BS340A	1361.	12.17	82.	23.	8.	1.15
+ HYDROGRAPH AT	D340A	1217.	12.23	93.	25.	9.	1.15
+ HYDROGRAPH AT	RT340A	1361.	12.17	82.	23.	8.	1.15
+ ROUTED TO	S340A	14.	12.27	13.	11.	7.	1.15
+ 3 COMBINED AT	C340A	1212.	12.27	115.	42.	20.	1.44
+ 2 COMBINED AT	C340	3432.	12.27	735.	446.	216.	3.55
+ HYDROGRAPH AT	355A	226.	12.10	22.	6.	2.	.16
+ ROUTED TO	R355A	197.	12.37	22.	6.	2.	.16
+ HYDROGRAPH AT	360	761.	12.20	109.	31.	11.	.88
+ DIVERSION TO	BS360	761.	12.20	54.	14.	5.	.88
+ HYDROGRAPH AT	D360	665.	12.37	62.	17.	6.	.88
HYDROGRAPH AT	RT360	761.	12.20	54.	14.	5.	.88
+ ROUTED TO	S360	9.	12.37	8.	7.	5.	.88
+ 4 COMBINED AT	C360	3690.	12.37	816.	470.	227.	4.59

+	HYDROGRAPH AT	380A	322.	12.27	33.	10.	4.	.26
	2 COMBINED AT	C380A	3922.	12.37	843.	477.	230.	4.85
+	HYDROGRAPH AT	400A	56.	12.20	4.	1.	0.	.05
+	2 COMBINED AT	C400A	3948.	12.37	846.	478.	230.	4.90
+	HYDROGRAPH AT	380B	567.	12.20	67.	17.	6.	.64
+	DIVERSION TO	BS380B	567.	12.20	57.	14.	5.	.64
+	HYDROGRAPH AT	D380B	147.	12.80	12.	3.	1.	.64
+	HYDROGRAPH AT	RT380B	567.	12.20	57.	14.	5.	.64
+	ROUTED TO	S380B	9.	12.80	9.	7.	5.	.64
+	2 COMBINED AT	C380B	156.	12.80	20.	11.	6.	.64
+	ROUTED TO	R380B	137.	12.90	20.	11.	6.	.64
+	HYDROGRAPH AT	400B	516.	12.20	62.	17.	6.	.57
+	DIVERSION TO	BS400B	292.	12.00	10.	3.	1.	.57
+	HYDROGRAPH AT	D400B	516.	12.20	54.	14.	5.	.57
+	HYDROGRAPH AT	RT400B	292.	12.00	10.	3.	1.	.57
+	ROUTED TO	S400B	2.	12.07	2.	2.	1.	.57
	2 COMBINED AT	C400B	518.	12.20	56.	15.	6.	.57
+	3 COMBINED AT	CC400B	4334.	12.27	907.	498.	239.	6.10
+	HYDROGRAPH AT	420A	495.	12.20	68.	19.	7.	.57
+	DIVERSION TO	BS420A	377.	12.07	16.	4.	2.	.57
+	HYDROGRAPH AT	D420A	495.	12.20	56.	14.	5.	.57
+	HYDROGRAPH AT	RT420A	377.	12.07	16.	4.	2.	.57
+	ROUTED TO	S420A	13.	11.60	13.	4.	2.	.57
+	3 COMBINED AT	C420A	4746.	12.27	963.	510.	244.	6.67
+	HYDROGRAPH AT	370A	633.	12.10	52.	14.	5.	.41
+	HYDROGRAPH AT	395A	209.	12.13	24.	6.	2.	.18
+	2 COMBINED AT	C370A	838.	12.10	76.	21.	7.	.59
+	DIVERSION TO	BS370	698.	12.10	43.	11.	4.	.59
+	HYDROGRAPH AT	D370	140.	11.77	33.	10.	4.	.59
+	HYDROGRAPH AT	RT370	698.	12.10	43.	11.	4.	.59
	ROUTED TO	S370	8.	12.57	7.	6.	4.	.59
+	2 COMBINED AT	CC370	148.	12.57	39.	15.	7.	.59
+	ROUTED TO	R370	148.	12.57	39.	15.	7.	.59

+ HYDROGRAPH AT	390	477.	12.03	35.	10.	4.	.24
DIVERSION TO	BS390	101.	11.73	6.	2.	1.	.24
+ HYDROGRAPH AT	D390	477.	12.03	31.	8.	3.	.24
+ HYDROGRAPH AT	RT390	101.	11.73	6.	2.	1.	.24
+ ROUTED TO	S390	1.	.70	1.	1.	1.	.24
+ 3 COMBINED AT	C390	622.	12.03	71.	24.	11.	.83
+ ROUTED TO	R390	531.	12.27	71.	24.	11.	.83
+ HYDROGRAPH AT	420B	356.	12.10	34.	10.	4.	.28
+ 2 COMBINED AT	C420B	797.	12.23	104.	33.	15.	1.11
+ HYDROGRAPH AT	385A	358.	12.07	27.	7.	3.	.21
+ HYDROGRAPH AT	415C	443.	12.10	46.	13.	5.	.33
+ 2 COMBINED AT	C415C	785.	12.07	73.	20.	7.	.54
+ DIVERSION TO	BS415C	595.	12.07	34.	8.	3.	.54
+ HYDROGRAPH AT	D415C	190.	11.83	40.	12.	4.	.54
+ HYDROGRAPH AT	RT415C	595.	12.07	34.	8.	3.	.54
+ ROUTED TO	S415C	8.	12.50	7.	7.	3.	.54
2 COMBINED AT	CC415C	198.	12.47	45.	17.	7.	.54
+ ROUTED TO	R415C	198.	12.47	45.	17.	7.	.54
+ HYDROGRAPH AT	415B	86.	12.07	8.	2.	1.	.06
+ 2 COMBINED AT	C415B	282.	12.07	53.	19.	8.	.61
+ ROUTED TO	R415B	271.	12.23	53.	19.	8.	.61
+ HYDROGRAPH AT	440	184.	12.03	12.	3.	1.	.08
+ ROUTED TO	R70	181.	12.07	12.	3.	1.	.08
+ HYDROGRAPH AT	441	16.	12.03	1.	0.	0.	.01
+ 2 COMBINED AT	C108	197.	12.07	14.	4.	1.	.09
+ DIVERSION TO	SPLIT	98.	12.07	7.	2.	1.	.09
+ HYDROGRAPH AT	D4	98.	12.07	7.	2.	1.	.09
+ ROUTED TO	R108	92.	12.13	7.	2.	1.	.09
+ HYDROGRAPH AT	442	105.	12.10	9.	2.	1.	.10
+ 2 COMBINED AT	C67	195.	12.10	16.	4.	2.	.19
DIVERSION TO	BASIN4	121.	12.10	6.	2.	1.	.19
+ HYDROGRAPH AT	D6	74.	12.10	10.	3.	1.	.19
+ HYDROGRAPH AT	RTD6	121.	12.10	6.	2.	1.	.19

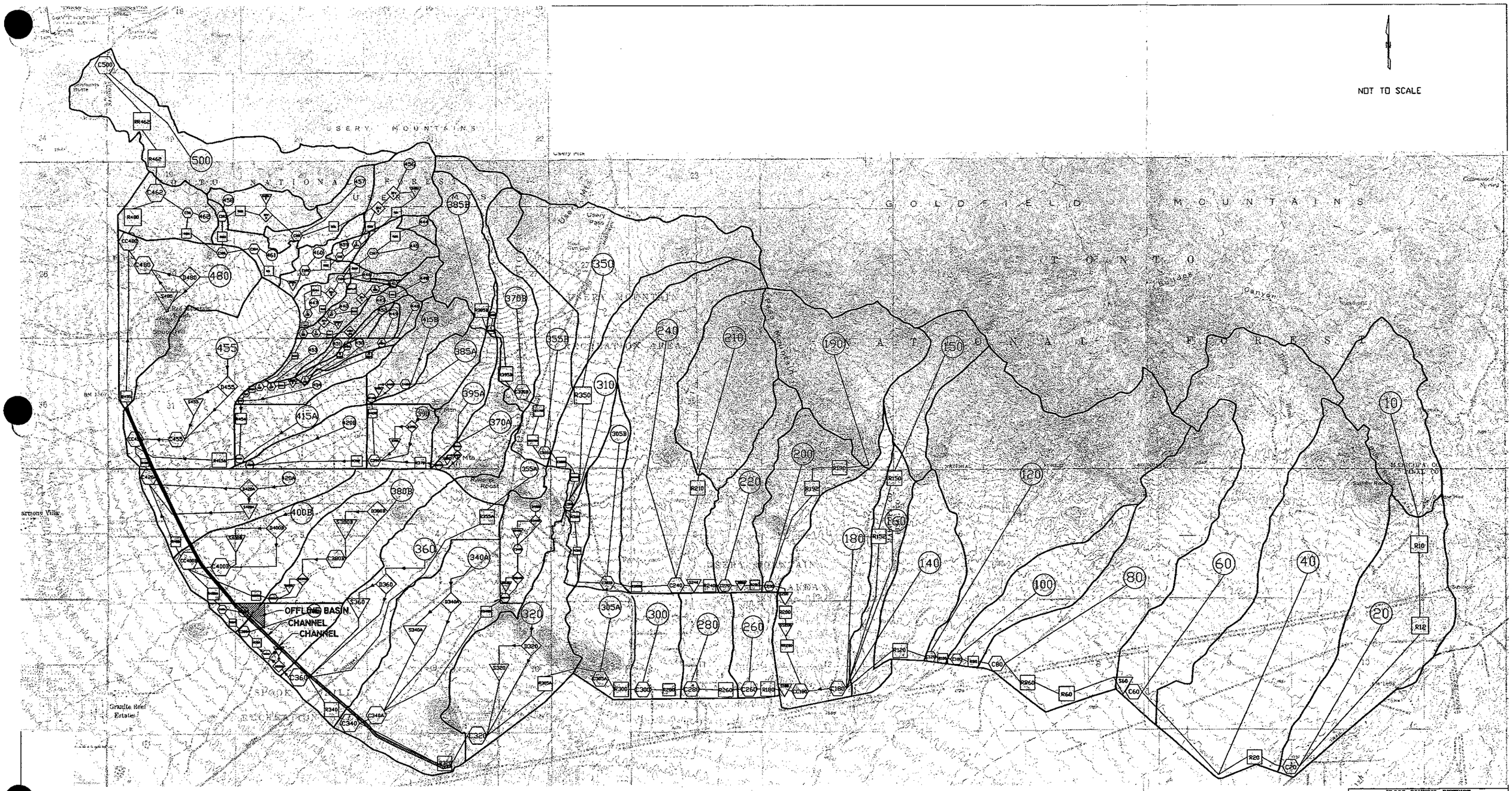
+	ROUTED TO	SD6	1.	12.47	1.	1.	0.	.19
	2 COMBINED AT	CD6	74.	12.10	10.	3.	1.	.19
+	HYDROGRAPH AT	443	151.	12.07	15.	4.	1.	.08
+	DIVERSION TO	WSH66	78.	11.87	12.	3.	1.	.08
+	HYDROGRAPH AT	D66	73.	12.07	3.	1.	0.	.08
+	ROUTED TO	R113	71.	12.07	3.	1.	0.	.08
+	2 COMBINED AT	C114	144.	12.07	13.	4.	2.	.27
+	HYDROGRAPH AT	444	83.	12.03	5.	1.	0.	.04
+	ROUTED TO	R58	79.	12.07	5.	1.	0.	.04
+	HYDROGRAPH AT	445	307.	12.03	19.	5.	2.	.19
+	2 COMBINED AT	C107	382.	12.03	23.	6.	2.	.23
+	ROUTED TO	R107	382.	12.07	23.	6.	2.	.23
+	HYDROGRAPH AT	RTE2	98.	12.07	7.	2.	1.	.09
+	ROUTED TO	RSPLIT	98.	12.07	7.	2.	1.	.09
+	HYDROGRAPH AT	446	66.	12.03	6.	2.	1.	.04
+	3 COMBINED AT	C109	545.	12.07	36.	10.	3.	.27
	DIVERSION TO	WSH404	35.	11.70	8.	2.	1.	.27
+	HYDROGRAPH AT	D5	510.	12.07	28.	7.	3.	.27
+	ROUTED TO	R109	493.	12.10	28.	7.	3.	.27
+	HYDROGRAPH AT	447	141.	12.07	12.	4.	1.	.09
+	HYDROGRAPH AT	RT404	35.	11.70	8.	2.	1.	.27
+	ROUTED TO	R404	35.	11.83	8.	2.	1.	.27
+	3 COMBINED AT	C110	666.	12.07	48.	13.	5.	.36
+	ROUTED TO	R110	663.	12.10	48.	13.	5.	.36
+	2 COMBINED AT	C115	805.	12.07	61.	17.	7.	.63
+	ROUTED TO	R115	799.	12.10	61.	17.	7.	.63
+	HYDROGRAPH AT	448	89.	12.03	6.	2.	1.	.05
+	HYDROGRAPH AT	449	81.	12.03	5.	1.	0.	.05
+	2 COMBINED AT	C6364	170.	12.03	11.	3.	1.	.09
+	ROUTED TO	R6364	145.	12.17	11.	3.	1.	.09
	HYDROGRAPH AT	450	63.	12.20	7.	2.	1.	.07
+	HYDROGRAPH AT	451	18.	12.17	2.	1.	0.	.03
+	2 COMBINED AT	C451	80.	12.20	9.	2.	1.	.09

+	HYDROGRAPH AT RT66	78.	11.87	12.	3.	1.	.08
	HYDROGRAPH AT 452	63.	12.03	5.	1.	0.	.04
+	2 COMBINED AT C6465	141.	12.03	17.	4.	2.	.04
+	ROUTED TO R6566	137.	12.10	17.	4.	2.	.04
+	3 COMBINED AT C116	357.	12.17	36.	10.	3.	.23
+	ROUTED TO BASIN5	159.	12.47	36.	10.	3.	.23
+	ROUTED TO R116	157.	12.53	36.	10.	3.	.23
+	HYDROGRAPH AT 453	63.	12.10	7.	2.	1.	.06
+	2 COMBINED AT C117	177.	12.47	43.	12.	4.	.29
+	2 COMBINED AT C118	892.	12.10	104.	29.	11.	.92
+	ROUTED TO R118	887.	12.13	104.	29.	11.	.92
+	DIVERSION TO BASIN6	248.	12.13	7.	2.	1.	.92
+	HYDROGRAPH AT D7	639.	12.13	97.	27.	10.	.92
+	HYDROGRAPH AT RTD7	248.	12.13	7.	2.	1.	.92
+	ROUTED TO SD7	1.	12.63	1.	1.	1.	.92
+	2 COMBINED AT CD7	640.	12.13	97.	28.	11.	.92
	HYDROGRAPH AT 454	162.	12.13	21.	6.	2.	.18
+	2 COMBINED AT C119	801.	12.13	118.	34.	13.	1.10
+	2 COMBINED AT C454	1060.	12.17	170.	51.	21.	1.70
+	ROUTED TO R454	1055.	12.23	170.	51.	21.	1.70
+	HYDROGRAPH AT 415A	196.	12.13	24.	7.	2.	.22
+	3 COMBINED AT C415A	2002.	12.23	292.	90.	37.	3.03
+	ROUTED TO R415A	1996.	12.27	292.	90.	37.	3.03
+	HYDROGRAPH AT 455	1418.	12.13	150.	45.	16.	1.11
+	DIVERSION TO BS455	1418.	12.13	139.	37.	13.	1.11
+	HYDROGRAPH AT D455	145.	12.80	24.	8.	3.	1.11
+	HYDROGRAPH AT RT455	1418.	12.13	139.	37.	13.	1.11
+	ROUTED TO S455	23.	12.80	22.	18.	11.	1.11
+	2 COMBINED AT C455	169.	12.80	46.	26.	14.	1.11
+	3 COMBINED AT CC455	6397.	12.30	1225.	595.	282.	10.82
	ROUTED TO S440	364.	26.47	361.	325.	197.	10.82
+	ROUTED TO R455	364.	27.17	361.	325.	195.	10.82
+	HYDROGRAPH AT 480	1102.	12.10	100.	31.	11.	.73

+	DIVERSION TO	BS480	487.	11.90	27.	8.	3.	.73
	HYDROGRAPH AT	D480	1102.	12.10	83.	23.	8.	.73
+	HYDROGRAPH AT	RT480	487.	11.90	27.	8.	3.	.73
+	ROUTED TO	S480	5.	11.97	5.	4.	3.	.73
+	2 COMBINED AT	C480	1107.	12.10	88.	27.	11.	.73
+	2 COMBINED AT	CC480	1107.	12.10	416.	375.	234.	.73
+	ROUTED TO	R480	878.	12.33	416.	375.	233.	.73
+	HYDROGRAPH AT	456	483.	12.07	37.	10.	4.	.26
+	DIVERSION TO	BASIN1	193.	12.07	8.	2.	1.	.26
+	HYDROGRAPH AT	D1	290.	12.07	29.	8.	3.	.26
+	DIVERSION TO	WA30	59.	12.07	10.	3.	1.	.26
+	HYDROGRAPH AT	D2	231.	12.07	19.	5.	2.	.26
+	ROUTED TO	R456	218.	12.13	19.	5.	2.	.26
+	HYDROGRAPH AT	457	273.	12.07	21.	6.	2.	.19
+	2 COMBINED AT	C101	480.	12.10	40.	10.	4.	.45
+	DIVERSION TO	BASIN2	177.	12.10	8.	2.	1.	.45
	HYDROGRAPH AT	D3	303.	12.10	32.	8.	3.	.45
+	HYDROGRAPH AT	RTD3	177.	12.10	8.	2.	1.	.45
+	ROUTED TO	SD3	1.	12.40	1.	1.	1.	.45
+	2 COMBINED AT	CD3	304.	12.10	33.	9.	4.	.45
+	ROUTED TO	R101	302.	12.10	33.	9.	4.	.45
+	HYDROGRAPH AT	458	366.	12.03	26.	7.	2.	.19
+	2 COMBINED AT	C103	655.	12.07	59.	16.	6.	.64
+	ROUTED TO	R103	651.	12.07	59.	16.	6.	.64
+	HYDROGRAPH AT	RT30	59.	12.07	10.	3.	1.	.26
+	ROUTED TO	R30	58.	12.10	10.	3.	1.	.26
+	HYDROGRAPH AT	RTB1	193.	12.07	8.	2.	1.	.26
+	ROUTED TO	B1	35.	12.20	8.	2.	1.	.26
+	ROUTED TO	RB1	35.	12.27	8.	2.	1.	.26
+	2 COMBINED AT	CDIV	87.	12.20	18.	5.	2.	.12
	HYDROGRAPH AT	459	45.	12.03	3.	1.	0.	.03
+	2 COMBINED AT	C52	117.	12.10	21.	6.	2.	.15
+	ROUTED TO	R52	116.	12.17	21.	6.	2.	.15

+	HYDROGRAPH AT	460	221.	12.07	20.	6.	2.	.14
	2 COMBINED AT	C102	323.	12.07	40.	12.	4.	.29
+	ROUTED TO	BASIN3	71.	12.63	40.	12.	4.	.29
+	ROUTED TO	R3	71.	12.77	40.	12.	4.	.29
+	HYDROGRAPH AT	461	165.	12.10	17.	5.	2.	.12
+	2 COMBINED AT	C104	220.	12.10	57.	17.	6.	.41
+	2 COMBINED AT	C106	866.	12.07	115.	33.	12.	1.05
+	ROUTED TO	R106	828.	12.13	115.	33.	12.	1.05
+	HYDROGRAPH AT	462	557.	12.07	42.	12.	4.	.30
+	2 COMBINED AT	C56	1306.	12.10	156.	44.	16.	1.35
+	2 COMBINED AT	C462	1641.	12.30	416.	376.	249.	2.09
+	ROUTED TO	R462	1575.	12.33	407.	368.	243.	2.09
+	ROUTED TO	RR462	1543.	12.40	407.	368.	242.	2.09
+	HYDROGRAPH AT	500	1126.	12.27	128.	35.	12.	.93
+	2 COMBINED AT	C500	2475.	12.33	432.	388.	251.	3.02

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



FLOOD CONTROL DISTRICT
OF MARICOPA COUNTY
ENGINEERING DIVISION

McDOWELL/McKELLIPS/NJ ALTERNATIVE

	BY	DATE
DESIGNER	R. HINER	06/00
DRAWN	S. CAMPBELL	06/00
CHECKED	A. PATEL	06/00

WOOD, PATEL & ASSOCIATES, INC.
2051 WEST NORTHERN, SUITE 100
PHOENIX, ARIZONA (602) 335-8500

DRAWING NO. MDPMMKNJ.DWG SHEET OF

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1****************************************
 *                                      *
 *   FLOOD HYDROGRAPH PACKAGE  (HEC-1)  *
 *              JUN   1998              *
 *            VERSION 4.1               *
 *                                      *
 *  RUN DATE   18MAY01  TIME  09:23:42  *
 *                                      *
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*                                      *
*    U.S. ARMY CORPS OF ENGINEERS      *
*    HYDROLOGIC ENGINEERING CENTER     *
*          609 SECOND STREET           *
*       DAVIS, CALIFORNIA 95616        *
*           (916) 756-1104             *
*                                      *
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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
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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


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

   1          ID   DDMS MCUHP1 SPOOK HILL ADMP-EXISTING CONDITIONS MODEL-100YR, 24-HR STORM
   2          ID   Combined McDowell Rd., McKellips Rd., Non-Jurisdictional & Pass Mountain
   3          ID   Diversion Alternatives
   4          ID   McDowell Road Alternative - Option MD2E
   5          ID   McKellips Road Alternative - Option MK2E
   6          ID   Non-Jurisdictional Alternative - Option NJ4Q
   7          ID   FULL PASS MOUNTAIN DIVERSION WITH SPOOK HILL FRS Channel ROUTING - PM4R
   8          ID   OUTFLOW OF SIGNAL BUTTE IS QUADRUPLED
   9          ID   Spook Hill FRS with Off-Line Basin
              *
              *  Original File Names: MD2PMMK2.DAT, EC24NJ4Q.DAT
              *  Modified File Name:  MDPMMKNJ.DAT, 5/18/01, WOOD/PATEL, SZ
              *
              *
              *DIAGRAM
  10          IT       2                    2000
  11          IO       5
  12          IN      15
  13          JD    3.81    0.01
  14          PC    .000    .002    .005    .008    .011    .014    .017    .020    .023    .026
  15          PC    .029    .032    .035    .038    .041    .044    .048    .052    .056    .060
  16          PC    .064    .068    .072    .076    .080    .085    .090    .095    .100    .105
  17          PC    .110    .115    .120    .126    .133    .140    .147    .155    .163    .172
  18          PC    .181    .191    .203    .218    .236    .257    .283    .387    .663    .707
  19          PC    .735    .758    .776    .791    .804    .815    .825    .834    .842    .849
  20          PC    .856    .863    .869    .875    .881    .887    .893    .898    .903    .908
  21          PC    .913    .918    .922    .926    .930    .934    .938    .942    .946    .950
  22          PC    .953    .956    .959    .962    .965    .968    .971    .974    .977    .980
  23          PC    .983    .986    .989    .992    .995    .998   1.000
  24          JD   3.787    1.00
  25          JD   3.677    5.80
  26          JD   3.574   10.66
  27          JD   3.539   13.70
  28          JD   3.467   20.00
  29          JD   3.315   50.00
              * DDM   ***** Updated *****

  30          KK      10
  31          KM   SUB-BASIN 10
  32          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
  33          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .996
  34          KM     L = 2.00  Kb = .044  Adj. Slope =  165.0
  35          BA    .702
  36          LG    .350    .320   7.600    .090  15.000
  37          UC    .421    .302
  38          UA       0       3       5       8      12      20      43      75      90      96
  39          UA     100
              * DDM   ***** Preserved *****

  40          KK     R10
  41          KM   ROUTING OF FLOW FROM SUB-BASIN 10 TO R12
  42          RS       4    FLOW      -1
  43          RC    .045     .03    .045    8700    .021
  44          RX       0       1       2      17      27      42      43      44
  45          RY       5       5       5       0       0       5       5       5
              * DDM   ***** Preserved *****
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10
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 46          KK     R12
 47          KM   ROUTING OF FLOW FROM R12 TO SUB-BASIN 20
 48          RS       6    FLOW      -1
 49          RC    .045     .03    .045    4500     .01
 50          RX       0       1      45    52.5    72.5      80     124     125
 51          RY       4     2.5     2.5       0       0     2.5     2.5       4
             * DDM   ***** Updated *****

 52          KK      20
 53          KM   SUB-BASIN 20
 54          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
 55          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .993
 56          KM     L = 2.50  Kb = .041  Adj. Slope =   88.0
 57          BA   1.120
 58          LG    .350    .390   5.800    .190   1.000
 59          UC    .658    .454
 60          UA       0       3       5       8      12      20      43      75      90      96
 61          UA     100
             * DDM   ***** Preserved *****

 62          KK     C20
 63          KM   HYDROGRAPH COMBINATION OF SUB-BASINS 10 AND 20
 64          HC       2
             * DDM   ***** Preserved *****

 65          KK     R20
 66          KM        ROUTE FLOW THROUGH BULLDOG FLOODWAY FROM APACHE JUNCTION FRS
 67          RS       1    FLOW      -1
 68          RC    .016    .016    .016     990    .004
 69          RX       0       5       7    14.5    34.5      42      44      50
 70          RY       4       2       2       0       0       2       2       4
             * DDM   ***** Updated *****

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

 81          KK      60
 82          KM   SUB-BASIN 60
 83          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
 84          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .990
 85          KM     L = 4.19  Kb = .038  Adj. Slope =  209.6
 86          BA   1.746
 87          LG    .330    .350   5.800    .190   9.000
 88          UC    .596    .477
 89          UA       0       3       5       8      12      20      43      75      90      96
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LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 90          UA     100
             * DDM   ***** Preserved *****

 91          KK     C60
 92          KM   HYDROGRAPH COMBINATION FOR APACHE JUNCTION FRS
             *      1       2
 93          HC       3
             * DDM   ***** Preserved *****

 94          KK     S60
 95          KM   APACHE JUNCTION FRS AS-BUILT PLANS 12/19/88
 96          KM   OUTLET PIPE=30"RCP; L=136.6'; INLET INV.=1783.5; OUTLET INV.=1783
 97          KM   EMERGENCY SPILLWAY ELEV.=1799.77'; PRINCIPLE SPILLWAY ELEV.=1793.5'
 98          KM   STORAGE VOLUME BELOW PRINCIPLE SPILLWAY FOR SEDIMENT = 100 ACRE-FEET
             *  ESE = 1801.92 ft; PSE = 1795.65 ft; Sediment Vol. = 237 Ac-Ft.
 99          RS       1    STOR       0
100          SV       0       0      77     242     371     439     563     687    2163
101          SQ       0      12     103     114     120     362    1462    3101   30000
102          SE    95.0    96.0    98.0   100.0   101.6   101.9   103.0   104.0   112.9
             * DDM   ***** Preserved *****

103          KK     R60
104          KM        ROUTE FLOW THROUGH BULLDOG FLOODWAY FROM APACHE JUNCTION FRS
105          RS       1    FLOW      -1
106          RC    .016    .016    .016    2850    .012
107          RX       0       1       2     2.1     5.6     5.7       6       7
108          RY     3.5     3.5     3.5       0       0     3.5     3.5     3.5
             * DDM   ***** Preserved *****

109          KK    RR60
110          KM   ROUTE FLOW FROM BULLDOG FLOODWAY TO SUB-BASIN 80
111          RS       3    FLOW      -1
112          RC    .016    .016    .016    3500    .005
113          RX       0       1       2     2.1     7.1     7.2       8       9
114          RY     3.5     3.5     3.5       0       0     3.5     3.5     3.5
             * DDM   ***** Updated *****

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

125          KK     C80
126          KM   HYDROGRAPH COMBINATION FOR FLOW FROM APACHE JUNCTION FRS & SUB-BASIN 80
127          HC       2   1.475
             * DDM   ***** Preserved *****
1                                        HEC-1 INPUT                                          PAGE  4

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

128          KK     R80
129          KM   ROUTE FLOW FROM SUB-BASIN 80 TO SUB-BASIN 100
130          RS       1    FLOW      -1
131          RC    .025    .016    .025    1200    .003
132          RX      0       2       6     6.1    41.1    41.2    56.2    58.2
133          RY    5.5     4.5     4.5       0       0     4.5     4.5     5.5
             * DDM   ***** Updated *****

134          KK     100
135          KM   SUB-BASIN 100
136          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
137          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .997
138          KM     L = 1.94  Kb = .046  Adj. Slope =  108.0
139          BA    .484
140          LG    .320    .290   5.100    .260   3.000
141          UC    .533    .473
142          UA      0       5      16      30      65      77      84      90      94      97
143          UA    100
             * DDM   ***** Preserved *****

144          KK    C100
145          KM   HYDROGRAPH COMBINATION FOR FLOW FROM SUB-BASIN 80 & 100
146          HC       2
             * DDM   ***** Preserved *****

147          KK    R100
148          KM   ROUTE FLOW FROM SUB-BASIN 100 TO SUB-BASIN 120
149          RS       1    FLOW      -1
150          RC    .016    .016    .016     940    .005
151          RX      0       1       2     2.1    52.1    52.2      53      54
152          RY    4.5     4.5     4.5       0       0     4.5     4.5     4.5
             * DDM   ***** Updated *****

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

163          KK    C120
164          KM   HYDROGRAPH COMBINATION FOR FLOW FROM SUB-BASIN 100 & 120
165          HC       2
             * DDM   ***** Preserved *****
1                                        HEC-1 INPUT                                          PAGE  5

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

166          KK    R120
167          KM   ROUTE FLOW FROM SUB-BASIN 120 TO SIGNAL BUTTE FRS
168          RS       1    FLOW      -1
169          RC    .025    .016    .025    2100    .005
170          RX      0       6      10    10.1    60.1    60.2    74.2    80.2
171          RY      8       5       5       0       0       5       5       8
             * DDM   ***** Updated *****

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

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

192          KK    R150
193          KM   ROUTING OF FLOW FROM SUB-BASIN 150 TO R152
194          RS       2    FLOW      -1
195          RC    .045     .04    .045    3100    .032
196          RX       0       1       2      23      33      54      55      56
197          RY       7       7       7       0       0       7       7       7
             * DDM   ***** Preserved *****

198          KK    R152
199          KM   ROUTING OF FLOW FROM R152 TO SUB-BASIN 160
200          RS       3    FLOW      -1
201          RC    .045     .03    .045    5900    .019
202          RX       0       1       2       8      33      39      40      41
203          RY       2       2       2       0       0       2       2       2
             * DDM   ***** Updated *****

204          KK     160
205          KM   SUB-BASIN 160
206          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
207          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .998
208          KM     L = 2.10  Kb = .047  Adj. Slope =  129.0
209          BA    .369
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LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

210          LG    .340    .330   4.150    .440   1.000
211          UC    .587    .655
212          UA       0       3       5       8      12      20      43      75      90      96
213          UA     100
             * DDM   ***** Updated *****

214          KK     180
215          KM   SUB-BASIN 180
216          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
217          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .994
218          KM     L = 2.42  Kb = .041  Adj. Slope =  140.0
219          BA   1.000
220          LG    .350    .350   4.150    .430    .000
221          UC    .571    .403
222          UA       0       3       5       8      12      20      43      75      90      96
223          UA     100
             * DDM   ***** Preserved *****

224          KK    C180
225          KM   HYDROGRAPH COMBINATION FOR SIGNAL BUTTE FRS
             * KO     1
226          HC       5
             * DDM   ***** Updated *****

227          KK    385B
228          KM   SUB-BASIN 385B
229          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
230          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .998
231          KM     L = 1.47  Kb = .047  Adj. Slope =  315.0
232          BA    .375
233          LG    .350    .400   6.000    .170  17.000
234          UC    .287    .221
235          UA       0       3       5       8      12      20      43      75      90      96
236          UA     100
             * DDM   ***** Preserved *****

237          KK   R385B
238          KM   CHANNEL GEOMETRY OBTAINED FROM 2' CONTOUR MAPPING & AERIAL MAPPING
239          KM   ROUTING OF FLOW FROM SUB-BASIN 385B TO 395B
240          KM   OVERBANK MANNINGS INCREASED TO ACCOUNT FOR SKEWED FLOW TO NATURAL
241          KM   WATERCOURSE FLOW PATH
242          RS       1    FLOW      -1
243          RC     .07     .03     .07     500    .045
244          RX       0       1       3       9      39      45      46      47
245          RY       3       2       2       0       0       2       2       3
             * DDM   ***** Updated *****

246          KK    395B
247          KM   SUB-BASIN 395B
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 1.000
250          KM     L =  .71  Kb = .066  Adj. Slope =  249.8
251          BA    .017
252          LG    .350    .350   4.300    .400    .000
253          UC    .262    .650
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LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

254          UA       0       3       5       8      12      20      43      75      90      96
255          UA     100
             * DDM   ***** Preserved *****
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256          KK   C395B
257          KM   HYDROGRAPH COMBINATION OF SUB-BASINS 383 & 393
258          HC       2
             * DDM   ***** Preserved *****

259          KK   R395B
260          KM   CHANNEL GEOMETRY OBTAINED FROM 2' CONTOUR MAPPING & AERIAL MAPPING
261          KM   ROUTING OF FLOW FROM SUB-BASIN 393 TO SUB-BASIN 365
262          RS       2    FLOW      -1
263          RC    .055     .03     .055    3630     .045
264          RX       0       1        3       9       39       45       46       47
265          RY       3       2        2       0        0        2        2        3
             * DDM   ***** Updated *****

266          KK    370B
267          KM   SUB-BASIN 370B
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  .998
270          KM     L = 2.20  Kb = .049  Adj. Slope =  299.5
271          BA    .264
272          LG    .350    .350   4.800    .290   5.000
273          UC    .408    .550
274          UA       0       3        5       8       12       20       43       75       90       96
275          UA     100
             * DDM   ***** Preserved *****

276          KK   C370C
277          KM   HYDROGRAPH COMBINATION OF SUB-BASINS 395B & 370B
278          HC       2
             * DDM   ***** Preserved *****

279          KK   R370B
280          KM   CHANNEL GEOMETRY OBTAINED FROM 2' CONTOUR MAPPING & AERIAL MAPPING
281          KM   ROUTING OF FLOW FROM SUB-BASIN 370B TO ROUTING RR370B
282          RS       2    FLOW      -1
283          RC    .045     .03     .045    1110     .025
284          RX       0       1       50      56       76       82      131      132
285          RY       3       2        2       0        0        2        2        3
             * DDM   ***** Preserved *****

286          KK  RR370B
287          KM   CHANNEL GEOMETRY OBTAINED FROM 2' CONTOUR MAPPING & AERIAL MAPPING
288          KM   ROUTING OF FLOW FROM RR370B TO SUB-BASIN 355B
289          KM   OVERBANK MANNINGS INCREASED TO ACCOUNT FOR SKEWED FLOW TO NATURAL
290          KM   WATERCOURSE FLOW PATH
291          RS       1    FLOW      -1
292          RC     .07     .03      .07    1550     .008
293          RX       0       3        5      11       41       47      147      247
294          RY     3.5     2.5        2       0        0        2      2.5      3.5
             * DDM   ***** Updated *****
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LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

295          KK    355B
296          KM   SUB-BASIN 355B
297          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
298          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .997
299          KM     L = 2.41  Kb = .045  Adj. Slope =  298.2
300          BA    .513
301          LG    .350    .350   4.400    .370   1.000
302          UC    .421    .419
303          UA       0       3        5       8       12       20       43       75       90       96
304          UA     100
             * DDM   ***** Preserved *****

305          KK   C355B
306          KM   HYDROGRAPH COMBINATION OF SUB-BASINS 370B & 355B
307          HC       2
             * DDM   ***** Preserved *****

308          KK   R355B
309          KM   CHANNEL GEOMETRY OBTAINED FROM 2' CONTOUR MAPPING & AERIAL MAPPING
310          KM   ROUTING OF FLOW FROM SUB-BASIN 355B TO ROUTING RR355B
311          KM   OVERBANK MANNINGS INCREASED TO ACCOUNT FOR SKEWED FLOW TO NATURAL
312          KM   WATERCOURSE FLOW PATH
313          RS       3    FLOW      -1
314          RC     .07     .03      .07     936     .009
315          RX       0       3        5      11       41       47      172      302
316          RY     3.5     2.5        2       0        0        2      2.5      3.5
             * DDM   ***** Preserved *****

317          KK  RR355B
318          KM   CHANNEL GEOMETRY OBTAINED FROM 2' CONTOUR MAPPING & AERIAL MAPPING
319          KM   ROUTING OF FLOW FROM R355B TO SUB-BASIN 310
320          RS       1    FLOW      -1
321          RC    .045     .03     .045    1725      .03
322          RX       0       1       25      31       51       57       81       82
323          RY       3       2        2       0        0        2        2        3
             * DDM   ***** Updated *****

324          KK     350
325          KM   SUB-BASIN 350
326          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
327          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .994
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 328          KM     L = 2.22  Kb = .042  Adj. Slope =  315.0
 329          BA    .970
 330          LG    .350    .350   4.550    .340   4.000
 331          UC    .367    .234
 332          UA       0       3       5       8      12      20      43      75      90      96
 333          UA     100
              * DDM   ***** Preserved *****
1                                        HEC-1 INPUT                                                    PAGE  9

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

 334          KK    R350
 335          KM   CHANNEL GEOMETRY OBTAINED FROM 2' CONTOUR MAPPING & AERIAL MAPPING
 336          KM   ROUTING OF MAIN FLOW FROM DIVERSION OF SUB-BASIN 350 TO SUB-BASIN 310
 337          RS       9    FLOW      -1
 338          RC    .045    .035    .045    7650    .025
 339          RX       0       1      50      56      86      92     141     142
 340          RY       3       2       2       0       0       2       2       3
              * DDM   ***** Updated *****

 341          KK     310
 342          KM   SUB-BASIN 310
 343          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
 344          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .997
 345          KM     L = 2.65  Kb = .046  Adj. Slope =  285.6
 346          BA    .494
 347          LG    .350    .350   3.910    .480    .000
 348          UC    .483    .538
 349          UA       0       3       5       8      12      20      43      75      90      96
 350          UA     100
              * DDM   ***** Preserved *****

 351          KK    C310
 352          KM   HYDROGRAPH COMBINATION OF SUB-BASINS 350 & 310
 353          HC       3
              * DDM   ***** Preserved *****

 354          KK    R310
 355          KM   CHANNEL GEOMETRY OBTAINED FROM 2' CONTOUR MAPPING & AERIAL MAPPING
 356          KM   ROUTING OF FLOW FROM SUB-BASIN 310 TO R312
 357          RS       3    FLOW      -1
 358          RC    .045     .03    .045    2850    .021
 359          RX       0       1     100     106     126     132     231     232
 360          RY     3.5       2       2       0       0       2       2     3.5
              * DDM   ***** Preserved *****

 361          KK    R312
 362          KM   CHANNEL GEOMETRY OBTAINED FROM 2' CONTOUR MAPPING & AERIAL MAPPING
 363          KM   ROUTING OF FLOW FROM SUB-BASIN 310 TO 305
 364          KM   OVERBANK MANNINGS INCREASED TO ACCOUNT FOR SKEWED FLOW TO NATURAL
 365          KM   WATERCOURSE FLOW PATH
 366          RS       3    FLOW      -1
 367          RC     .07     .03     .07    2560   .0124
 368          RX       0       3       5      11      61      67     200     395
 369          RY       4     2.5       2       0       0       2     2.5       4
              * DDM   ***** Updated *****

 370          KK    305B
 371          KM   SUB-BASIN 305B
 372          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
 373          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .998
 374          KM     L = 1.65  Kb = .047  Adj. Slope =  127.0
 375          BA    .414
 376          LG    .350    .350   4.700    .300    .000
 377          UC    .467    .392
1                                        HEC-1 INPUT                                                    PAGE 10

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

 378          UA       0       3       5       8      12      20      43      75      90      96
 379          UA     100
              * DDM   ***** Preserved *****

 380          KK   C305B
 381          KM   HYDROGRAPH COMBINATION OF SUB-BASINS 310 & 295
 382          HC       2
              * DDM   ***** Preserved *****

 383          KK   R305B
 384          KM   CHANNEL GEOMETRY OBTAINED FROM 2' CONTOUR MAPPING & AERIAL MAPPING
 385          KM   ROUTING OF FLOW FROM SUBBASIN 305B TO BEGINNING OF PASS MTN. DIVERSION.
 386          KM   OVERBANK MANNINGS INCREASED TO ACCOUNT FOR SKEWED FLOW TO NATURAL
 387          KM   WATERCOURSE FLOW PATH
 388          RS       3    FLOW      -1
 389          RC     .07     .03     .07    1100    .013
 390          RX       0       3       5      11      51      57     200     400
 391          RY       4     2.5       2       0       0       2     2.5       4
              * DDM   ***** Updated *****

 392          KK     210
 393          KM   SUB-BASIN 210
 394          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
 395          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .995
 396          KM     L = 1.84  Kb = .043  Adj. Slope =  315.0
 397          BA    .792
 398          LG    .350    .360   6.800    .130   4.000
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399          UC    .313    .189
400          UA       0       3       5       8      12      20      43      75      90      96
401          UA     100
             * DDM   ***** Preserved *****

402          KK    R210
403          KM   ROUTING OF FLOW FROM SUB-BASIN 210 TO SUB-BASIN 220
404          RS       2    FLOW      -1
405          RC    .045     .03    .045    5100    .022
406          RX       0       1       2      14      34      46      47      48
407          RY       4       4       4       0       0       4       4       4
             * DDM   ***** Updated *****

408          KK     240
409          KM   SUB-BASIN 240
410          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
411          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .992
412          KM     L = 2.96  Kb = .039  Adj. Slope =  305.5
413          BA   1.408
414          LG    .350    .370   5.300    .230   2.000
415          UC    .417    .274
416          UA       0       3       5       8      12      20      43      75      90      96
417          UA     100
             * DDM   ***** Preserved *****
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LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

418          KK    C240
419          KM   HYDROGRAPH COMBINATION FOR SUB-BASIN 240 & 220
420          HC       3
             * DDM   ***** Preserved *****

421          KK    S240
422          KM   DIGITAL MAPPING SHOWS SEDIMENTATION.  FOR SIMPLICITY NO ADDITIONAL
423          KM   SEDIMENTATION WILL BE CONSIDERED FOR STORAGE ROUTING ANALYSIS. 5/11/00
424          KM    WEIR GEOMETRY OBTAINED FROM AS-BUILT PLANS @ PASS MTN. DIVERSION.
425          KM   WEIR STORAGE DATA OBTAINED FROM 2' CONTOUR MAPPING. Weir Width Changed
             *  from 42' to 45'
426          RS       1    STOR       0
427          SA    1.38    14.2    36.5
428          SE       0       5      11
429          SS       5      45       3     1.5
             * DDM   ***** Preserved *****

430          KK    R240
431          KM   ROUTE FLOW FROM SUB-BASIN 240 TO SUB-BASIN 220
432          KM   PASS MOUNTAIN DIVERSION
433          RS       3    FLOW      -1
434          RC    .035    .025    .035    1800    .005
435          RX       0      15      30      39      69      81      96     111
436          RY     4.6     3.3       3       0       0       3       3       4
             * DDM   ***** Updated *****

437          KK     220
438          KM   SUB-BASIN 220
439          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
440          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .997
441          KM     L = 1.85  Kb = .046  Adj. Slope =  315.0
442          BA    .473
443          LG    .350    .350   7.000    .120   5.000
444          UC    .325    .266
445          UA       0       3       5       8      12      20      43      75      90      96
446          UA     100
             * DDM   ***** Preserved *****

447          KK    C220
448          KM   HYDROGRAPH COMBINATION FOR SUB-BASIN 240 & 220
449          HC       2
             * DDM   ***** Preserved *****

450          KK    S220
451          KM   DIGITAL MAPPING SHOWS SEDIMENTATION.  FOR SIMPLICITY NO ADDITIONAL
452          KM   SEDIMENTATION WILL BE CONSIDERED FOR STORAGE ROUTING ANALYSIS. 5/11/00
453          KM    WEIR GEOMETRY OBTAINED FROM AS-BUILT PLANS @ PASS MTN. DIVERSION.
454          KM   WEIR STORAGE DATA OBTAINED FROM 2' CONTOUR MAPPING.
455          RS       1    STOR       0
456          SA     .78     4.1    13.7
457          SE       0       3      10
458          SS       3      65       3     1.5
             * DDM   ***** Preserved *****
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LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

459          KK    R220
460          KM   ROUTE FLOW FROM SUB-BASIN 220 TO SUB-BASIN 200
461          KM   PASS MOUNTAIN DIVERSION
462          RS       3    FLOW      -1
463          RC    .035    .025    .035    1250    .005
464          RX       0      50     100     109     139     148     178     184
465          RY       5       4       3       0       0       3       3       5
             * DDM   ***** Updated *****

466          KK     190
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467          KM   SUB-BASIN 190
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 = 1.91  Kb = .042  Adj. Slope =  315.0
471          BA    .918
472          LG    .350    .390   5.800    .190   8.000
473          UC    .321    .185
474          UA       0       3       5       8      12      20      43      75      90      96
475          UA     100
             * DDM   ***** Preserved *****

476          KK    R190
477          KM   ROUTING OF FLOW FROM SUB-BASIN 190 TO SUB-BASIN 200
478          RS       2    FLOW      -1
479          RC    .045     .03    .045    4740     .03
480          RX       0       1       2      17      37      52      53      54
481          RY       5       5       5       0       0       5       5       5
             * DDM   ***** Preserved *****

482          KK    R192
483          KM   ROUTING OF FLOW FROM SUB-BASIN 190 TO SUB-BASIN 200
484          RS       3    FLOW      -1
485          RC    .045    .035    .045    2200    .018
486          RX       0       1      50      59      79      88     137     138
487          RY     4.5       3       3       0       0       3       3     4.5
             * DDM   ***** Updated *****

488          KK     200
489          KM   SUB-BASIN 200
490          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
491          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .997
492          KM     L = 1.55  Kb = .045  Adj. Slope =  306.9
             * KO     1
493          BA    .530
494          LG    .350    .390   5.700    .200  10.000
495          UC    .296    .195
496          UA       0       3       5       8      12      20      43      75      90      96
497          UA     100
             * DDM   ***** Preserved *****
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LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

498          KK    C200
499          KM   HYDROGRAPH COMBINATION FOR SUB-BASIN 220 & 200
             * KO     1
500          HC       3
             * DDM   ***** Preserved *****

501          KK    S200
502          KM    WEIR GEOMETRY OBTAINED FROM AS-BUILT PLANS @ PASS MTN. DIVERSION.
503          KM   WEIR STORAGE DATA OBTAINED FROM 2' CONTOUR MAPPING.
             * KO     1
504          RS       1    STOR       0
505          SA    2.56     3.1     9.4
506          SE       0       3      10
507          SS       3     112       3     1.5
             * DDM   ***** Preserved *****

508          KK    R200
509          KM   ROUTE FLOW FROM SUB-BASIN 200 TO SIGNAL BUTTE FRS through storage
510          RS       1    FLOW      -1
511          RC    .035    .025    .035     650    .005
512          RX       0       1       2      17     117     132     133     134
513          RY       5       5       5       0       0       5       5       5
             * DDM   ***** Preserved *****

514          KK   SS200
515          KM    WEIR GEOMETRY OBTAINED FROM AS-BUILT PLANS @ PASS MTN. DIVERSION.
516          KM   WEIR STORAGE DATA OBTAINED FROM 2' CONTOUR MAPPING.
             * KO     1
517          RS       1    STOR       0
518          SA       8     9.2     9.2
519          SE       0       7      10
520          SS       7     251       3     1.5
             * DDM   ***** Preserved *****

521          KK   RR200
522          KM   ROUTE FLOW FROM SUB-BASIN 200 TO SIGNAL BUTTE FRS
523          RS       3    FLOW      -1
524          RC    .035    .025    .035    3150    .005
525          RX       0       1       2      17     117     132     133     134
526          RY       5       5       5       0       0       5       5       5
             * ****************************************************************
             * ************ END OF PASS MOUNTAIN ALTERNATIVE UPDATE. **************
             * DDM   ***** Preserved *****

527          KK   CC180
528          KM   HYDROGRAPH COMBINATION FOR SIGNAL BUTTE FRS
             * KO     1
529          HC       2
             * DDM   ***** Preserved *****
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LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10
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530          KK    S180
531          KM   SIGNAL BUTTE FRS DATED 1/28/85
532          KM   OUTLET PIPE=36"RCP; L= 147';  INLET INV.=1690; OUTLET INV.=1687
533          KM   EMERGENCY SPILLWAY ELEV.=1712.4; PRINCIPLE SPILLWAY ELEV.=1701
534          KM   STORAGE VOLUME BELOW PRINCIPLE SPILLWAY FOR SEDIMENT = 250 ACRE-FEET
535          RS       1    STOR       0
536          SV       0      92     226     462     742    1197    1418    1776    1941    3114
537          SQ       0      40      42     392     532     596     620    1949    3032    6465
538          SE      99     101     103     106     109     113   114.6     117     118     120
             *
             * DDM   ***** Preserved *****

539          KK    R180
540          KM   Routing length updated using Signal Butte Floodway plans dated March 1983
541          KM   Routing length increased 100' from 1500' to 1600'    12/12/00
542          KM   CHANNEL GEOMETRY FOR SIGNAL BUTTE FRS OBTAINED FROM AS-BUILT PLANS.
543          KM   ROUTE FLOW FROM SIGNAL BUTTE FRS TO SUB-BASIN 260
544          RS       3    FLOW      -1
545          RC    .035    .025    .035    1600    .003
546          RX       0       1       2    22.6    38.6    59.2      60      61
547          RY     9.3     9.3     9.3       0       0     9.3     9.3     9.3
             * DDM   ***** Updated *****

548          KK     260
549          KM   SUB-BASIN 260
550          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
551          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .998
552          KM     L =  .85  Kb = .049  Adj. Slope =   65.0
553          BA    .262
554          LG    .300    .190   6.600    .170  15.000
555          UC    .379    .238
556          UA       0       5      16      30      65      77      84      90      94      97
557          UA     100
             * DDM   ***** Preserved *****

558          KK    C260
559          KM   HYDROGRAPH COMBINATION FOR OUTFLOW OF SIGNAL BUTTE FRS & SUB-BASIN 260
560          HC       2    .262
             * DDM   ***** Preserved *****

561          KK    R260
562          KM   Routing length updated using Signal Butte Floodway plans dated March 1983
563          KM   Routing length unchanged     12/12/00
564          KM   CHANNEL GEOMETRY FOR SIGNAL BUTTE FRS OBTAINED FROM AS-BUILT PLANS.
565          KM   ROUTE FLOW FROM SUB-BASIN 260 TO SUB-BASIN 280
566          RS       3    FLOW      -1
567          RC    .035    .025    .035    2300    .003
568          RX       0       1       2    23.4    43.4    64.8      65      66
569          RY     9.7     9.7     9.7       0       0     9.7     9.7     9.7
             * DDM   ***** Updated *****
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LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

570          KK     280
571          KM   SUB-BASIN 280
572          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
573          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .998
574          KM     L =  .82  Kb = .048  Adj. Slope =   79.0
575          BA    .319
576          LG    .300    .250   5.300    .290  15.000
577          UC    .350    .189
578          UA       0       5      16      30      65      77      84      90      94      97
579          UA     100
             * DDM   ***** Preserved *****

580          KK    C280
581          KM   HYDROGRAPH COMBINATION FOR SUB-BASIN 260 & SUB-BASIN 280
582          HC       2
             * DDM   ***** Preserved *****

583          KK    R280
584          KM   Routing length updated using Signal Butte Floodway plans dated March 1983
585          KM   Routing length decreased 400' from 2500' to 2100'    12/12/00
586          KM   CHANNEL GEOMETRY FOR SIGNAL BUTTE FRS OBTAINED FROM AS-BUILT PLANS.
587          KM   ROUTE FLOW FROM SUB-BASIN 280 TO SUB-BASIN 300
588          RS       3    FLOW      -1
589          RC    .035    .025    .035    2100    .003
590          RX       0       1       2    23.4    43.4    64.8      65      66
591          RY     9.7     9.7     9.7       0       0     9.7     9.7     9.7
             *
             * DDM   ***** Updated *****

592          KK     300
593          KM   SUB-BASIN 300
594          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
595          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .998
596          KM     L =  .82  Kb = .049  Adj. Slope =   98.0
597          BA    .289
598          LG    .320    .290   4.200    .480  11.000
599          UC    .346    .197
600          UA       0       5      16      30      65      77      84      90      94      97
601          UA     100
             * DDM   ***** Preserved *****
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```
602          KK    C300
603          KM   HYDROGRAPH COMBINATION OF DIVERTED FLOW
604          HC       2
             * DDM   ***** Preserved *****

605          KK    R300
606          KM   Routing length updated using Signal Butte Floodway plans dated March 1983
607          KM   Routing length increased 300' from 2200' to 2500'    12/12/00
608          KM   CHANNEL GEOMETRY FOR SIGNAL BUTTE FRS OBTAINED FROM AS-BUILT PLANS.
609          KM   ROUTE FLOW FROM SUB-BASIN 300 TO START OF FLOODWAY CONCRETE CHANNEL
610          RS       2    FLOW      -1
611          RC    .035    .025    .035    2500    .003
612          RX       0       1       2    23.4    55.4    76.8      77      78
1                                          HEC-1 INPUT                                                    PAGE 16

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

613          RY     9.7     9.7     9.7       0       0     9.7     9.7     9.7
             * DDM   ***** Updated *****

614          KK    305A
615          KM   SUB-BASIN 305A
616          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
617          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .998
618          KM     L = 1.20  Kb = .047  Adj. Slope =   92.0
619          BA    .372
620          LG    .340    .330   4.500    .370  11.000
621          UC    .433    .297
622          UA       0       5      16      30      65      77      84      90      94      97
623          UA     100
             * DDM   ***** Preserved *****

624          KK   C305A
625          KM   HYDROGRAPH COMBINATION OF SUB-BASIN 280 & 300 & 305A
626          HC       2
             * DDM   ***** Preserved *****

627          KK   R305A
628          KM   Routing length updated using Signal Butte Floodway plans dated March 1983
629          KM   Routing length decreased 50' from 6050' to 6000'     12/12/00
630          KM   CHANNEL GEOMETRY FOR SPOOK HILL FRS OBTAINED FROM AS-BUILTS PLANS.
631          KM   CONTINUE TO ROUTE FLOW WITHIN CONCRETE CHANNEL TO SPOOK HILL FRS
632          RS       2    FLOW      -1
633          RC    .016    .016    .016    6000   .0146
634          RX       0       1       2     2.1    16.1    16.2      17      18
635          RY     7.5     7.5     7.5       0       0     7.5     7.5     7.5
             *      1       2
             * DDM   ***** Updated *****

636          KK     320
637          KM   SUB-BASIN 320
638          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
639          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .995
640          KM     L = 2.04  Kb = .042  Adj. Slope =  118.0
641          BA    .865
642          LG    .310    .290   4.500    .380  15.000
643          UC    .508    .335
644          UA       0       5      16      30      65      77      84      90      94      97
645          UA     100
             * DDM   ***** Preserved *****

646          KK    D320
647          KM        DIVERT FLOW INTO ONLINE  DETENTION BASIN
648          KM   DETENTION/RETENTION BASINS LOCATED WITHIN THREE SUBDIVISIONS
649          KM   SIERRA HEIGHTS       FALCON RIDGE    & MARBLE CREEK
650          KM        MAXIMUM VOLUME DIVERSION = 12.27acre-feet
             *      1
651          DT   BS320   12.27
652          DI       0   10000
653          DQ       0   10000
             * DDM   ***** Preserved *****
1                                          HEC-1 INPUT                                                    PAGE 17

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

654          KK   RT320
655          KM   RETRIEVE FLOW FROM DIVERSION INTO ONLINE BASIN
656          DR   BS320
             * DDM   ***** Preserved *****

657          KK    S320
658          KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
659          KM   12.27 ACRE-FEETx43560/36x3600=4.1cfs
             *      1
660          RS       1    STOR       0
661          SV       0     .01    12.3
662          SQ       0     3.0     4.2
             * DDM   ***** Preserved *****

663          KK    C320
664          KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
665          HC       3
             * ADD ROUTING ALONG SPOOK HILL FRS
             * DDM   ***** Preserved *****

666          KK    R320
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667          KM   ROUTE FLOW THROUGH SPOOK HILL FRS FROM JUNCTION OF BROWN & ELLSWORTH ROAD
668          KM   TO JUST NORTH OF JUNCTION OF MCDOWELL & POWER RD.
669          RS       9    FLOW      -1
670          RC    .035    .035    .035    4500    .0007
671          RX       0       9      50      68     198     206     267     275
672          RY     100      97      97      91      91      97      97     100
             * DDM   ***** Updated *****

673          KK    340B
674          KM   SUB-BASIN 340B
675          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
676          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .998
677          KM     L =  .85  Kb = .049  Adj. Slope =  238.5
678          BA    .290
679          LG    .320    .280   4.000    .520  13.000
680          UC    .246    .139
681          UA       0       5      16      30      65      77      84      90      94      97
682          UA     100
             *
             * DDM   ***** Preserved *****

683          KK   D340B
684          KM        DIVERT FLOW INTO ONLINE  DETENTION BASIN
685          KM   DETENTION/RETENTION BASINS LOCATED WITHIN THREE SUBDIVISIONS
686          KM   GRANDVIEW ESTATES    BOULDER MOUNTAIN & 33% OF MESA HIGHLANDS
687          KM        MAXIMUM VOLUME DIVERSION = 11.0 acre-feet
             *      1
688          DT  BS340B      11
689          DI       0   10000
690          DQ       0   10000
             * DDM   ***** Preserved *****
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LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

691          KK  RT340B
692          KM   RETRIEVE FLOW FROM DIVERSION INTO ONLINE BASIN
693          DR  BS340B
             * DDM   ***** Preserved *****

694          KK   S340B
695          KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
696          KM    11.0 ACRE-FEETx43560/36x3600= 3.7cfs
             *      1
697          RS       1    STOR       0
698          SV       0     .01      11      15
699          SQ       0     2.0     3.7     4.0
             * DDM   ***** Preserved *****

700          KK   C340B
701          KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
             * KO     1
702          HC       2
             *
             * DDM   ***** Preserved *****

703          KK  DD340B
704          KM   DIVERT FLOW INTO OFFLINE DETENTION BASIN LOCATED WITHIN SUB-BASINS 340B.
             * KO     1
705          DT   BS340
706          DI       0      18    5000
707          DQ       0       0    4982
             * DDM   ***** Preserved *****

708          KK   RT340
709          KM   RETRIEVE FLOW FROM DIVERSION
710          DR   BS340
             * DDM   ***** Preserved *****

711          KK  SS340B
712          KM   RETRIEVE FLOW INTO OFFLINE BASIN AND BLEED OFF WITHIN 36 HOURS.
713          KM       6 ACRE-FEETx43560/36x3600 = 2 cfs
714          RS       1    STOR       0
715          SV       0     .01       6       8
716          SQ       0     1.5       2       4
             * DDM   ***** Preserved *****

717          KK  CC340B
718          KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
719          HC       2
             * DDM   ***** Preserved *****

720          KK   R340B
721          KM   CHANNEL GEOMETRY OBTAINED FROM 2' CONTOUR MAPPING.
722          KM   ROUTING OF FLOW FROM SUB-BASINS 370 AND 395 TO SUB-BASIN 380.
723          RS       4    FLOW      -1
724          RC    .045    .035    .045    2600    .023
725          RX       0       1      40      46      56      62     102     103
726          RY       3       2       2       0       0       2       2       3
             *
             * DDM   ***** Updated *****
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LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10
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727          KK    340A
728          KM   SUB-BASIN 340A
729          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
730          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .993
731          KM     L = 1.80  Kb = .044  Adj. Slope =  117.0
732          BA   1.150
733          LG    .260    .280   4.200    .510  23.000
734          UC    .492    .249
735          UA       0       5      16      30      65      77      84      90      94      97
736          UA     100
             *
             * DDM   ***** Preserved *****

737          KK   D340A
738          KM        DIVERT FLOW INTO ONLINE  DETENTION BASIN
739          KM   DETENTION/RETENTION BASINS LOCATED WITHIN THREE SUBDIVISIONS
740          KM   GRANDVIEW ESTATES    BOULDER MOUNTAIN & 33% OF MESA HIGHLANDS
741          KM        MAXIMUM VOLUME DIVERSION = 45.0 acre-feet
             * KO     1
742          DT  BS340A      45
743          DI       0   10000
744          DQ       0   10000
             * DDM   ***** Preserved *****

745          KK  RT340A
746          KM   RETRIEVE FLOW FROM DIVERSION INTO ONLINE BASIN
747          DR  BS340A
             * DDM   ***** Preserved *****

748          KK   S340A
749          KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
750          KM    45.0 ACRE-FEETx43560/36x3600=15.2cfs
             *      1
751          RS       1    STOR       0
752          SV       0     .01      45      50
753          SQ       0     3.0    15.2      16
             *
             * DDM   ***** Preserved *****

754          KK   C340A
755          KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
756          HC       3
             *
             * DDM   ***** Preserved *****

757          KK    C340
758          KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
759          HC       2
             *
             * ADD ROUTING ALONG SPOOK HILL FRS
             * DDM   ***** Preserved *****
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LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

760          KK    R340
761          KM   ROUTE FLOW THROUGH SPOOK HILL FRS FROM JUNCTION OF BROWN & ELLSWORTH ROAD
762          KM   TO JUST NORTH OF JUNCTION OF MCDOWELL & POWER RD.
763          RS       5    FLOW      -1
764          RC    .035    .035    .035    2300   .0007
765          RX       0       9      50      68     233     241     307     315
766          RY     100      97      97      91      91      97      97     100
             * DDM   ***** Updated *****

767          KK    355A
768          KM   SUB-BASIN 355A
769          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
770          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .999
771          KM     L =  .80  Kb = .052  Adj. Slope =  125.0
772          BA    .163
773          LG    .320    .290   4.550    .360  14.000
774          UC    .308    .236
775          UA       0       5      16      30      65      77      84      90      94      97
776          UA     100
             * DDM   ***** Preserved *****

777          KK   R355A
778          KM   CHANNEL GEOMETRY OBTAINED FROM 2' CONTOUR MAPPING.
779          KM   ROUTING OF FLOW FROM SUB-BASIN 355A TO SUB-BASIN 360
780          RS       9    FLOW      -1
781          RC    .045    .035    .045   10100    .026
782          RX       0       1      40      46      56      62     102     103
783          RY       3       2       2       0       0       2       2       3
             * DDM   ***** Updated *****

784          KK     360
785          KM   SUB-BASIN 360
786          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
787          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .995
788          KM     L = 2.10  Kb = .046  Adj. Slope =  124.0
789          BA    .880
790          LG    .280    .290   4.100    .520  15.000
791          UC    .571    .387
792          UA       0       5      16      30      65      77      84      90      94      97
793          UA     100
             * DDM   ***** Preserved *****
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794          KK    D360
795          KM        DIVERT FLOW INTO ONLINE  DETENTION BASIN
796          KM   DETENTION/RETENTION BASINS LOCATED WITHIN 33% OF MESA HIGHLANDS
797          KM        MAXIMUM VOLUME DIVERSION = 28.6 acre-feet
             *      1
798          DT   BS360    28.6
799          DI       0   10000
800          DQ       0   10000
             * DDM   ***** Preserved *****
1                                        HEC-1 INPUT                                                    PAGE 21

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


801          KK   RT360
802          KM   RETRIEVE FLOW FROM DIVERSION INTO ONLINE BASIN
803          DR   BS360
             * DDM   ***** Preserved *****

804          KK    S360
805          KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
806          KM    28.6 ACRE-FEETx43560/36x3600=9.6cfs
807          RS       1    STOR       0
808          SV       0     .01    28.6
809          SQ       0     3.0     9.6
             * DDM   ***** Preserved *****

810          KK    C360
811          KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
812          HC       4
             *
             * OFFLINE DETENTION BASIN ADDED THIS ALTERNATIVE
             * DDM   ***** Preserved *****

813          KK   DD380
814          KM        DIVERT FLOW INTO OFFLINE  DETENTION BASIN
815          KM        IN RED MOUNTAIN REGIONAL PARK
816          KM
817          DT    380S
818          DI       0    1960   10000
819          DQ       0       0    8040
             * DDM   ***** Preserved *****

820          KK  RT380S
821          KM   RETRIEVE FLOW FROM DIVERSION INTO OFFLINE BASIN
822          DR    380S
             * DDM   ***** Preserved *****

823          KK   SS380
824          KM   OFFLINE BASIN IN PARK AREA
             *  Total Volume = 90 A-F, Maximum Inflow = 2660 cfs
             *  Bleed-off Pipe Diameter = 2.5', and Weir Flow Start at 3' of Ponding. 3/26/01
             * KO      1       2
825          RS       1    STOR       0
826          SV     0.0    10.0    25.0    60.0   100.0   150.0
827          SE       0      .5       1     2.0     3.0     4.0
828          SL     0.5    4.91     0.6     0.5
829          SS       3      50     3.0     1.5
             * DDM   ***** Preserved *****

830          KK   CC360
831          KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
832          HC       2
             *
             * ADD ROUTING ALONG SPOOK HILL FRS
             * DDM   ***** Preserved *****
1                                        HEC-1 INPUT                                                    PAGE 22

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


833          KK    R360
834          KM   ROUTE FLOW THROUGH SPOOK HILL FRS FROM JUNCTION OF BROWN & ELLSWORTH ROAD
835          KM   TO JUST NORTH OF JUNCTION OF MCDOWELL & POWER RD.
836          RS       6    FLOW      -1
837          RC    .035    .035    .035    2600   .0007
838          RX       0       9      50      68     268     286     337     345
839          RY     100      97      97      91      91      97      97     100
             *
             * DDM   ***** Updated *****

840          KK    380A
841          KM   SUB-BASIN 380A
842          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
843          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .998
844          KM     L =  .66  Kb = .076  Adj. Slope =   91.0
845          BA    .261
846          LG    .170    .250   4.100    .710  21.000
847          UC    .425    .221
848          UA       0       3       5       8      12      20      43      75      90      96
849          UA     100
             *
             * DDM   ***** Preserved *****

850          KK   C380A
851          KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
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852          HC       2
             *
             * DDM   ***** Preserved *****

853          KK   R380A
854          KM   ROUTE FLOW THROUGH SPOOK HILL FRS FROM JUNCTION OF BROWN & ELLSWORTH ROAD
855          KM   TO JUST NORTH OF JUNCTION OF MCDOWELL & POWER RD.
856          RS       2    FLOW      -1
857          RC    .035    .035    .035    1500   .0007
858          RX       0       9      50      68     163     181     257     265
859          RY     100      97      97      91      91      97      97     100
             *
             * DDM   ***** Updated *****

860          KK    400A
861          KM   SUB-BASIN 400A
862          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
863          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF 1.000
864          KM     L =  .28  Kb = .094  Adj. Slope =   71.0
865          BA    .048
866          LG    .250    .290   4.000    .640    .000
867          UC    .317    .211
868          UA       0       3       5       8      12      20      43      75      90      96
869          UA     100
             *
             * DDM   ***** Preserved *****
1                                        HEC-1 INPUT                                          PAGE 23

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

870          KK   C400A
871          KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
872          HC       2
             *
             * DDM   ***** Preserved *****

873          KK   R400A
874          KM   ROUTE FLOW THROUGH SPOOK HILL FRS FROM JUNCTION OF BROWN & ELLSWORTH ROAD
875          KM   TO JUST NORTH OF JUNCTION OF MCDOWELL & POWER RD.
876          RS       6    FLOW      -1
877          RC    .035    .035    .035    2500   .0007
878          RX       0       9      50      68     163     181     257     265
879          RY     100      97      97      91      91      97      97     100
             *
             * DDM   ***** Updated *****

880          KK    380B
881          KM   SUB-BASIN 380B
882          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
883          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .996
884          KM     L = 1.80  Kb = .044  Adj. Slope =  122.0
885          BA    .637
886          LG    .340    .330   4.200    .440   4.000
887          UC    .504    .358
888          UA       0       5      16      30      65      77      84      90      94      97
889          UA     100
             *
             * DDM   ***** Preserved *****

890          KK   D380B
891          KM        DIVERT FLOW INTO ONLINE  DETENTION BASIN
892          KM   DETENTION/RETENTION BASINS LOCATED WITHIN 33% OF MESA HIGHLANDS
893          KM        MAXIMUM VOLUME DIVERSION = 28.6 acre-feet
             *      1
894          DT  BS380B    28.6
895          DI       0   10000
896          DQ       0   10000
             * DDM   ***** Preserved *****

897          KK  RT380B
898          KM   RETRIEVE FLOW FROM DIVERSION INTO ONLINE BASIN
899          DR  BS380B
             * DDM   ***** Preserved *****

900          KK   S380B
901          KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
902          KM    28.6 ACRE-FEETx43560/36x3600=9.6cfs
903          RS       1    STOR       0
904          SV       0     .01    28.6
905          SQ       0     3.0     9.6
             * DDM   ***** Preserved *****
1                                        HEC-1 INPUT                                          PAGE 24

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

906          KK   C380B
907          KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
             * KO      1
908          HC       2
             *
             * DDM   ***** Preserved *****

909          KK  DD380B
910          KM   DIVERT FLOW INTO OFFLINE DETENTION BASIN LOCATED WITHIN SUB-BASINS 380B.
             * KO      1
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911          DT   BS380
912          DI       0      86    5000
913          DQ       0       0    4914
             * DDM   ***** Preserved *****

914          KK   RT380
915          KM   RETRIEVE FLOW FROM DIVERSION
916          DR   BS380
             * DDM   ***** Preserved *****

917          KK  SS380B
918          KM   RETRIEVE FLOW INTO OFFLINE BASIN AND BLEED OFF WITHIN 36 HOURS.
919          KM      44 ACRE-FEETx43560/36x3600 = 15cfs
920          RS       1    STOR       0
921          SV       0     .01      44      50
922          SQ       0       4      15      20
             * DDM   ***** Preserved *****

923          KK  CC380B
924          KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
925          HC       2
             * DDM   ***** Preserved *****

926          KK   R380B
927          KM   CHANNEL GEOMETRY OBTAINED FROM 2' CONTOUR MAPPING.
928          KM   ROUTING OF FLOW FROM SUB-BASINS 370 AND 395 TO SUB-BASIN 380.
929          RS       4    FLOW      -1
930          RC    .045    .035    .045    2600    .023
931          RX       0       1      40      46      56      62     102     103
932          RY       3       2       2       0       0       2       2       3
             *
             *
             * DDM   ***** Updated *****

933          KK    400B
934          KM   SUB-BASIN 400B
935          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
936          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .997
937          KM     L = 1.64  Kb = .045  Adj. Slope =  110.0
938          BA    .568
939          LG    .330    .300   4.150    .480   7.000
940          UC    .500    .352
941          UA       0       5      16      30      65      77      84      90      94      97
942          UA     100
             *
             * DDM   ***** Preserved *****
                                          HEC-1 INPUT                                          PAGE 25

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

943          KK   D400B
944          KM        DIVERT FLOW INTO ONLINE  DETENTION BASIN
945          KM   DETENTION/RETENTION BASIN LOCATED WITHIN SAGUARO VISTA SUBDIVISION
946          KM        MAXIMUM VOLUME DIVERSION = 5.6 ACRE-FEET
             *      1
947          DT  BS400B     5.6
948          DI       0   10000
949          DQ       0   10000
             * DDM   ***** Preserved *****

950          KK  RT400B
951          KM   RETRIEVE FLOW FROM DIVERSION INTO ONLINE BASIN
952          DR  BS400B
             * DDM   ***** Preserved *****

953          KK   S400B
954          KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
955          KM     5.6 ACRE-FEETx43560/36x3600 = 2 cfs
956          RS       1    STOR       0
957          SV       0     .01     5.6
958          SQ       0       1       2
             * DDM   ***** Preserved *****

959          KK   C400B
960          KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
961          HC       2
             * DDM   ***** Preserved *****

962          KK  CC400B
963          KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
964          HC       3
             *
             * DDM   ***** Preserved *****

965          KK    R400
966          KM   ROUTE FLOW THROUGH SPOOK HILL FRS FROM JUNCTION OF BROWN & ELLSWORTH ROAD
967          KM   TO JUST NORTH OF JUNCTION OF MCDOWELL & POWER RD.
968          RS       9    FLOW      -1
969          RC    .035    .035    .035    3800   .0007
970          RX       0       9      50      68     163     181     257     265
971          RY     100      97      97      91      91      97      97     100
             *
             * DDM   ***** Updated *****

972          KK    420A
973          KM   SUB-BASIN 420A
```

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 974          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
 975          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .995
 976          KM     L = 1.91  Kb = .045  Adj. Slope =  120.0
 977          BA    .570
 978          LG    .320     .280   4.350     .440  10.000
 979          UC    .521     .415
 980          UA       0        5      16       30       65       77       84       90       94       97
 981          UA     100
              * DDM   ***** Preserved *****
1                                        HEC-1 INPUT                                                    PAGE 26

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


 982          KK   D420A
 983          KM        DIVERT FLOW INTO ONLINE  DETENTION BASIN
 984          KM   DETENTION/RETENTION BASINS LOCATED WITHIN GRAY FOX SUBDIVISION
 985          KM        MAXIMUM VOLUME DIVERSION = 8.65 acre-feet
              *      1
 986          DT  BS420A    8.65
 987          DI       0   10000
 988          DQ       0   10000
              * DDM   ***** Preserved *****

 989          KK  RT420A
 990          KM   RETRIEVE FLOW FROM DIVERSION INTO ONLINE BASIN
 991          DR  BS420A
              * DDM   ***** Preserved *****

 992          KK   S420A
 993          KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
 994          KM   38.55 ACRE-FEETx43560/36x3600=13cfs
 995          RS       1    STOR       0
 996          SV       0     .01   38.55
 997          SQ       0      13      13
              * DDM   ***** Preserved *****

 998          KK   C420A
 999          KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
1000          HC       3
              *
              * DDM   ***** Preserved *****

1001          KK    R420
1002          KM   ROUTE FLOW THROUGH SPOOK HILL FRS FROM JUNCTION OF BROWN & ELLSWORTH ROAD
1003          KM   TO JUST NORTH OF JUNCTION OF MCDOWELL & POWER RD.
1004          RS       6    FLOW      -1
1005          RC    .035     .035    .035    2900    .0007
1006          RX       0        9      50      68     163     181     257     265
1007          RY     100       97      97      91      91      97      97     100
              *

1008          KK    370A
1009          KM   SUB-BASIN 370A
1010          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1011          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .998
1012          KM     L = 1.04  Kb = .047  Adj. Slope =  163.0
1013          BA    .408
1014          LG    .330     .300   4.650     .350  11.000
1015          UC    .308     .172
1016          UA       0        5      16       30       65       77       84       90       94       97
1017          UA     100
              * DDM   ***** Updated *****
1                                        HEC-1 INPUT                                                    PAGE 27

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


1018          KK    395A
1019          KM   SUB-BASIN 395A
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 = 1.14  Kb = .052  Adj. Slope =  165.0
1023          BA    .182
1024          LG    .330     .320   5.000     .290  10.000
1025          UC    .346     .334
1026          UA       0        5      16       30       65       77       84       90       94       97
1027          UA     100
              * DDM   ***** Preserved *****

1028          KK   C370A
1029          KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
1030          HC       2
              *
              * DDM   ***** Preserved *****

1031          KK    D370
1032          KM   DIVERT FLOW INTO OFFLINE DETENTION BASIN LOCATED WITHIN SUB-BASINS
1033          KM   370 AND 395.
              * KO     1
1034          DT   BS370
1035          DI       0     140    5000
1036          DQ       0       0    4860
              * DDM   ***** Preserved *****

1037          KK   RT370
1038          KM   RETRIEVE FLOW FROM DIVERSION
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1039          DR   BS370
              * DDM   ***** Preserved *****

1040          KK    S370
1041          KM   RETRIEVE FLOW INTO OFFLINE BASIN AND BLEED OFF WITHIN 36 HOURS.
1042          KM      30 ACRE-FEETx43560/36x3600 = 10cfs
1043          RS       1    STOR       0
1044          SV       0     .01      34      40
1045          SQ       0       4      10      12
              * DDM   ***** Preserved *****

1046          KK   CC370
1047          KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
1048          HC       2
              * DDM   ***** Preserved *****

1049          KK    R370
1050          KM   CHANNEL GEOMETRY OBTAINED FROM 2' CONTOUR MAPPING.
1051          KM   ROUTING OF FLOW FROM SUB-BASINS 370 AND 395 TO SUB-BASIN 380.
1052          RS       4    FLOW      -1
1053          RC    .045    .035    .045    2600    .023
1054          RX       0       1      40      46      56      62     102     103
1055          RY       3       2       2       0       0       2       2       3
              *
              * DDM   ***** Updated *****
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1056          KK    385A
1057          KM   SUB-BASIN 385A
1058          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1059          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .999
1060          KM     L =  .90  Kb = .051  Adj. Slope =  309.5
1061          BA    .213
1062          LG    .340    .320   4.900    .300   9.000
1063          UC    .233    .163
1064          UA       0       5      16      30      65      77      84      90      94      97
1065          UA     100
              *
              * DDM   ***** Updated *****

1066          KK    415B
1067          KM   SUB-BASIN 415B
1068          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1069          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .998
1070          KM     L = 1.59  Kb = .048  Adj. Slope =  315.0
1071          BA    .329
1072          LG    .340    .340   5.300    .240  14.000
1073          UC    .308    .274
1074          UA       0       5      16      30      65      77      84      90      94      97
1075          UA     100
              * DDM   ***** Preserved *****

1076          KK   C415B
1077          KM   HYDROGRAPH COMBINATION OF 415 DIVERSION.
1078          HC       2
              * DDM   ***** Preserved *****

1079          KK   D415B
1080          KM   DIVERT FLOW INTO OFFLINE DETENTION BASIN
1081          KM   MAXIMUM STORAGE VOLUME FOR DIVERSION = 32 AC-FT @ 5' DEPTH.
              *      1
1082          DT  BS415B
1083          DI       0     190    5000
1084          DQ       0       0    4810
              * DDM   ***** Preserved *****

1085          KK  RT415B
1086          KM   RETRIEVE FLOW FROM DIVERSION INTO OFFLINE BASIN
1087          DR  BS415B
              * DDM   ***** Preserved *****

1088          KK   S415B
1089          KM   RETRIEVE FLOW INTO OFFLINE BASIN AND BLEED OFF WITHIN 36 HOURS.
1090          KM      32 ACRE-FEETx43560/36x3600 = 10cfs
1091          RS       1    STOR       0
1092          SV       0     .01      34      40
1093          SQ       0       5      10      12
              * DDM   ***** Preserved *****
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1094          KK  CC415B
1095          KM   HYDROGRAPH COMBINATION OF 415 DIVERSION.
1096          HC       2
              * DDM   ***** Preserved *****

1097          KK   R415B
1098          KM   CHANNEL GEOMETRY OBTAINED FROM 2' CONTOUR MAPPING.
1099          KM   ROUTING OF FLOW FROM 415C TO 415B
1100          RS       4    FLOW      -1
1101          RC    .045     .03    .045    2590    .024
1102          RX       0       1      40      46      56      62     102     103
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1103          RY       3       2       2       0       0       2       2       3
              * DDM   ***** Updated *****

1104          KK     390
1105          KM   SUB-BASIN 390
1106          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1107          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .999
1108          KM     L =  .70  Kb = .050  Adj. Slope =  299.4
1109          BA    .244
1110          LG    .300    .250   4.700    .380  18.000
1111          UC    .204    .107
1112          UA       0       5      16      30      65      77      84      90      94      97
1113          UA     100
              * DDM   ***** Preserved *****

1114          KK    D390
1115          KM        DIVERT FLOW INTO ONLINE  DETENTION BASIN
1116          KM   DETENTION/RETENTION BASINS LOCATED WITHIN THUNDER MOUNTAIN ESTATES
1117          KM        MAXIMUM VOLUME DIVERSION  = 3.5 acre-feet
              *      1
1118          DT   BS390     3.5
1119          DI       0   10000
1120          DQ       0   10000
              * DDM   ***** Preserved *****

1121          KK   RT390
1122          KM   RETRIEVE FLOW FROM DIVERSION INTO ONLINE BASIN
1123          DR   BS390
              * DDM   ***** Preserved *****

1124          KK    S390
1125          KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
1126          KM     3.5 ACRE-FEETx43560/36x3600=1.2cfs
1127          RS       1    STOR       0
1128          SV       0     .01     3.5
1129          SQ       0     0.5     1.2
              * DDM   ***** Preserved *****
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1130          KK    C390
1131          KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
1132          HC       4
              * DDM   ***** Preserved *****

1133          KK    R390
1134          KM   CHANNEL GEOMETRY OBTAINED FROM 2' CONTOUR MAPPING.
1135          KM   FROM SUB-BASIN 390 TO SUB-BASIN 420B
1136          RS       7    FLOW      -1
1137          RC    .045    .045    .045    5500    .020
1138          RX       0       1      40      46      56      62     102     103
1139          RY       3       2       2       0       0       2       2       3
              * DDM   ***** Updated *****

1140          KK    420B
1141          KM   SUB-BASIN 420B
1142          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1143          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .998
1144          KM     L = 1.00  Kb = .049  Adj. Slope =  150.0
1145          BA    .279
1146          LG    .300    .250   3.910    .590  15.000
1147          UC    .333    .226
1148          UA       0       5      16      30      65      77      84      90      94      97
1149          UA     100
              * DDM   ***** Preserved *****

1150          KK   C420B
1151          KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
1152          HC       2
              *
              * DDM   ***** Updated *****

1153          KK     440
1154          KM   SUB-BASIN 440
1155          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1156          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF 1.000
1157          KM     L =  .40  Kb = .039  Adj. Slope =  315.0
1158          BA    .080
1159          LG    .190    .380   6.400    .140  13.000
1160          UC    .129    .077
1161          UA       0       3       5       8      12      20      43      75      90      96
1162          UA     100
              * DDM   ***** Preserved *****

1163          KK     R70
1164          KM   ROUTE FLOW FROM SUB-BASIN 440 TO C108
1165          RS       2    FLOW      -1
1166          RC     .05    .035     .05    2250     .08
1167          RX    1000    1025    1050    1070    1075    1095    1120    1145
1168          RY      30    22.9    15.7      10      10    15.7    22.9      30
              * DDM   ***** Updated *****
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10
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1169          KK     441
1170          KM   SUB-BASIN 441
1171          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1172          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF 1.000
1173          KM     L =  .28  Kb = .069  Adj. Slope =  315.0
1174          BA    .010
1175          LG    .300    .250   5.600    .220   5.000
1176          UC    .150    .225
1177          UA       0       5      16      30      65      77      84      90      94      97
1178          UA     100
              * DDM   ***** Preserved *****

1179          KK    C108
1180          KM   COMBINE HYDROGRAPHS FROM SUB-BASINS 440 & 441
1181          HC       2
              * DDM   ***** Preserved *****

1182          KK      D4
1183          KM        SPLIT FLOW WITH TWO 42 INCH PIPES TO WEST AND SOUTH
              *      1
1184          DT   SPLIT
1185          DI       0      14      40      82     120     154     180
1186          DQ       0       7      20      41      60      77      90
              * DDM   ***** Preserved *****

1187          KK    R108
1188          KM        ROUTE FLOW FROM SUB-BASIN C108 TO C67
1189          RS       2    FLOW      -1
1190          RC     .05    .035     .05    3200      .1
1191          RX    1000    1025    1050    1070    1075    1095    1120    1145
1192          RY      30    22.9    15.7      10      10    15.7    22.9      30
              * DDM   ***** Updated *****

1193          KK     442
1194          KM   SUB-BASIN 442
1195          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1196          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .999
1197          KM     L =  .83  Kb = .055  Adj. Slope =  274.2
1198          BA    .100
1199          LG    .300    .270   3.290    .770   5.000
1200          UC    .258    .264
1201          UA       0       5      16      30      65      77      84      90      94      97
1202          UA     100
              * DDM   ***** Preserved *****

1203          KK     C67
1204          KM   COMBINE FLOW FROM SUB-BASIN 442 & DIV4
1205          HC       2
              * DDM   ***** Preserved *****
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1206          KK      D6
1207          KM        OFFLINE BASIN WITH 25 FOOT WEIR SET AT 2.5 FEET ABOVE BOTTOM OF CHANNEL
1208          KM        FLOW CONTINUES BEYOND BASIN THROUGH 2-30" PIPES
              *      1
1209          DT  BASIN4     3.3
1210          DI       0      10      32      44    79.9   132.5     198   272.9   356.8
1211          DQ       0       0       0       0    23.9    67.5     124   190.9   266.8
              * DDM   ***** Preserved *****

1212          KK    RTD6
1213          KM   RETRIEVE FLOW FROM DIVERSION INTO OFFLINE BASIN
1214          DR  BASIN4
              * DDM   ***** Preserved *****

1215          KK     SD6
1216          KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
1217          KM     3.3 ACRE-FEETx43560/36x3600=1.1cfs
              *      1
1218          RS       1    STOR       0
1219          SV       0     .01     3.3
1220          SQ       0     0.2     1.1
              * DDM   ***** Preserved *****

1221          KK     CD6
1222          KM   HYDROGRAPH COMBINATION FOR OFFLINE BASIN BLEEDOFF
1223          HC       2
              * DDM   ***** Updated *****

1224          KK     443
1225          KM   SUB-BASIN 443
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 1.000
1228          KM     L =  .71  Kb = .050  Adj. Slope =  315.0
1229          BA    .080
1230          LG    .250    .190   8.000    .080  10.000
1231          UC    .196    .194
1232          UA       0       5      16      30      65      77      84      90      94      97
1233          UA     100
              * DDM   ***** Preserved *****

1234          KK     D66
1235          KM        DIVERT FLOW INTO 3 NATURAL WASHES WITH ONE 24" PIPE IN EACH WASH.
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1236          KM        EACH PIPE CAPACITY BASED ON 4 FEET OF HEAD
1237          DT   WSH66
1238          DI       0      78     100     200
1239          DQ       0      78      78      78
              * DDM   ***** Preserved *****

1240          KK    R113
1241          KM        ROUTE FLOW FROM C113 TO C114
1242          RS       1    FLOW      -1
1243          RC    .019    .019    .019    1300    .029
1244          RX    1000    1004    1008    1012    1018    1022    1026    1030
1245          RY      17   15.33   12.67      10      10   12.67   15.33      17
              * DDM   ***** Preserved *****
1                                        HEC-1 INPUT                                                    PAGE 33

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


1246          KK    C114
1247          KM        COMBINE HYDROGRAPHS FROM SUB-BASIN 67 AND C113
1248          HC       2
              * DDM   ***** Updated *****

1249          KK     444
1250          KM   SUB-BASIN 444
1251          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1252          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF 1.000
1253          KM     L =  .33  Kb = .034  Adj. Slope =  315.0
1254          BA    .040
1255          LG    .130    .350   4.450    .320   1.000
1256          UC    .112    .084
1257          UA       0       3       5       8      12      20      43      75      90      96
1258          UA     100
              * DDM   ***** Preserved *****

1259          KK     R58
1260          KM   ROUTE FLOW FROM SUB-BASIN 444 TO C107
1261          RS       2    FLOW      -1
1262          RC     .05    .035     .05    2370   .0516
1263          RX    1000    1010    1020    1050    1055    1085    1095    1105
1264          RY      19      18      17      10      10      17      18      19
              * DDM   ***** Updated *****

1265          KK     445
1266          KM   SUB-BASIN 445
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 =  .82  Kb = .036  Adj. Slope =  315.0
1270          BA    .190
1271          LG    .170    .320   3.470    .590   3.000
1272          UC    .192    .130
1273          UA       0       5      16      30      65      77      84      90      94      97
1274          UA     100
              * DDM   ***** Preserved *****

1275          KK    C107
1276          KM   COMBINE HYDROGRAPHS FROM SUB-BASINS 444 & 445
1277          HC       2
              * DDM   ***** Preserved *****

1278          KK    R107
1279          KM        ROUTE FLOW FROM C107 TO C109
1280          RS       2    FLOW      -1
1281          RC     .05    .035     .05     700   .0516
1282          RX    1000    1010    1020    1050    1055    1085    1095    1105
1283          RY      19      18      17      10      10      17      18      19
              * DDM   ***** Preserved *****
1                                        HEC-1 INPUT                                                    PAGE 34

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


1284          KK    RTB2
1285          KM        RETRIEVE DIVERTED FLOW FROM BASIN 1
              *      1
1286          DR   SPLIT
              * DDM   ***** Preserved *****

1287          KK  RSPLIT
1288          KM        ROUTE FLOW FROM SPLIT TO C109
1289          RS       1    FLOW      -1
1290          RC     .05    .035     .05     800     .05
1291          RX    1000    1025    1050    1070    1075    1095    1120    1145
1292          RY      30    22.9    15.7      10      10    15.7    22.9      30
              * DDM   ***** Updated *****

1293          KK     446
1294          KM   SUB-BASIN 446
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 =  .46  Kb = .061  Adj. Slope =  303.9
1298          BA    .040
1299          LG    .270    .250   4.500    .400  19.000
1300          UC    .183    .189
1301          UA       0       5      16      30      65      77      84      90      94      97
1302          UA     100
              * DDM   ***** Preserved *****
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1303          KK    C109
1304          KM        COMBINE HYDROGRAPHS FROM COMBINES C107 AND C108
1305          HC       3
              * DDM   ***** Preserved *****

1306          KK      D5
1307          KM        DIVERT FLOW INTO WASHES TOWARDS WEST
1308          KM        DIVERSION THROUGH 36" PIPE WITH 3 FEET OF HEAD
              *      1
1309          DT  WSH404
1310          DI       0    40.7    71.2   121.6     190     276   379.4   500.6
1311          DQ       0      35      35      35      35      35      35      35
              * DDM   ***** Preserved *****

1312          KK    R109
1313          KM        ROUTE FLOW FROM C109 TO C110
1314          RS       1    FLOW      -1
1315          RC    .019    .019    .019    3080     .05
1316          RX    1000    1005    1010    1015    1025    1030    1035    1040
1317          RY   13.75    12.5   11.25      10      10   11.25    12.5   13.75
              * DDM   ***** Updated *****

1318          KK     447
1319          KM   SUB-BASIN 447
1320          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1321          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .999
1322          KM     L =  .49  Kb = .056  Adj. Slope =  221.0
1323          BA    .090
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1324          LG    .250    .270   3.350    .870  30.000
1325          UC    .208    .145
1326          UA       0       5      16      30      65      77      84      90      94      97
1327          UA     100
              * DDM   ***** Preserved *****

1328          KK   RT404
1329          KM        RETRIEVE DIVERTED FLOW FOR WASH 109
1330          DR  WSH404
              * DDM   ***** Preserved *****

1331          KK    R404
1332          KM        ROUTE FLOW FROM C110 TO C110
1333          RS       6    FLOW      -1
1334          RC    .019    .019    .019    3540     .03
1335          RX    1000    1012    1016    1020    1025    1029    1033    1045
1336          RY      15      12      11      10      10      11      12      15
              * DDM   ***** Preserved *****

1337          KK    C110
1338          KM   COMBINE HYDROGRAPHS FROM SUB-BASIN 447 AND R404
1339          HC       3
              * DDM   ***** Preserved *****

1340          KK    R110
1341          KM        ROUTE FLOW FROM C110 TO C115
1342          RS       1    FLOW      -1
1343          RC    .019    .019    .019     580   .0291
1344          RX    1000    1012    1016    1020    1035    1039    1043    1055
1345          RY      15      12      11      10      10      11      12      15
              * DDM   ***** Preserved *****

1346          KK    C115
1347          KM        COMBINE HYDROGRAPHS FROM C114 AND C110
1348          HC       2
              * DDM   ***** Preserved *****

1349          KK    R115
              * ******OUTFLOW FROM THIS ROUTING IS GREATER THAN INFLOW TO THE
              * ******ROUTING BY 2cfs.  THIS IS NOTED BUT LEFT UNCHANGED WITHIN THE MODEL
1350          KM        ROUTE FLOW FROM C115 TO Sub 453
1351          RS       1    FLOW      -1
1352          RC    .019    .019    .019    2125    .029
1353          RX    1000    1012    1016    1020    1035    1039    1043    1055
1354          RY      15      12      11      10      10      11      12      15
              * DDM   ***** Updated *****

1355          KK     448
1356          KM   SUB-BASIN 448
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 1.000
1359          KM     L =  .36  Kb = .042  Adj. Slope =  315.0
1360          BA    .045
1361          LG    .170    .310   4.200    .390  11.000
1362          UC    .133    .102
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1363          UA       0       5      16      30      65      77      84      90      94      97
1364          UA     100
              * DDM   ***** Updated *****

1365          KK     449
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1366          KM   SUB-BASIN 449
1367          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1368          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF 1.000
1369          KM     L =  .40  Kb = .054  Adj. Slope =  315.0
1370          BA    .050
1371          LG    .260    .280   3.500    .640   6.000
1372          UC    .167    .134
1373          UA       0       5      16      30      65      77      84      90      94      97
1374          UA     100
              * DDM   ***** Preserved *****

1375          KK   C6364
1376          KM   COMBINE HYDROGRAPHS FROM SUB-BASINS 448 & 449
1377          HC       2
              * DDM   ***** Preserved *****

1378          KK   R6364
1379          KM   ROUTE FLOW FROM C116 AND SUB-BASINS 448 AND 449
1380          RS       5    FLOW      -1
1381          RC     .05    .035     .05    4375   .0333
1382          RX    1000    1027    1053    1080    1090    1117    1143    1170
1383          RY      15   13.33   11.67      10      10   11.67   13.33      15
              * DDM   ***** Updated *****

1384          KK     450
1385          KM   SUB-BASIN 450
1386          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1387          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF 1.000
1388          KM     L =  .85  Kb = .057  Adj. Slope =  210.5
1389          BA    .070
1390          LG    .340    .350   3.630    .570   4.000
1391          UC    .296    .383
1392          UA       0       3       5       8      12      20      43      75      90      96
1393          UA     100
              * DDM   ***** Updated *****

1394          KK     451
1395          KM   SUB-BASIN 451
1396          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1397          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF 1.000
1398          KM     L =  .57  Kb = .063  Adj. Slope =  175.0
1399          BA    .025
1400          LG    .340    .340   3.290    .750   3.000
1401          UC    .271    .453
1402          UA       0       3       5       8      12      20      43      75      90      96
1403          UA     100
              * DDM   ***** Preserved *****
                                          HEC-1 INPUT                                          PAGE 37

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

1404          KK    C451
1405          KM   COMBINE HYDROGRAPHS FROM SUB-BASINS 450 & 451
1406          HC       2
              * DDM   ***** Preserved *****

1407          KK    RT66
1408          KM        RETRIEVE DIVERTED FLOW FROM SUB-BASIN 66
1409          DR   WSH66
              * DDM   ***** Updated *****

1410          KK     452
1411          KM   SUB-BASIN 452
1412          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1413          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF 1.000
1414          KM     L =  .43  Kb = .055  Adj. Slope =  315.0
1415          BA    .040
1416          LG    .260    .280   3.700    .550   9.000
1417          UC    .171    .166
1418          UA       0       5      16      30      65      77      84      90      94      97
1419          UA     100
              * DDM   ***** Preserved *****

1420          KK   C6465
1421          KM   COMBINE HYDROGRAPHS FROM SUB-BASINS 443 AND 452
1422          HC       2
              * DDM   ***** Preserved *****

1423          KK   R6566
1424          KM        ROUTE FLOW FROM DIVERSIONS 65 AND 66 TO C116
1425          RS       3    FLOW      -1
1426          RC     .05    .035     .05    2435   .0282
1427          RX    1000    1045    1090    1150    1160    1220    1265    1310
1428          RY      25      23      20      10      10      20      23      25
              * DDM   ***** Preserved *****

1429          KK    C116
1430          KM   COMBINE HYDROGRAPHS FROM SUB-BASINS 450 & 451 AND R6364 & R6465
1431          HC       3
              * DDM   ***** Preserved *****

1432          KK  BASIN5
1433          KM        RESERVOIR WITHIN PARCEL 31      2-48 INCH PIPES AT OUTFALL
1434          KM        BASIN 5 FEET DEEP
1435          RS       1    ELEV       0
1436          SV       0     4.5     9.9
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1437          SQ       0      69     190
1438          SE       0     2.5       5
              * DDM   ***** Preserved *****
                                        HEC-1 INPUT                                                          PAGE 38

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

1439          KK    R116
1440          KM   ROUTE FLOW FROM C116 TO C117
1441          RS       2    FLOW      -1
1442          RC     .05    .035     .05    1300   .0333
1443          RX    1000    1100    1200    1300    1320    1420    1520    1620
1444          RY      13      12      11      10      10      11      12      13
              * DDM   ***** Updated *****

1445          KK     453
1446          KM   SUB-BASIN 453
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 1.000
1449          KM.    L =  .58  Kb = .058  Adj. Slope =  138.0
1450          BA    .060
1451          LG    .290    .300   3.290    .820  18.000
1452          UC    .275    .284
1453          UA       0       5      16      30      65      77      84      90      94      97
1454          UA     100
              * DDM   ***** Preserved *****

1455          KK    C117
1456          KM   COMBINE HYDROGRAPHS FROM SUB-BASIN 453 AND R116
1457          HC       2
              * DDM   ***** Preserved *****

1458          KK    C118
1459          KM   COMBINE HYDROGRAPHS FROM R115 AND C117
1460          HC       2
              * DDM   ***** Preserved *****

1461          KK    R118
1462          KM        ROUTE FLOW FROM C118 TO  DIV7
              * KO     1
1463          RS       1    FLOW      -1
1464          RC    .019    .019    .019    1500    .024
1465          RX    1000    1012    1016    1020    1035    1039    1043    1055
1466          RY      15      12      11      10      10      11      12      15
              * DDM   ***** Preserved *****

1467          KK      D7
1468          KM        OFFLINE BASIN AT NORTH MOUNTAIN RIDGE   FLOWS ENTER BASIN OVER
1469          KM        30' WEIR SET AT 5.3' ABOVE THE CHANNEL BOTTOM, Vol = 3.6 A-F
              * KO     1
1470          DT  BASIN6
1471          DI       0     363     487     563     645     900
1472          DQ       0       2      10      15      25     260
              * DDM   ***** Preserved *****

1473          KK    RTD7
1474          KM   RETRIEVE FLOW FROM DIVERSION INTO OFFLINE BASIN
1475          DR  BASIN6
              * DDM   ***** Preserved *****
1                                       HEC-1 INPUT                                                          PAGE 39

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

1476          KK     SD7
1477          KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
1478          KM     3.6 ACRE-FEETx43560/36x3600=1.2cfs
1479          RS       1    STOR       0
1480          SV       0     .01     3.6     4.0
1481          SQ       0     0.2     1.2     1.5
              * DDM   ***** Preserved *****

1482          KK     CD7
1483          KM   HYDROGRAPH COMBINATION FOR OFFLINE BASIN BLEEDOFF
1484          HC       2
              * DDM   ***** Updated *****

1485          KK     454
1486          KM   SUB-BASIN 454
1487          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1488          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .999
1489          KM     L = 1.23  Kb = .051  Adj. Slope =  163.0
1490          BA    .180
1491          LG    .300    .310   3.780    .560  14.000
1492          UC    .379    .395
1493          UA       0       5      16      30      65      77      84      90      94      97
1494          UA     100
              *
              * DDM   ***** Preserved *****

1495          KK    C454
1496          KM        COMBINE HYDROGRAPHS FROM SUB-BASIN 454 AND CDIV7
              *      1       2
1497          HC       2
              * DDM   ***** Preserved *****
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1498          KK    R454
1499          KM   CHANNEL GEOMETRY OBTAINED FROM 2' CONTOUR MAPPING.
1500          KM   ROUTE FLOW FROM C454 TO 415C
1501          RS       3    FLOW      -1
1502          RC    .045    .035    .045    2200    .009
1503          RX       0      .5       1      33      42      67    67.5      68
1504          RY       5       4       4       0       0       6       6       6
              *
              * DDM   ***** Updated *****

1505          KK    415A
1506          KM   SUB-BASIN 415A
1507          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1508          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .998
1509          KM     L = 1.21  Kb = .049  Adj. Slope =  140.0
1510          BA    .280
1511          LG    .300    .260   3.630    .710  15.000
1512          UC    .400    .322
1513          UA       0       5      16      30      65      77      84      90      94      97
1514          UA     100
              * DDM   ***** Preserved *****
1                                        HEC-1 INPUT                                          PAGE 40

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

1515          KK   C415A
1516          KM        COMBINE HYDROGRAPHS FROM R454, 415B, AND 420B
              * KO      1
1517          HC        3
              * DDM   ***** Preserved *****
              * KK D415A
              * KM DIVERT FLOW INTO OFFLINE DETENTION BASIN
              * KM MAXIMUM STORAGE VOLUME FOR DIVERSION = 15 AC-FT @ 5' DEPTH.
              * KO      1
              * DTBS415A
              * DI      0    1240    5000
              * DQ      0       0    3760
              * DDM   ***** Preserved *****
              * KKRT415A
              * KM RETRIEVE FLOW FROM DIVERSION INTO OFFLINE BASIN
              * DRBS415A
              * DDM   ***** Preserved *****
              * KK S415A
              * KM RETRIEVE FLOW INTO OFFLINE BASIN AND BLEED OFF WITHIN 36 HOURS.
              * KM    15 ACRE-FEETx43560/36x3600 = 5 cfs
              * RS      1    STOR       0
              * SV      0     .01      15      20
              * SQ      0       2       5       8
              * DDM   ***** Preserved *****
              * KKCC415A
              * KM HYDROGRAPH COMBINATION OF 415A DIVERSION.
              * HC      2
              * DDM   ***** Preserved *****

1518          KK   R415A
1519          KM   CHANNEL GEOMETRY OBTAINED FROM 2' CONTOUR MAPPING.
1520          KM   ROUTING OF FLOW FROM C415A TO 455C
1521          RS       4    FLOW      -1
1522          RC    .045     .03    .045    4100    .024
1523          RX       0      .5       1       8      16      23    23.5      24
1524          RY       8       8       8       0       0       8       8       8
              *
              * DDM   ***** Updated *****

1525          KK     455
1526          KM   SUB-BASIN 455
1527          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1528          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .993
1529          KM     L = 1.70  Kb = .041  Adj. Slope =  146.0
1530          BA   1.111
1531          LG    .270    .280   3.700    .640  24.000
1532          UC    .421    .204
1533          UA       0       5      16      30      65      77      84      90      94      97
1534          UA     100
              * DDM   ***** Preserved *****
1                                        HEC-1 INPUT                                          PAGE 41

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

1535          KK    D455
1536          KM        DIVERT FLOW INTO ONLINE  DETENTION BASIN
1537          KM   DETENTION/RETENTION BASINS LOCATED WITHIN LAS SENDAS ADDENDUM III
1538          KM   FOR BASIN #: 30      34      43      47&58
1539          KM        MAXIMUM VOLUME DIVERSION = 74.1 acre-feet
              *      1
1540          DT   BS455    74.1
1541          DI       0   10000
1542          DQ       0   10000
              * DDM   ***** Preserved *****

1543          KK   RT455
1544          KM   RETRIEVE FLOW FROM DIVERSION INTO ONLINE BASIN
1545          DR   BS455
              * DDM   ***** Preserved *****
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1546          KK    S455
1547          KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
1548          KM    74.1 ACRE-FEETx43560/36x3600=25cfs
1549          RS       1    STOR       0
1550          SV       0     .01    74.1
1551          SQ       0     3.0      25
              * DDM   ***** Preserved *****

1552          KK    C455
1553          KM   HYDROGRAPH COMBINATION FOR SUB-BASIN 455 AND DIVERTED BASIN STORAGE OF 455
1554          HC       2
              * DDM   ***** Preserved *****

1555          KK   CC455
1556          KM  HYDROGRAPH COMBINATION OF 420C, R415 AND C455
              * KO     1       2
1557          HC       3
              *
              * DDM   ***** Preserved *****

1558          KK    R455
1559          KM   ROUTE FLOW FROM SPOOK HILL FRS TO SUB-BASIN 480
1560          RS      15    FLOW      -1
1561          RC    .035    .025    .035    7000   .0002
1562          RX       0       1       2      28      58      84      85      86
1563          RY    13.5    13.5    13.5       0       0    13.5    13.5    13.5
              * DDM   ***** Updated *****

1564          KK     480
1565          KM   SUB-BASIN 480
1566          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1567          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .996
1568          KM     L = 1.21  Kb = .042  Adj. Slope =  165.0
1569          BA    .731
1570          LG    .270    .270   3.580    .730  27.000
1571          UC    .325    .148
1572          UA       0       5      16      30      65      77      84      90      94      97
1573          UA     100
              * DDM   ***** Preserved *****
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1574          KK    D480
1575          KM        DIVERT FLOW INTO ONLINE  DETENTION BASIN
1576          KM   DETENTION/RETENTION BASINS LOCATED WITHIN LAS SENDAS ADDENDUM III
1577          KM   FOR BASIN #: 18 & 26
1578          KM        MAXIMUM VOLUME DIVERSION = 16.5 acre-feet
              *      1
1579          DT   BS480    16.5
1580          DI       0   10000
1581          DQ       0   10000
              * DDM   ***** Preserved *****

1582          KK   RT480
1583          KM   RETRIEVE FLOW FROM DIVERSION INTO ONLINE BASIN
1584          DR   BS480
              * DDM   ***** Preserved *****

1585          KK    S480
1586          KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
1587          KM    16.5 ACRE-FEETx43560/36x3600=5.5cfs
1588          RS       1    STOR       0
1589          SV       0     .01    16.5
1590          SQ       0     3.0     5.6
              * DDM   ***** Preserved *****

1591          KK    C480
1592          KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
1593          HC       2
              * DDM   ***** Preserved *****

1594          KK   CC480
1595          KM   HYDROGRAPH COMBINATION AT SUBBASIN 480
1596          HC       2   0.731
              * DDM   ***** Preserved *****

1597          KK    R480
1598          KM   ROUTE FLOW FROM SUB-BASIN 480 TO SUBBASIN 462
1599          RS       6    FLOW      -1
1600          RC    .035    .025    .035    2800   .0002
1601          RX       0       1       2      28      58      84      85      86
1602          RY    13.5    13.5    13.5       0       0    13.5    13.5    13.5
              * DDM   ***** Updated *****

1603          KK     456
1604          KM   SUB-BASIN 456
1605          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1606          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .998
1607          KM     L =  .94  Kb = .045  Adj. Slope =  315.0
1608          BA    .260
1609          LG    .300    .380   5.600    .200  12.000
1610          UC    .217    .139
1611          UA       0       5      16      30      65      77      84      90      94      97
1612          UA     100
              * DDM   ***** Preserved *****
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1613          KK      D1
1614          KM        DIVERT FLOW INTO OFFLINE DETENTION BASIN
1615          KM        WEIR FOR BASIN SET AT 4 FEET ABOVE CHANNEL BOTTOM
              *      1
1616          DT  BASIN1     4.0
1617          DI       0    11.1   127.9   234.4   577.7   789.9  1025.5  1280.9  1555.7
1618          DQ       0       0       0    47.7     248   381.8   533.6   701.5     884
              * DDM   ***** Preserved *****

1619          KK      D2
1620          KM        SPLIT OUT FLOW FOR WASHES THAT FLOW TO THE SOUTH FROM
1621          KM        WASHES THAT DRAIN TO THE WES, SOUTHERN WASHES FED BY 30" & 24" PIPE
1622          DT    WA30
1623          DI       0    11.1   127.9   189.6   329.7     408   491.9   579.4   671.7
1624          DQ       0    11.1    38.4    48.2      63    69.5      76      81      86
              * DDM   ***** Preserved *****

1625          KK    R456
1626          KM        ROUTE FLOW FROM SUB-BASIN 51 TO C101
1627          RS       2    FLOW      -1
1628          RC     .05    .035     .05    3800    .044
1629          RX    1000    1010    1020    1036    1041    1057    1067    1077
1630          RY   14.88   14.44      14      10      10      14   14.44   14.88
              * DDM   ***** Updated *****

1631          KK     457
1632          KM   SUB-BASIN 457
1633          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1634          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .999
1635          KM     L = 1.01  Kb = .045  Adj. Slope =  308.8
1636          BA    .190
1637          LG    .270    .330   3.950    .460   6.000
1638          UC    .237    .195
1639          UA       0       5      16      30      65      77      84      90      94      97
1640          UA     100
              * DDM   ***** Preserved *****

1641          KK    C101
1642          KM        COMBINE HYDROGRAPHS FROM SUB-BASINS 50 AND 51
1643          HC       2
              * DDM   ***** Preserved *****

1644          KK      D3
1645          KM        RESERVOIR AT THE EDGE OF THE PROPERTY   FLOW FROM CHANNEL
1646          KM        DIVERTED  INTO OFFLINE BASIN A 25' WEIR SET AT ELEVATION 1808 FT
              *      1
1647          DT  BASIN2     5.0
1648          DI       0      36      70     110     180   313.5     402   500.9
1649          DQ       0       0       0       0       0    67.5     124   190.9
              * DDM   ***** Preserved *****
```



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

1650          KK    RTD3
1651          KM   RETRIEVE FLOW FROM DIVERSION INTO OFFLINE BASIN
1652          DR  BASIN2
              * DDM   ***** Preserved *****

1653          KK     SD3
1654          KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
1655          KM     5.0 ACRE-FEETx43560/36x3600=1.7cfs
1656          RS       1    STOR       0
1657          SV       0     .01       5
1658          SQ       0     0.7     1.7
              * DDM   ***** Preserved *****

1659          KK     CD3
1660          KM   HYDROGRAPH COMBINATION FOR OFFLINE BASIN BLEEDOFF
1661          HC       2
              * DDM   ***** Preserved *****

1662          KK    R101
1663          KM        ROUTE FLOW FROM SUBBASIN C101 TO C103
1664          RS       1    FLOW      -1
1665          RC     .05    .035     .05    1450     .05
1666          RX    1000    1010    1020    1036    1041    1057    1067    1077
1667          RY      15    14.5      14      10      10      14    14.5      15
              * DDM   ***** Updated *****

1668          KK     458
1669          KM   SUB-BASIN 458
1670          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1671          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .999
1672          KM     L =  .76  Kb = .048  Adj. Slope =  299.0
1673          BA    .190
1674          LG    .290    .330   5.800    .190   6.000
1675          UC    .204    .131
1676          UA       0       5      16      30      65      77      84      90      94      97
1677          UA     100
              * DDM   ***** Preserved *****
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```
1678          KK    C103
1679          KM        COMBINE HYDROGRAPHS FROM SUB-BASIN 55 AND C101
1680          HC       2
              * DDM   ***** Preserved *****

1681          KK    R103
1682          KM        ROUTE FLOW FROM SUBBASIN C103 TO C106
1683          RS       1    FLOW      -1
1684          RC     .05    .035     .05     900     .03
1685          RX    1000    1010    1020    1030    1050    1060    1070    1080
1686          RY   13.16   12.83    12.5      10      10    12.5   12.83   13.16
              * DDM   ***** Preserved *****
1                                        HEC-1 INPUT                                                    PAGE 45

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


1687          KK    RT30
1688          KM        RETRIEVE DIVERTED FLOW FOR WASH BELOW 30 INCH PIPE
1689          DR    WA30
              * DDM   ***** Preserved *****

1690          KK     R30
1691          KM        ROUTE FLOW FROM WASH DIVERSION TO COMBINE C52
1692          RS       1    FLOW      -1
1693          RC     .05    .035     .05    1630     .05
1694          RX    1000    1010    1020    1036    1041    1057    1067    1077
1695          RY      15    14.5      14      10      10      14    14.5      15
              * DDM   ***** Preserved *****

1696          KK    RTB1
1697          KM        RETRIEVE DIVERTED FLOW FROM BASIN 1
              *      1        2
1698          DR  BASIN1
              * DDM   ***** Preserved *****

1699          KK      B1
1700          KM        ROUTE FLOW THROUGH OFFLINE DETENTION BASIN
1701          KM        FLOW OUTLETS THROUGH A 30 INCH OUTLET PIPE
              *      1        2
1702          RS       1    ELEV       0
1703          SV              .7     1.4     2.3     2.7     4.0
1704          SQ       0       5      16      28    32.5      37
1705          SE       0       1       2       3     3.5       4
              * DDM   ***** Preserved *****

1706          KK     RB1
1707          KM        ROUTE FLOW FROM BASIN DIVERSION TO COMBINE C52
1708          RS       3    FLOW      -1
1709          RC     .05    .035     .05    1720     .05
1710          RX    1000    1010    1020    1036    1041    1057    1067    1077
1711          RY      15    14.5      14      10      10      14    14.5      15
              * DDM   ***** Preserved *****

1712          KK    CDIV
1713          KM        COMBINE FLOWS FROM WA30 AND BASIN 1
1714          HC       2      .12
              * DDM   ***** Updated *****

1715          KK     459
1716          KM   SUB-BASIN 459
1717          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1718          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF 1.000
1719          KM     L =  .35  Kb = .052  Adj. Slope =  251.6
1720          BA    .030
1721          LG    .220    .300   3.330    .710   8.000
1722          UC    .162    .157
1723          UA       0       5      16      30      65      77      84      90      94      97
1724          UA     100
              * DDM   ***** Preserved *****
1                                        HEC-1 INPUT                                                    PAGE 46

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


1725          KK     C52
1726          KM        COMBINE FLOWS FROM SUB-BASIN 52 WA30 AND BASIN 1
1727          HC       2
              * DDM   ***** Preserved *****

1728          KK     R52
1729          KM        ROUTE FLOW FROM SUBBASIN 52 TO C102
1730          RS       3    FLOW      -1
1731          RC     .05    .035     .05    2000     .05
1732          RX    1000    1010    1020    1036    1041    1057    1067    1077
1733          RY      15    14.5      14      10      10      14    14.5      15
              * DDM   ***** Updated *****

1734          KK     460
1735          KM   SUB-BASIN 460
1736          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1737          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .999
1738          KM     L =  .62  Kb = .058  Adj. Slope =  194.0
1739          BA    .140
1740          LG    .250    .260   3.740    .690  27.000
1741          UC    .242    .160
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1742          UA       0       5      16      30      65      77      84      90      94      97
1743          UA     100
              * DDM   ***** Preserved *****

1744          KK    C102
1745          KM        COMBINE HYDROGRAPHS FROM SUB-BASINS 52 AND 53
1746          HC       2
              * DDM   ***** Preserved *****

1747          KK  BASIN3
1748          KM        RESERVOIR AT CLUBHOUSE LOCATION 1-30 INCH PIPE AT OUTFALL
1749          KM        BOTTOM OF BASIN AT 6 FEET ABOVE 1795 ELEVATION
1750          RS       1    ELEV       0
1751          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
1752          SQ       0      22      45    47.4      48      51      57      62      67      73
1753          SE    1795  1797.5    1800  1800.4  1800.5    1801    1802    1803    1804  1805.5
              * DDM   ***** Preserved *****

1754          KK      R3
1755          KM        ROUTE FLOW FROM C102 to C106
1756          RS       5    FLOW      -1
1757          RC     .05     .03     .05    2750   .0375
1758          RX    1000    1010    1020    1052    1086    1118    1128    1138
1759          RY    19.2    18.4      18      10      10      18    18.4    19.2
              * DDM   ***** Updated *****

1760          KK     461
1761          KM   SUB-BASIN 461
1762          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1763          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .999
1764          KM     L =  .83  Kb = .052  Adj. Slope =  181.0
1765          BA    .120
```



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

1766          LG    .270    .250   4.250    .450  21.000
1767          UC    .271    .250
1768          UA       0       5      16      30      65      77      84      90      94      97
1769          UA     100
              * DDM   ***** Preserved *****

1770          KK    C104
1771          KM        COMBINE HYDROGRAPHS FROM SUB-BASIN 54 AND R102
1772          HC       2
              * DDM   ***** Preserved *****

1773          KK    C106
1774          KM        COMBINE HYDROGRAPHS FROM SUB-BASIN C103 AND C104
1775          HC       2
              * DDM   ***** Preserved *****

1776          KK    R106
1777          KM        ROUTE FLOW FROM C106 TO C49
1778          RS       2    FLOW      -1
1779          RC     .05    .035     .05    3950    .033
1780          RX    1000    1010    1020    1030    1050    1060    1070    1080
1781          RY   13.16   12.83    12.5      10      10    12.5   12.83   13.16
              * DDM   ***** Updated *****

1782          KK     462
1783          KM   SUB-BASIN 462
1784          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1785          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .998
1786          KM     L =  .97  Kb = .045  Adj. Slope =  297.7
1787          BA    .301
1788          LG    .300    .330   5.300    .240  12.000
1789          UC    .225    .137
1790          UA       0       5      16      30      65      77      84      90      94      97
1791          UA     100
              * DDM   ***** Preserved *****

1792          KK     C56
1793          KM        COMBINE HYDROGRAPHS FROM SUB-BASIN 56 AND C106
              *      1       2
1794          HC       2
              * DDM   ***** Preserved *****

1795          KK    C462
1796          KM        COMBINE HYDROGRAPHS AT SUBBASIN 462
              *      1
1797          HC       2    2.09
              * DDM   ***** Preserved *****

1798          KK    R462
1799          KM   ROUTE FLOW FROM SUB-BASIN 462 TO SUB-BASIN 500 (First Channel Reach)
1800          RS       1    FLOW      -1
1801          RC    .025    .025    .025    1800    .005
1802          RX       0       1      20      32      62      74      93      94
1803          RY      13      12      12       0       0      12      12      13
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10
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1804          KK   RR462
1805          KM   ROUTE FLOW FROM SUB-BASIN 462 TO SUB-BASIN 500 (Second Natural Wash Reach)
1806          RS       3    FLOW      -1
1807          RC    .055     .05    .055    4700      .05
1808          RX       0       1       2      28       58       84       85       86
1809          RY    13.5    13.5    13.5       0        0     13.5     13.5     13.5
              * DDM   ***** Updated *****

1810          KK     500
1811          KM   SUB-BASIN 500
1812          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1813          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .994
1814          KM     L = 2.77  Kb = .042  Adj. Slope =  286.8
1815          BA    .930
1816          LG    .350    .400   6.000    .170   9.000
1817          UC    .421    .333
1818          UA       0       3       5       8      12       20       43       75       90       96
1819          UA     100
              * DDM   ***** Preserved *****

1820          KK    C500
1821          KM   HYDROGRAPH COMBINATION FOR THE ENTIRE WATERSHED AT THE SALT RIVER
1822          HC       2    3.02
1823          ZZ
```

1

SCHEMATIC DIAGRAM OF STREAM NETWORK

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

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

   30          10
                V
                V
   40         R10
                V
                V
   46         R12
                .
                .
   52           .          20
                .           .
                .           .
   62         C20............
                V
                V
   65         R20
                .
                .
   71           .          40
                .           .
                .           .
   81           .           .          60
                .           .           .
                .           .           .
   91         C60........................
                V
                V
   94         S60
                V
                V
  103         R60
                V
                V
  109        RR60
                .
                .
  115           .          80
                .           .
                .           .
  125         C80............
                V
                V
  128         R80
                .
                .
  134           .         100
                .           .
                .           .
  144        C100............
                V
                V
  147        R100
                .
                .
  153           .         120
                .           .
                .           .
  163        C120............
                V
                V
  166        R120
                .
                .
  172           .         140
                .           .
                .           .
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```
182          .          .         150
             .          .           V
             .          .           V
192          .          .        R150
             .          .           V
             .          .           V
198          .          .        R152
             .          .           .
             .          .           .
204          .          .           .        160
             .          .           .          .
             .          .           .          .
214          .          .           .          .        180
             .          .           .          .          .
             .          .           .          .          .
224       C180.......................................
             .
             .
227          .       385B
             .          V
             .          V
237          .      R385B
             .          .
             .          .
246          .          .        395B
             .          .           .
             .          .           .
256          .      C395B............
             .          V
             .          V
259          .      R395B
             .          .
             .          .
266          .          .        370B
             .          .           .
             .          .           .
276          .      C370C............
             .          V
             .          V
279          .      R370B
             .          V
             .          V
286          .     RR370B
             .          .
             .          .
295          .          .        355B
             .          .           .
             .          .           .
305          .      C355B............
             .          V
             .          V
308          .      R355B
             .          V
             .          V
317          .     RR355B
             .          .
             .          .
324          .          .         350
             .          .           V
             .          .           V
334          .          .        R350
             .          .           .
             .          .           .
341          .          .           .        310
             .          .           .          .
             .          .           .          .
351          .       C310........................
             .          V
             .          V
354          .       R310
             .          V
             .          V
361          .       R312
             .          .
             .          .
370          .          .        305B
             .          .           .
             .          .           .
380          .      C305B............
             .          V
             .          V
383          .      R305B
             .          .
             .          .
392          .          .         210
             .          .           V
             .          .           V
402          .          .        R210
             .          .           .
             .          .           .
408          .          .           .        240
             .          .           .          .
             .          .           .          .
418          .       C240........................
             .          V
             .          V
421          .       S240
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                .          V
                .          V
430             .        R240
                .          .
                .          .
437             .          .        220
                .          .          .
                .          .          .
447             .        C220...........
                .          V
                .          V
450             .        S220
                .          V
                .          V
459             .        R220
                .          .
                .          .
466             .          .        190
                .          .          V
                .          .          V
476             .          .       R190
                .          .          V
                .          .          V
482             .          .       R192
                .          .          .
                .          .          .
488             .          .          .        200
                .          .          .          .
                .          .          .          .
498             .        C200......................
                .          V
                .          V
501             .       S200
                .          V
                .          V
508             .        R200
                .          V
                .          V
514             .       SS200
                .          V
                .          V
521             .       RR200
                .          .
                .          .
527         CC180...........
                V
                V
530          S180
                V
                V
539          R180
                .
                .
548             .        260
                .          .
                .          .
558          C260...........
                V
                V
561          R260
                .
                .
570             .        280
                .          .
                .          .
580          C280...........
                V
                V
583          R280
                .
                .
592             .        300
                .          .
                .          .
602          C300...........
                V
                V
605          R300
                .
                .
614             .       305A
                .          .
                .          .
624         C305A...........
                V
                V
627         R305A
                .
                .
636             .        320
                .          .
                .          .
651             .          .-------->   BS320
646             .       D320
                .          .
                .          .
656             .          .           .<-------   BS320
```

```
654          .           .       RT320
             .           .           V
             .           .           V
657          .           .        S320
             .           .           .
             .           .           .
663       C320.......................
             V
             V
666       R320
             .
             .
673          .        340B
             .           .
             .           .
688          .           .-------> BS340B
683          .       D340B
             .           .
             .           .
693          .           .           .<-------  BS340B
691          .           .      RT340B
             .           .           V
             .           .           V
694          .           .       S340B
             .           .           .
             .           .           .
700          .       C340B............
             .           .
             .           .
705          .           .------->   BS340
703          .      DD340B
             .           .
             .           .
710          .           .           .<-------   BS340
708          .           .       RT340
             .           .           V
             .           .           V
711          .           .      SS340B
             .           .           .
             .           .           .
717          .      CC340B............
             .           V
             .           V
720          .       R340B
             .           .
             .           .
727          .           .        340A
             .           .           .
             .           .           .
742          .           .           .-------> BS340A
737          .           .       D340A
             .           .           .
             .           .           .
747          .           .           .           .<-------  BS340A
745          .           .           .      RT340A
             .           .           .           V
             .           .           .           V
748          .           .           .       S340A
             .           .           .           .
             .           .           .           .
754          .       C340A........................
             .           .
             .           .
757       C340............
             V
             V
760       R340
             .
             .
767          .        355A
             .           V
             .           V
777          .       R355A
             .           .
             .           .
784          .           .         360
             .           .           .
             .           .           .
798          .           .           .------->   BS360
794          .           .        D360
             .           .           .
             .           .           .
803          .           .           .           .<-------   BS360
801          .           .           .       RT360
             .           .           .           V
             .           .           .           V
804          .           .           .        S360
             .           .           .           .
             .           .           .           .
810       C360...................................
             .
             .
817          .------->    380S
813      DD380
             .
             .
822          .           .<-------    380S
```

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820          .      RT380S
             .          V
             .          V
823          .       SS380
             .          .
             .          .
830      CC360............
             V
             V
833       R360
             .
             .
840          .        380A
             .          .
             .          .
850      C380A............
             V
             V
853      R380A
             .
             .
860          .        400A
             .          .
             .          .
870      C400A............
             V
             V
873      R400A
             .
             .
880          .        380B
             .          .
             .          .
894          .          .-------> BS380B
890          .       D380B
             .          .
             .          .
899          .          .          .<-------  BS380B
897          .          .      RT380B
             .          .          V
             .          .          V
900          .          .       S380B
             .          .          .
             .          .          .
906          .       C380B............
             .          .
             .          .
911          .          .------->  BS380
909          .      DD380B
             .          .
             .          .
916          .          .          .<-------   BS380
914          .          .       RT380
             .          .          V
             .          .          V
917          .          .      SS380B
             .          .          .
             .          .          .
923          .      CC380B............
             .          V
             .          V
926          .       R380B
             .          .
             .          .
933          .          .        400B
             .          .          .
             .          .          .
947          .          .          .-------> BS400B
943          .          .       D400B
             .          .          .
             .          .          .
952          .          .          .          .<-------  BS400B
950          .          .          .      RT400B
             .          .          .          V
             .          .          .          V
953          .          .          .       S400B
             .          .          .          .
             .          .          .          .
959          .          .       C400B............
             .          .          .
             .          .          .
962      CC400B........................
             V
             V
965       R400
             .
             .
972          .        420A
             .          .
             .          .
986          .          .-------> BS420A
982          .       D420A
             .          .
             .          .
991          .          .          .<-------  BS420A
989          .          .      RT420A
             .          .          V
```

```
                                  V
 992                          S420A
                                  .
                                  .
 998        C420A.......................
                V
                V
1001         R420
                .
                .
1008            .        370A
                .           .
                .           .
1018            .           .        395A
                .           .           .
                .           .           .
1028            .       C370A............
                .           .
                .           .
1034            .           .-------->   BS370
1031            .        D370
                .           .
                .           .
1039            .           .           .<-------   BS370
1037            .           .       RT370
                .           .           V
                .           .           V
1040            .           .        S370
                .           .           .
                .           .           .
1046            .       CC370............
                .           V
                .           V
1049            .        R370
                .           .
                .           .
1056            .           .        385A
                .           .           .
                .           .           .
1066            .           .           .        415B
                .           .           .           .
                .           .           .           .
1076            .           .       C415B............
                .           .           .
                .           .           .
1082            .           .           .-------->  BS415B
1079            .           .       D415B
                .           .           .
                .           .           .
1087            .           .           .           .<-------  BS415B
1085            .           .           .      RT415B
                .           .           .           V
                .           .           .           V
1088            .           .           .       S415B
                .           .           .           .
                .           .           .           .
1094            .           .      CC415B............
                .           .           V
                .           .           V
1097            .           .       R415B
                .           .           .
                .           .           .
1104            .           .           .         390
                .           .           .           .
                .           .           .           .
1118            .           .           .           .-------->   BS390
1114            .           .           .        D390
                .           .           .           .
                .           .           .           .
1123            .           .           .           .           .<-------   BS390
1121            .           .           .           .       RT390
                .           .           .           .           V
                .           .           .           .           V
1124            .           .           .           .        S390
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1130            .        C390.......................................
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                .           V
1133            .        R390
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1140            .           .        420B
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1150            .       C420B............
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1153            .           .         440
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                .           .           V
1163            .           .         R70
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1169            .           .           .         441
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1179          .           .        C108............
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1184          .           .           .-------->   SPLIT
1182          .           .         D4
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              .           .          V
1187          .           .        R108
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1193          .           .           .         442
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1203          .           .         C67............
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1209          .           .           .-------->  BASIN4
1206          .           .         D6
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1214          .           .           .           .<-------  BASIN4
1212          .           .           .        RTD6
              .           .           .           V
              .           .           .           V
1215          .           .           .         SD6
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1221          .           .         CD6............
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1224          .           .           .         443
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1237          .           .           .           .-------->   WSH66
1234          .           .           .         D66
              .           .           .           V
              .           .           .           V
1240          .           .           .        R113
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1246          .           .        C114............
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1249          .           .           .         444
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1259          .           .           .         R58
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1265          .           .           .           .         445
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1275          .           .           .        C107............
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              .           .           .           V
1278          .           .           .        R107
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1286          .           .           .           .           .<-------   SPLIT
1284          .           .           .           .        RTB2
              .           .           .           .           V
              .           .           .           .           V
1287          .           .           .           .      RSPLIT
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              .           .           .           .           .
1293          .           .           .           .           .         446
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1303          .           .           .        C109........................
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1309          .           .           .           .-------->  WSH404
1306          .           .           .         D5
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              .           .           .           V
1312          .           .           .        R109
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1318          .           .           .           .         447
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1330          .           .           .           .           .           .<-------  WSH404
1328          .           .           .           .           .       RT404
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              .           .           .           .           .           V
1331          .           .           .           .           .        R404
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1337          .           .           .        C110........................
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              .           .           .           V
1340          .           .           .        R110
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1346          .           .        C115............
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1349                R115
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1355                  .        448
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1365                  .          .        449
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1375                  .      C6364...........
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1378                  .      R6364
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1384                  .          .        450
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1394                  .          .          .        451
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1404                  .          .       C451...........
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1409                  .          .          .          .<-------   WSH66
1407                  .          .          .       RT66
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1410                  .          .          .          .        452
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1420                  .          .          .      C6465...........
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                      .          .          .          V
1423                  .          .          .      R6566
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1429                  .       C116.......................
                      .          V
                      .          V
1432                  .     BASIN5
                      .          V
                      .          V
1439                  .       R116
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1445                  .          .        453
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1455                  .       C117...........
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1458               C118...........
                      V
                      V
1461               R118
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1470                  .-------->  BASIN6
1467                D7
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1475                  .          .<-------  BASIN6
1473                  .       RTD7
                      .          V
                      .          V
1476                  .        SD7
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1482                CD7...........
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1485                  .        454
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1495               C454...........
                      V
                      V
1498               R454
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1505                  .       415A
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1515          C415A.......................
                 V
                 V
1518          R415A
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1525                CD7        455
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1540                  .-------->   BS455
1535               D455
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1545          .           .           .           .<-------   BS455
1543          .           .           .       RT455
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1546          .           .           .       S455
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1552          .           .       C455............
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1555      CC455......................
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1558       R455
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1564          .        480
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1579          .           .------->   BS480
1574          .       D480
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1584          .           .           .<-------   BS480
1582          .           .       RT480
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1585          .           .        S480
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1591          .       C480............
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1594      CC480............
              V
              V
1597       R480
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1603          .        456
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1616          .           .------->  BASIN1
1613          .         D1
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1622          .           .------->    WA30
1619          .         D2
              .          V
              .          V
1625          .       R456
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1631          .           .         457
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1641          .       C101............
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              .           .
1647          .           .------->  BASIN2
1644          .         D3
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1652          .           .           .<-------  BASIN2
1650          .           .       RTD3
              .           .           V
              .           .           V
1653          .           .         SD3
              .           .           .
              .           .           .
1659          .        CD3............
              .          V
              .          V
1662          .       R101
              .           .
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1668          .           .         458
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1678          .       C103............
              .          V
              .          V
1681          .       R103
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              .           .
1689          .           .           .<-------    WA30
1687          .           .       RT30
              .           .           V
              .           .           V
1690          .           .        R30
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1698          .           .           .           .<-------  BASIN1
1696          .           .           .       RTB1
              .           .           .           V
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1699          .           .           .          B1
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  1706          .          .          .        RB1
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  1712          .          .       CDIV...........
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  1728          .          .        R52
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  1734          .          .          .        460
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  1747          .          .      BASIN3
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  1754          .          .         R3
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  1760          .          .          .        461
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  1770          .          .       C104...........
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  1773          .       C106...........
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  1776          .       R106
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  1782          .          .        462
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  1792          .        C56...........
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                .          .
  1795       C462...........
                V
                V
  1798       R462
                V
                V
  1804      RR462
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  1810          .        500
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                .          .
  1820       C500...........
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(***) RUNOFF ALSO COMPUTED AT THIS LOCATION

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1****************************************
 *                                      *
 *   FLOOD HYDROGRAPH PACKAGE  (HEC-1)  *
 *              JUN   1998              *
 *            VERSION 4.1               *
 *                                      *
 *  RUN DATE   18MAY01  TIME  09:23:42  *
 *                                      *
 ****************************************
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****************************************
*                                      *
*    U.S. ARMY CORPS OF ENGINEERS      *
*    HYDROLOGIC ENGINEERING CENTER     *
*          609 SECOND STREET           *
*       DAVIS, CALIFORNIA 95616        *
*           (916) 756-1104             *
*                                      *
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DDMS MCUHP1 SPOOK HILL ADMP-EXISTING CONDITIONS MODEL-100YR, 24-HR STORM
Combined McDowell Rd., McKellips Rd., Non-Jurisdictional & Pass Mountain
Diversion Alternatives
McDowell Road Alternative - Option MD2E
McKellips Road Alternative - Option MK2E
Non-Jurisdictional Alternative - Option NJ4Q
FULL PASS MOUNTAIN DIVERSION WITH SPOOK HILL FRS Channel ROUTING - PM4R
OUTFLOW OF SIGNAL BUTTE IS QUADRUPLED
Spook Hill FRS with Off-Line Basin

 11 IO          OUTPUT CONTROL VARIABLES
                      IPRNT           5  PRINT CONTROL
                      IPLOT           0  PLOT CONTROL
                      QSCAL          0.  HYDROGRAPH PLOT SCALE

    IT          HYDROGRAPH TIME DATA
                       NMIN           2  MINUTES IN COMPUTATION INTERVAL
                      IDATE      1    0  STARTING DATE
                      ITIME        0000  STARTING TIME
                         NQ        2000  NUMBER OF HYDROGRAPH ORDINATES
                     NDDATE      3    0  ENDING DATE
```

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          NDTIME          1838  ENDING TIME
          ICENT             19  CENTURY MARK

      COMPUTATION INTERVAL      .03 HOURS
             TOTAL TIME BASE  66.63 HOURS

ENGLISH UNITS
     DRAINAGE AREA            SQUARE MILES
     PRECIPITATION DEPTH      INCHES
     LENGTH, ELEVATION        FEET
     FLOW                     CUBIC FEET PER SECOND
     STORAGE VOLUME           ACRE-FEET
     SURFACE AREA             ACRES
     TEMPERATURE              DEGREES FAHRENHEIT
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13 JD        INDEX STORM NO. 1
                  STRM         3.81  PRECIPITATION DEPTH
                  TRDA          .01  TRANSPOSITION DRAINAGE AREA

14 PI          PRECIPITATION PATTERN
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24 JD        INDEX STORM NO. 2
                  STRM         3.79  PRECIPITATION DEPTH
                  TRDA         1.00  TRANSPOSITION DRAINAGE AREA
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0 PI PRECIPITATION PATTERN

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25 JD INDEX STORM NO. 3

STRM 3.68 PRECIPITATION DEPTH

TRDA 5.80 TRANSPOSITION DRAINAGE AREA

0 PI PRECIPITATION PATTERN

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26 JD INDEX STORM NO. 4

STRM 3.57 PRECIPITATION DEPTH

TRDA 10.66 TRANSPOSITION DRAINAGE AREA

0 PI PRECIPITATION PATTERN

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.01	.01	.03	.04	.04	.04	.04	.04	.04	.04
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27 JD INDEX STORM NO. 5

STRM 3.54 PRECIPITATION DEPTH
TRDA 13.70 TRANSPOSITION DRAINAGE AREA

0 PI PRECIPITATION PATTERN

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28 JD	INDEX STORM NO. 6		
	STRM	3.47	PRECIPITATION DEPTH
	TRDA	20.00	TRANSPOSITION DRAINAGE AREA

0 PI PRECIPITATION PATTERN

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29 JD	INDEX STORM NO. 7		
	STRM	3.32	PRECIPITATION DEPTH

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          TRDA       50.00  TRANSPOSITION DRAINAGE AREA

0 PI            PRECIPITATION PATTERN
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         WARNING EXCESS AT PONDING LESS THAN ZERO FOR PERIOD. EXCESS SET TO ZERO
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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			BASIN AREA	MAXIMUM STAGE	TIME OF MAX STAGE
+					6-HOUR	24-HOUR	72-HOUR			
	HYDROGRAPH AT									
+		10	989.	12.27	119.	33.	12.	.70		
	ROUTED TO									
+		R10	920.	12.40	119.	33.	12.	.70		
	ROUTED TO									
+		R12	853.	12.60	119.	33.	12.	.70		
	HYDROGRAPH AT									

+	20	1011.	12.43	136.	34.	12.	1.12
2 COMBINED AT +	C20	1684.	12.53	252.	66.	24.	1.82
ROUTED TO +	R20	1683.	12.57	252.	66.	24.	1.82
HYDROGRAPH AT +	40	2695.	12.30	264.	69.	25.	2.23
HYDROGRAPH AT +	60	1623.	12.40	239.	64.	23.	1.75
3 COMBINED AT +	C60	5371.	12.37	733.	194.	70.	5.80
ROUTED TO +	S60	118.	14.27	118.	114.	70.	5.80
ROUTED TO +	R60	118.	14.37	118.	114.	70.	5.80
ROUTED TO +	RR60	118.	14.40	118.	114.	70.	5.80
HYDROGRAPH AT +	80	1956.	12.27	189.	49.	18.	1.48
2 COMBINED AT +	C80	2009.	12.27	295.	160.	90.	1.48
ROUTED TO +	R80	1981.	12.30	295.	160.	90.	1.48
HYDROGRAPH AT +	100	423.	12.20	60.	16.	6.	.48
2 COMBINED AT +	C100	2373.	12.27	351.	174.	95.	1.96
ROUTED TO +	R100	2370.	12.30	351.	174.	95.	1.96
HYDROGRAPH AT +	120	3352.	12.27	340.	92.	33.	2.20
2 COMBINED AT +	C120	5618.	12.27	673.	256.	126.	4.16
ROUTED TO +	R120	5546.	12.30	673.	256.	126.	4.16
HYDROGRAPH AT +	140	665.	12.13	67.	18.	6.	.60
HYDROGRAPH AT +	150	595.	12.17	51.	14.	5.	.41
ROUTED TO +	R150	568.	12.23	51.	14.	5.	.41
ROUTED TO +	R152	514.	12.33	51.	14.	5.	.41
HYDROGRAPH AT +	160	228.	12.40	37.	9.	3.	.37
HYDROGRAPH AT +	180	836.	12.37	97.	24.	9.	1.00
5 COMBINED AT +	C180	7306.	12.30	898.	313.	146.	6.54
HYDROGRAPH AT +	385B	591.	12.17	57.	16.	6.	.38
ROUTED TO +	R385B	590.	12.17	57.	16.	6.	.38
HYDROGRAPH AT +	395B	12.	12.17	2.	0.	0.	.02
2 COMBINED AT +	C395B	601.	12.17	59.	17.	6.	.39
ROUTED TO +	R395B	580.	12.23	58.	16.	6.	.39
HYDROGRAPH AT +	370B	219.	12.27	32.	8.	3.	.26
2 COMBINED AT +	C370C	792.	12.23	90.	25.	9.	.66
ROUTED TO +	R370B	778.	12.27	90.	25.	9.	.66

	ROUTED TO						
+	RR370B	715.	12.33	90.	25.	9.	.66
	HYDROGRAPH AT						
	355B	465.	12.27	54.	14.	5.	.51
	2 COMBINED AT						
+	C355B	1153.	12.30	143.	38.	14.	1.17
	ROUTED TO						
+	R355B	1138.	12.37	143.	38.	14.	1.17
	ROUTED TO						
+	RR355B	1121.	12.40	143.	38.	14.	1.17
	HYDROGRAPH AT						
+	350	1258.	12.20	109.	28.	10.	.97
	ROUTED TO						
+	R350	1109.	12.47	109.	28.	10.	.97
	HYDROGRAPH AT						
+	310	342.	12.33	46.	12.	4.	.49
	3 COMBINED AT						
+	C310	2448.	12.43	290.	76.	27.	2.63
	ROUTED TO						
+	R310	2395.	12.53	290.	76.	27.	2.63
	ROUTED TO						
+	R312	2301.	12.63	290.	76.	27.	2.63
	HYDROGRAPH AT						
+	305B	405.	12.30	45.	11.	4.	.41
	2 COMBINED AT						
+	C305B	2484.	12.63	333.	87.	31.	3.05
	ROUTED TO						
+	R305B	2464.	12.67	333.	87.	31.	3.05
	HYDROGRAPH AT						
+	210	1322.	12.17	111.	29.	10.	.79
	ROUTED TO						
+	R210	1246.	12.23	111.	29.	10.	.79
	HYDROGRAPH AT						
+	240	1754.	12.27	167.	42.	15.	1.41
	3 COMBINED AT						
+	C240	3752.	12.27	593.	153.	55.	5.25
	ROUTED TO						
+	S240	1819.	12.93	528.	137.	49.	5.25
	ROUTED TO						
+	R240	1817.	13.00	527.	137.	49.	5.25
	HYDROGRAPH AT						
+	220	694.	12.20	68.	18.	6.	.47
	2 COMBINED AT						
+	C220	1864.	12.97	587.	153.	55.	5.72
	ROUTED TO						
+	S220	1775.	13.13	575.	150.	54.	5.72
	ROUTED TO						
+	R220	1774.	13.20	575.	150.	54.	5.72
	HYDROGRAPH AT						
+	190	1471.	12.17	123.	33.	12.	.92
	ROUTED TO						
+	R190	1415.	12.23	123.	33.	12.	.92
	ROUTED TO						
+	R192	1359.	12.30	123.	33.	12.	.92
	HYDROGRAPH AT						
+	200	843.	12.17	72.	20.	7.	.53
	3 COMBINED AT						
+	C200	2171.	12.30	741.	195.	71.	7.17
	ROUTED TO						
+	S200	2057.	12.37	736.	192.	69.	7.17
	ROUTED TO						
	R200	2055.	12.40	735.	192.	69.	7.17
	ROUTED TO						
+	SS200	1788.	13.30	615.	162.	58.	7.17
	ROUTED TO						

+	RR200	1784.	13.37	612.	162.	58.	7.17
2 COMBINED AT	CC180	7306.	12.30	1505.	476.	204.	13.70
+ ROUTED TO	S180	449.	15.63	436.	313.	154.	13.70
+ ROUTED TO	R180	449.	15.70	436.	313.	154.	13.70
+ HYDROGRAPH AT	260	399.	12.13	43.	12.	4.	.26
+ 2 COMBINED AT	C260	491.	15.63	477.	362.	181.	.26
+ ROUTED TO	R260	491.	15.70	477.	362.	181.	.26
+ HYDROGRAPH AT	280	498.	12.10	46.	13.	5.	.32
+ 2 COMBINED AT	C280	854.	12.13	479.	372.	185.	.58
+ ROUTED TO	R280	837.	12.20	479.	372.	185.	.58
+ HYDROGRAPH AT	300	392.	12.10	34.	9.	3.	.29
+ 2 COMBINED AT	C300	1173.	12.17	503.	379.	188.	.87
+ ROUTED TO	R300	1131.	12.23	502.	379.	188.	.87
+ HYDROGRAPH AT	305A	413.	12.17	46.	13.	5.	.37
+ 2 COMBINED AT	C305A	1501.	12.23	539.	388.	191.	1.24
+ ROUTED TO	R305A	1470.	12.30	538.	387.	191.	1.24
HYDROGRAPH AT	320	899.	12.20	116.	33.	12.	.87
+ DIVERSION TO	BS320	439.	11.97	21.	6.	2.	.87
+ HYDROGRAPH AT	D320	899.	12.20	102.	27.	10.	.87
+ HYDROGRAPH AT	RT320	439.	11.97	21.	6.	2.	.87
+ ROUTED TO	S320	4.	12.03	4.	4.	2.	.87
+ 3 COMBINED AT	C320	2277.	12.27	633.	411.	200.	2.11
+ ROUTED TO	R320	2064.	12.57	615.	408.	198.	2.11
+ HYDROGRAPH AT	340B	475.	12.07	35.	10.	4.	.29
+ DIVERSION TO	BS340B	475.	12.07	21.	6.	2.	.29
+ HYDROGRAPH AT	D340B	390.	12.13	16.	4.	2.	.29
+ HYDROGRAPH AT	RT340B	475.	12.07	21.	6.	2.	.29
+ ROUTED TO	S340B	3.	12.13	3.	3.	2.	.29
+ 2 COMBINED AT	C340B	394.	12.13	19.	7.	4.	.29
+ DIVERSION TO	BS340	376.	12.13	12.	3.	1.	.29
HYDROGRAPH AT	DD340B	18.	12.10	8.	4.	3.	.29
+ HYDROGRAPH AT	RT340	376.	12.13	12.	3.	1.	.29
+ ROUTED TO	SS340B	2.	12.63	2.	2.	1.	.29

+	2 COMBINED AT	CC340B	20.	12.63	10.	6.	4.	.29
	ROUTED TO	R340B	20.	12.70	10.	6.	4.	.29
+	HYDROGRAPH AT	340A	1361.	12.17	161.	48.	17.	1.15
+	DIVERSION TO	BS340A	1361.	12.17	82.	23.	8.	1.15
+	HYDROGRAPH AT	D340A	1217.	12.23	93.	25.	9.	1.15
+	HYDROGRAPH AT	RT340A	1361.	12.17	82.	23.	8.	1.15
+	ROUTED TO	S340A	14.	12.27	13.	11.	7.	1.15
+	3 COMBINED AT	C340A	1212.	12.27	115.	42.	20.	1.44
+	2 COMBINED AT	C340	2575.	12.53	707.	442.	215.	3.55
+	ROUTED TO	R340	2437.	12.70	696.	440.	214.	3.55
+	HYDROGRAPH AT	355A	226.	12.10	22.	6.	2.	.16
+	ROUTED TO	R355A	197.	12.37	22.	6.	2.	.16
+	HYDROGRAPH AT	360	761.	12.20	109.	31.	11.	.88
+	DIVERSION TO	BS360	761.	12.20	54.	14.	5.	.88
+	HYDROGRAPH AT	D360	665.	12.37	62.	17.	6.	.88
+	HYDROGRAPH AT	RT360	761.	12.20	54.	14.	5.	.88
+	ROUTED TO	S360	9.	12.37	8.	7.	5.	.88
+	4 COMBINED AT	C360	2838.	12.70	766.	463.	225.	4.59
+	DIVERSION TO	380S	878.	12.70	37.	9.	3.	4.59
+	HYDROGRAPH AT	DD380	1960.	12.57	729.	454.	222.	4.59
+	HYDROGRAPH AT	RT380S	878.	12.70	37.	9.	3.	4.59
+	ROUTED TO	SS380	9.	12.97	7.	4.	1.	4.59
+	2 COMBINED AT	CC360	1969.	12.93	736.	458.	223.	4.59
+	ROUTED TO	R360	1964.	13.00	727.	456.	222.	4.59
+	HYDROGRAPH AT	380A	322.	12.27	33.	10.	4.	.26
+	2 COMBINED AT	C380A	1991.	12.97	733.	459.	225.	4.85
+	ROUTED TO	R380A	1979.	13.07	729.	458.	225.	4.85
+	HYDROGRAPH AT	400A	56.	12.20	4.	1.	0.	.05
+	2 COMBINED AT	C400A	1980.	13.07	729.	458.	225.	4.90
+	ROUTED TO	R400A	1961.	13.23	726.	458.	225.	4.90
	HYDROGRAPH AT	380B	567.	12.20	67.	17.	6.	.64
+	DIVERSION TO	BS380B	567.	12.20	57.	14.	5.	.64
	HYDROGRAPH AT							

+		D380B	147.	12.80	12.	3.	1.	.64
	HYDROGRAPH AT	RT380B	567.	12.20	57.	14.	5.	.64
+	ROUTED TO	S380B	9.	12.80	9.	7.	5.	.64
+	2 COMBINED AT	C380B	156.	12.80	20.	11.	6.	.64
+	DIVERSION TO	BS380	70.	12.80	2.	0.	0.	.64
+	HYDROGRAPH AT	DD380B	86.	12.77	18.	10.	6.	.64
+	HYDROGRAPH AT	RT380	70.	12.80	2.	0.	0.	.64
+	ROUTED TO	SS380B	4.	13.03	2.	0.	0.	.64
+	2 COMBINED AT	CC380B	90.	13.03	20.	11.	6.	.64
+	ROUTED TO	R380B	90.	13.03	20.	11.	6.	.64
+	HYDROGRAPH AT	400B	516.	12.20	62.	17.	6.	.57
+	DIVERSION TO	BS400B	292.	12.00	10.	3.	1.	.57
+	HYDROGRAPH AT	D400B	516.	12.20	54.	14.	5.	.57
+	HYDROGRAPH AT	RT400B	292.	12.00	10.	3.	1.	.57
+	ROUTED TO	S400B	2.	12.07	2.	2.	1.	.57
+	2 COMBINED AT	C400B	518.	12.20	56.	15.	6.	.57
	3 COMBINED AT	CC400B	2073.	13.20	746.	475.	234.	6.10
+	ROUTED TO	R400	2022.	13.47	744.	473.	233.	6.10
+	HYDROGRAPH AT	420A	495.	12.20	68.	19.	7.	.57
+	DIVERSION TO	BS420A	377.	12.07	16.	4.	2.	.57
+	HYDROGRAPH AT	D420A	495.	12.20	56.	14.	5.	.57
+	HYDROGRAPH AT	RT420A	377.	12.07	16.	4.	2.	.57
+	ROUTED TO	S420A	13.	11.60	13.	4.	2.	.57
+	3 COMBINED AT	C420A	2062.	13.47	762.	483.	237.	6.67
+	ROUTED TO	R420	2005.	13.67	761.	482.	237.	6.67
+	HYDROGRAPH AT	370A	633.	12.10	52.	14.	5.	.41
+	HYDROGRAPH AT	395A	209.	12.13	24.	6.	2.	.18
+	2 COMBINED AT	C370A	838.	12.10	76.	21.	7.	.59
+	DIVERSION TO	BS370	698.	12.10	43.	11.	4.	.59
+	HYDROGRAPH AT	D370	140.	11.77	33.	10.	4.	.59
	HYDROGRAPH AT	RT370	698.	12.10	43.	11.	4.	.59
+	ROUTED TO	S370	8.	12.57	7.	6.	4.	.59
+	2 COMBINED AT	CC370	148.	12.57	39.	15.	7.	.59

+	ROUTED TO	R370	148.	12.57	39.	15.	7.	.59
	HYDROGRAPH AT	385A	358.	12.07	27.	7.	3.	.21
+	HYDROGRAPH AT	415B	443.	12.10	46.	13.	5.	.33
+	2 COMBINED AT	C415B	785.	12.07	73.	20.	7.	.54
+	DIVERSION TO	BS415B	595.	12.07	34.	8.	3.	.54
+	HYDROGRAPH AT	D415B	190.	11.83	40.	12.	4.	.54
+	HYDROGRAPH AT	RT415B	595.	12.07	34.	8.	3.	.54
+	ROUTED TO	S415B	7.	12.50	7.	6.	3.	.54
+	2 COMBINED AT	CC415B	197.	12.47	45.	17.	7.	.54
+	ROUTED TO	R415B	197.	12.47	45.	17.	7.	.54
+	HYDROGRAPH AT	390	477.	12.03	35.	10.	4.	.24
+	DIVERSION TO	BS390	101.	11.73	6.	2.	1.	.24
+	HYDROGRAPH AT	D390	477.	12.03	31.	8.	3.	.24
+	HYDROGRAPH AT	RT390	101.	11.73	6.	2.	1.	.24
+	ROUTED TO	S390	1.	11.80	1.	1.	1.	.24
	4 COMBINED AT	C390	814.	12.03	115.	41.	18.	1.38
+	ROUTED TO	R390	746.	12.23	115.	41.	18.	1.38
+	HYDROGRAPH AT	420B	356.	12.10	34.	10.	4.	.28
+	2 COMBINED AT	C420B	1039.	12.20	148.	50.	22.	1.65
+	HYDROGRAPH AT	440	184.	12.03	12.	3.	1.	.08
+	ROUTED TO	R70	181.	12.07	12.	3.	1.	.08
+	HYDROGRAPH AT	441	16.	12.03	1.	0.	0.	.01
+	2 COMBINED AT	C108	197.	12.07	14.	4.	1.	.09
+	DIVERSION TO	SPLIT	98.	12.07	7.	2.	1.	.09
+	HYDROGRAPH AT	D4	98.	12.07	7.	2.	1.	.09
+	ROUTED TO	R108	92.	12.13	7.	2.	1.	.09
+	HYDROGRAPH AT	442	105.	12.10	9.	2.	1.	.10
+	2 COMBINED AT	C67	195.	12.10	16.	4.	2.	.19
+	DIVERSION TO	BASIN4	121.	12.10	6.	2.	1.	.19
+	HYDROGRAPH AT	D6	74.	12.10	10.	3.	1.	.19
	HYDROGRAPH AT	RTD6	121.	12.10	6.	2.	1.	.19
+	ROUTED TO	SD6	1.	12.47	1.	1.	0.	.19
	2 COMBINED AT							

+	CD6	74.	12.10	10.	3.	1.	.19
HYDROGRAPH AT	443	151.	12.07	15.	4.	1.	.08
+ DIVERSION TO	WSH66	78.	11.87	12.	3.	1.	.08
+ HYDROGRAPH AT	D66	73.	12.07	3.	1.	0.	.08
+ ROUTED TO	R113	71.	12.07	3.	1.	0.	.08
+ 2 COMBINED AT	C114	144.	12.07	13.	4.	2.	.27
+ HYDROGRAPH AT	444	83.	12.03	5.	1.	0.	.04
+ ROUTED TO	R58	79.	12.07	5.	1.	0.	.04
+ HYDROGRAPH AT	445	307.	12.03	19.	5.	2.	.19
+ 2 COMBINED AT	C107	382.	12.03	23.	6.	2.	.23
+ ROUTED TO	R107	382.	12.07	23.	6.	2.	.23
+ HYDROGRAPH AT	RTB2	98.	12.07	7.	2.	1.	.09
+ ROUTED TO	RSPLIT	98.	12.07	7.	2.	1.	.09
+ HYDROGRAPH AT	446	66.	12.03	6.	2.	1.	.04
+ 3 COMBINED AT	C109	545.	12.07	36.	10.	3.	.27
+ DIVERSION TO	WSH404	35.	11.70	8.	2.	1.	.27
HYDROGRAPH AT	D5	510.	12.07	28.	7.	3.	.27
+ ROUTED TO	R109	493.	12.10	28.	7.	3.	.27
+ HYDROGRAPH AT	447	141.	12.07	12.	4.	1.	.09
+ HYDROGRAPH AT	RT404	35.	11.70	8.	2.	1.	.27
+ ROUTED TO	R404	35.	11.83	8.	2.	1.	.27
+ 3 COMBINED AT	C110	666.	12.07	48.	13.	5.	.36
+ ROUTED TO	R110	663.	12.10	48.	13.	5.	.36
+ 2 COMBINED AT	C115	805.	12.07	61.	17.	7.	.63
+ ROUTED TO	R115	799.	12.10	61.	17.	7.	.63
+ HYDROGRAPH AT	448	89.	12.03	6.	2.	1.	.05
+ HYDROGRAPH AT	449	81.	12.03	5.	1.	0.	.05
+ 2 COMBINED AT	C6364	170.	12.03	11.	3.	1.	.09
+ ROUTED TO	R6364	145.	12.17	11.	3.	1.	.09
+ HYDROGRAPH AT	450	63.	12.20	7.	2.	1.	.07
HYDROGRAPH AT	451	18.	12.17	2.	1.	0.	.03
+ 2 COMBINED AT	C451	80.	12.20	9.	2.	1.	.09
+ HYDROGRAPH AT	RT66	78.	11.87	12.	3.	1.	.08

+	HYDROGRAPH AT 452	63.	12.03	5.	1.	0.	.04
	2 COMBINED AT C6465	141.	12.03	17.	4.	2.	.04
+	ROUTED TO R6566	137.	12.10	17.	4.	2.	.04
+	3 COMBINED AT C116	357.	12.17	36.	10.	3.	.23
+	ROUTED TO BASIN5	159.	12.47	36.	10.	3.	.23
+	ROUTED TO R116	157.	12.53	36.	10.	3.	.23
+	HYDROGRAPH AT 453	63.	12.10	7.	2.	1.	.06
+	2 COMBINED AT C117	177.	12.47	43.	12.	4.	.29
+	2 COMBINED AT C118	892.	12.10	104.	29.	11.	.92
+	ROUTED TO R118	887.	12.13	104.	29.	11.	.92
+	DIVERSION TO BASIN6	248.	12.13	7.	2.	1.	.92
+	HYDROGRAPH AT D7	639.	12.13	97.	27.	10.	.92
+	HYDROGRAPH AT RTD7	248.	12.13	7.	2.	1.	.92
+	ROUTED TO SD7	1.	12.63	1.	1.	1.	.92
+	2 COMBINED AT CD7	640.	12.13	97.	28.	11.	.92
	HYDROGRAPH AT 454	162.	12.13	21.	6.	2.	.18
+	2 COMBINED AT C454	801.	12.13	118.	34.	13.	1.10
+	ROUTED TO R454	793.	12.23	118.	34.	13.	1.10
+	HYDROGRAPH AT 415A	267.	12.17	32.	9.	3.	.28
+	3 COMBINED AT C415A	2063.	12.20	292.	90.	37.	3.03
+	ROUTED TO R415A	2050.	12.23	292.	90.	37.	3.03
+	HYDROGRAPH AT 455	1418.	12.13	150.	45.	16.	1.11
+	DIVERSION TO BS455	1418.	12.13	139.	37.	13.	1.11
+	HYDROGRAPH AT D455	145.	12.80	24.	8.	3.	1.11
+	HYDROGRAPH AT RT455	1418.	12.13	139.	37.	13.	1.11
+	ROUTED TO S455	23.	12.80	22.	18.	11.	1.11
+	2 COMBINED AT C455	169.	12.80	46.	26.	14.	1.11
+	3 COMBINED AT CC455	2121.	13.67	986.	563.	275.	10.82
+	ROUTED TO R455	1976.	14.17	973.	561.	273.	10.82
+	HYDROGRAPH AT 480	1102.	12.10	100.	31.	11.	.73
	DIVERSION TO BS480	487.	11.90	27.	8.	3.	.73
+	HYDROGRAPH AT D480	1102.	12.10	83.	23.	8.	.73
	HYDROGRAPH AT						

+	RT480	487.	11.90	27.	8.	3.	.73
ROUTED TO	S480	5.	11.97	5.	4.	3.	.73
+ 2 COMBINED AT	C480	1107.	12.10	88.	27.	11.	.73
+ 2 COMBINED AT	CC480	2244.	14.07	1123.	646.	315.	.73
+ ROUTED TO	R480	2203.	14.27	1117.	644.	314.	.73
+ HYDROGRAPH AT	456	483.	12.07	37.	10.	4.	.26
+ DIVERSION TO	BASIN1	193.	12.07	8.	2.	1.	.26
+ HYDROGRAPH AT	D1	290.	12.07	29.	8.	3.	.26
+ DIVERSION TO	WA30	59.	12.07	10.	3.	1.	.26
+ HYDROGRAPH AT	D2	231.	12.07	19.	5.	2.	.26
+ ROUTED TO	R456	218.	12.13	19.	5.	2.	.26
+ HYDROGRAPH AT	457	273.	12.07	21.	6.	2.	.19
+ 2 COMBINED AT	C101	480.	12.10	40.	10.	4.	.45
+ DIVERSION TO	BASIN2	177.	12.10	8.	2.	1.	.45
+ HYDROGRAPH AT	D3	303.	12.10	32.	8.	3.	.45
+ HYDROGRAPH AT	RTD3	177.	12.10	8.	2.	1.	.45
ROUTED TO	SD3	1.	12.40	1.	1.	1.	.45
+ 2 COMBINED AT	CD3	304.	12.10	33.	9.	4.	.45
+ ROUTED TO	R101	302.	12.10	33.	9.	4.	.45
+ HYDROGRAPH AT	458	366.	12.03	26.	7.	2.	.19
+ 2 COMBINED AT	C103	655.	12.07	59.	16.	6.	.64
+ ROUTED TO	R103	651.	12.07	59.	16.	6.	.64
+ HYDROGRAPH AT	RT30	59.	12.07	10.	3.	1.	.26
+ ROUTED TO	R30	58.	12.10	10.	3.	1.	.26
+ HYDROGRAPH AT	RTB1	193.	12.07	8.	2.	1.	.26
+ ROUTED TO	B1	35.	12.20	8.	2.	1.	.26
+ ROUTED TO	RB1	35.	12.27	8.	2.	1.	.26
+ 2 COMBINED AT	CDIV	87.	12.20	18.	5.	2.	.12
+ HYDROGRAPH AT	459	45.	12.03	3.	1.	0.	.03
+ 2 COMBINED AT	C52	117.	12.10	21.	6.	2.	.15
ROUTED TO	R52	116.	12.17	21.	6.	2.	.15
+ HYDROGRAPH AT	460	221.	12.07	20.	6.	2.	.14
+ 2 COMBINED AT	C102	323.	12.07	40.	12.	4.	.29

	ROUTED TO						
+		BASIN3	71.	12.63	40.	12.	4.	.29
	ROUTED TO						
		R3	71.	12.77	40.	12.	4.	.29
	HYDROGRAPH AT						
+		461	165.	12.10	17.	5.	2.	.12
	2 COMBINED AT						
+		C104	220.	12.10	57.	17.	6.	.41
	2 COMBINED AT						
+		C106	866.	12.07	115.	33.	12.	1.05
	ROUTED TO						
+		R106	828.	12.13	115.	33.	12.	1.05
	HYDROGRAPH AT						
+		462	557.	12.07	42.	12.	4.	.30
	2 COMBINED AT						
+		C56	1306.	12.10	156.	44.	16.	1.35
	2 COMBINED AT						
+		C462	2229.	14.27	1206.	667.	323.	2.09
	ROUTED TO						
+		R462	2222.	14.30	1205.	667.	323.	2.09
	ROUTED TO						
+		RR462	2212.	14.37	1204.	666.	323.	2.09
	HYDROGRAPH AT						
+		500	1126.	12.27	128.	35.	12.	.93
	2 COMBINED AT						
+		C500	2657.	12.30	1304.	690.	331.	3.02

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

FLOOD CONTROL DISTRICT
OF MARICOPA COUNTY
ENGINEERING DIVISION

McKELLIPS & NJ ALTERNATIVE

	BY	DATE
DESIGNER	R. HINER	06/00
DRAWN	S. CAMPBELL	06/00
CHECKED	A. PATEL	06/00

WOOD, PATEL & ASSOCIATES, INC.
2051 WEST NORTHERN, SUITE 100
PHOENIX, ARIZONA (602) 335-8500

DRAWING NO. MK2ENJ4Q.DWG SHEET OF

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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   10MAY01  TIME  15:53:31  *                                    *          (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   DDM MCUHP1 SPOOK HILL AMDP - EXISTING CONDITIONS MODEL - 100YR, 24HR STORM
  2           ID   McKellips Road Alternative - Option MK2E
  3           ID   Non-Jurisdictional Alternatives - Option NJ4Q
  4           ID   Spook Hill Channel w/Off-Line Basin
              *
              *  Original File Names: EC24_NJ4Q.DAT and EC24MK2E.DAT
              *  Modified File Name:  MK2ENJ4Q.DAT, 5/10/01  Wood/Patel, SZ
              *
              *
              *DIAGRAM
  5           IT       2                    2000
  6           IO       5
  7           IN      15
  8           JD    3.81    0.01
  9           PC    .000    .002    .005    .008    .011    .014    .017    .020    .023    .026
 10           PC    .029    .032    .035    .038    .041    .044    .048    .052    .056    .060
 11           PC    .064    .068    .072    .076    .080    .085    .090    .095    .100    .105
 12           PC    .110    .115    .120    .126    .133    .140    .147    .155    .163    .172
 13           PC    .181    .191    .203    .218    .236    .257    .283    .387    .663    .707
 14           PC    .735    .758    .776    .791    .804    .815    .825    .834    .842    .849
 15           PC    .856    .863    .869    .875    .881    .887    .893    .898    .903    .908
 16           PC    .913    .918    .922    .926    .930    .934    .938    .942    .946    .950
 17           PC    .953    .956    .959    .962    .965    .968    .971    .974    .977    .980
 18           PC    .983    .986    .989    .992    .995    .998   1.000
 19           JD   3.787    1.00
 20           JD   3.677    5.80
 21           JD   3.574   10.66
 22           JD   3.539   13.70
 23           JD   3.467   20.00
 24           JD   3.315   50.00
              * DDM   ***** Updated *****

 25           KK      10
 26           KM   SUB-BASIN 10
 27           KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
 28           KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .996
 29           KM     L = 2.00  Kb = .044  Adj. Slope =  165.0
 30           BA    .702
 31           LG    .350    .320   7.600    .090  15.000
 32           UC    .421    .302
 33           UA       0       3       5       8      12      20      43      75      90      96
 34           UA     100
              * DDM   ***** Preserved *****

 35           KK     R10
 36           KM   ROUTING OF FLOW FROM SUB-BASIN 10 TO R12
 37           RS       4    FLOW      -1
 38           RC    .045     .03    .045    8700    .021
 39           RX       0       1       2      17      27      42      43      44
 40           RY       5       5       5       0       0       5       5       5
              * DDM   ***** Preserved *****
                                                HEC-1 INPUT                                                    PAGE  2

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

 41           KK     R12
 42           KM   ROUTING OF FLOW FROM R12 TO SUB-BASIN 20
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 43          RS       6    FLOW      -1
 44          RC    .045     .03    .045    4500     .01
 45          RX       0       1      45    52.5    72.5      80     124     125
 46          RY       4     2.5     2.5       0       0     2.5     2.5       4
             * DDM   ***** Updated *****

 47          KK      20
 48          KM   SUB-BASIN 20
 49          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
 50          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .993
 51          KM     L = 2.50  Kb = .041  Adj. Slope =   88.0
 52          BA   1.120
 53          LG    .350    .390   5.800    .190   1.000
 54          UC    .658    .454
 55          UA       0       3       5       8      12      20      43      75      90      96
 56          UA     100
             * DDM   ***** Preserved *****

 57          KK     C20
 58          KM   HYDROGRAPH COMBINATION OF SUB-BASINS 10 AND 20
 59          HC       2
             * DDM   ***** Preserved *****

 60          KK     R20
 61          KM        ROUTE FLOW THROUGH BULLDOG FLOODWAY FROM APACHE JUNCTION FRS
 62          RS       1    FLOW      -1
 63          RC    .016    .016    .016     990    .004
 64          RX       0       5       7    14.5    34.5      42      44      50
 65          RY       4       2       2       0       0       2       2       4
             * DDM   ***** Updated *****

 66          KK      40
 67          KM   SUB-BASIN 40
 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  .987
 70          KM     L = 3.08  Kb = .036  Adj. Slope =  189.0
 71          BA   2.233
 72          LG    .340    .340   4.900    .280   5.000
 73          UC    .496    .264
 74          UA       0       3       5       8      12      20      43      75      90      96
 75          UA     100
             * DDM   ***** Updated *****

 76          KK      60
 77          KM   SUB-BASIN 60
 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  .990
 80          KM     L = 4.19  Kb = .038  Adj. Slope =  209.6
 81          BA   1.746
 82          LG    .330    .350   5.800    .190   9.000
 83          UC    .596    .477
 84          UA       0       3       5       8      12      20      43      75      90      96
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LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 85          UA     100
             * DDM   ***** Preserved *****

 86          KK     C60
 87          KM     C60GRAPH COMBINATION FOR APACHE JUNCTION FRS
             *      1       2
 88          HC       3
             * DDM   ***** Preserved *****

 89          KK     S60
 90          KM   APACHE JUNCTION FRS AS-BUILT PLANS 12/19/88
 91          KM   OUTLET PIPE=30"RCP; L=136.6'; INLET INV.=1783.5; OUTLET INV.=1783
 92          KM   EMERGENCY SPILLWAY ELEV.=1799.77'; PRINCIPLE SPILLWAY ELEV.=1793.5'
 93          KM   STORAGE VOLUME BELOW PRINCIPLE SPILLWAY FOR SEDIMENT = 100 ACRE-FEET
             *  ESE = 1801.92 ft; PSE = 1795.65 ft; Sediment Vol. = 237 Ac-Ft.
 94          RS       1    STOR       0
 95          SV       0       0      77     242     371     439     563     687    2163
 96          SQ       0      12     103     114     120     362    1462    3101   30000
 97          SE    95.0    96.0    98.0   100.0   101.6   101.9   103.0   104.0   112.9
             * DDM   ***** Preserved *****

 98          KK     R60
 99          KM        ROUTE FLOW THROUGH BULLDOG FLOODWAY FROM APACHE JUNCTION FRS
100          RS       1    FLOW      -1
101          RC    .016    .016    .016    2850    .012
102          RX       0       1       2     2.1     5.6     5.7       6       7
103          RY     3.5     3.5     3.5       0       0     3.5     3.5     3.5
             * DDM   ***** Preserved *****

104          KK    RR60
105          KM   ROUTE FLOW FROM BULLDOG FLOODWAY TO SUB-BASIN 80
106          RS       3    FLOW      -1
107          RC    .016    .016    .016    3500    .005
108          RX       0       1       2     2.1     7.1     7.2       8       9
109          RY     3.5     3.5     3.5       0       0     3.5     3.5     3.5
             * DDM   ***** Updated *****

110          KK      80
111          KM   SUB-BASIN 80
112          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
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 113          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .991
 114          KM     L = 2.69  Kb = .039  Adj. Slope =  229.8
 115          BA   1.475
 116          LG    .330    .330   5.600    .210   4.000
 117          UC    .433    .259
 118          UA       0       3       5       8      12      20      43      75      90      96
 119          UA     100
              * DDM   ***** Preserved *****

 120          KK     C80
 121          KM   HYDROGRAPH COMBINATION FOR FLOW FROM APACHE JUNCTION FRS & SUB-BASIN 80
 122          HC       2   1.475
              * DDM   ***** Preserved *****
1                                          HEC-1 INPUT                                          PAGE  4

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

 123          KK     R80
 124          KM   ROUTE FLOW FROM SUB-BASIN 80 TO SUB-BASIN 100
 125          RS       1    FLOW      -1
 126          RC    .025    .016    .025    1200    .003
 127          RX       0       2       6     6.1    41.1    41.2    56.2    58.2
 128          RY     5.5     4.5     4.5       0       0     4.5     4.5     5.5
              * DDM   ***** Updated *****

 129          KK     100
 130          KM   SUB-BASIN 100
 131          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
 132          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .997
 133          KM     L = 1.94  Kb = .046  Adj. Slope =  108.0
 134          BA    .484
 135          LG    .320    .290   5.100    .260   3.000
 136          UC    .533    .473
 137          UA       0       5      16      30      65      77      84      90      94      97
 138          UA     100
              * DDM   ***** Preserved *****

 139          KK    C100
 140          KM   HYDROGRAPH COMBINATION FOR FLOW FROM SUB-BASIN 80 & 100
 141          HC       2
              * DDM   ***** Preserved *****

 142          KK    R100
 143          KM   ROUTE FLOW FROM SUB-BASIN 100 TO SUB-BASIN 120
 144          RS       1    FLOW      -1
 145          RC    .016    .016    .016     940    .005
 146          RX       0       1       2     2.1    52.1    52.2      53      54
 147          RY     4.5     4.5     4.5       0       0     4.5     4.5     4.5
              * DDM   ***** Updated *****

 148          KK     120
 149          KM   SUB-BASIN 120
 150          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
 151          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .987
 152          KM     L = 3.07  Kb = .037  Adj. Slope =  239.0
 153          BA   2.202
 154          LG    .330    .280   6.800    .130  11.000
 155          UC    .429    .226
 156          UA       0       3       5       8      12      20      43      75      90      96
 157          UA     100
              * DDM   ***** Preserved *****

 158          KK    C120
 159          KM   HYDROGRAPH COMBINATION FOR FLOW FROM SUB-BASIN 100 & 120
 160          HC       2
              * DDM   ***** Preserved *****
1                                          HEC-1 INPUT                                          PAGE  5

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

 161          KK    R120
 162          KM   ROUTE FLOW FROM SUB-BASIN 120 TO SIGNAL BUTTE FRS
 163          RS       1    FLOW      -1
 164          RC    .025    .016    .025    2100    .005
 165          RX       0       6      10    10.1    60.1    60.2    74.2    80.2
 166          RY       8       5       5       0       0       5       5       8
              * DDM   ***** Updated *****

 167          KK     140
 168          KM   SUB-BASIN 140
 169          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
 170          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .996
 171          KM     L = 1.61  Kb = .044  Adj. Slope =  149.0
 172          BA    .598
 173          LG    .310    .280   4.200    .440   5.000
 174          UC    .421    .278
 175          UA       0       5      16      30      65      77      84      90      94      97
 176          UA     100
              * DDM   ***** Updated *****

 177          KK     150
 178          KM   SUB-BASIN 150
 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  .998
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181          KM     L = 1.50  Kb = .047  Adj. Slope =  314.6
182          BA    .408
183          LG    .350    .360   5.100    .260   7.000
184          UC    .296    .221
185          UA       0       3       5       8      12      20      43      75      90      96
186          UA     100
             * DDM   ***** Preserved *****

187          KK    R150
188          KM   ROUTING OF FLOW FROM SUB-BASIN 150 TO R152
189          RS       2    FLOW      -1
190          RC    .045     .04    .045    3100    .032
191          RX       0       1       2      23      33      54      55      56
192          RY       7       7       7       0       0       7       7       7
             * DDM   ***** Preserved *****

193          KK    R152
194          KM   ROUTING OF FLOW FROM R152 TO SUB-BASIN 160
195          RS       3    FLOW      -1
196          RC    .045     .03    .045    5900    .019
197          RX       0       1       2       8      33      39      40      41
198          RY       2       2       2       0       0       2       2       2
             * DDM   ***** Updated *****

199          KK     160
200          KM   SUB-BASIN 160
201          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
202          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .998
203          KM     L = 2.10  Kb = .047  Adj. Slope =  129.0
204          BA    .369
1                                        HEC-1 INPUT                                                    PAGE  6

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

205          LG    .340    .330   4.150    .440   1.000
206          UC    .587    .655
207          UA       0       3       5       8      12      20      43      75      90      96
208          UA     100
             * DDM   ***** Updated *****

209          KK     180
210          KM   SUB-BASIN 180
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  .994
213          KM     L = 2.42  Kb = .041  Adj. Slope =  140.0
214          BA   1.000
215          LG    .350    .350   4.150    .430    .000
216          UC    .571    .403
217          UA       0       3       5       8      12      20      43      75      90      96
218          UA     100
             * DDM   ***** Preserved *****

219          KK    C180
220          KM   HYDROGRAPH COMBINATION FOR SIGNAL BUTTE FRS
221          HC       5
             *
             * The sub-basin area and soil make-up have been updated from CAD file 12/07/00
             * DDM   ***** Updated *****

222          KK     210
223          KM   SUB-BASIN 210
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  .995
226          KM     L = 1.84  Kb = .043  Adj. Slope =  315.0
227          BA    .792
228          LG    .350    .360   6.800    .130   4.000
229          UC    .313    .189
230          UA       0       3       5       8      12      20      43      75      90      96
231          UA     100
             * DDM   ***** Preserved *****

232          KK    R210
233          KM   ROUTING OF FLOW FROM SUB-BASIN 210 TO SUB-BASIN 220
234          RS       2    FLOW      -1
235          RC    .045     .03    .045    5100    .022
236          RX       0       1       2      14      34      46      47      48
237          RY       4       4       4       0       0       4       4       4
             *
             * The sub-basin area and soil make-up have been updated from CAD file 12/07/00
             * DDM   ***** Updated *****

238          KK     240
239          KM   SUB-BASIN 240
240          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
241          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .992
242          KM     L = 3.50  Kb = .039  Adj. Slope =  298.6
243          BA   1.408
244          LG    .350    .370   5.300    .230   2.000
245          UC    .467    .356
                                         HEC-1 INPUT                                                    PAGE  7

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

246          UA       0       3       5       8      12      20      43      75      90      96
247          UA     100
             * DDM   ***** Preserved *****
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248          KK    C240
249          KM   HYDROGRAPH COMBINATION FOR SUB-BASIN 240 & 220
250          HC       2
             * DDM   ***** Preserved *****

251          KK    S240
252          KM    WEIR GEOMETRY OBTAINED FROM AS-BUILT PLANS @ PASS MTN. DIVERSION.
253          KM   WEIR STORAGE DATA OBTAINED FROM 2' CONTOUR MAPPING.
254          RS       1    STOR       0
255          SA    1.38    14.2    36.5
256          SE     1.7       5      11
257          SS       5      42       3     1.5
             * DDM   ***** Preserved *****

258          KK    R240
259          KM   ROUTE FLOW FROM SUB-BASIN 240 TO SUB-BASIN 220
260          KM   PASS MOUNTAIN DIVERSION
261          RS       3    FLOW      -1
262          RC    .035    .025    .035    1800    .005
263          RX       0      15      30      39      69      81      96     111
264          RY     3.6     3.3       3       0       0       3       3       4
             *
             * The sub-basin area and soil make-up have been updated from CAD file 12/07/00
             * DDM   ***** Updated *****

265          KK     220
266          KM   SUB-BASIN 220
267          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
268          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .997
269          KM     L = 1.92  Kb = .046  Adj. Slope =  315.0
270          BA    .473
271          LG    .350    .350   7.000    .120   5.000
272          UC    .333    .282
273          UA       0       3       5       8      12      20      43      75      90      96
274          UA     100
             * DDM   ***** Preserved *****

275          KK    C220
276          KM   HYDROGRAPH COMBINATION FOR SUB-BASIN 240 & 220
277          HC       2
             * DDM   ***** Preserved *****

278          KK    S220
279          KM    WEIR GEOMETRY OBTAINED FROM AS-BUILT PLANS @ PASS MTN. DIVERSION.
280          KM   WEIR STORAGE DATA OBTAINED FROM 2' CONTOUR MAPPING.
281          RS       1    STOR       0
282          SA     .78     4.1    13.7
283          SE       1       3      10
284          SS       3      65       3     1.5
             * DDM   ***** Preserved *****
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LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

285          KK    R220
286          KM   ROUTE FLOW FROM SUB-BASIN 220 TO SUB-BASIN 200
287          KM   PASS MOUNTAIN DIVERSION
288          RS       1    FLOW      -1
289          RC    .035    .025    .035    1250    .005
290          RX       0      50     100     109     139     148     178     184
291          RY       5       4       3       0       0       3       3       5
             * DDM   ***** Updated *****

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

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

308          KK    R192
309          KM   ROUTING OF FLOW FROM SUB-BASIN 190 TO SUB-BASIN 200
310          RS       3    FLOW      -1
311          RC    .045    .035    .045    2200    .018
312          RX       0       1      50      59      79      88     137     138
313          RY     4.5       3       3       0       0       3       3     4.5
             * DDM   ***** Updated *****

314          KK     200
315          KM   SUB-BASIN 200
316          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
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317          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .997
318          KM     L = 1.58  Kb = .045  Adj. Slope =  305.6
319          BA    .530
320          LG    .350    .390   5.700    .200  10.000
321          UC    .300    .201
322          UA       0       3       5       8      12      20      43      75      90      96
323          UA     100
             * DDM   ***** Preserved *****
1                                        HEC-1 INPUT                                          PAGE  9

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

324          KK    C200
325          KM   HYDROGRAPH COMBINATION FOR SUB-BASIN 220 & 200
326          HC       3
             * DDM   ***** Preserved *****

327          KK    S200
328          KM    WEIR GEOMETRY OBTAINED FROM AS-BUILT PLANS @ PASS MTN. DIVERSION.
329          KM   WEIR STORAGE DATA OBTAINED FROM 2' CONTOUR MAPPING.
330          RS       1    STOR       0
331          SA    2.56     3.1     9.4
332          SE       0       3      10
333          SS       3     112       3     1.5
             * DDM   ***** Preserved *****

334          KK    R200
335          KM   ROUTE FLOW FROM SUB-BASIN 200 TO SIGNAL BUTTE FRS through storage
336          RS       1    FLOW      -1
337          RC    .035    .025    .035     650    .005
338          RX       0       1       2      17     117     132     133     134
339          RY       5       5       5       0       0       5       5       5
             * DDM   ***** Preserved *****

340          KK   SS200
341          KM    WEIR GEOMETRY OBTAINED FROM AS-BUILT PLANS @ PASS MTN. DIVERSION.
342          KM   WEIR STORAGE DATA OBTAINED FROM 2' CONTOUR MAPPING.
343          RS       1    STOR       0
344          SA       8     9.2     9.2
345          SE       0       7      10
346          SS       7     251       3     1.5
             * DDM   ***** Preserved *****

347          KK   RR200
348          KM   ROUTE FLOW FROM SUB-BASIN 200 TO SIGNAL BUTTE FRS
349          RS       3    FLOW      -1
350          RC    .035    .025    .035    3150    .005
351          RX       0       1       2      17     117     132     133     134
352          RY       5       5       5       0       0       5       5       5
             * DDM   ***** Preserved *****

353          KK   CC180
354          KM   HYDROGRAPH COMBINATION FOR SIGNAL BUTTE FRS
             *      1       2
355          HC       2
             * DDM   ***** Preserved *****

356          KK    S180
             *  Outflow is quadrupled - 5/9/01
357          KM   SIGNAL BUTTE FRS DATED 1/28/85
358          KM   OUTLET PIPE=36"RCP; L= 147';  INLET INV.=1690; OUTLET INV.=1687
359          KM   EMERGENCY SPILLWAY ELEV.=1712.4; PRINCIPLE SPILLWAY ELEV.=1701
360          KM   STORAGE VOLUME BELOW PRINCIPLE SPILLWAY FOR SEDIMENT = 250 ACRE-FEET
361          RS       1    STOR       0
362          SV       0      92     226     462     742    1197    1418    1776    1941    3114
363          SQ       0      40      42     392     532     596     620    1949    3032    6465
1                                        HEC-1 INPUT                                          PAGE 10

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

364          SE      99     101     103     106     109     113   114.6     117     118     120
             *
             * DDM   ***** Preserved *****

365          KK    R180
366          KM   Routing length updated using Signal Butte Floodway plans dated March 1983
367          KM   Routing length increased 100' from 1500' to 1600'    12/12/00
368          KM   CHANNEL GEOMETRY FOR SIGNAL BUTTE FRS OBTAINED FROM AS-BUILT PLANS.
369          KM   ROUTE FLOW FROM SIGNAL BUTTE FRS TO SUB-BASIN 260
370          RS       2    FLOW      -1
371          RC    .035    .025    .035    1600    .003
372          RX       0       1       2    22.6    38.6    59.2      60      61
373          RY     9.3     9.3     9.3       0       0     9.3     9.3     9.3
             * DDM   ***** Updated *****

374          KK     260
375          KM   SUB-BASIN 260
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 =  .81  Kb = .049  Adj. Slope =   68.0
379          BA    .262
380          LG    .300    .190   6.600    .170  15.000
381          UC    .363    .217
382          UA       0       5      16      30      65      77      84      90      94      97
383          UA     100
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            * DDM   ***** Preserved *****

384         KK    C260
385         KM   HYDROGRAPH COMBINATION FOR OUTFLOW OF SIGNAL BUTTE FRS & SUB-BASIN 260
386         HC       2     .262
            * DDM   ***** Preserved *****

387         KK    R260
388         KM   Routing length updated using Signal Butte Floodway plans dated March 1983
389         KM   Routing length unchanged     12/12/00
390         KM   CHANNEL GEOMETRY FOR SIGNAL BUTTE FRS OBTAINED FROM AS-BUILT PLANS.
391         KM   ROUTE FLOW FROM SUB-BASIN 260 TO SUB-BASIN 280
392         RS       3    FLOW      -1
393         RC    .035    .025    .035    2300    .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     280
397         KM   SUB-BASIN 280
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  .998
400         KM     L =  .77  Kb = .048  Adj. Slope =   84.0
401         BA    .319
402         LG    .300    .250   5.300    .290  15.000
403         UC    .329    .168
404         UA       0       5      16      30      65      77      84      90      94      97
405         UA     100
            * DDM   ***** Preserved *****
1                                    HEC-1 INPUT                                          PAGE 11

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

406         KK    C280
407         KM   HYDROGRAPH COMBINATION FOR SUB-BASIN 260 & SUB-BASIN 280
408         HC       2
            * DDM   ***** Preserved *****

409         KK    R280
410         KM   Routing length updated using Signal Butte Floodway plans dated March 1983
411         KM   Routing length decreased 400' from 2500' to 2100'    12/12/00
412         KM   CHANNEL GEOMETRY FOR SIGNAL BUTTE FRS OBTAINED FROM AS-BUILT PLANS.
413         KM   ROUTE FLOW FROM SUB-BASIN 280 TO SUB-BASIN 300
414         RS       3    FLOW      -1
415         RC    .035    .025    .035    2100    .003
416         RX       0       1       2    23.4    43.4    64.8      65      66
417         RY     9.7     9.7     9.7       0       0     9.7     9.7     9.7
            *
            * The sub-basin area and soil make-up have been updated from CAD file 12/07/00
            * DDM   ***** Updated *****

418         KK     300
419         KM   SUB-BASIN 300
420         KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
421         KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .998
422         KM     L =  .78  Kb = .049  Adj. Slope =  103.0
423         BA    .289
424         LG    .320    .290   4.200    .480  11.000
425         UC    .325    .177
426         UA       0       5      16      30      65      77      84      90      94      97
427         UA     100
            * DDM   ***** Preserved *****

428         KK    C300
429         KM   HYDROGRAPH COMBINATION OF SUB-BASIN 280 & 300
430         HC       2
            * DDM   ***** Preserved *****

431         KK    R300
432         KM   Routing length updated using Signal Butte Floodway plans dated March 1983
433         KM   Routing length increased 300' from 2200' to 2500'    12/12/00
434         KM   CHANNEL GEOMETRY FOR SIGNAL BUTTE FRS OBTAINED FROM AS-BUILT PLANS.
435         KM   ROUTE FLOW FROM SUB-BASIN 300 TO START OF FLOODWAY CONCRETE CHANNEL
436         RS       2    FLOW      -1
437         RC    .035    .025    .035    2500    .003
438         RX       0       1       2    23.4    55.4    76.8      77      78
439         RY     9.7     9.7     9.7       0       0     9.7     9.7     9.7
            *
            * The sub-basin area and soil make-up have been updated from CAD file 12/07/00
            * DDM   ***** Updated *****

440         KK     305
441         KM   SUB-BASIN 305
442         KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
443         KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .996
444         KM     L = 2.50  Kb = .044  Adj. Slope =  116.0
445         BA    .702
1                                    HEC-1 INPUT                                          PAGE 12

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

446         LG    .340    .340   4.550    .350   6.000
447         UC    .642    .576
448         UA       0       5      16      30      65      77      84      90      94      97
449         UA     100
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            * DDM   ***** Preserved *****

450         KK    C305
451         KM   HYDROGRAPH COMBINATION OF SUB-BASIN 300 AND 305
452         HC       2
            * DDM   ***** Preserved *****

453         KK    R305
454         KM   Routing length updated using Signal Butte Floodway plans dated March 1983
455         KM   Routing length decreased 50' from 6050' to 6000'     12/12/00
456         KM   CHANNEL GEOMETRY FOR SPOOK HILL FRS OBTAINED FROM AS-BUILTS PLANS.
457         KM   CONTINUE TO ROUTE FLOW WITHIN CONCRETE CHANNEL TO SPOOK HILL FRS
458         RS       3    FLOW      -1
459         RC    .016    .016    .016    6000   .0146
460         RX       0       1       2     2.1    16.1    16.2      17      18
461         RY     7.5     7.5     7.5       0       0     7.5     7.5     7.5
            *      1       2
            * DDM   ***** Updated *****

462         KK     350
463         KM   SUB-BASIN 350
464         KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
465         KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .994
466         KM     L = 2.22  Kb = .042  Adj. Slope =  315.0
467         BA    .970
468         LG    .350    .350   4.550    .340   4.000
469         UC    .367    .234
470         UA       0       3       5       8      12      20      43      75      90      96
471         UA     100
            * DDM   ***** Preserved *****

472         KK    D350
473         KM   DIVERT FLOW FROM SUB-BASIN 350. FOR MODELING PURPOSES THE SPLIT FLOW WILL
474         KM   BE ROUTED BETWEEN SUB-BASINS 355 & 310. THE MAIN FLOW WILL ROUTED TO 310
475         DT   SF350
476         DI       0    5000
477         DQ       0    2500
            * DDM   ***** Preserved *****

478         KK    R350
479         KM   CHANNEL GEOMETRY OBTAINED FROM 2' CONTOUR MAPPING
480         KM   ROUTING OF MAIN FLOW FROM DIVERSION OF SUB-BASIN 350 TO SUB-BASIN 310
481         RS       6    FLOW      -1
482         RC    .045    .035    .045    5150    .025
483         RX       0       1      40      46      56      62     102     103
484         RY       3       2       2       0       0       2       2       3
            * DDM   ***** Updated *****
                                        HEC-1 INPUT                                          PAGE 13

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

485         KK     310
486         KM   SUB-BASIN 310
487         KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
488         KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .997
489         KM     L = 2.70  Kb = .045  Adj. Slope =  283.5
490         BA    .555
491         LG    .350    .350   3.910    .480    .000
492         UC    .483    .511
493         UA       0       3       5       8      12      20      43      75      90      96
494         UA     100
            * DDM   ***** Preserved *****

495         KK    C310
496         KM   HYDROGRAPH COMBINATION OF SUB-BASINS 350 & 310
497         HC       2    1.04
            * DDM   ***** Preserved *****

498         KK    R310
499         KM   CHANNEL GEOMETRY OBTAINED FROM 2' CONTOUR MAPPING.
500         KM   ROUTING OF FLOW FROM SUB-BASIN 310 TO 320
501         RS      10    FLOW      -1
502         RC    .045    .035    .045   10050    .022
503         RX       0       1      40      46      56      62     102     103
504         RY       3       2       2       0       0       2       2       3
            *
            * The sub-basin area and soil make-up have been updated from CAD file 12/07/00
            * DDM   ***** Updated *****

505         KK     320
506         KM   SUB-BASIN 320
507         KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
508         KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .994
509         KM     L = 2.20  Kb = .042  Adj. Slope =  132.0
510         BA    .950
511         LG    .310    .300   4.600    .350  14.000
512         UC    .508    .338
513         UA       0       5      16      30      65      77      84      90      94      97
514         UA     100
            * DDM   ***** Preserved *****

515         KK    D320
516         KM        DIVERT FLOW INTO ONLINE  DETENTION BASIN
517         KM   DETENTION/RETENTION BASINS LOCATED WITHIN THREE SUBDIVISIONS
518         KM   SIERRA HEIGHTS        FALCON RIDGE    & MARBLE CREEK
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 519          KM        MAXIMUM VOLUME DIVERSION = 12.27acre-feet
              *      1
 520          DT   BS320   12.27
 521          DI       0   10000
 522          DQ       0   10000
              * DDM   ***** Preserved *****
1                                        HEC-1 INPUT                                                    PAGE 14

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


 523          KK   RT320
 524          KM   RETRIEVE FLOW FROM DIVERSION INTO ONLINE BASIN
 525          DR   BS320
              * DDM   ***** Preserved *****

 526          KK    S320
 527          KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
 528          KM   12.27 ACRE-FEETx43560/36x3600=4.1cfs
              *      1
 529          RS       1    STOR       0
 530          SV       0     .01    12.3
 531          SQ       0     3.0     4.2
              * DDM   ***** Preserved *****

 532          KK    C320
 533          KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
 534          HC       4
              *
              * ADD ROUTING ALONG SPOOK HILL FRS
              * DDM   ***** Preserved *****

 535          KK    R320
 536          KM   ROUTE FLOW THROUGH SPOOK HILL FRS FROM JUNCTION OF BROWN & ELLSWORTH ROAD
 537          KM   TO JUST NORTH OF JUNCTION OF MCDOWELL & POWER RD.
 538          RS       9    FLOW      -1
 539          RC    .035    .035    .035    4500    .0007
 540          RX       0       9      50      68     198     206     267     275
 541          RY     100      97      97      91      91      97      97     100
              *
              * DDM   ***** Updated *****

 542          KK    340B
 543          KM   SUB-BASIN 340B
 544          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
 545          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .998
 546          KM     L =  .85  Kb = .049  Adj. Slope =  238.5
 547          BA    .290
 548          LG    .320    .280   4.000    .520  13.000
 549          UC    .246    .139
 550          UA       0       5      16      30      65      77      84      90      94      97
 551          UA     100
              *
              * DDM   ***** Preserved *****

 552          KK   D340B
 553          KM        DIVERT FLOW INTO ONLINE  DETENTION BASIN
 554          KM   DETENTION/RETENTION BASINS LOCATED WITHIN THREE SUBDIVISIONS
 555          KM   GRANDVIEW ESTATES    BOULDER MOUNTAIN & 33% OF MESA HIGHLANDS
 556          KM        MAXIMUM VOLUME DIVERSION = 11.0 acre-feet
              *      1
 557          DT  BS340B      11
 558          DI       0   10000
 559          DQ       0   10000
              * DDM   ***** Preserved *****
1                                        HEC-1 INPUT                                                    PAGE 15

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


 560          KK  RT340B
 561          KM   RETRIEVE FLOW FROM DIVERSION INTO ONLINE BASIN
 562          DR  BS340B
              * DDM   ***** Preserved *****

 563          KK   S340B
 564          KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
 565          KM    11.0 ACRE-FEETx43560/36x3600= 3.7cfs
              *      1
 566          RS       1    STOR       0
 567          SV       0     .01      11      15
 568          SQ       0     2.0     3.7     4.0
              * DDM   ***** Preserved *****

 569          KK   C340B
 570          KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
              * KO     1
 571          HC       2
              *
              * DDM   ***** Preserved *****

 572          KK  DD340B
 573          KM   DIVERT FLOW INTO OFFLINE DETENTION BASIN LOCATED WITHIN SUB-BASINS 340B.
              * KO     1
 574          DT   BS340
 575          DI       0      18    5000
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576          DQ       0       0    4982
             * DDM   ***** Preserved *****

577          KK   RT340
578          KM   RETRIEVE FLOW FROM DIVERSION
579          DR   BS340
             * DDM   ***** Preserved *****

580          KK  SS340B
581          KM   RETRIEVE FLOW INTO OFFLINE BASIN AND BLEED OFF WITHIN 36 HOURS.
582          KM       6 ACRE-FEETx43560/36x3600 = 2 cfs
583          RS       1    STOR       0
584          SV       0     .01       6       8
585          SQ       0     1.5       2       4
             * DDM   ***** Preserved *****

586          KK  CC340B
587          KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
588          HC       2
             * DDM   ***** Preserved *****

589          KK   R340B
590          KM   CHANNEL GEOMETRY OBTAINED FROM 2' CONTOUR MAPPING.
591          KM   ROUTING OF FLOW FROM SUB-BASINS 370 AND 395 TO SUB-BASIN 380.
592          RS       4    FLOW      -1
593          RC    .045    .035    .045    2600    .023
594          RX       0       1      40      46      56      62     102     103
595          RY       3       2       2       0       0       2       2       3
             *
             * DDM   ***** Updated *****
1                                        HEC-1 INPUT                                                    PAGE 16

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

596          KK    340A
597          KM   SUB-BASIN 340A
598          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
599          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .993
600          KM     L = 1.80  Kb = .044  Adj. Slope =  117.0
601          BA   1.150
602          LG    .260    .280   4.200    .510  23.000
603          UC    .492    .249
604          UA       0       5      16      30      65      77      84      90      94      97
605          UA     100
             *
             * DDM   ***** Preserved *****

606          KK   D340A
607          KM        DIVERT FLOW INTO ONLINE  DETENTION BASIN
608          KM   DETENTION/RETENTION BASINS LOCATED WITHIN THREE SUBDIVISIONS
609          KM   GRANDVIEW ESTATES    BOULDER MOUNTAIN & 33% OF MESA HIGHLANDS
610          KM        MAXIMUM VOLUME DIVERSION = 45.0 acre-feet
             * KO     1
611          DT  BS340A      45
612          DI       0   10000
613          DQ       0   10000
             * DDM   ***** Preserved *****

614          KK  RT340A
615          KM   RETRIEVE FLOW FROM DIVERSION INTO ONLINE BASIN
616          DR  BS340A
             * DDM   ***** Preserved *****

617          KK   S340A
618          KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
619          KM    45.0 ACRE-FEETx43560/36x3600=15.2cfs
             *      1
620          RS       1    STOR       0
621          SV       0     .01      45      50
622          SQ       0     3.0    15.2      16
             *
             * DDM   ***** Preserved *****

623          KK   C340A
624          KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
625          HC       3
             *
             * DDM   ***** Preserved *****

626          KK    C340
627          KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
628          HC       2
             *
             * DDM   ***** Preserved *****
1                                        HEC-1 INPUT                                                    PAGE 17

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

629          KK    R340
630          KM   ROUTE FLOW THROUGH SPOOK HILL FRS FROM JUNCTION OF BROWN & ELLSWORTH ROAD
631          KM   TO JUST NORTH OF JUNCTION OF MCDOWELL & POWER RD.
632          RS       6    FLOW      -1
633          RC    .035    .035    .035    2300   .0007
634          RX       0       9      50      68     233     241     307     315
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635          RY     100      97      97      91      91      97      97     100
             *
             * DDM   ***** Preserved *****

636          KK   RT350
637          KM   RETRIEVE SPLIT FLOW FROM DIVERSION OF SUB-BASIN 350
638          DR   SP350
             * DDM   ***** Preserved *****

639          KK   RR350
640          KM   CHANNEL GEOMETRY OBTAINED FROM 2' CONTOUR MAPPING.
641          KM   ROUTING OF FLOW FROM SPLIT OF SUB-BASIN 350 TO 355
642          RS       7    FLOW      -1
643          RC    .045    .035    .045    6050    .025
644          RX       0       1      40      46      56      62     102     103
645          RY       3       2       2       0       0       2       2       3
             *
             * The sub-basin area and soil make-up have been updated from CAD file 12/07/00
             * DDM   ***** Updated *****

646          KK     355
647          KM   SUB-BASIN 355
648          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
649          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .996
650          KM     L = 3.00  Kb = .044  Adj. Slope =  284.0
651          BA    .676
652          LG    .340    .340   4.450    .370   4.000
653          UC    .488    .502
654          UA       0       3       5       8      12      20      43      75      90      96
655          UA     100
             * DDM   ***** Preserved *****

656          KK    C355
657          KM   HYDROGRAPH COMBINATION OF SUB-BASIN 355 AND THE SPLIT FLOW FROM SUB-BASIN 350
658          HC       2   1.161
             * DDM   ***** Preserved *****

659          KK    R355
660          KM   CHANNEL GEOMETRY OBTAINED FROM 2' CONTOUR MAPPING.
661          KM   ROUTING OF FLOW FROM SUB-BASIN 355 TO SUB-BASIN 360
662          RS       9    FLOW      -1
663          RC    .045    .035    .045   10100    .026
664          RX       0       1      40      46      56      62     102     103
665          RY       3       2       2       0       0       2       2       3
             * DDM   ***** Updated *****
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LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

666          KK     360
667          KM   SUB-BASIN 360
668          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
669          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .995
670          KM     L = 2.10  Kb = .047  Adj. Slope =  124.0
671          BA    .880
672          LG    .260    .270   4.100    .560  20.000
673          UC    .575    .390
674          UA       0       5      16      30      65      77      84      90      94      97
675          UA     100
             * DDM   ***** Preserved *****

676          KK    D360
677          KM        DIVERT FLOW INTO ONLINE  DETENTION BASIN
678          KM   DETENTION/RETENTION BASINS LOCATED WITHIN 33% OF MESA HIGHLANDS
679          KM        MAXIMUM VOLUME DIVERSION = 28.6 acre-feet
             *      1
680          DT   BS360    28.6
681          DI       0   10000
682          DQ       0   10000
             * DDM   ***** Preserved *****

683          KK   RT360
684          KM   RETRIEVE FLOW FROM DIVERSION INTO ONLINE BASIN
685          DR   BS360
             * DDM   ***** Preserved *****

686          KK    S360
687          KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
688          KM    28.6 ACRE-FEETx43560/36x3600=9.6cfs
689          RS       1    STOR       0
690          SV       0     .01    28.6
691          SQ       0     3.0     9.6
             * DDM   ***** Preserved *****

692          KK    C360
693          KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
694          HC       4
             *
             * OFFLINE DETENTION BASIN ADDED THIS ALTERNATIVE
             * DDM   ***** Preserved *****

695          KK   DD380
696          KM        DIVERT FLOW INTO OFFLINE  DETENTION BASIN
697          KM        IN RED MOUNTAIN REGIONAL PARK
698          KM
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 699          DT    380S
 700          DI       0    1960   10000
 701          DQ       0       0    8040
              * DDM   ***** Preserved *****
                                          HEC-1 INPUT                                                    PAGE 19

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


 702          KK  RT380S
 703          KM   RETRIEVE FLOW FROM DIVERSION INTO OFFLINE BASIN
 704          DR    380S
              * DDM   ***** Preserved *****

 705          KK   SS380
 706          KM   OFFLINE BASIN IN PARK AREA
              *  Total Volume = 90 A-F, Maximum Inflow = 2660 cfs
              *  Bleed-off Pipe Diameter = 2.5', and Weir Flow Start at 3' of Ponding. 3/26/01
              * KO      1       2
 707          RS       1    STOR       0
 708          SV     0.0    10.0    25.0    60.0   100.0   150.0
 709          SE       0      .5       1     2.0     3.0     4.0
 710          SL     0.5    4.91     0.6     0.5
 711          SS       3      50     3.0     1.5
              * DDM   ***** Preserved *****

 712          KK   CC360
 713          KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
 714          HC       2
              *
              * ADD ROUTING ALONG SPOOK HILL FRS
              * DDM   ***** Preserved *****

 715          KK    R360
 716          KM   ROUTE FLOW THROUGH SPOOK HILL FRS FROM JUNCTION OF BROWN & ELLSWORTH ROAD
 717          KM   TO JUST NORTH OF JUNCTION OF MCDOWELL & POWER RD.
 718          RS       6    FLOW      -1
 719          RC    .035    .035    .035    2600   .0007
 720          RX       0       9      50      68     268     286     337     345
 721          RY     100      97      97      91      91      97      97     100
              *
              * DDM   ***** Updated *****

 722          KK    380A
 723          KM   SUB-BASIN 380A
 724          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
 725          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .998
 726          KM     L =  .66  Kb = .076  Adj. Slope =   91.0
 727          BA    .261
 728          LG    .170    .250   4.100    .710  21.000
 729          UC    .425    .221
 730          UA       0       3       5       8      12      20      43      75      90      96
 731          UA     100
              *
              * DDM   ***** Preserved *****

 732          KK   C380A
 733          KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
 734          HC       2
              *
              * DDM   ***** Preserved *****
1                                         HEC-1 INPUT                                                    PAGE 20

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


 735          KK   R380A
 736          KM   ROUTE FLOW THROUGH SPOOK HILL FRS FROM JUNCTION OF BROWN & ELLSWORTH ROAD
 737          KM   TO JUST NORTH OF JUNCTION OF MCDOWELL & POWER RD.
 738          RS       2    FLOW      -1
 739          RC    .035    .035    .035    1500   .0007
 740          RX       0       9      50      68     163     181     257     265
 741          RY     100      97      97      91      91      97      97     100
              *
              * DDM   ***** Updated *****

 742          KK    400A
 743          KM   SUB-BASIN 400A
 744          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
 745          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF 1.000
 746          KM     L =  .28  Kb = .094  Adj. Slope =   71.0
 747          BA    .048
 748          LG    .250    .290   4.000    .640    .000
 749          UC    .317    .211
 750          UA       0       3       5       8      12      20      43      75      90      96
 751          UA     100
              *
              * DDM   ***** Preserved *****

 752          KK   C400A
 753          KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
 754          HC       2
              *
              * DDM   ***** Preserved *****

 755          KK   R400A
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```
 756          KM   ROUTE FLOW THROUGH SPOOK HILL FRS FROM JUNCTION OF BROWN & ELLSWORTH ROAD
 757          KM   TO JUST NORTH OF JUNCTION OF MCDOWELL & POWER RD.
 758          RS       6    FLOW      -1
 759          RC    .035    .035    .035    2500    .0007
 760          RX       0       9      50      68     163     181     257     265
 761          RY     100      97      97      91      91      97      97     100
              *
              * The sub-basin area and soil make-up have been updated from CAD file 12/07/00
              * DDM   ***** Updated *****

 762          KK     370
 763          KM   SUB-BASIN 370
 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  .996
 766          KM     L = 1.90  Kb = .044  Adj. Slope =  203.5
 767          BA    .672
 768          LG    .340    .320   4.650    .330   8.000
 769          UC    .404    .284
 770          UA       0       3       5       8      12      20      43      75      90      96
 771          UA     100
              *
              * The sub-basin area and soil make-up have been updated from CAD file 12/07/00
              * DDM   ***** Updated *****
1                                          HEC-1 INPUT                                          PAGE 21

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

 772          KK     395
 773          KM   SUB-BASIN 395
 774          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
 775          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .999
 776          KM     L = 1.30  Kb = .051  Adj. Slope =  219.2
 777          BA    .199
 778          LG    .330    .320   4.900    .300  10.000
 779          UC    .333    .338
 780          UA       0       3       5       8      12      20      43      75      90      96
 781          UA     100
              * DDM   ***** Preserved *****

 782          KK    C370
 783          KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
 784          HC       2
              * DDM   ***** Preserved *****

 785          KK    R370
 786          KM   CHANNEL GEOMETRY OBTAINED FROM 2' CONTOUR MAPPING.
 787          KM   ROUTING OF FLOW FROM SUB-BASINS 370 AND 395 TO SUB-BASIN 380.
 788          RS      12    FLOW      -1
 789          RC    .045    .035    .045   10250    .023
 790          RX       0       1      40      46      56      62     102     103
 791          RY       3       2       2       0       0       2       2       3
              *
              * DDM   ***** Updated *****

 792          KK    380B
 793          KM   SUB-BASIN 380B
 794          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
 795          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .996
 796          KM     L = 1.80  Kb = .044  Adj. Slope =  122.0
 797          BA    .637
 798          LG    .340    .330   4.200    .440   4.000
 799          UC    .504    .358
 800          UA       0       5      16      30      65      77      84      90      94      97
 801          UA     100
              *
              * DDM   ***** Preserved *****

 802          KK   D380B
 803          KM        DIVERT FLOW INTO ONLINE  DETENTION BASIN
 804          KM   DETENTION/RETENTION BASINS LOCATED WITHIN 33% OF MESA HIGHLANDS
 805          KM        MAXIMUM VOLUME DIVERSION = 28.6 acre-feet
              *      1
 806          DT  BS380B    28.6
 807          DI       0   10000
 808          DQ       0   10000
              * DDM   ***** Preserved *****
1                                          HEC-1 INPUT                                          PAGE 22

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

 809          KK  RT380B
 810          KM   RETRIEVE FLOW FROM DIVERSION INTO ONLINE BASIN
 811          DR  BS380B
              * DDM   ***** Preserved *****

 812          KK   S380B
 813          KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
 814          KM    28.6 ACRE-FEETx43560/36x3600=9.6cfs
 815          RS       1    STOR       0
 816          SV       0     .01    28.6
 817          SQ       0     3.0     9.6
              * DDM   ***** Preserved *****

 818          KK   C380B
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819          KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
             * KO      1
820          HC        3
             *
             * DDM   ***** Preserved *****

821          KK  DD380B
822          KM   DIVERT FLOW INTO OFFLINE DETENTION BASIN LOCATED WITHIN SUB-BASINS 380B.
             * KO      1
823          DT   BS380
824          DI        0       86    5000
825          DQ        0        0    4914
             * DDM   ***** Preserved *****

826          KK   RT380
827          KM   RETRIEVE FLOW FROM DIVERSION
828          DR   BS380
             * DDM   ***** Preserved *****

829          KK  SS380B
830          KM   RETRIEVE FLOW INTO OFFLINE BASIN AND BLEED OFF WITHIN 36 HOURS.
831          KM      44 ACRE-FEETx43560/36x3600 = 15cfs
832          RS        1     STOR       0
833          SV        0      .01      44       50
834          SQ        0        4      15       20
             * DDM   ***** Preserved *****

835          KK  CC380B
836          KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
837          HC        2
             * DDM   ***** Preserved *****

838          KK   R380B
839          KM   CHANNEL GEOMETRY OBTAINED FROM 2' CONTOUR MAPPING.
840          KM   ROUTING OF FLOW FROM SUB-BASINS 370 AND 395 TO SUB-BASIN 380.
841          RS        4     FLOW      -1
842          RC     .045     .035    .045     2600     .023
843          RX        0        1      40       46       56       62      102      103
844          RY        3        2       2        0        0        2        2        3
             *
             * DDM   ***** Updated *****
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LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

845          KK     390
846          KM   SUB-BASIN 390
847          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
848          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .999
849          KM     L =  .70  Kb = .050  Adj. Slope =  299.4
850          BA    .244
851          LG    .300     .250   4.700     .380  18.000
852          UC    .204     .107
853          UA       0        5      16       30       65       77       84       90       94       97
854          UA     100
             * DDM   ***** Preserved *****

855          KK    D390
856          KM        DIVERT FLOW INTO ONLINE  DETENTION BASIN
857          KM   DETENTION/RETENTION BASINS LOCATED WITHIN THUNDER MOUNTAIN ESTATES
858          KM        MAXIMUM VOLUME DIVERSION  = 3.5 acre-feet
             *      1
859          DT   BS390     3.5
860          DI        0   10000
861          DQ        0   10000
             * DDM   ***** Preserved *****

862          KK   RT390
863          KM   RETRIEVE FLOW FROM DIVERSION INTO ONLINE BASIN
864          DR   BS390
             * DDM   ***** Preserved *****

865          KK    S390
866          KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
867          KM     3.5 ACRE-FEETx43560/36x3600=1.2cfs
868          RS        1     STOR       0
869          SV        0      .01     3.5
870          SQ        0      0.2     1.2
             * DDM   ***** Preserved *****

871          KK    C390
872          KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
873          HC        2
             * DDM   ***** Preserved *****

874          KK    R390
875          KM   CHANNEL GEOMETRY OBTAINED FROM 2' CONTOUR MAPPING.
876          KM   FROM SUB-BASIN 390 TO SUB-BASIN 400
877          RS       15     FLOW      -1
878          RC     .045     .045    .045     8800     .020
879          RX        0        1      40       46       56       62      102      103
880          RY        3        2       2        0        0        2        2        3
             *
             * DDM   ***** Updated *****
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 881          KK    400B
 882          KM   SUB-BASIN 400B
 883          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
 884          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .997
 885          KM     L = 1.64  Kb = .045  Adj. Slope =  110.0
 886          BA    .568
 887          LG    .330    .300   4.150    .480   7.000
 888          UC    .500    .352
 889          UA       0       5      16      30      65      77      84      90      94      97
 890          UA     100
              *
              * DDM   ***** Preserved *****

 891          KK   D400B
 892          KM        DIVERT FLOW INTO ONLINE  DETENTION BASIN
 893          KM   DETENTION/RETENTION BASIN LOCATED WITHIN SAGUARO VISTA SUBDIVISION
 894          KM        MAXIMUM VOLUME DIVERSION = 5.6 ACRE-FEET
              *      1
 895          DT  BS400B     5.6
 896          DI       0   10000
 897          DQ       0   10000
              * DDM   ***** Preserved *****

 898          KK  RT400B
 899          KM   RETRIEVE FLOW FROM DIVERSION INTO ONLINE BASIN
 900          DR  BS400B
              * DDM   ***** Preserved *****

 901          KK   S400B
 902          KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
 903          KM     5.6 ACRE-FEETx43560/36x3600 = 2 cfs
 904          RS       1    STOR       0
 905          SV       0     .01     5.6
 906          SQ       0       1       2
              * DDM   ***** Preserved *****

 907          KK   C400B
 908          KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
 909          HC       2
              * DDM   ***** Preserved *****

 910          KK  CC400B
 911          KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
 912          HC       4
              * DDM   ***** Preserved *****

 913          KK    R400
 914          KM   ROUTE FLOW THROUGH SPOOK HILL FRS FROM JUNCTION OF BROWN & ELLSWORTH ROAD
 915          KM   TO JUST NORTH OF JUNCTION OF MCDOWELL & POWER RD.
 916          RS       9    FLOW      -1
 917          RC    .035    .035    .035    3800   .0007
 918          RX       0       9      50      68     163     181     257     265
 919          RY     100      97      97      91      91      97      97     100
              *
              * DDM   ***** Updated *****
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 920          KK     385
 921          KM   SUB-BASIN 385
 922          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
 923          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .997
 924          KM     L = 2.30  Kb = .045  Adj. Slope =  303.0
 925          BA    .527
 926          LG    .340    .360   5.600    .220  13.000
 927          UC    .383    .358
 928          UA       0       3       5       8      12      20      43      75      90      96
 929          UA     100
              * DDM   ***** Preserved *****

 930          KK    D385
 931          KM   DIVERT FLOW INTO SUB-BASINS 415 & 420
 932          DT   SF385
 933          DI       0    5000
 934          DQ       0    3000
              * DDM   ***** Preserved *****

 935          KK    R385
 936          KM   CHANNEL GEOMETRY OBTAINED FROM 2' CONTOUR MAPPING.
 937          KM   ROUTING OF FLOW DIVERSION FROM SUB-BASIN 385 INTO SUB-BASIN 420
 938          RS      13    FLOW      -1
 939          RC    .045     .04    .045   10250    .022
 940          RX       0       1      40      46      56      62     102     103
 941          RY       3       2       2       0       0       2       2       3
              * DDM   ***** Updated *****

 942          KK     420
 943          KM   SUB-BASIN 420
 944          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
 945          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .995
 946          KM     L = 1.91  Kb = .042  Adj. Slope =  120.0
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 947          BA     .849
 948          LG     .310     .270   3.880     .580  12.000
 949          UC     .512     .325
 950          UA        0        5      16       30       65       77       84       90       94       97
 951          UA      100
              * DDM    ***** Preserved *****

 952          KK     D420
 953          KM         DIVERT FLOW INTO ONLINE  DETENTION BASIN
 954          KM    DETENTION/RETENTION BASINS LOCATED WITHIN GRAY FOX SUBDIVISION
 955          KM         MAXIMUM VOLUME DIVERSION = 8.65 acre-feet
              *       1
 956          DT    BS420     8.65
 957          DI        0    10000
 958          DQ        0    10000
              * DDM    ***** Preserved *****
1                                          HEC-1 INPUT                                                    PAGE 26

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

 959          KK    RT420
 960          KM    RETRIEVE FLOW FROM DIVERSION INTO ONLINE BASIN
 961          DR    BS420
              * DDM    ***** Preserved *****

 962          KK     S420
 963          KM    RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
 964          KM     8.65 ACRE-FEETx43560/36x3600=2.9cfs
 965          RS        1     STOR        0
 966          SV        0      .01     8.65
 967          SQ        0      1.0      2.9
              * DDM    ***** Preserved *****

 968          KK     C420
 969          KM    HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
 970          HC        3  1.0598
              * DDM    ***** Preserved *****

 971          KK    CC420
 972          KM    HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
 973          HC        2
              * DDM    ***** Preserved *****

 974          KK     R420
 975          KM    ROUTE FLOW THROUGH SPOOK HILL FRS FROM JUNCTION OF BROWN & ELLSWORTH ROAD
 976          KM    TO JUST NORTH OF JUNCTION OF MCDOWELL & POWER RD.
 977          RS        6     FLOW       -1
 978          RC     .035     .035     .035     2900     .0007
 979          RX        0        9       50       68      163      181      257      265
 980          RY      100       97       97       91       91       97       97      100
              *
              * DDM    ***** Updated *****

 981          KK      440
 982          KM    SUB-BASIN 440
 983          KM    24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
 984          KM    THIS BASIN USED RAINFALL REDUCTION FACTOR OF 1.000
 985          KM      L =  .40  Kb = .039  Adj. Slope =  315.0
 986          BA     .080
 987          LG     .190     .380   6.400     .140  13.000
 988          UC     .129     .077
 989          UA        0        3        5        8       12       20       43       75       90       96
 990          UA      100
              * DDM    ***** Preserved *****

 991          KK      R70
 992          KM    ROUTE FLOW FROM SUB-BASIN 440 TO C108
 993          RS        2     FLOW       -1
 994          RC      .05     .035      .05     2250      .08
 995          RX     1000     1025     1050     1070     1075     1095     1120     1145
 996          RY       30     22.9     15.7       10       10     15.7     22.9       30
              * DDM    ***** Updated *****
1                                          HEC-1 INPUT                                                    PAGE 27

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

 997          KK      441
 998          KM    SUB-BASIN 441
 999          KM    24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1000          KM    THIS BASIN USED RAINFALL REDUCTION FACTOR OF 1.000
1001          KM      L =  .28  Kb = .069  Adj. Slope =  315.0
1002          BA     .010
1003          LG     .300     .250   5.600     .220   5.000
1004          UC     .150     .225
1005          UA        0        5       16       30       65       77       84       90       94       97
1006          UA      100
              * DDM    ***** Preserved *****

1007          KK     C108
1008          KM    COMBINE HYDROGRAPHS FROM SUB-BASINS 440 & 441
1009          HC        2
              * DDM    ***** Preserved *****

1010          KK       D4
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1011        KM        SPLIT FLOW WITH TWO 42 INCH PIPES TO WEST AND SOUTH
            *      1
1012        DT   SPLIT
1013        DI       0      14      40      82     120     154     180
1014        DQ       0       7      20      41      60      77      90
            * DDM   ***** Preserved *****

1015        KK    R108
1016        KM        ROUTE FLOW FROM SUB-BASIN C108 TO C67
1017        RS       2    FLOW      -1
1018        RC     .05    .035     .05    3200      .1
1019        RX    1000    1025    1050    1070    1075    1095    1120    1145
1020        RY      30    22.9    15.7      10      10    15.7    22.9      30
            * DDM   ***** Updated *****

1021        KK     442
1022        KM   SUB-BASIN 442
1023        KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1024        KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .999
1025        KM     L =  .83  Kb = .055  Adj. Slope =  274.2
1026        BA    .100
1027        LG    .300    .270   3.290    .770   5.000
1028        UC    .258    .264
1029        UA       0       5      16      30      65      77      84      90      94      97
1030        UA     100
            * DDM   ***** Preserved *****

1031        KK     C67
1032        KM   COMBINE FLOW FROM SUB-BASIN 442 & DIV4
1033        HC       2
            * DDM   ***** Preserved *****
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LINE        ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1034        KK      D6
1035        KM        OFFLINE BASIN WITH 25 FOOT WEIR SET AT 2.5 FEET ABOVE BOTTOM OF CHANNEL
1036        KM        FLOW CONTINUES BEYOND BASIN THROUGH 2-30" PIPES
            *      1
1037        DT  BASIN4     3.3
1038        DI       0      10      32      44    79.9   132.5     198   272.9   356.8
1039        DQ       0       0       0       0    23.9    67.5     124   190.9   266.8
            * DDM   ***** Preserved *****

1040        KK    RTD6
1041        KM   RETRIEVE FLOW FROM DIVERSION INTO OFFLINE BASIN
1042        DR  BASIN4
            * DDM   ***** Preserved *****

1043        KK     SD6
1044        KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
1045        KM     3.3 ACRE-FEETx43560/36x3600=1.1cfs
            *      1
1046        RS       1    STOR       0
1047        SV       0     .01     3.3
1048        SQ       0     0.2     1.1
            * DDM   ***** Preserved *****

1049        KK     CD6
1050        KM   HYDROGRAPH COMBINATION FOR OFFLINE BASIN BLEEDOFF
1051        HC       2
            * DDM   ***** Updated *****

1052        KK     443
1053        KM   SUB-BASIN 443
1054        KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1055        KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF 1.000
1056        KM     L =  .71  Kb = .050  Adj. Slope =  315.0
1057        BA    .080
1058        LG    .250    .190   8.000    .080  10.000
1059        UC    .196    .194
1060        UA       0       5      16      30      65      77      84      90      94      97
1061        UA     100
            * DDM   ***** Preserved *****

1062        KK     D66
1063        KM        DIVERT FLOW INTO 3 NATURAL WASHES WITH ONE 24" PIPE IN EACH WASH.
1064        KM        EACH PIPE CAPACITY BASED ON 4 FEET OF HEAD
1065        DT   WSH66
1066        DI       0      78     100     200
1067        DQ       0      78      78      78
            * DDM   ***** Preserved *****

1068        KK    R113
1069        KM        ROUTE FLOW FROM C113 TO C114
1070        RS       1    FLOW      -1
1071        RC    .019    .019    .019    1300    .029
1072        RX    1000    1004    1008    1012    1018    1022    1026    1030
1073        RY      17   15.33   12.67      10      10   12.67   15.33      17
            * DDM   ***** Preserved *****
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LINE        ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10
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1074        KK    C114
1075        KM        COMBINE HYDROGRAPHS FROM SUB-BASIN 67 AND C113
1076        HC       2
            * DDM   ***** Updated *****

1077        KK     444
1078        KM   SUB-BASIN 444
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 =  .33  Kb = .034  Adj. Slope =  315.0
1082        BA    .040
1083        LG    .130    .350   4.450    .320   1.000
1084        UC    .112    .084
1085        UA       0       3       5       8      12      20      43      75      90      96
1086        UA     100
            * DDM   ***** Preserved *****

1087        KK     R58
1088        KM   ROUTE FLOW FROM SUB-BASIN 444 TO C107
1089        RS       2    FLOW      -1
1090        RC     .05    .035     .05    2370   .0516
1091        RX    1000    1010    1020    1050    1055    1085    1095    1105
1092        RY      19      18      17      10      10      17      18      19
            * DDM   ***** Updated *****

1093        KK     445
1094        KM   SUB-BASIN 445
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 =  .82  Kb = .036  Adj. Slope =  315.0
1098        BA    .190
1099        LG    .170    .320   3.470    .590   3.000
1100        UC    .192    .130
1101        UA       0       5      16      30      65      77      84      90      94      97
1102        UA     100
            * DDM   ***** Preserved *****

1103        KK    C107
1104        KM   COMBINE HYDROGRAPHS FROM SUB-BASINS 444 & 445
1105        HC       2
            * DDM   ***** Preserved *****

1106        KK    R107
1107        KM        ROUTE FLOW FROM C107 TO C109
1108        RS       2    FLOW      -1
1109        RC     .05    .035     .05     700   .0516
1110        RX    1000    1010    1020    1050    1055    1085    1095    1105
1111        RY      19      18      17      10      10      17      18      19
            * DDM   ***** Preserved *****
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LINE        ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1112        KK    RTB2
1113        KM        RETRIEVE DIVERTED FLOW FROM BASIN 1
            *      1
1114        DR   SPLIT
            * DDM   ***** Preserved *****

1115        KK  RSPLIT
1116        KM        ROUTE FLOW FROM SPLIT TO C109
1117        RS       1    FLOW      -1
1118        RC     .05    .035     .05     800     .05
1119        RX    1000    1025    1050    1070    1075    1095    1120    1145
1120        RY      30    22.9    15.7      10      10    15.7    22.9      30
            * DDM   ***** Updated *****

1121        KK     446
1122        KM   SUB-BASIN 446
1123        KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1124        KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF 1.000
1125        KM     L =  .46  Kb = .061  Adj. Slope =  303.9
1126        BA    .040
1127        LG    .270    .250   4.500    .400  19.000
1128        UC    .183    .189
1129        UA       0       5      16      30      65      77      84      90      94      97
1130        UA     100
            * DDM   ***** Preserved *****

1131        KK    C109
1132        KM        COMBINE HYDROGRAPHS FROM COMBINES C107 AND C108
1133        HC       3
            * DDM   ***** Preserved *****

1134        KK      D5
1135        KM        DIVERT FLOW INTO WASHES TOWARDS WEST
1136        KM        DIVERSION THROUGH 36" PIPE WITH 3 FEET OF HEAD
            *      1
1137        DT  WSH404
1138        DI       0    40.7    71.2   121.6     190     276   379.4   500.6
1139        DQ       0      35      35      35      35      35      35      35
            * DDM   ***** Preserved *****

1140        KK    R109
1141        KM        ROUTE FLOW FROM C109 TO C110
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1142          RS       1    FLOW      -1
1143          RC    .019    .019    .019    3080     .05
1144          RX    1000    1005    1010    1015    1025    1030    1035    1040
1145          RY   13.75    12.5   11.25      10      10   11.25    12.5   13.75
              * DDM   ***** Updated *****

1146          KK     447
1147          KM   SUB-BASIN 447
1148          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1149          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .999
1150          KM     L =  .49  Kb = .056  Adj. Slope =  221.0
1151          BA    .090
1                                        HEC-1 INPUT                                                    PAGE 31

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

1152          LG    .250    .270   3.350    .870  30.000
1153          UC    .208    .145
1154          UA       0       5      16      30      65      77      84      90      94      97
1155          UA     100
              * DDM   ***** Preserved *****

1156          KK   RT404
1157          KM        RETRIEVE DIVERTED FLOW FOR WASH 109
1158          DR  WSH404
              * DDM   ***** Preserved *****

1159          KK    R404
1160          KM        ROUTE FLOW FROM C110 TO C110
1161          RS       6    FLOW      -1
1162          RC    .019    .019    .019    3540     .03
1163          RX    1000    1012    1016    1020    1025    1029    1033    1045
1164          RY      15      12      11      10      10      11      12      15
              * DDM   ***** Preserved *****

1165          KK    C110
1166          KM   COMBINE HYDROGRAPHS FROM SUB-BASIN 447 AND R404
1167          HC       3
              * DDM   ***** Preserved *****

1168          KK    R110
1169          KM        ROUTE FLOW FROM C110 TO C115
1170          RS       1    FLOW      -1
1171          RC    .019    .019    .019     580   .0291
1172          RX    1000    1012    1016    1020    1035    1039    1043    1055
1173          RY      15      12      11      10      10      11      12      15
              * DDM   ***** Preserved *****

1174          KK    C115
1175          KM        COMBINE HYDROGRAPHS FROM C114 AND C110
1176          HC       2
              * DDM   ***** Preserved *****

1177          KK    R115
              * ******OUTFLOW FROM THIS ROUTING IS GREATER THAN INFLOW TO THE
              * ******ROUTING BY 2cfs.  THIS IS NOTED BUT LEFT UNCHANGED WITHIN THE MODEL
1178          KM        ROUTE FLOW FROM C115 TO Sub 453
1179          RS       1    FLOW      -1
1180          RC    .019    .019    .019    2125    .029
1181          RX    1000    1012    1016    1020    1035    1039    1043    1055
1182          RY      15      12      11      10      10      11      12      15
              * DDM   ***** Updated *****

1183          KK     448
1184          KM   SUB-BASIN 448
1185          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1186          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF 1.000
1187          KM     L =  .36  Kb = .042  Adj. Slope =  315.0
1188          BA    .045
1189          LG    .170    .310   4.200    .390  11.000
1190          UC    .133    .102
1                                        HEC-1 INPUT                                                    PAGE 32

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

1191          UA       0       5      16      30      65      77      84      90      94      97
1192          UA     100
              * DDM   ***** Updated *****

1193          KK     449
1194          KM   SUB-BASIN 449
1195          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1196          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF 1.000
1197          KM     L =  .40  Kb = .054  Adj. Slope =  315.0
1198          BA    .050
1199          LG    .260    .280   3.500    .640   6.000
1200          UC    .167    .134
1201          UA       0       5      16      30      65      77      84      90      94      97
1202          UA     100
              * DDM   ***** Preserved *****

1203          KK   C6364
1204          KM   COMBINE HYDROGRAPHS FROM SUB-BASINS 448 & 449
1205          HC       2
              * DDM   ***** Preserved *****
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1206          KK   R6364
1207          KM   ROUTE FLOW FROM C116 AND SUB-BASINS 448 AND 449
1208          RS       5    FLOW      -1
1209          RC     .05    .035     .05    4375   .0333
1210          RX    1000    1027    1053    1080    1090    1117    1143    1170
1211          RY      15   13.33   11.67      10      10   11.67   13.33      15
              * DDM   ***** Updated *****

1212          KK     450
1213          KM   SUB-BASIN 450
1214          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1215          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF 1.000
1216          KM     L =  .85  Kb = .057  Adj. Slope =  210.5
1217          BA    .070
1218          LG    .340    .350   3.630    .570   4.000
1219          UC    .296    .383
1220          UA       0       3       5       8      12      20      43      75      90      96
1221          UA     100
              * DDM   ***** Updated *****

1222          KK     451
1223          KM   SUB-BASIN 451
1224          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1225          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF 1.000
1226          KM     L =  .57  Kb = .063  Adj. Slope =  175.0
1227          BA    .025
1228          LG    .340    .340   3.290    .750   3.000
1229          UC    .271    .453
1230          UA       0       3       5       8      12      20      43      75      90      96
1231          UA     100
              * DDM   ***** Preserved *****
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1232          KK    C451
1233          KM   COMBINE HYDROGRAPHS FROM SUB-BASINS 450 & 451
1234          HC       2
              * DDM   ***** Preserved *****

1235          KK    RT66
1236          KM        RETRIEVE DIVERTED FLOW FROM SUB-BASIN 66
1237          DR   WSH66
              * DDM   ***** Updated *****

1238          KK     452
1239          KM   SUB-BASIN 452
1240          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1241          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF 1.000
1242          KM     L =  .43  Kb = .055  Adj. Slope =  315.0
1243          BA    .040
1244          LG    .260    .280   3.700    .550   9.000
1245          UC    .171    .166
1246          UA       0       5      16      30      65      77      84      90      94      97
1247          UA     100
              * DDM   ***** Preserved *****

1248          KK   C6465
1249          KM   COMBINE HYDROGRAPHS FROM SUB-BASINS 443 AND 452
1250          HC       2
              * DDM   ***** Preserved *****

1251          KK   R6566
1252          KM        ROUTE FLOW FROM DIVERSIONS 65 AND 66 TO C116
1253          RS       3    FLOW      -1
1254          RC     .05    .035     .05    2435   .0282
1255          RX    1000    1045    1090    1150    1160    1220    1265    1310
1256          RY      25      23      20      10      10      20      23      25
              * DDM   ***** Preserved *****

1257          KK    C116
1258          KM   COMBINE HYDROGRAPHS FROM SUB-BASINS 450 & 451 AND R6364 & R6465
1259          HC       3
              * DDM   ***** Preserved *****

1260          KK  BASIN5
1261          KM        RESERVOIR WITHIN PARCEL 31      2-48 INCH PIPES AT OUTFALL
1262          KM        BASIN 5 FEET DEEP
1263          RS       1    ELEV       0
1264          SV       0     4.5     9.9
1265          SQ       0      69     190
1266          SE       0     2.5       5
              * DDM   ***** Preserved *****
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1267          KK    R116
1268          KM   ROUTE FLOW FROM C116 TO C117
1269          RS       2    FLOW      -1
1270          RC     .05    .035     .05    1300   .0333
1271          RX    1000    1100    1200    1300    1320    1420    1520    1620
1272          RY      13      12      11      10      10      11      12      13
              * DDM   ***** Updated *****
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1273        KK     453
1274        KM   SUB-BASIN 453
1275        KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1276        KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF 1.000
1277        KM     L =  .58  Kb = .058  Adj. Slope =  138.0
1278        BA    .060
1279        LG    .290    .300   3.290    .820  18.000
1280        UC    .275    .284
1281        UA       0       5      16      30      65      77      84      90      94      97
1282        UA     100
            * DDM   ***** Preserved *****

1283        KK    C117
1284        KM   COMBINE HYDROGRAPHS FROM SUB-BASIN 453 AND R116
1285        HC       2
            * DDM   ***** Preserved *****

1286        KK    C118
1287        KM   COMBINE HYDROGRAPHS FROM R115 AND C117
1288        HC       2
            * DDM   ***** Preserved *****

1289        KK    R118
1290        KM        ROUTE FLOW FROM C118 TO  DIV7
1291        RS       1    FLOW      -1
1292        RC    .019    .019    .019    1500    .024
1293        RX    1000    1012    1016    1020    1035    1039    1043    1055
1294        RY      15      12      11      10      10      11      12      15
            * DDM   ***** Preserved *****

1295        KK      D7
1296        KM        OFFLINE BASIN AT NORTH MOUNTAIN RIDGE   FLOWS ENTER BASIN OVER
1297        KM        30' WEIR SET AT 5.3' ABOVE THE CHANNEL BOTTOM
            *      1
1298        DT  BASIN6     3.6
1299        DI       0     363     487     563     645     844
1300        DQ       0       3      47      83     125     244
            * DDM   ***** Preserved *****

1301        KK    RTD7
1302        KM   RETRIEVE FLOW FROM DIVERSION INTO OFFLINE BASIN
1303        DR  BASIN6
            * DDM   ***** Preserved *****
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LINE        ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1304        KK     SD7
1305        KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
1306        KM     3.6 ACRE-FEETx43560/36x3600=1.2cfs
1307        RS       1    STOR       0
1308        SV       0     .01     3.6
1309        SQ       0     0.2     1.2
            * DDM   ***** Preserved *****

1310        KK     CD7
1311        KM   HYDROGRAPH COMBINATION FOR OFFLINE BASIN BLEEDOFF
1312        HC       2
            * DDM   ***** Updated *****

1313        KK     454
1314        KM   SUB-BASIN 454
1315        KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1316        KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .999
1317        KM     L = 1.23  Kb = .051  Adj. Slope =  163.0
1318        BA    .180
1319        LG    .300    .310   3.780    .560  14.000
1320        UC    .379    .395
1321        UA       0       5      16      30      65      77      84      90      94      97
1322        UA     100
            * DDM   ***** Preserved *****

1323        KK    C119
1324        KM        COMBINE HYDROGRAPHS FROM SUB-BASIN 454 AND C119
            *      1       2
1325        HC       2
            * DDM   ***** Preserved *****

1326        KK    R454
1327        KM   CHANNEL GEOMETRY OBTAINED FROM 2' CONTOUR MAPPING.
1328        KM   ROUTE FLOW FROM C119 TO 415C
1329        RS       3    FLOW      -1
1330        RC    .045    .035    .045    2200    .009
1331        RX       0      .5       1      33      42      67    67.5      68
1332        RY       5       4       4       0       0       6       6       6
            *
            * The sub-basin area and soil make-up have been updated from CAD file 12/07/00
            * DDM   ***** Updated *****

1333        KK     415
1334        KM   SUB-BASIN 415
1335        KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1336        KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .996
1337        KM     L = 2.58  Kb = .044  Adj. Slope =  298.5
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1338          BA     .609
1339          LG     .320     .290    4.500     .400   15.000
1340          UC     .421     .401
1341          UA        0        5       16       30       65       77       84       90       94       97
1342          UA      100
              * DDM    ***** Preserved *****
1                                          HEC-1 INPUT                                                    PAGE 36

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


1343          KK   RT385
1344          KM   RETRIEVE FLOW FROM DIVERSION OF SUB-BASIN 385 INTO SUB-BASIN 415
1345          DR   SF385
              * DDM    ***** Preserved *****

1346          KK   RR385
1347          KM   CHANNEL GEOMETRY OBTAINED FROM 2' CONTOUR MAPPING.
1348          KM   ROUTING OF SPLIT FLOW FROM SUB-BASIN 385 TO SUB-BASIN 415
1349          RS       11     FLOW      -1
1350          RC     .045      .04     .045     5878     .024
1351          RX        0        1       40       46       56       62      102      103
1352          RY        3        2        2        0        0        2        2        3
              * DDM    ***** Preserved *****

1353          KK    C415
1354          KM   HYDROGRAPH COMBINATION OF SUB-BASINS 415, R454 & SPLIT FLOW FROM 385
1355          HC        2  0.9252
              * DDM    ***** Preserved *****

1356          KK   CC415
1357          KM   HYDROGRAPH COMBINATION OF SUB-BASINS 415, R454 & SPLIT FLOW FROM 385
1358          HC        2
              * DDM    ***** Preserved *****

1359          KK    R415
1360          KM   CHANNEL GEOMETRY OBTAINED FROM 2' CONTOUR MAPPING.
1361          KM   ROUTING OF FLOW FROM 415C TO 455C
1362          RS        3     FLOW      -1
1363          RC     .045      .03     .045     4100     .024
1364          RX        0       .5        1        8       16       23     23.5       24
1365          RY        8        8        8        0        0        8        8        8
              * DDM    ***** Updated *****

1366          KK     455
1367          KM   SUB-BASIN 455
1368          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1369          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .993
1370          KM     L = 1.70  Kb = .041  Adj. Slope =  146.0
1371          BA   1.111
1372          LG     .270     .280    3.700     .640   24.000
1373          UC     .421     .204
1374          UA        0        5       16       30       65       77       84       90       94       97
1375          UA      100
              * DDM    ***** Preserved *****

1376          KK    D455
1377          KM        DIVERT FLOW INTO ONLINE  DETENTION BASIN
1378          KM   DETENTION/RETENTION BASINS LOCATED WITHIN LAS SENDAS ADDENDUM III
1379          KM   FOR BASIN #: 30       34       43       47&58
1380          KM        MAXIMUM VOLUME DIVERSION = 74.1 acre-feet
              *      1
1381          DT   BS455     74.1
1382          DI        0   10000
1383          DQ        0   10000
              * DDM    ***** Preserved *****
1                                          HEC-1 INPUT                                                    PAGE 37

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


1384          KK   RT455
1385          KM   RETRIEVE FLOW FROM DIVERSION INTO ONLINE BASIN
1386          DR   BS455
              * DDM    ***** Preserved *****

1387          KK    S455
1388          KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
1389          KM    74.1 ACRE-FEETx43560/36x3600=25cfs
1390          RS        1     STOR        0
1391          SV        0      .01     74.1
1392          SQ        0      3.0       25
              * DDM    ***** Preserved *****

1393          KK    C455
1394          KM   HYDROGRAPH COMBINATION FOR SUB-BASIN 455 AND DIVERTED BASIN STORAGE OF 455
1395          HC        2
              * DDM    ***** Preserved *****

1396          KK   CC455
1397          KM  HYDROGRAPH COMBINATION OF 420C, R415 AND C455
              *      1        2
1398          HC        3
              * DDM    ***** Preserved *****
              * KK  S440
              * KM SPOOK HILL FRS PLANS DATED 6/15/77
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                * KM OUTLET PIPE=7'x7.5'RCBC; L=70 INLET INV.=1566; OUTLET INV.=1566
                * KM EMERGENCY SPILLWAY ELEV.=1582; PRINCIPLE SPILLWAY ELEV.=1577.5
                * KM STORAGE VOLUME BELOW PRINCIPLE SPILLWAY FOR SEDIMENT = 200 ACRE-FEET
                *   ESE = 1583.86 ft; PSE = 1579.36 ft; Sediment Vol. = 271 Ac-Ft.
                * RS      1     STOR        0
                * SV      0       81      363      533      719      925     1120     1399     1668     40
                * SQ      0        0       10      180      367      595      800     1231     2625    245
                * SE     76       78       80       81       82       83     83.9       85       86
                * DDM   ***** Preserved *****

1399            KK    R455
1400            KM   ROUTE FLOW FROM SPOOK HILL FRS TO SUB-BASIN 480
1401            RS      15     FLOW       -1
1402            RC    .035     .025     .035     7000    .0002
1403            RX       0        1        2       28       58       84       85       86
1404            RY    13.5     13.5     13.5        0        0     13.5     13.5     13.5
                * DDM   ***** Updated *****

1405            KK     480
1406            KM   SUB-BASIN 480
1407            KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1408            KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .996
1409            KM     L = 1.21  Kb = .042  Adj. Slope =  165.0
1410            BA    .731
1411            LG    .270     .270    3.580     .730  27.000
1412            UC    .325     .148
1413            UA       0        5       16       30       65       77       84       90       94       97
1414            UA     100
                * DDM   ***** Preserved *****
1                                          HEC-1 INPUT                                                    PAGE 38

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

1415            KK    D480
1416            KM        DIVERT FLOW INTO ONLINE  DETENTION BASIN
1417            KM   DETENTION/RETENTION BASINS LOCATED WITHIN LAS SENDAS ADDENDUM III
1418            KM   FOR BASIN #: 18 & 26
1419            KM        MAXIMUM VOLUME DIVERSION = 16.5 acre-feet
                *      1
1420            DT   BS480    16.5
1421            DI       0   10000
1422            DQ       0   10000
                * DDM   ***** Preserved *****

1423            KK   RT480
1424            KM   RETRIEVE FLOW FROM DIVERSION INTO ONLINE BASIN
1425            DR   BS480
                * DDM   ***** Preserved *****

1426            KK    S480
1427            KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
1428            KM    16.5 ACRE-FEETx43560/36x3600=5.5cfs
1429            RS       1     STOR        0
1430            SV       0      .01     16.5
1431            SQ       0      3.0      5.6
                * DDM   ***** Preserved *****

1432            KK    C480
1433            KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
1434            HC       2
                * DDM   ***** Preserved *****

1435            KK   CC480
1436            KM   HYDROGRAPH COMBINATION AT SUBBASIN 480
1437            HC       2
                * DDM   ***** Preserved *****

1438            KK    R480
1439            KM   ROUTE FLOW FROM SUB-BASIN 480 TO SUBBASIN 462
1440            RS       6     FLOW       -1
1441            RC    .035     .025     .035     2800    .0002
1442            RX       0        1        2       28       58       84       85       86
1443            RY    13.5     13.5     13.5        0        0     13.5     13.5     13.5
                * DDM   ***** Updated *****

1444            KK     456
1445            KM   SUB-BASIN 456
1446            KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1447            KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .998
1448            KM     L =  .94  Kb = .045  Adj. Slope =  315.0
1449            BA    .260
1450            LG    .300     .380    5.600     .200  12.000
1451            UC    .217     .139
1452            UA       0        5       16       30       65       77       84       90       94       97
1453            UA     100
                * DDM   ***** Preserved *****
1                                          HEC-1 INPUT                                                    PAGE 39

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

1454            KK      D1
1455            KM        DIVERT FLOW INTO OFFLINE DETENTION BASIN
1456            KM        WEIR FOR BASIN SET AT 4 FEET ABOVE CHANNEL BOTTOM
                *      1
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1457          DT  BASIN1      4.0
1458          DI        0     11.1    127.9    234.4    577.7    789.9   1025.5   1280.9   1555.7
1459          DQ        0        0        0     47.7      248    381.8    533.6    701.5      884
              * DDM   ***** Preserved *****

1460          KK      CD2
1461          KM         SPLIT OUT FLOW FOR WASHES THAT FLOW TO THE SOUTH FROM
1462          KM         WASHES THAT DRAIN TO THE WES, SOUTHERN WASHES FED BY 30" & 24" PIPE
1463          DT     WA30
1464          DI        0     11.1    127.9    189.6    329.7      408    491.9    579.4    671.7
1465          DQ        0     11.1     38.4     48.2       63     69.5       76       81       86
              * DDM   ***** Preserved *****

1466          KK     R456
1467          KM         ROUTE FLOW FROM SUB-BASIN 51 TO C101
1468          RS        2     FLOW       -1
1469          RC      .05     .035      .05     3800     .044
1470          RX     1000     1010     1020     1036     1041     1057     1067     1077
1471          RY    14.88    14.44       14       10       10       14    14.44    14.88
              * DDM   ***** Updated *****

1472          KK      457
1473          KM    SUB-BASIN 457
1474          KM    24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1475          KM    THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .999
1476          KM      L = 1.01  Kb = .045  Adj. Slope =  308.8
1477          BA     .190
1478          LG     .270     .330    3.950     .460    6.000
1479          UC     .237     .195
1480          UA        0        5       16       30       65       77       84       90       94       97
1481          UA      100
              * DDM   ***** Preserved *****

1482          KK     C101
1483          KM         COMBINE HYDROGRAPHS FROM SUB-BASINS 50 AND 51
1484          HC        2
              * DDM   ***** Preserved *****

1485          KK       D3
1486          KM         RESERVOIR AT THE EDGE OF THE PROPERTY   FLOW FROM CHANNEL
1487          KM         DIVERTED  INTO OFFLINE BASIN A 25' WEIR SET AT ELEVATION 1808 FT
              *       1
1488          DT  BASIN2      5.0
1489          DI        0       36       70      110      180    313.5      402    500.9
1490          DQ        0        0        0        0        0     67.5      124    190.9
              * DDM   ***** Preserved *****
                                          HEC-1 INPUT                                          PAGE 40

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

1491          KK     RTD3
1492          KM    RETRIEVE FLOW FROM DIVERSION INTO OFFLINE BASIN
1493          DR  BASIN2
              * DDM   ***** Preserved *****

1494          KK      SD3
1495          KM    RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
1496          KM      5.0 ACRE-FEETx43560/36x3600=1.7cfs
1497          RS        1     STOR        0
1498          SV        0      .01        5
1499          SQ        0      0.7      1.7
              * DDM   ***** Preserved *****

1500          KK      CD3
1501          KM    HYDROGRAPH COMBINATION FOR OFFLINE BASIN BLEEDOFF
1502          HC        2
              * DDM   ***** Preserved *****

1503          KK     R101
1504          KM         ROUTE FLOW FROM SUBBASIN C101 TO C103
1505          RS        1     FLOW       -1
1506          RC      .05     .035      .05     1450      .05
1507          RX     1000     1010     1020     1036     1041     1057     1067     1077
1508          RY       15     14.5       14       10       10       14     14.5       15
              * DDM   ***** Updated *****

1509          KK      458
1510          KM    SUB-BASIN 458
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  .999
1513          KM      L =  .76  Kb = .048  Adj. Slope =  299.0
1514          BA     .190
1515          LG     .290     .330    5.800     .190    6.000
1516          UC     .204     .131
1517          UA        0        5       16       30       65       77       84       90       94       97
1518          UA      100
              * DDM   ***** Preserved *****

1519          KK     C103
1520          KM         COMBINE HYDROGRAPHS FROM SUB-BASIN 55 AND C101
1521          HC        2
              * DDM   ***** Preserved *****

1522          KK     R103
1523          KM         ROUTE FLOW FROM SUBBASIN C103 TO C106
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1524        RS       1    FLOW      -1
1525        RC     .05    .035     .05     900     .03
1526        RX    1000    1010    1020    1030    1050    1060    1070    1080
1527        RY   13.16   12.83    12.5      10      10    12.5   12.83   13.16
            * DDM   ***** Preserved *****
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LINE        ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1528        KK    RT30
1529        KM        RETRIEVE DIVERTED FLOW FOR WASH BELOW 30 INCH PIPE
1530        DR    WA30
            * DDM   ***** Preserved *****

1531        KK     R30
1532        KM        ROUTE FLOW FROM WASH DIVERSION TO COMBINE C52
1533        RS       1    FLOW      -1
1534        RC     .05    .035     .05    1630     .05
1535        RX    1000    1010    1020    1036    1041    1057    1067    1077
1536        RY      15    14.5      14      10      10      14    14.5      15
            * DDM   ***** Preserved *****

1537        KK    RTB1
1538        KM        RETRIEVE DIVERTED FLOW FROM BASIN 1
            *      1       2
1539        DR  BASIN1
            * DDM   ***** Preserved *****

1540        KK      B1
1541        KM        ROUTE FLOW THROUGH OFFLINE DETENTION BASIN
1542        KM        FLOW OUTLETS THROUGH A 30 INCH OUTLET PIPE
            *      1       2
1543        RS       1    ELEV       0
1544        SV              .7     1.4     2.3     2.7     4.0
1545        SQ       0       5      16      28    32.5      37
1546        SE       0       1       2       3     3.5       4
            * DDM   ***** Preserved *****

1547        KK     RB1
1548        KM        ROUTE FLOW FROM BASIN DIVERSION TO COMBINE C52
1549        RS       3    FLOW      -1
1550        RC     .05    .035     .05    1720     .05
1551        RX    1000    1010    1020    1036    1041    1057    1067    1077
1552        RY      15    14.5      14      10      10      14    14.5      15
            * DDM   ***** Preserved *****

1553        KK    CDIV
1554        KM        COMBINE FLOWS FROM WA30 AND BASIN 1
1555        HC       2     .12
            * DDM   ***** Updated *****

1556        KK     459
1557        KM   SUB-BASIN 459
1558        KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1559        KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF 1.000
1560        KM     L =  .35  Kb = .052  Adj. Slope =  251.6
1561        BA    .030
1562        LG    .220    .300   3.330    .710   8.000
1563        UC    .162    .157
1564        UA       0       5      16      30      65      77      84      90      94      97
1565        UA     100
            * DDM   ***** Preserved *****
```



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

1566        KK     C52
1567        KM        COMBINE FLOWS FROM SUB-BASIN 52 WA30 AND BASIN 1
1568        HC       2
            * DDM   ***** Preserved *****

1569        KK     R52
1570        KM        ROUTE FLOW FROM SUBBASIN 52 TO C102
1571        RS       3    FLOW      -1
1572        RC     .05    .035     .05    2000     .05
1573        RX    1000    1010    1020    1036    1041    1057    1067    1077
1574        RY      15    14.5      14      10      10      14    14.5      15
            * DDM   ***** Updated *****

1575        KK     460
1576        KM   SUB-BASIN 460
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  .999
1579        KM     L =  .62  Kb = .058  Adj. Slope =  194.0
1580        BA    .140
1581        LG    .250    .260   3.740    .690  27.000
1582        UC    .242    .160
1583        UA       0       5      16      30      65      77      84      90      94      97
1584        UA     100
            * DDM   ***** Preserved *****

1585        KK    C102
1586        KM        COMBINE HYDROGRAPHS FROM SUB-BASINS 52 AND 53
1587        HC       2
```

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

1588            KK  BASIN3
1589            KM        RESERVOIR AT CLUBHOUSE LOCATION 1-30 INCH PIPE AT OUTFALL
1590            KM        BOTTOM OF BASIN AT 6 FEET ABOVE 1795 ELEVATION
1591            RS       1    ELEV       0
1592            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
1593            SQ       0      22      45    47.4      48      51      57      62      67      73
1594            SE    1795  1797.5    1800  1800.4  1800.5    1801    1802    1803    1804  1805.5
                * DDM   ***** Preserved *****

1595            KK      R3
1596            KM        ROUTE FLOW FROM C102 to C106
1597            RS       5    FLOW      -1
1598            RC     .05     .03     .05    2750   .0375
1599            RX    1000    1010    1020    1052    1086    1118    1128    1138
1600            RY    19.2    18.4      18      10      10      18    18.4    19.2
                * DDM   ***** Updated *****

1601            KK     461
1602            KM   SUB-BASIN 461
1603            KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1604            KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .999
1605            KM     L =  .83  Kb = .052  Adj. Slope =  181.0
1606            BA    .120
1                                        HEC-1 INPUT                                          PAGE 43

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

1607            LG    .270    .250   4.250    .450  21.000
1608            UC    .271    .250
1609            UA       0       5      16      30      65      77      84      90      94      97
1610            UA     100
                * DDM   ***** Preserved *****

1611            KK    C104
1612            KM        COMBINE HYDROGRAPHS FROM SUB-BASIN 54 AND R102
1613            HC       2
                * DDM   ***** Preserved *****

1614            KK    C106
1615            KM        COMBINE HYDROGRAPHS FROM SUB-BASIN C103 AND C104
1616            HC       2
                * DDM   ***** Preserved *****

1617            KK    R106
1618            KM        ROUTE FLOW FROM C106 TO C49
1619            RS       2    FLOW      -1
1620            RC     .05    .035     .05    3950    .033
1621            RX    1000    1010    1020    1030    1050    1060    1070    1080
1622            RY   13.16   12.83    12.5      10      10    12.5   12.83   13.16
                * DDM   ***** Updated *****

1623            KK     462
1624            KM   SUB-BASIN 462
1625            KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1626            KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .998
1627            KM     L =  .97  Kb = .045  Adj. Slope =  297.7
1628            BA    .301
1629            LG    .300    .330   5.300    .240  12.000
1630            UC    .225    .137
1631            UA       0       5      16      30      65      77      84      90      94      97
1632            UA     100
                * DDM   ***** Preserved *****

1633            KK     C56
1634            KM        COMBINE HYDROGRAPHS FROM SUB-BASIN 56 AND C106
                *      1       2
1635            HC       2
                * DDM   ***** Preserved *****

1636            KK    C462
1637            KM        COMBINE HYDROGRAPHS AT SUBBASIN 462
                *      1
1638            HC       2    2.09
                * DDM   ***** Preserved *****

1639            KK    R462
1640            KM   ROUTE FLOW FROM SUB-BASIN 462 TO SUB-BASIN 500 (First Channel Reach)
1641            RS       1    FLOW      -1
1642            RC    .025    .025    .025    1800    .005
1643            RX       0       1      20      32      62      74      93      94
1644            RY      13      12      12       0       0      12      12      13
                *
                * DDM   ***** Preserved *****
1                                        HEC-1 INPUT                                          PAGE 44

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

1645            KK   RR462
1646            KM   ROUTE FLOW FROM SUB-BASIN 462 TO SUB-BASIN 500 (Second Natural Wash Reach)
1647            RS       3    FLOW      -1
1648            RC    .055     .05    .055    4700     .05
1649            RX       0       1       2      28      58      84      85      86
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1650          RY    13.5    13.5    13.5       0       0    13.5    13.5    13.5
              * DDM   ***** Updated *****

1651          KK     500
1652          KM   SUB-BASIN 500
1653          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1654          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .994
1655          KM     L = 2.77  Kb = .042  Adj. Slope =  286.8
1656          BA    .930
1657          LG    .350    .400   6.000    .170   9.000
1658          UC    .421    .333
1659          UA       0       3       5       8      12      20      43      75      90      96
1660          UA     100
              * DDM   ***** Preserved *****

1661          KK    C500
1662          KM   HYDROGRAPH COMBINATION FOR THE ENTIRE WATERSHED AT THE SALT RIVER
1663          HC       2    3.02
1664          ZZ
```

1

SCHEMATIC DIAGRAM OF STREAM NETWORK

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

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

   25          10
                V
                V
   35         R10
                V
                V
   41         R12
                .
                .
   47           .          20
                .           .
                .           .
   57         C20............
                V
                V
   60         R20
                .
                .
   66           .          40
                .           .
                .           .
   76           .           .          60
                .           .           .
                .           .           .
   86         C60........................
                V
                V
   89         S60
                V
                V
   98         R60
                V
                V
  104        RR60
                .
                .
  110           .          80
                .           .
                .           .
  120         C80............
                V
                V
  123         R80
                .
                .
  129           .         100
                .           .
                .           .
  139        C100............
                V
                V
  142        R100
                .
                .
  148           .         120
                .           .
                .           .
  158        C120............
                V
                V
  161        R120
                .
                .
  167           .         140
                .           .
                .           .
  177           .           .         150
                .           .           V
                .           .           V
  187           .           .        R150
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```
                .           .           V
                .           .           V
193             .           .        R152
                .           .           .
                .           .           .
199             .           .           .        160
                .           .           .          .
                .           .           .          .
209             .           .           .          .        180
                .           .           .          .          .
                .           .           .          .          .
219         C180.............................................
                .
                .
222             .        210
                .          V
                .          V
232             .       R210
                .           .
                .           .
238             .           .        240
                .           .          .
                .           .          .
248             .       C240............
                .          V
                .          V
251             .       S240
                .          V
                .          V
258             .       R240
                .           .
                .           .
265             .           .        220
                .           .          .
                .           .          .
275             .       C220............
                .          V
                .          V
278             .       S220
                .          V
                .          V
285             .       R220
                .           .
                .           .
292             .           .        190
                .           .          V
                .           .          V
302             .           .       R190
                .           .          V
                .           .          V
308             .           .       R192
                .           .           .
                .           .           .
314             .           .           .        200
                .           .           .          .
                .           .           .          .
324             .       C200........................
                .          V
                .          V
327             .       S200
                .          V
                .          V
334             .       R200
                .          V
                .          V
340             .      SS200
                .          V
                .          V
347             .      RR200
                .           .
                .           .
353         CC180............
               V
               V
356         S180
               V
               V
365         R180
                .
                .
374             .        260
                .          .
                .          .
384         C260............
               V
               V
387         R260
                .
                .
396             .        280
                .          .
                .          .
406         C280............
               V
               V
409         R280
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            .
            .
418         .         300
            .           .
            .           .
428     C300............
           V
           V
431     R300
            .
            .
440         .         305
            .           .
            .           .
450     C305............
           V
           V
453     R305
            .
            .
462         .         350
            .           .
            .           .
475         .           .-------->   SF350
472         .       D350
            .          V
            .          V
478         .       R350
            .           .
            .           .
485         .           .         310
            .           .           .
            .           .           .
495         .       C310............
            .          V
            .          V
498         .       R310
            .           .
            .           .
505         .           .         320
            .           .           .
            .           .           .
520         .           .           .-------->   BS320
515         .           .       D320
            .           .           .
            .           .           .
525         .           .           .           .<--------   BS320
523         .           .           .       RT320
            .           .           .           V
            .           .           .           V
526         .           .           .        S320
            .           .           .           .
            .           .           .           .
532     C320.................................
           V
           V
535     R320
            .
            .
542         .       340B
            .           .
            .           .
557         .           .-------->  BS340B
552         .      D340B
            .           .
            .           .
562         .           .           .<--------  BS340B
560         .           .      RT340B
            .           .           V
            .           .           V
563         .           .       S340B
            .           .           .
            .           .           .
569         .      C340B............
            .           .
            .           .
574         .           .-------->   BS340
572         .     DD340B
            .           .
            .           .
579         .           .           .<--------   BS340
577         .           .       RT340
            .           .           V
            .           .           V
580         .           .      SS340B
            .           .           .
            .           .           .
586         .     CC340B............
            .           V
            .           V
589         .      R340B
            .           .
            .           .
596         .           .        340A
            .           .           .
            .           .           .
```

```
611          .           .           .-------> BS340A
606          .           .       D340A
             .           .           .
             .           .           .
616          .           .           .           .<-------  BS340A
614          .           .           .      RT340A
             .           .           .           V
             .           .           .           V
617          .           .           .       S340A
             .           .           .           .
             .           .           .           .
623          .       C340A.......................
             .           .
             .           .
626       C340............
             V
             V
629       R340
             .
             .
638          .           .<-------   SF350
636          .       RT350
             .           V
             .           V
639          .       RR350
             .           .
             .           .
646          .           .         355
             .           .           .
             .           .           .
656          .        C355............
             .           V
             .           V
659          .        R355
             .           .
             .           .
666          .           .         360
             .           .           .
             .           .           .
680          .           .           .------->   BS360
676          .           .       D360
             .           .           .
             .           .           .
685          .           .           .           .<-------   BS360
683          .           .           .      RT360
             .           .           .           V
             .           .           .           V
686          .           .           .       S360
             .           .           .           .
             .           .           .           .
692       C360.................................
             .
             .
699          .------->    380S
695      DD380
             .
             .
704          .           .<-------    380S
702          .      RT380S
             .           V
             .           V
705          .       SS380
             .           .
             .           .
712      CC360............
             V
             V
715       R360
             .
             .
722          .        380A
             .           .
             .           .
732      C380A............
             V
             V
735      R380A
             .
             .
742          .        400A
             .           .
             .           .
752      C400A............
             V
             V
755      R400A
             .
             .
762          .         370
             .           .
             .           .
772          .           .         395
             .           .           .
             .           .           .
782          .       C370............
             .           V
```

```
                .          V
785             .       R370
                .          .
                .          .
792             .          .        380B
                .          .          .
                .          .          .
806             .          .          .-------> BS380B
802             .          .      D380B
                .          .          .
                .          .          .
811             .          .          .          .<-------  BS380B
809             .          .          .     RT380B
                .          .          .          V
                .          .          .          V
812             .          .          .      S380B
                .          .          .          .
                .          .          .          .
818             .      C380B.......................
                .          .
                .          .
823             .          .-------> BS380
821             .     DD380B
                .          .
                .          .
828             .          .          .<-------  BS380
826             .          .      RT380
                .          .          V
                .          .          V
829             .          .     SS380B
                .          .          .
                .          .          .
835             .     CC380B............
                .          V
                .          V
838             .      R380B
                .          .
                .          .
845             .          .        390
                .          .          .
                .          .          .
859             .          .          .-------> BS390
855             .          .      D390
                .          .          .
                .          .          .
864             .          .          .          .<-------  BS390
862             .          .          .     RT390
                .          .          .          V
                .          .          .          V
865             .          .          .      S390
                .          .          .          .
                .          .          .          .
871             .          .      C390............
                .          .          V
                .          .          V
874             .          .      R390
                .          .          .
                .          .          .
881             .          .          .      400B
                .          .          .          .
                .          .          .          .
895             .          .          .          .-------> BS400B
891             .          .          .     D400B
                .          .          .          .
                .          .          .          .
900             .          .          .          .          .<-------  BS400B
898             .          .          .          .     RT400B
                .          .          .          .          V
                .          .          .          .          V
901             .          .          .          .      S400B
                .          .          .          .          .
                .          .          .          .          .
907             .          .          .     C400B............
                .          .          .          .
                .          .          .          .
910         CC400B.................................
                V
                V
913          R400
                .
                .
920             .       385
                .          .
                .          .
932             .          .-------> SF385
930             .      D385
                .          V
                .          V
935             .      R385
                .          .
                .          .
942             .          .        420
                .          .          .
                .          .          .
956             .          .          .-------> BS420
952             .          .      D420
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                .           .           .
                .           .           .
 961            .           .           .           .<-------   BS420
 959            .           .           .       RT420
                .           .           .           V
                .           .           .           V
 962            .           .           .       S420
                .           .           .           .
                .           .           .           .
 968            .       C420.......................
                .           .
                .           .
 971        CC420............
                V
                V
 974         R420
                .
                .
 981            .        440
                .          V
                .          V
 991            .        R70
                .           .
                .           .
 997            .           .         441
                .           .           .
                .           .           .
1007            .       C108............
                .           .
                .           .
1012            .           .------->   SPLIT
1010            .         D4
                .          V
                .          V
1015            .       R108
                .           .
                .           .
1021            .           .         442
                .           .           .
                .           .           .
1031            .        C67............
                .           .
                .           .
1037            .           .------->  BASIN4
1034            .         D6
                .           .
                .           .
1042            .           .           .<-------  BASIN4
1040            .           .       RTD6
                .           .          V
                .           .          V
1043            .           .        SD6
                .           .           .
                .           .           .
1049            .        CD6............
                .           .
                .           .
1052            .           .         443
                .           .           .
                .           .           .
1065            .           .           .-------->   WSH66
1062            .           .        D66
                .           .          V
                .           .          V
1068            .           .       R113
                .           .           .
                .           .           .
1074            .       C114............
                .           .
                .           .
1077            .           .         444
                .           .          V
                .           .          V
1087            .           .        R58
                .           .           .
                .           .           .
1093            .           .           .         445
                .           .           .           .
                .           .           .           .
1103            .           .       C107............
                .           .          V
                .           .          V
1106            .           .       R107
                .           .           .
                .           .           .
1114            .           .           .           .<-------   SPLIT
1112            .           .           .       RTB2
                .           .           .          V
                .           .           .          V
1115            .           .           .     RSPLIT
                .           .           .           .
                .           .           .           .
1121            .           .           .           .         446
                .           .           .           .           .
                .           .           .           .           .
1131            .           .       C109........................
```

```
1137                .-------> WSH404
1134              D5
                   V
                   V
1140            R109
                   .
                   .
1146                .         447
                    .           .
                    .           .
1158                .           .          .<-------  WSH404
1156                .           .       RT404
                    .           .          V
                    .           .          V
1159                .           .        R404
                    .           .           .
                    .           .           .
1165            C110.......................
                   V
                   V
1168            R110
                   .
                   .
1174        C115............
               V
               V
1177        R115
               .
               .
1183            .        448
                   .
                   .
1193            .         449
                    .           .
                    .           .
1203            .      C6364............
                   V
                   V
1206            .      R6364
                   .
                   .
1212            .         450
                    .           .
                    .           .
1222            .           .         451
                    .           .           .
                    .           .           .
1232            .         C451............
                    .           .
                    .           .
1237            .           .           .<-------   WSH66
1235            .           .        RT66
                    .           .           .
                    .           .           .
1238            .           .           .         452
                    .           .           .           .
                    .           .           .           .
1248            .           .        C6465............
                    .           .           V
                    .           .           V
1251            .           .        R6566
                    .           .           .
                    .           .           .
1257            .       C116.......................
                   V
                   V
1260            .     BASIN5
                   V
                   V
1267            .       R116
                   .
                   .
1273            .         453
                    .           .
                    .           .
1283            .       C117............
                   .
                   .
1286        C118............
               V
               V
1289        R118
               .
               .
1298          .-------> BASIN6
1295        D7
               .
               .
1303            .          .<-------  BASIN6
1301            .       RTD7
                   V
                   V
1304            .        SD7
                   .
```

```
1310          CD7............
1313                   454
1323         C119............
                        V
                        V
1326         R454
1333                   415
1345                                .<-------   SF385
1343                          RT385
                                  V
                                  V
1346                          RR385
1353                   C415............
1356        CC415............
                        V
                        V
1359         R415
1366                   455
1381                            .------->   BS455
1376                   D455
1386                                .<-------   BS455
1384                          RT455
                                  V
                                  V
1387                           S455
1393                   C455............
1396     CC455........................
             V
             V
1399      R455
1405          480
1420                .------->   BS480
1415         D480
1425                      .<-------   BS480
1423                   RT480
                          V
                          V
1426                   S480
1432         C480............
1435     CC480............
             V
             V
1438      R480
1444          456
1457                .------->  BASIN1
1454           D1
1463                .------->   WA30
1460          CD2
                        V
                        V
1466         R456
1472                   457
1482         C101............
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1488            .          .-------> BASIN2
1485            .        D3
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1493            .          .          .<-------  BASIN2
1491            .          .       RTD3
                .          .          V
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1494            .          .        SD3
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1500            .       CD3............
                .          V
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1503            .      R101
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1509            .          .        458
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1519            .      C103............
                .          V
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1522            .      R103
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1530            .          .          .<-------    WA30
1528            .          .       RT30
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1531            .          .        R30
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1539            .          .          .          .<-------  BASIN1
1537            .          .          .       RTB1
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1540            .          .          .         B1
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1547            .          .          .        RB1
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1553            .          .       CDIV............
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1556            .          .          .        459
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1566            .          .        C52............
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1569            .          .        R52
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1575            .          .          .        460
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1585            .          .      C102............
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1588            .          .     BASIN3
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1595            .          .         R3
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1601            .          .          .        461
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1611            .          .      C104............
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1614            .      C106............
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1617            .      R106
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1623            .          .        462
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1633            .       C56............
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1636         C462............
                V
                V
1639         R462
                V
                V
1645        RR462
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 1651          .          500
               .           .
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 1661       C500............
(***) RUNOFF ALSO COMPUTED AT THIS LOCATION
1****************************************
*                                      *
*   FLOOD HYDROGRAPH PACKAGE  (HEC-1)  *
*              JUN  1998               *
*           VERSION 4.1                *
*                                      *
*  RUN DATE   10MAY01  TIME  15:53:31  *
*                                      *
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*                                      *
*    U.S. ARMY CORPS OF ENGINEERS      *
*    HYDROLOGIC ENGINEERING CENTER     *
*          609 SECOND STREET           *
*        DAVIS, CALIFORNIA 95616       *
*            (916) 756-1104            *
*                                      *
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                    DDM MCUHP1 SPOOK HILL AMDP - EXISTING CONDITIONS MODEL - 100YR, 24HR STORM
                    McKellips Road Alternative - Option MK2E
                    Non-Jurisdictional Alternatives - Option NJ4Q
                    Spook Hill Channel w/Off-Line Basin

  6 IO          OUTPUT CONTROL VARIABLES
                      IPRNT          5  PRINT CONTROL
                      IPLOT          0  PLOT CONTROL
                      QSCAL         0.  HYDROGRAPH PLOT SCALE

    IT          HYDROGRAPH TIME DATA
                       NMIN          2  MINUTES IN COMPUTATION INTERVAL
                      IDATE      1   0  STARTING DATE
                      ITIME       0000  STARTING TIME
                         NQ       2000  NUMBER OF HYDROGRAPH ORDINATES
                     NDDATE      3   0  ENDING DATE
                     NDTIME       1838  ENDING TIME
                      ICENT         19  CENTURY MARK

                 COMPUTATION INTERVAL     .03 HOURS
                      TOTAL TIME BASE   66.63 HOURS

          ENGLISH UNITS
               DRAINAGE AREA          SQUARE MILES
               PRECIPITATION DEPTH    INCHES
               LENGTH, ELEVATION      FEET
               FLOW                   CUBIC FEET PER SECOND
               STORAGE VOLUME         ACRE-FEET
               SURFACE AREA           ACRES
               TEMPERATURE            DEGREES FAHRENHEIT

  8 JD          INDEX STORM NO. 1
                       STRM       3.81  PRECIPITATION DEPTH
                       TRDA        .01  TRANSPOSITION DRAINAGE AREA

  9 PI            PRECIPITATION PATTERN
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19 JD INDEX STORM NO. 2

STRM 3.79 PRECIPITATION DEPTH

TRDA 1.00 TRANSPOSITION DRAINAGE AREA

0 PI PRECIPITATION PATTERN

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20 JD        INDEX STORM NO. 3
                  STRM         3.68  PRECIPITATION DEPTH
                  TRDA         5.80  TRANSPOSITION DRAINAGE AREA

 0 PI          PRECIPITATION PATTERN
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21 JD        INDEX STORM NO. 4
                  STRM         3.57  PRECIPITATION DEPTH
                  TRDA        10.66  TRANSPOSITION DRAINAGE AREA
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0 PI PRECIPITATION PATTERN

.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
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22 JD INDEX STORM NO. 5

STRM 3.54 PRECIPITATION DEPTH

TRDA 13.70 TRANSPOSITION DRAINAGE AREA

0 PI PRECIPITATION PATTERN

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23 JD INDEX STORM NO. 6

STRM 3.47 PRECIPITATION DEPTH

TRDA 20.00 TRANSPOSITION DRAINAGE AREA

0 PI PRECIPITATION PATTERN

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24 JD INDEX STORM NO. 7

STRM 3.32 PRECIPITATION DEPTH

TRDA 50.00 TRANSPOSITION DRAINAGE AREA

0 PI PRECIPITATION PATTERN

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.01	.01	.03	.04	.04	.04	.04	.04	.04	.04
.01	.01	.01	.01	.01	.01	.01	.00	.00	.00
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WARNING EXCESS AT PONDING LESS THAN ZERO FOR PERIOD. EXCESS SET TO ZERO
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WARNING --- ROUTED OUTFLOW (1029.) IS GREATER THAN MAXIMUM OUTFLOW (1018.) IN STORAGE-OUTFLOW TABLE

WARNING --- ROUTED OUTFLOW (1042.) IS GREATER THAN MAXIMUM OUTFLOW (1018.) IN STORAGE-OUTFLOW TABLE

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WARNING EXCESS AT PONDING LESS THAN ZERO FOR PERIOD. EXCESS SET TO ZERO

1

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	989.	12.27	119.	33.	12.	.70		
+	ROUTED TO	R10	920.	12.40	119.	33.	12.	.70		
+	ROUTED TO	R12	853.	12.60	119.	33.	12.	.70		
+	HYDROGRAPH AT	20	1011.	12.43	136.	34.	12.	1.12		
+	2 COMBINED AT	C20	1684.	12.53	252.	66.	24.	1.82		
+	ROUTED TO	R20	1683.	12.57	252.	66.	24.	1.82		
+	HYDROGRAPH AT	40	2695.	12.30	264.	69.	25.	2.23		
+	HYDROGRAPH AT	60	1623.	12.40	239.	64.	23.	1.75		
+	3 COMBINED AT	C60	5371.	12.37	733.	194.	70.	5.80		
+	ROUTED TO	S60	118.	14.27	118.	114.	70.	5.80		
+	ROUTED TO	R60	118.	14.37	118.	114.	70.	5.80		
+	ROUTED TO	RR60	118.	14.40	118.	114.	70.	5.80		
+	HYDROGRAPH AT	80	1956.	12.27	189.	49.	18.	1.48		
+	2 COMBINED AT	C80	2009.	12.27	295.	160.	90.	1.48		
	ROUTED TO	R80	1981.	12.30	295.	160.	90.	1.48		
+	HYDROGRAPH AT	100	423.	12.20	60.	16.	6.	.48		
	2 COMBINED AT									

+	C100	2373.	12.27	351.	174.	95.	1.96
ROUTED TO	R100	2370.	12.30	351.	174.	95.	1.96
HYDROGRAPH AT +	120	3352.	12.27	340.	92.	33.	2.20
2 COMBINED AT +	C120	5618.	12.27	673.	256.	126.	4.16
ROUTED TO +	R120	5546.	12.30	673.	256.	126.	4.16
HYDROGRAPH AT +	140	665.	12.13	67.	18.	6.	.60
HYDROGRAPH AT +	150	595.	12.17	51.	14.	5.	.41
ROUTED TO +	R150	568.	12.23	51.	14.	5.	.41
ROUTED TO +	R152	514.	12.33	51.	14.	5.	.41
HYDROGRAPH AT +	160	228.	12.40	37.	9.	3.	.37
HYDROGRAPH AT +	180	836.	12.37	97.	24.	9.	1.00
5 COMBINED AT +	C180	7306.	12.30	898.	313.	146.	6.54
HYDROGRAPH AT +	210	1322.	12.17	111.	29.	10.	.79
ROUTED TO +	R210	1246.	12.23	111.	29.	10.	.79
HYDROGRAPH AT +	240	1513.	12.30	167.	42.	15.	1.41
2 COMBINED AT +	C240	2684.	12.27	273.	70.	25.	2.20
ROUTED TO	S240	799.	12.70	226.	59.	21.	2.20
ROUTED TO +	R240	798.	12.77	225.	59.	21.	2.20
HYDROGRAPH AT +	220	676.	12.20	68.	18.	6.	.47
2 COMBINED AT +	C220	962.	12.60	288.	75.	27.	2.67
ROUTED TO +	S220	900.	12.80	280.	73.	26.	2.67
ROUTED TO +	R220	897.	12.83	280.	73.	26.	2.67
HYDROGRAPH AT +	190	1471.	12.17	123.	33.	12.	.92
ROUTED TO +	R190	1415.	12.23	123.	33.	12.	.92
ROUTED TO +	R192	1359.	12.30	123.	33.	12.	.92
HYDROGRAPH AT +	200	831.	12.17	72.	20.	7.	.53
3 COMBINED AT +	C200	2254.	12.30	459.	122.	44.	4.12
ROUTED TO +	S200	2135.	12.37	454.	119.	43.	4.12
ROUTED TO +	R200	2127.	12.37	454.	119.	43.	4.12
ROUTED TO +	SS200	1365.	12.73	333.	88.	32.	4.12
ROUTED TO	RR200	1330.	12.83	330.	88.	32.	4.12
2 COMBINED AT +	CC180	7306.	12.30	1212.	399.	177.	10.66
ROUTED TO							

+	S180	398.	14.97	375.	253.	131.	10.66
ROUTED TO	R180	398.	15.00	375.	253.	131.	10.66
HYDROGRAPH AT +	260	416.	12.10	43.	12.	4.	.26
2 COMBINED AT +	C260	439.	12.13	416.	291.	151.	.26
ROUTED TO +	R260	428.	15.00	416.	291.	151.	.26
HYDROGRAPH AT +	280	527.	12.10	46.	13.	5.	.32
2 COMBINED AT +	C280	896.	12.13	432.	301.	155.	.58
ROUTED TO +	R280	875.	12.20	431.	301.	155.	.58
HYDROGRAPH AT +	300	415.	12.10	34.	10.	3.	.29
2 COMBINED AT +	C300	1229.	12.17	460.	309.	159.	.87
ROUTED TO +	R300	1184.	12.23	458.	309.	158.	.87
HYDROGRAPH AT +	305	476.	12.27	81.	22.	8.	.70
2 COMBINED AT +	C305	1637.	12.23	530.	324.	164.	1.57
ROUTED TO +	R305	1616.	12.30	529.	324.	164.	1.57
HYDROGRAPH AT +	350	1258.	12.20	109.	28.	10.	.97
DIVERSION TO +	SF350	629.	12.20	55.	14.	5.	.97
HYDROGRAPH AT	D350	629.	12.20	55.	14.	5.	.97
ROUTED TO +	R350	557.	12.40	55.	14.	5.	.97
HYDROGRAPH AT +	310	398.	12.33	52.	13.	5.	.56
2 COMBINED AT +	C310	928.	12.40	106.	27.	10.	1.04
ROUTED TO +	R310	820.	12.73	106.	27.	10.	1.04
HYDROGRAPH AT +	320	991.	12.20	127.	36.	13.	.95
DIVERSION TO +	BS320	386.	11.93	21.	6.	2.	.95
HYDROGRAPH AT +	D320	991.	12.20	113.	29.	11.	.95
HYDROGRAPH AT +	RT320	386.	11.93	21.	6.	2.	.95
ROUTED TO +	S320	4.	12.00	4.	4.	2.	.95
4 COMBINED AT +	C320	2559.	12.30	732.	373.	181.	3.56
ROUTED TO +	R320	2394.	12.57	714.	371.	180.	3.56
HYDROGRAPH AT +	340B	475.	12.07	35.	10.	4.	.29
DIVERSION TO +	BS340B	475.	12.07	21.	6.	2.	.29
HYDROGRAPH AT	D340B	390.	12.13	16.	4.	2.	.29
HYDROGRAPH AT +	RT340B	475.	12.07	21.	6.	2.	.29
ROUTED TO							

+		S340B	3.	12.13	3.	3.	2.	.29
	2 COMBINED AT	C340B	394.	12.13	19.	7.	4.	.29
+	DIVERSION TO	BS340	376.	12.13	12.	3.	1.	.29
+	HYDROGRAPH AT	DD340B	18.	12.10	8.	4.	3.	.29
+	HYDROGRAPH AT	RT340	376.	12.13	12.	3.	1.	.29
+	ROUTED TO	SS340B	2.	12.63	2.	2.	1.	.29
+	2 COMBINED AT	CC340B	20.	12.63	10.	6.	4.	.29
+	ROUTED TO	R340B	20.	12.70	10.	6.	4.	.29
+	HYDROGRAPH AT	340A	1361.	12.17	161.	48.	17.	1.15
+	DIVERSION TO	BS340A	1361.	12.17	82.	23.	8.	1.15
+	HYDROGRAPH AT	D340A	1217.	12.23	93.	25.	9.	1.15
+	HYDROGRAPH AT	RT340A	1361.	12.17	82.	23.	8.	1.15
+	ROUTED TO	S340A	14.	12.27	13.	11.	7.	1.15
+	3 COMBINED AT	C340A	1212.	12.27	115.	42.	20.	1.44
+	2 COMBINED AT	C340	2883.	12.53	808.	407.	197.	5.00
+	ROUTED TO	R340	2799.	12.70	799.	405.	197.	5.00
	HYDROGRAPH AT	RT350	629.	12.20	55.	14.	5.	.97
+	ROUTED TO	RR350	544.	12.43	55.	14.	5.	.97
+	HYDROGRAPH AT	355	546.	12.33	75.	19.	7.	.68
+	2 COMBINED AT	C355	1028.	12.40	129.	34.	12.	1.16
+	ROUTED TO	R355	941.	12.70	129.	34.	12.	1.16
+	HYDROGRAPH AT	360	773.	12.23	116.	34.	12.	.88
+	DIVERSION TO	BS360	773.	12.23	52.	14.	5.	.88
+	HYDROGRAPH AT	D360	709.	12.33	73.	20.	7.	.88
+	HYDROGRAPH AT	RT360	773.	12.23	52.	14.	5.	.88
+	ROUTED TO	S360	9.	12.33	8.	7.	5.	.88
+	4 COMBINED AT	C360	3951.	12.70	965.	451.	216.	7.04
+	DIVERSION TO	380S	1991.	12.70	141.	35.	13.	7.04
+	HYDROGRAPH AT	DD380	1960.	12.57	824.	416.	203.	7.04
+	HYDROGRAPH AT	RT380S	1991.	12.70	141.	35.	13.	7.04
	ROUTED TO	SS380	31.	13.33	29.	23.	11.	7.04
+	2 COMBINED AT	CC360	1991.	13.30	851.	439.	214.	7.04
	ROUTED TO							

+	R360	1990.	13.33	841.	437.	213.	7.04
HYDROGRAPH AT	380A	322.	12.27	33.	10.	4.	.26
+ 2 COMBINED AT	C380A	2006.	13.00	847.	439.	215.	7.30
+ ROUTED TO	R380A	2004.	13.20	844.	439.	215.	7.30
+ HYDROGRAPH AT	400A	56.	12.20	4.	1.	0.	.05
+ 2 COMBINED AT	C400A	2005.	13.17	844.	439.	215.	7.35
+ ROUTED TO	R400A	2004.	13.37	841.	439.	215.	7.35
+ HYDROGRAPH AT	370	817.	12.23	83.	22.	8.	.67
+ HYDROGRAPH AT	395	234.	12.20	26.	7.	3.	.20
+ 2 COMBINED AT	C370	1046.	12.23	108.	29.	11.	.87
+ ROUTED TO	R370	913.	12.57	108.	29.	11.	.87
+ HYDROGRAPH AT	380B	567.	12.20	67.	17.	6.	.64
+ DIVERSION TO	BS380B	567.	12.20	57.	14.	5.	.64
+ HYDROGRAPH AT	D380B	147.	12.80	12.	3.	1.	.64
+ HYDROGRAPH AT	RT380B	567.	12.20	57.	14.	5.	.64
ROUTED TO	S380B	9.	12.80	9.	7.	5.	.64
3 COMBINED AT	C380B	913.	12.57	125.	38.	16.	1.51
+ DIVERSION TO	BS380	825.	12.57	87.	22.	8.	1.51
+ HYDROGRAPH AT	DD380B	86.	12.13	38.	16.	9.	1.51
+ HYDROGRAPH AT	RT380	825.	12.57	87.	22.	8.	1.51
+ ROUTED TO	SS380B	14.	13.53	14.	12.	7.	1.51
+ 2 COMBINED AT	CC380B	100.	13.53	51.	27.	16.	1.51
+ ROUTED TO	R380B	100.	13.57	51.	27.	16.	1.51
+ HYDROGRAPH AT	390	477.	12.03	35.	10.	4.	.24
+ DIVERSION TO	BS390	101.	11.73	6.	2.	1.	.24
+ HYDROGRAPH AT	D390	477.	12.03	31.	8.	3.	.24
+ HYDROGRAPH AT	RT390	101.	11.73	6.	2.	1.	.24
+ ROUTED TO	S390	1.	11.80	1.	1.	1.	.24
+ 2 COMBINED AT	C390	478.	12.03	32.	9.	4.	.24
+ ROUTED TO	R390	342.	12.50	32.	9.	4.	.24
HYDROGRAPH AT	400B	516.	12.20	62.	17.	6.	.57
+ DIVERSION TO	BS400B	292.	12.00	10.	3.	1.	.57
HYDROGRAPH AT							

+	D400B	516.	12.20	54.	14.	5.	.57
HYDROGRAPH AT	RT400B	292.	12.00	10.	3.	1.	.57
ROUTED TO +	S400B	2.	12.07	2.	2.	1.	.57
2 COMBINED AT +	C400B	518.	12.20	56.	15.	6.	.57
4 COMBINED AT +	CC400B	2150.	13.27	909.	475.	233.	9.67
ROUTED TO +	R400	2142.	13.60	905.	473.	232.	9.67
HYDROGRAPH AT +	385	613.	12.23	74.	20.	7.	.53
DIVERSION TO +	SF385	368.	12.23	44.	12.	4.	.53
HYDROGRAPH AT +	D385	245.	12.23	29.	8.	3.	.53
ROUTED TO +	R385	208.	12.67	29.	8.	3.	.53
HYDROGRAPH AT +	420	796.	12.20	98.	27.	10.	.85
DIVERSION TO +	BS420	266.	11.93	14.	4.	2.	.85
HYDROGRAPH AT +	D420	796.	12.20	89.	23.	8.	.85
HYDROGRAPH AT +	RT420	266.	11.93	14.	4.	2.	.85
ROUTED TO +	S420	3.	12.00	2.	2.	2.	.85
3 COMBINED AT +	C420	805.	12.20	120.	33.	13.	1.06
2 COMBINED AT	CC420	2203.	13.57	970.	496.	242.	10.73
ROUTED TO +	R420	2194.	13.80	966.	495.	241.	10.73
HYDROGRAPH AT +	440	184.	12.03	12.	3.	1.	.08
ROUTED TO +	R70	181.	12.07	12.	3.	1.	.08
HYDROGRAPH AT +	441	16.	12.03	1.	0.	0.	.01
2 COMBINED AT +	C108	197.	12.07	14.	4.	1.	.09
DIVERSION TO +	SPLIT	98.	12.07	7.	2.	1.	.09
HYDROGRAPH AT +	D4	98.	12.07	7.	2.	1.	.09
ROUTED TO +	R108	92.	12.13	7.	2.	1.	.09
HYDROGRAPH AT +	442	105.	12.10	9.	2.	1.	.10
2 COMBINED AT +	C67	195.	12.10	16.	4.	2.	.19
DIVERSION TO +	BASIN4	121.	12.10	6.	2.	1.	.19
HYDROGRAPH AT +	D6	74.	12.10	10.	3.	1.	.19
HYDROGRAPH AT +	RTD6	121.	12.10	6.	2.	1.	.19
ROUTED TO	SD6	1.	12.47	1.	1.	0.	.19
2 COMBINED AT +	CD6	74.	12.10	10.	3.	1.	.19
HYDROGRAPH AT							

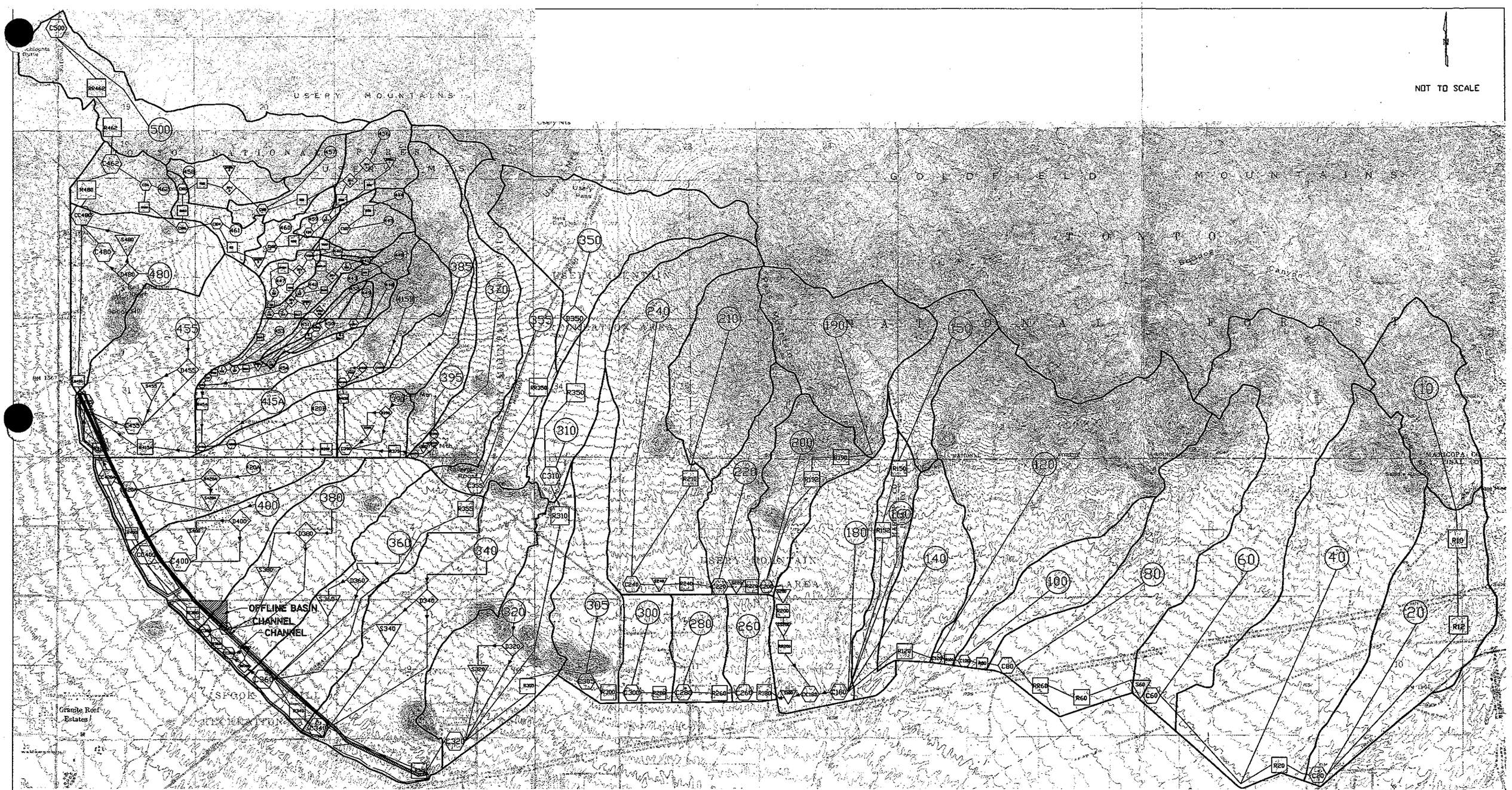
+	443	151.	12.07	15.	4.	1.	.08
DIVERSION TO	WSH66	78.	11.87	12.	3.	1.	.08
HYDROGRAPH AT +	D66	73.	12.07	3.	1.	0.	.08
ROUTED TO +	R113	71.	12.07	3.	1.	0.	.08
2 COMBINED AT +	C114	144.	12.07	13.	4.	2.	.27
HYDROGRAPH AT +	444	83.	12.03	5.	1.	0.	.04
ROUTED TO +	R58	79.	12.07	5.	1.	0.	.04
HYDROGRAPH AT +	445	307.	12.03	19.	5.	2.	.19
2 COMBINED AT +	C107	382.	12.03	23.	6.	2.	.23
ROUTED TO +	R107	382.	12.07	23.	6.	2.	.23
HYDROGRAPH AT +	RTB2	98.	12.07	7.	2.	1.	.09
ROUTED TO +	RSPLIT	98.	12.07	7.	2.	1.	.09
HYDROGRAPH AT +	446	66.	12.03	6.	2.	1.	.04
3 COMBINED AT +	C109	545.	12.07	36.	10.	3.	.27
DIVERSION TO +	WSH404	35.	11.70	8.	2.	1.	.27
HYDROGRAPH AT	D5	510.	12.07	28.	7.	3.	.27
ROUTED TO	R109	493.	12.10	28.	7.	3.	.27
HYDROGRAPH AT +	447	141.	12.07	12.	4.	1.	.09
HYDROGRAPH AT +	RT404	35.	11.70	8.	2.	1.	.27
ROUTED TO +	R404	35.	11.83	8.	2.	1.	.27
3 COMBINED AT +	C110	666.	12.07	48.	13.	5.	.36
ROUTED TO +	R110	663.	12.10	48.	13.	5.	.36
2 COMBINED AT +	C115	805.	12.07	61.	17.	7.	.63
ROUTED TO +	R115	799.	12.10	61.	17.	7.	.63
HYDROGRAPH AT +	448	89.	12.03	6.	2.	1.	.05
HYDROGRAPH AT +	449	81.	12.03	5.	1.	0.	.05
2 COMBINED AT +	C6364	170.	12.03	11.	3.	1.	.09
ROUTED TO +	R6364	145.	12.17	11.	3.	1.	.09
HYDROGRAPH AT +	450	63.	12.20	7.	2.	1.	.07
HYDROGRAPH AT +	451	18.	12.17	2.	1.	0.	.03
2 COMBINED AT	C451	80.	12.20	9.	2.	1.	.09
HYDROGRAPH AT +	RT66	78.	11.87	12.	3.	1.	.08
HYDROGRAPH AT							

+	452	63.	12.03	5.	1.	0.	.04
2 COMBINED AT	C6465	141.	12.03	17.	4.	2.	.04
ROUTED TO +	R6566	137.	12.10	17.	4.	2.	.04
3 COMBINED AT +	C116	357.	12.17	36.	10.	3.	.23
ROUTED TO +	BASIN5	159.	12.47	36.	10.	3.	.23
ROUTED TO +	R116	157.	12.53	36.	10.	3.	.23
HYDROGRAPH AT +	453	63.	12.10	7.	2.	1.	.06
2 COMBINED AT +	C117	177.	12.47	43.	12.	4.	.29
2 COMBINED AT +	C118	892.	12.10	104.	29.	11.	.92
ROUTED TO +	R118	887.	12.13	104.	29.	11.	.92
DIVERSION TO +	BASIN6	270.	12.13	7.	2.	1.	.92
HYDROGRAPH AT +	D7	737.	12.20	97.	27.	10.	.92
HYDROGRAPH AT +	RTD7	270.	12.13	7.	2.	1.	.92
ROUTED TO +	SD7	1.	12.23	1.	1.	1.	.92
2 COMBINED AT +	CD7	739.	12.20	97.	28.	11.	.92
HYDROGRAPH AT	454	162.	12.13	21.	6.	2.	.18
2 COMBINED AT	C119	885.	12.20	118.	34.	13.	1.10
ROUTED TO +	R454	833.	12.27	118.	34.	13.	1.10
HYDROGRAPH AT +	415	589.	12.17	80.	23.	8.	.61
HYDROGRAPH AT +	RT385	368.	12.23	44.	12.	4.	.53
ROUTED TO +	RR385	322.	12.57	44.	12.	4.	.53
2 COMBINED AT +	C415	757.	12.23	124.	35.	13.	.93
2 COMBINED AT +	CC415	1540.	12.27	238.	67.	25.	2.03
ROUTED TO +	R415	1527.	12.30	238.	67.	25.	2.03
HYDROGRAPH AT +	455	1418.	12.13	150.	45.	16.	1.11
DIVERSION TO +	BS455	1418.	12.13	139.	37.	13.	1.11
HYDROGRAPH AT +	D455	145.	12.80	24.	8.	3.	1.11
HYDROGRAPH AT +	RT455	1418.	12.13	139.	37.	13.	1.11
ROUTED TO +	S455	23.	12.80	22.	18.	11.	1.11
2 COMBINED AT +	C455	169.	12.80	46.	26.	14.	1.11
3 COMBINED AT	CC455	2337.	13.77	1163.	562.	272.	13.87
ROUTED TO +	R455	2309.	14.23	1152.	560.	270.	13.87
HYDROGRAPH AT							

+	480	1102.	12.10	100.	31.	11.	.73
DIVERSION TO	BS480	487.	11.90	27.	8.	3.	.73
HYDROGRAPH AT +	D480	1102.	12.10	83.	23.	8.	.73
HYDROGRAPH AT +	RT480	487.	11.90	27.	8.	3.	.73
ROUTED TO +	S480	5.	11.97	5.	4.	3.	.73
2 COMBINED AT +	C480	1107.	12.10	88.	27.	11.	.73
2 COMBINED AT +	CC480	2328.	14.23	1169.	577.	279.	14.60
ROUTED TO +	R480	2314.	14.40	1164.	576.	278.	14.60
HYDROGRAPH AT +	456	483.	12.07	37.	10.	4.	.26
DIVERSION TO +	BASIN1	193.	12.07	8.	2.	1.	.26
HYDROGRAPH AT +	D1	290.	12.07	29.	8.	3.	.26
DIVERSION TO +	WA30	59.	12.07	10.	3.	1.	.26
HYDROGRAPH AT +	CD2	231.	12.07	19.	5.	2.	.26
ROUTED TO +	R456	218.	12.13	19.	5.	2.	.26
HYDROGRAPH AT +	457	273.	12.07	21.	6.	2.	.19
2 COMBINED AT	C101	480.	12.10	40.	10.	4.	.45
DIVERSION TO	BASIN2	177.	12.10	8.	2.	1.	.45
HYDROGRAPH AT +	D3	303.	12.10	32.	8.	3.	.45
HYDROGRAPH AT +	RTD3	177.	12.10	8.	2.	1.	.45
ROUTED TO +	SD3	1.	12.40	1.	1.	1.	.45
2 COMBINED AT +	CD3	304.	12.10	33.	9.	4.	.45
ROUTED TO +	R101	302.	12.10	33.	9.	4.	.45
HYDROGRAPH AT +	458	366.	12.03	26.	7.	2.	.19
2 COMBINED AT +	C103	655.	12.07	59.	16.	6.	.64
ROUTED TO +	R103	651.	12.07	59.	16.	6.	.64
HYDROGRAPH AT +	RT30	59.	12.07	10.	3.	1.	.26
ROUTED TO +	R30	58.	12.10	10.	3.	1.	.26
HYDROGRAPH AT +	RTB1	193.	12.07	8.	2.	1.	.26
ROUTED TO +	B1	35.	12.20	8.	2.	1.	.26
ROUTED TO +	RB1	35.	12.27	8.	2.	1.	.26
2 COMBINED AT	CDIV	87.	12.20	18.	5.	2.	.12
HYDROGRAPH AT +	459	45.	12.03	3.	1.	0.	.03
2 COMBINED AT							

+	C52	117.	12.10	21.	6.	2.	.15
ROUTED TO	R52	116.	12.17	21.	6.	2.	.15
+ HYDROGRAPH AT	460	221.	12.07	20.	6.	2.	.14
+ 2 COMBINED AT	C102	323.	12.07	40.	12.	4.	.29
+ ROUTED TO	BASIN3	71.	12.63	40.	12.	4.	.29
+ ROUTED TO	R3	71.	12.77	40.	12.	4.	.29
+ HYDROGRAPH AT	461	165.	12.10	17.	5.	2.	.12
+ 2 COMBINED AT	C104	220.	12.10	57.	17.	6.	.41
+ 2 COMBINED AT	C106	866.	12.07	115.	33.	12.	1.05
+ ROUTED TO	R106	828.	12.13	115.	33.	12.	1.05
+ HYDROGRAPH AT	462	557.	12.07	42.	12.	4.	.30
+ 2 COMBINED AT	C56	1306.	12.10	156.	44.	16.	1.35
+ 2 COMBINED AT	C462	2482.	14.33	1404.	676.	325.	2.09
+ ROUTED TO	R462	2480.	14.37	1403.	676.	325.	2.09
+ ROUTED TO	RR462	2477.	14.43	1402.	676.	325.	2.09
+ HYDROGRAPH AT	500	1126.	12.27	128.	35.	12.	.93
2 COMBINED AT	C500	2647.	12.30	1502.	699.	333.	3.02

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



FLOOD CONTROL DISTRICT
OF MARICOPA COUNTY
ENGINEERING DIVISION

McDOWELL & NJ ALTERNATIVE

	BY	DATE
DESIGNED	R. HINER	06/00
DRAWN	S. CAMPBELL	06/00
CHECKED	A. PATEL	06/00

WOOD, PATEL & ASSOCIATES, INC.
2001 WEST NORTHERN, SUITE 100
PHOENIX, ARIZONA (602) 335-8500

DRAWING NO. MD2ENJ4Q SHEET OF

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1****************************************
*                                      *
*   FLOOD HYDROGRAPH PACKAGE  (HEC-1)  *
*             JUN   1998               *
*           VERSION 4.1                *
*                                      *
*  RUN DATE   10MAY01  TIME  17:16:06  *
*                                      *
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****************************************
*                                      *
*    U.S. ARMY CORPS OF ENGINEERS      *
*    HYDROLOGIC ENGINEERING CENTER     *
*          609 SECOND STREET           *
*       DAVIS, CALIFORNIA 95616        *
*           (916) 756-1104             *
*                                      *
****************************************
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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
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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

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1                                    HEC-1 INPUT                                                    PAGE  1

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

  1           ID   DDMS MCUHP1 SPOOK HILL ADMP-EXISTING CONDITIONS MODEL-100YR, 24-HR STORM
  2           ID   McDowell Road Alternative - Option MD2E
  3           ID   Non-Jurisdictional Alternatives - Option NJ4Q
  4           ID   Spook Hill Channel w/Off-Line Basin
              *
              *  Original File Names: EC24MD2E.DAT and EC24NJ4Q.DAT
              *  Modified File Name:  MD2ENJ4Q.DAT, 5/10/01  Wood/Patel, SZ
              *
              *DIAGRAM
  5           IT       2                    2000
  6           IO       5
  7           IN      15
  8           JD    3.81    0.01
  9           PC    .000    .002    .005    .008    .011    .014    .017    .020    .023    .026
 10           PC    .029    .032    .035    .038    .041    .044    .048    .052    .056    .060
 11           PC    .064    .068    .072    .076    .080    .085    .090    .095    .100    .105
 12           PC    .110    .115    .120    .126    .133    .140    .147    .155    .163    .172
 13           PC    .181    .191    .203    .218    .236    .257    .283    .387    .663    .707
 14           PC    .735    .758    .776    .791    .804    .815    .825    .834    .842    .849
 15           PC    .856    .863    .869    .875    .881    .887    .893    .898    .903    .908
 16           PC    .913    .918    .922    .926    .930    .934    .938    .942    .946    .950
 17           PC    .953    .956    .959    .962    .965    .968    .971    .974    .977    .980
 18           PC    .983    .986    .989    .992    .995    .998   1.000
 19           JD   3.787    1.00
 20           JD   3.677    5.80
 21           JD   3.574   10.66
 22           JD   3.539   13.70
 23           JD   3.467   20.00
 24           JD   3.315   50.00
              * DDM   ***** Updated *****

 25           KK      10
 26           KM   SUB-BASIN 10
 27           KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
 28           KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .996
 29           KM     L = 2.00  Kb = .044  Adj. Slope =  165.0
 30           BA    .702
 31           LG    .350    .320   7.600    .090  15.000
 32           UC    .421    .302
 33           UA       0       3       5       8      12      20      43      75      90      96
 34           UA     100
              * DDM   ***** Preserved *****

 35           KK     R10
 36           KM   ROUTING OF FLOW FROM SUB-BASIN 10 TO R12
 37           RS       4    FLOW      -1
 38           RC    .045     .03    .045    8700    .021
 39           RX       0       1       2      17      27      42      43      44
 40           RY       5       5       5       0       0       5       5       5
              * DDM   ***** Preserved *****
1                                    HEC-1 INPUT                                                    PAGE  2

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

 41           KK     R12
 42           KM   ROUTING OF FLOW FROM R12 TO SUB-BASIN 20
 43           RS       6    FLOW      -1
 44           RC    .045     .03    .045    4500     .01
 45           RX       0       1      45    52.5    72.5      80     124     125
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 46          RY       4     2.5     2.5       0       0     2.5     2.5       4
             * DDM   ***** Updated *****

 47          KK      20
 48          KM   SUB-BASIN 20
 49          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
 50          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .993
 51          KM     L = 2.50  Kb = .041  Adj. Slope =   88.0
 52          BA   1.120
 53          LG    .350    .390   5.800    .190   1.000
 54          UC    .658    .454
 55          UA       0       3       5       8      12      20      43      75      90      96
 56          UA     100
             * DDM   ***** Preserved *****

 57          KK     C20
 58          KM   HYDROGRAPH COMBINATION OF SUB-BASINS 10 AND 20
 59          HC       2
             * DDM   ***** Preserved *****

 60          KK     R20
 61          KM        ROUTE FLOW THROUGH BULLDOG FLOODWAY FROM APACHE JUNCTION FRS
 62          RS       1    FLOW      -1
 63          RC    .016    .016    .016     990    .004
 64          RX       0       5       7    14.5    34.5      42      44      50
 65          RY       4       2       2       0       0       2       2       4
             * DDM   ***** Updated *****

 66          KK      40
 67          KM   SUB-BASIN 40
 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  .987
 70          KM     L = 3.08  Kb = .036  Adj. Slope =  189.0
 71          BA   2.233
 72          LG    .340    .340   4.900    .280   5.000
 73          UC    .496    .264
 74          UA       0       3       5       8      12      20      43      75      90      96
 75          UA     100
             * DDM   ***** Updated *****

 76          KK      60
 77          KM   SUB-BASIN 60
 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  .990
 80          KM     L = 4.19  Kb = .038  Adj. Slope =  209.6
 81          BA   1.746
 82          LG    .330    .350   5.800    .190   9.000
 83          UC    .596    .477
 84          UA       0       3       5       8      12      20      43      75      90      96
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LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 85          UA     100
             * DDM   ***** Preserved *****

 86          KK     C60
 87          KM     C60GRAPH COMBINATION FOR APACHE JUNCTION FRS
             *      1       2
 88          HC       3
             * DDM   ***** Preserved *****

 89          KK     S60
 90          KM   APACHE JUNCTION FRS AS-BUILT PLANS 12/19/88
 91          KM   OUTLET PIPE=30"RCP; L=136.6'; INLET INV.=1783.5; OUTLET INV.=1783
 92          KM   EMERGENCY SPILLWAY ELEV.=1799.77'; PRINCIPLE SPILLWAY ELEV.=1793.5'
 93          KM   STORAGE VOLUME BELOW PRINCIPLE SPILLWAY FOR SEDIMENT = 100 ACRE-FEET
             *  ESE = 1801.92 ft; PSE = 1795.65 ft; Sediment Vol. = 237 Ac-Ft.
 94          RS       1    STOR       0
 95          SV       0       0      77     242     371     439     563     687    2163
 96          SQ       0      12     103     114     120     362    1462    3101   30000
 97          SE    95.0    96.0    98.0   100.0   101.6   101.9   103.0   104.0   112.9
             * DDM   ***** Preserved *****

 98          KK     R60
 99          KM        ROUTE FLOW THROUGH BULLDOG FLOODWAY FROM APACHE JUNCTION FRS
100          RS       1    FLOW      -1
101          RC    .016    .016    .016    2850    .012
102          RX       0       1       2     2.1     5.6     5.7       6       7
103          RY     3.5     3.5     3.5       0       0     3.5     3.5     3.5
             * DDM   ***** Preserved *****

104          KK    RR60
105          KM   ROUTE FLOW FROM BULLDOG FLOODWAY TO SUB-BASIN 80
106          RS       3    FLOW      -1
107          RC    .016    .016    .016    3500    .005
108          RX       0       1       2     2.1     7.1     7.2       8       9
109          RY     3.5     3.5     3.5       0       0     3.5     3.5     3.5
             * DDM   ***** Updated *****

110          KK      80
111          KM   SUB-BASIN 80
112          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
113          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .991
114          KM     L = 2.69  Kb = .039  Adj. Slope =  229.8
115          BA   1.475
116          LG    .330    .330   5.600    .210   4.000
117          UC    .433    .259
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118          UA       0       3       5       8      12      20      43      75      90      96
119          UA     100
             * DDM   ***** Preserved *****

120          KK     C80
121          KM   HYDROGRAPH COMBINATION FOR FLOW FROM APACHE JUNCTION FRS & SUB-BASIN 80
122          HC       2   1.475
             * DDM   ***** Preserved *****
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LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

123          KK     R80
124          KM   ROUTE FLOW FROM SUB-BASIN 80 TO SUB-BASIN 100
125          RS       1    FLOW      -1
126          RC    .025    .016    .025    1200    .003
127          RX       0       2       6     6.1    41.1    41.2    56.2    58.2
128          RY     5.5     4.5     4.5       0       0     4.5     4.5     5.5
             * DDM   ***** Updated *****

129          KK     100
130          KM   SUB-BASIN 100
131          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
132          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .997
133          KM     L = 1.94  Kb = .046  Adj. Slope =  108.0
134          BA    .484
135          LG    .320    .290   5.100    .260   3.000
136          UC    .533    .473
137          UA       0       5      16      30      65      77      84      90      94      97
138          UA     100
             * DDM   ***** Preserved *****

139          KK    C100
140          KM   HYDROGRAPH COMBINATION FOR FLOW FROM SUB-BASIN 80 & 100
141          HC       2
             * DDM   ***** Preserved *****

142          KK    R100
143          KM   ROUTE FLOW FROM SUB-BASIN 100 TO SUB-BASIN 120
144          RS       1    FLOW      -1
145          RC    .016    .016    .016     940    .005
146          RX       0       1       2     2.1    52.1    52.2      53      54
147          RY     4.5     4.5     4.5       0       0     4.5     4.5     4.5
             * DDM   ***** Updated *****

148          KK     120
149          KM   SUB-BASIN 120
150          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
151          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .987
152          KM     L = 3.07  Kb = .037  Adj. Slope =  239.0
153          BA   2.202
154          LG    .330    .280   6.800    .130  11.000
155          UC    .429    .226
156          UA       0       3       5       8      12      20      43      75      90      96
157          UA     100
             * DDM   ***** Preserved *****

158          KK    C120
159          KM   HYDROGRAPH COMBINATION FOR FLOW FROM SUB-BASIN 100 & 120
160          HC       2
             * DDM   ***** Preserved *****
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LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

161          KK    R120
162          KM   ROUTE FLOW FROM SUB-BASIN 120 TO SIGNAL BUTTE FRS
163          RS       1    FLOW      -1
164          RC    .025    .016    .025    2100    .005
165          RX       0       6      10    10.1    60.1    60.2    74.2    80.2
166          RY       8       5       5       0       0       5       5       8
             * DDM   ***** Updated *****

167          KK     140
168          KM   SUB-BASIN 140
169          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
170          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .996
171          KM     L = 1.61  Kb = .044  Adj. Slope =  149.0
172          BA    .598
173          LG    .310    .280   4.200    .440   5.000
174          UC    .421    .278
175          UA       0       5      16      30      65      77      84      90      94      97
176          UA     100
             * DDM   ***** Updated *****

177          KK     150
178          KM   SUB-BASIN 150
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  .998
181          KM     L = 1.50  Kb = .047  Adj. Slope =  314.6
182          BA    .408
183          LG    .350    .360   5.100    .260   7.000
184          UC    .296    .221
185          UA       0       3       5       8      12      20      43      75      90      96
186          UA     100
             * DDM   ***** Preserved *****
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 187          KK    R150
 188          KM   ROUTING OF FLOW FROM SUB-BASIN 150 TO R152
 189          RS       2    FLOW      -1
 190          RC    .045     .04    .045    3100    .032
 191          RX       0       1       2      23      33      54      55      56
 192          RY       7       7       7       0       0       7       7       7
              * DDM   ***** Preserved *****

 193          KK    R152
 194          KM   ROUTING OF FLOW FROM R152 TO SUB-BASIN 160
 195          RS       3    FLOW      -1
 196          RC    .045     .03    .045    5900    .019
 197          RX       0       1       2       8      33      39      40      41
 198          RY       2       2       2       0       0       2       2       2
              * DDM   ***** Updated *****

 199          KK     160
 200          KM   SUB-BASIN 160
 201          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
 202          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .998
 203          KM     L = 2.10  Kb = .047  Adj. Slope =  129.0
 204          BA    .369
```



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

 205          LG    .340    .330   4.150    .440   1.000
 206          UC    .587    .655
 207          UA       0       3       5       8      12      20      43      75      90      96
 208          UA     100
              * DDM   ***** Updated *****

 209          KK     180
 210          KM   SUB-BASIN 180
 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  .994
 213          KM     L = 2.42  Kb = .041  Adj. Slope =  140.0
 214          BA   1.000
 215          LG    .350    .350   4.150    .430    .000
 216          UC    .571    .403
 217          UA       0       3       5       8      12      20      43      75      90      96
 218          UA     100
              * DDM   ***** Preserved *****

 219          KK    C180
 220          KM   HYDROGRAPH COMBINATION FOR SIGNAL BUTTE FRS
 221          HC       5
              *
              * The sub-basin area and soil make-up have been updated from CAD file 12/07/00
              * DDM   ***** Updated *****

 222          KK     210
 223          KM   SUB-BASIN 210
 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  .995
 226          KM     L = 1.84  Kb = .043  Adj. Slope =  315.0
 227          BA    .792
 228          LG    .350    .360   6.800    .130   4.000
 229          UC    .313    .189
 230          UA       0       3       5       8      12      20      43      75      90      96
 231          UA     100
              * DDM   ***** Preserved *****

 232          KK    R210
 233          KM   ROUTING OF FLOW FROM SUB-BASIN 210 TO SUB-BASIN 220
 234          RS       2    FLOW      -1
 235          RC    .045     .03    .045    5100    .022
 236          RX       0       1       2      14      34      46      47      48
 237          RY       4       4       4       0       0       4       4       4
              *
              * The sub-basin area and soil make-up have been updated from CAD file 12/07/00
              * DDM   ***** Updated *****

 238          KK     240
 239          KM   SUB-BASIN 240
 240          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
 241          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .992
 242          KM     L = 3.50  Kb = .039  Adj. Slope =  298.6
 243          BA   1.408
 244          LG    .350    .370   5.300    .230   2.000
 245          UC    .467    .356
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 246          UA       0       3       5       8      12      20      43      75      90      96
 247          UA     100
              * DDM   ***** Preserved *****

 248          KK    C240
 249          KM   HYDROGRAPH COMBINATION FOR SUB-BASIN 240 & 220
 250          HC       2
              * DDM   ***** Preserved *****

 251          KK    S240
 252          KM    WEIR GEOMETRY OBTAINED FROM AS-BUILT PLANS @ PASS MTN. DIVERSION.
 253          KM   WEIR STORAGE DATA OBTAINED FROM 2' CONTOUR MAPPING.
```

```
254          RS       1    STOR       0
255          SA    1.38    14.2    36.5
256          SE     1.7       5      11
257          SS       5      42       3     1.5
             * DDM   ***** Preserved *****

258          KK    R240
259          KM   ROUTE FLOW FROM SUB-BASIN 240 TO SUB-BASIN 220
260          KM   PASS MOUNTAIN DIVERSION
261          RS       3    FLOW      -1
262          RC    .035    .025    .035    1800    .005
263          RX       0      15      30      39      69      81      96     111
264          RY     3.6     3.3       3       0       0       3       3       4
             *
             * The sub-basin area and soil make-up have been updated from CAD file 12/07/00
             * DDM   ***** Updated *****

265          KK     220
266          KM   SUB-BASIN 220
267          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
268          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .997
269          KM     L = 1.92  Kb = .046  Adj. Slope =  315.0
270          BA    .473
271          LG    .350    .350   7.000    .120   5.000
272          UC    .333    .282
273          UA       0       3       5       8      12      20      43      75      90      96
274          UA     100
             * DDM   ***** Preserved *****

275          KK    C220
276          KM   HYDROGRAPH COMBINATION FOR SUB-BASIN 240 & 220
277          HC       2
             * DDM   ***** Preserved *****

278          KK    S220
279          KM    WEIR GEOMETRY OBTAINED FROM AS-BUILT PLANS @ PASS MTN. DIVERSION.
280          KM   WEIR STORAGE DATA OBTAINED FROM 2' CONTOUR MAPPING.
281          RS       1    STOR       0
282          SA     .78     4.1    13.7
283          SE       1       3      10
284          SS       3      65       3     1.5
             * DDM   ***** Preserved *****
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LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

285          KK    R220
286          KM   ROUTE FLOW FROM SUB-BASIN 220 TO SUB-BASIN 200
287          KM   PASS MOUNTAIN DIVERSION
288          RS       1    FLOW      -1
289          RC    .035    .025    .035    1250    .005
290          RX       0      50     100     109     139     148     178     184
291          RY       5       4       3       0       0       3       3       5
             * DDM   ***** Updated *****

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

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

308          KK    R192
309          KM   ROUTING OF FLOW FROM SUB-BASIN 190 TO SUB-BASIN 200
310          RS       3    FLOW      -1
311          RC    .045    .035    .045    2200    .018
312          RX       0       1      50      59      79      88     137     138
313          RY     4.5       3       3       0       0       3       3     4.5
             * DDM   ***** Updated *****

314          KK     200
315          KM   SUB-BASIN 200
316          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
317          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .997
318          KM     L = 1.58  Kb = .045  Adj. Slope =  305.6
319          BA    .530
320          LG    .350    .390   5.700    .200  10.000
321          UC    .300    .201
322          UA       0       3       5       8      12      20      43      75      90      96
323          UA     100
             * DDM   ***** Preserved *****
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LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10
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324          KK    C200
325          KM   HYDROGRAPH COMBINATION FOR SUB-BASIN 220 & 200
326          HC       3
             * DDM   ***** Preserved *****

327          KK    S200
328          KM    WEIR GEOMETRY OBTAINED FROM AS-BUILT PLANS @ PASS MTN. DIVERSION.
329          KM   WEIR STORAGE DATA OBTAINED FROM 2' CONTOUR MAPPING.
330          RS       1    STOR       0
331          SA    2.56     3.1     9.4
332          SE       0       3      10
333          SS       3     112       3     1.5
             * DDM   ***** Preserved *****

334          KK    R200
335          KM   ROUTE FLOW FROM SUB-BASIN 200 TO SIGNAL BUTTE FRS through storage
336          RS       1    FLOW      -1
337          RC    .035    .025    .035     650    .005
338          RX       0       1       2      17     117     132     133     134
339          RY       5       5       5       0       0       5       5       5
             * DDM   ***** Preserved *****

340          KK   SS200
341          KM    WEIR GEOMETRY OBTAINED FROM AS-BUILT PLANS @ PASS MTN. DIVERSION.
342          KM   WEIR STORAGE DATA OBTAINED FROM 2' CONTOUR MAPPING.
343          RS       1    STOR       0
344          SA       8     9.2     9.2
345          SE       0       7      10
346          SS       7     251       3     1.5
             * DDM   ***** Preserved *****

347          KK   RR200
348          KM   ROUTE FLOW FROM SUB-BASIN 200 TO SIGNAL BUTTE FRS
349          RS       3    FLOW      -1
350          RC    .035    .025    .035    3150    .005
351          RX       0       1       2      17     117     132     133     134
352          RY       5       5       5       0       0       5       5       5
             * DDM   ***** Preserved *****

353          KK   CC180
354          KM   HYDROGRAPH COMBINATION FOR SIGNAL BUTTE FRS
             *      1       2
355          HC       2
             * DDM   ***** Preserved *****

356          KK    S180
             *  Outflow is quadrupled - 5/9/01
357          KM   SIGNAL BUTTE FRS DATED 1/28/85
358          KM   OUTLET PIPE=36"RCP; L= 147';  INLET INV.=1690; OUTLET INV.=1687
359          KM   EMERGENCY SPILLWAY ELEV.=1712.4; PRINCIPLE SPILLWAY ELEV.=1701
360          KM   STORAGE VOLUME BELOW PRINCIPLE SPILLWAY FOR SEDIMENT = 250 ACRE-FEET
361          RS       1    STOR       0
362          SV       0      92     226     462     742    1197    1418    1776    1941    3114
363          SQ       0      40      42     392     532     596     620    1949    3032    6465
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LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

364          SE      99     101     103     106     109     113   114.6     117     118     120
             * DDM   ***** Preserved *****

365          KK    R180
366          KM   Routing length updated using Signal Butte Floodway plans dated March 1983
367          KM   Routing length increased 100' from 1500' to 1600'    12/12/00
368          KM   CHANNEL GEOMETRY FOR SIGNAL BUTTE FRS OBTAINED FROM AS-BUILT PLANS.
369          KM   ROUTE FLOW FROM SIGNAL BUTTE FRS TO SUB-BASIN 260
370          RS       2    FLOW      -1
371          RC    .035    .025    .035    1600    .003
372          RX       0       1       2    22.6    38.6    59.2      60      61
373          RY     9.3     9.3     9.3       0       0     9.3     9.3     9.3
             * DDM   ***** Updated *****

374          KK     260
375          KM   SUB-BASIN 260
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 =  .81  Kb = .049  Adj. Slope =   68.0
379          BA    .262
380          LG    .300    .190   6.600    .170  15.000
381          UC    .363    .217
382          UA       0       5      16      30      65      77      84      90      94      97
383          UA     100
             * DDM   ***** Preserved *****

384          KK    C260
385          KM   HYDROGRAPH COMBINATION FOR OUTFLOW OF SIGNAL BUTTE FRS & SUB-BASIN 260
386          HC       2    .262
             * DDM   ***** Preserved *****

387          KK    R260
388          KM   Routing length updated using Signal Butte Floodway plans dated March 1983
389          KM   Routing length unchanged     12/12/00
390          KM   CHANNEL GEOMETRY FOR SIGNAL BUTTE FRS OBTAINED FROM AS-BUILT PLANS.
391          KM   ROUTE FLOW FROM SUB-BASIN 260 TO SUB-BASIN 280
392          RS       3    FLOW      -1
393          RC    .035    .025    .035    2300    .003
394          RX       0       1       2    23.4    43.4    64.8      65      66
```

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395          RY     9.7     9.7     9.7       0       0     9.7     9.7     9.7
             * DDM   ***** Updated *****

396          KK     280
397          KM   SUB-BASIN 280
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  .998
400          KM     L =  .77  Kb = .048  Adj. Slope =   84.0
401          BA    .319
402          LG    .300    .250   5.300    .290  15.000
403          UC    .329    .168
404          UA       0       5      16      30      65      77      84      90      94      97
405          UA     100
             * DDM   ***** Preserved *****
1                                        HEC-1 INPUT                                          PAGE 11

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

406          KK    C280
407          KM   HYDROGRAPH COMBINATION FOR SUB-BASIN 260 & SUB-BASIN 280
408          HC       2
             * DDM   ***** Preserved *****

409          KK    R280
410          KM   Routing length updated using Signal Butte Floodway plans dated March 1983
411          KM   Routing length decreased 400' from 2500' to 2100'    12/12/00
412          KM   CHANNEL GEOMETRY FOR SIGNAL BUTTE FRS OBTAINED FROM AS-BUILT PLANS.
413          KM   ROUTE FLOW FROM SUB-BASIN 280 TO SUB-BASIN 300
414          RS       3    FLOW      -1
415          RC    .035    .025    .035    2100    .003
416          RX       0       1       2    23.4    43.4    64.8      65      66
417          RY     9.7     9.7     9.7       0       0     9.7     9.7     9.7
             *
             * The sub-basin area and soil make-up have been updated from CAD file 12/07/00
             * DDM   ***** Updated *****

418          KK     300
419          KM   SUB-BASIN 300
420          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
421          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .998
422          KM     L =  .78  Kb = .049  Adj. Slope =  103.0
423          BA    .289
424          LG    .320    .290   4.200    .480  11.000
425          UC    .325    .177
426          UA       0       5      16      30      65      77      84      90      94      97
427          UA     100
             * DDM   ***** Preserved *****

428          KK    C300
429          KM   HYDROGRAPH COMBINATION OF SUB-BASIN 280 & 300
430          HC       2
             * DDM   ***** Preserved *****

431          KK    R300
432          KM   Routing length updated using Signal Butte Floodway plans dated March 1983
433          KM   Routing length increased 300' from 2200' to 2500'    12/12/00
434          KM   CHANNEL GEOMETRY FOR SIGNAL BUTTE FRS OBTAINED FROM AS-BUILT PLANS.
435          KM   ROUTE FLOW FROM SUB-BASIN 300 TO START OF FLOODWAY CONCRETE CHANNEL
436          RS       2    FLOW      -1
437          RC    .035    .025    .035    2500    .003
438          RX       0       1       2    23.4    55.4    76.8      77      78
439          RY     9.7     9.7     9.7       0       0     9.7     9.7     9.7
             *
             * The sub-basin area and soil make-up have been updated from CAD file 12/07/00
             * DDM   ***** Updated *****

440          KK     305
441          KM   SUB-BASIN 305
442          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
443          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .996
444          KM     L = 2.50  Kb = .044  Adj. Slope =  116.0
445          BA    .702
1                                        HEC-1 INPUT                                          PAGE 12

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

446          LG    .340    .340   4.550    .350   6.000
447          UC    .642    .576
448          UA       0       5      16      30      65      77      84      90      94      97
449          UA     100
             * DDM   ***** Preserved *****

450          KK    C305
451          KM   HYDROGRAPH COMBINATION OF SUB-BASIN 300 AND 305
452          HC       2
             * DDM   ***** Preserved *****

453          KK    R305
454          KM   Routing length updated using Signal Butte Floodway plans dated March 1983
455          KM   Routing length decreased 50' from 6050' to 6000'    12/12/00
456          KM   CHANNEL GEOMETRY FOR SPOOK HILL FRS OBTAINED FROM AS-BUILTS PLANS.
457          KM   CONTINUE TO ROUTE FLOW WITHIN CONCRETE CHANNEL TO SPOOK HILL FRS
458          RS       3    FLOW      -1
459          RC    .016    .016    .016    6000   .0146
460          RX       0       1       2     2.1    16.1    16.2      17      18
461          RY     7.5     7.5     7.5       0       0     7.5     7.5     7.5
             *      1       2
```

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

462         KK     350
463         KM   SUB-BASIN 350
464         KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
465         KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .994
466         KM     L = 2.22  Kb = .042  Adj. Slope =  315.0
467         BA    .970
468         LG    .350    .350   4.550    .340   4.000
469         UC    .367    .234
470         UA       0       3       5       8      12      20      43      75      90      96
471         UA     100
            * DDM   ***** Preserved *****

472         KK    D350
473         KM   DIVERT FLOW FROM SUB-BASIN 350. FOR MODELING PURPOSES THE SPLIT FLOW WILL
474         KM   BE ROUTED BETWEEN SUB-BASINS 355 & 310. THE MAIN FLOW WILL ROUTED TO 310
475         DT   SF350
476         DI       0    5000
477         DQ       0    2500
            * DDM   ***** Preserved *****

478         KK    R350
479         KM   CHANNEL GEOMETRY OBTAINED FROM 2' CONTOUR MAPPING
480         KM   ROUTING OF MAIN FLOW FROM DIVERSION OF SUB-BASIN 350 TO SUB-BASIN 310
481         RS       6    FLOW      -1
482         RC    .045    .035    .045    5150    .025
483         RX       0       1      40      46      56      62     102     103
484         RY       3       2       2       0       0       2       2       3
            * DDM   ***** Updated *****
1                                   HEC-1 INPUT                                          PAGE 13

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

485         KK     310
486         KM   SUB-BASIN 310
487         KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
488         KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .997
489         KM     L = 2.70  Kb = .045  Adj. Slope =  283.5
490         BA    .555
491         LG    .350    .350   3.910    .480    .000
492         UC    .483    .511
493         UA       0       3       5       8      12      20      43      75      90      96
494         UA     100
            * DDM   ***** Preserved *****

495         KK    C310
496         KM   HYDROGRAPH COMBINATION OF SUB-BASINS 350 & 310
497         HC       2    1.04
            * DDM   ***** Preserved *****

498         KK    R310
499         KM   CHANNEL GEOMETRY OBTAINED FROM 2' CONTOUR MAPPING.
500         KM   ROUTING OF FLOW FROM SUB-BASIN 310 TO 320
501         RS      10    FLOW      -1
502         RC    .045    .035    .045   10050    .022
503         RX       0       1      40      46      56      62     102     103
504         RY       3       2       2       0       0       2       2       3
            *
            * The sub-basin area and soil make-up have been updated from CAD file 12/07/00
            * DDM   ***** Updated *****

505         KK     320
506         KM   SUB-BASIN 320
507         KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
508         KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .994
509         KM     L = 2.20  Kb = .042  Adj. Slope =  132.0
510         BA    .950
511         LG    .310    .300   4.600    .350  14.000
512         UC    .508    .338
513         UA       0       5      16      30      65      77      84      90      94      97
514         UA     100
            * DDM   ***** Preserved *****

515         KK    D320
516         KM        DIVERT FLOW INTO ONLINE  DETENTION BASIN
517         KM   DETENTION/RETENTION BASINS LOCATED WITHIN THREE SUBDIVISIONS
518         KM   SIERRA HEIGHTS        FALCON RIDGE    & MARBLE CREEK
519         KM        MAXIMUM VOLUME DIVERSION = 12.27acre-feet
            *      1
520         DT   BS320   12.27
521         DI       0   10000
522         DQ       0   10000
            * DDM   ***** Preserved *****
1                                   HEC-1 INPUT                                          PAGE 14

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

523         KK   RT320
524         KM   RETRIEVE FLOW FROM DIVERSION INTO ONLINE BASIN
525         DR   BS320
            * DDM   ***** Preserved *****

526         KK    S320
527         KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
528         KM   12.27 ACRE-FEETx43560/36x3600=4.1cfs
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```
                *      1
529             RS       1    STOR       0
530             SV       0     .01    12.3
531             SQ       0     3.0     4.2
                * DDM   ***** Preserved *****

532             KK    C320
533             KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
534             HC       4
                *
                * ADD ROUTING ALONG SPOOK HILL FRS
                * DDM   ***** Preserved *****

535             KK    R320
536             KM   ROUTE FLOW THROUGH SPOOK HILL FRS FROM JUNCTION OF BROWN & ELLSWORTH ROAD
537             KM   TO JUST NORTH OF JUNCTION OF MCDOWELL & POWER RD.
538             RS       9    FLOW      -1
539             RC    .035    .035    .035    4500   .0007
540             RX       0       9      50      68     198     206     267     275
541             RY     100      97      97      91      91      97      97     100
                *
                * DDM   ***** Updated *****

542             KK     340
543             KM   SUB-BASIN 340
544             KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
545             KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .991
546             KM     L = 2.40  Kb = .042  Adj. Slope =  160.0
547             BA   1.440
548             LG    .280    .280   4.150    .520  21.000
549             UC    .512    .288
550             UA       0       5      16      30      65      77      84      90      94      97
551             UA     100
                * DDM   ***** Preserved *****

552             KK    D340
553             KM        DIVERT FLOW INTO ONLINE  DETENTION BASIN
554             KM   DETENTION/RETENTION BASINS LOCATED WITHIN THREE SUBDIVISIONS
555             KM   GRANDVIEW ESTATES    BOULDER MOUNTAIN & 33% OF MESA HIGHLANDS
556             KM        MAXIMUM VOLUME DIVERSION = 56.0 acre-feet
                *      1
557             DT   BS340      56
558             DI       0   10000
559             DQ       0   10000
                * DDM   ***** Preserved *****
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LINE            ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

560             KK   RT340
561             KM   RETRIEVE FLOW FROM DIVERSION INTO ONLINE BASIN
562             DR   BS340
                * DDM   ***** Preserved *****

563             KK    S340
564             KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
565             KM    56.0 ACRE-FEETx43560/36x3600=18.8cfs
                *      1
566             RS       1    STOR       0
567             SV       0     .01      56
568             SQ       0     3.0    18.9
                * DDM   ***** Preserved *****

569             KK    C340
570             KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
571             HC       3
                *
                * DDM   ***** Preserved *****

572             KK    R340
573             KM   ROUTE FLOW THROUGH SPOOK HILL FRS FROM JUNCTION OF BROWN & ELLSWORTH ROAD
574             KM   TO JUST NORTH OF JUNCTION OF MCDOWELL & POWER RD.
575             RS       6    FLOW      -1
576             RC    .035    .035    .035    2300   .0007
577             RX       0       9      50      68     233     241     307     315
578             RY     100      97      97      91      91      97      97     100
                * DDM   ***** Preserved *****

579             KK   RT350
580             KM   RETRIEVE SPLIT FLOW FROM DIVERSION OF SUB-BASIN 350
581             DR   SF350
                * DDM   ***** Preserved *****

582             KK   RR350
583             KM   CHANNEL GEOMETRY OBTAINED FROM 2' CONTOUR MAPPING.
584             KM   ROUTING OF FLOW FROM SPLIT OF SUB-BASIN 350 TO 355
585             RS       7    FLOW      -1
586             RC    .045    .035    .045    6050    .025
587             RX       0       1      40      46      56      62     102     103
588             RY       3       2       2       0       0       2       2       3
                *
                * The sub-basin area and soil make-up have been updated from CAD file 12/07/00
                * DDM   ***** Updated *****

589             KK     355
590             KM   SUB-BASIN 355
591             KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
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 592          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .996
 593          KM     L = 3.00  Kb = .044  Adj. Slope =  284.0
 594          BA    .676
 595          LG    .340    .340   4.450    .370   4.000
 596          UC    .488    .502
 597          UA       0       3       5       8      12      20      43      75      90      96
1                                          HEC-1 INPUT                                          PAGE 16

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

 598          UA     100
              * DDM   ***** Preserved *****

 599          KK    C355
 600          KM   HYDROGRAPH COMBINATION OF SUB-BASIN 355 AND THE SPLIT FLOW FROM SUB-BASIN 350
 601          HC       2   1.161
              * DDM   ***** Preserved *****

 602          KK    R355
 603          KM   CHANNEL GEOMETRY OBTAINED FROM 2' CONTOUR MAPPING.
 604          KM   ROUTING OF FLOW FROM SUB-BASIN 355 TO SUB-BASIN 360
 605          RS       9    FLOW      -1
 606          RC    .045    .035    .045   10100    .026
 607          RX       0       1      40      46      56      62     102     103
 608          RY       3       2       2       0       0       2       2       3
              * DDM   ***** Updated *****

 609          KK     360
 610          KM   SUB-BASIN 360
 611          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
 612          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .995
 613          KM     L = 2.10  Kb = .047  Adj. Slope =  124.0
 614          BA    .880
 615          LG    .260    .270   4.100    .560  20.000
 616          UC    .575    .390
 617          UA       0       5      16      30      65      77      84      90      94      97
 618          UA     100
              * DDM   ***** Preserved *****

 619          KK    D360
 620          KM        DIVERT FLOW INTO ONLINE  DETENTION BASIN
 621          KM   DETENTION/RETENTION BASINS LOCATED WITHIN 33% OF MESA HIGHLANDS
 622          KM        MAXIMUM VOLUME DIVERSION = 28.6 acre-feet
              *      1
 623          DT   BS360    28.6
 624          DI       0   10000
 625          DQ       0   10000
              * DDM   ***** Preserved *****

 626          KK   RT360
 627          KM   RETRIEVE FLOW FROM DIVERSION INTO ONLINE BASIN
 628          DR   BS360
              * DDM   ***** Preserved *****

 629          KK    S360
 630          KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
 631          KM    28.6 ACRE-FEETx43560/36x3600=9.6cfs
 632          RS       1    STOR       0
 633          SV       0     .01    28.6
 634          SQ       0     3.0     9.6
              * DDM   ***** Preserved *****
1                                          HEC-1 INPUT                                          PAGE 17

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

 635          KK    C360
 636          KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
 637          HC       4
              *
              * OFFLINE DETENTION BASIN ADDED THIS ALTERNATIVE
              * DDM   ***** Preserved *****

 638          KK   DD380
 639          KM        DIVERT FLOW INTO OFFLINE  DETENTION BASIN
 640          KM        IN RED MOUNTAIN REGIONAL PARK
 641          KM
 642          DT    380S
 643          DI       0    1960   10000
 644          DQ       0       0    8040
              * DDM   ***** Preserved *****

 645          KK  RT380S
 646          KM   RETRIEVE FLOW FROM DIVERSION INTO OFFLINE BASIN
 647          DR    380S
              * DDM   ***** Preserved *****

 648          KK   SS380
 649          KM   OFFLINE BASIN IN PARK AREA
              *  Total Volume = 90 A-F, Maximum Inflow = 2660 cfs
              *  Bleed-off Pipe Diameter = 2.5', and Weir Flow Start at 3' of Ponding. 3/26/01
              * KO     1       2
 650          RS       1    STOR       0
 651          SV     0.0    10.0    25.0    60.0   100.0   150.0
 652          SE       0      .5       1     2.0     3.0     4.0
 653          SL     0.5    4.91     0.6     0.5
 654          SS       3      50     3.0     1.5
              * DDM   ***** Preserved *****
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 655          KK   CC360
 656          KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
 657          HC       2
              *
              * ADD ROUTING ALONG SPOOK HILL FRS
              * DDM   ***** Preserved *****

 658          KK    R360
 659          KM   ROUTE FLOW THROUGH SPOOK HILL FRS FROM JUNCTION OF BROWN & ELLSWORTH ROAD
 660          KM   TO JUST NORTH OF JUNCTION OF MCDOWELL & POWER RD.
 661          RS       6    FLOW      -1
 662          RC    .035    .035    .035    2600   .0007
 663          RX       0       9      50      68     268     286     337     345
 664          RY     100      97      97      91      91      97      97     100
              *
              * DDM   ***** Updated *****
1                                          HEC-1 INPUT                                          PAGE 18

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

 665          KK     380
 666          KM   SUB-BASIN 380
 667          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
 668          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .995
 669          KM     L = 2.20  Kb = .049  Adj. Slope =  114.0
 670          BA    .898
 671          LG    .300    .310   4.150    .500   7.000
 672          UC    .671    .475
 673          UA       0       5      16      30      65      77      84      90      94      97
 674          UA     100
              * DDM   ***** Preserved *****

 675          KK    D380
 676          KM        DIVERT FLOW INTO ONLINE  DETENTION BASIN
 677          KM   DETENTION/RETENTION BASINS LOCATED WITHIN 33% OF MESA HIGHLANDS
 678          KM        MAXIMUM VOLUME DIVERSION = 28.6 acre-feet
              *      1
 679          DT   BS380    28.6
 680          DI       0   10000
 681          DQ       0   10000
              * DDM   ***** Preserved *****

 682          KK   RT380
 683          KM   RETRIEVE FLOW FROM DIVERSION INTO ONLINE BASIN
 684          DR   BS380
              * DDM   ***** Preserved *****

 685          KK    S380
 686          KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
 687          KM    28.6 ACRE-FEETx43560/36x3600=9.6cfs
 688          RS       1    STOR       0
 689          SV       0     .01    28.6
 690          SQ       0     3.0     9.6
              * DDM   ***** Preserved *****

 691          KK    C380
 692          KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
 693          HC       2
              *
              * DDM   ***** Preserved *****

 694          KK   CC380
 695          KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
 696          HC       2
              * ADD ROUTING ALONG SPOOK HILL FRS
              * DDM   ***** Preserved *****

 697          KK    R380
 698          KM   ROUTE FLOW THROUGH SPOOK HILL FRS FROM JUNCTION OF BROWN & ELLSWORTH ROAD
 699          KM   TO JUST NORTH OF JUNCTION OF MCDOWELL & POWER RD.
 700          RS       8    FLOW      -1
 701          RC    .035    .035    .035    4000   .0007
 702          RX       0       9      50      68     163     181     257     265
 703          RY     100      97      97      91      91      97      97     100
              *
              * DDM   ***** Updated *****
1                                          HEC-1 INPUT                                          PAGE 19

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

 704          KK     400
 705          KM   SUB-BASIN 400
 706          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
 707          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .996
 708          KM     L = 1.64  Kb = .046  Adj. Slope =  110.0
 709          BA    .616
 710          LG    .320    .300   4.150    .490   6.000
 711          UC    .508    .342
 712          UA       0       5      16      30      65      77      84      90      94      97
 713          UA     100
              * DDM   ***** Preserved *****

 714          KK    D400
 715          KM        DIVERT FLOW INTO ONLINE  DETENTION BASIN
 716          KM   DETENTION/RETENTION BASIN LOCATED WITHIN SAGUARO VISTA SUBDIVISION
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717          KM        MAXIMUM VOLUME DIVERSION = 5.6 ACRE-FEET
             *      1
718          DT   BS400     5.6
719          DI       0   10000
720          DQ       0   10000
             * DDM   ***** Preserved *****

721          KK   RT400
722          KM   RETRIEVE FLOW FROM DIVERSION INTO ONLINE BASIN
723          DR   BS400
             * DDM   ***** Preserved *****

724          KK    S400
725          KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
726          KM     5.6 ACRE-FEETx43560/36x3600 = 2 cfs
727          RS       1    STOR       0
728          SV       0     .01     5.6
729          SQ       0       1       2
             * DDM   ***** Preserved *****

730          KK    C400
731          KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
732          HC       2
             * DDM   ***** Preserved *****

733          KK   CC400
734          KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
735          HC       2
             *
             * DDM   ***** Preserved *****

736          KK    R400
737          KM   ROUTE FLOW THROUGH SPOOK HILL FRS FROM JUNCTION OF BROWN & ELLSWORTH ROAD
738          KM   TO JUST NORTH OF JUNCTION OF MCDOWELL & POWER RD.
739          RS       9    FLOW      -1
740          RC    .035    .035    .035    3800   .0007
741          RX       0       9      50      68     163     181     257     265
742          RY     100      97      97      91      91      97      97     100
             *
             * DDM   ***** Updated *****
1                                          HEC-1 INPUT                                                    PAGE 20

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

743          KK    420A
744          KM   SUB-BASIN 420A
745          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
746          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .995
747          KM     L = 1.91  Kb = .045  Adj. Slope =  120.0
748          BA    .570
749          LG    .320    .280   4.350    .440  10.000
750          UC    .521    .415
751          UA       0       5      16      30      65      77      84      90      94      97
752          UA     100
             * DDM   ***** Preserved *****

753          KK   D420A
754          KM        DIVERT FLOW INTO ONLINE  DETENTION BASIN
755          KM   DETENTION/RETENTION BASINS LOCATED WITHIN GRAY FOX SUBDIVISION
756          KM        MAXIMUM VOLUME DIVERSION = 8.65 acre-feet
             *      1
757          DT  BS420A    8.65
758          DI       0   10000
759          DQ       0   10000
             * DDM   ***** Preserved *****

760          KK  RT420A
761          KM   RETRIEVE FLOW FROM DIVERSION INTO ONLINE BASIN
762          DR  BS420A
             * DDM   ***** Preserved *****

763          KK   S420A
764          KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
765          KM   38.55 ACRE-FEETx43560/36x3600=13cfs
766          RS       1    STOR       0
767          SV       0     .01   38.55
768          SQ       0      13      13
             * DDM   ***** Preserved *****

769          KK   C420A
770          KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
771          HC       2
             *
             * DDM   ***** Preserved *****

772          KK  CC420A
773          KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
774          HC       2
             * ADD ROUTING ALONG SPOOK HILL FRS
             * DDM   ***** Preserved *****

775          KK    R420
776          KM   ROUTE FLOW THROUGH SPOOK HILL FRS FROM JUNCTION OF BROWN & ELLSWORTH ROAD
777          KM   TO JUST NORTH OF JUNCTION OF MCDOWELL & POWER RD.
778          RS       6    FLOW      -1
779          RC    .035    .035    .035    2900   .0007
780          RX       0       9      50      68     163     181     257     265
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 781          RY     100      97      97      91      91      97      97     100
              *
              * DDM   ***** Updated *****
                                          HEC-1 INPUT                                                    PAGE 21

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

 782          KK     370
 783          KM   SUB-BASIN 370
 784          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
 785          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .996
 786          KM     L = 1.90  Kb = .044  Adj. Slope =  203.5
 787          BA    .672
 788          LG    .340    .320   4.650    .330   8.000
 789          UC    .404    .284
 790          UA       0       3       5       8      12      20      43      75      90      96
 791          UA     100
              *
              * The sub-basin area and soil make-up have been updated from CAD file 12/07/00
              * DDM   ***** Updated *****

 792          KK     395
 793          KM   SUB-BASIN 395
 794          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
 795          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .999
 796          KM     L = 1.30  Kb = .051  Adj. Slope =  219.2
 797          BA    .199
 798          LG    .330    .320   4.900    .300  10.000
 799          UC    .333    .338
 800          UA       0       3       5       8      12      20      43      75      90      96
 801          UA     100
              * DDM   ***** Preserved *****

 802          KK    C370
 803          KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
              * KO     1
 804          HC       2
              * DDM   ***** Preserved *****

 805          KK    D370
 806          KM   DIVERT FLOW INTO OFFLINE DETENTION BASIN LOCATED WITHIN SUB-BASINS
 807          KM   370 AND 395.
              * KO     1
 808          DT   BS370
 809          DI       0     140    5000
 810          DQ       0       0    4860
              * DDM   ***** Preserved *****

 811          KK   RT370
 812          KM   RETRIEVE FLOW FROM DIVERSION
 813          DR   BS370
              * DDM   ***** Preserved *****

 814          KK    S370
 815          KM   RETRIEVE FLOW INTO OFFLINE BASIN AND BLEED OFF WITHIN 36 HOURS.
 816          KM      30 ACRE-FEETx43560/36x3600 = 10cfs
 817          RS       1    STOR       0
 818          SV       0     .01      34      40
 819          SQ       0       4      10      12
              * DDM   ***** Preserved *****
1                                         HEC-1 INPUT                                                    PAGE 22

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

 820          KK   CC370
 821          KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
 822          HC       2
              * DDM   ***** Preserved *****

 823          KK    R370
 824          KM   CHANNEL GEOMETRY OBTAINED FROM 2' CONTOUR MAPPING.
 825          KM   ROUTING OF FLOW FROM SUB-BASINS 370 AND 395 TO SUB-BASIN 380.
 826          RS       4    FLOW      -1
 827          RC    .045    .035    .045    2600    .023
 828          RX       0       1      40      46      56      62     102     103
 829          RY       3       2       2       0       0       2       2       3
              *
              * DDM   ***** Updated *****

 830          KK     385
 831          KM   SUB-BASIN 385
 832          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
 833          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .997
 834          KM     L = 2.30  Kb = .045  Adj. Slope =  303.0
 835          BA    .527
 836          LG    .340    .360   5.600    .220  13.000
 837          UC    .383    .358
 838          UA       0       3       5       8      12      20      43      75      90      96
 839          UA     100
              * DDM   ***** Updated *****

 840          KK    415B
 841          KM   SUB-BASIN 415B
 842          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
 843          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .998
 844          KM     L = 1.59  Kb = .048  Adj. Slope =  315.0
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845          BA    .329
846          LG    .340    .340   5.300    .240  14.000
847          UC    .308    .274
848          UA       0       5      16      30      65      77      84      90      94      97
849          UA     100
             * DDM   ***** Preserved *****

850          KK   C415B
851          KM   HYDROGRAPH COMBINATION OF 415 DIVERSION.
852          HC       2
             * DDM   ***** Preserved *****

853          KK   D415B
854          KM   DIVERT FLOW INTO OFFLINE DETENTION BASIN
855          KM   MAXIMUM STORAGE VOLUME FOR DIVERSION = 32 AC-FT @ 5' DEPTH.
             *      1
856          DT  BS415B
857          DI       0     190    5000
858          DQ       0       0    4810
             * DDM   ***** Preserved *****
1                                          HEC-1 INPUT                                                    PAGE 23

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

859          KK  RT415B
860          KM   RETRIEVE FLOW FROM DIVERSION INTO OFFLINE BASIN
861          DR  BS415B
             * DDM   ***** Preserved *****

862          KK   S415B
863          KM   RETRIEVE FLOW INTO OFFLINE BASIN AND BLEED OFF WITHIN 36 HOURS.
864          KM      32 ACRE-FEETx43560/36x3600 = 11cfs
865          RS       1    STOR       0
866          SV       0     .01      34      40
867          SQ       0       5      10      12
             * DDM   ***** Preserved *****

868          KK  CC415B
869          KM   HYDROGRAPH COMBINATION OF 415 DIVERSION.
870          HC       2
             * DDM   ***** Preserved *****

871          KK   R415B
872          KM   CHANNEL GEOMETRY OBTAINED FROM 2' CONTOUR MAPPING.
873          KM   ROUTING OF FLOW FROM 415C TO 415B
874          RS       4    FLOW      -1
875          RC    .045     .03    .045    2590    .024
876          RX       0       1      40      46      56      62     102     103
877          RY       3       2       2       0       0       2       2       3
             * DDM   ***** Updated *****

878          KK     390
879          KM   SUB-BASIN 390
880          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
881          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .999
882          KM     L =  .70  Kb = .050  Adj. Slope =  299.4
883          BA    .244
884          LG    .300    .250   4.700    .380  18.000
885          UC    .204    .107
886          UA       0       5      16      30      65      77      84      90      94      97
887          UA     100
             * DDM   ***** Preserved *****

888          KK    D390
889          KM        DIVERT FLOW INTO ONLINE  DETENTION BASIN
890          KM   DETENTION/RETENTION BASINS LOCATED WITHIN THUNDER MOUNTAIN ESTATES
891          KM     ,   MAXIMUM VOLUME DIVERSION  = 3.5 acre-feet
             *      1
892          DT   BS390     3.5
893          DI       0   10000
894          DQ       0   10000
             * DDM   ***** Preserved *****
1                                          HEC-1 INPUT                                                    PAGE 24

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

895          KK   RT390
896          KM   RETRIEVE FLOW FROM DIVERSION INTO ONLINE BASIN
897          DR   BS390
             * DDM   ***** Preserved *****

898          KK    S390
899          KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
900          KM     3.5 ACRE-FEETx43560/36x3600=1.2cfs
901          RS       1    STOR       0
902          SV       0     .01     3.5
903          SQ       0     0.5     1.2
             * DDM   ***** Preserved *****

904          KK    C390
905          KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
906          HC       4
             * DDM   ***** Preserved *****

907          KK    R390
908          KM   CHANNEL GEOMETRY OBTAINED FROM 2' CONTOUR MAPPING.
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 909          KM   FROM SUB-BASIN 390 TO SUB-BASIN 420B
 910          RS       7    FLOW      -1
 911          RC    .045    .045    .045    5500    .020
 912          RX       0       1      40      46      56      62     102     103
 913          RY       3       2       2       0       0       2       2       3
              * DDM   ***** Updated *****

 914          KK    420B
 915          KM   SUB-BASIN 420B
 916          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
 917          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .998
 918          KM     L = 1.00  Kb = .049  Adj. Slope =  150.0
 919          BA    .279
 920          LG    .300    .250   3.910    .590  15.000
 921          UC    .333    .226
 922          UA       0       5      16      30      65      77      84      90      94      97
 923          UA     100
              * DDM   ***** Preserved *****

 924          KK   C420B
 925          KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
 926          HC       2
              *
              * DDM   ***** Updated *****

 927          KK     440
 928          KM   SUB-BASIN 440
 929          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
 930          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF 1.000
 931          KM     L =  .40  Kb = .039  Adj. Slope =  315.0
 932          BA    .080
 933          LG    .190    .380   6.400    .140  13.000
 934          UC    .129    .077
 935          UA       0       3       5       8      12      20      43      75      90      96
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 936          UA     100
              * DDM   ***** Preserved *****

 937          KK     R70
 938          KM   ROUTE FLOW FROM SUB-BASIN 440 TO C108
 939          RS       2    FLOW      -1
 940          RC     .05    .035     .05    2250     .08
 941          RX    1000    1025    1050    1070    1075    1095    1120    1145
 942          RY      30    22.9    15.7      10      10    15.7    22.9      30
              * DDM   ***** Updated *****

 943          KK     441
 944          KM   SUB-BASIN 441
 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 1.000
 947          KM     L =  .28  Kb = .069  Adj. Slope =  315.0
 948          BA    .010
 949          LG    .300    .250   5.600    .220   5.000
 950          UC    .150    .225
 951          UA       0       5      16      30      65      77      84      90      94      97
 952          UA     100
              * DDM   ***** Preserved *****

 953          KK    C108
 954          KM   COMBINE HYDROGRAPHS FROM SUB-BASINS 440 & 441
 955          HC       2
              * DDM   ***** Preserved *****

 956          KK      D4
 957          KM        SPLIT FLOW WITH TWO 42 INCH PIPES TO WEST AND SOUTH
              *      1
 958          DT   SPLIT
 959          DI       0      14      40      82     120     154     180
 960          DQ       0       7      20      41      60      77      90
              * DDM   ***** Preserved *****

 961          KK    R108
 962          KM        ROUTE FLOW FROM SUB-BASIN C108 TO C67
 963          RS       2    FLOW      -1
 964          RC     .05    .035     .05    3200      .1
 965          RX    1000    1025    1050    1070    1075    1095    1120    1145
 966          RY      30    22.9    15.7      10      10    15.7    22.9      30
              * DDM   ***** Updated *****

 967          KK     442
 968          KM   SUB-BASIN 442
 969          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
 970          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .999
 971          KM     L =  .83  Kb = .055  Adj. Slope =  274.2
 972          BA    .100
 973          LG    .300    .270   3.290    .770   5.000
 974          UC    .258    .264
 975          UA       0       5      16      30      65      77      84      90      94      97
 976          UA     100
              * DDM   ***** Preserved *****
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10
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 977          KK     C67
 978          KM   COMBINE FLOW FROM SUB-BASIN 442 & DIV4
 979          HC       2
              * DDM   ***** Preserved *****

 980          KK      D6
 981          KM        OFFLINE BASIN WITH 25 FOOT WEIR SET AT 2.5 FEET ABOVE BOTTOM OF CHANNEL
 982          KM        FLOW CONTINUES BEYOND BASIN THROUGH 2-30" PIPES
              *      1
 983          DT  BASIN4     3.3
 984          DI       0      10      32      44    79.9   132.5     198   272.9   356.8
 985          DQ       0       0       0       0    23.9    67.5     124   190.9   266.8
              * DDM   ***** Preserved *****

 986          KK    RTD6
 987          KM   RETRIEVE FLOW FROM DIVERSION INTO OFFLINE BASIN
 988          DR  BASIN4
              * DDM   ***** Preserved *****

 989          KK     SD6
 990          KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
 991          KM     3.3 ACRE-FEETx43560/36x3600=1.1cfs
              *      1
 992          RS       1    STOR       0
 993          SV       0     .01     3.3
 994          SQ       0     0.2     1.1
              * DDM   ***** Preserved *****

 995          KK     CD6
 996          KM   HYDROGRAPH COMBINATION FOR OFFLINE BASIN BLEEDOFF
 997          HC       2
              * DDM   ***** Updated *****

 998          KK     443
 999          KM   SUB-BASIN 443
1000          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1001          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF 1.000
1002          KM     L =  .71  Kb = .050  Adj. Slope =  315.0
1003          BA    .080
1004          LG    .250    .190   8.000    .080  10.000
1005          UC    .196    .194
1006          UA       0       5      16      30      65      77      84      90      94      97
1007          UA     100
              * DDM   ***** Preserved *****

1008          KK     D66
1009          KM        DIVERT FLOW INTO 3 NATURAL WASHES WITH ONE 24" PIPE IN EACH WASH.
1010          KM        EACH PIPE CAPACITY BASED ON 4 FEET OF HEAD
1011          DT   WSH66
1012          DI       0      78     100     200
1013          DQ       0      78      78      78
              * DDM   ***** Preserved *****
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1014          KK    R113
1015          KM        ROUTE FLOW FROM C113 TO C114
1016          RS       1    FLOW      -1
1017          RC    .019    .019    .019    1300    .029
1018          RX    1000    1004    1008    1012    1018    1022    1026    1030
1019          RY      17   15.33   12.67      10      10   12.67   15.33      17
              * DDM   ***** Preserved *****

1020          KK    C114
1021          KM        COMBINE HYDROGRAPHS FROM SUB-BASIN 67 AND C113
1022          HC       2
              * DDM   ***** Updated *****

1023          KK     444
1024          KM   SUB-BASIN 444
1025          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1026          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF 1.000
1027          KM     L =  .33  Kb = .034  Adj. Slope =  315.0
1028          BA    .040
1029          LG    .130    .350   4.450    .320   1.000
1030          UC    .112    .084
1031          UA       0       3       5       8      12      20      43      75      90      96
1032          UA     100
              * DDM   ***** Preserved *****

1033          KK     R58
1034          KM   ROUTE FLOW FROM SUB-BASIN 444 TO C107
1035          RS       2    FLOW      -1
1036          RC     .05    .035     .05    2370   .0516
1037          RX    1000    1010    1020    1050    1055    1085    1095    1105
1038          RY      19      18      17      10      10      17      18      19
              * DDM   ***** Updated *****

1039          KK     445
1040          KM   SUB-BASIN 445
1041          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1042          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .999
1043          KM     L =  .82  Kb = .036  Adj. Slope =  315.0
1044          BA    .190
1045          LG    .170    .320   3.470    .590   3.000
1046          UC    .192    .130
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1047          UA       0       5      16      30      65      77      84      90      94      97
1048          UA     100
              * DDM   ***** Preserved *****

1049          KK    C107
1050          KM   COMBINE HYDROGRAPHS FROM SUB-BASINS 444 & 445
1051          HC       2
              * DDM   ***** Preserved *****
1                                        HEC-1 INPUT                                          PAGE 28

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


1052          KK    R107
1053          KM        ROUTE FLOW FROM C107 TO C109
1054          RS       2    FLOW      -1
1055          RC     .05    .035     .05     700   .0516
1056          RX    1000    1010    1020    1050    1055    1085    1095    1105
1057          RY      19      18      17      10      10      17      18      19
              * DDM   ***** Preserved *****

1058          KK    RTB2
1059          KM        RETRIEVE DIVERTED FLOW FROM BASIN 1
              *      1
1060          DR   SPLIT
              * DDM   ***** Preserved *****

1061          KK  RSPLIT
1062          KM        ROUTE FLOW FROM SPLIT TO C109
1063          RS       1    FLOW      -1
1064          RC     .05    .035     .05     800     .05
1065          RX    1000    1025    1050    1070    1075    1095    1120    1145
1066          RY      30    22.9    15.7      10      10    15.7    22.9      30
              * DDM   ***** Updated *****

1067          KK     446
1068          KM   SUB-BASIN 446
1069          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1070          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF 1.000
1071          KM     L =  .46  Kb = .061  Adj. Slope =  303.9
1072          BA    .040
1073          LG    .270    .250   4.500    .400  19.000
1074          UC    .183    .189
1075          UA       0       5      16      30      65      77      84      90      94      97
1076          UA     100
              * DDM   ***** Preserved *****

1077          KK    C109
1078          KM        COMBINE HYDROGRAPHS FROM COMBINES C107 AND C108
1079          HC       3
              * DDM   ***** Preserved *****

1080          KK      D5
1081          KM        DIVERT FLOW INTO WASHES TOWARDS WEST
1082          KM        DIVERSION THROUGH 36" PIPE WITH 3 FEET OF HEAD
              *      1
1083          DT  WSH404
1084          DI       0    40.7    71.2   121.6     190     276   379.4   500.6
1085          DQ       0      35      35      35      35      35      35      35
              * DDM   ***** Preserved *****

1086          KK    R109
1087          KM        ROUTE FLOW FROM C109 TO C110
1088          RS       1    FLOW      -1
1089          RC    .019    .019    .019    3080     .05
1090          RX    1000    1005    1010    1015    1025    1030    1035    1040
1091          RY   13.75    12.5   11.25      10      10   11.25    12.5   13.75
              * DDM   ***** Updated *****
1                                        HEC-1 INPUT                                          PAGE 29

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


1092          KK     447
1093          KM   SUB-BASIN 447
1094          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1095          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .999
1096          KM     L =  .49  Kb = .056  Adj. Slope =  221.0
1097          BA    .090
1098          LG    .250    .270   3.350    .870  30.000
1099          UC    .208    .145
1100          UA       0       5      16      30      65      77      84      90      94      97
1101          UA     100
              * DDM   ***** Preserved *****

1102          KK   RT404
1103          KM        RETRIEVE DIVERTED FLOW FOR WASH 109
1104          DR  WSH404
              * DDM   ***** Preserved *****

1105          KK    R404
1106          KM        ROUTE FLOW FROM C110 TO C110
1107          RS       6    FLOW      -1
1108          RC    .019    .019    .019    3540     .03
1109          RX    1000    1012    1016    1020    1025    1029    1033    1045
1110          RY      15      12      11      10      10      11      12      15
              * DDM   ***** Preserved *****
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1111          KK    C110
1112          KM   COMBINE HYDROGRAPHS FROM SUB-BASIN 447 AND R404
1113          HC       3
              * DDM   ***** Preserved *****

1114          KK    R110
1115          KM        ROUTE FLOW FROM C110 TO C115
1116          RS       1    FLOW      -1
1117          RC    .019    .019    .019     580   .0291
1118          RX    1000    1012    1016    1020    1035    1039    1043    1055
1119          RY      15      12      11      10      10      11      12      15
              * DDM   ***** Preserved *****

1120          KK    C115
1121          KM        COMBINE HYDROGRAPHS FROM C114 AND C110
1122          HC       2
              * DDM   ***** Preserved *****

1123          KK    R115
              * ******OUTFLOW FROM THIS ROUTING IS GREATER THAN INFLOW TO THE
              * ******ROUTING BY 2cfs.  THIS IS NOTED BUT LEFT UNCHANGED WITHIN THE MODEL
1124          KM        ROUTE FLOW FROM C115 TO Sub 453
1125          RS       1    FLOW      -1
1126          RC    .019    .019    .019    2125    .029
1127          RX    1000    1012    1016    1020    1035    1039    1043    1055
1128          RY      15      12      11      10      10      11      12      15
              * DDM   ***** Updated *****
1                                   HEC-1 INPUT                                    PAGE 30

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

1129          KK     448
1130          KM   SUB-BASIN 448
1131          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1132          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF 1.000
1133          KM     L =  .36  Kb = .042  Adj. Slope =  315.0
1134          BA    .045
1135          LG    .170    .310   4.200    .390  11.000
1136          UC    .133    .102
1137          UA       0       5      16      30      65      77      84      90      94      97
1138          UA     100
              * DDM   ***** Updated *****

1139          KK     449
1140          KM   SUB-BASIN 449
1141          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1142          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF 1.000
1143          KM     L =  .40  Kb = .054  Adj. Slope =  315.0
1144          BA    .050
1145          LG    .260    .280   3.500    .640   6.000
1146          UC    .167    .134
1147          UA       0       5      16      30      65      77      84      90      94      97
1148          UA     100
              * DDM   ***** Preserved *****

1149          KK   C6364
1150          KM   COMBINE HYDROGRAPHS FROM SUB-BASINS 448 & 449
1151          HC       2
              * DDM   ***** Preserved *****

1152          KK   R6364
1153          KM   ROUTE FLOW FROM C116 AND SUB-BASINS 448 AND 449
1154          RS       5    FLOW      -1
1155          RC     .05    .035     .05    4375   .0333
1156          RX    1000    1027    1053    1080    1090    1117    1143    1170
1157          RY      15   13.33   11.67      10      10   11.67   13.33      15
              * DDM   ***** Updated *****

1158          KK     450
1159          KM   SUB-BASIN 450
1160          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1161          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF 1.000
1162          KM     L =  .85  Kb = .057  Adj. Slope =  210.5
1163          BA    .070
1164          LG    .340    .350   3.630    .570   4.000
1165          UC    .296    .383
1166          UA       0       3       5       8      12      20      43      75      90      96
1167          UA     100
              * DDM   ***** Updated *****
1                                   HEC-1 INPUT                                    PAGE 31

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

1168          KK     451
1169          KM   SUB-BASIN 451
1170          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1171          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF 1.000
1172          KM     L =  .57  Kb = .063  Adj. Slope =  175.0
1173          BA    .025
1174          LG    .340    .340   3.290    .750   3.000
1175          UC    .271    .453
1176          UA       0       3       5       8      12      20      43      75      90      96
1177          UA     100
              * DDM   ***** Preserved *****

1178          KK    C451
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1179          KM   COMBINE HYDROGRAPHS FROM SUB-BASINS 450 & 451
1180          HC       2
              * DDM   ***** Preserved *****

1181          KK    RT66
1182          KM        RETRIEVE DIVERTED FLOW FROM SUB-BASIN 66
1183          DR   WSH66
              * DDM   ***** Updated *****

1184          KK     452
1185          KM   SUB-BASIN 452
1186          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1187          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF 1.000
1188          KM     L =  .43  Kb = .055  Adj. Slope =  315.0
1189          BA    .040
1190          LG    .260    .280   3.700    .550   9.000
1191          UC    .171    .166
1192          UA       0       5      16      30      65      77      84      90      94      97
1193          UA     100
              * DDM   ***** Preserved *****

1194          KK   C6465
1195          KM   COMBINE HYDROGRAPHS FROM SUB-BASINS 443 AND 452
1196          HC       2
              * DDM   ***** Preserved *****

1197          KK   R6566
1198          KM        ROUTE FLOW FROM DIVERSIONS 65 AND 66 TO C116
1199          RS       3    FLOW      -1
1200          RC     .05    .035     .05    2435   .0282
1201          RX    1000    1045    1090    1150    1160    1220    1265    1310
1202          RY      25      23      20      10      10      20      23      25
              * DDM   ***** Preserved *****

1203          KK    C116
1204          KM   COMBINE HYDROGRAPHS FROM SUB-BASINS 450 & 451 AND R6364 & R6465
1205          HC       3
              * DDM   ***** Preserved *****
1                                    HEC-1 INPUT                                          PAGE 32

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

1206          KK  BASIN5
1207          KM        RESERVOIR WITHIN PARCEL 31      2-48 INCH PIPES AT OUTFALL
1208          KM        BASIN 5 FEET DEEP
1209          RS       1    ELEV       0
1210          SV       0     4.5     9.9
1211          SQ       0      69     190
1212          SE       0     2.5       5
              * DDM   ***** Preserved *****

1213          KK    R116
1214          KM   ROUTE FLOW FROM C116 TO C117
1215          RS       2    FLOW      -1
1216          RC     .05    .035     .05    1300   .0333
1217          RX    1000    1100    1200    1300    1320    1420    1520    1620
1218          RY      13      12      11      10      10      11      12      13
              * DDM   ***** Updated *****

1219          KK     453
1220          KM   SUB-BASIN 453
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 1.000
1223          KM     L =  .58  Kb = .058  Adj. Slope =  138.0
1224          BA    .060
1225          LG    .290    .300   3.290    .820  18.000
1226          UC    .275    .284
1227          UA       0       5      16      30      65      77      84      90      94      97
1228          UA     100
              * DDM   ***** Preserved *****

1229          KK    C117
1230          KM   COMBINE HYDROGRAPHS FROM SUB-BASIN 453 AND R116
1231          HC       2
              * DDM   ***** Preserved *****

1232          KK    C118
1233          KM   COMBINE HYDROGRAPHS FROM R115 AND C117
1234          HC       2
              * DDM   ***** Preserved *****

1235          KK    R118
1236          KM        ROUTE FLOW FROM C118 TO  DIV7
              * KO     1
1237          RS       1    FLOW      -1
1238          RC    .019    .019    .019    1500    .024
1239          RX    1000    1012    1016    1020    1035    1039    1043    1055
1240          RY      15      12      11      10      10      11      12      15
              * DDM   ***** Preserved *****

1241          KK      D7
1242          KM        OFFLINE BASIN AT NORTH MOUNTAIN RIDGE   FLOWS ENTER BASIN OVER
1243          KM        30' WEIR SET AT 5.3' ABOVE THE CHANNEL BOTTOM, Vol = 3.6 A-F
              * KO     1
1244          DT  BASIN6
1245          DI       0     363     487     563     645     900
1                                    HEC-1 INPUT                                          PAGE 33
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1246          DQ       0       2      10      15      25     260
              * DDM   ***** Preserved *****

1247          KK    RTD7
1248          KM   RETRIEVE FLOW FROM DIVERSION INTO OFFLINE BASIN
1249          DR  BASIN6
              * DDM   ***** Preserved *****

1250          KK     SD7
1251          KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
1252          KM     3.6 ACRE-FEETx43560/36x3600=1.2cfs
1253          RS       1    STOR       0
1254          SV       0     .01     3.6     4.0
1255          SQ       0     0.2     1.2     1.5
              * DDM   ***** Preserved *****

1256          KK     CD7
1257          KM   HYDROGRAPH COMBINATION FOR OFFLINE BASIN BLEEDOFF
1258          HC       2
              * DDM   ***** Updated *****

1259          KK     454
1260          KM   SUB-BASIN 454
1261          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1262          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .999
1263          KM     L = 1.23  Kb = .051  Adj. Slope =  163.0
1264          BA    .180
1265          LG    .300    .310   3.780    .560  14.000
1266          UC    .379    .395
1267          UA       0       5      16      30      65      77      84      90      94      97
1268          UA     100
              *
              * DDM   ***** Preserved *****

1269          KK    C454
1270          KM        COMBINE HYDROGRAPHS FROM SUB-BASIN 454 AND CDIV7
              *      1       2
1271          HC       2
              * DDM   ***** Preserved *****

1272          KK    R454
1273          KM   CHANNEL GEOMETRY OBTAINED FROM 2' CONTOUR MAPPING.
1274          KM   ROUTE FLOW FROM C454 TO 415C
1275          RS       3    FLOW      -1
1276          RC    .045    .035    .045    2200    .009
1277          RX       0      .5       1      33      42      67    67.5      68
1278          RY       5       4       4       0       0       6       6       6
              *
              * DDM   ***** Updated *****
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1279          KK    415A
1280          KM   SUB-BASIN 415A
1281          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1282          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .998
1283          KM     L = 1.21  Kb = .049  Adj. Slope =  140.0
1284          BA    .280
1285          LG    .300    .260   3.630    .710  15.000
1286          UC    .400    .322
1287          UA       0       5      16      30      65      77      84      90      94      97
1288          UA     100
              * DDM   ***** Preserved *****

1289          KK   C415A
1290          KM        COMBINE HYDROGRAPHS FROM R454, 415B, AND 420B
              * KO     1
1291          HC       3
              * DDM   ***** Preserved *****
              * KK D415A
              * KM DIVERT FLOW INTO OFFLINE DETENTION BASIN
              * KM MAXIMUM STORAGE VOLUME FOR DIVERSION = 15 AC-FT @ 5' DEPTH.
              * KO     1
              * DTBS415A
              * DI     0    1240    5000
              * DQ     0       0    3760
              * DDM   ***** Preserved *****
              * KKRT415A
              * KM RETRIEVE FLOW FROM DIVERSION INTO OFFLINE BASIN
              * DRBS415A
              * DDM   ***** Preserved *****
              * KK S415A
              * KM RETRIEVE FLOW INTO OFFLINE BASIN AND BLEED OFF WITHIN 36 HOURS.
              * KM    15 ACRE-FEETx43560/36x3600 = 5 cfs
              * RS     1    STOR       0
              * SV     0     .01      15      20
              * SQ     0       2       5       8
              * DDM   ***** Preserved *****
              * KKCC415A
              * KM HYDROGRAPH COMBINATION OF 415A DIVERSION.
              * HC     2
              * DDM   ***** Preserved *****

1292          KK   R415A
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1293        KM   CHANNEL GEOMETRY OBTAINED FROM 2' CONTOUR MAPPING.
1294        KM   ROUTING OF FLOW FROM C415A TO 455C
1295        RS       4    FLOW      -1
1296        RC    .045     .03    .045    4100    .024
1297        RX       0      .5       1       8      16      23    23.5      24
1298        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

1299        KK     455
1300        KM   SUB-BASIN 455
1301        KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1302        KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .993
1303        KM     L = 1.70  Kb = .041  Adj. Slope =  146.0
1304        BA   1.111
1305        LG    .270    .280   3.700    .640  24.000
1306        UC    .421    .204
1307        UA       0       5      16      30      65      77      84      90      94      97
1308        UA     100
            * DDM   ***** Preserved *****

1309        KK    D455
1310        KM        DIVERT FLOW INTO ONLINE  DETENTION BASIN
1311        KM   DETENTION/RETENTION BASINS LOCATED WITHIN LAS SENDAS ADDENDUM III
1312        KM   FOR BASIN #: 30      34      43      47&58
1313        KM        MAXIMUM VOLUME DIVERSION = 74.1 acre-feet
            *      1
1314        DT   BS455    74.1
1315        DI       0   10000
1316        DQ       0   10000
            * DDM   ***** Preserved *****

1317        KK   RT455
1318        KM   RETRIEVE FLOW FROM DIVERSION INTO ONLINE BASIN
1319        DR   BS455
            * DDM   ***** Preserved *****

1320        KK    S455
1321        KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
1322        KM    74.1 ACRE-FEETx43560/36x3600=25cfs
1323        RS       1    STOR       0
1324        SV       0     .01    74.1
1325        SQ       0     3.0      25
            * DDM   ***** Preserved *****

1326        KK    C455
1327        KM   HYDROGRAPH COMBINATION FOR SUB-BASIN 455 AND DIVERTED BASIN STORAGE OF 455
1328        HC       2
            * DDM   ***** Preserved *****

1329        KK   CC455
1330        KM  HYDROGRAPH COMBINATION OF 420C, R415 AND C455
            *      1       2
1331        HC       3
            * DDM   ***** Preserved *****
            * KK  S440
            * KM SPOOK HILL FRS PLANS DATED 6/15/77
            * KM OUTLET PIPE=7'x7.5'RCBC; L=70 INLET INV.=1566; OUTLET INV.=1566
            * KM EMERGENCY SPILLWAY ELEV.=1582; PRINCIPLE SPILLWAY ELEV.=1577.5
            * KM STORAGE VOLUME BELOW PRINCIPLE SPILLWAY FOR SEDIMENT = 200 ACRE-FEET
            *   ESE = 1583.86 ft; PSE = 1579.36 ft; Sediment Vol. = 271 Ac-Ft.
            * RS      1    STOR       0
            * SV      0      81     363     533     719     925    1120    1399    1668     40
            * SQ      0       0      10     180     367     595     800    1231    2625    245
            * SE     76      78      80      81      82      83    83.9      85      86
            * DDM   ***** Preserved *****
1                                        HEC-1 INPUT                                                    PAGE 36

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

1332        KK    R455
1333        KM   ROUTE FLOW FROM SPOOK HILL FRS TO SUB-BASIN 480
1334        RS      15    FLOW      -1
1335        RC    .035    .025    .035    7000   .0002
1336        RX       0       1       2      28      58      84      85      86
1337        RY    13.5    13.5    13.5       0       0    13.5    13.5    13.5
            * DDM   ***** Updated *****

1338        KK     480
1339        KM   SUB-BASIN 480
1340        KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1341        KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .996
1342        KM     L = 1.21  Kb = .042  Adj. Slope =  165.0
1343        BA    .731
1344        LG    .270    .270   3.580    .730  27.000
1345        UC    .325    .148
1346        UA       0       5      16      30      65      77      84      90      94      97
1347        UA     100
            * DDM   ***** Preserved *****

1348        KK    D480
1349        KM        DIVERT FLOW INTO ONLINE  DETENTION BASIN
1350        KM   DETENTION/RETENTION BASINS LOCATED WITHIN LAS SENDAS ADDENDUM III
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1351          KM   FOR BASIN #: 18 & 26
1352          KM        MAXIMUM VOLUME DIVERSION = 16.5 acre-feet
              *      1
1353          DT   BS480    16.5
1354          DI       0   10000
1355          DQ       0   10000
              * DDM   ***** Preserved *****

1356          KK   RT480
1357          KM   RETRIEVE FLOW FROM DIVERSION INTO ONLINE BASIN
1358          DR   BS480
              * DDM   ***** Preserved *****

1359          KK    S480
1360          KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
1361          KM    16.5 ACRE-FEETx43560/36x3600=5.5cfs
1362          RS       1    STOR       0
1363          SV       0     .01    16.5
1364          SQ       0     3.0     5.6
              * DDM   ***** Preserved *****

1365          KK    C480
1366          KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
1367          HC       2
              * DDM   ***** Preserved *****
1                                   HEC-1 INPUT                                          PAGE 37

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

1368          KK   CC480
1369          KM   HYDROGRAPH COMBINATION AT SUBBASIN 480
1370          HC       2   0.731
              * DDM   ***** Preserved *****

1371          KK    R480
1372          KM   ROUTE FLOW FROM SUB-BASIN 480 TO SUBBASIN 462
1373          RS       6    FLOW      -1
1374          RC    .035    .025    .035    2800    .0002
1375          RX       0       1       2      28      58      84      85      86
1376          RY    13.5    13.5    13.5       0       0    13.5    13.5    13.5
              * DDM   ***** Updated *****

1377          KK     456
1378          KM   SUB-BASIN 456
1379          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1380          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .998
1381          KM     L =  .94  Kb = .045  Adj. Slope =  315.0
1382          BA    .260
1383          LG    .300    .380   5.600    .200  12.000
1384          UC    .217    .139
1385          UA       0       5      16      30      65      77      84      90      94      97
1386          UA     100
              * DDM   ***** Preserved *****

1387          KK      D1
1388          KM        DIVERT FLOW INTO OFFLINE DETENTION BASIN
1389          KM        WEIR FOR BASIN SET AT 4 FEET ABOVE CHANNEL BOTTOM
              *      1
1390          DT  BASIN1     4.0
1391          DI       0    11.1   127.9   234.4   577.7   789.9  1025.5  1280.9  1555.7
1392          DQ       0       0       0    47.7     248   381.8   533.6   701.5     884
              * DDM   ***** Preserved *****

1393          KK     CD2
1394          KM        SPLIT OUT FLOW FOR WASHES THAT FLOW TO THE SOUTH FROM
1395          KM        WASHES THAT DRAIN TO THE WES, SOUTHERN WASHES FED BY 30" & 24" PIPE
1396          DT    WA30
1397          DI       0    11.1   127.9   189.6   329.7     408   491.9   579.4   671.7
1398          DQ       0    11.1    38.4    48.2      63    69.5      76      81      86
              * DDM   ***** Preserved *****

1399          KK    R456
1400          KM        ROUTE FLOW FROM SUB-BASIN 51 TO C101
1401          RS       2    FLOW      -1
1402          RC     .05    .035     .05    3800    .044
1403          RX    1000    1010    1020    1036    1041    1057    1067    1077
1404          RY   14.88   14.44      14      10      10      14   14.44   14.88
              * DDM   ***** Updated *****
1                                   HEC-1 INPUT                                          PAGE 38

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

1405          KK     457
1406          KM   SUB-BASIN 457
1407          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1408          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .999
1409          KM     L = 1.01  Kb = .045  Adj. Slope =  308.8
1410          BA    .190
1411          LG    .270    .330   3.950    .460   6.000
1412          UC    .237    .195
1413          UA       0       5      16      30      65      77      84      90      94      97
1414          UA     100
              * DDM   ***** Preserved *****

1415          KK    C101
1416          KM        COMBINE HYDROGRAPHS FROM SUB-BASINS 50 AND 51
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1417        HC       2
            * DDM   ***** Preserved *****

1418        KK      D3
1419        KM        RESERVOIR AT THE EDGE OF THE PROPERTY   FLOW FROM CHANNEL
1420        KM        DIVERTED  INTO OFFLINE BASIN A 25' WEIR SET AT ELEVATION 1808 FT
            *      1
1421        DT  BASIN2      5.0
1422        DI       0       36       70      110      180    313.5      402    500.9
1423        DQ       0        0        0        0        0     67.5      124    190.9
            * DDM   ***** Preserved *****

1424        KK    RTD3
1425        KM   RETRIEVE FLOW FROM DIVERSION INTO OFFLINE BASIN
1426        DR  BASIN2
            * DDM   ***** Preserved *****

1427        KK     SD3
1428        KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
1429        KM     5.0 ACRE-FEETx43560/36x3600=1.7cfs
1430        RS       1    STOR       0
1431        SV       0     .01       5
1432        SQ       0     0.7     1.7
            * DDM   ***** Preserved *****

1433        KK     CD3
1434        KM   HYDROGRAPH COMBINATION FOR OFFLINE BASIN BLEEDOFF
1435        HC       2
            * DDM   ***** Preserved *****

1436        KK    R101
1437        KM        ROUTE FLOW FROM SUBBASIN C101 TO C103
1438        RS       1    FLOW      -1
1439        RC     .05    .035     .05    1450     .05
1440        RX    1000    1010    1020    1036    1041    1057    1067    1077
1441        RY      15    14.5      14      10      10      14    14.5      15
            * DDM   ***** Updated *****
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LINE        ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1442        KK     458
1443        KM   SUB-BASIN 458
1444        KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1445        KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .999
1446        KM     L =  .76  Kb = .048  Adj. Slope =  299.0
1447        BA    .190
1448        LG    .290    .330   5.800    .190   6.000
1449        UC    .204    .131
1450        UA       0       5      16      30      65      77      84      90      94      97
1451        UA     100
            * DDM   ***** Preserved *****

1452        KK    C103
1453        KM        COMBINE HYDROGRAPHS FROM SUB-BASIN 55 AND C101
1454        HC       2
            * DDM   ***** Preserved *****

1455        KK    R103
1456        KM        ROUTE FLOW FROM SUBBASIN C103 TO C106
1457        RS       1    FLOW      -1
1458        RC     .05    .035     .05     900     .03
1459        RX    1000    1010    1020    1030    1050    1060    1070    1080
1460        RY   13.16   12.83    12.5      10      10    12.5   12.83   13.16
            * DDM   ***** Preserved *****

1461        KK    RT30
1462        KM        RETRIEVE DIVERTED FLOW FOR WASH BELOW 30 INCH PIPE
1463        DR    WA30
            * DDM   ***** Preserved *****

1464        KK     R30
1465        KM        ROUTE FLOW FROM WASH DIVERSION TO COMBINE C52
1466        RS       1    FLOW      -1
1467        RC     .05    .035     .05    1630     .05
1468        RX    1000    1010    1020    1036    1041    1057    1067    1077
1469        RY      15    14.5      14      10      10      14    14.5      15
            * DDM   ***** Preserved *****

1470        KK    RTB1
1471        KM        RETRIEVE DIVERTED FLOW FROM BASIN 1
            *      1       2
1472        DR  BASIN1
            * DDM   ***** Preserved *****

1473        KK      B1
1474        KM        ROUTE FLOW THROUGH OFFLINE DETENTION BASIN
1475        KM        FLOW OUTLETS THROUGH A 30 INCH OUTLET PIPE
            *      1       2
1476        RS       1    ELEV       0
1477        SV              .7     1.4     2.3     2.7     4.0
1478        SQ       0       5      16      28    32.5      37
1479        SE       0       1       2       3     3.5       4
            * DDM   ***** Preserved *****
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LINE        ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10
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1480          KK     RB1
1481          KM        ROUTE FLOW FROM BASIN DIVERSION TO COMBINE C52
1482          RS       3     FLOW      -1
1483          RC     .05     .035     .05    1720     .05
1484          RX    1000     1010    1020    1036    1041    1057    1067    1077
1485          RY      15     14.5      14      10      10      14    14.5      15
              * DDM   ***** Preserved *****

1486          KK    CDIV
1487          KM        COMBINE FLOWS FROM WA30 AND BASIN 1
1488          HC       2     .12
              * DDM   ***** Updated *****

1489          KK     459
1490          KM   SUB-BASIN 459
1491          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1492          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF 1.000
1493          KM     L =  .35  Kb = .052  Adj. Slope =  251.6
1494          BA    .030
1495          LG    .220     .300   3.330    .710   8.000
1496          UC    .162     .157
1497          UA       0        5      16      30      65      77      84      90      94      97
1498          UA     100
              * DDM   ***** Preserved *****

1499          KK     C52
1500          KM        COMBINE FLOWS FROM SUB-BASIN 52 WA30 AND BASIN 1
1501          HC       2
              * DDM   ***** Preserved *****

1502          KK     R52
1503          KM        ROUTE FLOW FROM SUBBASIN 52 TO C102
1504          RS       3     FLOW      -1
1505          RC     .05     .035     .05    2000     .05
1506          RX    1000     1010    1020    1036    1041    1057    1067    1077
1507          RY      15     14.5      14      10      10      14    14.5      15
              * DDM   ***** Updated *****

1508          KK     460
1509          KM   SUB-BASIN 460
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  .999
1512          KM     L =  .62  Kb = .058  Adj. Slope =  194.0
1513          BA    .140
1514          LG    .250     .260   3.740    .690  27.000
1515          UC    .242     .160
1516          UA       0        5      16      30      65      77      84      90      94      97
1517          UA     100
              * DDM   ***** Preserved *****
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1518          KK    C102
1519          KM        COMBINE HYDROGRAPHS FROM SUB-BASINS 52 AND 53
1520          HC       2
              * DDM   ***** Preserved *****

1521          KK  BASIN3
1522          KM        RESERVOIR AT CLUBHOUSE LOCATION 1-30 INCH PIPE AT OUTFALL
1523          KM        BOTTOM OF BASIN AT 6 FEET ABOVE 1795 ELEVATION
1524          RS       1     ELEV       0
1525          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
1526          SQ       0       22      45    47.4      48      51      57      62      67      73
1527          SE    1795   1797.5    1800  1800.4  1800.5    1801    1802    1803    1804  1805.5
              * DDM   ***** Preserved *****

1528          KK      R3
1529          KM        ROUTE FLOW FROM C102 to C106
1530          RS       5     FLOW      -1
1531          RC     .05      .03     .05    2750   .0375
1532          RX    1000     1010    1020    1052    1086    1118    1128    1138
1533          RY    19.2     18.4      18      10      10      18    18.4    19.2
              * DDM   ***** Updated *****

1534          KK     461
1535          KM   SUB-BASIN 461
1536          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1537          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .999
1538          KM     L =  .83  Kb = .052  Adj. Slope =  181.0
1539          BA    .120
1540          LG    .270     .250   4.250    .450  21.000
1541          UC    .271     .250
1542          UA       0        5      16      30      65      77      84      90      94      97
1543          UA     100
              * DDM   ***** Preserved *****

1544          KK    C104
1545          KM        COMBINE HYDROGRAPHS FROM SUB-BASIN 54 AND R102
1546          HC       2
              * DDM   ***** Preserved *****

1547          KK    C106
1548          KM        COMBINE HYDROGRAPHS FROM SUB-BASIN C103 AND C104
1549          HC       2
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                 * DDM   ***** Preserved *****

1550             KK    R106
1551             KM        ROUTE FLOW FROM C106 TO C49
1552             RS       2    FLOW      -1
1553             RC     .05    .035     .05    3950    .033
1554             RX    1000    1010    1020    1030    1050    1060    1070    1080
1555             RY   13.16   12.83    12.5      10      10    12.5   12.83   13.16
                 * DDM   ***** Updated *****
1                                          HEC-1 INPUT                                                    PAGE 42

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


1556             KK     462
1557             KM   SUB-BASIN 462
1558             KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1559             KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .998
1560             KM     L =  .97  Kb = .045  Adj. Slope =  297.7
1561             BA    .301
1562             LG    .300    .330   5.300    .240  12.000
1563             UC    .225    .137
1564             UA       0       5      16      30      65      77      84      90      94      97
1565             UA     100
                 * DDM   ***** Preserved *****

1566             KK     C56
1567             KM        COMBINE HYDROGRAPHS FROM SUB-BASIN 56 AND C106
                 *      1       2
1568             HC       2
                 * DDM   ***** Preserved *****

1569             KK    C462
1570             KM        COMBINE HYDROGRAPHS AT SUBBASIN 462
                 *      1
1571             HC       2    2.09
                 * DDM   ***** Preserved *****

1572             KK    R462
1573             KM   ROUTE FLOW FROM SUB-BASIN 462 TO SUB-BASIN 500 (First Channel Reach)
1574             RS       1    FLOW      -1
1575             RC    .025    .025    .025    1800    .005
1576             RX       0       1      20      32      62      74      93      94
1577             RY      13      12      12       0       0      12      12      13
                 *

1578             KK   RR462
1579             KM   ROUTE FLOW FROM SUB-BASIN 462 TO SUB-BASIN 500 (Second Natural Wash Reach)
1580             RS       3    FLOW      -1
1581             RC    .055     .05    .055    4700     .05
1582             RX       0       1       2      28      58      84      85      86
1583             RY    13.5    13.5    13.5       0       0    13.5    13.5    13.5
                 * DDM   ***** Updated *****

1584             KK     500
1585             KM   SUB-BASIN 500
1586             KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1587             KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .994
1588             KM     L = 2.77  Kb = .042  Adj. Slope =  286.8
1589             BA    .930
1590             LG    .350    .400   6.000    .170   9.000
1591             UC    .421    .333
1592             UA       0       3       5       8      12      20      43      75      90      96
1593             UA     100
                 * DDM   ***** Preserved *****
1                                          HEC-1 INPUT                                                    PAGE 43

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


1594             KK    C500
1595             KM   HYDROGRAPH COMBINATION FOR THE ENTIRE WATERSHED AT THE SALT RIVER
1596             HC       2    3.02
1597             ZZ
1
          SCHEMATIC DIAGRAM OF STREAM NETWORK
INPUT
 LINE      (V) ROUTING          (--->) DIVERSION OR PUMP FLOW

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

   25          10
                V
                V
   35         R10
                V
                V
   41         R12
                .
                .
   47           .          20
                .            .
                .            .
   57         C20............
                V
                V
   60         R20
                .
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 66          .
             .         40
             .          .
             .          .
 76          .          .          60
             .          .           .
             .          .           .
 86       C60.......................
            V
            V
 89       S60
            V
            V
 98       R60
            V
            V
104      RR60
             .
             .
110          .         80
             .          .
             .          .
120       C80............
            V
            V
123       R80
             .
             .
129          .        100
             .          .
             .          .
139      C100............
            V
            V
142      R100
             .
             .
148          .        120
             .          .
             .          .
158      C120............
            V
            V
161      R120
             .
             .
167          .        140
             .          .
             .          .
177          .          .        150
             .          .          V
             .          .          V
187          .          .       R150
             .          .          V
             .          .          V
193          .          .       R152
             .          .          .
             .          .          .
199          .          .          .        160
             .          .          .          .
             .          .          .          .
209          .          .          .          .        180
             .          .          .          .          .
             .          .          .          .          .
219      C180.............................................
             .
             .
222          .        210
             .          V
             .          V
232          .       R210
             .          .
             .          .
238          .          .        240
             .          .          .
             .          .          .
248          .       C240............
             .          V
             .          V
251          .       S240
             .          V
             .          V
258          .       R240
             .          .
             .          .
265          .          .        220
             .          .          .
             .          .          .
275          .       C220............
             .          V
             .          V
278          .       S220
             .          V
             .          V
285          .       R220
             .          .
             .          .
292          .          .        190
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                .           .           V
                .           .           V
302             .           .        R190
                .           .           V
                .           .           V
308             .           .        R192
                .           .           .
                .           .           .
314             .           .           .         200
                .           .           .           .
                .           .           .           .
324             .        C200.......................
                .           V
                .           V
327             .        S200
                .           V
                .           V
334             .        R200
                .           V
                .           V
340             .       SS200
                .           V
                .           V
347             .       RR200
                .           .
                .           .
353        CC180............
              V
              V
356         S180
              V
              V
365         R180
                .
                .
374             .         260
                .           .
                .           .
384         C260............
              V
              V
387         R260
                .
                .
396             .         280
                .           .
                .           .
406         C280............
              V
              V
409         R280
                .
                .
418             .         300
                .           .
                .           .
428         C300............
              V
              V
431         R300
                .
                .
440             .         305
                .           .
                .           .
450         C305............
              V
              V
453         R305
                .
                .
462             .         350
                .           .
                .           .
475             .           .-------->   SF350
472             .        D350
                .           V
                .           V
478             .        R350
                .           .
                .           .
485             .           .         310
                .           .           .
                .           .           .
495             .        C310............
                .           V
                .           V
498             .        R310
                .           .
                .           .
505             .           .         320
                .           .           .
                .           .           .
520             .           .           .-------->   BS320
515             .           .        D320
                .           .           .
                .           .           .
525             .           .           .           .<-------   BS320
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```
523          .           .           .       RT320
             .           .           .           V
             .           .           .           V
526          .           .           .        S320
             .           .           .           .
             .           .           .           .
532       C320.................................
             V
             V
535       R320
             .
             .
542          .         340
             .           .
             .           .
557          .           .-------->   BS340
552          .        D340
             .           .
             .           .
562          .           .           .<-------   BS340
560          .           .       RT340
             .           .           V
             .           .           V
563          .           .        S340
             .           .           .
             .           .           .
569       C340......................
             V
             V
572       R340
             .
             .
581          .           .<-------   SF350
579          .       RT350
             .           V
             .           V
582          .       RR350
             .           .
             .           .
589          .           .         355
             .           .           .
             .           .           .
599          .        C355............
             .           V
             .           V
602          .        R355
             .           .
             .           .
609          .           .         360
             .           .           .
             .           .           .
623          .           .           .-------->   BS360
619          .           .        D360
             .           .           .
             .           .           .
628          .           .           .           .<-------   BS360
626          .           .           .       RT360
             .           .           .           V
             .           .           .           V
629          .           .           .        S360
             .           .           .           .
             .           .           .           .
635       C360.................................
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642          .-------->    380S
638      DD380
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647          .           .<-------    380S
645          .      RT380S
             .           V
             .           V
648          .       SS380
             .           .
             .           .
655      CC360............
             V
             V
658       R360
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665          .         380
             .           .
             .           .
679          .           .-------->   BS380
675          .        D380
             .           .
             .           .
684          .           .           .<-------   BS380
682          .           .       RT380
             .           .           V
             .           .           V
685          .           .        S380
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691          .        C380............
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694        CC380............
                V
                V
697         R380
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704             .         400
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718             .           .-------->   BS400
714             .        D400
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723             .           .           .<-------   BS400
721             .           .       RT400
                .           .           V
                .           .           V
724             .           .        S400
                .           .           .
                .           .           .
730             .        C400............
                .           .
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733        CC400............
                V
                V
736         R400
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743             .        420A
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757             .           .-------->  BS420A
753             .       D420A
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                .           .
762             .           .           .<-------  BS420A
760             .           .      RT420A
                .           .           V
                .           .           V
763             .           .       S420A
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769             .       C420A............
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772       CC420A............
                V
                V
775         R420
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782             .         370
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792             .           .         395
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802             .        C370............
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808             .           .-------->   BS370
805             .        D370
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813             .           .           .<-------   BS370
811             .           .       RT370
                .           .           V
                .           .           V
814             .           .        S370
                .           .           .
                .           .           .
820             .       CC370............
                .           V
                .           V
823             .        R370
                .           .
                .           .
830             .           .         385
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840             .           .           .        415B
                .           .           .           .
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850             .           .       C415B............
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                .           .           .
856             .           .           .-------->  BS415B
853             .           .       D415B
                .           .           .
                .           .           .
861             .           .           .           .<-------  BS415B
859             .           .           .     RT415B
                .           .           .           V
                .           .           .           V
862             .           .           .      S415B
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868                 CC415B...........
                        V
                        V
871                 R415B
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878                     .         390
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892                     .           .-------->   BS390
888                     .       D390
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897                     .           .          .<-------   BS390
895                     .           .      RT390
                        .           .          V
                        .           .          V
898                     .           .       S390
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904             C390.................................
                   V
                   V
907             R390                                .
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914                 .       420B
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924             C420B...........
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927                 .        440
                        .       V
                        .       V
937                 .       R70
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943                     .         441
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953                 .       C108............
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958                     .-------->   SPLIT
956                 .         D4
                        .       V
                        .       V
961                 .       R108
                        .       .
                        .       .
967                     .         442
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977                 .        C67............
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983                     .-------->  BASIN4
980                 .         D6
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988                     .           .<-------  BASIN4
986                     .       RTD6
                        .           V
                        .           V
989                     .         SD6
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995                 .        CD6............
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998                     .         443
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                        .           .
1011                    .           .-------->   WSH66
1008                    .         D66
                        .           V
                        .           V
1014                    .       R113
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1020                .       C114............
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1023                    .         444
                        .           V
                        .           V
1033                    .         R58
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1039                    .           .         445
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1049                    .       C107............
                        .           V
                        .           V
1052                    .       R107
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1060                                  .<-------   SPLIT
1058                             RTB2
                                    V
                                    V
1061                           RSPLIT
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                                    .
1067                                .         446
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1077                      C109.......................
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                                    .
1083                                .-------> WSH404
1080                         D5
                              V
                              V
1086                      R109
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1092                                .         447
                                    .           .
                                    .           .
1104                                .           .           .<-------  WSH404
1102                                .           .       RT404
                                    .           .           V
                                    .           .           V
1105                                .           .        R404
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1111                      C110.......................
                              V
                              V
1114                      R110
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1120                 C115............
                        V
                        V
1123                 R115
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1129                          448   .
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1139                                .         449
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1149                     C6364............
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                              V
1152                     R6364
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1158                                .         450
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1168                                .           .         451
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1178                                .       C451............
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1183                                .           .           .<-------   WSH66
1181                                .           .        RT66
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1184                                .           .           .         452
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1194                                .           .       C6465............
                                    .           .           V
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1197                                .           .       R6566
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1203                      C116.......................
                              V
                              V
1206                     BASIN5
                              V
                              V
1213                      R116
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1219                                .         453
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1229                      C117............
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1232                 C118............
                        V
                        V
1235                 R118
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1244          .           .           .-------> BASIN6
1241          .           .         D7
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1249          .           .           .          .<-------  BASIN6
1247          .           .           .       RTD7
              .           .           .          V
              .           .           .          V
1250          .           .           .        SD7
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1256          .           .        CD7...........
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1259          .           .           .        454
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1269          .           .      C454...........
              .           .         V
              .           .         V
1272          .           .      R454
              .           .           .
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1279          .           .           .      415A
              .           .           .          .
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1289          .      C415A........................
              .         V
              .         V
1292          .      R415A
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1299          .           .        455
              .           .           .
              .           .           .
1314          .           .           .-------> BS455
1309          .           .      D455
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1319          .           .           .          .<-------  BS455
1317          .           .           .      RT455
              .           .           .          V
              .           .           .          V
1320          .           .           .      S455
              .           .           .          .
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1326          .           .      C455...........
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1329      CC455........................
              V
              V
1332       R455
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1338          .        480
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1353          .           .-------> BS480
1348          .       D480
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1358          .           .           .<-------  BS480
1356          .           .      RT480
              .           .         V
              .           .         V
1359          .           .      S480
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1365          .       C480...........
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1368      CC480...........
              V
              V
1371       R480
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1377          .        456
              .           .
              .           .
1390          .           .-------> BASIN1
1387          .         D1
              .           .
              .           .
1396          .           .-------> WA30
1393          .        CD2
              .          V
              .          V
1399          .       R456
              .           .
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1405          .           .        457
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1415          .       C101...........
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1421          .          .-------> BASIN2
1418          .        D3
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1426          .          .          .<-------  BASIN2
1424          .          .       RTD3
              .          .          V
              .          .          V
1427          .          .        SD3
              .          .          .
              .          .          .
1433          .        CD3............
              .          V
              .          V
1436          .       R101
              .          .
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1442          .          .        458
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1452          .       C103............
              .          V
              .          V
1455          .       R103
              .          .
              .          .
1463          .          .          .<-------    WA30
1461          .          .       RT30
              .          .          V
              .          .          V
1464          .          .        R30
              .          .          .
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1472          .          .          .          .<-------  BASIN1
1470          .          .          .       RTB1
              .          .          .          V
              .          .          .          V
1473          .          .          .         B1
              .          .          .          V
              .          .          .          V
1480          .          .          .        RB1
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1486          .          .       CDIV............
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1489          .          .          .        459
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1499          .          .        C52............
              .          .          V
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1502          .          .        R52
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1508          .          .          .        460
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1518          .          .       C102............
              .          .          V
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1521          .          .     BASIN3
              .          .          V
              .          .          V
1528          .          .         R3
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1534          .          .          .        461
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1544          .          .       C104............
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1547          .       C106............
              .          V
              .          V
1550          .       R106
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1556          .          .        462
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              .          .          .
1566          .        C56............
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1569       C462............
              V
              V
1572       R462
              V
              V
1578      RR462
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1584          .        500
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1594        C500...........

(***) RUNOFF ALSO COMPUTED AT THIS LOCATION
****************************************                                    ****************************************
*                                      *                                    *                                      *
*   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   10MAY01  TIME  17:16:06  *                                    *          (916) 756-1104              *
*                                      *                                    *                                      *
****************************************                                    ****************************************


                    DDMS MCUHP1 SPOOK HILL ADMP-EXISTING CONDITIONS MODEL-100YR, 24-HR STORM
                    McDowell Road Alternative - Option MD2E
                    Non-Jurisdictional Alternatives - Option NJ4Q
                    Spook Hill Channel w/Off-Line Basin

  6 IO          OUTPUT CONTROL VARIABLES
                      IPRNT          5  PRINT CONTROL
                      IPLOT          0  PLOT CONTROL
                      QSCAL         0.  HYDROGRAPH PLOT SCALE

    IT          HYDROGRAPH TIME DATA
                       NMIN          2  MINUTES IN COMPUTATION INTERVAL
                      IDATE      1   0  STARTING DATE
                      ITIME       0000  STARTING TIME
                         NQ       2000  NUMBER OF HYDROGRAPH ORDINATES
                     NDDATE      3   0  ENDING DATE
                     NDTIME       1838  ENDING TIME
                      ICENT         19  CENTURY MARK

                 COMPUTATION INTERVAL     .03 HOURS
                      TOTAL TIME BASE   66.63 HOURS

        ENGLISH UNITS
             DRAINAGE AREA          SQUARE MILES
             PRECIPITATION DEPTH    INCHES
             LENGTH, ELEVATION      FEET
             FLOW                   CUBIC FEET PER SECOND
             STORAGE VOLUME         ACRE-FEET
             SURFACE AREA           ACRES
             TEMPERATURE            DEGREES FAHRENHEIT

  8 JD          INDEX STORM NO. 1
                       STRM      3.81  PRECIPITATION DEPTH
                       TRDA       .01  TRANSPOSITION DRAINAGE AREA

  9 PI            PRECIPITATION PATTERN
                     .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
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19 JD INDEX STORM NO. 2

STRM 3.79 PRECIPITATION DEPTH

TRDA 1.00 TRANSPOSITION DRAINAGE AREA

0 PI PRECIPITATION PATTERN

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20 JD INDEX STORM NO. 3

STRM 3.68 PRECIPITATION DEPTH

TRDA 5.80 TRANSPOSITION DRAINAGE AREA

0 PI PRECIPITATION PATTERN

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21 JD INDEX STORM NO. 4

STRM 3.57 PRECIPITATION DEPTH

TRDA 10.66 TRANSPOSITION DRAINAGE AREA

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22 JD INDEX STORM NO. 5

STRM 3.54 PRECIPITATION DEPTH

TRDA 13.70 TRANSPOSITION DRAINAGE AREA

0 PI PRECIPITATION PATTERN

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23 JD INDEX STORM NO. 6

STRM 3.47 PRECIPITATION DEPTH

TRDA 20.00 TRANSPOSITION DRAINAGE AREA

0 PI PRECIPITATION PATTERN

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24 JD INDEX STORM NO. 7

STRM 3.32 PRECIPITATION DEPTH

TRDA 50.00 TRANSPOSITION DRAINAGE AREA

0 PI PRECIPITATION PATTERN

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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	989.	12.27	119.	33.	12.	.70		
+	ROUTED TO	R10	920.	12.40	119.	33.	12.	.70		
+	ROUTED TO	R12	853.	12.60	119.	33.	12.	.70		
+	HYDROGRAPH AT	20	1011.	12.43	136.	34.	12.	1.12		
+	2 COMBINED AT	C20	1684.	12.53	252.	66.	24.	1.82		
+	ROUTED TO	R20	1683.	12.57	252.	66.	24.	1.82		
+	HYDROGRAPH AT	40	2695.	12.30	264.	69.	25.	2.23		
+	HYDROGRAPH AT	60	1623.	12.40	239.	64.	23.	1.75		
+	3 COMBINED AT	C60	5371.	12.37	733.	194.	70.	5.80		
+	ROUTED TO	S60	118.	14.27	118.	114.	70.	5.80		
	ROUTED TO	R60	118.	14.37	118.	114.	70.	5.80		
+	ROUTED TO	RR60	118.	14.40	118.	114.	70.	5.80		
+	HYDROGRAPH AT	80	1956.	12.27	189.	49.	18.	1.48		
+	2 COMBINED AT	C80	2009.	12.27	295.	160.	90.	1.48		
+	ROUTED TO	R80	1981.	12.30	295.	160.	90.	1.48		
+	HYDROGRAPH AT	100	423.	12.20	60.	16.	6.	.48		
+	2 COMBINED AT	C100	2373.	12.27	351.	174.	95.	1.96		
+	ROUTED TO	R100	2370.	12.30	351.	174.	95.	1.96		
+	HYDROGRAPH AT	120	3352.	12.27	340.	92.	33.	2.20		
+	2 COMBINED AT	C120	5618.	12.27	673.	256.	126.	4.16		
+	ROUTED TO	R120	5546.	12.30	673.	256.	126.	4.16		
+	HYDROGRAPH AT	140	665.	12.13	67.	18.	6.	.60		
+	HYDROGRAPH AT	150	595.	12.17	51.	14.	5.	.41		
+	ROUTED TO	R150	568.	12.23	51.	14.	5.	.41		
	ROUTED TO	R152	514.	12.33	51.	14.	5.	.41		
+	HYDROGRAPH AT	160	228.	12.40	37.	9.	3.	.37		
+	HYDROGRAPH AT	180	836.	12.37	97.	24.	9.	1.00		

+	5 COMBINED AT	C180	7306.	12.30	898.	313.	146.	6.54
	HYDROGRAPH AT	210	1322.	12.17	111.	29.	10.	.79
+	ROUTED TO	R210	1246.	12.23	111.	29.	10.	.79
+	HYDROGRAPH AT	240	1513.	12.30	167.	42.	15.	1.41
+	2 COMBINED AT	C240	2684.	12.27	273.	70.	25.	2.20
+	ROUTED TO	S240	799.	12.70	226.	59.	21.	2.20
+	ROUTED TO	R240	798.	12.77	225.	59.	21.	2.20
+	HYDROGRAPH AT	220	676.	12.20	68.	18.	6.	.47
+	2 COMBINED AT	C220	962.	12.60	288.	75.	27.	2.67
+	ROUTED TO	S220	900.	12.80	280.	73.	26.	2.67
+	ROUTED TO	R220	897.	12.83	280.	73.	26.	2.67
+	HYDROGRAPH AT	190	1471.	12.17	123.	33.	12.	.92
+	ROUTED TO	R190	1415.	12.23	123.	33.	12.	.92
+	ROUTED TO	R192	1359.	12.30	123.	33.	12.	.92
+	HYDROGRAPH AT	200	831.	12.17	72.	20.	7.	.53
	3 COMBINED AT	C200	2254.	12.30	459.	122.	44.	4.12
+	ROUTED TO	S200	2135.	12.37	454.	119.	43.	4.12
+	ROUTED TO	R200	2127.	12.37	454.	119.	43.	4.12
+	ROUTED TO	SS200	1365.	12.73	333.	88.	32.	4.12
+	ROUTED TO	RR200	1330.	12.83	330.	88.	32.	4.12
+	2 COMBINED AT	CC180	7306.	12.30	1212.	399.	177.	10.66
+	ROUTED TO	S180	398.	14.97	375.	253.	131.	10.66
+	ROUTED TO	R180	398.	15.00	375.	253.	131.	10.66
+	HYDROGRAPH AT	260	416.	12.10	43.	12.	4.	.26
+	2 COMBINED AT	C260	439.	12.13	416.	291.	151.	.26
+	ROUTED TO	R260	428.	15.00	416.	291.	151.	.26
+	HYDROGRAPH AT	280	527.	12.10	46.	13.	5.	.32
+	2 COMBINED AT	C280	896.	12.13	432.	301.	155.	.58
+	ROUTED TO	R280	875.	12.20	431.	301.	155.	.58
+	HYDROGRAPH AT	300	415.	12.10	34.	10.	3.	.29
	2 COMBINED AT	C300	1229.	12.17	460.	309.	159.	.87
+	ROUTED TO	R300	1184.	12.23	458.	309.	158.	.87
+	HYDROGRAPH AT	305	476.	12.27	81.	22.	8.	.70

+ 2 COMBINED AT	C305	1637.	12.23	530.	324.	164.	1.57
ROUTED TO	R305	1616.	12.30	529.	324.	164.	1.57
+ HYDROGRAPH AT	350	1258.	12.20	109.	28.	10.	.97
+ DIVERSION TO	SF350	629.	12.20	55.	14.	5.	.97
+ HYDROGRAPH AT	D350	629.	12.20	55.	14.	5.	.97
+ ROUTED TO	R350	557.	12.40	55.	14.	5.	.97
+ HYDROGRAPH AT	310	398.	12.33	52.	13.	5.	.56
+ 2 COMBINED AT	C310	928.	12.40	106.	27.	10.	1.04
+ ROUTED TO	R310	820.	12.73	106.	27.	10.	1.04
+ HYDROGRAPH AT	320	991.	12.20	127.	36.	13.	.95
+ DIVERSION TO	BS320	386.	11.93	21.	6.	2.	.95
+ HYDROGRAPH AT	D320	991.	12.20	113.	29.	11.	.95
+ HYDROGRAPH AT	RT320	386.	11.93	21.	6.	2.	.95
+ ROUTED TO	S320	4.	12.00	4.	4.	2.	.95
+ 4 COMBINED AT	C320	2559.	12.30	732.	373.	181.	3.56
ROUTED TO	R320	2394.	12.57	714.	371.	180.	3.56
+ HYDROGRAPH AT	340	1534.	12.17	194.	57.	21.	1.44
+ DIVERSION TO	BS340	1534.	12.17	103.	28.	10.	1.44
+ HYDROGRAPH AT	D340	1285.	12.30	106.	29.	10.	1.44
+ HYDROGRAPH AT	RT340	1534.	12.17	103.	28.	10.	1.44
+ ROUTED TO	S340	18.	12.33	17.	14.	9.	1.44
+ 3 COMBINED AT	C340	3051.	12.53	819.	407.	197.	5.00
+ ROUTED TO	R340	2955.	12.70	808.	405.	196.	5.00
+ HYDROGRAPH AT	RT350	629.	12.20	55.	14.	5.	.97
+ ROUTED TO	RR350	544.	12.43	55.	14.	5.	.97
+ HYDROGRAPH AT	355	546.	12.33	75.	19.	7.	.68
+ 2 COMBINED AT	C355	1028.	12.40	129.	34.	12.	1.16
+ ROUTED TO	R355	941.	12.70	129.	34.	12.	1.16
+ HYDROGRAPH AT	360	773.	12.23	116.	34.	12.	.88
+ DIVERSION TO	BS360	773.	12.23	52.	14.	5.	.88
HYDROGRAPH AT	D360	709.	12.33	73.	20.	7.	.88
+ HYDROGRAPH AT	RT360	773.	12.23	52.	14.	5.	.88
+ ROUTED TO	S360	9.	12.33	8.	7.	5.	.88

+	4 COMBINED AT	C360	4106.	12.70	971.	451.	215.	7.04
	DIVERSION TO	380S	2146.	12.70	152.	38.	14.	7.04
+	HYDROGRAPH AT	DD380	1960.	12.57	819.	413.	201.	7.04
+	HYDROGRAPH AT	RT380S	2146.	12.70	152.	38.	14.	7.04
+	ROUTED TO	SS380	32.	13.33	30.	25.	12.	7.04
+	2 COMBINED AT	CC360	1992.	13.30	848.	437.	213.	7.04
+	ROUTED TO	R360	1991.	13.33	838.	435.	212.	7.04
+	HYDROGRAPH AT	380	627.	12.27	97.	26.	9.	.90
+	DIVERSION TO	BS380	627.	12.27	56.	14.	5.	.90
+	HYDROGRAPH AT	D380	461.	12.57	44.	12.	4.	.90
+	HYDROGRAPH AT	RT380	627.	12.27	56.	14.	5.	.90
+	ROUTED TO	S380	9.	12.57	9.	7.	5.	.90
+	2 COMBINED AT	C380	470.	12.57	53.	19.	9.	.90
+	2 COMBINED AT	CC380	2194.	12.90	877.	448.	218.	7.94
+	ROUTED TO	R380	2160.	13.27	863.	446.	217.	7.94
	HYDROGRAPH AT	400	560.	12.20	66.	18.	6.	.62
+	DIVERSION TO	BS400	311.	12.00	10.	3.	1.	.62
+	HYDROGRAPH AT	D400	560.	12.20	58.	15.	5.	.62
+	HYDROGRAPH AT	RT400	311.	12.00	10.	3.	1.	.62
+	ROUTED TO	S400	2.	12.07	2.	2.	1.	.62
+	2 COMBINED AT	C400	562.	12.20	60.	16.	6.	.62
+	2 COMBINED AT	CC400	2198.	13.23	868.	452.	222.	8.56
+	ROUTED TO	R400	2179.	13.57	861.	451.	221.	8.56
+	HYDROGRAPH AT	420A	495.	12.20	68.	19.	7.	.57
+	DIVERSION TO	BS420A	377.	12.07	16.	4.	2.	.57
+	HYDROGRAPH AT	D420A	495.	12.20	56.	14.	5.	.57
+	HYDROGRAPH AT	RT420A	377.	12.07	16.	4.	2.	.57
+	ROUTED TO	S420A	13.	11.60	13.	4.	2.	.57
+	2 COMBINED AT	C420A	508.	12.20	68.	19.	7.	.57
+	2 COMBINED AT	CC420A	2221.	13.53	874.	461.	226.	9.13
	ROUTED TO	R420	2204.	13.80	873.	460.	225.	9.13
+	HYDROGRAPH AT	370	817.	12.23	83.	22.	8.	.67
+	HYDROGRAPH AT	395	234.	12.20	26.	7.	3.	.20

+	2 COMBINED AT	C370	1046.	12.23	108.	29.	11.	.87
	DIVERSION TO	BS370	906.	12.23	68.	17.	6.	.87
+	HYDROGRAPH AT	D370	140.	11.87	40.	12.	4.	.87
+	HYDROGRAPH AT	RT370	906.	12.23	68.	17.	6.	.87
+	ROUTED TO	S370	10.	12.90	9.	8.	6.	.87
+	2 COMBINED AT	CC370	150.	12.90	47.	19.	10.	.87
+	ROUTED TO	R370	150.	12.90	47.	19.	10.	.87
+	HYDROGRAPH AT	385	613.	12.23	74.	20.	7.	.53
+	HYDROGRAPH AT	415B	443.	12.10	46.	13.	5.	.33
+	2 COMBINED AT	C415B	973.	12.20	120.	33.	12.	.86
+	DIVERSION TO	BS415B	783.	12.20	64.	16.	6.	.86
+	HYDROGRAPH AT	D415B	190.	11.83	56.	17.	6.	.86
+	HYDROGRAPH AT	RT415B	783.	12.20	64.	16.	6.	.86
+	ROUTED TO	S415B	10.	12.83	9.	8.	6.	.86
+	2 COMBINED AT	CC415B	200.	12.83	63.	23.	12.	.86
	ROUTED TO	R415B	200.	12.83	63.	23.	12.	.86
+	HYDROGRAPH AT	390	477.	12.03	35.	10.	4.	.24
+	DIVERSION TO	BS390	101.	11.73	6.	2.	1.	.24
+	HYDROGRAPH AT	D390	477.	12.03	31.	8.	3.	.24
+	HYDROGRAPH AT	RT390	101.	11.73	6.	2.	1.	.24
+	ROUTED TO	S390	1.	11.80	1.	1.	1.	.24
+	4 COMBINED AT	C390	810.	12.03	141.	50.	25.	1.97
+	ROUTED TO	R390	734.	12.23	141.	50.	25.	1.97
+	HYDROGRAPH AT	420B	356.	12.10	34.	10.	4.	.28
+	2 COMBINED AT	C420B	1013.	12.20	173.	59.	29.	2.25
+	HYDROGRAPH AT	440	184.	12.03	12.	3.	1.	.08
+	ROUTED TO	R70	181.	12.07	12.	3.	1.	.08
+	HYDROGRAPH AT	441	16.	12.03	1.	0.	0.	.01
+	2 COMBINED AT	C108	197.	12.07	14.	4.	1.	.09
+	DIVERSION TO	SPLIT	98.	12.07	7.	2.	1.	.09
	HYDROGRAPH AT	D4	98.	12.07	7.	2.	1.	.09
+	ROUTED TO	R108	92.	12.13	7.	2.	1.	.09
+	HYDROGRAPH AT	442	105.	12.10	9.	2.	1.	.10

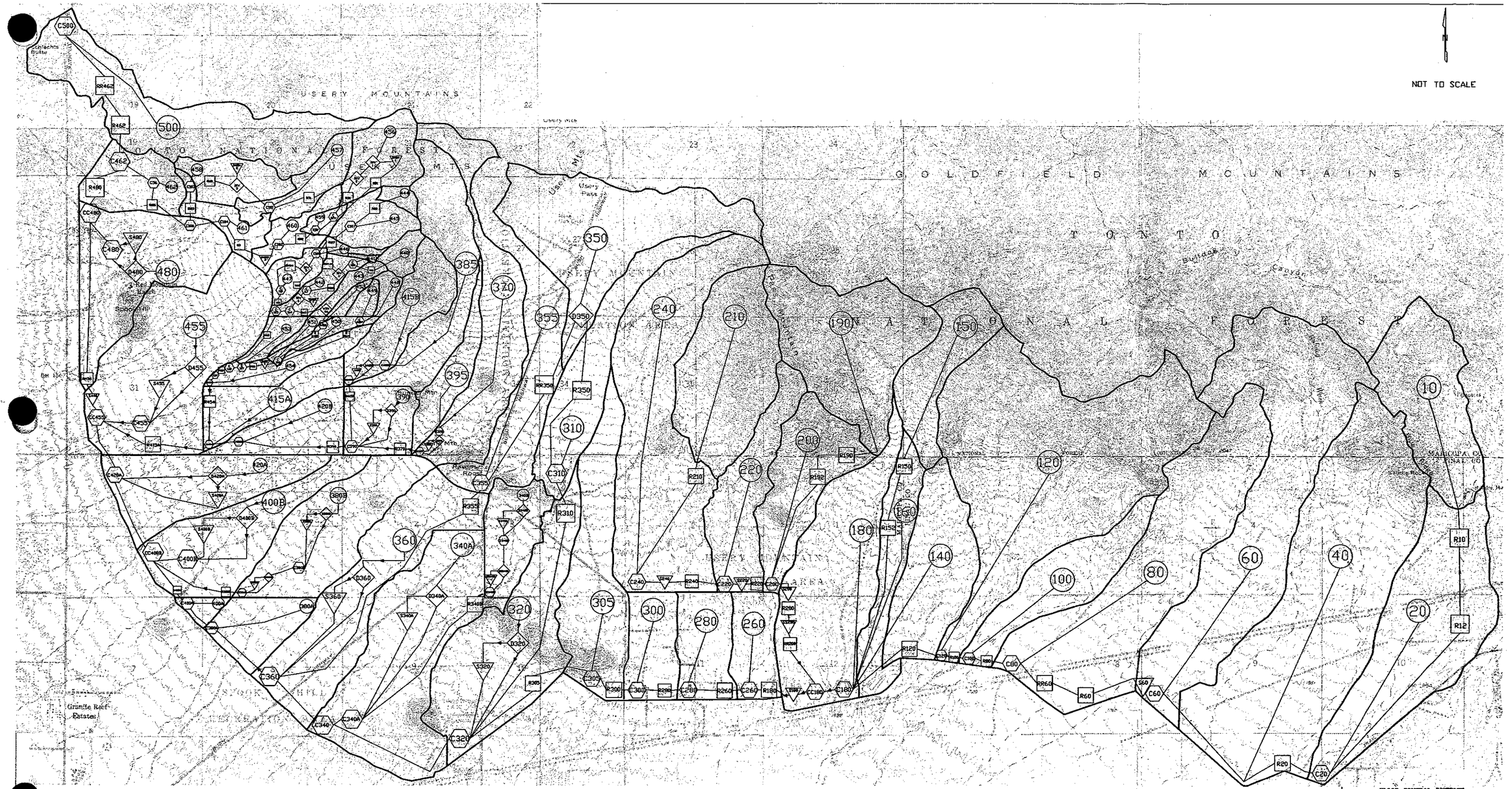
+	2 COMBINED AT	C67	195.	12.10	16.	4.	2.	.19
	DIVERSION TO	BASIN4	121.	12.10	6.	2.	1.	.19
+	HYDROGRAPH AT	D6	74.	12.10	10.	3.	1.	.19
+	HYDROGRAPH AT	RTD6	121.	12.10	6.	2.	1.	.19
+	ROUTED TO	SD6	1.	12.47	1.	1.	0.	.19
+	2 COMBINED AT	CD6	74.	12.10	10.	3.	1.	.19
+	HYDROGRAPH AT	443	151.	12.07	15.	4.	1.	.08
+	DIVERSION TO	WSH66	78.	11.87	12.	3.	1.	.08
+	HYDROGRAPH AT	D66	73.	12.07	3.	1.	0.	.08
+	ROUTED TO	R113	71.	12.07	3.	1.	0.	.08
+	2 COMBINED AT	C114	144.	12.07	13.	4.	2.	.27
+	HYDROGRAPH AT	444	83.	12.03	5.	1.	0.	.04
+	ROUTED TO	R58	79.	12.07	5.	1.	0.	.04
+	HYDROGRAPH AT	445	307.	12.03	19.	5.	2.	.19
+	2 COMBINED AT	C107	382.	12.03	23.	6.	2.	.23
	ROUTED TO	R107	382.	12.07	23.	6.	2.	.23
+	HYDROGRAPH AT	RTB2	98.	12.07	7.	2.	1.	.09
+	ROUTED TO	RSPLIT	98.	12.07	7.	2.	1.	.09
+	HYDROGRAPH AT	446	66.	12.03	6.	2.	1.	.04
+	3 COMBINED AT	C109	545.	12.07	36.	10.	3.	.27
+	DIVERSION TO	WSH404	35.	11.70	8.	2.	1.	.27
+	HYDROGRAPH AT	D5	510.	12.07	28.	7.	3.	.27
+	ROUTED TO	R109	493.	12.10	28.	7.	3.	.27
+	HYDROGRAPH AT	447	141.	12.07	12.	4.	1.	.09
+	HYDROGRAPH AT	RT404	35.	11.70	8.	2.	1.	.27
+	ROUTED TO	R404	35.	11.83	8.	2.	1.	.27
+	3 COMBINED AT	C110	666.	12.07	48.	13.	5.	.36
+	ROUTED TO	R110	663.	12.10	48.	13.	5.	.36
+	2 COMBINED AT	C115	805.	12.07	61.	17.	7.	.63
+	ROUTED TO	R115	799.	12.10	61.	17.	7.	.63
	HYDROGRAPH AT	448	89.	12.03	6.	2.	1.	.05
+	HYDROGRAPH AT	449	81.	12.03	5.	1.	0.	.05
+	2 COMBINED AT	C6364	170.	12.03	11.	3.	1.	.09

+	ROUTED TO R6364	145.	12.17	11.	3.	1.	.09
	HYDROGRAPH AT 450	63.	12.20	7.	2.	1.	.07
+	HYDROGRAPH AT 451	18.	12.17	2.	1.	0.	.03
+	2 COMBINED AT C451	80.	12.20	9.	2.	1.	.09
+	HYDROGRAPH AT RT66	78.	11.87	12.	3.	1.	.08
+	HYDROGRAPH AT 452	63.	12.03	5.	1.	0.	.04
+	2 COMBINED AT C6465	141.	12.03	17.	4.	2.	.04
+	ROUTED TO R6566	137.	12.10	17.	4.	2.	.04
+	3 COMBINED AT C116	357.	12.17	36.	10.	3.	.23
+	ROUTED TO BASIN5	159.	12.47	36.	10.	3.	.23
+	ROUTED TO R116	157.	12.53	36.	10.	3.	.23
+	HYDROGRAPH AT 453	63.	12.10	7.	2.	1.	.06
+	2 COMBINED AT C117	177.	12.47	43.	12.	4.	.29
+	2 COMBINED AT C118	892.	12.10	104.	29.	11.	.92
+	ROUTED TO R118	887.	12.13	104.	29.	11.	.92
	DIVERSION TO BASIN6	248.	12.13	7.	2.	1.	.92
+	HYDROGRAPH AT D7	639.	12.13	97.	27.	10.	.92
+	HYDROGRAPH AT RTD7	248.	12.13	7.	2.	1.	.92
+	ROUTED TO SD7	1.	12.63	1.	1.	1.	.92
+	2 COMBINED AT CD7	640.	12.13	97.	28.	11.	.92
+	HYDROGRAPH AT 454	162.	12.13	21.	6.	2.	.18
+	2 COMBINED AT C454	801.	12.13	118.	34.	13.	1.10
+	ROUTED TO R454	793.	12.23	118.	34.	13.	1.10
+	HYDROGRAPH AT 415A	267.	12.17	32.	9.	3.	.28
+	3 COMBINED AT C415A	2035.	12.20	316.	99.	44.	3.63
+	ROUTED TO R415A	2016.	12.27	316.	99.	44.	3.63
+	HYDROGRAPH AT 455	1418.	12.13	150.	45.	16.	1.11
+	DIVERSION TO BS455	1418.	12.13	139.	37.	13.	1.11
+	HYDROGRAPH AT D455	145.	12.80	24.	8.	3.	1.11
+	HYDROGRAPH AT RT455	1418.	12.13	139.	37.	13.	1.11
	ROUTED TO S455	23.	12.80	22.	18.	11.	1.11
+	2 COMBINED AT C455	169.	12.80	46.	26.	14.	1.11
+	3 COMBINED AT CC455	2411.	13.73	1128.	554.	271.	13.87

+	ROUTED TO R455	2368.	14.23	1116.	553.	270.	13.87
	HYDROGRAPH AT 480	1102.	12.10	100.	31.	11.	.73
+	DIVERSION TO BS480	487.	11.90	27.	8.	3.	.73
+	HYDROGRAPH AT D480	1102.	12.10	83.	23.	8.	.73
+	HYDROGRAPH AT RT480	487.	11.90	27.	8.	3.	.73
+	ROUTED TO S480	5.	11.97	5.	4.	3.	.73
+	2 COMBINED AT C480	1107.	12.10	88.	27.	11.	.73
+	2 COMBINED AT CC480	2562.	14.10	1285.	645.	316.	.73
+	ROUTED TO R480	2540.	14.30	1279.	644.	315.	.73
+	HYDROGRAPH AT 456	483.	12.07	37.	10.	4.	.26
+	DIVERSION TO BASIN1	193.	12.07	8.	2.	1.	.26
+	HYDROGRAPH AT D1	290.	12.07	29.	8.	3.	.26
+	DIVERSION TO WA30	59.	12.07	10.	3.	1.	.26
+	HYDROGRAPH AT CD2	231.	12.07	19.	5.	2.	.26
+	ROUTED TO R456	218.	12.13	19.	5.	2.	.26
	HYDROGRAPH AT 457	273.	12.07	21.	6.	2.	.19
+	2 COMBINED AT C101	480.	12.10	40.	10.	4.	.45
+	DIVERSION TO BASIN2	177.	12.10	8.	2.	1.	.45
+	HYDROGRAPH AT D3	303.	12.10	32.	8.	3.	.45
+	HYDROGRAPH AT RTD3	177.	12.10	8.	2.	1.	.45
+	ROUTED TO SD3	1.	12.40	1.	1.	1.	.45
+	2 COMBINED AT CD3	304.	12.10	33.	9.	4.	.45
+	ROUTED TO R101	302.	12.10	33.	9.	4.	.45
+	HYDROGRAPH AT 458	366.	12.03	26.	7.	2.	.19
+	2 COMBINED AT C103	655.	12.07	59.	16.	6.	.64
+	ROUTED TO R103	651.	12.07	59.	16.	6.	.64
+	HYDROGRAPH AT RT30	59.	12.07	10.	3.	1.	.26
+	ROUTED TO R30	58.	12.10	10.	3.	1.	.26
+	HYDROGRAPH AT RTB1	193.	12.07	8.	2.	1.	.26
+	ROUTED TO B1	35.	12.20	8.	2.	1.	.26
	ROUTED TO RB1	35.	12.27	8.	2.	1.	.26
+	2 COMBINED AT CDIV	87.	12.20	18.	5.	2.	.12
+	HYDROGRAPH AT 459	45.	12.03	3.	1.	0.	.03

	2 COMBINED AT							
+		C52	117.	12.10	21.	6.	2.	.15
	ROUTED TO							
		R52	116.	12.17	21.	6.	2.	.15
	HYDROGRAPH AT							
+		460	221.	12.07	20.	6.	2.	.14
	2 COMBINED AT							
+		C102	323.	12.07	40.	12.	4.	.29
	ROUTED TO							
+		BASIN3	71.	12.63	40.	12.	4.	.29
	ROUTED TO							
+		R3	71.	12.77	40.	12.	4.	.29
	HYDROGRAPH AT							
+		461	165.	12.10	17.	5.	2.	.12
	2 COMBINED AT							
+		C104	220.	12.10	57.	17.	6.	.41
	2 COMBINED AT							
+		C106	866.	12.07	115.	33.	12.	1.05
	ROUTED TO							
+		R106	828.	12.13	115.	33.	12.	1.05
	HYDROGRAPH AT							
+		462	557.	12.07	42.	12.	4.	.30
	2 COMBINED AT							
+		C56	1306.	12.10	156.	44.	16.	1.35
	2 COMBINED AT							
+		C462	2580.	14.33	1369.	668.	324.	2.09
	ROUTED TO							
+		R462	2576.	14.37	1368.	668.	324.	2.09
	ROUTED TO							
+		RR462	2571.	14.40	1367.	668.	324.	2.09
	HYDROGRAPH AT							
		500	1126.	12.27	128.	35.	12.	.93
	2 COMBINED AT							
+		C500	2665.	12.30	1467.	692.	332.	3.02

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



FLOOD CONTROL DISTRICT
OF MARICOPA COUNTY
ENGINEERING DIVISION

McDOWELL & McKELLIPS ALTERNATIVE

	BY	DATE
DESIGNED	R. HINER	06/00
DRAWN	S. CAMPBELL	06/00
CHECKED	A. PATEL	06/00

WOOD, PATEL & ASSOCIATES, INC.
2051 WEST NORTHERN, SUITE 100
PHOENIX, ARIZONA (602) 335-8500

DRAWING NO. MD2EMK2E.DWG SHEET OF

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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   16MAY01  TIME  09:17:13  *                                    *          (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   DDM MCUHP1 SPOOK HILL AMDP - EXISTING CONDITIONS MODEL - 100YR, 24HR STORM
  2           ID   Existing Condition Base Model with Spook Hill FRS Storage Routing
  3           ID   Spook Hill FRS without Off-Line Basin
  4           ID   Combine the Following Two Options:
  5           ID   McKellips Road Alternative - Option MK2E
  6           ID   McDowell Road Alternative - Option MD2E
              *
              *  Original File Names: EC24MK2E.DAT and EC24MD2E.DAT
              *  Modified File Name: MD2EMK2E.DAT, 5/15/01, WOOD/PATEL, SZ
              *
              *
              *DIAGRAM
  7           IT       2                    2000
  8           IO       5
  9           IN      15
 10           JD    3.81    0.01
 11           PC    .000    .002    .005    .008    .011    .014    .017    .020    .023    .026
 12           PC    .029    .032    .035    .038    .041    .044    .048    .052    .056    .060
 13           PC    .064    .068    .072    .076    .080    .085    .090    .095    .100    .105
 14           PC    .110    .115    .120    .126    .133    .140    .147    .155    .163    .172
 15           PC    .181    .191    .203    .218    .236    .257    .283    .387    .663    .707
 16           PC    .735    .758    .776    .791    .804    .815    .825    .834    .842    .849
 17           PC    .856    .863    .869    .875    .881    .887    .893    .898    .903    .908
 18           PC    .913    .918    .922    .926    .930    .934    .938    .942    .946    .950
 19           PC    .953    .956    .959    .962    .965    .968    .971    .974    .977    .980
 20           PC    .983    .986    .989    .992    .995    .998   1.000
 21           JD   3.787    1.00
 22           JD   3.677    5.80
 23           JD   3.574   10.66
 24           JD   3.539   13.70
 25           JD   3.467   20.00
 26           JD   3.315   50.00
              * DDM   ***** Updated *****

 27           KK      10
 28           KM   SUB-BASIN 10
 29           KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
 30           KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .996
 31           KM     L = 2.00  Kb = .044  Adj. Slope =  165.0
 32           BA    .702
 33           LG    .350    .320   7.600    .090  15.000
 34           UC    .421    .302
 35           UA       0       3       5       8      12      20      43      75      90      96
 36           UA     100
              * DDM   ***** Preserved *****

 37           KK     R10
 38           KM   ROUTING OF FLOW FROM SUB-BASIN 10 TO R12
 39           RS       4    FLOW      -1
 40           RC    .045     .03    .045    8700    .021
 41           RX       0       1       2      17      27      42      43      44
 42           RY       5       5       5       0       0       5       5       5
              * DDM   ***** Preserved *****
                                                HEC-1 INPUT                                                    PAGE  2

LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10
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 43          KK     R12
 44          KM   ROUTING OF FLOW FROM R12 TO SUB-BASIN 20
 45          RS       6    FLOW      -1
 46          RC    .045     .03    .045    4500     .01
 47          RX       0       1      45    52.5    72.5      80     124     125
 48          RY       4     2.5     2.5       0       0     2.5     2.5       4
             * DDM   ***** Updated *****

 49          KK      20
 50          KM   SUB-BASIN 20
 51          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
 52          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .993
 53          KM     L = 2.50  Kb = .041  Adj. Slope =   88.0
 54          BA   1.120
 55          LG    .350    .390   5.800    .190   1.000
 56          UC    .658    .454
 57          UA       0       3       5       8      12      20      43      75      90      96
 58          UA     100
             * DDM   ***** Preserved *****

 59          KK     C20
 60          KM   HYDROGRAPH COMBINATION OF SUB-BASINS 10 AND 20
 61          HC       2
             * DDM   ***** Preserved *****

 62          KK     R20
 63          KM        ROUTE FLOW THROUGH BULLDOG FLOODWAY FROM APACHE JUNCTION FRS
 64          RS       1    FLOW      -1
 65          RC    .016    .016    .016     990    .004
 66          RX       0       5       7    14.5    34.5      42      44      50
 67          RY       4       2       2       0       0       2       2       4
             * DDM   ***** Updated *****

 68          KK      40
 69          KM   SUB-BASIN 40
 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  .987
 72          KM     L = 3.08  Kb = .036  Adj. Slope =  189.0
 73          BA   2.233
 74          LG    .340    .340   4.900    .280   5.000
 75          UC    .496    .264
 76          UA       0       3       5       8      12      20      43      75      90      96
 77          UA     100
             * DDM   ***** Updated *****

 78          KK      60
 79          KM   SUB-BASIN 60
 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  .990
 82          KM     L = 4.19  Kb = .038  Adj. Slope =  209.6
 83          BA   1.746
 84          LG    .330    .350   5.800    .190   9.000
 85          UC    .596    .477
 86          UA       0       3       5       8      12      20      43      75      90      96
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LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 87          UA     100
             * DDM   ***** Preserved *****

 88          KK     C60
 89          KM     C60GRAPH COMBINATION FOR APACHE JUNCTION FRS
             *      1       2
 90          HC       3
             * DDM   ***** Preserved *****

 91          KK     S60
 92          KM   APACHE JUNCTION FRS AS-BUILT PLANS 12/19/88
 93          KM   OUTLET PIPE=30"RCP; L=136.6'; INLET INV.=1783.5; OUTLET INV.=1783
 94          KM   EMERGENCY SPILLWAY ELEV.=1799.77'; PRINCIPLE SPILLWAY ELEV.=1793.5'
 95          KM   STORAGE VOLUME BELOW PRINCIPLE SPILLWAY FOR SEDIMENT = 100 ACRE-FEET
             *  ESE = 1801.92 ft; PSE = 1795.65 ft; Sediment Vol. = 237 Ac-Ft.
 96          RS       1    STOR       0
 97          SV       0       0      77     242     371     439     563     687    2163
 98          SQ       0      12     103     114     120     362    1462    3101   30000
 99          SE    95.0    96.0    98.0   100.0   101.6   101.9   103.0   104.0   112.9
             * DDM   ***** Preserved *****

100          KK     R60
101          KM        ROUTE FLOW THROUGH BULLDOG FLOODWAY FROM APACHE JUNCTION FRS
102          RS       1    FLOW      -1
103          RC    .016    .016    .016    2850    .012
104          RX       0       1       2     2.1     5.6     5.7       6       7
105          RY     3.5     3.5     3.5       0       0     3.5     3.5     3.5
             * DDM   ***** Preserved *****

106          KK    RR60
107          KM   ROUTE FLOW FROM BULLDOG FLOODWAY TO SUB-BASIN 80
108          RS       3    FLOW      -1
109          RC    .016    .016    .016    3500    .005
110          RX       0       1       2     2.1     7.1     7.2       8       9
111          RY     3.5     3.5     3.5       0       0     3.5     3.5     3.5
             * DDM   ***** Updated *****
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 112          KK      80
 113          KM   SUB-BASIN 80
 114          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
 115          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .991
 116          KM     L = 2.69  Kb = .039  Adj. Slope =  229.8
 117          BA   1.475
 118          LG    .330    .330   5.600    .210   4.000
 119          UC    .433    .259
 120          UA      0       3       5       8      12      20      43      75      90      96
 121          UA     100
              * DDM   ***** Preserved *****

 122          KK     C80
 123          KM   HYDROGRAPH COMBINATION FOR FLOW FROM APACHE JUNCTION FRS & SUB-BASIN 80
 124          HC       2   1.475
              * DDM   ***** Preserved *****
1                                        HEC-1 INPUT                                          PAGE  4

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

 125          KK     R80
 126          KM   ROUTE FLOW FROM SUB-BASIN 80 TO SUB-BASIN 100
 127          RS       1    FLOW      -1
 128          RC    .025    .016    .025    1200    .003
 129          RX      0       2       6     6.1    41.1    41.2    56.2    58.2
 130          RY     5.5     4.5     4.5       0       0     4.5     4.5     5.5
              * DDM   ***** Updated *****

 131          KK     100
 132          KM   SUB-BASIN 100
 133          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
 134          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .997
 135          KM     L = 1.94  Kb = .046  Adj. Slope =  108.0
 136          BA    .484
 137          LG    .320    .290   5.100    .260   3.000
 138          UC    .533    .473
 139          UA      0       5      16      30      65      77      84      90      94      97
 140          UA     100
              * DDM   ***** Preserved *****

 141          KK    C100
 142          KM   HYDROGRAPH COMBINATION FOR FLOW FROM SUB-BASIN 80 & 100
 143          HC       2
              * DDM   ***** Preserved *****

 144          KK    R100
 145          KM   ROUTE FLOW FROM SUB-BASIN 100 TO SUB-BASIN 120
 146          RS       1    FLOW      -1
 147          RC    .016    .016    .016     940    .005
 148          RX      0       1       2     2.1    52.1    52.2      53      54
 149          RY     4.5     4.5     4.5       0       0     4.5     4.5     4.5
              * DDM   ***** Updated *****

 150          KK     120
 151          KM   SUB-BASIN 120
 152          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
 153          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .987
 154          KM     L = 3.07  Kb = .037  Adj. Slope =  239.0
 155          BA   2.202
 156          LG    .330    .280   6.800    .130  11.000
 157          UC    .429    .226
 158          UA      0       3       5       8      12      20      43      75      90      96
 159          UA     100
              * DDM   ***** Preserved *****

 160          KK    C120
 161          KM   HYDROGRAPH COMBINATION FOR FLOW FROM SUB-BASIN 100 & 120
 162          HC       2
              * DDM   ***** Preserved *****
1                                        HEC-1 INPUT                                          PAGE  5

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

 163          KK    R120
 164          KM   ROUTE FLOW FROM SUB-BASIN 120 TO SIGNAL BUTTE FRS
 165          RS       1    FLOW      -1
 166          RC    .025    .016    .025    2100    .005
 167          RX      0       6      10    10.1    60.1    60.2    74.2    80.2
 168          RY      8       5       5       0       0       5       5       8
              * DDM   ***** Updated *****

 169          KK     140
 170          KM   SUB-BASIN 140
 171          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
 172          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .996
 173          KM     L = 1.61  Kb = .044  Adj. Slope =  149.0
 174          BA    .598
 175          LG    .310    .280   4.200    .440   5.000
 176          UC    .421    .278
 177          UA      0       5      16      30      65      77      84      90      94      97
 178          UA     100
              * DDM   ***** Updated *****
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179          KK     150
180          KM   SUB-BASIN 150
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  .998
183          KM     L = 1.50  Kb = .047  Adj. Slope =  314.6
184          BA    .408
185          LG    .350    .360   5.100    .260   7.000
186          UC    .296    .221
187          UA       0       3       5       8      12      20      43      75      90      96
188          UA     100
             * DDM   ***** Preserved *****

189          KK    R150
190          KM   ROUTING OF FLOW FROM SUB-BASIN 150 TO R152
191          RS       2    FLOW      -1
192          RC    .045     .04    .045    3100    .032
193          RX       0       1       2      23      33      54      55      56
194          RY       7       7       7       0       0       7       7       7
             * DDM   ***** Preserved *****

195          KK    R152
196          KM   ROUTING OF FLOW FROM R152 TO SUB-BASIN 160
197          RS       3    FLOW      -1
198          RC    .045     .03    .045    5900    .019
199          RX       0       1       2       8      33      39      40      41
200          RY       2       2       2       0       0       2       2       2
             * DDM   ***** Updated *****

201          KK     160
202          KM   SUB-BASIN 160
203          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
204          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .998
205          KM     L = 2.10  Kb = .047  Adj. Slope =  129.0
206          BA    .369
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LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

207          LG    .340    .330   4.150    .440   1.000
208          UC    .587    .655
209          UA       0       3       5       8      12      20      43      75      90      96
210          UA     100
             * DDM   ***** Updated *****

211          KK     180
212          KM   SUB-BASIN 180
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  .994
215          KM     L = 2.42  Kb = .041  Adj. Slope =  140.0
216          BA   1.000
217          LG    .350    .350   4.150    .430    .000
218          UC    .571    .403
219          UA       0       3       5       8      12      20      43      75      90      96
220          UA     100
             * DDM   ***** Preserved *****

221          KK    C180
222          KM   HYDROGRAPH COMBINATION FOR SIGNAL BUTTE FRS
223          HC       5
             *
             * The sub-basin area and soil make-up have been updated from CAD file 12/07/00
             * DDM   ***** Updated *****

224          KK     210
225          KM   SUB-BASIN 210
226          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
227          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .995
228          KM     L = 1.84  Kb = .043  Adj. Slope =  315.0
229          BA    .792
230          LG    .350    .360   6.800    .130   4.000
231          UC    .313    .189
232          UA       0       3       5       8      12      20      43      75      90      96
233          UA     100
             * DDM   ***** Preserved *****

234          KK    R210
235          KM   ROUTING OF FLOW FROM SUB-BASIN 210 TO SUB-BASIN 220
236          RS       2    FLOW      -1
237          RC    .045     .03    .045    5100    .022
238          RX       0       1       2      14      34      46      47      48
239          RY       4       4       4       0       0       4       4       4
             *
             * The sub-basin area and soil make-up have been updated from CAD file 12/07/00
             * DDM   ***** Updated *****

240          KK     240
241          KM   SUB-BASIN 240
242          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
243          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .992
244          KM     L = 3.50  Kb = .039  Adj. Slope =  298.6
245          BA   1.408
246          LG    .350    .370   5.300    .230   2.000
247          UC    .467    .356
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 248          UA       0       3       5       8      12      20      43      75      90      96
 249          UA     100
              * DDM   ***** Preserved *****

 250          KK    C240
 251          KM   HYDROGRAPH COMBINATION FOR SUB-BASIN 240 & 220
 252          HC       2
              * DDM   ***** Preserved *****

 253          KK    S240
 254          KM    WEIR GEOMETRY OBTAINED FROM AS-BUILT PLANS @ PASS MTN. DIVERSION.
 255          KM   WEIR STORAGE DATA OBTAINED FROM 2' CONTOUR MAPPING.
 256          RS       1    STOR       0
 257          SA    1.38    14.2    36.5
 258          SE     1.7       5      11
 259          SS       5      42       3     1.5
              * DDM   ***** Preserved *****

 260          KK    R240
 261          KM   ROUTE FLOW FROM SUB-BASIN 240 TO SUB-BASIN 220
 262          KM   PASS MOUNTAIN DIVERSION
 263          RS       3    FLOW      -1
 264          RC    .035    .025    .035    1800    .005
 265          RX       0      15      30      39      69      81      96     111
 266          RY     3.6     3.3       3       0       0       3       3       4
              *
              * The sub-basin area and soil make-up have been updated from CAD file 12/07/00
              * DDM   ***** Updated *****

 267          KK     220
 268          KM   SUB-BASIN 220
 269          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
 270          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .997
 271          KM     L = 1.92  Kb = .046  Adj. Slope =  315.0
 272          BA    .473
 273          LG    .350    .350   7.000    .120   5.000
 274          UC    .333    .282
 275          UA       0       3       5       8      12      20      43      75      90      96
 276          UA     100
              * DDM   ***** Preserved *****

 277          KK    C220
 278          KM   HYDROGRAPH COMBINATION FOR SUB-BASIN 240 & 220
 279          HC       2
              * DDM   ***** Preserved *****

 280          KK    S220
 281          KM    WEIR GEOMETRY OBTAINED FROM AS-BUILT PLANS @ PASS MTN. DIVERSION.
 282          KM   WEIR STORAGE DATA OBTAINED FROM 2' CONTOUR MAPPING.
 283          RS       1    STOR       0
 284          SA     .78     4.1    13.7
 285          SE       1       3      10
 286          SS       3      65       3     1.5
              * DDM   ***** Preserved *****
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 287          KK    R220
 288          KM   ROUTE FLOW FROM SUB-BASIN 220 TO SUB-BASIN 200
 289          KM   PASS MOUNTAIN DIVERSION
 290          RS       1    FLOW      -1
 291          RC    .035    .025    .035    1250    .005
 292          RX       0      50     100     109     139     148     178     184
 293          RY       5       4       3       0       0       3       3       5
              * DDM   ***** Updated *****

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

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

 310          KK    R192
 311          KM   ROUTING OF FLOW FROM SUB-BASIN 190 TO SUB-BASIN 200
 312          RS       3    FLOW      -1
 313          RC    .045    .035    .045    2200    .018
 314          RX       0       1      50      59      79      88     137     138
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315          RY     4.5       3       3       0       0       3       3     4.5
             * DDM   ***** Updated *****

316          KK     200
317          KM   SUB-BASIN 200
318          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
319          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .997
320          KM     L = 1.58  Kb = .045  Adj. Slope =  305.6
321          BA    .530
322          LG    .350    .390   5.700    .200  10.000
323          UC    .300    .201
324          UA       0       3       5       8      12      20      43      75      90      96
325          UA     100
             * DDM   ***** Preserved *****
1                                        HEC-1 INPUT                                                    PAGE  9

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

326          KK    C200
327          KM   HYDROGRAPH COMBINATION FOR SUB-BASIN 220 & 200
328          HC       3
             * DDM   ***** Preserved *****

329          KK    S200
330          KM    WEIR GEOMETRY OBTAINED FROM AS-BUILT PLANS @ PASS MTN. DIVERSION.
331          KM   WEIR STORAGE DATA OBTAINED FROM 2' CONTOUR MAPPING.
332          RS       1    STOR       0
333          SA    2.56     3.1     9.4
334          SE       0       3      10
335          SS       3     112       3     1.5
             * DDM   ***** Preserved *****

336          KK    R200
337          KM   ROUTE FLOW FROM SUB-BASIN 200 TO SIGNAL BUTTE FRS through storage
338          RS       1    FLOW      -1
339          RC    .035    .025    .035     650    .005
340          RX       0       1       2      17     117     132     133     134
341          RY       5       5       5       0       0       5       5       5
             * DDM   ***** Preserved *****

342          KK   SS200
343          KM    WEIR GEOMETRY OBTAINED FROM AS-BUILT PLANS @ PASS MTN. DIVERSION.
344          KM   WEIR STORAGE DATA OBTAINED FROM 2' CONTOUR MAPPING.
345          RS       1    STOR       0
346          SA       8     9.2     9.2
347          SE       0       7      10
348          SS       7     251       3     1.5
             * DDM   ***** Preserved *****

349          KK   RR200
350          KM   ROUTE FLOW FROM SUB-BASIN 200 TO SIGNAL BUTTE FRS
351          RS       3    FLOW      -1
352          RC    .035    .025    .035    3150    .005
353          RX       0       1       2      17     117     132     133     134
354          RY       5       5       5       0       0       5       5       5
             * DDM   ***** Preserved *****

355          KK   CC180
356          KM   HYDROGRAPH COMBINATION FOR SIGNAL BUTTE FRS
             *      1       2
357          HC       2
             * DDM   ***** Preserved *****

358          KK    S180
359          KM   SIGNAL BUTTE FRS DATED 1/28/85
360          KM   OUTLET PIPE=36"RCP; L= 147';  INLET INV.=1690; OUTLET INV.=1687
361          KM   EMERGENCY SPILLWAY ELEV.=1712.4; PRINCIPLE SPILLWAY ELEV.=1701
362          KM   STORAGE VOLUME BELOW PRINCIPLE SPILLWAY FOR SEDIMENT = 250 ACRE-FEET
             *  ESE = 1714.63 ft; PSE = 1703.23 ft; Sediment Vol. = 247 Ac-Ft.
363          RS       1    STOR       0
364          SV       0      92     226     462     742    1197    1418    1776    1941    3114
365          SQ       0      10    10.5      98     133     149     155    1484    2567    6000
1                                        HEC-1 INPUT                                                    PAGE 10

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

366          SE      99     101   103.0     106     109   113.0   114.6     117     118     120
             *

367          KK    R180
368          KM   Routing length updated using Signal Butte Floodway plans dated March 1983
369          KM   Routing length increased 100' from 1500' to 1600'    12/12/00
370          KM   CHANNEL GEOMETRY FOR SIGNAL BUTTE FRS OBTAINED FROM AS-BUILT PLANS.
371          KM   ROUTE FLOW FROM SIGNAL BUTTE FRS TO SUB-BASIN 260
372          RS       2    FLOW      -1
373          RC    .035    .025    .035    1600    .003
374          RX       0       1       2    22.6    38.6    59.2      60      61
375          RY     9.3     9.3     9.3       0       0     9.3     9.3     9.3
             * DDM   ***** Updated *****

376          KK     260
377          KM   SUB-BASIN 260
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
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380          KM     L =  .81  Kb = .049  Adj. Slope =   68.0
381          BA    .262
382          LG    .300    .190   6.600    .170  15.000
383          UC    .363    .217
384          UA       0       5      16      30      65      77      84      90      94      97
385          UA     100
             * DDM   ***** Preserved *****

386          KK    C260
387          KM   HYDROGRAPH COMBINATION FOR OUTFLOW OF SIGNAL BUTTE FRS & SUB-BASIN 260
388          HC       2    .262
             * DDM   ***** Preserved *****

389          KK    R260
390          KM   Routing length updated using Signal Butte Floodway plans dated March 1983
391          KM   Routing length unchanged     12/12/00
392          KM   CHANNEL GEOMETRY FOR SIGNAL BUTTE FRS OBTAINED FROM AS-BUILT PLANS.
393          KM   ROUTE FLOW FROM SUB-BASIN 260 TO SUB-BASIN 280
394          RS       3    FLOW      -1
395          RC    .035    .025    .035    2300    .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     280
399          KM   SUB-BASIN 280
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  .998
402          KM     L =  .77  Kb = .048  Adj. Slope =   84.0
403          BA    .319
404          LG    .300    .250   5.300    .290  15.000
405          UC    .329    .168
406          UA       0       5      16      30      65      77      84      90      94      97
407          UA     100
             * DDM   ***** Preserved *****
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LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

408          KK    C280
409          KM   HYDROGRAPH COMBINATION FOR SUB-BASIN 260 & SUB-BASIN 280
410          HC       2
             * DDM   ***** Preserved *****

411          KK    R280
412          KM   Routing length updated using Signal Butte Floodway plans dated March 1983
413          KM   Routing length decreased 400' from 2500' to 2100'    12/12/00
414          KM   CHANNEL GEOMETRY FOR SIGNAL BUTTE FRS OBTAINED FROM AS-BUILT PLANS.
415          KM   ROUTE FLOW FROM SUB-BASIN 280 TO SUB-BASIN 300
416          RS       3    FLOW      -1
417          RC    .035    .025    .035    2100    .003
418          RX       0       1       2    23.4    43.4    64.8      65      66
419          RY     9.7     9.7     9.7       0       0     9.7     9.7     9.7
             *
             * The sub-basin area and soil make-up have been updated from CAD file 12/07/00
             * DDM   ***** Updated *****

420          KK     300
421          KM   SUB-BASIN 300
422          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
423          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .998
424          KM     L =  .78  Kb = .049  Adj. Slope =  103.0
425          BA    .289
426          LG    .320    .290   4.200    .480  11.000
427          UC    .325    .177
428          UA       0       5      16      30      65      77      84      90      94      97
429          UA     100
             * DDM   ***** Preserved *****

430          KK    C300
431          KM   HYDROGRAPH COMBINATION OF SUB-BASIN 280 & 300
432          HC       2
             * DDM   ***** Preserved *****

433          KK    R300
434          KM   Routing length updated using Signal Butte Floodway plans dated March 1983
435          KM   Routing length increased 300' from 2200' to 2500'    12/12/00
436          KM   CHANNEL GEOMETRY FOR SIGNAL BUTTE FRS OBTAINED FROM AS-BUILT PLANS.
437          KM   ROUTE FLOW FROM SUB-BASIN 300 TO START OF FLOODWAY CONCRETE CHANNEL
438          RS       2    FLOW      -1
439          RC    .035    .025    .035    2500    .003
440          RX       0       1       2    23.4    55.4    76.8      77      78
441          RY     9.7     9.7     9.7       0       0     9.7     9.7     9.7
             *
             * The sub-basin area and soil make-up have been updated from CAD file 12/07/00
             * DDM   ***** Updated *****

442          KK     305
443          KM   SUB-BASIN 305
444          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
445          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .996
446          KM     L = 2.50  Kb = .044  Adj. Slope =  116.0
447          BA    .702
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 448          LG    .340    .340   4.550    .350   6.000
 449          UC    .642    .576
 450          UA       0       5      16      30      65      77      84      90      94      97
 451          UA     100
              * DDM   ***** Preserved *****

 452          KK    C305
 453          KM   HYDROGRAPH COMBINATION OF SUB-BASIN 300 AND 305
 454          HC       2
              * DDM   ***** Preserved *****

 455          KK    R305
 456          KM   Routing length updated using Signal Butte Floodway plans dated March 1983
 457          KM   Routing length decreased 50' from 6050' to 6000'    12/12/00
 458          KM   CHANNEL GEOMETRY FOR SPOOK HILL FRS OBTAINED FROM AS-BUILTS PLANS.
 459          KM   CONTINUE TO ROUTE FLOW WITHIN CONCRETE CHANNEL TO SPOOK HILL FRS
 460          RS       3    FLOW      -1
 461          RC    .016    .016    .016    6000   .0146
 462          RX       0       1       2     2.1    16.1    16.2      17      18
 463          RY     7.5     7.5     7.5       0       0     7.5     7.5     7.5
              *       1       2
              * DDM   ***** Updated *****

 464          KK     350
 465          KM   SUB-BASIN 350
 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 = 2.22  Kb = .042  Adj. Slope =  315.0
 469          BA    .970
 470          LG    .350    .350   4.550    .340   4.000
 471          UC    .367    .234
 472          UA       0       3       5       8      12      20      43      75      90      96
 473          UA     100
              * DDM   ***** Preserved *****

 474          KK    D350
 475          KM   DIVERT FLOW FROM SUB-BASIN 350. FOR MODELING PURPOSES THE SPLIT FLOW WILL
 476          KM   BE ROUTED BETWEEN SUB-BASINS 355 & 310. THE MAIN FLOW WILL ROUTED TO 310
 477          DT   SF350
 478          DI       0    5000
 479          DQ       0    2500
              * DDM   ***** Preserved *****

 480          KK    R350
 481          KM   CHANNEL GEOMETRY OBTAINED FROM 2' CONTOUR MAPPING
 482          KM   ROUTING OF MAIN FLOW FROM DIVERSION OF SUB-BASIN 350 TO SUB-BASIN 310
 483          RS       6    FLOW      -1
 484          RC    .045    .035    .045    5150    .025
 485          RX       0       1      40      46      56      62     102     103
 486          RY       3       2       2       0       0       2       2       3
              * DDM   ***** Updated *****
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 487          KK     310
 488          KM   SUB-BASIN 310
 489          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
 490          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .997
 491          KM     L = 2.70  Kb = .045  Adj. Slope =  283.5
 492          BA    .555
 493          LG    .350    .350   3.910    .480    .000
 494          UC    .483    .511
 495          UA       0       3       5       8      12      20      43      75      90      96
 496          UA     100
              * DDM   ***** Preserved *****

 497          KK    C310
 498          KM   HYDROGRAPH COMBINATION OF SUB-BASINS 350 & 310
 499          HC       2    1.04
              * DDM   ***** Preserved *****

 500          KK    R310
 501          KM   CHANNEL GEOMETRY OBTAINED FROM 2' CONTOUR MAPPING.
 502          KM   ROUTING OF FLOW FROM SUB-BASIN 310 TO 320
 503          RS      10    FLOW      -1
 504          RC    .045    .035    .045   10050    .022
 505          RX       0       1      40      46      56      62     102     103
 506          RY       3       2       2       0       0       2       2       3
              *
              * The sub-basin area and soil make-up have been updated from CAD file 12/07/00
              * DDM   ***** Updated *****

 507          KK     320
 508          KM   SUB-BASIN 320
 509          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
 510          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .994
 511          KM     L = 2.20  Kb = .042  Adj. Slope =  132.0
 512          BA    .950
 513          LG    .310    .300   4.600    .350  14.000
 514          UC    .508    .338
 515          UA       0       5      16      30      65      77      84      90      94      97
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 516          UA     100
              * DDM   ***** Preserved *****

 517          KK    D320
 518          KM        DIVERT FLOW INTO ONLINE  DETENTION BASIN
 519          KM   DETENTION/RETENTION BASINS LOCATED WITHIN THREE SUBDIVISIONS
 520          KM   SIERRA HEIGHTS       FALCON RIDGE    & MARBLE CREEK
 521          KM        MAXIMUM VOLUME DIVERSION = 12.27acre-feet
              *      1
 522          DT   BS320   12.27
 523          DI       0   10000
 524          DQ       0   10000
              * DDM   ***** Preserved *****
1                                        HEC-1 INPUT                                                    PAGE 14

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

 525          KK   RT320
 526          KM   RETRIEVE FLOW FROM DIVERSION INTO ONLINE BASIN
 527          DR   BS320
              * DDM   ***** Preserved *****

 528          KK    S320
 529          KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
 530          KM   12.27 ACRE-FEETx43560/36x3600=4.1cfs
              *      1
 531          RS       1    STOR       0
 532          SV       0     .01    12.3
 533          SQ       0     3.0     4.2
              * DDM   ***** Preserved *****

 534          KK    C320
 535          KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
 536          HC       4
              *
              * DDM   ***** Updated *****

 537          KK    340B
 538          KM   SUB-BASIN 340B
 539          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
 540          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .998
 541          KM     L =  .85  Kb = .049  Adj. Slope =  238.5
 542          BA    .290
 543          LG    .320    .280   4.000    .520  13.000
 544          UC    .246    .139
 545          UA       0       5      16      30      65      77      84      90      94      97
 546          UA     100
              *
              * DDM   ***** Preserved *****

 547          KK   D340B
 548          KM        DIVERT FLOW INTO ONLINE  DETENTION BASIN
 549          KM   DETENTION/RETENTION BASINS LOCATED WITHIN THREE SUBDIVISIONS
 550          KM   GRANDVIEW ESTATES    BOULDER MOUNTAIN & 33% OF MESA HIGHLANDS
 551          KM        MAXIMUM VOLUME DIVERSION = 11.0 acre-feet
              *      1
 552          DT  BS340B      11
 553          DI       0   10000
 554          DQ       0   10000
              * DDM   ***** Preserved *****

 555          KK  RT340B
 556          KM   RETRIEVE FLOW FROM DIVERSION INTO ONLINE BASIN
 557          DR  BS340B
              * DDM   ***** Preserved *****
1                                        HEC-1 INPUT                                                    PAGE 15

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

 558          KK   S340B
 559          KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
 560          KM    11.0 ACRE-FEETx43560/36x3600= 3.7cfs
              *      1
 561          RS       1    STOR       0
 562          SV       0     .01      11      15
 563          SQ       0     2.0     3.7     4.0
              * DDM   ***** Preserved *****

 564          KK   C340B
 565          KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
              * KO     1
 566          HC       2
              *
              * DDM   ***** Preserved *****

 567          KK  DD340B
 568          KM   DIVERT FLOW INTO OFFLINE DETENTION BASIN LOCATED WITHIN SUB-BASINS 340B.
              * KO     1
 569          DT   BS340
 570          DI       0      18    5000
 571          DQ       0       0    4982
              * DDM   ***** Preserved *****
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572          KK   RT340
573          KM   RETRIEVE FLOW FROM DIVERSION
574          DR   BS340
             * DDM   ***** Preserved *****

575          KK  SS340B
576          KM   RETRIEVE FLOW INTO OFFLINE BASIN AND BLEED OFF WITHIN 36 HOURS.
577          KM       6 ACRE-FEETx43560/36x3600 = 2 cfs
578          RS       1    STOR       0
579          SV       0     .01       6       8
580          SQ       0     1.5       2       4
             * DDM   ***** Preserved *****

581          KK  CC340B
582          KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
583          HC       2
             * DDM   ***** Preserved *****

584          KK   R340B
585          KM   CHANNEL GEOMETRY OBTAINED FROM 2' CONTOUR MAPPING.
586          KM   ROUTING OF FLOW FROM SUB-BASINS 370 AND 395 TO SUB-BASIN 380.
587          RS       4    FLOW      -1
588          RC    .045    .035    .045    2600    .023
589          RX       0       1      40      46      56      62     102     103
590          RY       3       2       2       0       0       2       2       3
             *
             * DDM   ***** Updated *****
1                                        HEC-1 INPUT                                                    PAGE 16

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

591          KK    340A
592          KM   SUB-BASIN 340A
593          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
594          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .993
595          KM     L = 1.80  Kb = .044  Adj. Slope =  117.0
596          BA   1.150
597          LG    .260    .280   4.200    .510  23.000
598          UC    .492    .249
599          UA       0       5      16      30      65      77      84      90      94      97
600          UA     100
             *
             * DDM   ***** Preserved *****

601          KK   D340A
602          KM        DIVERT FLOW INTO ONLINE  DETENTION BASIN
603          KM   DETENTION/RETENTION BASINS LOCATED WITHIN THREE SUBDIVISIONS
604          KM   GRANDVIEW ESTATES    BOULDER MOUNTAIN & 33% OF MESA HIGHLANDS
605          KM        MAXIMUM VOLUME DIVERSION = 45.0 acre-feet
             * KO     1
606          DT  BS340A      45
607          DI       0   10000
608          DQ       0   10000
             * DDM   ***** Preserved *****

609          KK  RT340A
610          KM   RETRIEVE FLOW FROM DIVERSION INTO ONLINE BASIN
611          DR  BS340A
             * DDM   ***** Preserved *****

612          KK   S340A
613          KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
614          KM    45.0 ACRE-FEETx43560/36x3600=15.2cfs
             *      1
615          RS       1    STOR       0
616          SV       0     .01      45      50
617          SQ       0     3.0    15.2      16
             *
             * DDM   ***** Preserved *****

618          KK   C340A
619          KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
620          HC       3
             *
             * DDM   ***** Preserved *****

621          KK    C340
622          KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
623          HC       2
             * DDM   ***** Preserved *****
1                                        HEC-1 INPUT                                                    PAGE 17

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

624          KK   RT350
625          KM   RETRIEVE SPLIT FLOW FROM DIVERSION OF SUB-BASIN 350
626          DR   SF350
             * DDM   ***** Preserved *****

627          KK   RR350
628          KM   CHANNEL GEOMETRY OBTAINED FROM 2' CONTOUR MAPPING.
629          KM   ROUTING OF FLOW FROM SPLIT OF SUB-BASIN 350 TO 355
630          RS       7    FLOW      -1
```

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631          RC    .045    .035    .045    6050    .025
632          RX       0       1      40      46      56      62     102     103
633          RY       3       2       2       0       0       2       2       3
             *
             * The sub-basin area and soil make-up have been updated from CAD file 12/07/00
             * DDM   ***** Updated *****

634          KK     355
635          KM   SUB-BASIN 355
636          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
637          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .996
638          KM     L = 3.00  Kb = .044  Adj. Slope =  284.0
639          BA    .676
640          LG    .340    .340   4.450    .370   4.000
641          UC    .488    .502
642          UA       0       3       5       8      12      20      43      75      90      96
643          UA     100
             * DDM   ***** Preserved *****

644          KK    C355
645          KM   HYDROGRAPH COMBINATION OF SUB-BASIN 355 AND THE SPLIT FLOW FROM SUB-BASIN 350
646          HC       2   1.161
             * DDM   ***** Preserved *****

647          KK    R355
648          KM   CHANNEL GEOMETRY OBTAINED FROM 2' CONTOUR MAPPING.
649          KM   ROUTING OF FLOW FROM SUB-BASIN 355 TO SUB-BASIN 360
650          RS       9    FLOW      -1
651          RC    .045    .035    .045   10100    .026
652          RX       0       1      40      46      56      62     102     103
653          RY       3       2       2       0       0       2       2       3
             * DDM   ***** Updated *****

654          KK     360
655          KM   SUB-BASIN 360
656          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
657          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .995
658          KM     L = 2.10  Kb = .047  Adj. Slope =  124.0
659          BA    .880
660          LG    .260    .270   4.100    .560  20.000
661          UC    .575    .390
662          UA       0       5      16      30      65      77      84      90      94      97
663          UA     100
             * DDM   ***** Preserved *****
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LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

664          KK    D360
665          KM        DIVERT FLOW INTO ONLINE  DETENTION BASIN
666          KM   DETENTION/RETENTION BASINS LOCATED WITHIN 33% OF MESA HIGHLANDS
667          KM        MAXIMUM VOLUME DIVERSION = 28.6 acre-feet
             *      1
668          DT   BS360    28.6
669          DI       0   10000
670          DQ       0   10000
             * DDM   ***** Preserved *****

671          KK   RT360
672          KM   RETRIEVE FLOW FROM DIVERSION INTO ONLINE BASIN
673          DR   BS360
             * DDM   ***** Preserved *****

674          KK    S360
675          KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
676          KM    28.6 ACRE-FEETx43560/36x3600=9.6cfs
677          RS       1    STOR       0
678          SV       0     .01    28.6
679          SQ       0     3.0     9.6
             * DDM   ***** Preserved *****

680          KK    C360
681          KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
682          HC       4
             *
             * DDM   ***** Updated *****

683          KK    380A
684          KM   SUB-BASIN 380A
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  .998
687          KM     L =  .66  Kb = .076  Adj. Slope =   91.0
688          BA    .261
689          LG    .170    .250   4.100    .710  21.000
690          UC    .425    .221
691          UA       0       3       5       8      12      20      43      75      90      96
692          UA     100
             *
             * DDM   ***** Preserved *****

693          KK   C380A
694          KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
695          HC       2
             *
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                * DDM   ***** Updated *****

 696            KK    400A
 697            KM   SUB-BASIN 400A
 698            KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
 699            KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF 1.000
 700            KM     L =  .28  Kb = .094  Adj. Slope =   71.0
 701            BA    .048
1                                        HEC-1 INPUT                                                    PAGE 19

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

 702            LG    .250    .290   4.000    .640    .000
 703            UC    .317    .211
 704            UA       0       3       5       8      12      20      43      75      90      96
 705            UA     100
                *
                * DDM   ***** Preserved *****

 706            KK   C400A
 707            KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
 708            HC       2
                *
                * DDM   ***** Updated *****

 709            KK    380B
 710            KM   SUB-BASIN 380B
 711            KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
 712            KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .996
 713            KM     L = 1.80  Kb = .044  Adj. Slope =  122.0
 714            BA    .637
 715            LG    .340    .330   4.200    .440   4.000
 716            UC    .504    .358
 717            UA       0       5      16      30      65      77      84      90      94      97
 718            UA     100
                *
                * DDM   ***** Preserved *****

 719            KK   D380B
 720            KM        DIVERT FLOW INTO ONLINE  DETENTION BASIN
 721            KM   DETENTION/RETENTION BASINS LOCATED WITHIN 33% OF MESA HIGHLANDS
 722            KM        MAXIMUM VOLUME DIVERSION = 28.6 acre-feet
                *      1
 723            DT  BS380B    28.6
 724            DI       0   10000
 725            DQ       0   10000
                * DDM   ***** Preserved *****

 726            KK  RT380B
 727            KM   RETRIEVE FLOW FROM DIVERSION INTO ONLINE BASIN
 728            DR  BS380B
                * DDM   ***** Preserved *****

 729            KK   S380B
 730            KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
 731            KM    28.6 ACRE-FEETx43560/36x3600=9.6cfs
 732            RS       1    STOR       0
 733            SV       0     .01    28.6
 734            SQ       0     3.0     9.6
                * DDM   ***** Preserved *****

 735            KK   C380B
 736            KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
                * KO     1
 737            HC       2
                *
                * DDM   ***** Preserved *****
1                                        HEC-1 INPUT                                                    PAGE 20

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

 738            KK  DD380B
 739            KM   DIVERT FLOW INTO OFFLINE DETENTION BASIN LOCATED WITHIN SUB-BASINS 380B.
                * KO     1
 740            DT   BS380
 741            DI       0      86    5000
 742            DQ       0       0    4914
                * DDM   ***** Preserved *****

 743            KK   RT380
 744            KM   RETRIEVE FLOW FROM DIVERSION
 745            DR   BS380
                * DDM   ***** Preserved *****

 746            KK  SS380B
 747            KM   RETRIEVE FLOW INTO OFFLINE BASIN AND BLEED OFF WITHIN 36 HOURS.
 748            KM      44 ACRE-FEETx43560/36x3600 = 15cfs
 749            RS       1    STOR       0
 750            SV       0     .01      44      50
 751            SQ       0       4      15      20
                * DDM   ***** Preserved *****

 752            KK  CC380B
 753            KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
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754          HC       2
             * DDM   ***** Preserved *****

755          KK   R380B
756          KM   CHANNEL GEOMETRY OBTAINED FROM 2' CONTOUR MAPPING.
757          KM   ROUTING OF FLOW FROM SUB-BASINS 370 AND 395 TO SUB-BASIN 380.
758          RS       4    FLOW      -1
759          RC    .045    .035    .045    2600    .023
760          RX       0       1      40      46      56      62     102     103
761          RY       3       2       2       0       0       2       2       3
             *
             * DDM   ***** Updated *****

762          KK    400B
763          KM   SUB-BASIN 400B
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  .997
766          KM     L = 1.64  Kb = .045  Adj. Slope =  110.0
767          BA    .568
768          LG    .330    .300   4.150    .480   7.000
769          UC    .500    .352
770          UA       0       5      16      30      65      77      84      90      94      97
771          UA     100
             *
             * DDM   ***** Preserved *****
1                                        HEC-1 INPUT                                          PAGE 21

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

772          KK   D400B
773          KM        DIVERT FLOW INTO ONLINE  DETENTION BASIN
774          KM   DETENTION/RETENTION BASIN LOCATED WITHIN SAGUARO VISTA SUBDIVISION
775          KM        MAXIMUM VOLUME DIVERSION = 5.6 ACRE-FEET
             *      1
776          DT  BS400B     5.6
777          DI       0   10000
778          DQ       0   10000
             * DDM   ***** Preserved *****

779          KK  RT400B
780          KM   RETRIEVE FLOW FROM DIVERSION INTO ONLINE BASIN
781          DR  BS400B
             * DDM   ***** Preserved *****

782          KK   S400B
783          KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
784          KM     5.6 ACRE-FEETx43560/36x3600 = 2 cfs
785          RS       1    STOR       0
786          SV       0     .01     5.6
787          SQ       0       1       2
             * DDM   ***** Preserved *****

788          KK   C400B
789          KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
790          HC       2
             * DDM   ***** Preserved *****

791          KK  CC400B
792          KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
793          HC       3
             *
             *    The following portion is from EC24MD2E.DAT
             *
             * DDM   ***** Updated *****

794          KK    420A
795          KM   SUB-BASIN 420A
796          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
797          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .995
798          KM     L = 1.91  Kb = .045  Adj. Slope =  120.0
799          BA    .570
800          LG    .320    .280   4.350    .440  10.000
801          UC    .521    .415
802          UA       0       5      16      30      65      77      84      90      94      97
803          UA     100
             * DDM   ***** Preserved *****

804          KK   D420A
805          KM        DIVERT FLOW INTO ONLINE  DETENTION BASIN
806          KM   DETENTION/RETENTION BASINS LOCATED WITHIN GRAY FOX SUBDIVISION
807          KM        MAXIMUM VOLUME DIVERSION = 8.65 acre-feet
             *      1
808          DT  BS420A    8.65
1                                        HEC-1 INPUT                                          PAGE 22

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

809          DI       0   10000
810          DQ       0   10000
             * DDM   ***** Preserved *****

811          KK  RT420A
812          KM   RETRIEVE FLOW FROM DIVERSION INTO ONLINE BASIN
813          DR  BS420A
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            * DDM   ***** Preserved *****

814         KK   S420A
815         KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
816         KM   38.55 ACRE-FEETx43560/36x3600=13cfs
817         RS       1    STOR       0
818         SV       0     .01   38.55
819         SQ       0      13      13
            * DDM   ***** Preserved *****

820         KK   C420A
821         KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
822         HC       3
            *
            * The sub-basin area and soil make-up have been updated from CAD file 12/07/00
            * DDM   ***** Updated *****

823         KK     370
824         KM   SUB-BASIN 370
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  .996
827         KM     L = 1.90  Kb = .044  Adj. Slope =  203.5
828         BA    .672
829         LG    .340    .320   4.650    .330   8.000
830         UC    .404    .284
831         UA       0       3       5       8      12      20      43      75      90      96
832         UA     100
            *
            * The sub-basin area and soil make-up have been updated from CAD file 12/07/00
            * DDM   ***** Updated *****

833         KK     395
834         KM   SUB-BASIN 395
835         KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
836         KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .999
837         KM     L = 1.30  Kb = .051  Adj. Slope =  219.2
838         BA    .199
839         LG    .330    .320   4.900    .300  10.000
840         UC    .333    .338
841         UA       0       3       5       8      12      20      43      75      90      96
842         UA     100
            * DDM   ***** Preserved *****
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LINE        ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

843         KK    C370
844         KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
            * KO     1
845         HC       2
            * DDM   ***** Preserved *****

846         KK    D370
847         KM   DIVERT FLOW INTO OFFLINE DETENTION BASIN LOCATED WITHIN SUB-BASINS
848         KM   370 AND 395.
            * KO     1
849         DT   BS370
850         DI       0     140    5000
851         DQ       0       0    4860
            * DDM   ***** Preserved *****

852         KK   RT370
853         KM   RETRIEVE FLOW FROM DIVERSION
854         DR   BS370
            * DDM   ***** Preserved *****

855         KK    S370
856         KM   RETRIEVE FLOW INTO OFFLINE BASIN AND BLEED OFF WITHIN 36 HOURS.
857         KM      30 ACRE-FEETx43560/36x3600 = 10cfs
858         RS       1    STOR       0
859         SV       0     .01      34      40
860         SQ       0       4      10      12
            * DDM   ***** Preserved *****

861         KK   CC370
862         KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
863         HC       2
            * DDM   ***** Preserved *****

864         KK    R370
865         KM   CHANNEL GEOMETRY OBTAINED FROM 2' CONTOUR MAPPING.
866         KM   ROUTING OF FLOW FROM SUB-BASINS 370 AND 395 TO SUB-BASIN 380.
867         RS       4    FLOW      -1
868         RC    .045    .035    .045    2600    .023
869         RX       0       1      40      46      56      62     102     103
870         RY       3       2       2       0       0       2       2       3
            *
            * DDM   ***** Updated *****

871         KK     385
872         KM   SUB-BASIN 385
873         KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
874         KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .997
875         KM     L = 2.30  Kb = .045  Adj. Slope =  303.0
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876          BA    .527
877          LG    .340    .360   5.600    .220  13.000
878          UC    .383    .358
879          UA       0       3       5       8      12      20      43      75      90      96
880          UA     100
             * DDM   ***** Updated *****
1                                          HEC-1 INPUT                                          PAGE 24

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

881          KK    415B
882          KM   SUB-BASIN 415B
883          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
884          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .998
885          KM     L = 1.59  Kb = .048  Adj. Slope =  315.0
886          BA    .329
887          LG    .340    .340   5.300    .240  14.000
888          UC    .308    .274
889          UA       0       5      16      30      65      77      84      90      94      97
890          UA     100
             * DDM   ***** Preserved *****

891          KK   C415B
892          KM   HYDROGRAPH COMBINATION OF 415 DIVERSION.
893          HC       2
             * DDM   ***** Preserved *****

894          KK   D415B
895          KM   DIVERT FLOW INTO OFFLINE DETENTION BASIN
896          KM   MAXIMUM STORAGE VOLUME FOR DIVERSION = 32 AC-FT @ 5' DEPTH.
             *      1
897          DT  BS415B
898          DI       0     190    5000
899          DQ       0       0    4810
             * DDM   ***** Preserved *****

900          KK  RT415B
901          KM   RETRIEVE FLOW FROM DIVERSION INTO OFFLINE BASIN
902          DR  BS415B
             * DDM   ***** Preserved *****

903          KK   S415B
904          KM   RETRIEVE FLOW INTO OFFLINE BASIN AND BLEED OFF WITHIN 36 HOURS.
905          KM      32 ACRE-FEETx43560/36x3600 = 11cfs
906          RS       1    STOR       0
907          SV       0     .01      34      40
908          SQ       0       5      10      12
             * DDM   ***** Preserved *****

909          KK  CC415B
910          KM   HYDROGRAPH COMBINATION OF 415 DIVERSION.
911          HC       2
             * DDM   ***** Preserved *****

912          KK   R415B
913          KM   CHANNEL GEOMETRY OBTAINED FROM 2' CONTOUR MAPPING.
914          KM   ROUTING OF FLOW FROM 415C TO 415B
915          RS       4    FLOW      -1
916          RC    .045     .03    .045    2590    .024
917          RX       0       1      40      46      56      62     102     103
918          RY       3       2       2       0       0       2       2       3
             * DDM   ***** Updated *****
1                                          HEC-1 INPUT                                          PAGE 25

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

919          KK     390
920          KM   SUB-BASIN 390
921          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
922          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .999
923          KM     L =  .70  Kb = .050  Adj. Slope =  299.4
924          BA    .244
925          LG    .300    .250   4.700    .380  18.000
926          UC    .204    .107
927          UA       0       5      16      30      65      77      84      90      94      97
928          UA     100
             * DDM   ***** Preserved *****

929          KK    D390
930          KM        DIVERT FLOW INTO ONLINE  DETENTION BASIN
931          KM   DETENTION/RETENTION BASINS LOCATED WITHIN THUNDER MOUNTAIN ESTATES
932          KM        MAXIMUM VOLUME DIVERSION  = 3.5 acre-feet
             *      1
933          DT   BS390     3.5
934          DI       0   10000
935          DQ       0   10000
             * DDM   ***** Preserved *****

936          KK   RT390
937          KM   RETRIEVE FLOW FROM DIVERSION INTO ONLINE BASIN
938          DR   BS390
             * DDM   ***** Preserved *****
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 939          KK    S390
 940          KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
 941          KM     3.5 ACRE-FEETx43560/36x3600=1.2cfs
 942          RS       1     STOR       0
 943          SV       0      .01     3.5
 944          SQ       0      0.5     1.2
              * DDM   ***** Preserved *****

 945          KK    C390
 946          KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
 947          HC       4
              * DDM   ***** Preserved *****

 948          KK    R390
 949          KM   CHANNEL GEOMETRY OBTAINED FROM 2' CONTOUR MAPPING.
 950          KM   FROM SUB-BASIN 390 TO SUB-BASIN 420B
 951          RS       7    FLOW      -1
 952          RC    .045    .045    .045    5500    .020
 953          RX       0       1      40      46      56      62     102     103
 954          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

 955          KK    420B
 956          KM   SUB-BASIN 420B
 957          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
 958          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .998
 959          KM     L = 1.00  Kb = .049  Adj. Slope =  150.0
 960          BA    .279
 961          LG    .300    .250   3.910    .590  15.000
 962          UC    .333    .226
 963          UA       0       5      16      30      65      77      84      90      94      97
 964          UA     100
              * DDM   ***** Preserved *****

 965          KK   C420B
 966          KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
 967          HC       2
              *
              * DDM   ***** Updated *****

 968          KK     440
 969          KM   SUB-BASIN 440
 970          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
 971          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF 1.000
 972          KM     L =  .40  Kb = .039  Adj. Slope =  315.0
 973          BA    .080
 974          LG    .190    .380   6.400    .140  13.000
 975          UC    .129    .077
 976          UA       0       3       5       8      12      20      43      75      90      96
 977          UA     100
              * DDM   ***** Preserved *****

 978          KK     R70
 979          KM   ROUTE FLOW FROM SUB-BASIN 440 TO C108
 980          RS       2    FLOW      -1
 981          RC     .05    .035     .05    2250     .08
 982          RX    1000    1025    1050    1070    1075    1095    1120    1145
 983          RY      30    22.9    15.7      10      10    15.7    22.9      30
              * DDM   ***** Updated *****

 984          KK     441
 985          KM   SUB-BASIN 441
 986          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
 987          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF 1.000
 988          KM     L =  .28  Kb = .069  Adj. Slope =  315.0
 989          BA    .010
 990          LG    .300    .250   5.600    .220   5.000
 991          UC    .150    .225
 992          UA       0       5      16      30      65      77      84      90      94      97
 993          UA     100
              * DDM   ***** Preserved *****
1                                          HEC-1 INPUT                                          PAGE 27

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

 994          KK    C108
 995          KM   COMBINE HYDROGRAPHS FROM SUB-BASINS 440 & 441
 996          HC       2
              * DDM   ***** Preserved *****

 997          KK      D4
 998          KM        SPLIT FLOW WITH TWO 42 INCH PIPES TO WEST AND SOUTH
              *      1
 999          DT   SPLIT
1000          DI       0      14      40      82     120     154     180
1001          DQ       0       7      20      41      60      77      90
              * DDM   ***** Preserved *****

1002          KK    R108
1003          KM        ROUTE FLOW FROM SUB-BASIN C108 TO C67
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1004          RS       2    FLOW      -1
1005          RC     .05    .035     .05    3200      .1
1006          RX    1000    1025    1050    1070    1075    1095    1120    1145
1007          RY      30    22.9    15.7      10      10    15.7    22.9      30
              * DDM   ***** Updated *****

1008          KK     442
1009          KM   SUB-BASIN 442
1010          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1011          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .999
1012          KM     L =  .83  Kb = .055  Adj. Slope =  274.2
1013          BA    .100
1014          LG    .300    .270   3.290    .770   5.000
1015          UC    .258    .264
1016          UA       0       5      16      30      65      77      84      90      94      97
1017          UA     100
              * DDM   ***** Preserved *****

1018          KK     C67
1019          KM   COMBINE FLOW FROM SUB-BASIN 442 & DIV4
1020          HC       2
              * DDM   ***** Preserved *****

1021          KK      D6
1022          KM        OFFLINE BASIN WITH 25 FOOT WEIR SET AT 2.5 FEET ABOVE BOTTOM OF CHANNEL
1023          KM        FLOW CONTINUES BEYOND BASIN THROUGH 2-30" PIPES
              *      1
1024          DT  BASIN4     3.3
1025          DI       0      10      32      44    79.9   132.5     198   272.9   356.8
1026          DQ       0       0       0       0    23.9    67.5     124   190.9   266.8
              * DDM   ***** Preserved *****

1027          KK    RTD6
1028          KM   RETRIEVE FLOW FROM DIVERSION INTO OFFLINE BASIN
1029          DR  BASIN4
              * DDM   ***** Preserved *****
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1030          KK     SD6
1031          KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
1032          KM     3.3 ACRE-FEETx43560/36x3600=1.1cfs
              *      1
1033          RS       1    STOR       0
1034          SV       0     .01     3.3
1035          SQ       0     0.2     1.1
              * DDM   ***** Preserved *****

1036          KK     CD6
1037          KM   HYDROGRAPH COMBINATION FOR OFFLINE BASIN BLEEDOFF
1038          HC       2
              * DDM   ***** Updated *****

1039          KK     443
1040          KM   SUB-BASIN 443
1041          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1042          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF 1.000
1043          KM     L =  .71  Kb = .050  Adj. Slope =  315.0
1044          BA    .080
1045          LG    .250    .190   8.000    .080  10.000
1046          UC    .196    .194
1047          UA       0       5      16      30      65      77      84      90      94      97
1048          UA     100
              * DDM   ***** Preserved *****

1049          KK     D66
1050          KM        DIVERT FLOW INTO 3 NATURAL WASHES WITH ONE 24" PIPE IN EACH WASH.
1051          KM        EACH PIPE CAPACITY BASED ON 4 FEET OF HEAD
1052          DT   WSH66
1053          DI       0      78     100     200
1054          DQ       0      78      78      78
              * DDM   ***** Preserved *****

1055          KK    R113
1056          KM        ROUTE FLOW FROM C113 TO C114
1057          RS       1    FLOW      -1
1058          RC    .019    .019    .019    1300    .029
1059          RX    1000    1004    1008    1012    1018    1022    1026    1030
1060          RY      17   15.33   12.67      10      10   12.67   15.33      17
              * DDM   ***** Preserved *****

1061          KK    C114
1062          KM        COMBINE HYDROGRAPHS FROM SUB-BASIN 67 AND C113
1063          HC       2
              * DDM   ***** Updated *****

1064          KK     444
1065          KM   SUB-BASIN 444
1066          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1067          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF 1.000
1068          KM     L =  .33  Kb = .034  Adj. Slope =  315.0
1069          BA    .040
1070          LG    .130    .350   4.450    .320   1.000
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1071          UC    .112    .084
1072          UA       0       3       5       8      12      20      43      75      90      96
1073          UA     100
              * DDM   ***** Preserved *****

1074          KK     R58
1075          KM   ROUTE FLOW FROM SUB-BASIN 444 TO C107
1076          RS       2    FLOW      -1
1077          RC     .05    .035     .05    2370   .0516
1078          RX    1000    1010    1020    1050    1055    1085    1095    1105
1079          RY      19      18      17      10      10      17      18      19
              * DDM   ***** Updated *****

1080          KK     445
1081          KM   SUB-BASIN 445
1082          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1083          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .999
1084          KM     L =  .82  Kb = .036  Adj. Slope =  315.0
1085          BA    .190
1086          LG    .170    .320   3.470    .590   3.000
1087          UC    .192    .130
1088          UA       0       5      16      30      65      77      84      90      94      97
1089          UA     100
              * DDM   ***** Preserved *****

1090          KK    C107
1091          KM   COMBINE HYDROGRAPHS FROM SUB-BASINS 444 & 445
1092          HC       2
              * DDM   ***** Preserved *****

1093          KK    R107
1094          KM        ROUTE FLOW FROM C107 TO C109
1095          RS       2    FLOW      -1
1096          RC     .05    .035     .05     700   .0516
1097          RX    1000    1010    1020    1050    1055    1085    1095    1105
1098          RY      19      18      17      10      10      17      18      19
              * DDM   ***** Preserved *****

1099          KK    RTB2
1100          KM        RETRIEVE DIVERTED FLOW FROM BASIN 1
              *      1
1101          DR   SPLIT
              * DDM   ***** Preserved *****

1102          KK  RSPLIT
1103          KM        ROUTE FLOW FROM SPLIT TO C109
1104          RS       1    FLOW      -1
1105          RC     .05    .035     .05     800     .05
1106          RX    1000    1025    1050    1070    1075    1095    1120    1145
1107          RY      30    22.9    15.7      10      10    15.7    22.9      30
              * DDM   ***** Updated *****
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1108          KK     446
1109          KM   SUB-BASIN 446
1110          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1111          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF 1.000
1112          KM     L =  .46  Kb = .061  Adj. Slope =  303.9
1113          BA    .040
1114          LG    .270    .250   4.500    .400  19.000
1115          UC    .183    .189
1116          UA       0       5      16      30      65      77      84      90      94      97
1117          UA     100
              * DDM   ***** Preserved *****

1118          KK    C109
1119          KM        COMBINE HYDROGRAPHS FROM COMBINES C107 AND C108
1120          HC       3
              * DDM   ***** Preserved *****

1121          KK      D5
1122          KM        DIVERT FLOW INTO WASHES TOWARDS WEST
1123          KM        DIVERSION THROUGH 36" PIPE WITH 3 FEET OF HEAD
              *      1
1124          DT  WSH404
1125          DI       0    40.7    71.2   121.6     190     276   379.4   500.6
1126          DQ       0      35      35      35      35      35      35      35
              * DDM   ***** Preserved *****

1127          KK    R109
1128          KM        ROUTE FLOW FROM C109 TO C110
1129          RS       1    FLOW      -1
1130          RC    .019    .019    .019    3080     .05
1131          RX    1000    1005    1010    1015    1025    1030    1035    1040
1132          RY   13.75    12.5   11.25      10      10   11.25    12.5   13.75
              * DDM   ***** Updated *****

1133          KK     447
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1134          KM   SUB-BASIN 447
1135          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1136          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .999
1137          KM     L =  .49  Kb = .056  Adj. Slope =  221.0
1138          BA    .090
1139          LG    .250    .270   3.350    .870  30.000
1140          UC    .208    .145
1141          UA       0       5      16      30      65      77      84      90      94      97
1142          UA     100
              * DDM   ***** Preserved *****

1143          KK   RT404
1144          KM        RETRIEVE DIVERTED FLOW FOR WASH 109
1145          DR  WSH404
              * DDM   ***** Preserved *****
1                                        HEC-1 INPUT                                          PAGE 31

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

1146          KK    R404
1147          KM        ROUTE FLOW FROM C110 TO C110
1148          RS       6    FLOW      -1
1149          RC    .019    .019    .019    3540     .03
1150          RX    1000    1012    1016    1020    1025    1029    1033    1045
1151          RY      15      12      11      10      10      11      12      15
              * DDM   ***** Preserved *****

1152          KK    C110
1153          KM   COMBINE HYDROGRAPHS FROM SUB-BASIN 447 AND R404
1154          HC       3
              * DDM   ***** Preserved *****

1155          KK    R110
1156          KM        ROUTE FLOW FROM C110 TO C115
1157          RS       1    FLOW      -1
1158          RC    .019    .019    .019     580   .0291
1159          RX    1000    1012    1016    1020    1035    1039    1043    1055
1160          RY      15      12      11      10      10      11      12      15
              * DDM   ***** Preserved *****

1161          KK    C115
1162          KM        COMBINE HYDROGRAPHS FROM C114 AND C110
1163          HC       2
              * DDM   ***** Preserved *****

1164          KK    R115
              * ******OUTFLOW FROM THIS ROUTING IS GREATER THAN INFLOW TO THE
              * ******ROUTING BY 2cfs.  THIS IS NOTED BUT LEFT UNCHANGED WITHIN THE MODEL
1165          KM        ROUTE FLOW FROM C115 TO Sub 453
1166          RS       1    FLOW      -1
1167          RC    .019    .019    .019    2125    .029
1168          RX    1000    1012    1016    1020    1035    1039    1043    1055
1169          RY      15      12      11      10      10      11      12      15
              * DDM   ***** Updated *****

1170          KK     448
1171          KM   SUB-BASIN 448
1172          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1173          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF 1.000
1174          KM     L =  .36  Kb = .042  Adj. Slope =  315.0
1175          BA    .045
1176          LG    .170    .310   4.200    .390  11.000
1177          UC    .133    .102
1178          UA       0       5      16      30      65      77      84      90      94      97
1179          UA     100
              * DDM   ***** Updated *****

1180          KK     449
1181          KM   SUB-BASIN 449
1182          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1183          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF 1.000
1184          KM     L =  .40  Kb = .054  Adj. Slope =  315.0
1185          BA    .050
1                                        HEC-1 INPUT                                          PAGE 32

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

1186          LG    .260    .280   3.500    .640   6.000
1187          UC    .167    .134
1188          UA       0       5      16      30      65      77      84      90      94      97
1189          UA     100
              * DDM   ***** Preserved *****

1190          KK   C6364
1191          KM   COMBINE HYDROGRAPHS FROM SUB-BASINS 448 & 449
1192          HC       2
              * DDM   ***** Preserved *****

1193          KK   R6364
1194          KM   ROUTE FLOW FROM C116 AND SUB-BASINS 448 AND 449
1195          RS       5    FLOW      -1
1196          RC     .05    .035     .05    4375   .0333
1197          RX    1000    1027    1053    1080    1090    1117    1143    1170
1198          RY      15   13.33   11.67      10      10   11.67   13.33      15
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                * DDM   ***** Updated *****

1199            KK     450
1200            KM   SUB-BASIN 450
1201            KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1202            KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF 1.000
1203            KM     L =  .85  Kb = .057  Adj. Slope =  210.5
1204            BA    .070
1205            LG    .340    .350   3.630    .570   4.000
1206            UC    .296    .383
1207            UA       0       3       5       8      12      20      43      75      90      96
1208            UA     100
                * DDM   ***** Updated *****

1209            KK     451
1210            KM   SUB-BASIN 451
1211            KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1212            KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF 1.000
1213            KM     L =  .57  Kb = .063  Adj. Slope =  175.0
1214            BA    .025
1215            LG    .340    .340   3.290    .750   3.000
1216            UC    .271    .453
1217            UA       0       3       5       8      12      20      43      75      90      96
1218            UA     100
                * DDM   ***** Preserved *****

1219            KK    C451
1220            KM   COMBINE HYDROGRAPHS FROM SUB-BASINS 450 & 451
1221            HC       2
                * DDM   ***** Preserved *****

1222            KK    RT66
1223            KM        RETRIEVE DIVERTED FLOW FROM SUB-BASIN 66
1224            DR   WSH66
                * DDM   ***** Updated *****
1                                        HEC-1 INPUT                                                    PAGE 33

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

1225            KK     452
1226            KM   SUB-BASIN 452
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 =  .43  Kb = .055  Adj. Slope =  315.0
1230            BA    .040
1231            LG    .260    .280   3.700    .550   9.000
1232            UC    .171    .166
1233            UA       0       5      16      30      65      77      84      90      94      97
1234            UA     100
                * DDM   ***** Preserved *****

1235            KK   C6465
1236            KM   COMBINE HYDROGRAPHS FROM SUB-BASINS 443 AND 452
1237            HC       2
                * DDM   ***** Preserved *****

1238            KK   R6566
1239            KM        ROUTE FLOW FROM DIVERSIONS 65 AND 66 TO C116
1240            RS       3    FLOW      -1
1241            RC     .05    .035     .05    2435   .0282
1242            RX    1000    1045    1090    1150    1160    1220    1265    1310
1243            RY      25      23      20      10      10      20      23      25
                * DDM   ***** Preserved *****

1244            KK    C116
1245            KM   COMBINE HYDROGRAPHS FROM SUB-BASINS 450 & 451 AND R6364 & R6465
1246            HC       3
                * DDM   ***** Preserved *****

1247            KK  BASIN5
1248            KM        RESERVOIR WITHIN PARCEL 31      2-48 INCH PIPES AT OUTFALL
1249            KM        BASIN 5 FEET DEEP
1250            RS       1    ELEV       0
1251            SV       0     4.5     9.9
1252            SQ       0      69     190
1253            SE       0     2.5       5
                * DDM   ***** Preserved *****

1254            KK    R116
1255            KM   ROUTE FLOW FROM C116 TO C117
1256            RS       2    FLOW      -1
1257            RC     .05    .035     .05    1300   .0333
1258            RX    1000    1100    1200    1300    1320    1420    1520    1620
1259            RY      13      12      11      10      10      11      12      13
                * DDM   ***** Updated *****

1260            KK     453
1261            KM   SUB-BASIN 453
1262            KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1263            KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF 1.000
1264            KM     L =  .58  Kb = .058  Adj. Slope =  138.0
1265            BA    .060
1266            LG    .290    .300   3.290    .820  18.000
1                                        HEC-1 INPUT                                                    PAGE 34
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1267          UC     .275     .284
1268          UA        0        5       16       30       65       77       84       90       94       97
1269          UA      100
              * DDM    ***** Preserved *****

1270          KK     C117
1271          KM    COMBINE HYDROGRAPHS FROM SUB-BASIN 453 AND R116
1272          HC        2
              * DDM    ***** Preserved *****

1273          KK     C118
1274          KM    COMBINE HYDROGRAPHS FROM R115 AND C117
1275          HC        2
              * DDM    ***** Preserved *****

1276          KK     R118
1277          KM         ROUTE FLOW FROM C118 TO  DIV7
              * KO      1
1278          RS        1     FLOW       -1
1279          RC     .019     .019     .019     1500     .024
1280          RX     1000     1012     1016     1020     1035     1039     1043     1055
1281          RY       15       12       11       10       10       11       12       15
              * DDM    ***** Preserved *****

1282          KK       D7
1283          KM         OFFLINE BASIN AT NORTH MOUNTAIN RIDGE   FLOWS ENTER BASIN OVER
1284          KM         30' WEIR SET AT 5.3' ABOVE THE CHANNEL BOTTOM, Vol = 3.6 A-F
              * KO      1
1285          DT  BASIN6
1286          DI        0      363      487      563      645      900
1287          DQ        0        2       10       15       25      260
              * DDM    ***** Preserved *****

1288          KK     RTD7
1289          KM    RETRIEVE FLOW FROM DIVERSION INTO OFFLINE BASIN
1290          DR  BASIN6
              * DDM    ***** Preserved *****

1291          KK      SD7
1292          KM    RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
1293          KM      3.6 ACRE-FEETx43560/36x3600=1.2cfs
1294          RS        1     STOR        0
1295          SV        0      .01      3.6      4.0
1296          SQ        0      0.2      1.2      1.5
              * DDM    ***** Preserved *****

1297          KK      CD7
1298          KM    HYDROGRAPH COMBINATION FOR OFFLINE BASIN BLEEDOFF
1299          HC        2
              * DDM    ***** Updated *****
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1300          KK      454
1301          KM    SUB-BASIN 454
1302          KM    24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1303          KM    THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .999
1304          KM      L = 1.23  Kb = .051  Adj. Slope =  163.0
1305          BA     .180
1306          LG     .300     .310    3.780     .560   14.000
1307          UC     .379     .395
1308          UA        0        5       16       30       65       77       84       90       94       97
1309          UA      100
              *
              * DDM    ***** Preserved *****

1310          KK     C454
1311          KM         COMBINE HYDROGRAPHS FROM SUB-BASIN 454 AND CDIV7
              *       1        2
1312          HC        2
              * DDM    ***** Preserved *****

1313          KK     R454
1314          KM    CHANNEL GEOMETRY OBTAINED FROM 2' CONTOUR MAPPING.
1315          KM    ROUTE FLOW FROM C454 TO 415C
1316          RS        3     FLOW       -1
1317          RC     .045     .035     .045     2200     .009
1318          RX        0       .5        1       33       42       67     67.5       68
1319          RY        5        4        4        0        0        6        6        6
              *
              * DDM    ***** Updated *****

1320          KK     415A
1321          KM    SUB-BASIN 415A
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  .998
1324          KM      L = 1.21  Kb = .049  Adj. Slope =  140.0
1325          BA     .280
1326          LG     .300     .260    3.630     .710   15.000
1327          UC     .400     .322
1328          UA        0        5       16       30       65       77       84       90       94       97
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1329        UA     100
            * DDM   ***** Preserved *****

1330        KK   C415A
1331        KM        COMBINE HYDROGRAPHS FROM R454, 415B, AND 420B
            * KO     1
1332        HC       3
            * DDM   ***** Preserved *****
            * KK D415A
            * KM DIVERT FLOW INTO OFFLINE DETENTION BASIN
            * KM MAXIMUM STORAGE VOLUME FOR DIVERSION = 15 AC-FT @ 5' DEPTH.
            * KO     1
            * DTBS415A
            * DI     0    1240    5000
            * DQ     0       0    3760
            * DDM   ***** Preserved *****
            * KKRT415A
            * KM RETRIEVE FLOW FROM DIVERSION INTO OFFLINE BASIN
            * DRBS415A
            * DDM   ***** Preserved *****
            * KK S415A
            * KM RETRIEVE FLOW INTO OFFLINE BASIN AND BLEED OFF WITHIN 36 HOURS.
            * KM    15 ACRE-FEETx43560/36x3600 = 5 cfs
            * RS     1    STOR       0
            * SV     0     .01      15      20
            * SQ     0       2       5       8
            * DDM   ***** Preserved *****
            * KKCC415A
            * KM HYDROGRAPH COMBINATION OF 415A DIVERSION.
            * HC     2
            * DDM   ***** Preserved *****
1                                    HEC-1 INPUT                                          PAGE 36

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


1333        KK   R415A
1334        KM   CHANNEL GEOMETRY OBTAINED FROM 2' CONTOUR MAPPING.
1335        KM   ROUTING OF FLOW FROM C415A TO 455C
1336        RS       4    FLOW      -1
1337        RC    .045     .03    .045    4100    .024
1338        RX       0      .5       1       8      16      23    23.5      24
1339        RY       8       8       8       0       0       8       8       8
            *
            * DDM   ***** Updated *****

1340        KK     455
1341        KM   SUB-BASIN 455
1342        KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1343        KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .993
1344        KM     L = 1.70  Kb = .041  Adj. Slope =  146.0
1345        BA   1.111
1346        LG    .270    .280   3.700    .640  24.000
1347        UC    .421    .204
1348        UA       0       5      16      30      65      77      84      90      94      97
1349        UA     100
            * DDM   ***** Preserved *****

1350        KK    D455
1351        KM        DIVERT FLOW INTO ONLINE  DETENTION BASIN
1352        KM   DETENTION/RETENTION BASINS LOCATED WITHIN LAS SENDAS ADDENDUM III
1353        KM   FOR BASIN #: 30      34      43      47&58
1354        KM        MAXIMUM VOLUME DIVERSION = 74.1 acre-feet
            *      1
1355        DT   BS455    74.1
1356        DI       0   10000
1357        DQ       0   10000
            * DDM   ***** Preserved *****

1358        KK   RT455
1359        KM   RETRIEVE FLOW FROM DIVERSION INTO ONLINE BASIN
1360        DR   BS455
            * DDM   ***** Preserved *****

1361        KK    S455
1362        KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
1363        KM    74.1 ACRE-FEETx43560/36x3600=25cfs
1364        RS       1    STOR       0
1365        SV       0     .01    74.1
1366        SQ       0     3.0      25
            * DDM   ***** Preserved *****

1367        KK    C455
1368        KM   HYDROGRAPH COMBINATION FOR SUB-BASIN 455 AND DIVERTED BASIN STORAGE OF 455
1369        HC       2
            * DDM   ***** Preserved *****
1                                    HEC-1 INPUT                                          PAGE 37

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


1370        KK   CC455
1371        KM  HYDROGRAPH COMBINATION OF 420C, R415 AND C455
            *      1       2
1372        HC       3
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            * DDM   ***** Preserved *****

1373        KK    S440
1374        KM   SPOOK HILL FRS PLANS DATED 6/15/77
1375        KM   OUTLET PIPE=7'x7.5'RCBC; L=70 INLET INV.=1566; OUTLET INV.=1566
1376        KM   EMERGENCY SPILLWAY ELEV.=1582; PRINCIPLE SPILLWAY ELEV.=1577.5
1377        KM   STORAGE VOLUME BELOW PRINCIPLE SPILLWAY FOR SEDIMENT = 200 ACRE-FEET
            *   ESE = 1583.86 ft; PSE = 1579.36 ft; Sediment Vol. = 271 Ac-Ft.
1378        RS       1    STOR       0
1379        SV       0      81     363     533     719     925    1120    1399    1668    4051
1380        SQ       0       0      10     180     367     595     800    1231    2625   24500
1381        SE      76      78      80      81      82      83    83.9      85      86      92
            * DDM   ***** Preserved *****

1382        KK    R455
1383        KM   ROUTE FLOW FROM SPOOK HILL FRS TO SUB-BASIN 480
1384        RS      15    FLOW      -1
1385        RC    .035    .025    .035    7000   .0002
1386        RX       0       1       2      28      58      84      85      86
1387        RY    13.5    13.5    13.5       0       0    13.5    13.5    13.5
            * DDM   ***** Updated *****

1388        KK     480
1389        KM   SUB-BASIN 480
1390        KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1391        KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .996
1392        KM     L = 1.21  Kb = .042  Adj. Slope =  165.0
1393        BA    .731
1394        LG    .270    .270   3.580    .730  27.000
1395        UC    .325    .148
1396        UA       0       5      16      30      65      77      84      90      94      97
1397        UA     100
            * DDM   ***** Preserved *****

1398        KK    D480
1399        KM        DIVERT FLOW INTO ONLINE  DETENTION BASIN
1400        KM   DETENTION/RETENTION BASINS LOCATED WITHIN LAS SENDAS ADDENDUM III
1401        KM   FOR BASIN #: 18 & 26
1402        KM        MAXIMUM VOLUME DIVERSION = 16.5 acre-feet
            *      1
1403        DT   BS480    16.5
1404        DI       0   10000
1405        DQ       0   10000
            * DDM   ***** Preserved *****
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LINE        ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1406        KK   RT480
1407        KM   RETRIEVE FLOW FROM DIVERSION INTO ONLINE BASIN
1408        DR   BS480
            * DDM   ***** Preserved *****

1409        KK    S480
1410        KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
1411        KM    16.5 ACRE-FEETx43560/36x3600=5.5cfs
1412        RS       1    STOR       0
1413        SV       0     .01    16.5
1414        SQ       0     3.0     5.6
            * DDM   ***** Preserved *****

1415        KK    C480
1416        KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
1417        HC       2
            * DDM   ***** Preserved *****

1418        KK   CC480
1419        KM   HYDROGRAPH COMBINATION AT SUBBASIN 480
1420        HC       2   0.731
            * DDM   ***** Preserved *****

1421        KK    R480
1422        KM   ROUTE FLOW FROM SUB-BASIN 480 TO SUBBASIN 462
1423        RS       6    FLOW      -1
1424        RC    .035    .025    .035    2800   .0002
1425        RX       0       1       2      28      58      84      85      86
1426        RY    13.5    13.5    13.5       0       0    13.5    13.5    13.5
            * DDM   ***** Updated *****

1427        KK     456
1428        KM   SUB-BASIN 456
1429        KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1430        KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .998
1431        KM     L =  .94  Kb = .045  Adj. Slope =  315.0
1432        BA    .260
1433        LG    .300    .380   5.600    .200  12.000
1434        UC    .217    .139
1435        UA       0       5      16      30      65      77      84      90      94      97
1436        UA     100
            * DDM   ***** Preserved *****

1437        KK      D1
1438        KM        DIVERT FLOW INTO OFFLINE DETENTION BASIN
1439        KM        WEIR FOR BASIN SET AT 4 FEET ABOVE CHANNEL BOTTOM
```

```
                *      1
1440            DT  BASIN1     4.0
1441            DI       0    11.1   127.9   234.4   577.7   789.9  1025.5  1280.9  1555.7
1442            DQ       0       0       0    47.7     248   381.8   533.6   701.5     884
                * DDM   ***** Preserved *****
1                                          HEC-1 INPUT                                          PAGE 39

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


1443            KK     CD2
1444            KM        SPLIT OUT FLOW FOR WASHES THAT FLOW TO THE SOUTH FROM
1445            KM        WASHES THAT DRAIN TO THE WES, SOUTHERN WASHES FED BY 30" & 24" PIPE
1446            DT    WA30
1447            DI       0    11.1   127.9   189.6   329.7     408   491.9   579.4   671.7
1448            DQ       0    11.1    38.4    48.2      63    69.5      76      81      86
                * DDM   ***** Preserved *****

1449            KK    R456
1450            KM        ROUTE FLOW FROM SUB-BASIN 51 TO C101
1451            RS       2    FLOW      -1
1452            RC     .05    .035     .05    3800    .044
1453            RX    1000    1010    1020    1036    1041    1057    1067    1077
1454            RY   14.88   14.44      14      10      10      14   14.44   14.88
                * DDM   ***** Updated *****

1455            KK     457
1456            KM   SUB-BASIN 457
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  .999
1459            KM     L = 1.01  Kb = .045  Adj. Slope =  308.8
1460            BA    .190
1461            LG    .270    .330   3.950    .460   6.000
1462            UC    .237    .195
1463            UA       0       5      16      30      65      77      84      90      94      97
1464            UA     100
                * DDM   ***** Preserved *****

1465            KK    C101
1466            KM        COMBINE HYDROGRAPHS FROM SUB-BASINS 50 AND 51
1467            HC       2
                * DDM   ***** Preserved *****

1468            KK      D3
1469            KM        RESERVOIR AT THE EDGE OF THE PROPERTY   FLOW FROM CHANNEL
1470            KM        DIVERTED  INTO OFFLINE BASIN A 25' WEIR SET AT ELEVATION 1808 FT
                *      1
1471            DT  BASIN2     5.0
1472            DI       0      36      70     110     180   313.5     402   500.9
1473            DQ       0       0       0       0       0    67.5     124   190.9
                * DDM   ***** Preserved *****

1474            KK    RTD3
1475            KM   RETRIEVE FLOW FROM DIVERSION INTO OFFLINE BASIN
1476            DR  BASIN2
                * DDM   ***** Preserved *****

1477            KK     SD3
1478            KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
1479            KM     5.0 ACRE-FEETx43560/36x3600=1.7cfs
1480            RS       1    STOR       0
1481            SV       0     .01       5
1482            SQ       0     0.7     1.7
                * DDM   ***** Preserved *****
1                                          HEC-1 INPUT                                          PAGE 40

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


1483            KK     CD3
1484            KM   HYDROGRAPH COMBINATION FOR OFFLINE BASIN BLEEDOFF
1485            HC       2
                * DDM   ***** Preserved *****

1486            KK    R101
1487            KM        ROUTE FLOW FROM SUBBASIN C101 TO C103
1488            RS       1    FLOW      -1
1489            RC     .05    .035     .05    1450     .05
1490            RX    1000    1010    1020    1036    1041    1057    1067    1077
1491            RY      15    14.5      14      10      10      14    14.5      15
                * DDM   ***** Updated *****

1492            KK     458
1493            KM   SUB-BASIN 458
1494            KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1495            KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .999
1496            KM     L =  .76  Kb = .048  Adj. Slope =  299.0
1497            BA    .190
1498            LG    .290    .330   5.800    .190   6.000
1499            UC    .204    .131
1500            UA       0       5      16      30      65      77      84      90      94      97
1501            UA     100
                * DDM   ***** Preserved *****

1502            KK    C103
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1503          KM        COMBINE HYDROGRAPHS FROM SUB-BASIN 55 AND C101
1504          HC       2
              * DDM   ***** Preserved *****

1505          KK    R103
1506          KM        ROUTE FLOW FROM SUBBASIN C103 TO C106
1507          RS       1    FLOW      -1
1508          RC     .05    .035     .05     900     .03
1509          RX    1000    1010    1020    1030    1050    1060    1070    1080
1510          RY   13.16   12.83    12.5      10      10    12.5   12.83   13.16
              * DDM   ***** Preserved *****

1511          KK    RT30
1512          KM        RETRIEVE DIVERTED FLOW FOR WASH BELOW 30 INCH PIPE
1513          DR    WA30
              * DDM   ***** Preserved *****

1514          KK     R30
1515          KM        ROUTE FLOW FROM WASH DIVERSION TO COMBINE C52
1516          RS       1    FLOW      -1
1517          RC     .05    .035     .05    1630     .05
1518          RX    1000    1010    1020    1036    1041    1057    1067    1077
1519          RY      15    14.5      14      10      10      14    14.5      15
              * DDM   ***** Preserved *****
1                                        HEC-1 INPUT                                                    PAGE 41

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

1520          KK    RTB1
1521          KM        RETRIEVE DIVERTED FLOW FROM BASIN 1
              *      1       2
1522          DR  BASIN1
              * DDM   ***** Preserved *****

1523          KK      B1
1524          KM        ROUTE FLOW THROUGH OFFLINE DETENTION BASIN
1525          KM        FLOW OUTLETS THROUGH A 30 INCH OUTLET PIPE
              *      1       2
1526          RS       1    ELEV       0
1527          SV              .7     1.4     2.3     2.7     4.0
1528          SQ       0       5      16      28    32.5      37
1529          SE       0       1       2       3     3.5       4
              * DDM   ***** Preserved *****

1530          KK     RB1
1531          KM        ROUTE FLOW FROM BASIN DIVERSION TO COMBINE C52
1532          RS       3    FLOW      -1
1533          RC     .05    .035     .05    1720     .05
1534          RX    1000    1010    1020    1036    1041    1057    1067    1077
1535          RY      15    14.5      14      10      10      14    14.5      15
              * DDM   ***** Preserved *****

1536          KK    CDIV
1537          KM        COMBINE FLOWS FROM WA30 AND BASIN 1
1538          HC       2      .12
              * DDM   ***** Updated *****

1539          KK     459
1540          KM   SUB-BASIN 459
1541          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1542          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF 1.000
1543          KM     L =  .35  Kb = .052  Adj. Slope =  251.6
1544          BA    .030
1545          LG    .220    .300   3.330    .710   8.000
1546          UC    .162    .157
1547          UA       0       5      16      30      65      77      84      90      94      97
1548          UA     100
              * DDM   ***** Preserved *****

1549          KK     C52
1550          KM        COMBINE FLOWS FROM SUB-BASIN 52 WA30 AND BASIN 1
1551          HC       2
              * DDM   ***** Preserved *****

1552          KK     R52
1553          KM        ROUTE FLOW FROM SUBBASIN 52 TO C102
1554          RS       3    FLOW      -1
1555          RC     .05    .035     .05    2000     .05
1556          RX    1000    1010    1020    1036    1041    1057    1067    1077
1557          RY      15    14.5      14      10      10      14    14.5      15
              * DDM   ***** Updated *****
1                                        HEC-1 INPUT                                                    PAGE 42

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

1558          KK     460
1559          KM   SUB-BASIN 460
1560          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1561          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .999
1562          KM     L =  .62  Kb = .058  Adj. Slope =  194.0
1563          BA    .140
1564          LG    .250    .260   3.740    .690  27.000
1565          UC    .242    .160
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1566          UA       0       5      16      30      65      77      84      90      94      97
1567          UA     100
              * DDM   ***** Preserved *****

1568          KK    C102
1569          KM        COMBINE HYDROGRAPHS FROM SUB-BASINS 52 AND 53
1570          HC       2
              * DDM   ***** Preserved *****

1571          KK  BASIN3
1572          KM        RESERVOIR AT CLUBHOUSE LOCATION 1-30 INCH PIPE AT OUTFALL
1573          KM        BOTTOM OF BASIN AT 6 FEET ABOVE 1795 ELEVATION
1574          RS       1    ELEV       0
1575          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
1576          SQ       0      22      45    47.4      48      51      57      62      67      73
1577          SE    1795  1797.5    1800  1800.4  1800.5    1801    1802    1803    1804  1805.5
              * DDM   ***** Preserved *****

1578          KK      R3
1579          KM        ROUTE FLOW FROM C102 to C106
1580          RS       5    FLOW      -1
1581          RC     .05     .03     .05    2750   .0375
1582          RX    1000    1010    1020    1052    1086    1118    1128    1138
1583          RY    19.2    18.4      18      10      10      18    18.4    19.2
              * DDM   ***** Updated *****

1584          KK     461
1585          KM   SUB-BASIN 461
1586          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1587          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .999
1588          KM     L =  .83  Kb = .052  Adj. Slope =  181.0
1589          BA    .120
1590          LG    .270    .250   4.250    .450  21.000
1591          UC    .271    .250
1592          UA       0       5      16      30      65      77      84      90      94      97
1593          UA     100
              * DDM   ***** Preserved *****

1594          KK    C104
1595          KM        COMBINE HYDROGRAPHS FROM SUB-BASIN 54 AND R102
1596          HC       2
              * DDM   ***** Preserved *****
1                                        HEC-1 INPUT                                          PAGE 43

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


1597          KK    C106
1598          KM        COMBINE HYDROGRAPHS FROM SUB-BASIN C103 AND C104
1599          HC       2
              * DDM   ***** Preserved *****

1600          KK    R106
1601          KM        ROUTE FLOW FROM C106 TO C49
1602          RS       2    FLOW      -1
1603          RC     .05    .035     .05    3950    .033
1604          RX    1000    1010    1020    1030    1050    1060    1070    1080
1605          RY   13.16   12.83    12.5      10      10    12.5   12.83   13.16
              * DDM   ***** Updated *****

1606          KK     462
1607          KM   SUB-BASIN 462
1608          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1609          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .998
1610          KM     L =  .97  Kb = .045  Adj. Slope =  297.7
1611          BA    .301
1612          LG    .300    .330   5.300    .240  12.000
1613          UC    .225    .137
1614          UA       0       5      16      30      65      77      84      90      94      97
1615          UA     100
              * DDM   ***** Preserved *****

1616          KK     C56
1617          KM        COMBINE HYDROGRAPHS FROM SUB-BASIN 56 AND C106
              *      1       2
1618          HC       2
              * DDM   ***** Preserved *****

1619          KK    C462
1620          KM        COMBINE HYDROGRAPHS AT SUBBASIN 462
              *      1
1621          HC       2    2.09
              * DDM   ***** Preserved *****

1622          KK    R462
1623          KM   ROUTE FLOW FROM SUB-BASIN 462 TO SUB-BASIN 500 (First Channel Reach)
1624          RS       1    FLOW      -1
1625          RC    .025    .025    .025    1800    .005
1626          RX       0       1      20      32      62      74      93      94
1627          RY      13      12      12       0       0      12      12      13
              *

1628          KK   RR462
1629          KM   ROUTE FLOW FROM SUB-BASIN 462 TO SUB-BASIN 500 (Second Natural Wash Reach)
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1630          RS       3    FLOW      -1
1631          RC    .055     .05    .055    4700     .05
1632          RX       0       1       2      28      58      84      85      86
1633          RY    13.5    13.5    13.5       0       0    13.5    13.5    13.5
              * DDM   ***** Updated *****
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1634          KK     500
1635          KM   SUB-BASIN 500
1636          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1637          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF .994
1638          KM     L = 2.77  Kb = .042  Adj. Slope =  286.8
1639          BA    .930
1640          LG    .350    .400   6.000    .170   9.000
1641          UC    .421    .333
1642          UA       0       3       5       8      12      20      43      75      90      96
1643          UA     100
              * DDM   ***** Preserved *****

1644          KK    C500
1645          KM   HYDROGRAPH COMBINATION FOR THE ENTIRE WATERSHED AT THE SALT RIVER
1646          HC       2    3.02
1647          ZZ
```

1

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      SCHEMATIC DIAGRAM OF STREAM NETWORK
INPUT
 LINE     (V) ROUTING          (--->) DIVERSION OR PUMP FLOW

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

   27         10
               V
               V
   37        R10
               V
               V
   43        R12
               .
               .
   49          .          20
               .           .
               .           .
   59        C20............
               V
               V
   62        R20
               .
               .
   68          .          40
               .           .
               .           .
   78          .           .          60
               .           .           .
               .           .           .
   88        C60........................
               V
               V
   91        S60
               V
               V
  100        R60
               V
               V
  106       RR60
               .
               .
  112          .          80
               .           .
               .           .
  122        C80............
               V
               V
  125        R80
               .
               .
  131          .         100
               .           .
               .           .
  141       C100............
               V
               V
  144       R100
               .
               .
  150          .         120
               .           .
               .           .
  160       C120............
               V
               V
  163       R120
               .
```

```
169          .        140
             .          .
             .          .
179          .          .        150
             .          .          V
             .          .          V
189          .          .       R150
             .          .          V
             .          .          V
195          .          .       R152
             .          .          .
             .          .          .
201          .          .          .        160
             .          .          .          .
             .          .          .          .
211          .          .          .          .        180
             .          .          .          .          .
             .          .          .          .          .
221       C180.............................................
             .
             .
224          .        210
             .          V
             .          V
234          .       R210
             .          .
             .          .
240          .          .        240
             .          .          .
             .          .          .
250          .       C240............
             .          V
             .          V
253          .       S240
             .          V
             .          V
260          .       R240
             .          .
             .          .
267          .          .        220
             .          .          .
             .          .          .
277          .       C220............
             .          V
             .          V
280          .       S220
             .          V
             .          V
287          .       R220
             .          .
             .          .
294          .          .        190
             .          .          V
             .          .          V
304          .          .       R190
             .          .          V
             .          .          V
310          .          .       R192
             .          .          .
             .          .          .
316          .          .          .        200
             .          .          .          .
             .          .          .          .
326          .       C200........................
             .          V
             .          V
329          .       S200
             .          V
             .          V
336          .       R200
             .          V
             .          V
342          .      SS200
             .          V
             .          V
349          .      RR200
             .          .
             .          .
355       CC180............
             V
             V
358       S180
             V
             V
367       R180
             .
             .
376          .        260
             .          .
             .          .
386       C260............
             V
             V
389       R260
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                .
                .
398             .         280
                .           .
                .           .
408         C280............
               V
               V
411         R280
                .
                .
420             .         300
                .           .
                .           .
430         C300............
               V
               V
433         R300
                .
                .
442             .         305
                .           .
                .           .
452         C305............
               V
               V
455         R305
                .
                .
464             .         350
                .           .
                .           .
477             .           .-------->   SF350
474             .        D350
                .           V
                .           V
480             .        R350
                .           .
                .           .
487             .           .         310
                .           .           .
                .           .           .
497             .        C310............
                .           V
                .           V
500             .        R310
                .           .
                .           .
507             .           .         320
                .           .           .
                .           .           .
522             .           .           .-------->   BS320
517             .           .        D320
                .           .           .
                .           .           .
527             .           .           .          .<-------   BS320
525             .           .           .       RT320
                .           .           .          V
                .           .           .          V
528             .           .           .       S320
                .           .           .          .
                .           .           .          .
534         C320.................................
                .
                .
537             .        340B
                .           .
                .           .
552             .           .-------->  BS340B
547             .       D340B
                .           .
                .           .
557             .           .           .<-------  BS340B
555             .           .      RT340B
                .           .           V
                .           .           V
558             .           .       S340B
                .           .           .
                .           .           .
564             .       C340B............
                .           .
                .           .
569             .           .-------->   BS340
567             .      DD340B
                .           .
                .           .
574             .           .           .<-------   BS340
572             .           .       RT340
                .           .           V
                .           .           V
575             .           .      SS340B
                .           .           .
                .           .           .
581             .      CC340B............
                .           V
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                .          V
584             .       R340B
                .          .
                .          .
591             .          .        340A
                .          .          .
                .          .          .
606             .          .          .-------> BS340A
601             .          .       D340A
                .          .          .
                .          .          .
611             .          .          .          .<------- BS340A
609             .          .          .      RT340A
                .          .          .          V
                .          .          .          V
612             .          .          .       S340A
                .          .          .          .
                .          .          .          .
618             .       C340A.......................
                .          .
                .          .
621          C340............
                .
                .
626             .          .<-------   SF350
624             .       RT350
                .          V
                .          V
627             .       RR350
                .          .
                .          .
634             .          .         355
                .          .          .
                .          .          .
644             .        C355............
                .          V
                .          V
647             .        R355
                .          .
                .          .
654             .          .         360
                .          .          .
                .          .          .
668             .          .          .-------> BS360
664             .          .        D360
                .          .          .
                .          .          .
673             .          .          .          .<------- BS360
671             .          .          .       RT360
                .          .          .          V
                .          .          .          V
674             .          .          .        S360
                .          .          .          .
                .          .          .          .
680          C360.................................
                .
                .
683             .        380A
                .          .
                .          .
693         C380A............
                .
                .
696             .        400A
                .          .
                .          .
706         C400A............
                .
                .
709             .        380B
                .          .
                .          .
723             .          .-------> BS380B
719             .       D380B
                .          .
                .          .
728             .          .          .<------- BS380B
726             .          .      RT380B
                .          .          V
                .          .          V
729             .          .       S380B
                .          .          .
                .          .          .
735             .       C380B............
                .          .
                .          .
740             .          .-------> BS380
738             .      DD380B
                .          .
                .          .
745             .          .          .<------- BS380
743             .          .       RT380
                .          .          V
                .          .          V
746             .          .      SS380B
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                .           .
                .           .
752             .      CC380B...........
                .           V
                .           V
755             .       R380B
                .           .
                .           .
762             .           .        400B
                .           .           .
                .           .           .
776             .           .           .-------> BS400B
772             .           .       D400B
                .           .           .
                .           .           .
781             .           .           .          .<-------  BS400B
779             .           .           .      RT400B
                .           .           .           V
                .           .           .           V
782             .           .           .       S400B
                .           .           .           .
                .           .           .           .
788             .           .       C400B...........
                .           .           .
                .           .           .
791       CC400B......................
                .
                .
794             .        420A
                .           .
                .           .
808             .           .-------> BS420A
804             .       D420A
                .           .
                .           .
813             .           .           .<-------  BS420A
811             .           .      RT420A
                .           .           V
                .           .           V
814             .           .       S420A
                .           .           .
                .           .           .
820        C420A......................
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823             .         370
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833             .           .         395
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843             .        C370...........
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849             .           .------->   BS370
846             .        D370
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854             .           .           .<-------   BS370
852             .           .       RT370
                .           .           V
                .           .           V
855             .           .        S370
                .           .           .
                .           .           .
861             .       CC370...........
                .           V
                .           V
864             .        R370
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871             .           .         385
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881             .           .           .        415B
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891             .           .       C415B...........
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897             .           .           .-------> BS415B
894             .           .       D415B
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902             .           .           .          .<-------  BS415B
900             .           .           .      RT415B
                .           .           .           V
                .           .           .           V
903             .           .           .       S415B
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909             .           .      CC415B...........
                .           .           V
                .           .           V
912             .           .       R415B
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919                 390
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933                  .-------> BS390
929             D390
                     .
938                  .<------- BS390
936                 RT390
                       V
                       V
939                 S390
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945         C390.....................
               V
               V
948         R390
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955             420B
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965         C420B...........
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                 .
968             440
                  V
                  V
978             R70
                 .
                 .
984                 441
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994             C108............
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                 .
999                 .-------> SPLIT
997             D4
                  V
                  V
1002            R108
                 .
                 .
1008                441
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1018            C67............
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                 .
1024                .-------> BASIN4
1021            D6
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                 .
1029                 .<------- BASIN4
1027            RTD6
                  V
                  V
1030            SD6
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1036            CD6............
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                 .
1039                443
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1052                 .-------> WSH66
1049            D66
                  V
                  V
1055            R113
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1061            C114............
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1064                444
                     V
                     V
1074            R58
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1080                 .         445
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1090            C107............
                  V
                  V
1093            R107
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1101                                                  .<-------   SPLIT
1099                                            RTB2
                                                   V
                                                   V
1102                                         RSPLIT
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1108                                               .          446
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1118                                C109.......................
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                                       .
1124                                   .-------> WSH404
1121                                 D5
                                      V
                                      V
1127                                R109
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1133                                   .         447
                                       .           .
                                       .           .
1145                                   .           .           .<-------  WSH404
1143                                   .           .       RT404
                                       .           .           V
                                       .           .           V
1146                                   .           .        R404
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1152                                C110.......................
                                      V
                                      V
1155                                R110
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1161                         C115............
                                V
                                V
1164                         R115
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1170                                448
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1180                                .         449
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1190                            C6364............
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                                    V
1193                            R6364
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1199                                .         450
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1209                                .           .         451
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1219                                .       C451............
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1224                                .           .           .<-------   WSH66
1222                                .           .        RT66
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1225                                .           .           .         452
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1235                                .           .       C6465............
                                    .           .           V
                                    .           .           V
1238                                .           .       R6566
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1244                            C116.......................
                                    V
                                    V
1247                           BASIN5
                                    V
                                    V
1254                            R116
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1260                                .         453
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1270                            C117............
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1273                         C118............
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1276                         R118
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1285            .           .           .-------> BASIN6
1282            .           .         D7
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1290            .           .           .          .<-------  BASIN6
1288            .           .           .       RTD7
                .           .           .          V
                .           .           .          V
1291            .           .           .        SD7
                .           .           .           .
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1297            .           .        CD7............
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1300            .           .           .        454
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1310            .           .       C454............
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                .           .          V
1313            .           .       R454
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1320            .           .           .       415A
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1330            .      C415A........................
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                .          V
1333            .      R415A
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1340            .           .        455
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1355            .           .           .-------> BS455
1350            .           .       D455
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1360            .           .           .          .<-------  BS455
1358            .           .           .      RT455
                .           .           .          V
                .           .           .          V
1361            .           .           .       S455
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1367            .           .       C455............
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1370       CC455........................
               V
               V
1373        S440
               V
               V
1382        R455
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1388            .        480
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1403            .           .-------> BS480
1398            .       D480
                .           .
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1408            .           .          .<-------  BS480
1406            .           .      RT480
                .           .          V
                .           .          V
1409            .           .       S480
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1415            .       C480............
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1418       CC480............
               V
               V
1421        R480
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1427            .        456
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1440            .           .-------> BASIN1
1437            .         D1
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1446            .           .-------> WA30
1443            .        CD2
                .           V
                .           V
1449            .       R456
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1455            .          .        457
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1465            .       C101...........
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1471            .          .-------> BASIN2
1468            .        D3
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1476            .          .          .<-------  BASIN2
1474            .          .      RTD3
                .          .         V
                .          .         V
1477            .          .       SD3
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1483            .       CD3............
                .         V
                .         V
1486            .       R101
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1492            .          .       458
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1502            .       C103...........
                .         V
                .         V
1505            .       R103
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1513            .          .          .<-------    WA30
1511            .          .      RT30
                .          .         V
                .          .         V
1514            .          .       R30
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1522            .          .          .          .<-------  BASIN1
1520            .          .          .       RTB1
                .          .          .          V
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1523            .          .          .         B1
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1530            .          .          .        RB1
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1536            .          .      CDIV...........
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1539            .          .          .        459
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1549            .          .       C52...........
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1552            .          .       R52
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1558            .          .          .        460
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1568            .          .      C102...........
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1571            .          .    BASIN3
                .          .         V
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1578            .          .        R3
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1584            .          .          .        461
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1594            .          .      C104...........
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1597            .       C106...........
                .         V
                .         V
1600            .       R106
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1606            .          .       462
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1616            .        C56...........
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1619         C462...........
                V
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                V
 1622        R462
                V
                V
 1628       RR462
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 1634           .         500
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 1644        C500............
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(***) RUNOFF ALSO COMPUTED AT THIS LOCATION

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1****************************************
*                                      *
*   FLOOD HYDROGRAPH PACKAGE  (HEC-1)  *
*              JUN   1998              *
*            VERSION 4.1               *
*                                      *
*  RUN DATE   16MAY01  TIME  09:17:13  *
*                                      *
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****************************************
*                                      *
*    U.S. ARMY CORPS OF ENGINEERS      *
*    HYDROLOGIC ENGINEERING CENTER     *
*          609 SECOND STREET           *
*       DAVIS, CALIFORNIA 95616        *
*           (916) 756-1104             *
*                                      *
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                    DDM MCUHP1 SPOOK HILL AMDP - EXISTING CONDITIONS MODEL - 100YR, 24HR STORM
                    Existing Condition Base Model with Spook Hill FRS Storage Routing
                    Spook Hill FRS without Off-Line Basin
                    Combine the Following Two Options:
                    McKellips Road Alternative - Option MK2E
                    McDowell Road Alternative - Option MD2E

  8 IO        OUTPUT CONTROL VARIABLES
                  IPRNT          5  PRINT CONTROL
                  IPLOT          0  PLOT CONTROL
                  QSCAL         0.  HYDROGRAPH PLOT SCALE

    IT        HYDROGRAPH TIME DATA
                   NMIN          2  MINUTES IN COMPUTATION INTERVAL
                  IDATE      1   0  STARTING DATE
                  ITIME       0000  STARTING TIME
                     NQ       2000  NUMBER OF HYDROGRAPH ORDINATES
                 NDDATE      3   0  ENDING DATE
                 NDTIME       1838  ENDING TIME
                  ICENT         19  CENTURY MARK

              COMPUTATION INTERVAL     .03 HOURS
                   TOTAL TIME BASE   66.63 HOURS

         ENGLISH UNITS
              DRAINAGE AREA          SQUARE MILES
              PRECIPITATION DEPTH    INCHES
              LENGTH, ELEVATION      FEET
              FLOW                   CUBIC FEET PER SECOND
              STORAGE VOLUME         ACRE-FEET
              SURFACE AREA           ACRES
              TEMPERATURE            DEGREES FAHRENHEIT

 10 JD        INDEX STORM NO. 1
                   STRM        3.81  PRECIPITATION DEPTH
                   TRDA         .01  TRANSPOSITION DRAINAGE AREA

 11 PI          PRECIPITATION PATTERN
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21 JD INDEX STORM NO. 2

STRM	3.79	PRECIPITATION DEPTH
TRDA	1.00	TRANSPOSITION DRAINAGE AREA

0 PI PRECIPITATION PATTERN

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22 JD INDEX STORM NO. 3

STRM 3.68 PRECIPITATION DEPTH

TRDA 5.80 TRANSPOSITION DRAINAGE AREA

0 PI PRECIPITATION PATTERN

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23 JD INDEX STORM NO. 4

STRM 3.57 PRECIPITATION DEPTH

TRDA 10.66 TRANSPOSITION DRAINAGE AREA

0 PI PRECIPITATION PATTERN

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24 JD INDEX STORM NO. 5

STRM 3.54 PRECIPITATION DEPTH

TRDA 13.70 TRANSPOSITION DRAINAGE AREA

0 PI PRECIPITATION PATTERN

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25 JD INDEX STORM NO. 6

STRM 3.47 PRECIPITATION DEPTH

TRDA 20.00 TRANSPOSITION DRAINAGE AREA

0 PI PRECIPITATION PATTERN

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26 JD INDEX STORM NO. 7

STRM 3.32 PRECIPITATION DEPTH

TRDA 50.00 TRANSPOSITION DRAINAGE AREA

0 PI PRECIPITATION PATTERN

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WARNING EXCESS AT PONDING LESS THAN ZERO FOR PERIOD. EXCESS SET TO ZERO
WARNING EXCESS AT PONDING LESS THAN ZERO FOR PERIOD. EXCESS SET TO ZERO
WARNING EXCESS AT PONDING LESS THAN ZERO FOR PERIOD. EXCESS SET TO ZERO

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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	989.	12.27	119.	33.	12.	.70		
	ROUTED TO									
+		R10	920.	12.40	119.	33.	12.	.70		
	ROUTED TO									
+		R12	853.	12.60	119.	33.	12.	.70		
	HYDROGRAPH AT									
+		20	1011.	12.43	136.	34.	12.	1.12		
	2 COMBINED AT									
+		C20	1684.	12.53	252.	66.	24.	1.82		
	ROUTED TO									
+		R20	1683.	12.57	252.	66.	24.	1.82		
	HYDROGRAPH AT									
+		40	2695.	12.30	264.	69.	25.	2.23		
	HYDROGRAPH AT									
+		60	1623.	12.40	239.	64.	23.	1.75		
	3 COMBINED AT									
+		C60	5371.	12.37	733.	194.	70.	5.80		
	ROUTED TO									
+		S60	118.	14.27	118.	114.	70.	5.80		
	ROUTED TO									
+		R60	118.	14.37	118.	114.	70.	5.80		
	ROUTED TO									
+		RR60	118.	14.40	118.	114.	70.	5.80		
	HYDROGRAPH AT									
+		80	1956.	12.27	189.	49.	18.	1.48		
	2 COMBINED AT									
+		C80	2009.	12.27	295.	160.	90.	1.48		
	ROUTED TO									
		R80	1981.	12.30	295.	160.	90.	1.48		
	HYDROGRAPH AT									
+		100	423.	12.20	60.	16.	6.	.48		

+	2 COMBINED AT	C100	2373.	12.27	351.	174.	95.	1.96
+	ROUTED TO	R100	2370.	12.30	351.	174.	95.	1.96
+	HYDROGRAPH AT	120	3352.	12.27	340.	92.	33.	2.20
+	2 COMBINED AT	C120	5618.	12.27	673.	256.	126.	4.16
+	ROUTED TO	R120	5546.	12.30	673.	256.	126.	4.16
+	HYDROGRAPH AT	140	665.	12.13	67.	18.	6.	.60
+	HYDROGRAPH AT	150	595.	12.17	51.	14.	5.	.41
+	ROUTED TO	R150	568.	12.23	51.	14.	5.	.41
+	ROUTED TO	R152	514.	12.33	51.	14.	5.	.41
+	HYDROGRAPH AT	160	228.	12.40	37.	9.	3.	.37
+	HYDROGRAPH AT	180	836.	12.37	97.	24.	9.	1.00
+	5 COMBINED AT	C180	7306.	12.30	898.	313.	146.	6.54
+	HYDROGRAPH AT	210	1322.	12.17	111.	29.	10.	.79
+	ROUTED TO	R210	1246.	12.23	111.	29.	10.	.79
+	HYDROGRAPH AT	240	1513.	12.30	167.	42.	15.	1.41
+	2 COMBINED AT	C240	2684.	12.27	273.	70.	25.	2.20
+	ROUTED TO	S240	799.	12.70	226.	59.	21.	2.20
+	ROUTED TO	R240	798.	12.77	225.	59.	21.	2.20
+	HYDROGRAPH AT	220	676.	12.20	68.	18.	6.	.47
+	2 COMBINED AT	C220	962.	12.60	288.	75.	27.	2.67
+	ROUTED TO	S220	900.	12.80	280.	73.	26.	2.67
+	ROUTED TO	R220	897.	12.83	280.	73.	26.	2.67
+	HYDROGRAPH AT	190	1471.	12.17	123.	33.	12.	.92
+	ROUTED TO	R190	1415.	12.23	123.	33.	12.	.92
+	ROUTED TO	R192	1359.	12.30	123.	33.	12.	.92
+	HYDROGRAPH AT	200	831.	12.17	72.	20.	7.	.53
+	3 COMBINED AT	C200	2254.	12.30	459.	122.	44.	4.12
+	ROUTED TO	S200	2135.	12.37	454.	119.	43.	4.12
+	ROUTED TO	R200	2127.	12.37	454.	119.	43.	4.12
	ROUTED TO	SS200	1365.	12.73	333.	88.	32.	4.12
	ROUTED TO	RR200	1330.	12.83	330.	88.	32.	4.12
+	2 COMBINED AT	CC180	7306.	12.30	1212.	399.	177.	10.66

+	ROUTED TO S180	113.	29.07	113.	113.	88.	10.66
+	ROUTED TO R180	113.	28.93	113.	113.	88.	10.66
+	HYDROGRAPH AT 260	416.	12.10	43.	12.	4.	.26
+	2 COMBINED AT C260	421.	12.10	135.	124.	99.	.26
+	ROUTED TO R260	407.	12.20	135.	124.	98.	.26
+	HYDROGRAPH AT 280	527.	12.10	46.	13.	5.	.32
+	2 COMBINED AT C280	884.	12.13	176.	135.	103.	.58
+	ROUTED TO R280	862.	12.20	176.	134.	103.	.58
+	HYDROGRAPH AT 300	415.	12.10	34.	10.	3.	.29
+	2 COMBINED AT C300	1217.	12.17	207.	143.	106.	.87
+	ROUTED TO R300	1172.	12.23	207.	142.	106.	.87
+	HYDROGRAPH AT 305	476.	12.27	81.	22.	8.	.70
+	2 COMBINED AT C305	1624.	12.23	283.	161.	112.	1.57
+	ROUTED TO R305	1603.	12.30	282.	161.	112.	1.57
+	HYDROGRAPH AT 350	1258.	12.20	109.	28.	10.	.97
	DIVERSION TO SF350	629.	12.20	55.	14.	5.	.97
+	HYDROGRAPH AT D350	629.	12.20	55.	14.	5.	.97
+	ROUTED TO R350	557.	12.40	55.	14.	5.	.97
+	HYDROGRAPH AT 310	398.	12.33	52.	13.	5.	.56
+	2 COMBINED AT C310	928.	12.40	106.	27.	10.	1.04
+	ROUTED TO R310	820.	12.73	106.	27.	10.	1.04
+	HYDROGRAPH AT 320	991.	12.20	127.	36.	13.	.95
+	DIVERSION TO BS320	386.	11.93	21.	6.	2.	.95
+	HYDROGRAPH AT D320	991.	12.20	113.	29.	11.	.95
+	HYDROGRAPH AT RT320	386.	11.93	21.	6.	2.	.95
+	ROUTED TO S320	4.	12.00	4.	4.	2.	.95
+	4 COMBINED AT C320	2546.	12.30	491.	216.	132.	3.56
+	HYDROGRAPH AT 340B	475.	12.07	35.	10.	4.	.29
+	DIVERSION TO BS340B	475.	12.07	21.	6.	2.	.29
	HYDROGRAPH AT D340B	390.	12.13	16.	4.	2.	.29
	HYDROGRAPH AT RT340B	475.	12.07	21.	6.	2.	.29
+	ROUTED TO S340B	3.	12.13	3.	3.	2.	.29

+	2 COMBINED AT	C340B	394.	12.13	19.	7.	4.	.29
	DIVERSION TO	BS340	376.	12.13	12.	3.	1.	.29
+	HYDROGRAPH AT	DD340B	18.	12.10	8.	4.	3.	.29
+	HYDROGRAPH AT	RT340	376.	12.13	12.	3.	1.	.29
+	ROUTED TO	SS340B	2.	12.63	2.	2.	1.	.29
+	2 COMBINED AT	CC340B	20.	12.63	10.	6.	4.	.29
+	ROUTED TO	R340B	20.	12.70	10.	6.	4.	.29
+	HYDROGRAPH AT	340A	1361.	12.17	161.	48.	17.	1.15
+	DIVERSION TO	BS340A	1361.	12.17	82.	23.	8.	1.15
+	HYDROGRAPH AT	D340A	1217.	12.23	93.	25.	9.	1.15
+	HYDROGRAPH AT	RT340A	1361.	12.17	82.	23.	8.	1.15
+	ROUTED TO	S340A	14.	12.27	13.	11.	7.	1.15
+	3 COMBINED AT	C340A	1212.	12.27	115.	42.	20.	1.44
+	2 COMBINED AT	C340	3667.	12.27	595.	255.	150.	5.00
+	HYDROGRAPH AT	RT350	629.	12.20	55.	14.	5.	.97
	ROUTED TO	RR350	544.	12.43	55.	14.	5.	.97
+	HYDROGRAPH AT	355	546.	12.33	75.	19.	7.	.68
+	2 COMBINED AT	C355	1028.	12.40	129.	34.	12.	1.16
+	ROUTED TO	R355	941.	12.70	129.	34.	12.	1.16
+	HYDROGRAPH AT	360	773.	12.23	116.	34.	12.	.88
+	DIVERSION TO	BS360	773.	12.23	52.	14.	5.	.88
+	HYDROGRAPH AT	D360	709.	12.33	73.	20.	7.	.88
+	HYDROGRAPH AT	RT360	773.	12.23	52.	14.	5.	.88
+	ROUTED TO	S360	9.	12.33	8.	7.	5.	.88
+	4 COMBINED AT	C360	4279.	12.33	777.	307.	171.	7.04
+	HYDROGRAPH AT	380A	322.	12.27	33.	10.	4.	.26
+	2 COMBINED AT	C380A	4513.	12.33	803.	314.	174.	7.30
+	HYDROGRAPH AT	400A	56.	12.20	4.	1.	0.	.05
+	2 COMBINED AT	C400A	4540.	12.33	807.	314.	174.	7.35
+	HYDROGRAPH AT	380B	567.	12.20	67.	17.	6.	.64
	DIVERSION TO	BS380B	567.	12.20	57.	14.	5.	.64
+	HYDROGRAPH AT	D380B	147.	12.80	12.	3.	1.	.64

+	HYDROGRAPH AT	RT380B	567.	12.20	57.	14.	5.	.64
+	ROUTED TO	S380B	9.	12.80	9.	7.	5.	.64
+	2 COMBINED AT	C380B	156.	12.80	20.	11.	6.	.64
+	DIVERSION TO	BS380	70.	12.80	2.	0.	0.	.64
+	HYDROGRAPH AT	DD380B	86.	12.77	18.	10.	6.	.64
+	HYDROGRAPH AT	RT380	70.	12.80	2.	0.	0.	.64
+	ROUTED TO	SS380B	4.	13.03	2.	0.	0.	.64
+	2 COMBINED AT	CC380B	90.	13.03	20.	11.	6.	.64
+	ROUTED TO	R380B	90.	13.03	20.	11.	6.	.64
+	HYDROGRAPH AT	400B	516.	12.20	62.	17.	6.	.57
+	DIVERSION TO	BS400B	292.	12.00	10.	3.	1.	.57
+	HYDROGRAPH AT	D400B	516.	12.20	54.	14.	5.	.57
+	HYDROGRAPH AT	RT400B	292.	12.00	10.	3.	1.	.57
+	ROUTED TO	S400B	2.	12.07	2.	2.	1.	.57
+	2 COMBINED AT	C400B	518.	12.20	56.	15.	6.	.57
	3 COMBINED AT	CC400B	4824.	12.33	860.	334.	184.	8.56
+	HYDROGRAPH AT	420A	495.	12.20	68.	19.	7.	.57
+	DIVERSION TO	BS420A	377.	12.07	16.	4.	2.	.57
+	HYDROGRAPH AT	D420A	495.	12.20	56.	14.	5.	.57
+	HYDROGRAPH AT	RT420A	377.	12.07	16.	4.	2.	.57
+	ROUTED TO	S420A	13.	11.60	13.	4.	2.	.57
+	3 COMBINED AT	C420A	5196.	12.37	917.	348.	189.	9.13
+	HYDROGRAPH AT	370	817.	12.23	83.	22.	8.	.67
+	HYDROGRAPH AT	395	234.	12.20	26.	7.	3.	.20
+	2 COMBINED AT	C370	1046.	12.23	108.	29.	11.	.87
+	DIVERSION TO	BS370	906.	12.23	68.	17.	6.	.87
+	HYDROGRAPH AT	D370	140.	11.87	40.	12.	4.	.87
+	HYDROGRAPH AT	RT370	906.	12.23	68.	17.	6.	.87
+	ROUTED TO	S370	10.	12.90	9.	8.	6.	.87
+	2 COMBINED AT	CC370	150.	12.90	47.	19.	10.	.87
+	ROUTED TO	R370	150.	12.90	47.	19.	10.	.87
+	HYDROGRAPH AT	385	613.	12.23	74.	20.	7.	.53

+	HYDROGRAPH AT 415B	443.	12.10	46.	13.	5.	.33
+	2 COMBINED AT C415B	973.	12.20	120.	33.	12.	.86
+	DIVERSION TO BS415B	783.	12.20	64.	16.	6.	.86
+	HYDROGRAPH AT D415B	190.	11.83	56.	17.	6.	.86
+	HYDROGRAPH AT RT415B	783.	12.20	64.	16.	6.	.86
+	ROUTED TO S415B	10.	12.83	9.	8.	6.	.86
+	2 COMBINED AT CC415B	200.	12.83	63.	23.	12.	.86
+	ROUTED TO R415B	200.	12.83	63.	23.	12.	.86
+	HYDROGRAPH AT 390	477.	12.03	35.	10.	4.	.24
+	DIVERSION TO BS390	101.	11.73	6.	2.	1.	.24
+	HYDROGRAPH AT D390	477.	12.03	31.	8.	3.	.24
+	HYDROGRAPH AT RT390	101.	11.73	6.	2.	1.	.24
+	ROUTED TO S390	1.	11.80	1.	1.	1.	.24
+	4 COMBINED AT C390	810.	12.03	141.	50.	25.	1.97
+	ROUTED TO R390	734.	12.23	141.	50.	25.	1.97
+	HYDROGRAPH AT 420B	356.	12.10	34.	10.	4.	.28
+	2 COMBINED AT C420B	1013.	12.20	173.	59.	29.	2.25
+	HYDROGRAPH AT 440	184.	12.03	12.	3.	1.	.08
+	ROUTED TO R70	181.	12.07	12.	3.	1.	.08
+	HYDROGRAPH AT 441	16.	12.03	1.	0.	0.	.01
+	2 COMBINED AT C108	197.	12.07	14.	4.	1.	.09
+	DIVERSION TO SPLIT	98.	12.07	7.	2.	1.	.09
+	HYDROGRAPH AT D4	98.	12.07	7.	2.	1.	.09
+	ROUTED TO R108	92.	12.13	7.	2.	1.	.09
+	HYDROGRAPH AT 442	105.	12.10	9.	2.	1.	.10
+	2 COMBINED AT C67	195.	12.10	16.	4.	2.	.19
+	DIVERSION TO BASIN4	121.	12.10	6.	2.	1.	.19
+	HYDROGRAPH AT D6	74.	12.10	10.	3.	1.	.19
+	HYDROGRAPH AT RTD6	121.	12.10	6.	2.	1.	.19
+	ROUTED TO SD6	1.	12.47	1.	1.	0.	.19
+	2 COMBINED AT CD6	74.	12.10	10.	3.	1.	.19
+	HYDROGRAPH AT 443	151.	12.07	15.	4.	1.	.08

+	DIVERSION TO WSH66	78.	11.87	12.	3.	1.	.08
	HYDROGRAPH AT D66	73.	12.07	3.	1.	0.	.08
+	ROUTED TO R113	71.	12.07	3.	1.	0.	.08
+	2 COMBINED AT C114	144.	12.07	13.	4.	2.	.27
+	HYDROGRAPH AT 444	83.	12.03	5.	1.	0.	.04
+	ROUTED TO R58	79.	12.07	5.	1.	0.	.04
+	HYDROGRAPH AT 445	307.	12.03	19.	5.	2.	.19
+	2 COMBINED AT C107	382.	12.03	23.	6.	2.	.23
+	ROUTED TO R107	382.	12.07	23.	6.	2.	.23
+	HYDROGRAPH AT RTB2	98.	12.07	7.	2.	1.	.09
+	ROUTED TO RSPLIT	98.	12.07	7.	2.	1.	.09
+	HYDROGRAPH AT 446	66.	12.03	6.	2.	1.	.04
+	3 COMBINED AT C109	545.	12.07	36.	10.	3.	.27
+	DIVERSION TO WSH404	35.	11.70	8.	2.	1.	.27
+	HYDROGRAPH AT D5	510.	12.07	28.	7.	3.	.27
	ROUTED TO R109	493.	12.10	28.	7.	3.	.27
+	HYDROGRAPH AT 447	141.	12.07	12.	4.	1.	.09
+	HYDROGRAPH AT RT404	35.	11.70	8.	2.	1.	.27
+	ROUTED TO R404	35.	11.83	8.	2.	1.	.27
+	3 COMBINED AT C110	666.	12.07	48.	13.	5.	.36
+	ROUTED TO R110	663.	12.10	48.	13.	5.	.36
+	2 COMBINED AT C115	805.	12.07	61.	17.	7.	.63
+	ROUTED TO R115	799.	12.10	61.	17.	7.	.63
+	HYDROGRAPH AT 448	89.	12.03	6.	2.	1.	.05
+	HYDROGRAPH AT 449	81.	12.03	5.	1.	0.	.05
+	2 COMBINED AT C6364	170.	12.03	11.	3.	1.	.09
+	ROUTED TO R6364	145.	12.17	11.	3.	1.	.09
+	HYDROGRAPH AT 450	63.	12.20	7.	2.	1.	.07
+	HYDROGRAPH AT 451	18.	12.17	2.	1.	0.	.03
	2 COMBINED AT C451	80.	12.20	9.	2.	1.	.09
	HYDROGRAPH AT RT66	78.	11.87	12.	3.	1.	.08
+	HYDROGRAPH AT 452	63.	12.03	5.	1.	0.	.04

+	2 COMBINED AT	C6465	141.	12.03	17.	4.	2.	.04
+	ROUTED TO	R6566	137.	12.10	17.	4.	2.	.04
+	3 COMBINED AT	C116	357.	12.17	36.	10.	3.	.23
+	ROUTED TO	BASIN5	159.	12.47	36.	10.	3.	.23
+	ROUTED TO	R116	157.	12.53	36.	10.	3.	.23
+	HYDROGRAPH AT	453	63.	12.10	7.	2.	1.	.06
+	2 COMBINED AT	C117	177.	12.47	43.	12.	4.	.29
+	2 COMBINED AT	C118	892.	12.10	104.	29.	11.	.92
+	ROUTED TO	R118	887.	12.13	104.	29.	11.	.92
+	DIVERSION TO	BASIN6	248.	12.13	7.	2.	1.	.92
+	HYDROGRAPH AT	D7	639.	12.13	97.	27.	10.	.92
+	HYDROGRAPH AT	RTD7	248.	12.13	7.	2.	1.	.92
+	ROUTED TO	SD7	1.	12.63	1.	1.	1.	.92
+	2 COMBINED AT	CD7	640.	12.13	97.	28.	11.	.92
+	HYDROGRAPH AT	454	162.	12.13	21.	6.	2.	.18
	2 COMBINED AT	C454	801.	12.13	118.	34.	13.	1.10
+	ROUTED TO	R454	793.	12.23	118.	34.	13.	1.10
+	HYDROGRAPH AT	415A	267.	12.17	32.	9.	3.	.28
+	3 COMBINED AT	C415A	2035.	12.20	316.	99.	44.	3.63
+	ROUTED TO	R415A	2016.	12.27	316.	99.	44.	3.63
+	HYDROGRAPH AT	455	1418.	12.13	150.	45.	16.	1.11
+	DIVERSION TO	BS455	1418.	12.13	139.	37.	13.	1.11
+	HYDROGRAPH AT	D455	145.	12.80	24.	8.	3.	1.11
+	HYDROGRAPH AT	RT455	1418.	12.13	139.	37.	13.	1.11
+	ROUTED TO	S455	23.	12.80	22.	18.	11.	1.11
+	2 COMBINED AT	C455	169.	12.80	46.	26.	14.	1.11
+	3 COMBINED AT	CC455	6774.	12.37	1208.	451.	238.	13.87
+	ROUTED TO	S440	226.	24.00	225.	211.	149.	13.87
+	ROUTED TO	R455	226.	24.67	225.	211.	146.	13.87
	HYDROGRAPH AT	480	1102.	12.10	100.	31.	11.	.73
	DIVERSION TO	BS480	487.	11.90	27.	8.	3.	.73
+	HYDROGRAPH AT	D480	1102.	12.10	83.	23.	8.	.73

+	HYDROGRAPH AT RT480	487.	11.90	27.	8.	3.	.73
	ROUTED TO S480	5.	11.97	5.	4.	3.	.73
+	2 COMBINED AT C480	1107.	12.10	88.	27.	11.	.73
+	2 COMBINED AT CC480	1107.	12.10	288.	259.	179.	.73
+	ROUTED TO R480	878.	12.33	288.	259.	178.	.73
+	HYDROGRAPH AT 456	483.	12.07	37.	10.	4.	.26
+	DIVERSION TO BASIN1	193.	12.07	8.	2.	1.	.26
+	HYDROGRAPH AT D1	290.	12.07	29.	8.	3.	.26
+	DIVERSION TO WA30	59.	12.07	10.	3.	1.	.26
+	HYDROGRAPH AT CD2	231.	12.07	19.	5.	2.	.26
+	ROUTED TO R456	218.	12.13	19.	5.	2.	.26
+	HYDROGRAPH AT 457	273.	12.07	21.	6.	2.	.19
+	2 COMBINED AT C101	480.	12.10	40.	10.	4.	.45
+	DIVERSION TO BASIN2	177.	12.10	8.	2.	1.	.45
+	HYDROGRAPH AT D3	303.	12.10	32.	8.	3.	.45
	HYDROGRAPH AT RTD3	177.	12.10	8.	2.	1.	.45
+	ROUTED TO SD3	1.	12.40	1.	1.	1.	.45
+	2 COMBINED AT CD3	304.	12.10	33.	9.	4.	.45
+	ROUTED TO R101	302.	12.10	33.	9.	4.	.45
+	HYDROGRAPH AT 458	366.	12.03	26.	7.	2.	.19
+	2 COMBINED AT C103	655.	12.07	59.	16.	6.	.64
+	ROUTED TO R103	651.	12.07	59.	16.	6.	.64
+	HYDROGRAPH AT RT30	59.	12.07	10.	3.	1.	.26
+	ROUTED TO R30	58.	12.10	10.	3.	1.	.26
+	HYDROGRAPH AT RTB1	193.	12.07	8.	2.	1.	.26
+	ROUTED TO B1	35.	12.20	8.	2.	1.	.26
+	ROUTED TO RB1	35.	12.27	8.	2.	1.	.26
+	2 COMBINED AT CDIV	87.	12.20	18.	5.	2.	.12
+	HYDROGRAPH AT 459	45.	12.03	3.	1.	0.	.03
+	2 COMBINED AT C52	117.	12.10	21.	6.	2.	.15
	ROUTED TO R52	116.	12.17	21.	6.	2.	.15
+	HYDROGRAPH AT 460	221.	12.07	20.	6.	2.	.14

+	2 COMBINED AT	C102	323.	12.07	40.	12.	4.	.29
	ROUTED TO	BASIN3	71.	12.63	40.	12.	4.	.29
+	ROUTED TO	R3	71.	12.77	40.	12.	4.	.29
+	HYDROGRAPH AT	461	165.	12.10	17.	5.	2.	.12
+	2 COMBINED AT	C104	220.	12.10	57.	17.	6.	.41
+	2 COMBINED AT	C106	866.	12.07	115.	33.	12.	1.05
+	ROUTED TO	R106	828.	12.13	115.	33.	12.	1.05
+	HYDROGRAPH AT	462	557.	12.07	42.	12.	4.	.30
+	2 COMBINED AT	C56	1306.	12.10	156.	44.	16.	1.35
+	2 COMBINED AT	C462	1603.	12.30	368.	285.	190.	2.09
+	ROUTED TO	R462	1575.	12.33	367.	285.	190.	2.09
+	ROUTED TO	RR462	1543.	12.40	366.	285.	189.	2.09
+	HYDROGRAPH AT	500	1126.	12.27	128.	35.	12.	.93
+	2 COMBINED AT	C500	2475.	12.33	477.	311.	199.	3.02

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

FLOOD CONTROL DISTRICT
OF MARICOPA COUNTY
ENGINEERING DIVISION

McDOWELL/McKELLIPS/NJ ALTERNATIVE

	BY	DATE
DESIGNED	R. MINER	06/00
DRAWN	S. CAMPBELL	06/00
CHECKED	A. PATEL	06/00

WOOD, PATEL & ASSOCIATES, INC.
2051 WEST NORTHERN, SUITE 100
PHOENIX, ARIZONA (602) 335-8500

DRAWING NO. MD2MK2NJ.DWG SHEET OF

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****************************************
*                                      *
*   FLOOD HYDROGRAPH PACKAGE  (HEC-1)  *
*             JUN  1998                *
*           VERSION 4.1                *
*                                      *
*  RUN DATE   16MAY01  TIME  09:35:49  *
*                                      *
****************************************
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****************************************
*                                      *
*    U.S. ARMY CORPS OF ENGINEERS      *
*    HYDROLOGIC ENGINEERING CENTER     *
*          609 SECOND STREET           *
*       DAVIS, CALIFORNIA 95616        *
*           (916) 756-1104             *
*                                      *
****************************************
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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

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

  1           ID   DDM MCUHP1 SPOOK HILL AMDP - EXISTING CONDITIONS MODEL - 100YR, 24HR STORM
  2           ID   Spook Hill FRS with Off-Line Basin
  3           ID   Combine the Following Three Options:
  4           ID   McKellips Road Alternative - Option MK2E
  5           ID   McDowell Road Alternative - Option MD2E
  6           ID   Non-Jurisdictional Alternative - Option NJ4Q
              *
              *  Original File Names: MD2EMK2E.DAT and EC24NJ4Q.DAT
              *  Modified File Name: MD2MK2NJ.DAT, 5/15/01, WOOD/PATEL, SZ
              *
              *
              *DIAGRAM
  7           IT       2                    2000
  8           IO       5
  9           IN      15
 10           JD    3.81    0.01
 11           PC    .000    .002    .005    .008    .011    .014    .017    .020    .023    .026
 12           PC    .029    .032    .035    .038    .041    .044    .048    .052    .056    .060
 13           PC    .064    .068    .072    .076    .080    .085    .090    .095    .100    .105
 14           PC    .110    .115    .120    .126    .133    .140    .147    .155    .163    .172
 15           PC    .181    .191    .203    .218    .236    .257    .283    .387    .663    .707
 16           PC    .735    .758    .776    .791    .804    .815    .825    .834    .842    .849
 17           PC    .856    .863    .869    .875    .881    .887    .893    .898    .903    .908
 18           PC    .913    .918    .922    .926    .930    .934    .938    .942    .946    .950
 19           PC    .953    .956    .959    .962    .965    .968    .971    .974    .977    .980
 20           PC    .983    .986    .989    .992    .995    .998   1.000
 21           JD   3.787    1.00
 22           JD   3.677    5.80
 23           JD   3.574   10.66
 24           JD   3.539   13.70
 25           JD   3.467   20.00
 26           JD   3.315   50.00
              * DDM   ***** Updated *****

 27           KK      10
 28           KM   SUB-BASIN 10
 29           KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
 30           KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .996
 31           KM     L = 2.00  Kb = .044  Adj. Slope =  165.0
 32           BA    .702
 33           LG    .350    .320   7.600    .090  15.000
 34           UC    .421    .302
 35           UA       0       3       5       8      12      20      43      75      90      96
 36           UA     100
              * DDM   ***** Preserved *****

 37           KK     R10
 38           KM   ROUTING OF FLOW FROM SUB-BASIN 10 TO R12
 39           RS       4    FLOW      -1
 40           RC    .045     .03    .045    8700    .021
 41           RX       0       1       2      17      27      42      43      44
 42           RY       5       5       5       0       0       5       5       5
              * DDM   ***** Preserved *****
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

  43          KK     R12
  44          KM   ROUTING OF FLOW FROM R12 TO SUB-BASIN 20
  45          RS       6    FLOW      -1
  46          RC    .045     .03    .045    4500     .01
  47          RX       0       1      45    52.5    72.5      80     124     125
  48          RY       4     2.5     2.5       0       0     2.5     2.5       4
              * DDM   ***** Updated *****

  49          KK      20
  50          KM   SUB-BASIN 20
  51          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
  52          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .993
  53          KM     L = 2.50  Kb = .041  Adj. Slope =   88.0
  54          BA   1.120
  55          LG    .350    .390   5.800    .190   1.000
  56          UC    .658    .454
  57          UA       0       3       5       8      12      20      43      75      90      96
  58          UA     100
              * DDM   ***** Preserved *****

  59          KK     C20
  60          KM   HYDROGRAPH COMBINATION OF SUB-BASINS 10 AND 20
  61          HC       2
              * DDM   ***** Preserved *****

  62          KK     R20
  63          KM        ROUTE FLOW THROUGH BULLDOG FLOODWAY FROM APACHE JUNCTION FRS
  64          RS       1    FLOW      -1
  65          RC    .016    .016    .016     990    .004
  66          RX       0       5       7    14.5    34.5      42      44      50
  67          RY       4       2       2       0       0       2       2       4
              * DDM   ***** Updated *****

  68          KK      40
  69          KM   SUB-BASIN 40
  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  .987
  72          KM     L = 3.08  Kb = .036  Adj. Slope =  189.0
  73          BA   2.233
  74          LG    .340    .340   4.900    .280   5.000
  75          UC    .496    .264
  76          UA       0       3       5       8      12      20      43      75      90      96
  77          UA     100
              * DDM   ***** Updated *****

  78          KK      60
  79          KM   SUB-BASIN 60
  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  .990
  82          KM     L = 4.19  Kb = .038  Adj. Slope =  209.6
  83          BA   1.746
  84          LG    .330    .350   5.800    .190   9.000
  85          UC    .596    .477
  86          UA       0       3       5       8      12      20      43      75      90      96
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

  87          UA     100
              * DDM   ***** Preserved *****

  88          KK     C60
  89          KM     C60GRAPH COMBINATION FOR APACHE JUNCTION FRS
              *      1       2
  90          HC       3
              * DDM   ***** Preserved *****

  91          KK     S60
  92          KM   APACHE JUNCTION FRS AS-BUILT PLANS 12/19/88
  93          KM   OUTLET PIPE=30"RCP; L=136.6'; INLET INV.=1783.5; OUTLET INV.=1783
  94          KM   EMERGENCY SPILLWAY ELEV.=1799.77'; PRINCIPLE SPILLWAY ELEV.=1793.5'
  95          KM   STORAGE VOLUME BELOW PRINCIPLE SPILLWAY FOR SEDIMENT = 100 ACRE-FEET
              *  ESE = 1801.92 ft; PSE = 1795.65 ft; Sediment Vol. = 237 Ac-Ft.
  96          RS       1    STOR       0
  97          SV       0       0      77     242     371     439     563     687    2163
  98          SQ       0      12     103     114     120     362    1462    3101   30000
  99          SE    95.0    96.0    98.0   100.0   101.6   101.9   103.0   104.0   112.9
              * DDM   ***** Preserved *****

 100          KK     R60
 101          KM        ROUTE FLOW THROUGH BULLDOG FLOODWAY FROM APACHE JUNCTION FRS
 102          RS       1    FLOW      -1
 103          RC    .016    .016    .016    2850    .012
 104          RX       0       1       2     2.1     5.6     5.7       6       7
 105          RY     3.5     3.5     3.5       0       0     3.5     3.5     3.5
              * DDM   ***** Preserved *****
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106          KK    RR60
107          KM   ROUTE FLOW FROM BULLDOG FLOODWAY TO SUB-BASIN 80
108          RS       3    FLOW      -1
109          RC    .016    .016    .016    3500    .005
110          RX       0       1       2     2.1     7.1     7.2       8       9
111          RY     3.5     3.5     3.5       0       0     3.5     3.5     3.5
             * DDM   ***** Updated *****

112          KK      80
113          KM   SUB-BASIN 80
114          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
115          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .991
116          KM     L = 2.69  Kb = .039  Adj. Slope =  229.8
117          BA   1.475
118          LG    .330    .330   5.600    .210   4.000
119          UC    .433    .259
120          UA       0       3       5       8      12      20      43      75      90      96
121          UA     100
             * DDM   ***** Preserved *****

122          KK     C80
123          KM   HYDROGRAPH COMBINATION FOR FLOW FROM APACHE JUNCTION FRS & SUB-BASIN 80
124          HC       2   1.475
             * DDM   ***** Preserved *****
1                                        HEC-1 INPUT                                          PAGE  4

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

125          KK     R80
126          KM   ROUTE FLOW FROM SUB-BASIN 80 TO SUB-BASIN 100
127          RS       1    FLOW      -1
128          RC    .025    .016    .025    1200    .003
129          RX       0       2       6     6.1    41.1    41.2    56.2    58.2
130          RY     5.5     4.5     4.5       0       0     4.5     4.5     5.5
             * DDM   ***** Updated *****

131          KK     100
132          KM   SUB-BASIN 100
133          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
134          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .997
135          KM     L = 1.94  Kb = .046  Adj. Slope =  108.0
136          BA    .484
137          LG    .320    .290   5.100    .260   3.000
138          UC    .533    .473
139          UA       0       5      16      30      65      77      84      90      94      97
140          UA     100
             * DDM   ***** Preserved *****

141          KK    C100
142          KM   HYDROGRAPH COMBINATION FOR FLOW FROM SUB-BASIN 80 & 100
143          HC       2
             * DDM   ***** Preserved *****

144          KK    R100
145          KM   ROUTE FLOW FROM SUB-BASIN 100 TO SUB-BASIN 120
146          RS       1    FLOW      -1
147          RC    .016    .016    .016     940    .005
148          RX       0       1       2     2.1    52.1    52.2      53      54
149          RY     4.5     4.5     4.5       0       0     4.5     4.5     4.5
             * DDM   ***** Updated *****

150          KK     120
151          KM   SUB-BASIN 120
152          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
153          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .987
154          KM     L = 3.07  Kb = .037  Adj. Slope =  239.0
155          BA   2.202
156          LG    .330    .280   6.800    .130  11.000
157          UC    .429    .226
158          UA       0       3       5       8      12      20      43      75      90      96
159          UA     100
             * DDM   ***** Preserved *****

160          KK    C120
161          KM   HYDROGRAPH COMBINATION FOR FLOW FROM SUB-BASIN 100 & 120
162          HC       2
             * DDM   ***** Preserved *****
1                                        HEC-1 INPUT                                          PAGE  5

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

163          KK    R120
164          KM   ROUTE FLOW FROM SUB-BASIN 120 TO SIGNAL BUTTE FRS
165          RS       1    FLOW      -1
166          RC    .025    .016    .025    2100    .005
167          RX       0       6      10    10.1    60.1    60.2    74.2    80.2
168          RY       8       5       5       0       0       5       5       8
             * DDM   ***** Updated *****
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169          KK     140
170          KM   SUB-BASIN 140
171          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
172          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .996
173          KM     L = 1.61  Kb = .044  Adj. Slope =  149.0
174          BA    .598
175          LG    .310    .280   4.200    .440   5.000
176          UC    .421    .278
177          UA       0       5      16      30      65      77      84      90      94      97
178          UA     100
             * DDM   ***** Updated *****

179          KK     150
180          KM   SUB-BASIN 150
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  .998
183          KM     L = 1.50  Kb = .047  Adj. Slope =  314.6
184          BA    .408
185          LG    .350    .360   5.100    .260   7.000
186          UC    .296    .221
187          UA       0       3       5       8      12      20      43      75      90      96
188          UA     100
             * DDM   ***** Preserved *****

189          KK    R150
190          KM   ROUTING OF FLOW FROM SUB-BASIN 150 TO R152
191          RS       2    FLOW      -1
192          RC    .045     .04    .045    3100    .032
193          RX       0       1       2      23      33      54      55      56
194          RY       7       7       7       0       0       7       7       7
             * DDM   ***** Preserved *****

195          KK    R152
196          KM   ROUTING OF FLOW FROM R152 TO SUB-BASIN 160
197          RS       3    FLOW      -1
198          RC    .045     .03    .045    5900    .019
199          RX       0       1       2       8      33      39      40      41
200          RY       2       2       2       0       0       2       2       2
             * DDM   ***** Updated *****

201          KK     160
202          KM   SUB-BASIN 160
203          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
204          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .998
205          KM     L = 2.10  Kb = .047  Adj. Slope =  129.0
206          BA    .369
1                                        HEC-1 INPUT                                                    PAGE  6

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

207          LG    .340    .330   4.150    .440   1.000
208          UC    .587    .655
209          UA       0       3       5       8      12      20      43      75      90      96
210          UA     100
             * DDM   ***** Updated *****

211          KK     180
212          KM   SUB-BASIN 180
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  .994
215          KM     L = 2.42  Kb = .041  Adj. Slope =  140.0
216          BA   1.000
217          LG    .350    .350   4.150    .430    .000
218          UC    .571    .403
219          UA       0       3       5       8      12      20      43      75      90      96
220          UA     100
             * DDM   ***** Preserved *****

221          KK    C180
222          KM   HYDROGRAPH COMBINATION FOR SIGNAL BUTTE FRS
223          HC       5
             *
             * The sub-basin area and soil make-up have been updated from CAD file 12/07/00
             * DDM   ***** Updated *****

224          KK     210
225          KM   SUB-BASIN 210
226          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
227          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .995
228          KM     L = 1.84  Kb = .043  Adj. Slope =  315.0
229          BA    .792
230          LG    .350    .360   6.800    .130   4.000
231          UC    .313    .189
232          UA       0       3       5       8      12      20      43      75      90      96
233          UA     100
             * DDM   ***** Preserved *****

234          KK    R210
235          KM   ROUTING OF FLOW FROM SUB-BASIN 210 TO SUB-BASIN 220
236          RS       2    FLOW      -1
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237          RC    .045     .03    .045    5100    .022
238          RX       0       1       2      14      34      46      47      48
239          RY       4       4       4       0       0       4       4       4
             *
             * The sub-basin area and soil make-up have been updated from CAD file 12/07/00
             * DDM   ***** Updated *****

240          KK     240
241          KM   SUB-BASIN 240
242          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
243          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .992
244          KM     L = 3.50  Kb = .039  Adj. Slope =  298.6
245          BA   1.408
246          LG    .350    .370   5.300    .230   2.000
247          UC    .467    .356
1                                        HEC-1 INPUT                                                    PAGE  7

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

248          UA       0       3       5       8      12      20      43      75      90      96
249          UA     100
             * DDM   ***** Preserved *****

250          KK    C240
251          KM   HYDROGRAPH COMBINATION FOR SUB-BASIN 240 & 220
252          HC       2
             * DDM   ***** Preserved *****

253          KK    S240
254          KM    WEIR GEOMETRY OBTAINED FROM AS-BUILT PLANS @ PASS MTN. DIVERSION.
255          KM   WEIR STORAGE DATA OBTAINED FROM 2' CONTOUR MAPPING.
256          RS       1    STOR       0
257          SA    1.38    14.2    36.5
258          SE     1.7       5      11
259          SS       5      42       3     1.5
             * DDM   ***** Preserved *****

260          KK    R240
261          KM   ROUTE FLOW FROM SUB-BASIN 240 TO SUB-BASIN 220
262          KM   PASS MOUNTAIN DIVERSION
263          RS       3    FLOW      -1
264          RC    .035    .025    .035    1800    .005
265          RX       0      15      30      39      69      81      96     111
266          RY     3.6     3.3       3       0       0       3       3       4
             *
             * The sub-basin area and soil make-up have been updated from CAD file 12/07/00
             * DDM   ***** Updated *****

267          KK     220
268          KM   SUB-BASIN 220
269          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
270          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .997
271          KM     L = 1.92  Kb = .046  Adj. Slope =  315.0
272          BA    .473
273          LG    .350    .350   7.000    .120   5.000
274          UC    .333    .282
275          UA       0       3       5       8      12      20      43      75      90      96
276          UA     100
             * DDM   ***** Preserved *****

277          KK    C220
278          KM   HYDROGRAPH COMBINATION FOR SUB-BASIN 240 & 220
279          HC       2
             * DDM   ***** Preserved *****

280          KK    S220
281          KM    WEIR GEOMETRY OBTAINED FROM AS-BUILT PLANS @ PASS MTN. DIVERSION.
282          KM   WEIR STORAGE DATA OBTAINED FROM 2' CONTOUR MAPPING.
283          RS       1    STOR       0
284          SA     .78     4.1    13.7
285          SE       1       3      10
286          SS       3      65       3     1.5
             * DDM   ***** Preserved *****
1                                        HEC-1 INPUT                                                    PAGE  8

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

287          KK    R220
288          KM   ROUTE FLOW FROM SUB-BASIN 220 TO SUB-BASIN 200
289          KM   PASS MOUNTAIN DIVERSION
290          RS       1    FLOW      -1
291          RC    .035    .025    .035    1250    .005
292          RX       0      50     100     109     139     148     178     184
293          RY       5       4       3       0       0       3       3       5
             * DDM   ***** Updated *****

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

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

310          KK    R192
311          KM   ROUTING OF FLOW FROM SUB-BASIN 190 TO SUB-BASIN 200
312          RS       3    FLOW      -1
313          RC    .045    .035    .045    2200    .018
314          RX       0       1      50      59      79      88     137     138
315          RY     4.5       3       3       0       0       3       3     4.5
             * DDM   ***** Updated *****

316          KK     200
317          KM   SUB-BASIN 200
318          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
319          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .997
320          KM     L = 1.58  Kb = .045  Adj. Slope =  305.6
321          BA    .530
322          LG    .350    .390   5.700    .200  10.000
323          UC    .300    .201
324          UA       0       3       5       8      12      20      43      75      90      96
325          UA     100
             * DDM   ***** Preserved *****
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LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

326          KK    C200
327          KM   HYDROGRAPH COMBINATION FOR SUB-BASIN 220 & 200
328          HC       3
             * DDM   ***** Preserved *****

329          KK    S200
330          KM    WEIR GEOMETRY OBTAINED FROM AS-BUILT PLANS @ PASS MTN. DIVERSION.
331          KM   WEIR STORAGE DATA OBTAINED FROM 2' CONTOUR MAPPING.
332          RS       1    STOR       0
333          SA    2.56     3.1     9.4
334          SE       0       3      10
335          SS       3     112       3     1.5
             * DDM   ***** Preserved *****

336          KK    R200
337          KM   ROUTE FLOW FROM SUB-BASIN 200 TO SIGNAL BUTTE FRS through storage
338          RS       1    FLOW      -1
339          RC    .035    .025    .035     650    .005
340          RX       0       1       2      17     117     132     133     134
341          RY       5       5       5       0       0       5       5       5
             * DDM   ***** Preserved *****

342          KK   SS200
343          KM    WEIR GEOMETRY OBTAINED FROM AS-BUILT PLANS @ PASS MTN. DIVERSION.
344          KM   WEIR STORAGE DATA OBTAINED FROM 2' CONTOUR MAPPING.
345          RS       1    STOR       0
346          SA       8     9.2     9.2
347          SE       0       7      10
348          SS       7     251       3     1.5
             * DDM   ***** Preserved *****

349          KK   RR200
350          KM   ROUTE FLOW FROM SUB-BASIN 200 TO SIGNAL BUTTE FRS
351          RS       3    FLOW      -1
352          RC    .035    .025    .035    3150    .005
353          RX       0       1       2      17     117     132     133     134
354          RY       5       5       5       0       0       5       5       5
             * DDM   ***** Preserved *****

355          KK   CC180
356          KM   HYDROGRAPH COMBINATION FOR SIGNAL BUTTE FRS
             *      1       2
357          HC       2
             * DDM   ***** Preserved *****

358          KK    S180
359          KM   SIGNAL BUTTE FRS DATED 1/28/85
360          KM   OUTLET PIPE=36"RCP; L= 147';  INLET INV.=1690; OUTLET INV.=1687
361          KM   EMERGENCY SPILLWAY ELEV.=1712.4; PRINCIPLE SPILLWAY ELEV.=1701
362          KM   STORAGE VOLUME BELOW PRINCIPLE SPILLWAY FOR SEDIMENT = 250 ACRE-FEET
             *  ESE = 1714.63 ft; PSE = 1703.23 ft; Sediment Vol. = 247 Ac-Ft.
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 363          RS       1    STOR       0
 364          SV       0      92     226     462     742    1197    1418    1776    1941    3114
 365          SQ       0      40      42     392     532     596     620    1949    3032    6465
1                                          HEC-1 INPUT                                          PAGE 10

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

 366          SE      99     101   103.0     106     109   113.0   114.6     117     118     120
              * DDM   ***** Preserved *****

 367          KK    R180
 368          KM   Routing length updated using Signal Butte Floodway plans dated March 1983
 369          KM   Routing length increased 100' from 1500' to 1600'    12/12/00
 370          KM   CHANNEL GEOMETRY FOR SIGNAL BUTTE FRS OBTAINED FROM AS-BUILT PLANS.
 371          KM   ROUTE FLOW FROM SIGNAL BUTTE FRS TO SUB-BASIN 260
 372          RS       2    FLOW      -1
 373          RC    .035    .025    .035    1600    .003
 374          RX       0       1       2    22.6    38.6    59.2      60      61
 375          RY     9.3     9.3     9.3       0       0     9.3     9.3     9.3
              * DDM   ***** Updated *****

 376          KK     260
 377          KM   SUB-BASIN 260
 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 =  .81  Kb = .049  Adj. Slope =   68.0
 381          BA    .262
 382          LG    .300    .190   6.600    .170  15.000
 383          UC    .363    .217
 384          UA       0       5      16      30      65      77      84      90      94      97
 385          UA     100
              * DDM   ***** Preserved *****

 386          KK    C260
 387          KM   HYDROGRAPH COMBINATION FOR OUTFLOW OF SIGNAL BUTTE FRS & SUB-BASIN 260
 388          HC       2    .262
              * DDM   ***** Preserved *****

 389          KK    R260
 390          KM   Routing length updated using Signal Butte Floodway plans dated March 1983
 391          KM   Routing length unchanged     12/12/00
 392          KM   CHANNEL GEOMETRY FOR SIGNAL BUTTE FRS OBTAINED FROM AS-BUILT PLANS.
 393          KM   ROUTE FLOW FROM SUB-BASIN 260 TO SUB-BASIN 280
 394          RS       3    FLOW      -1
 395          RC    .035    .025    .035    2300    .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     280
 399          KM   SUB-BASIN 280
 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  .998
 402          KM     L =  .77  Kb = .048  Adj. Slope =   84.0
 403          BA    .319
 404          LG    .300    .250   5.300    .290  15.000
 405          UC    .329    .168
 406          UA       0       5      16      30      65      77      84      90      94      97
 407          UA     100
              * DDM   ***** Preserved *****
1                                          HEC-1 INPUT                                          PAGE 11

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

 408          KK    C280
 409          KM   HYDROGRAPH COMBINATION FOR SUB-BASIN 260 & SUB-BASIN 280
 410          HC       2
              * DDM   ***** Preserved *****

 411          KK    R280
 412          KM   Routing length updated using Signal Butte Floodway plans dated March 1983
 413          KM   Routing length decreased 400' from 2500' to 2100'    12/12/00
 414          KM   CHANNEL GEOMETRY FOR SIGNAL BUTTE FRS OBTAINED FROM AS-BUILT PLANS.
 415          KM   ROUTE FLOW FROM SUB-BASIN 280 TO SUB-BASIN 300
 416          RS       3    FLOW      -1
 417          RC    .035    .025    .035    2100    .003
 418          RX       0       1       2    23.4    43.4    64.8      65      66
 419          RY     9.7     9.7     9.7       0       0     9.7     9.7     9.7
              *
              * The sub-basin area and soil make-up have been updated from CAD file 12/07/00
              * DDM   ***** Updated *****

 420          KK     300
 421          KM   SUB-BASIN 300
 422          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
 423          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .998
 424          KM     L =  .78  Kb = .049  Adj. Slope =  103.0
 425          BA    .289
 426          LG    .320    .290   4.200    .480  11.000
 427          UC    .325    .177
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428          UA       0       5      16      30      65      77      84      90      94      97
429          UA     100
             * DDM   ***** Preserved *****

430          KK    C300
431          KM   HYDROGRAPH COMBINATION OF SUB-BASIN 280 & 300
432          HC       2
             * DDM   ***** Preserved *****

433          KK    R300
434          KM   Routing length updated using Signal Butte Floodway plans dated March 1983
435          KM   Routing length increased 300' from 2200' to 2500'    12/12/00
436          KM   CHANNEL GEOMETRY FOR SIGNAL BUTTE FRS OBTAINED FROM AS-BUILT PLANS.
437          KM   ROUTE FLOW FROM SUB-BASIN 300 TO START OF FLOODWAY CONCRETE CHANNEL
438          RS       2    FLOW      -1
439          RC    .035    .025    .035    2500    .003
440          RX       0       1       2    23.4    55.4    76.8      77      78
441          RY     9.7     9.7     9.7       0       0     9.7     9.7     9.7
             *
             * The sub-basin area and soil make-up have been updated from CAD file 12/07/00
             * DDM   ***** Updated *****

442          KK     305
443          KM   SUB-BASIN 305
444          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
445          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .996
446          KM     L = 2.50  Kb = .044  Adj. Slope =  116.0
447          BA    .702
1                                          HEC-1 INPUT                                          PAGE 12

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

448          LG    .340    .340   4.550    .350   6.000
449          UC    .642    .576
450          UA       0       5      16      30      65      77      84      90      94      97
451          UA     100
             * DDM   ***** Preserved *****

452          KK    C305
453          KM   HYDROGRAPH COMBINATION OF SUB-BASIN 300 AND 305
454          HC       2
             * DDM   ***** Preserved *****

455          KK    R305
456          KM   Routing length updated using Signal Butte Floodway plans dated March 1983
457          KM   Routing length decreased 50' from 6050' to 6000'     12/12/00
458          KM   CHANNEL GEOMETRY FOR SPOOK HILL FRS OBTAINED FROM AS-BUILTS PLANS.
459          KM   CONTINUE TO ROUTE FLOW WITHIN CONCRETE CHANNEL TO SPOOK HILL FRS
460          RS       3    FLOW      -1
461          RC    .016    .016    .016    6000   .0146
462          RX       0       1       2     2.1    16.1    16.2      17      18
463          RY     7.5     7.5     7.5       0       0     7.5     7.5     7.5
             *      1       2
             * DDM   ***** Updated *****

464          KK     350
465          KM   SUB-BASIN 350
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 = 2.22  Kb = .042  Adj. Slope =  315.0
469          BA    .970
470          LG    .350    .350   4.550    .340   4.000
471          UC    .367    .234
472          UA       0       3       5       8      12      20      43      75      90      96
473          UA     100
             * DDM   ***** Preserved *****

474          KK    D350
475          KM   DIVERT FLOW FROM SUB-BASIN 350. FOR MODELING PURPOSES THE SPLIT FLOW WILL
476          KM   BE ROUTED BETWEEN SUB-BASINS 355 & 310. THE MAIN FLOW WILL ROUTED TO 310
477          DT   SF350
478          DI       0    5000
479          DQ       0    2500
             * DDM   ***** Preserved *****

480          KK    R350
481          KM   CHANNEL GEOMETRY OBTAINED FROM 2' CONTOUR MAPPING
482          KM   ROUTING OF MAIN FLOW FROM DIVERSION OF SUB-BASIN 350 TO SUB-BASIN 310
483          RS       6    FLOW      -1
484          RC    .045    .035    .045    5150    .025
485          RX       0       1      40      46      56      62     102     103
486          RY       3       2       2       0       0       2       2       3
             * DDM   ***** Updated *****
1                                          HEC-1 INPUT                                          PAGE 13

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

487          KK     310
488          KM   SUB-BASIN 310
489          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
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490          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .997
491          KM     L = 2.70  Kb = .045  Adj. Slope =  283.5
492          BA    .555
493          LG    .350    .350   3.910    .480    .000
494          UC    .483    .511
495          UA       0       3       5       8      12      20      43      75      90      96
496          UA     100
             * DDM   ***** Preserved *****

497          KK    C310
498          KM   HYDROGRAPH COMBINATION OF SUB-BASINS 350 & 310
499          HC       2    1.04
             * DDM   ***** Preserved *****

500          KK    R310
501          KM   CHANNEL GEOMETRY OBTAINED FROM 2' CONTOUR MAPPING.
502          KM   ROUTING OF FLOW FROM SUB-BASIN 310 TO 320
503          RS      10    FLOW      -1
504          RC    .045    .035    .045   10050    .022
505          RX       0       1      40      46      56      62     102     103
506          RY       3       2       2       0       0       2       2       3
             *
             * The sub-basin area and soil make-up have been updated from CAD file 12/07/00
             * DDM   ***** Updated *****

507          KK     320
508          KM   SUB-BASIN 320
509          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
510          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .994
511          KM     L = 2.20  Kb = .042  Adj. Slope =  132.0
512          BA    .950
513          LG    .310    .300   4.600    .350  14.000
514          UC    .508    .338
515          UA       0       5      16      30      65      77      84      90      94      97
516          UA     100
             * DDM   ***** Preserved *****

517          KK    D320
518          KM        DIVERT FLOW INTO ONLINE  DETENTION BASIN
519          KM   DETENTION/RETENTION BASINS LOCATED WITHIN THREE SUBDIVISIONS
520          KM   SIERRA HEIGHTS       FALCON RIDGE    & MARBLE CREEK
521          KM        MAXIMUM VOLUME DIVERSION = 12.27acre-feet
             *      1
522          DT   BS320   12.27
523          DI       0   10000
524          DQ       0   10000
             * DDM   ***** Preserved *****
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LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

525          KK   RT320
526          KM   RETRIEVE FLOW FROM DIVERSION INTO ONLINE BASIN
527          DR   BS320
             * DDM   ***** Preserved *****

528          KK    S320
529          KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
530          KM   12.27 ACRE-FEETx43560/36x3600=4.1cfs
             *      1
531          RS       1    STOR       0
532          SV       0     .01    12.3
533          SQ       0     3.0     4.2
             * DDM   ***** Preserved *****

534          KK    C320
535          KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
536          HC       4
             *
             * ADD ROUTING ALONG SPOOK HILL FRS
             * DDM   ***** Preserved *****

537          KK    R320
538          KM   ROUTE FLOW THROUGH SPOOK HILL FRS FROM JUNCTION OF BROWN & ELLSWORTH ROAD
539          KM   TO JUST NORTH OF JUNCTION OF MCDOWELL & POWER RD.
540          RS       9    FLOW      -1
541          RC    .035    .035    .035    4500   .0007
542          RX       0       9      50      68     198     206     267     275
543          RY     100      97      97      91      91      97      97     100
             *
             * DDM   ***** Updated *****

544          KK    340B
545          KM   SUB-BASIN 340B
546          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
547          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .998
548          KM     L =  .85  Kb = .049  Adj. Slope =  238.5
549          BA    .290
550          LG    .320    .280   4.000    .520  13.000
551          UC    .246    .139
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552          UA       0       5      16      30      65      77      84      90      94      97
553          UA     100
             *
             * DDM   ***** Preserved *****

554          KK   D340B
555          KM        DIVERT FLOW INTO ONLINE  DETENTION BASIN
556          KM   DETENTION/RETENTION BASINS LOCATED WITHIN THREE SUBDIVISIONS
557          KM   GRANDVIEW ESTATES    BOULDER MOUNTAIN & 33% OF MESA HIGHLANDS
558          KM        MAXIMUM VOLUME DIVERSION = 11.0 acre-feet
             *      1
559          DT  BS340B      11
560          DI       0   10000
561          DQ       0   10000
             * DDM   ***** Preserved *****
1                                          HEC-1 INPUT                                          PAGE 15

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

562          KK  RT340B
563          KM   RETRIEVE FLOW FROM DIVERSION INTO ONLINE BASIN
564          DR  BS340B
             * DDM   ***** Preserved *****

565          KK   S340B
566          KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
567          KM    11.0 ACRE-FEETx43560/36x3600= 3.7cfs
             *      1
568          RS       1    STOR       0
569          SV       0     .01      11      15
570          SQ       0     2.0     3.7     4.0
             * DDM   ***** Preserved *****

571          KK   C340B
572          KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
             * KO     1
573          HC       2
             *
             * DDM   ***** Preserved *****

574          KK  DD340B
575          KM   DIVERT FLOW INTO OFFLINE DETENTION BASIN LOCATED WITHIN SUB-BASINS 340B.
             * KO     1
576          DT   BS340
577          DI       0      18    5000
578          DQ       0       0    4982
             * DDM   ***** Preserved *****

579          KK   RT340
580          KM   RETRIEVE FLOW FROM DIVERSION
581          DR   BS340
             * DDM   ***** Preserved *****

582          KK  SS340B
583          KM   RETRIEVE FLOW INTO OFFLINE BASIN AND BLEED OFF WITHIN 36 HOURS.
584          KM       6 ACRE-FEETx43560/36x3600 = 2 cfs
585          RS       1    STOR       0
586          SV       0     .01       6       8
587          SQ       0     1.5       2       4
             * DDM   ***** Preserved *****

588          KK  CC340B
589          KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
590          HC       2
             * DDM   ***** Preserved *****

591          KK   R340B
592          KM   CHANNEL GEOMETRY OBTAINED FROM 2' CONTOUR MAPPING.
593          KM   ROUTING OF FLOW FROM SUB-BASINS 370 AND 395 TO SUB-BASIN 380.
594          RS       4    FLOW      -1
595          RC    .045    .035    .045    2600    .023
596          RX       0       1      40      46      56      62     102     103
597          RY       3       2       2       0       0       2       2       3
             *
             * DDM   ***** Updated *****
1                                          HEC-1 INPUT                                          PAGE 16

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

598          KK    340A
599          KM   SUB-BASIN 340A
600          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
601          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .993
602          KM     L = 1.80  Kb = .044  Adj. Slope =  117.0
603          BA   1.150
604          LG    .260    .280   4.200    .510  23.000
605          UC    .492    .249
606          UA       0       5      16      30      65      77      84      90      94      97
607          UA     100
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                *
                * DDM   ***** Preserved *****

 608            KK   D340A
 609            KM        DIVERT FLOW INTO ONLINE  DETENTION BASIN
 610            KM   DETENTION/RETENTION BASINS LOCATED WITHIN THREE SUBDIVISIONS
 611            KM   GRANDVIEW ESTATES    BOULDER MOUNTAIN & 33% OF MESA HIGHLANDS
 612            KM        MAXIMUM VOLUME DIVERSION = 45.0 acre-feet
                * KO     1
 613            DT  BS340A      45
 614            DI       0   10000
 615            DQ       0   10000
                * DDM   ***** Preserved *****

 616            KK  RT340A
 617            KM   RETRIEVE FLOW FROM DIVERSION INTO ONLINE BASIN
 618            DR  BS340A
                * DDM   ***** Preserved *****

 619            KK   S340A
 620            KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
 621            KM    45.0 ACRE-FEETx43560/36x3600=15.2cfs
                *      1
 622            RS       1    STOR       0
 623            SV       0     .01      45      50
 624            SQ       0     3.0    15.2      16
                *
                * DDM   ***** Preserved *****

 625            KK   C340A
 626            KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
 627            HC       3
                *
                * DDM   ***** Preserved *****

 628            KK    C340
 629            KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
 630            HC       2
                *
                * DDM   ***** Preserved *****
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LINE            ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 631            KK    R340
 632            KM   ROUTE FLOW THROUGH SPOOK HILL FRS FROM JUNCTION OF BROWN & ELLSWORTH ROAD
 633            KM   TO JUST NORTH OF JUNCTION OF MCDOWELL & POWER RD.
 634            RS       6    FLOW      -1
 635            RC    .035    .035    .035    2300   .0007
 636            RX       0       9      50      68     233     241     307     315
 637            RY     100      97      97      91      91      97      97     100
                *
                * DDM   ***** Preserved *****

 638            KK   RT350
 639            KM   RETRIEVE SPLIT FLOW FROM DIVERSION OF SUB-BASIN 350
 640            DR   SF350
                * DDM   ***** Preserved *****

 641            KK   RR350
 642            KM   CHANNEL GEOMETRY OBTAINED FROM 2' CONTOUR MAPPING.
 643            KM   ROUTING OF FLOW FROM SPLIT OF SUB-BASIN 350 TO 355
 644            RS       7    FLOW      -1
 645            RC    .045    .035    .045    6050    .025
 646            RX       0       1      40      46      56      62     102     103
 647            RY       3       2       2       0       0       2       2       3
                *
                * The sub-basin area and soil make-up have been updated from CAD file 12/07/00
                * DDM   ***** Updated *****

 648            KK     355
 649            KM   SUB-BASIN 355
 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  .996
 652            KM     L = 3.00  Kb = .044  Adj. Slope =  284.0
 653            BA    .676
 654            LG    .340    .340   4.450    .370   4.000
 655            UC    .488    .502
 656            UA       0       3       5       8      12      20      43      75      90      96
 657            UA     100
                * DDM   ***** Preserved *****

 658            KK    C355
 659            KM   HYDROGRAPH COMBINATION OF SUB-BASIN 355 AND THE SPLIT FLOW FROM SUB-BASIN 350
 660            HC       2   1.161
                * DDM   ***** Preserved *****

 661            KK    R355
 662            KM   CHANNEL GEOMETRY OBTAINED FROM 2' CONTOUR MAPPING.
 663            KM   ROUTING OF FLOW FROM SUB-BASIN 355 TO SUB-BASIN 360
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664          RS        9    FLOW       -1
665          RC     .045    .035     .045   10100     .026
666          RX        0       1       40      46       56       62      102      103
667          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

668          KK      360
669          KM   SUB-BASIN 360
670          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
671          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .995
672          KM     L = 2.10  Kb = .047  Adj. Slope =  124.0
673          BA    .880
674          LG    .260    .270   4.100    .560  20.000
675          UC    .575    .390
676          UA       0       5      16      30       65       77       84       90       94       97
677          UA     100
             * DDM   ***** Preserved *****

678          KK    D360
679          KM        DIVERT FLOW INTO ONLINE  DETENTION BASIN
680          KM   DETENTION/RETENTION BASINS LOCATED WITHIN 33% OF MESA HIGHLANDS
681          KM        MAXIMUM VOLUME DIVERSION = 28.6 acre-feet
             *      1
682          DT   BS360    28.6
683          DI       0   10000
684          DQ       0   10000
             * DDM   ***** Preserved *****

685          KK   RT360
686          KM   RETRIEVE FLOW FROM DIVERSION INTO ONLINE BASIN
687          DR   BS360
             * DDM   ***** Preserved *****

688          KK    S360
689          KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
690          KM    28.6 ACRE-FEETx43560/36x3600=9.6cfs
691          RS       1    STOR       0
692          SV       0     .01    28.6
693          SQ       0     3.0     9.6
             * DDM   ***** Preserved *****

694          KK    C360
695          KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
696          HC       4
             *
             * OFFLINE DETENTION BASIN ADDED THIS ALTERNATIVE
             * DDM   ***** Preserved *****

697          KK   DD380
698          KM        DIVERT FLOW INTO OFFLINE  DETENTION BASIN
699          KM        IN RED MOUNTAIN REGIONAL PARK
700          KM
701          DT    380S
702          DI       0    1960   10000
703          DQ       0       0    8040
             * DDM   ***** Preserved *****
1                                          HEC-1 INPUT                                                    PAGE 19

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

704          KK  RT380S
705          KM   RETRIEVE FLOW FROM DIVERSION INTO OFFLINE BASIN
706          DR    380S
             * DDM   ***** Preserved *****

707          KK   SS380
708          KM   OFFLINE BASIN IN PARK AREA
             *  Total Volume = 90 A-F, Maximum Inflow = 2660 cfs
             *  Bleed-off Pipe Diameter = 2.5', and Weir Flow Start at 3' of Ponding. 3/26/01
             * KO       1       2
709          RS       1    STOR       0
710          SV     0.0    10.0    25.0    60.0   100.0   150.0
711          SE       0      .5       1     2.0     3.0     4.0
712          SL     0.5    4.91     0.6     0.5
713          SS       3      50     3.0     1.5
             * DDM   ***** Preserved *****

714          KK   CC360
715          KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
716          HC       2
             *
             * ADD ROUTING ALONG SPOOK HILL FRS
             * DDM   ***** Preserved *****

717          KK    R360
718          KM   ROUTE FLOW THROUGH SPOOK HILL FRS FROM JUNCTION OF BROWN & ELLSWORTH ROAD
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719          KM   TO JUST NORTH OF JUNCTION OF MCDOWELL & POWER RD.
720          RS       6    FLOW      -1
721          RC    .035    .035    .035    2600   .0007
722          RX       0       9      50      68     268     286     337     345
723          RY     100      97      97      91      91      97      97     100
             *
             * DDM   ***** Updated *****

724          KK    380A
725          KM   SUB-BASIN 380A
726          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
727          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .998
728          KM     L =  .66  Kb = .076  Adj. Slope =   91.0
729          BA    .261
730          LG    .170    .250   4.100    .710  21.000
731          UC    .425    .221
732          UA       0       3       5       8      12      20      43      75      90      96
733          UA     100
             *
             * DDM   ***** Preserved *****

734          KK   C380A
735          KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
736          HC       2
             *
             * DDM   ***** Preserved *****
```



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

737          KK   R380A
738          KM   ROUTE FLOW THROUGH SPOOK HILL FRS FROM JUNCTION OF BROWN & ELLSWORTH ROAD
739          KM   TO JUST NORTH OF JUNCTION OF MCDOWELL & POWER RD.
740          RS       2    FLOW      -1
741          RC    .035    .035    .035    1500   .0007
742          RX       0       9      50      68     163     181     257     265
743          RY     100      97      97      91      91      97      97     100
             *
             * DDM   ***** Updated *****

744          KK    400A
745          KM   SUB-BASIN 400A
746          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
747          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF 1.000
748          KM     L =  .28  Kb = .094  Adj. Slope =   71.0
749          BA    .048
750          LG    .250    .290   4.000    .640    .000
751          UC    .317    .211
752          UA       0       3       5       8      12      20      43      75      90      96
753          UA     100
             *
             * DDM   ***** Preserved *****

754          KK   C400A
755          KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
756          HC       2
             *
             * DDM   ***** Preserved *****

757          KK   R400A
758          KM   ROUTE FLOW THROUGH SPOOK HILL FRS FROM JUNCTION OF BROWN & ELLSWORTH ROAD
759          KM   TO JUST NORTH OF JUNCTION OF MCDOWELL & POWER RD.
760          RS       6    FLOW      -1
761          RC    .035    .035    .035    2500   .0007
762          RX       0       9      50      68     163     181     257     265
763          RY     100      97      97      91      91      97      97     100
             *
             * DDM   ***** Updated *****

764          KK    380B
765          KM   SUB-BASIN 380B
766          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
767          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .996
768          KM     L = 1.80  Kb = .044  Adj. Slope =  122.0
769          BA    .637
770          LG    .340    .330   4.200    .440   4.000
771          UC    .504    .358
772          UA       0       5      16      30      65      77      84      90      94      97
773          UA     100
             *
             * DDM   ***** Preserved *****
```



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

774          KK   D380B
775          KM        DIVERT FLOW INTO ONLINE  DETENTION BASIN
776          KM   DETENTION/RETENTION BASINS LOCATED WITHIN 33% OF MESA HIGHLANDS
777          KM        MAXIMUM VOLUME DIVERSION = 28.6 acre-feet
```

```
            *      1
778         DT  BS380B    28.6
779         DI       0   10000
780         DQ       0   10000
            * DDM   ***** Preserved *****

781         KK  RT380B
782         KM   RETRIEVE FLOW FROM DIVERSION INTO ONLINE BASIN
783         DR  BS380B
            * DDM   ***** Preserved *****

784         KK   S380B
785         KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
786         KM    28.6 ACRE-FEETx43560/36x3600=9.6cfs
787         RS       1    STOR       0
788         SV       0     .01    28.6
789         SQ       0     3.0     9.6
            * DDM   ***** Preserved *****

790         KK   C380B
791         KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
            * KO     1
792         HC       2
            *
            * DDM   ***** Preserved *****

793         KK  DD380B
794         KM   DIVERT FLOW INTO OFFLINE DETENTION BASIN LOCATED WITHIN SUB-BASINS 380B.
            * KO     1
795         DT   BS380
796         DI       0      86    5000
797         DQ       0       0    4914
            * DDM   ***** Preserved *****

798         KK   RT380
799         KM   RETRIEVE FLOW FROM DIVERSION
800         DR   BS380
            * DDM   ***** Preserved *****

801         KK  SS380B
802         KM   RETRIEVE FLOW INTO OFFLINE BASIN AND BLEED OFF WITHIN 36 HOURS.
803         KM      44 ACRE-FEETx43560/36x3600 = 15cfs
804         RS       1    STOR       0
805         SV       0     .01      44      50
806         SQ       0       4      15      20
            * DDM   ***** Preserved *****
                                        HEC-1 INPUT                                          PAGE 22

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


807         KK  CC380B
808         KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
809         HC       2
            * DDM   ***** Preserved *****

810         KK   R380B
811         KM   CHANNEL GEOMETRY OBTAINED FROM 2' CONTOUR MAPPING.
812         KM   ROUTING OF FLOW FROM SUB-BASINS 370 AND 395 TO SUB-BASIN 380.
813         RS       4    FLOW      -1
814         RC    .045    .035    .045    2600    .023
815         RX       0       1      40      46      56      62     102     103
816         RY       3       2       2       0       0       2       2       3
            *
            * DDM   ***** Updated *****

817         KK    400B
818         KM   SUB-BASIN 400B
819         KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
820         KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .997
821         KM     L = 1.64  Kb = .045  Adj. Slope =  110.0
822         BA    .568
823         LG    .330    .300   4.150    .480   7.000
824         UC    .500    .352
825         UA       0       5      16      30      65      77      84      90      94      97
826         UA     100
            *
            * DDM   ***** Preserved *****

827         KK   D400B
828         KM        DIVERT FLOW INTO ONLINE  DETENTION BASIN
829         KM   DETENTION/RETENTION BASIN LOCATED WITHIN SAGUARO VISTA SUBDIVISION
830         KM        MAXIMUM VOLUME DIVERSION = 5.6 ACRE-FEET
            *      1
831         DT  BS400B     5.6
832         DI       0   10000
833         DQ       0   10000
            * DDM   ***** Preserved *****

834         KK  RT400B
835         KM   RETRIEVE FLOW FROM DIVERSION INTO ONLINE BASIN
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 836          DR  BS400B
              * DDM   ***** Preserved *****

 837          KK   S400B
 838          KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
 839          KM     5.6 ACRE-FEETx43560/36x3600 = 2 cfs
 840          RS       1    STOR       0
 841          SV       0     .01     5.6
 842          SQ       0       1       2
              * DDM   ***** Preserved *****
1                                        HEC-1 INPUT                                                    PAGE 23

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

 843          KK   C400B
 844          KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
 845          HC       2
              * DDM   ***** Preserved *****

 846          KK  CC400B
 847          KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
 848          HC       3
              *
              * DDM   ***** Preserved *****

 849          KK    R400
 850          KM   ROUTE FLOW THROUGH SPOOK HILL FRS FROM JUNCTION OF BROWN & ELLSWORTH ROAD
 851          KM   TO JUST NORTH OF JUNCTION OF MCDOWELL & POWER RD.
 852          RS       9    FLOW      -1
 853          RC    .035    .035    .035    3800   .0007
 854          RX       0       9      50      68     163     181     257     265
 855          RY     100      97      97      91      91      97      97     100
              *
              *
              *    The following portion is from EC24MD2E.DAT
              *
              * DDM   ***** Updated *****

 856          KK    420A
 857          KM   SUB-BASIN 420A
 858          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
 859          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .995
 860          KM     L = 1.91  Kb = .045  Adj. Slope =  120.0
 861          BA    .570
 862          LG    .320    .280   4.350    .440  10.000
 863          UC    .521    .415
 864          UA       0       5      16      30      65      77      84      90      94      97
 865          UA     100
              * DDM   ***** Preserved *****

 866          KK   D420A
 867          KM        DIVERT FLOW INTO ONLINE  DETENTION BASIN
 868          KM   DETENTION/RETENTION BASINS LOCATED WITHIN GRAY FOX SUBDIVISION
 869          KM        MAXIMUM VOLUME DIVERSION = 8.65 acre-feet
              *      1
 870          DT  BS420A    8.65
 871          DI       0   10000
 872          DQ       0   10000
              * DDM   ***** Preserved *****

 873          KK  RT420A
 874          KM   RETRIEVE FLOW FROM DIVERSION INTO ONLINE BASIN
 875          DR  BS420A
              * DDM   ***** Preserved *****
1                                        HEC-1 INPUT                                                    PAGE 24

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

 876          KK   S420A
 877          KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
 878          KM   38.55 ACRE-FEETx43560/36x3600=13cfs
 879          RS       1    STOR       0
 880          SV       0     .01   38.55
 881          SQ       0      13      13
              * DDM   ***** Preserved *****

 882          KK   C420A
 883          KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
 884          HC       3
              *
              * DDM   ***** Preserved *****

 885          KK    R420
 886          KM   ROUTE FLOW THROUGH SPOOK HILL FRS FROM JUNCTION OF BROWN & ELLSWORTH ROAD
 887          KM   TO JUST NORTH OF JUNCTION OF MCDOWELL & POWER RD.
 888          RS       6    FLOW      -1
 889          RC    .035    .035    .035    2900   .0007
 890          RX       0       9      50      68     163     181     257     265
 891          RY     100      97      97      91      91      97      97     100
```

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                *
                * The sub-basin area and soil make-up have been updated from CAD file 12/07/00
                * DDM   ***** Updated *****

 892            KK     370
 893            KM   SUB-BASIN 370
 894            KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
 895            KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .996
 896            KM     L = 1.90  Kb = .044  Adj. Slope =  203.5
 897            BA    .672
 898            LG    .340    .320   4.650    .330   8.000
 899            UC    .404    .284
 900            UA       0       3       5       8      12      20      43      75      90      96
 901            UA     100
                *
                * The sub-basin area and soil make-up have been updated from CAD file 12/07/00
                * DDM   ***** Updated *****

 902            KK     395
 903            KM   SUB-BASIN 395
 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  .999
 906            KM     L = 1.30  Kb = .051  Adj. Slope =  219.2
 907            BA    .199
 908            LG    .330    .320   4.900    .300  10.000
 909            UC    .333    .338
 910            UA       0       3       5       8      12      20      43      75      90      96
 911            UA     100
                * DDM   ***** Preserved *****
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LINE            ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 912            KK    C370
 913            KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
                * KO     1
 914            HC       2
                * DDM   ***** Preserved *****

 915            KK    D370
 916            KM   DIVERT FLOW INTO OFFLINE DETENTION BASIN LOCATED WITHIN SUB-BASINS
 917            KM   370 AND 395.
                * KO     1
 918            DT   BS370
 919            DI       0     140    5000
 920            DQ       0       0    4860
                * DDM   ***** Preserved *****

 921            KK   RT370
 922            KM   RETRIEVE FLOW FROM DIVERSION
 923            DR   BS370
                * DDM   ***** Preserved *****

 924            KK    S370
 925            KM   RETRIEVE FLOW INTO OFFLINE BASIN AND BLEED OFF WITHIN 36 HOURS.
 926            KM      30 ACRE-FEETx43560/36x3600 = 10cfs
 927            RS       1    STOR       0
 928            SV       0     .01      34      40
 929            SQ       0       4      10      12
                * DDM   ***** Preserved *****

 930            KK   CC370
 931            KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
 932            HC       2
                * DDM   ***** Preserved *****

 933            KK    R370
 934            KM   CHANNEL GEOMETRY OBTAINED FROM 2' CONTOUR MAPPING.
 935            KM   ROUTING OF FLOW FROM SUB-BASINS 370 AND 395 TO SUB-BASIN 380.
 936            RS       4    FLOW      -1
 937            RC    .045    .035    .045    2600    .023
 938            RX       0       1      40      46      56      62     102     103
 939            RY       3       2       2       0       0       2       2       3
                *
                * DDM   ***** Updated *****

 940            KK     385
 941            KM   SUB-BASIN 385
 942            KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
 943            KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .997
 944            KM     L = 2.30  Kb = .045  Adj. Slope =  303.0
 945            BA    .527
 946            LG    .340    .360   5.600    .220  13.000
 947            UC    .383    .358
 948            UA       0       3       5       8      12      20      43      75      90      96
 949            UA     100
                * DDM   ***** Updated *****
```

SEC Thunder Mountain


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LINE            ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10
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950          KK    415B
951          KM   SUB-BASIN 415B
952          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
953          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .998
954          KM     L = 1.59  Kb = .048  Adj. Slope =  315.0
955          BA    .329
956          LG    .340    .340   5.300    .240  14.000
957          UC    .308    .274
958          UA      0       5      16      30      65      77      84      90      94      97
959          UA    100
             * DDM   ***** Preserved *****

960          KK   C415B
961          KM   HYDROGRAPH COMBINATION OF 415 DIVERSION.
962          HC       2
             * DDM   ***** Preserved *****

963          KK   D415B
964          KM   DIVERT FLOW INTO OFFLINE DETENTION BASIN
965          KM   MAXIMUM STORAGE VOLUME FOR DIVERSION = 32 AC-FT @ 5' DEPTH.
             *      1
966          DT  BS415B
967          DI       0     190    5000
968          DQ       0       0    4810
             * DDM   ***** Preserved *****

969          KK  RT415B
970          KM   RETRIEVE FLOW FROM DIVERSION INTO OFFLINE BASIN
971          DR  BS415B
             * DDM   ***** Preserved *****

972          KK   S415B
973          KM   RETRIEVE FLOW INTO OFFLINE BASIN AND BLEED OFF WITHIN 36 HOURS.
974          KM      32 ACRE-FEETx43560/36x3600 = 11cfs
975          RS       1    STOR       0
976          SV       0     .01      34      40
977          SQ       0       5      10      12
             * DDM   ***** Preserved *****

978          KK  CC415B
979          KM   HYDROGRAPH COMBINATION OF 415 DIVERSION.
980          HC       2
             * DDM   ***** Preserved *****

981          KK   R415B
982          KM   CHANNEL GEOMETRY OBTAINED FROM 2' CONTOUR MAPPING.
983          KM   ROUTING OF FLOW FROM 415C TO 415B
984          RS       4    FLOW      -1
985          RC    .045     .03    .045    2590    .024
986          RX       0       1      40      46      56      62     102     103
987          RY       3       2       2       0       0       2       2       3
             * DDM   ***** Updated *****
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LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

988          KK     390
989          KM   SUB-BASIN 390
990          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
991          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .999
992          KM     L =  .70  Kb = .050  Adj. Slope =  299.4
993          BA    .244
994          LG    .300    .250   4.700    .380  18.000
995          UC    .204    .107
996          UA      0       5      16      30      65      77      84      90      94      97
997          UA    100
             * DDM   ***** Preserved *****

998          KK    D390
999          KM        DIVERT FLOW INTO ONLINE  DETENTION BASIN
1000         KM   DETENTION/RETENTION BASINS LOCATED WITHIN THUNDER MOUNTAIN ESTATES
1001         KM        MAXIMUM VOLUME DIVERSION  = 3.5 acre-feet
             *      1
1002         DT   BS390     3.5
1003         DI       0   10000
1004         DQ       0   10000
             * DDM   ***** Preserved *****

1005         KK   RT390
1006         KM   RETRIEVE FLOW FROM DIVERSION INTO ONLINE BASIN
1007         DR   BS390
             * DDM   ***** Preserved *****

1008         KK    S390
1009         KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
1010         KM     3.5 ACRE-FEETx43560/36x3600=1.2cfs
1011         RS       1    STOR       0
1012         SV       0     .01     3.5
1013         SQ       0     0.5     1.2
```

NWC Thunder Mountain

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                * DDM   ***** Preserved *****

1014            KK    C390
1015            KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
1016            HC       4
                * DDM   ***** Preserved *****

1017            KK    R390
1018            KM   CHANNEL GEOMETRY OBTAINED FROM 2' CONTOUR MAPPING.
1019            KM   FROM SUB-BASIN 390 TO SUB-BASIN 420B
1020            RS       7    FLOW      -1
1021            RC    .045    .045    .045    5500    .020
1022            RX       0       1      40      46      56      62     102     103
1023            RY       3       2       2       0       0       2       2       3
                * DDM   ***** Updated *****
1                                          HEC-1 INPUT                                                    PAGE 28

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


1024            KK    420B
1025            KM   SUB-BASIN 420B
1026            KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1027            KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .998
1028            KM     L = 1.00  Kb = .049  Adj. Slope =  150.0
1029            BA    .279
1030            LG    .300    .250   3.910    .590  15.000
1031            UC    .333    .226
1032            UA       0       5      16      30      65      77      84      90      94      97
1033            UA     100
                * DDM   ***** Preserved *****

1034            KK   C420B
1035            KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
1036            HC       2
                *
                * DDM   ***** Updated *****

1037            KK     440
1038            KM   SUB-BASIN 440
1039            KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1040            KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF 1.000
1041            KM     L =  .40  Kb = .039  Adj. Slope =  315.0
1042            BA    .080
1043            LG    .190    .380   6.400    .140  13.000
1044            UC    .129    .077
1045            UA       0       3       5       8      12      20      43      75      90      96
1046            UA     100
                * DDM   ***** Preserved *****

1047            KK     R70
1048            KM   ROUTE FLOW FROM SUB-BASIN 440 TO C108
1049            RS       2    FLOW      -1
1050            RC     .05    .035     .05    2250     .08
1051            RX    1000    1025    1050    1070    1075    1095    1120    1145
1052            RY      30    22.9    15.7      10      10    15.7    22.9      30
                * DDM   ***** Updated *****

1053            KK     441
1054            KM   SUB-BASIN 441
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 =  .28  Kb = .069  Adj. Slope =  315.0
1058            BA    .010
1059            LG    .300    .250   5.600    .220   5.000
1060            UC    .150    .225
1061            UA       0       5      16      30      65      77      84      90      94      97
1062            UA     100
                * DDM   ***** Preserved *****
1                                          HEC-1 INPUT                                                    PAGE 29

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


1063            KK    C108
1064            KM   COMBINE HYDROGRAPHS FROM SUB-BASINS 440 & 441
1065            HC       2
                * DDM   ***** Preserved *****

1066            KK      D4
1067            KM        SPLIT FLOW WITH TWO 42 INCH PIPES TO WEST AND SOUTH
                *      1
1068            DT   SPLIT
1069            DI       0      14      40      82     120     154     180
1070            DQ       0       7      20      41      60      77      90
                * DDM   ***** Preserved *****

1071            KK    R108
1072            KM        ROUTE FLOW FROM SUB-BASIN C108 TO C67
1073            RS       2    FLOW      -1
1074            RC     .05    .035     .05    3200      .1
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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 *****

1077          KK     442
1078          KM   SUB-BASIN 442
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  .999
1081          KM     L =  .83  Kb = .055  Adj. Slope =  274.2
1082          BA    .100
1083          LG    .300    .270   3.290    .770   5.000
1084          UC    .258    .264
1085          UA       0       5      16      30      65      77      84      90      94      97
1086          UA     100
              * DDM   ***** Preserved *****

1087          KK     C67
1088          KM   COMBINE FLOW FROM SUB-BASIN 442 & DIV4
1089          HC       2
              * DDM   ***** Preserved *****

1090          KK      D6
1091          KM        OFFLINE BASIN WITH 25 FOOT WEIR SET AT 2.5 FEET ABOVE BOTTOM OF CHANNEL
1092          KM        FLOW CONTINUES BEYOND BASIN THROUGH 2-30" PIPES
              *      1
1093          DT  BASIN4     3.3
1094          DI       0      10      32      44    79.9   132.5     198   272.9   356.8
1095          DQ       0       0       0       0    23.9    67.5     124   190.9   266.8
              * DDM   ***** Preserved *****

1096          KK    RTD6
1097          KM   RETRIEVE FLOW FROM DIVERSION INTO OFFLINE BASIN
1098          DR  BASIN4
              * DDM   ***** Preserved *****
1                                        HEC-1 INPUT                                          PAGE 30

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

1099          KK     SD6
1100          KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
1101          KM     3.3 ACRE-FEETx43560/36x3600=1.1cfs
              *      1
1102          RS       1    STOR       0
1103          SV       0     .01     3.3
1104          SQ       0     0.2     1.1
              * DDM   ***** Preserved *****

1105          KK     CD6
1106          KM   HYDROGRAPH COMBINATION FOR OFFLINE BASIN BLEEDOFF
1107          HC       2
              * DDM   ***** Updated *****

1108          KK     443
1109          KM   SUB-BASIN 443
1110          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1111          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF 1.000
1112          KM     L =  .71  Kb = .050  Adj. Slope =  315.0
1113          BA    .080
1114          LG    .250    .190   8.000    .080  10.000
1115          UC    .196    .194
1116          UA       0       5      16      30      65      77      84      90      94      97
1117          UA     100
              * DDM   ***** Preserved *****

1118          KK     D66
1119          KM        DIVERT FLOW INTO 3 NATURAL WASHES WITH ONE 24" PIPE IN EACH WASH.
1120          KM        EACH PIPE CAPACITY BASED ON 4 FEET OF HEAD
1121          DT   WSH66
1122          DI       0      78     100     200
1123          DQ       0      78      78      78
              * DDM   ***** Preserved *****

1124          KK    R113
1125          KM        ROUTE FLOW FROM C113 TO C114
1126          RS       1    FLOW      -1
1127          RC    .019    .019    .019    1300    .029
1128          RX    1000    1004    1008    1012    1018    1022    1026    1030
1129          RY      17   15.33   12.67      10      10   12.67   15.33      17
              * DDM   ***** Preserved *****

1130          KK    C114
1131          KM        COMBINE HYDROGRAPHS FROM SUB-BASIN 67 AND C113
1132          HC       2
              * DDM   ***** Updated *****

1133          KK     444
1134          KM   SUB-BASIN 444
1135          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1136          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF 1.000
1137          KM     L =  .33  Kb = .034  Adj. Slope =  315.0
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1138          BA     .040
1139          LG     .130     .350    4.450     .320    1.000
                                          HEC-1 INPUT                                                          PAGE 31

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

1140          UC     .112     .084
1141          UA        0        3        5        8       12       20       43       75       90       96
1142          UA      100
              * DDM    ***** Preserved *****

1143          KK      R58
1144          KM    ROUTE FLOW FROM SUB-BASIN 444 TO C107
1145          RS        2     FLOW       -1
1146          RC      .05     .035      .05     2370    .0516
1147          RX     1000     1010     1020     1050     1055     1085     1095     1105
1148          RY       19       18       17       10       10       17       18       19
              * DDM    ***** Updated *****

1149          KK      445
1150          KM    SUB-BASIN 445
1151          KM    24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1152          KM    THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .999
1153          KM      L =  .82  Kb = .036  Adj. Slope =  315.0
1154          BA     .190
1155          LG     .170     .320    3.470     .590    3.000
1156          UC     .192     .130
1157          UA        0        5       16       30       65       77       84       90       94       97
1158          UA      100
              * DDM    ***** Preserved *****

1159          KK     C107
1160          KM    COMBINE HYDROGRAPHS FROM SUB-BASINS 444 & 445
1161          HC        2
              * DDM    ***** Preserved *****

1162          KK     R107
1163          KM        ROUTE FLOW FROM C107 TO C109
1164          RS        2     FLOW       -1
1165          RC      .05     .035      .05      700    .0516
1166          RX     1000     1010     1020     1050     1055     1085     1095     1105
1167          RY       19       18       17       10       10       17       18       19
              * DDM    ***** Preserved *****

1168          KK     RTB2
1169          KM        RETRIEVE DIVERTED FLOW FROM BASIN 1
              *       1
1170          DR    SPLIT
              * DDM    ***** Preserved *****

1171          KK   RSPLIT
1172          KM        ROUTE FLOW FROM SPLIT TO C109
1173          RS        1     FLOW       -1
1174          RC      .05     .035      .05      800      .05
1175          RX     1000     1025     1050     1070     1075     1095     1120     1145
1176          RY       30     22.9     15.7       10       10     15.7     22.9       30
              * DDM    ***** Updated *****
1                                         HEC-1 INPUT                                                          PAGE 32

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

1177          KK      446
1178          KM    SUB-BASIN 446
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 =  .46  Kb = .061  Adj. Slope =  303.9
1182          BA     .040
1183          LG     .270     .250    4.500     .400   19.000
1184          UC     .183     .189
1185          UA        0        5       16       30       65       77       84       90       94       97
1186          UA      100
              * DDM    ***** Preserved *****

1187          KK     C109
1188          KM        COMBINE HYDROGRAPHS FROM COMBINES C107 AND C108
1189          HC        3
              * DDM    ***** Preserved *****

1190          KK       D5
1191          KM        DIVERT FLOW INTO WASHES TOWARDS WEST
1192          KM        DIVERSION THROUGH 36" PIPE WITH 3 FEET OF HEAD
              *       1
1193          DT   WSH404
1194          DI        0     40.7     71.2    121.6      190      276    379.4    500.6
1195          DQ        0       35       35       35       35       35       35       35
              * DDM    ***** Preserved *****

1196          KK     R109
1197          KM        ROUTE FLOW FROM C109 TO C110
1198          RS        1     FLOW       -1
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1199          RC    .019    .019    .019    3080     .05
1200          RX    1000    1005    1010    1015    1025    1030    1035    1040
1201          RY   13.75    12.5   11.25      10      10   11.25    12.5   13.75
              * DDM   ***** Updated *****

1202          KK     447
1203          KM   SUB-BASIN 447
1204          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1205          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .999
1206          KM     L =  .49  Kb = .056  Adj. Slope =  221.0
1207          BA    .090
1208          LG    .250    .270   3.350    .870  30.000
1209          UC    .208    .145
1210          UA       0       5      16      30      65      77      84      90      94      97
1211          UA     100
              * DDM   ***** Preserved *****

1212          KK   RT404
1213          KM        RETRIEVE DIVERTED FLOW FOR WASH 109
1214          DR  WSH404
              * DDM   ***** Preserved *****
1                                   HEC-1 INPUT                                          PAGE 33

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

1215          KK    R404
1216          KM        ROUTE FLOW FROM C110 TO C110
1217          RS       6    FLOW      -1
1218          RC    .019    .019    .019    3540     .03
1219          RX    1000    1012    1016    1020    1025    1029    1033    1045
1220          RY      15      12      11      10      10      11      12      15
              * DDM   ***** Preserved *****

1221          KK    C110
1222          KM   COMBINE HYDROGRAPHS FROM SUB-BASIN 447 AND R404
1223          HC       3
              * DDM   ***** Preserved *****

1224          KK    R110
1225          KM        ROUTE FLOW FROM C110 TO C115
1226          RS       1    FLOW      -1
1227          RC    .019    .019    .019     580   .0291
1228          RX    1000    1012    1016    1020    1035    1039    1043    1055
1229          RY      15      12      11      10      10      11      12      15
              * DDM   ***** Preserved *****

1230          KK    C115
1231          KM        COMBINE HYDROGRAPHS FROM C114 AND C110
1232          HC       2
              * DDM   ***** Preserved *****

1233          KK    R115
              * ******OUTFLOW FROM THIS ROUTING IS GREATER THAN INFLOW TO THE
              * ******ROUTING BY 2cfs.  THIS IS NOTED BUT LEFT UNCHANGED WITHIN THE MODEL
1234          KM        ROUTE FLOW FROM C115 TO Sub 453
1235          RS       1    FLOW      -1
1236          RC    .019    .019    .019    2125    .029
1237          RX    1000    1012    1016    1020    1035    1039    1043    1055
1238          RY      15      12      11      10      10      11      12      15
              * DDM   ***** Updated *****

1239          KK     448
1240          KM   SUB-BASIN 448
1241          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1242          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF 1.000
1243          KM     L =  .36  Kb = .042  Adj. Slope =  315.0
1244          BA    .045
1245          LG    .170    .310   4.200    .390  11.000
1246          UC    .133    .102
1247          UA       0       5      16      30      65      77      84      90      94      97
1248          UA     100
              * DDM   ***** Updated *****

1249          KK     449
1250          KM   SUB-BASIN 449
1251          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1252          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF 1.000
1253          KM     L =  .40  Kb = .054  Adj. Slope =  315.0
1254          BA    .050
1                                   HEC-1 INPUT                                          PAGE 34

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

1255          LG    .260    .280   3.500    .640   6.000
1256          UC    .167    .134
1257          UA       0       5      16      30      65      77      84      90      94      97
1258          UA     100
              * DDM   ***** Preserved *****

1259          KK   C6364
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1260          KM   COMBINE HYDROGRAPHS FROM SUB-BASINS 448 & 449
1261          HC       2
              * DDM   ***** Preserved *****

1262          KK   R6364
1263          KM   ROUTE FLOW FROM C116 AND SUB-BASINS 448 AND 449
1264          RS       5    FLOW      -1
1265          RC     .05    .035     .05    4375   .0333
1266          RX    1000    1027    1053    1080    1090    1117    1143    1170
1267          RY      15   13.33   11.67      10      10   11.67   13.33      15
              * DDM   ***** Updated *****

1268          KK     450
1269          KM   SUB-BASIN 450
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 =  .85  Kb = .057  Adj. Slope =  210.5
1273          BA    .070
1274          LG    .340    .350   3.630    .570   4.000
1275          UC    .296    .383
1276          UA       0       3       5       8      12      20      43      75      90      96
1277          UA     100
              * DDM   ***** Updated *****

1278          KK     451
1279          KM   SUB-BASIN 451
1280          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1281          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF 1.000
1282          KM     L =  .57  Kb = .063  Adj. Slope =  175.0
1283          BA    .025
1284          LG    .340    .340   3.290    .750   3.000
1285          UC    .271    .453
1286          UA       0       3       5       8      12      20      43      75      90      96
1287          UA     100
              * DDM   ***** Preserved *****

1288          KK    C451
1289          KM   COMBINE HYDROGRAPHS FROM SUB-BASINS 450 & 451
1290          HC       2
              * DDM   ***** Preserved *****

1291          KK    RT66
1292          KM        RETRIEVE DIVERTED FLOW FROM SUB-BASIN 66
1293          DR   WSH66
              * DDM   ***** Updated *****
                                        HEC-1 INPUT                                          PAGE 35

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

1294          KK     452
1295          KM   SUB-BASIN 452
1296          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1297          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF 1.000
1298          KM     L =  .43  Kb = .055  Adj. Slope =  315.0
1299          BA    .040
1300          LG    .260    .280   3.700    .550   9.000
1301          UC    .171    .166
1302          UA       0       5      16      30      65      77      84      90      94      97
1303          UA     100
              * DDM   ***** Preserved *****

1304          KK   C6465
1305          KM   COMBINE HYDROGRAPHS FROM SUB-BASINS 443 AND 452
1306          HC       2
              * DDM   ***** Preserved *****

1307          KK   R6566
1308          KM        ROUTE FLOW FROM DIVERSIONS 65 AND 66 TO C116
1309          RS       3    FLOW      -1
1310          RC     .05    .035     .05    2435   .0282
1311          RX    1000    1045    1090    1150    1160    1220    1265    1310
1312          RY      25      23      20      10      10      20      23      25
              * DDM   ***** Preserved *****

1313          KK    C116
1314          KM   COMBINE HYDROGRAPHS FROM SUB-BASINS 450 & 451 AND R6364 & R6465
1315          HC       3
              * DDM   ***** Preserved *****

1316          KK  BASIN5
1317          KM        RESERVOIR WITHIN PARCEL 31      2-48 INCH PIPES AT OUTFALL
1318          KM        BASIN 5 FEET DEEP
1319          RS       1    ELEV       0
1320          SV       0     4.5     9.9
1321          SQ       0      69     190
1322          SE       0     2.5       5
              * DDM   ***** Preserved *****

1323          KK    R116
1324          KM   ROUTE FLOW FROM C116 TO C117
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1325          RS       2    FLOW      -1
1326          RC     .05    .035     .05    1300   .0333
1327          RX    1000    1100    1200    1300    1320    1420    1520    1620
1328          RY      13      12      11      10      10      11      12      13
              * DDM   ***** Updated *****

1329          KK     453
1330          KM   SUB-BASIN 453
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 1.000
1333          KM     L =  .58  Kb = .058  Adj. Slope =  138.0
1334          BA    .060
1335          LG    .290    .300   3.290    .820  18.000
1                                          HEC-1 INPUT                                                          PAGE 36

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

1336          UC    .275    .284
1337          UA       0       5      16      30      65      77      84      90      94      97
1338          UA     100
              * DDM   ***** Preserved *****

1339          KK    C117
1340          KM   COMBINE HYDROGRAPHS FROM SUB-BASIN 453 AND R116
1341          HC       2
              * DDM   ***** Preserved *****

1342          KK    C118
1343          KM   COMBINE HYDROGRAPHS FROM R115 AND C117
1344          HC       2
              * DDM   ***** Preserved *****

1345          KK    R118
1346          KM        ROUTE FLOW FROM C118 TO  DIV7
              * KO     1
1347          RS       1    FLOW      -1
1348          RC    .019    .019    .019    1500    .024
1349          RX    1000    1012    1016    1020    1035    1039    1043    1055
1350          RY      15      12      11      10      10      11      12      15
              * DDM   ***** Preserved *****

1351          KK      D7
1352          KM        OFFLINE BASIN AT NORTH MOUNTAIN RIDGE   FLOWS ENTER BASIN OVER
1353          KM        30' WEIR SET AT 5.3' ABOVE THE CHANNEL BOTTOM, Vol = 3.6 A-F
              * KO     1
1354          DT  BASIN6
1355          DI       0     363     487     563     645     900
1356          DQ       0       2      10      15      25     260
              * DDM   ***** Preserved *****

1357          KK    RTD7
1358          KM   RETRIEVE FLOW FROM DIVERSION INTO OFFLINE BASIN
1359          DR  BASIN6
              * DDM   ***** Preserved *****

1360          KK     SD7
1361          KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
1362          KM     3.6 ACRE-FEETx43560/36x3600=1.2cfs
1363          RS       1    STOR       0
1364          SV       0     .01     3.6     4.0
1365          SQ       0     0.2     1.2     1.5
              * DDM   ***** Preserved *****

1366          KK     CD7
1367          KM   HYDROGRAPH COMBINATION FOR OFFLINE BASIN BLEEDOFF
1368          HC       2
              * DDM   ***** Updated *****
1                                          HEC-1 INPUT                                                          PAGE 37

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

1369          KK     454
1370          KM   SUB-BASIN 454
1371          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1372          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .999
1373          KM     L = 1.23  Kb = .051  Adj. Slope =  163.0
1374          BA    .180
1375          LG    .300    .310   3.780    .560  14.000
1376          UC    .379    .395
1377          UA       0       5      16      30      65      77      84      90      94      97
1378          UA     100
              *
              * DDM   ***** Preserved *****

1379          KK    C454
1380          KM        COMBINE HYDROGRAPHS FROM SUB-BASIN 454 AND CDIV7
              *      1       2
1381          HC       2
              * DDM   ***** Preserved *****
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1382        KK    R454
1383        KM   CHANNEL GEOMETRY OBTAINED FROM 2' CONTOUR MAPPING.
1384        KM   ROUTE FLOW FROM C454 TO 415C
1385        RS       3     FLOW      -1
1386        RC    .045    .035    .045    2200    .009
1387        RX       0      .5       1      33      42      67    67.5      68
1388        RY       5       4       4       0       0       6       6       6
            *
            * DDM   ***** Updated *****

1389        KK    415A
1390        KM   SUB-BASIN 415A
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  .998
1393        KM     L = 1.21  Kb = .049  Adj. Slope =  140.0
1394        BA    .280
1395        LG    .300    .260   3.630    .710  15.000
1396        UC    .400    .322
1397        UA       0       5      16      30      65      77      84      90      94      97
1398        UA     100
            * DDM   ***** Preserved *****

1399        KK   C415A
1400        KM        COMBINE HYDROGRAPHS FROM R454, 415B, AND 420B
            * KO     1
1401        HC       3
            * DDM   ***** Preserved *****
            * KK D415A
            * KM DIVERT FLOW INTO OFFLINE DETENTION BASIN
            * KM MAXIMUM STORAGE VOLUME FOR DIVERSION = 15 AC-FT @ 5' DEPTH.
            * KO     1
            * DTBS415A
            * DI     0    1240    5000
            * DQ     0       0    3760
            * DDM   ***** Preserved *****
            * KKRT415A
            * KM RETRIEVE FLOW FROM DIVERSION INTO OFFLINE BASIN
            * DRBS415A
            * DDM   ***** Preserved *****
            * KK S415A
            * KM RETRIEVE FLOW INTO OFFLINE BASIN AND BLEED OFF WITHIN 36 HOURS.
            * KM    15 ACRE-FEETx43560/36x3600 = 5 cfs
            * RS     1    STOR       0
            * SV     0     .01      15      20
            * SQ     0       2       5       8
            * DDM   ***** Preserved *****
            * KKCC415A
            * KM HYDROGRAPH COMBINATION OF 415A DIVERSION.
            * HC     2
            * DDM   ***** Preserved *****
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LINE        ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1402        KK   R415A
1403        KM   CHANNEL GEOMETRY OBTAINED FROM 2' CONTOUR MAPPING.
1404        KM   ROUTING OF FLOW FROM C415A TO 455C
1405        RS       4     FLOW      -1
1406        RC    .045     .03    .045    4100    .024
1407        RX       0      .5       1       8      16      23    23.5      24
1408        RY       8       8       8       0       0       8       8       8
            *
            * DDM   ***** Updated *****

1409        KK     455
1410        KM   SUB-BASIN 455
1411        KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1412        KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .993
1413        KM     L = 1.70  Kb = .041  Adj. Slope =  146.0
1414        BA   1.111
1415        LG    .270    .280   3.700    .640  24.000
1416        UC    .421    .204
1417        UA       0       5      16      30      65      77      84      90      94      97
1418        UA     100
            * DDM   ***** Preserved *****

1419        KK    D455
1420        KM        DIVERT FLOW INTO ONLINE  DETENTION BASIN
1421        KM   DETENTION/RETENTION BASINS LOCATED WITHIN LAS SENDAS ADDENDUM III
1422        KM   FOR BASIN #: 30      34      43      47&58
1423        KM        MAXIMUM VOLUME DIVERSION = 74.1 acre-feet
            *      1
1424        DT   BS455    74.1
1425        DI       0   10000
1426        DQ       0   10000
            * DDM   ***** Preserved *****

1427        KK   RT455
1428        KM   RETRIEVE FLOW FROM DIVERSION INTO ONLINE BASIN
1429        DR   BS455
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                * DDM   ***** Preserved *****

1430            KK    S455
1431            KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
1432            KM    74.1 ACRE-FEETx43560/36x3600=25cfs
1433            RS       1    STOR       0
1434            SV       0     .01    74.1
1435            SQ       0     3.0      25
                * DDM   ***** Preserved *****

1436            KK    C455
1437            KM   HYDROGRAPH COMBINATION FOR SUB-BASIN 455 AND DIVERTED BASIN STORAGE OF 455
1438            HC       2
                * DDM   ***** Preserved *****
1                                          HEC-1 INPUT                                          PAGE 39

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


1439            KK   CC455
1440            KM  HYDROGRAPH COMBINATION OF 420C, R415 AND C455
                *      1       2
1441            HC       3
                * DDM   ***** Preserved *****

1442            KK    R455
1443            KM   ROUTE FLOW FROM SPOOK HILL FRS TO SUB-BASIN 480
1444            RS      15    FLOW      -1
1445            RC    .035    .025    .035    7000   .0002
1446            RX       0       1       2      28      58      84      85      86
1447            RY    13.5    13.5    13.5       0       0    13.5    13.5    13.5
                * DDM   ***** Updated *****

1448            KK     480
1449            KM   SUB-BASIN 480
1450            KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1451            KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .996
1452            KM     L = 1.21  Kb = .042  Adj. Slope =  165.0
1453            BA    .731
1454            LG    .270    .270   3.580    .730  27.000
1455            UC    .325    .148
1456            UA       0       5      16      30      65      77      84      90      94      97
1457            UA     100
                * DDM   ***** Preserved *****

1458            KK    D480
1459            KM        DIVERT FLOW INTO ONLINE  DETENTION BASIN
1460            KM   DETENTION/RETENTION BASINS LOCATED WITHIN LAS SENDAS ADDENDUM III
1461            KM   FOR BASIN #: 18 & 26
1462            KM        MAXIMUM VOLUME DIVERSION = 16.5 acre-feet
                *      1
1463            DT   BS480    16.5
1464            DI       0   10000
1465            DQ       0   10000
                * DDM   ***** Preserved *****

1466            KK   RT480
1467            KM   RETRIEVE FLOW FROM DIVERSION INTO ONLINE BASIN
1468            DR   BS480
                * DDM   ***** Preserved *****

1469            KK    S480
1470            KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
1471            KM    16.5 ACRE-FEETx43560/36x3600=5.5cfs
1472            RS       1    STOR       0
1473            SV       0     .01    16.5
1474            SQ       0     3.0     5.6
                * DDM   ***** Preserved *****
1                                          HEC-1 INPUT                                          PAGE 40

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


1475            KK    C480
1476            KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
1477            HC       2
                * DDM   ***** Preserved *****

1478            KK   CC480
1479            KM   HYDROGRAPH COMBINATION AT SUBBASIN 480
1480            HC       2   0.731
                * DDM   ***** Preserved *****

1481            KK    R480
1482            KM   ROUTE FLOW FROM SUB-BASIN 480 TO SUBBASIN 462
1483            RS       6    FLOW      -1
1484            RC    .035    .025    .035    2800   .0002
1485            RX       0       1       2      28      58      84      85      86
1486            RY    13.5    13.5    13.5       0       0    13.5    13.5    13.5
                * DDM   ***** Updated *****
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1487          KK     456
1488          KM   SUB-BASIN 456
1489          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1490          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .998
1491          KM     L =  .94  Kb = .045  Adj. Slope =  315.0
1492          BA    .260
1493          LG    .300    .380   5.600    .200  12.000
1494          UC    .217    .139
1495          UA       0       5      16      30      65      77      84      90      94      97
1496          UA     100
              * DDM   ***** Preserved *****

1497          KK      D1
1498          KM        DIVERT FLOW INTO OFFLINE DETENTION BASIN
1499          KM        WEIR FOR BASIN SET AT 4 FEET ABOVE CHANNEL BOTTOM
              *      1
1500          DT  BASIN1     4.0
1501          DI       0    11.1   127.9   234.4   577.7   789.9  1025.5  1280.9  1555.7
1502          DQ       0       0       0    47.7     248   381.8   533.6   701.5     884
              * DDM   ***** Preserved *****

1503          KK     CD2
1504          KM        SPLIT OUT FLOW FOR WASHES THAT FLOW TO THE SOUTH FROM
1505          KM        WASHES THAT DRAIN TO THE WES, SOUTHERN WASHES FED BY 30" & 24" PIPE
1506          DT    WA30
1507          DI       0    11.1   127.9   189.6   329.7     408   491.9   579.4   671.7
1508          DQ       0    11.1    38.4    48.2      63    69.5      76      81      86
              * DDM   ***** Preserved *****

1509          KK    R456
1510          KM        ROUTE FLOW FROM SUB-BASIN 51 TO C101
1511          RS       2    FLOW      -1
1512          RC     .05    .035     .05    3800    .044
1513          RX    1000    1010    1020    1036    1041    1057    1067    1077
1514          RY   14.88   14.44      14      10      10      14   14.44   14.88
              * DDM   ***** Updated *****
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1515          KK     457
1516          KM   SUB-BASIN 457
1517          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1518          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .999
1519          KM     L = 1.01  Kb = .045  Adj. Slope =  308.8
1520          BA    .190
1521          LG    .270    .330   3.950    .460   6.000
1522          UC    .237    .195
1523          UA       0       5      16      30      65      77      84      90      94      97
1524          UA     100
              * DDM   ***** Preserved *****

1525          KK    C101
1526          KM        COMBINE HYDROGRAPHS FROM SUB-BASINS 50 AND 51
1527          HC       2
              * DDM   ***** Preserved *****

1528          KK      D3
1529          KM        RESERVOIR AT THE EDGE OF THE PROPERTY   FLOW FROM CHANNEL
1530          KM        DIVERTED  INTO OFFLINE BASIN A 25' WEIR SET AT ELEVATION 1808 FT
              *      1
1531          DT  BASIN2     5.0
1532          DI       0      36      70     110     180   313.5     402   500.9
1533          DQ       0       0       0       0       0    67.5     124   190.9
              * DDM   ***** Preserved *****

1534          KK    RTD3
1535          KM   RETRIEVE FLOW FROM DIVERSION INTO OFFLINE BASIN
1536          DR  BASIN2
              * DDM   ***** Preserved *****

1537          KK     SD3
1538          KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
1539          KM     5.0 ACRE-FEETx43560/36x3600=1.7cfs
1540          RS       1    STOR       0
1541          SV       0     .01       5
1542          SQ       0     0.7     1.7
              * DDM   ***** Preserved *****

1543          KK     CD3
1544          KM   HYDROGRAPH COMBINATION FOR OFFLINE BASIN BLEEDOFF
1545          HC       2
              * DDM   ***** Preserved *****

1546          KK    R101
1547          KM        ROUTE FLOW FROM SUBBASIN C101 TO C103
1548          RS       1    FLOW      -1
1549          RC     .05    .035     .05    1450     .05
1550          RX    1000    1010    1020    1036    1041    1057    1067    1077
1551          RY      15    14.5      14      10      10      14    14.5      15
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                * DDM   ***** Updated *****
                                        HEC-1 INPUT                                                    PAGE 42
LINE            ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1552            KK     458
1553            KM   SUB-BASIN 458
1554            KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1555            KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .999
1556            KM     L =  .76  Kb = .048  Adj. Slope =  299.0
1557            BA    .190
1558            LG    .290    .330   5.800    .190   6.000
1559            UC    .204    .131
1560            UA       0       5      16      30      65      77      84      90      94      97
1561            UA     100
                * DDM   ***** Preserved *****

1562            KK    C103
1563            KM        COMBINE HYDROGRAPHS FROM SUB-BASIN 55 AND C101
1564            HC       2
                * DDM   ***** Preserved *****

1565            KK    R103
1566            KM        ROUTE FLOW FROM SUBBASIN C103 TO C106
1567            RS       1    FLOW      -1
1568            RC     .05    .035     .05     900     .03
1569            RX    1000    1010    1020    1030    1050    1060    1070    1080
1570            RY   13.16   12.83    12.5      10      10    12.5   12.83   13.16
                * DDM   ***** Preserved *****

1571            KK    RT30
1572            KM        RETRIEVE DIVERTED FLOW FOR WASH BELOW 30 INCH PIPE
1573            DR    WA30
                * DDM   ***** Preserved *****

1574            KK     R30
1575            KM        ROUTE FLOW FROM WASH DIVERSION TO COMBINE C52
1576            RS       1    FLOW      -1
1577            RC     .05    .035     .05    1630     .05
1578            RX    1000    1010    1020    1036    1041    1057    1067    1077
1579            RY      15    14.5      14      10      10      14    14.5      15
                * DDM   ***** Preserved *****

1580            KK    RTB1
1581            KM        RETRIEVE DIVERTED FLOW FROM BASIN 1
                *      1       2
1582            DR  BASIN1
                * DDM   ***** Preserved *****

1583            KK      B1
1584            KM        ROUTE FLOW THROUGH OFFLINE DETENTION BASIN
1585            KM        FLOW OUTLETS THROUGH A 30 INCH OUTLET PIPE
                *      1       2
1586            RS       1    ELEV       0
1587            SV              .7     1.4     2.3     2.7     4.0
1588            SQ       0       5      16      28    32.5      37
1589            SE       0       1       2       3     3.5       4
                * DDM   ***** Preserved *****
1                               HEC-1 INPUT                                                            PAGE 43
LINE            ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1590            KK     RB1
1591            KM        ROUTE FLOW FROM BASIN DIVERSION TO COMBINE C52
1592            RS       3    FLOW      -1
1593            RC     .05    .035     .05    1720     .05
1594            RX    1000    1010    1020    1036    1041    1057    1067    1077
1595            RY      15    14.5      14      10      10      14    14.5      15
                * DDM   ***** Preserved *****

1596            KK    CDIV
1597            KM        COMBINE FLOWS FROM WA30 AND BASIN 1
1598            HC       2     .12
                * DDM   ***** Updated *****

1599            KK     459
1600            KM   SUB-BASIN 459
1601            KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1602            KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF 1.000
1603            KM     L =  .35  Kb = .052  Adj. Slope =  251.6
1604            BA    .030
1605            LG    .220    .300   3.330    .710   8.000
1606            UC    .162    .157
1607            UA       0       5      16      30      65      77      84      90      94      97
1608            UA     100
                * DDM   ***** Preserved *****

1609            KK     C52
1610            KM        COMBINE FLOWS FROM SUB-BASIN 52 WA30 AND BASIN 1
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1611        HC       2
            * DDM   ***** Preserved *****

1612        KK     R52
1613        KM        ROUTE FLOW FROM SUBBASIN 52 TO C102
1614        RS       3    FLOW      -1
1615        RC     .05    .035     .05    2000     .05
1616        RX    1000    1010    1020    1036    1041    1057    1067    1077
1617        RY      15    14.5      14      10      10      14    14.5      15
            * DDM   ***** Updated *****

1618        KK     460
1619        KM   SUB-BASIN 460
1620        KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1621        KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .999
1622        KM     L =  .62  Kb = .058  Adj. Slope =  194.0
1623        BA    .140
1624        LG    .250    .260   3.740    .690  27.000
1625        UC    .242    .160
1626        UA       0       5      16      30      65      77      84      90      94      97
1627        UA     100
            * DDM   ***** Preserved *****
1                                        HEC-1 INPUT                                          PAGE 44

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


1628        KK    C102
1629        KM        COMBINE HYDROGRAPHS FROM SUB-BASINS 52 AND 53
1630        HC       2
            * DDM   ***** Preserved *****

1631        KK  BASIN3
1632        KM        RESERVOIR AT CLUBHOUSE LOCATION 1-30 INCH PIPE AT OUTFALL
1633        KM        BOTTOM OF BASIN AT 6 FEET ABOVE 1795 ELEVATION
1634        RS       1    ELEV       0
1635        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
1636        SQ       0      22      45    47.4      48      51      57      62      67      73
1637        SE    1795  1797.5    1800  1800.4  1800.5    1801    1802    1803    1804  1805.5
            * DDM   ***** Preserved *****

1638        KK      R3
1639        KM        ROUTE FLOW FROM C102 to C106
1640        RS       5    FLOW      -1
1641        RC     .05     .03     .05    2750   .0375
1642        RX    1000    1010    1020    1052    1086    1118    1128    1138
1643        RY    19.2    18.4      18      10      10      18    18.4    19.2
            * DDM   ***** Updated *****

1644        KK     461
1645        KM   SUB-BASIN 461
1646        KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1647        KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .999
1648        KM     L =  .83  Kb = .052  Adj. Slope =  181.0
1649        BA    .120
1650        LG    .270    .250   4.250    .450  21.000
1651        UC    .271    .250
1652        UA       0       5      16      30      65      77      84      90      94      97
1653        UA     100
            * DDM   ***** Preserved *****

1654        KK    C104
1655        KM        COMBINE HYDROGRAPHS FROM SUB-BASIN 54 AND R102
1656        HC       2
            * DDM   ***** Preserved *****

1657        KK    C106
1658        KM        COMBINE HYDROGRAPHS FROM SUB-BASIN C103 AND C104
1659        HC       2
            * DDM   ***** Preserved *****

1660        KK    R106
1661        KM        ROUTE FLOW FROM C106 TO C49
1662        RS       2    FLOW      -1
1663        RC     .05    .035     .05    3950    .033
1664        RX    1000    1010    1020    1030    1050    1060    1070    1080
1665        RY   13.16   12.83    12.5      10      10    12.5   12.83   13.16
            * DDM   ***** Updated *****
1                                        HEC-1 INPUT                                          PAGE 45

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


1666        KK     462
1667        KM   SUB-BASIN 462
1668        KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1669        KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .998
1670        KM     L =  .97  Kb = .045  Adj. Slope =  297.7
1671        BA    .301
1672        LG    .300    .330   5.300    .240  12.000
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1673          UC    .225    .137
1674          UA       0       5      16      30      65      77      84      90      94      97
1675          UA     100
              * DDM   ***** Preserved *****

1676          KK     C56
1677          KM        COMBINE HYDROGRAPHS FROM SUB-BASIN 56 AND C106
              *      1       2
1678          HC       2
              * DDM   ***** Preserved *****

1679          KK    C462
1680          KM        COMBINE HYDROGRAPHS AT SUBBASIN 462
              *      1
1681          HC       2    2.09
              * DDM   ***** Preserved *****

1682          KK    R462
1683          KM   ROUTE FLOW FROM SUB-BASIN 462 TO SUB-BASIN 500 (First Channel Reach)
1684          RS       1    FLOW      -1
1685          RC    .025    .025    .025    1800    .005
1686          RX       0       1      20      32      62      74      93      94
1687          RY      13      12      12       0       0      12      12      13
              *

1688          KK   RR462
1689          KM   ROUTE FLOW FROM SUB-BASIN 462 TO SUB-BASIN 500 (Second Natural Wash Reach)
1690          RS       3    FLOW      -1
1691          RC    .055     .05    .055    4700     .05
1692          RX       0       1       2      28      58      84      85      86
1693          RY    13.5    13.5    13.5       0       0    13.5    13.5    13.5
              * DDM   ***** Updated *****

1694          KK     500
1695          KM   SUB-BASIN 500
1696          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1697          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .994
1698          KM     L = 2.77  Kb = .042  Adj. Slope =  286.8
1699          BA    .930
1700          LG    .350    .400   6.000    .170   9.000
1701          UC    .421    .333
1702          UA       0       3       5       8      12      20      43      75      90      96
1703          UA     100
              * DDM   ***** Preserved *****
                                          HEC-1 INPUT                                          PAGE 46

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

1704          KK    C500
1705          KM   HYDROGRAPH COMBINATION FOR THE ENTIRE WATERSHED AT THE SALT RIVER
1706          HC       2    3.02
1707          ZZ
```

1

SCHEMATIC DIAGRAM OF STREAM NETWORK

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

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

   27          10
                V
                V
   37         R10
                V
                V
   43         R12
                .
                .
   49           .          20
                .           .
                .           .
   59         C20............
                V
                V
   62         R20
                .
                .
   68           .          40
                .           .
                .           .
   78           .           .          60
                .           .           .
                .           .           .
   88         C60........................
                V
                V
   91         S60
                V
                V
  100         R60
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            V
            V
106       RR60
            .
            .
112         .          80
            .           .
            .           .
122       C80............
            V
            V
125       R80
            .
            .
131         .         100
            .           .
            .           .
141       C100...........
            V
            V
144       R100
            .
            .
150         .         120
            .           .
            .           .
160       C120...........
            V
            V
163       R120
            .
            .
169         .         140
            .           .
            .           .
179         .           .         150
            .           .           V
            .           .           V
189         .           .       R150
            .           .           V
            .           .           V
195         .           .       R152
            .           .           .
            .           .           .
201         .           .           .         160
            .           .           .           .
            .           .           .           .
211         .           .           .           .         180
            .           .           .           .           .
            .           .           .           .           .
221       C180.............................................
            .
            .
224         .         210
            .           V
            .           V
234         .       R210
            .           .
            .           .
240         .           .         240
            .           .           .
            .           .           .
250         .       C240...........
            .           V
            .           V
253         .       S240
            .           V
            .           V
260         .       R240
            .           .
            .           .
267         .           .         220
            .           .           .
            .           .           .
277         .       C220...........
            .           V
            .           V
280         .       S220
            .           V
            .           V
287         .       R220
            .           .
            .           .
294         .           .         190
            .           .           V
            .           .           V
304         .           .       R190
            .           .           V
            .           .           V
310         .           .       R192
            .           .           .
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316          .           .           .
             .           .           .        200
             .           .           .          .
             .           .           .          .
326          .        C200.......................
             .           V
             .           V
329          .        S200
             .           V
             .           V
336          .        R200
             .           V
             .           V
342          .       SS200
             .           V
             .           V
349          .       RR200
             .           .
             .           .
355      CC180............
             V
             V
358       S180
             V
             V
367       R180
             .
             .
376          .         260
             .           .
             .           .
386       C260............
             V
             V
389       R260
             .
             .
398          .         280
             .           .
             .           .
408       C280............
             V
             V
411       R280
             .
             .
420          .         300
             .           .
             .           .
430       C300............
             V
             V
433       R300
             .
             .
442          .         305
             .           .
             .           .
452       C305............
             V
             V
455       R305
             .
             .
464          .         350
             .           .
             .           .
477          .           .-------->   SF350
474          .        D350
             .           V
             .           V
480          .        R350
             .           .
             .           .
487          .           .         310
             .           .           .
             .           .           .
497          .        C310............
             .           V
             .           V
500          .        R310
             .           .
             .           .
507          .           .         320
             .           .           .
             .           .           .
522          .           .           .-------->   BS320
517          .           .        D320
             .           .           .
             .           .           .
527          .           .           .           .<--------   BS320
```

```
525          .           .           .       RT320
             .           .           .           V
             .           .           .           V
528          .           .           .        S320
             .           .           .           .
             .           .           .           .
534       C320.................................
             V
             V
537       R320
             .
             .
544          .        340B
             .           .
             .           .
559          .           .-------> BS340B
554          .       D340B
             .           .
             .           .
564          .           .           .<-------  BS340B
562          .           .      RT340B
             .           .           V
             .           .           V
565          .           .       S340B
             .           .           .
             .           .           .
571          .       C340B............
             .           .
             .           .
576          .           .------->   BS340
574          .      DD340B
             .           .
             .           .
581          .           .           .<-------   BS340
579          .           .       RT340
             .           .           V
             .           .           V
582          .           .      SS340B
             .           .           .
             .           .           .
588          .      CC340B............
             .           V
             .           V
591          .       R340B
             .           .
             .           .
598          .           .        340A
             .           .           .
             .           .           .
613          .           .           .-------> BS340A
608          .           .       D340A
             .           .           .
             .           .           .
618          .           .           .           .<-------  BS340A
616          .           .           .      RT340A
             .           .           .           V
             .           .           .           V
619          .           .           .       S340A
             .           .           .           .
             .           .           .           .
625          .       C340A........................
             .           .
             .           .
628       C340............
             V
             V
631       R340
             .
             .
640          .           .<-------   SF350
638          .       RT350
             .           V
             .           V
641          .       RR350
             .           .
             .           .
648          .           .         355
             .           .           .
             .           .           .
658          .        C355............
             .           V
             .           V
661          .        R355
             .           .
             .           .
668          .           .         360
             .           .           .
             .           .           .
682          .           .           .-------->   BS360
678          .           .        D360
             .           .           .
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687          .           .           .
             .           .           .          .<-------   BS360
685          .           .           .      RT360
             .           .           .          V
             .           .           .          V
688          .           .           .      S360
             .           .           .          .
             .           .           .          .
694       C360.................................
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             .
701          .------->    380S
697      DD380
             .
             .
706          .           .<-------    380S
704          .      RT380S
             .           V
             .           V
707          .       SS380
             .           .
             .           .
714      CC360............
             V
             V
717       R360
             .
             .
724          .        380A
             .           .
             .           .
734      C380A............
             V
             V
737      R380A
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             .
744          .        400A
             .           .
             .           .
754      C400A............
             V
             V
757      R400A
             .
             .
764          .        380B
             .           .
             .           .
778          .           .------->  BS380B
774          .       D380B
             .           .
             .           .
783          .           .          .<-------  BS380B
781          .           .      RT380B
             .           .           V
             .           .           V
784          .           .       S380B
             .           .           .
             .           .           .
790          .       C380B............
             .           .
             .           .
795          .           .------->   BS380
793          .      DD380B
             .           .
             .           .
800          .           .          .<-------   BS380
798          .           .       RT380
             .           .           V
             .           .           V
801          .           .      SS380B
             .           .           .
             .           .           .
807          .      CC380B............
             .           V
             .           V
810          .       R380B
             .           .
             .           .
817          .           .        400B
             .           .           .
             .           .           .
831          .           .          .------->  BS400B
827          .           .       D400B
             .           .           .
             .           .           .
836          .           .           .          .<-------  BS400B
834          .           .           .      RT400B
             .           .           .          V
             .           .           .          V
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837          .           .           .       S400B
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             .           .           .           .
843          .           .       C400B............
             .           .           .
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846     CC400B......................
             V
             V
849       R400
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856          .        420A
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             .           .
870          .           .-------> BS420A
866          .       D420A
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             .           .
875          .           .           .<-------  BS420A
873          .           .      RT420A
             .           .           V
             .           .           V
876          .           .       S420A
             .           .           .
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882      C420A......................
             V
             V
885       R420
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892          .         370
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902          .           .         395
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912          .        C370............
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918          .           .------->   BS370
915          .        D370
             .           .
             .           .
923          .           .           .<-------   BS370
921          .           .       RT370
             .           .           V
             .           .           V
924          .           .        S370
             .           .           .
             .           .           .
930          .       CC370............
             .           V
             .           V
933          .        R370
             .           .
             .           .
940          .           .         385
             .           .           .
             .           .           .
950          .           .           .        415B
             .           .           .           .
             .           .           .           .
960          .           .       C415B............
             .           .           .
             .           .           .
966          .           .           .-------> BS415B
963          .           .       D415B
             .           .           .
             .           .           .
971          .           .           .           .<-------  BS415B
969          .           .           .      RT415B
             .           .           .           V
             .           .           .           V
972          .           .           .       S415B
             .           .           .           .
             .           .           .           .
978          .           .      CC415B............
             .           .           V
             .           .           V
981          .           .       R415B
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988          .           .           .         390
             .           .           .           .
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1002         .           .           .           .------->   BS390
998          .           .           .        D390
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1007  .         .         .         .         .<-------   BS390
1005  .         .         .         .      RT390
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      .         .         .         .         V
1008  .         .         .         .      S390
      .         .         .         .         .
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1014  .      C390.................................
      .         V
      .         V
1017  .      R390
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1024  .         .      420B
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1034  .     C420B...........
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      .         .
1037  .         .       440
      .         .         V
      .         .         V
1047  .         .       R70
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      .         .         .
1053  .         .         .        441
      .         .         .          .
      .         .         .          .
1063  .         .      C108...........
      .         .         .
      .         .         .
1068  .         .         .------->   SPLIT
1066  .         .        D4
      .         .         V
      .         .         V
1071  .         .      R108
      .         .         .
      .         .         .
1077  .         .         .        442
      .         .         .          .
      .         .         .          .
1087  .         .       C67...........
      .         .         .
      .         .         .
1093  .         .         .------->  BASIN4
1090  .         .        D6
      .         .         .
      .         .         .
1098  .         .         .          .<-------  BASIN4
1096  .         .         .       RTD6
      .         .         .         V
      .         .         .         V
1099  .         .         .        SD6
      .         .         .          .
      .         .         .          .
1105  .         .       CD6...........
      .         .         .
      .         .         .
1108  .         .         .        443
      .         .         .          .
      .         .         .          .
1121  .         .         .          .------->   WSH66
1118  .         .         .        D66
      .         .         .         V
      .         .         .         V
1124  .         .         .       R113
      .         .         .          .
      .         .         .          .
1130  .         .      C114...........
      .         .         .
      .         .         .
1133  .         .         .        444
      .         .         .         V
      .         .         .         V
1143  .         .         .        R58
      .         .         .          .
      .         .         .          .
1149  .         .         .          .        445
      .         .         .          .          .
      .         .         .          .          .
1159  .         .         .       C107...........
      .         .         .         V
      .         .         .         V
1162  .         .         .       R107
      .         .         .          .
      .         .         .          .
1170  .         .         .          .         .<-------   SPLIT
1168  .         .         .          .      RTB2
      .         .         .          .         V
      .         .         .          .         V
1171  .         .         .          .     RSPLIT
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1177                                                                446
1187                                  C109.......................
1193                                  .-------> WSH404
1190                                    D5
                                        V
                                        V
1196                                  R109
1202                                                  447
1214                                                                .<-------  WSH404
1212                                                            RT404
                                                                    V
                                                                    V
1215                                                             R404
1221                                  C110.......................
                                        V
                                        V
1224                                  R110
1230                            C115............
                                   V
                                   V
1233                            R115
1239                                    448
1249                                                  449
1259                                 C6364............
                                        V
                                        V
1262                                 R6364
1268                                                  450
1278                                                                451
1288                                                         C451............
1293                                                                .<-------   WSH66
1291                                                            RT66
1294                                                                                452
1304                                                            C6465............
                                                                    V
                                                                    V
1307                                                            R6566
1313                                  C116.......................
                                        V
                                        V
1316                                 BASIN5
                                        V
                                        V
1323                                  R116
1329                                                  453
1339                                  C117............
1342                            C118............
                                   V
                                   V
1345                            R118
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1354          .           .           .-------> BASIN6
1351          .           .         D7
              .           .           .
              .           .           .
1359          .           .           .         .<-------  BASIN6
1357          .           .           .       RTD7
              .           .           .         V
              .           .           .         V
1360          .           .           .        SD7
              .           .           .         .
              .           .           .         .
1366          .           .        CD7...........
              .           .           .
              .           .           .
1369          .           .           .        454
              .           .           .         .
              .           .           .         .
1379          .           .       C454...........
              .           .          V
              .           .          V
1382          .           .       R454
              .           .           .
              .           .           .
1389          .           .           .       415A
              .           .           .         .
              .           .           .         .
1399          .       C415A......................
              .           V
              .           V
1402          .       R415A
              .           .
              .           .
1409          .           .        455
              .           .           .
              .           .           .
1424          .           .           .-------> BS455
1419          .           .       D455
              .           .           .
              .           .           .
1429          .           .           .         .<-------  BS455
1427          .           .           .      RT455
              .           .           .         V
              .           .           .         V
1430          .           .           .       S455
              .           .           .         .
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1436          .           .       C455...........
              .           .           .
              .           .           .
1439      CC455......................
              V
              V
1442       R455
              .
              .
1448          .        480
              .          .
              .          .
1463          .          .-------> BS480
1458          .       D480
              .          .
              .          .
1468          .          .          .<-------  BS480
1466          .          .      RT480
              .          .          V
              .          .          V
1469          .          .       S480
              .          .          .
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1475          .       C480...........
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1478      CC480...........
              V
              V
1481       R480
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1487          .        456
              .          .
              .          .
1500          .          .-------> BASIN1
1497          .         D1
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1506          .          .------->  WA30
1503          .        CD2
              .          V
              .          V
1509          .       R456
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1515            .          .        457
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1525            .       C101...........
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1531            .          .-------> BASIN2
1528            .        D3
                .          .
                .          .
1536            .          .          .<-------  BASIN2
1534            .          .      RTD3
                .          .         V
                .          .         V
1537            .          .       SD3
                .          .          .
                .          .          .
1543            .       CD3............
                .         V
                .         V
1546            .       R101
                .          .
                .          .
1552            .          .        458
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1562            .       C103...........
                .         V
                .         V
1565            .       R103
                .          .
                .          .
1573            .          .          .<-------    WA30
1571            .          .      RT30
                .          .         V
                .          .         V
1574            .          .       R30
                .          .          .
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1582            .          .          .           .<-------  BASIN1
1580            .          .          .       RTB1
                .          .          .          V
                .          .          .          V
1583            .          .          .         B1
                .          .          .          V
                .          .          .          V
1590            .          .          .        RB1
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1596            .          .      CDIV...........
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1599            .          .          .        459
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1609            .          .       C52...........
                .          .         V
                .          .         V
1612            .          .       R52
                .          .          .
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1618            .          .          .        460
                .          .          .          .
                .          .          .          .
1628            .          .      C102...........
                .          .         V
                .          .         V
1631            .          .    BASIN3
                .          .         V
                .          .         V
1638            .          .        R3
                .          .          .
                .          .          .
1644            .          .          .        461
                .          .          .          .
                .          .          .          .
1654            .          .      C104...........
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1657            .       C106...........
                .         V
                .         V
1660            .       R106
                .          .
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1666            .          .        462
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1676            .       C56............
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 1679        C462............
                V
                V
 1682        R462
                V
                V
 1688       RR462
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 1694           .         500
                .          .
                .          .
 1704        C500............

(***) RUNOFF ALSO COMPUTED AT THIS LOCATION
1****************************************
 *                                      *
 *   FLOOD HYDROGRAPH PACKAGE  (HEC-1)  *
 *              JUN   1998              *
 *           VERSION 4.1                *
 *                                      *
 *  RUN DATE   16MAY01  TIME  09:35:49  *
 *                                      *
 ****************************************
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```
****************************************
*                                      *
*    U.S. ARMY CORPS OF ENGINEERS      *
*    HYDROLOGIC ENGINEERING CENTER     *
*          609 SECOND STREET           *
*       DAVIS, CALIFORNIA 95616        *
*           (916) 756-1104             *
*                                      *
****************************************
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                    DDM MCUHP1 SPOOK HILL AMDP - EXISTING CONDITIONS MODEL - 100YR, 24HR STORM
                    Spook Hill FRS with Off-Line Basin
                    Combine the Following Three Options:
                    McKellips Road Alternative - Option MK2E
                    McDowell Road Alternative - Option MD2E
                    Non-Jurisdictional Alternative - Option NJ4Q

  8 IO        OUTPUT CONTROL VARIABLES
                 IPRNT          5  PRINT CONTROL
                 IPLOT          0  PLOT CONTROL
                 QSCAL         0.  HYDROGRAPH PLOT SCALE

    IT        HYDROGRAPH TIME DATA
                  NMIN          2  MINUTES IN COMPUTATION INTERVAL
                 IDATE      1   0  STARTING DATE
                 ITIME       0000  STARTING TIME
                    NQ       2000  NUMBER OF HYDROGRAPH ORDINATES
                NDDATE      3   0  ENDING DATE
                NDTIME       1838  ENDING TIME
                 ICENT         19  CENTURY MARK

              COMPUTATION INTERVAL     .03 HOURS
                   TOTAL TIME BASE   66.63 HOURS

         ENGLISH UNITS
              DRAINAGE AREA          SQUARE MILES
              PRECIPITATION DEPTH    INCHES
              LENGTH, ELEVATION      FEET
              FLOW                   CUBIC FEET PER SECOND
              STORAGE VOLUME         ACRE-FEET
              SURFACE AREA           ACRES
              TEMPERATURE            DEGREES FAHRENHEIT

 10 JD        INDEX STORM NO. 1
                 STRM        3.81  PRECIPITATION DEPTH
                 TRDA         .01  TRANSPOSITION DRAINAGE AREA

 11 PI          PRECIPITATION PATTERN
                 .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                 .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
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21 JD INDEX STORM NO. 2

STRM	3.79	PRECIPITATION DEPTH
TRDA	1.00	TRANSPOSITION DRAINAGE AREA

0 PI PRECIPITATION PATTERN

.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
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22 JD INDEX STORM NO. 3

STRM 3.68 PRECIPITATION DEPTH

TRDA 5.80 TRANSPOSITION DRAINAGE AREA

0 PI PRECIPITATION PATTERN

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23 JD INDEX STORM NO. 4

STRM 3.57 PRECIPITATION DEPTH

TRDA 10.66 TRANSPOSITION DRAINAGE AREA

0 PI PRECIPITATION PATTERN

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24 JD INDEX STORM NO. 5

STRM 3.54 PRECIPITATION DEPTH

TRDA 13.70 TRANSPOSITION DRAINAGE AREA

0 PI PRECIPITATION PATTERN

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25 JD INDEX STORM NO. 6

STRM 3.47 PRECIPITATION DEPTH
TRDA 20.00 TRANSPOSITION DRAINAGE AREA

0 PI PRECIPITATION PATTERN

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26 JD INDEX STORM NO. 7
STRM 3.32 PRECIPITATION DEPTH
TRDA 50.00 TRANSPOSITION DRAINAGE AREA

0 PI PRECIPITATION PATTERN

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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	989.	12.27	119.	33.	12.	.70		
+	ROUTED TO	R10	920.	12.40	119.	33.	12.	.70		
+	ROUTED TO	R12	853.	12.60	119.	33.	12.	.70		
+	HYDROGRAPH AT	20	1011.	12.43	136.	34.	12.	1.12		
	2 COMBINED AT	C20	1684.	12.53	252.	66.	24.	1.82		
	ROUTED TO									

	R20	1683.	12.57	252.	66.	24.	1.82
+ HYDROGRAPH AT	40	2695.	12.30	264.	69.	25.	2.23
+ HYDROGRAPH AT	60	1623.	12.40	239.	64.	23.	1.75
+ 3 COMBINED AT	C60	5371.	12.37	733.	194.	70.	5.80
+ ROUTED TO	S60	118.	14.27	118.	114.	70.	5.80
+ ROUTED TO	R60	118.	14.37	118.	114.	70.	5.80
+ ROUTED TO	RR60	118.	14.40	118.	114.	70.	5.80
+ HYDROGRAPH AT	80	1956.	12.27	189.	49.	18.	1.48
+ 2 COMBINED AT	C80	2009.	12.27	295.	160.	90.	1.48
+ ROUTED TO	R80	1981.	12.30	295.	160.	90.	1.48
+ HYDROGRAPH AT	100	423.	12.20	60.	16.	6.	.48
+ 2 COMBINED AT	C100	2373.	12.27	351.	174.	95.	1.96
+ ROUTED TO	R100	2370.	12.30	351.	174.	95.	1.96
+ HYDROGRAPH AT	120	3352.	12.27	340.	92.	33.	2.20
+ 2 COMBINED AT	C120	5618.	12.27	673.	256.	126.	4.16
ROUTED TO	R120	5546.	12.30	673.	256.	126.	4.16
+ HYDROGRAPH AT	140	665.	12.13	67.	18.	6.	.60
+ HYDROGRAPH AT	150	595.	12.17	51.	14.	5.	.41
+ ROUTED TO	R150	568.	12.23	51.	14.	5.	.41
+ ROUTED TO	R152	514.	12.33	51.	14.	5.	.41
+ HYDROGRAPH AT	160	228.	12.40	37.	9.	3.	.37
+ HYDROGRAPH AT	180	836.	12.37	97.	24.	9.	1.00
+ 5 COMBINED AT	C180	7306.	12.30	898.	313.	146.	6.54
+ HYDROGRAPH AT	210	1322.	12.17	111.	29.	10.	.79
+ ROUTED TO	R210	1246.	12.23	111.	29.	10.	.79
+ HYDROGRAPH AT	240	1513.	12.30	167.	42.	15.	1.41
+ 2 COMBINED AT	C240	2684.	12.27	273.	70.	25.	2.20
+ ROUTED TO	S240	799.	12.70	226.	59.	21.	2.20
+ ROUTED TO	R240	798.	12.77	225.	59.	21.	2.20
HYDROGRAPH AT	220	676.	12.20	68.	18.	6.	.47
+ 2 COMBINED AT	C220	962.	12.60	288.	75.	27.	2.67

	ROUTED TO	S220	900.	12.80	280.	73.	26.	2.67
+	ROUTED TO	R220	897.	12.83	280.	73.	26.	2.67
+	HYDROGRAPH AT	190	1471.	12.17	123.	33.	12.	.92
+	ROUTED TO	R190	1415.	12.23	123.	33.	12.	.92
+	ROUTED TO	R192	1359.	12.30	123.	33.	12.	.92
+	HYDROGRAPH AT	200	831.	12.17	72.	20.	7.	.53
+	3 COMBINED AT	C200	2254.	12.30	459.	122.	44.	4.12
+	ROUTED TO	S200	2135.	12.37	454.	119.	43.	4.12
+	ROUTED TO	R200	2127.	12.37	454.	119.	43.	4.12
+	ROUTED TO	SS200	1365.	12.73	333.	88.	32.	4.12
+	ROUTED TO	RR200	1330.	12.83	330.	88.	32.	4.12
+	2 COMBINED AT	CC180	7306.	12.30	1212.	399.	177.	10.66
+	ROUTED TO	S180	398.	14.97	375.	253.	131.	10.66
+	ROUTED TO	R180	398.	15.00	375.	253.	131.	10.66
+	HYDROGRAPH AT	260	416.	12.10	43.	12.	4.	.26
	2 COMBINED AT	C260	439.	12.13	416.	291.	151.	.26
+	ROUTED TO	R260	428.	15.00	416.	291.	151.	.26
+	HYDROGRAPH AT	280	527.	12.10	46.	13.	5.	.32
+	2 COMBINED AT	C280	896.	12.13	432.	301.	155.	.58
+	ROUTED TO	R280	875.	12.20	431.	301.	155.	.58
+	HYDROGRAPH AT	300	415.	12.10	34.	10.	3.	.29
+	2 COMBINED AT	C300	1229.	12.17	460.	309.	159.	.87
+	ROUTED TO	R300	1184.	12.23	458.	309.	158.	.87
+	HYDROGRAPH AT	305	476.	12.27	81.	22.	8.	.70
+	2 COMBINED AT	C305	1637.	12.23	530.	324.	164.	1.57
+	ROUTED TO	R305	1616.	12.30	529.	324.	164.	1.57
+	HYDROGRAPH AT	350	1258.	12.20	109.	28.	10.	.97
+	DIVERSION TO	SF350	629.	12.20	55.	14.	5.	.97
+	HYDROGRAPH AT	D350	629.	12.20	55.	14.	5.	.97
	ROUTED TO	R350	557.	12.40	55.	14.	5.	.97
	HYDROGRAPH AT							

	310	398.	12.33	52.	13.	5.	.56
+ 2 COMBINED AT	C310	928.	12.40	106.	27.	10.	1.04
+ ROUTED TO	R310	820.	12.73	106.	27.	10.	1.04
+ HYDROGRAPH AT	320	991.	12.20	127.	36.	13.	.95
+ DIVERSION TO	BS320	386.	11.93	21.	6.	2.	.95
+ HYDROGRAPH AT	D320	991.	12.20	113.	29.	11.	.95
+ HYDROGRAPH AT	RT320	386.	11.93	21.	6.	2.	.95
+ ROUTED TO	S320	4.	12.00	4.	4.	2.	.95
+ 4 COMBINED AT	C320	2559.	12.30	732.	373.	181.	3.56
+ ROUTED TO	R320	2394.	12.57	714.	371.	180.	3.56
+ HYDROGRAPH AT	340B	475.	12.07	35.	10.	4.	.29
+ DIVERSION TO	BS340B	475.	12.07	21.	6.	2.	.29
+ HYDROGRAPH AT	D340B	390.	12.13	16.	4.	2.	.29
+ HYDROGRAPH AT	RT340B	475.	12.07	21.	6.	2.	.29
+ ROUTED TO	S340B	3.	12.13	3.	3.	2.	.29
2 COMBINED AT	C340B	394.	12.13	19.	7.	4.	.29
+ DIVERSION TO	BS340	376.	12.13	12.	3.	1.	.29
+ HYDROGRAPH AT	DD340B	18.	12.10	8.	4.	3.	.29
+ HYDROGRAPH AT	RT340	376.	12.13	12.	3.	1.	.29
+ ROUTED TO	SS340B	2.	12.63	2.	2.	1.	.29
+ 2 COMBINED AT	CC340B	20.	12.63	10.	6.	4.	.29
+ ROUTED TO	R340B	20.	12.70	10.	6.	4.	.29
+ HYDROGRAPH AT	340A	1361.	12.17	161.	48.	17.	1.15
+ DIVERSION TO	BS340A	1361.	12.17	82.	23.	8.	1.15
+ HYDROGRAPH AT	D340A	1217.	12.23	93.	25.	9.	1.15
+ HYDROGRAPH AT	RT340A	1361.	12.17	82.	23.	8.	1.15
+ ROUTED TO	S340A	14.	12.27	13.	11.	7.	1.15
+ 3 COMBINED AT	C340A	1212.	12.27	115.	42.	20.	1.44
+ 2 COMBINED AT	C340	2883.	12.53	808.	407.	197.	5.00
ROUTED TO	R340	2799.	12.70	799.	405.	197.	5.00
+ HYDROGRAPH AT	RT350	629.	12.20	55.	14.	5.	.97

ROUTED TO	RR350	544.	12.43	55.	14.	5.	.97
+ HYDROGRAPH AT	355	546.	12.33	75.	19.	7.	.68
+ 2 COMBINED AT	C355	1028.	12.40	129.	34.	12.	1.16
+ ROUTED TO	R355	941.	12.70	129.	34.	12.	1.16
+ HYDROGRAPH AT	360	773.	12.23	116.	34.	12.	.88
+ DIVERSION TO	BS360	773.	12.23	52.	14.	5.	.88
+ HYDROGRAPH AT	D360	709.	12.33	73.	20.	7.	.88
+ HYDROGRAPH AT	RT360	773.	12.23	52.	14.	5.	.88
+ ROUTED TO	S360	9.	12.33	8.	7.	5.	.88
+ 4 COMBINED AT	C360	3951.	12.70	965.	451.	216.	7.04
+ DIVERSION TO	380S	1991.	12.70	141.	35.	13.	7.04
+ HYDROGRAPH AT	DD380	1960.	12.57	824.	416.	203.	7.04
+ HYDROGRAPH AT	RT380S	1991.	12.70	141.	35.	13.	7.04
+ ROUTED TO	SS380	31.	13.33	29.	23.	11.	7.04
+ 2 COMBINED AT	CC360	1991.	13.30	851.	439.	214.	7.04
ROUTED TO	R360	1990.	13.33	841.	437.	213.	7.04
+ HYDROGRAPH AT	380A	322.	12.27	33.	10.	4.	.26
+ 2 COMBINED AT	C380A	2006.	13.00	847.	439.	215.	7.30
+ ROUTED TO	R380A	2004.	13.20	844.	439.	215.	7.30
+ HYDROGRAPH AT	400A	56.	12.20	4.	1.	0.	.05
+ 2 COMBINED AT	C400A	2005.	13.17	844.	439.	215.	7.35
+ ROUTED TO	R400A	2004.	13.37	841.	439.	215.	7.35
+ HYDROGRAPH AT	380B	567.	12.20	67.	17.	6.	.64
+ DIVERSION TO	BS380B	567.	12.20	57.	14.	5.	.64
+ HYDROGRAPH AT	D380B	147.	12.80	12.	3.	1.	.64
+ HYDROGRAPH AT	RT380B	567.	12.20	57.	14.	5.	.64
+ ROUTED TO	S380B	9.	12.80	9.	7.	5.	.64
+ 2 COMBINED AT	C380B	156.	12.80	20.	11.	6.	.64
+ DIVERSION TO	BS380	70.	12.80	2.	0.	0.	.64
HYDROGRAPH AT	DD380B	86.	12.77	18.	10.	6.	.64
HYDROGRAPH AT							

	RT380	70.	12.80	2.	0.	0.	.64
+ ROUTED TO	SS380B	4.	13.03	2.	0.	0.	.64
+ 2 COMBINED AT	CC380B	90.	13.03	20.	11.	6.	.64
+ ROUTED TO	R380B	90.	13.03	20.	11.	6.	.64
+ HYDROGRAPH AT	400B	516.	12.20	62.	17.	6.	.57
+ DIVERSION TO	BS400B	292.	12.00	10.	3.	1.	.57
+ HYDROGRAPH AT	D400B	516.	12.20	54.	14.	5.	.57
+ HYDROGRAPH AT	RT400B	292.	12.00	10.	3.	1.	.57
+ ROUTED TO	S400B	2.	12.07	2.	2.	1.	.57
+ 2 COMBINED AT	C400B	518.	12.20	56.	15.	6.	.57
+ 3 COMBINED AT	CC400B	2090.	13.30	858.	454.	223.	8.56
+ ROUTED TO	R400	2080.	13.57	856.	453.	222.	8.56
+ HYDROGRAPH AT	420A	495.	12.20	68.	19.	7.	.57
+ DIVERSION TO	BS420A	377.	12.07	16.	4.	2.	.57
+ HYDROGRAPH AT	D420A	495.	12.20	56.	14.	5.	.57
HYDROGRAPH AT	RT420A	377.	12.07	16.	4.	2.	.57
+ ROUTED TO	S420A	13.	11.60	13.	4.	2.	.57
+ 3 COMBINED AT	C420A	2121.	13.57	880.	464.	227.	9.13
+ ROUTED TO	R420	2112.	13.80	879.	463.	226.	9.13
+ HYDROGRAPH AT	370	817.	12.23	83.	22.	8.	.67
+ HYDROGRAPH AT	395	234.	12.20	26.	7.	3.	.20
+ 2 COMBINED AT	C370	1046.	12.23	108.	29.	11.	.87
+ DIVERSION TO	BS370	906.	12.23	68.	17.	6.	.87
+ HYDROGRAPH AT	D370	140.	11.87	40.	12.	4.	.87
+ HYDROGRAPH AT	RT370	906.	12.23	68.	17.	6.	.87
+ ROUTED TO	S370	10.	12.90	9.	8.	6.	.87
+ 2 COMBINED AT	CC370	150.	12.90	47.	19.	10.	.87
+ ROUTED TO	R370	150.	12.90	47.	19.	10.	.87
+ HYDROGRAPH AT	385	613.	12.23	74.	20.	7.	.53
HYDROGRAPH AT	415B	443.	12.10	46.	13.	5.	.33
+ 2 COMBINED AT	C415B	973.	12.20	120.	33.	12.	.86

	DIVERSION TO	BS415B	783.	12.20	64.	16.	6.	.86
+	HYDROGRAPH AT	D415B	190.	11.83	56.	17.	6.	.86
+	HYDROGRAPH AT	RT415B	783.	12.20	64.	16.	6.	.86
+	ROUTED TO	S415B	10.	12.83	9.	8.	6.	.86
+	2 COMBINED AT	CC415B	200.	12.83	63.	23.	12.	.86
+	ROUTED TO	R415B	200.	12.83	63.	23.	12.	.86
+	HYDROGRAPH AT	390	477.	12.03	35.	10.	4.	.24
+	DIVERSION TO	BS390	101.	11.73	6.	2.	1.	.24
+	HYDROGRAPH AT	D390	477.	12.03	31.	8.	3.	.24
+	HYDROGRAPH AT	RT390	101.	11.73	6.	2.	1.	.24
+	ROUTED TO	S390	1.	11.80	1.	1.	1.	.24
+	4 COMBINED AT	C390	810.	12.03	141.	50.	25.	1.97
+	ROUTED TO	R390	734.	12.23	141.	50.	25.	1.97
+	HYDROGRAPH AT	420B	356.	12.10	34.	10.	4.	.28
+	2 COMBINED AT	C420B	1013.	12.20	173.	59.	29.	2.25
	HYDROGRAPH AT	440	184.	12.03	12.	3.	1.	.08
+	ROUTED TO	R70	181.	12.07	12.	3.	1.	.08
+	HYDROGRAPH AT	441	16.	12.03	1.	0.	0.	.01
+	2 COMBINED AT	C108	197.	12.07	14.	4.	1.	.09
+	DIVERSION TO	SPLIT	98.	12.07	7.	2.	1.	.09
+	HYDROGRAPH AT	D4	98.	12.07	7.	2.	1.	.09
+	ROUTED TO	R108	92.	12.13	7.	2.	1.	.09
+	HYDROGRAPH AT	442	105.	12.10	9.	2.	1.	.10
+	2 COMBINED AT	C67	195.	12.10	16.	4.	2.	.19
+	DIVERSION TO	BASIN4	121.	12.10	6.	2.	1.	.19
+	HYDROGRAPH AT	D6	74.	12.10	10.	3.	1.	.19
+	HYDROGRAPH AT	RTD6	121.	12.10	6.	2.	1.	.19
+	ROUTED TO	SD6	1.	12.47	1.	1.	0.	.19
+	2 COMBINED AT	CD6	74.	12.10	10.	3.	1.	.19
	HYDROGRAPH AT	443	151.	12.07	15.	4.	1.	.08
	DIVERSION TO							

	WSH66	78.	11.87	12.	3.	1.	.08
+ HYDROGRAPH AT	D66	73.	12.07	3.	1.	0.	.08
+ ROUTED TO	R113	71.	12.07	3.	1.	0.	.08
+ 2 COMBINED AT	C114	144.	12.07	13.	4.	2.	.27
+ HYDROGRAPH AT	444	83.	12.03	5.	1.	0.	.04
+ ROUTED TO	R58	79.	12.07	5.	1.	0.	.04
+ HYDROGRAPH AT	445	307.	12.03	19.	5.	2.	.19
+ 2 COMBINED AT	C107	382.	12.03	23.	6.	2.	.23
+ ROUTED TO	R107	382.	12.07	23.	6.	2.	.23
+ HYDROGRAPH AT	RTB2	98.	12.07	7.	2.	1.	.09
+ ROUTED TO	RSPLIT	98.	12.07	7.	2.	1.	.09
+ HYDROGRAPH AT	446	66.	12.03	6.	2.	1.	.04
+ 3 COMBINED AT	C109	545.	12.07	36.	10.	3.	.27
+ DIVERSION TO	WSH404	35.	11.70	8.	2.	1.	.27
+ HYDROGRAPH AT	D5	510.	12.07	28.	7.	3.	.27
ROUTED TO	R109	493.	12.10	28.	7.	3.	.27
+ HYDROGRAPH AT	447	141.	12.07	12.	4.	1.	.09
+ HYDROGRAPH AT	RT404	35.	11.70	8.	2.	1.	.27
+ ROUTED TO	R404	35.	11.83	8.	2.	1.	.27
+ 3 COMBINED AT	C110	666.	12.07	48.	13.	5.	.36
+ ROUTED TO	R110	663.	12.10	48.	13.	5.	.36
+ 2 COMBINED AT	C115	805.	12.07	61.	17.	7.	.63
+ ROUTED TO	R115	799.	12.10	61.	17.	7.	.63
+ HYDROGRAPH AT	448	89.	12.03	6.	2.	1.	.05
+ HYDROGRAPH AT	449	81.	12.03	5.	1.	0.	.05
+ 2 COMBINED AT	C6364	170.	12.03	11.	3.	1.	.09
+ ROUTED TO	R6364	145.	12.17	11.	3.	1.	.09
+ HYDROGRAPH AT	450	63.	12.20	7.	2.	1.	.07
+ HYDROGRAPH AT	451	18.	12.17	2.	1.	0.	.03
+ 2 COMBINED AT	C451	80.	12.20	9.	2.	1.	.09
+ HYDROGRAPH AT	RT66	78.	11.87	12.	3.	1.	.08

	HYDROGRAPH AT	452	63.	12.03	5.	1.	0.	.04
+	2 COMBINED AT	C6465	141.	12.03	17.	4.	2.	.04
+	ROUTED TO	R6566	137.	12.10	17.	4.	2.	.04
+	3 COMBINED AT	C116	357.	12.17	36.	10.	3.	.23
+	ROUTED TO	BASIN5	159.	12.47	36.	10.	3.	.23
+	ROUTED TO	R116	157.	12.53	36.	10.	3.	.23
+	HYDROGRAPH AT	453	63.	12.10	7.	2.	1.	.06
+	2 COMBINED AT	C117	177.	12.47	43.	12.	4.	.29
+	2 COMBINED AT	C118	892.	12.10	104.	29.	11.	.92
+	ROUTED TO	R118	887.	12.13	104.	29.	11.	.92
+	DIVERSION TO	BASIN6	248.	12.13	7.	2.	1.	.92
+	HYDROGRAPH AT	D7	639.	12.13	97.	27.	10.	.92
+	HYDROGRAPH AT	RTD7	248.	12.13	7.	2.	1.	.92
+	ROUTED TO	SD7	1.	12.63	1.	1.	1.	.92
+	2 COMBINED AT	CD7	640.	12.13	97.	28.	11.	.92
	HYDROGRAPH AT	454	162.	12.13	21.	6.	2.	.18
+	2 COMBINED AT	C454	801.	12.13	118.	34.	13.	1.10
+	ROUTED TO	R454	793.	12.23	118.	34.	13.	1.10
+	HYDROGRAPH AT	415A	267.	12.17	32.	9.	3.	.28
+	3 COMBINED AT	C415A	2035.	12.20	316.	99.	44.	3.63
+	ROUTED TO	R415A	2016.	12.27	316.	99.	44.	3.63
+	HYDROGRAPH AT	455	1418.	12.13	150.	45.	16.	1.11
+	DIVERSION TO	BS455	1418.	12.13	139.	37.	13.	1.11
+	HYDROGRAPH AT	D455	145.	12.80	24.	8.	3.	1.11
+	HYDROGRAPH AT	RT455	1418.	12.13	139.	37.	13.	1.11
+	ROUTED TO	S455	23.	12.80	22.	18.	11.	1.11
+	2 COMBINED AT	C455	169.	12.80	46.	26.	14.	1.11
+	3 COMBINED AT	CC455	2327.	13.67	1134.	557.	272.	13.87
+	ROUTED TO	R455	2281.	14.20	1122.	555.	271.	13.87
	HYDROGRAPH AT	480	1102.	12.10	100.	31.	11.	.73
	DIVERSION TO							

+	BS480	487.	11.90	27.	8.	3.	.73
+ HYDROGRAPH AT	D480	1102.	12.10	83.	23.	8.	.73
+ HYDROGRAPH AT	RT480	487.	11.90	27.	8.	3.	.73
+ ROUTED TO	S480	5.	11.97	5.	4.	3.	.73
+ 2 COMBINED AT	C480	1107.	12.10	88.	27.	11.	.73
+ 2 COMBINED AT	CC480	2489.	14.07	1291.	648.	317.	.73
+ ROUTED TO	R480	2468.	14.27	1285.	647.	316.	.73
+ HYDROGRAPH AT	456	483.	12.07	37.	10.	4.	.26
+ DIVERSION TO	BASIN1	193.	12.07	8.	2.	1.	.26
+ HYDROGRAPH AT	D1	290.	12.07	29.	8.	3.	.26
+ DIVERSION TO	WA30	59.	12.07	10.	3.	1.	.26
+ HYDROGRAPH AT	CD2	231.	12.07	19.	5.	2.	.26
+ ROUTED TO	R456	218.	12.13	19.	5.	2.	.26
+ HYDROGRAPH AT	457	273.	12.07	21.	6.	2.	.19
+ 2 COMBINED AT	C101	480.	12.10	40.	10.	4.	.45
DIVERSION TO	BASIN2	177.	12.10	8.	2.	1.	.45
+ HYDROGRAPH AT	D3	303.	12.10	32.	8.	3.	.45
+ HYDROGRAPH AT	RTD3	177.	12.10	8.	2.	1.	.45
+ ROUTED TO	SD3	1.	12.40	1.	1.	1.	.45
+ 2 COMBINED AT	CD3	304.	12.10	33.	9.	4.	.45
+ ROUTED TO	R101	302.	12.10	33.	9.	4.	.45
+ HYDROGRAPH AT	458	366.	12.03	26.	7.	2.	.19
+ 2 COMBINED AT	C103	655.	12.07	59.	16.	6.	.64
+ ROUTED TO	R103	651.	12.07	59.	16.	6.	.64
+ HYDROGRAPH AT	RT30	59.	12.07	10.	3.	1.	.26
+ ROUTED TO	R30	58.	12.10	10.	3.	1.	.26
+ HYDROGRAPH AT	RTB1	193.	12.07	8.	2.	1.	.26
+ ROUTED TO	B1	35.	12.20	8.	2.	1.	.26
+ ROUTED TO	RB1	35.	12.27	8.	2.	1.	.26
2 COMBINED AT	CDIV	87.	12.20	18.	5.	2.	.12
HYDROGRAPH AT	459	45.	12.03	3.	1.	0.	.03

	2 COMBINED AT						
	C52	117.	12.10	21.	6.	2.	.15
	ROUTED TO						
+	R52	116.	12.17	21.	6.	2.	.15
	HYDROGRAPH AT						
+	460	221.	12.07	20.	6.	2.	.14
	2 COMBINED AT						
+	C102	323.	12.07	40.	12.	4.	.29
	ROUTED TO						
+	BASIN3	71.	12.63	40.	12.	4.	.29
	ROUTED TO						
+	R3	71.	12.77	40.	12.	4.	.29
	HYDROGRAPH AT						
+	461	165.	12.10	17.	5.	2.	.12
	2 COMBINED AT						
+	C104	220.	12.10	57.	17.	6.	.41
	2 COMBINED AT						
+	C106	866.	12.07	115.	33.	12.	1.05
	ROUTED TO						
+	R106	828.	12.13	115.	33.	12.	1.05
	HYDROGRAPH AT						
+	462	557.	12.07	42.	12.	4.	.30
	2 COMBINED AT						
+	C56	1306.	12.10	156.	44.	16.	1.35
	2 COMBINED AT						
+	C462	2513.	14.27	1376.	671.	325.	2.09
	ROUTED TO						
+	R462	2509.	14.30	1375.	670.	325.	2.09
	ROUTED TO						
+	RR462	2505.	14.37	1374.	670.	325.	2.09
	HYDROGRAPH AT						
	500	1126.	12.27	128.	35.	12.	.93
	2 COMBINED AT						
+	C500	2669.	12.30	1474.	694.	334.	3.02

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