Spook Hill ADMP Update

Flood Control District of Maricopa County

Appendix B
Volume 7C

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

Spook Hill Area Drainage Master Plan Update

Flood Control District of Maricopa County

List of Appendices

Appendix A

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Volume 3	TR-20 Hydrology Analysis
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Volume 7	Conveyance Material Analysis
Volume 8	Hydraulics
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Phoenix, AZ 85009

Appendix B

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Volume 7B	HEC-1 Modeling Output Files (Level II)
Volume 7C	HEC-1 Modeling Output Files (Level II)

Registered Professional Engineer (Civil)
Certificate No.
28615
RICHARD L.
HINER
Date Signed 9-20-03
ARIZONA U.S.A.

Spook Hill ADMP Level II Alternative Summary - Model Elements

HEC-1	Land Use Condition		Return Period			Rainfall Duration			Pass Mountain		Non-Jurisdictional				McDowell Road				McKellips Road			
File Name	Existing	Future	100-year	10-year	SPS	24-hour	6-hour	7-hour	PM4R	PM4E	SH Channel	SH FRS	Off-line Basin	SB FRS 4xFlow	MD2E	MD2P	MD3E	MD3P	MK1C	MK1P	MK2E	MK2P
EC24BASE.DAT	X		X			X						X										
EC24B_R.DAT	X		X			X					X											
EC24_NJ6.DAT	X		X			X			X		X		X	X								
EC24_NJ4.DAT	X		X			X					X		X									
EC24NJ4Q.DAT	X		X			X					X		X*	X								
EC24PM4R.DAT	X		X			X			X			X		X								
EC24PM4E.DAT	X		X			X				X		X		X								
EC24MD2E.DAT	X		X			X						X			X							
EC24MD2P.DAT	X		X			X						X				X						
EC24MD3E.DAT	X		X			X						X					X					
EC24MD3P.DAT	X		X			X						X						X				
EC24MK1C.DAT	X		X			X						X							X			
EC24MK1P.DAT	X		X			X						X								X		
EC24MK2E.DAT	X		X			X						X									X	
EC24MK2P.DAT	X		X			X						X										X
MD2EPM4R.DAT	X		X			X			X			X		X	X							
MD3EPM4R.DAT	X		X			X			X			X		X			X					
MD2PMMK2.DAT	X		X			X			X			X		X	X						X	
MD2PMMK1.DAT	X		X			X			X			X		X	X				X			
MD3PMMK2.DAT	X		X			X			X			X		X			X				X	
MD3PMMK1.DAT	X		X			X			X			X		X			X		X			
MDPMMKNJ.DAT	X		X			X			X		X		X*	X	X						X	
MK2ENJ4Q.DAT	X		X			X					X		X*	X							X	
MD2ENJ4Q.DAT	X		X			X					X		X*	X	X							
MD2EMK2E.DAT	X		X			X						X			X						X	
MD2MK2NJ.DAT	X		X			X					X		X*	X	X						X	
EC24PM_R.DAT	X		X			X			X		X			X								
EF24_NJ6.DAT	X			500-Yr		X			X		X		X	X								
ET24_NJ6.DAT	X			X		X			X		X		X	X								
ESPSBASE.DAT	X				X			X				X										
ESPS_CHL.DAT	X				X			X			X											
ESPS_GCL.DAT	X				X			50-hr			X											

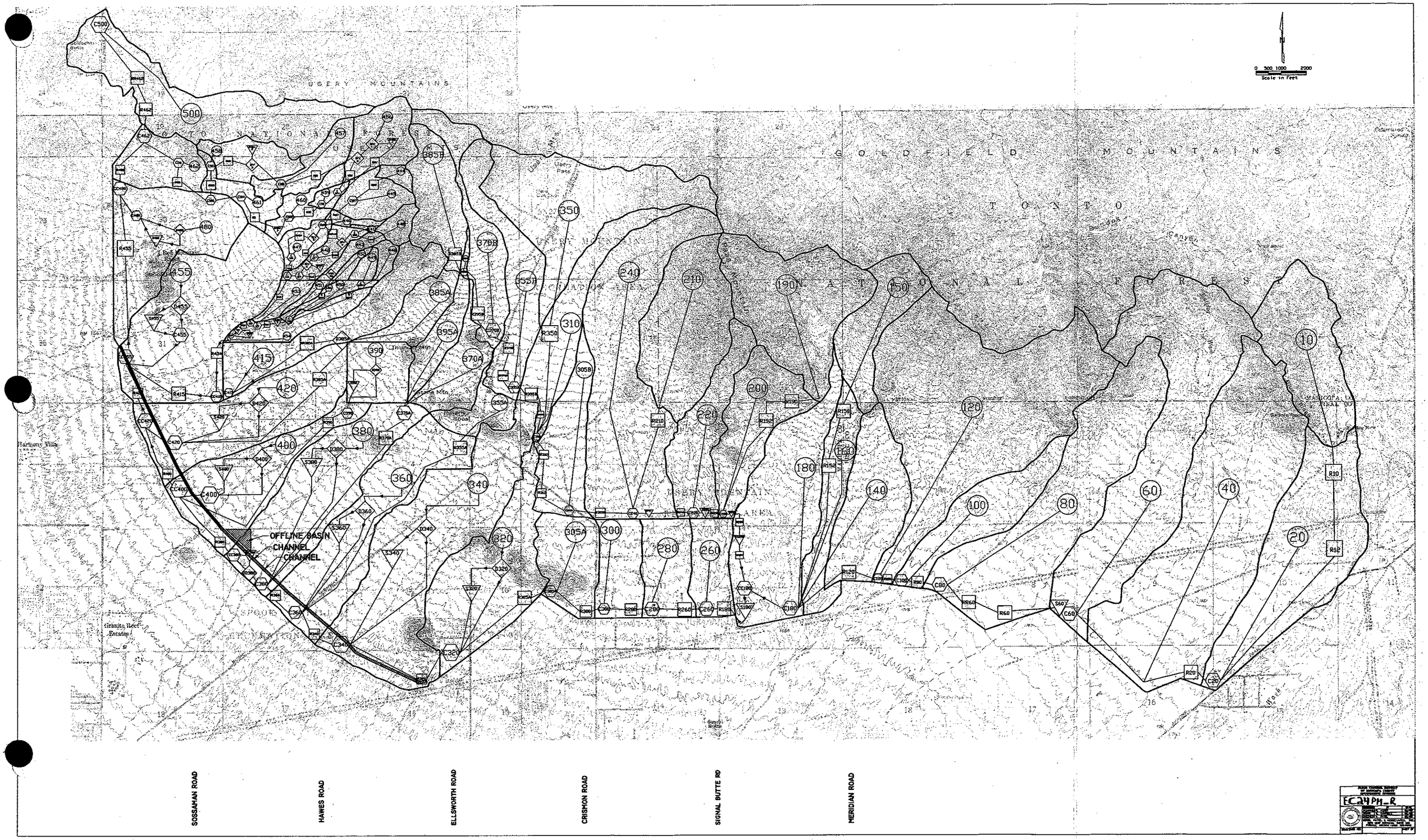
* - Divert flow into offline basin "SS380" before combining with flow from "380".

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


USERY MOUNTAINS
GOLDFIELD MOUNTAINS
TONTO NATIONAL FORESTS
OFFLINE BASIN
CHANNEL
CHANNEL
Harmony Villa
Granite Reef Estates
Tonto Canyon
Usery Pass
Scale in Feet
SOSSAMAN ROAD
HAWES ROAD
ELLSWORTH ROAD
CRISMON ROAD
SIGNAL BUTTE RD
MERIDIAN ROAD
EC24PM_R

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1****************************************
*                                      *
*   FLOOD HYDROGRAPH PACKAGE  (HEC-1)  *
*             JUN   1998               *
*           VERSION 4.1                *
*                                      *
*  RUN DATE   02MAY01  TIME  09:20:23  *
*                                      *
****************************************
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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

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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 Model with Pass Mountain Diversion, No Spook Hill FRS
   3          ID   Storage Routing, Instead, Channel Routing Was Assumed.
              *
              *  SV, SQ, and SE cards for SR180 (Signal Butte FRS) are adjusted
              *  Wood/Patel, modified by SZ, 3/6/01
              *
              *  Original File Name: FC24PM4.DAT
              *  Modified File Name: EC24PM_R.DAT
              *
   4          ID   A CONSERVATIVE ESTIMATE WAS USED FOR THE LOCATION OF THE CENTROID FOR
   5          ID   PRECIPITATION VALUES
   6          ID
   7          ID   FLOODWAY CHANNEL ROUTING INFORMATION FOR SIGNAL BUTTE, SPOOK HILL &
   8          ID   BULLDOG FLOODWAY WAS FROM MCFCD AS-BUILT PLANS
   9          ID
  10          ID
  11          ID   UPDATE TO EXISTING CONDITION 24-HR 100-YR MODEL RUN BASED ON RE-ALIGNMENT
  12          ID   OF SUB-BASIN BOUNDARIES FOR SUB-BASINS 385 (REDUCED) & 415 (ENLARGED)
  13          ID   UPDATE BASED ON INFORMATION FROM 2' CONTOUR MAPPING.
  14          ID
  15          ID   ANALYSIS PERFORMED BY WOOD/PATEL; MW;        07/27/00  FILE: S24CE30Z.DAT
  16          ID
  17          ID   DDM MCUHP1 SPOOK HILL AMDP - EXISTING CONDITIONS MODEL - 100YR, 24HR STORM
              *       Original File Name: S24CE30.DAT
              *       Modified File Name: S24CE30Z.DAT
              *       Changes: 1) No. of Hydrograph Ordinates Increased to 2000
              *                2) SE, SV and SQ Cards for the Three (3) FRSs Updated
              *                3) Sediment Volumes Subtracted from Storage Volumes
              *                4) Old Elevation Datum Adjusted to NAVD 1988
              *       Wood/Patel, July 19, 2000.  SZ.
              *
              *
              *  As of 2/15/1 the following has been added to update the base hec1 file
              *  EC24base.dat.  These changes were taken from S24ce14 which was the current
              *  HEC model being used for the Pass Mountain alternatives.
              *  updates and changes to the model are as follows:
              *
              *  This new file will be named (labeled):   FC24PM4.dat
              *              F  =  Future Condition
              *              C  =  100-year return period
              *              24 =  Storm Duration
              *              PM =  Pass Mountain alternative
              *
              *
              *  MAJOR ASSUMPTIONS / CRITERIA / CHANGES FROM PREVIOUS MODELS:   2/15/1
              *
              *      1. Refinement of areas for sub-basins 200, 210, 220, 240, 260, 280, 300,
              *         305A&B, 310, 320, 340, 355A&B, 360, 370A&B, 380, 385A&B, 395A&B and
              *           415 using CAD as follows:
              *              Area of 200  changes to  .530 sq. miles
              *              Area of 210  changes to  .792 sq. miles
              *              Area of 220  changes to  .473 sq. miles
              *              Area of 240  changes to 1.408 sq. miles
              *              Area of 260  changes to  .262 sq. miles
              *              Area of 280  changes to  .319 sq. miles
              *              Area of 300  changes to  .289 sq. miles
              *              Area of 305A changes to  .372 sq. miles
              *              Area of 305B changes to  .414 sq. miles
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*              Area of 310  changes to  .494 sq. miles
*              Area of 320  changes to  .866 sq. miles
*              Area of 340  changes to 1.482 sq. miles
*              Area of 355A changes to  .163 sq. miles
*              Area of 355B changes to  .513 sq. miles
*              Area of 360  changes to  .880 sq. miles
*              Area of 370A changes to  .408 sq. miles
*              Area of 370B changes to  .264 sq. miles
*              Area of 380  changes to  .898 sq. miles
*              Area of 385A changes to  .213 sq. miles
*              Area of 385B changes to  .375 sq. miles
*              Area of 395A changes to  .182 sq. miles
*              Area of 395B changes to  .017 sq. miles
*              Area of 415  changes to  .547 sq. miles
*
*       2. The numbering system used when a sub-basin is further divide
*          is changed to a number letter combination from a number only system.
*          Now when a sub-basin is divided further, the original number  will
*          remain and a letter a,b,c will be attached depending on the
*          number of pieces that the sub-basin is divided into. This applies
*          only to future condition models.
*
*       3. The slope of R455 is incorrect and will change from .002 ft/ft
*          to .0002 ft/ft.
*
*       4. Changes to sub-basin areas will result in changes to soil type
*          percentages.  All changes to areas and soil make-up have been
*          obtained using CAD instead of hand planimeter.
*
*       5. Signal Butte Floodway reach lengths have been updated using
*          the as built plans dated March of 1983.  Hec routings affected by
*          this are as follows:
*               R180 increased 100' from 1500' to 1600'
*               R260 remained unchanged.
*               R280 decreased 400' from 2500' to 2100'
*               R300 increased 300' from 2200' to 2500'
*               RR300 is relabeled R305
*               R305 decreased 50' from 6050' to 6000'
*
*       6. "N - Steps" balanced using normal depth channel calcs and limiting
*          divergence from the resulting value by no more than 30%
*          higher or lower.
*
*       7. Sub-Basin 380 detention basin outflow conditions updated using
*          rating curve based on 2' diameter low flow pipe and weir flow
*          after 3' ponding condition.
*
*       8. Sub-Basins 320, 340, 360, 380, 400, and 420 have channel routings
*          added to take the place of Spook Hill FRS
*
*       9. Dentention basins in Sub-Basin 300 and Sub-Basin 305 are removed
*          and not utilized in this model FC24PM4.dat
*
*
*DIAGRAM
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

  18          IT       2                    2000
  19          IO       5
  20          IN      15
  21          JD    3.81    0.01
  22          PC    .000    .002    .005    .008    .011    .014    .017    .020    .023    .026
  23          PC    .029    .032    .035    .038    .041    .044    .048    .052    .056    .060
  24          PC    .064    .068    .072    .076    .080    .085    .090    .095    .100    .105
  25          PC    .110    .115    .120    .126    .133    .140    .147    .155    .163    .172
  26          PC    .181    .191    .203    .218    .236    .257    .283    .387    .663    .707
  27          PC    .735    .758    .776    .791    .804    .815    .825    .834    .842    .849
  28          PC    .856    .863    .869    .875    .881    .887    .893    .898    .903    .908
  29          PC    .913    .918    .922    .926    .930    .934    .938    .942    .946    .950
  30          PC    .953    .956    .959    .962    .965    .968    .971    .974    .977    .980
  31          PC    .983    .986    .989    .992    .995    .998   1.000
  32          JD   3.787    1.00
  33          JD   3.677    5.80
  34          JD   3.574   10.66
  35          JD   3.539   13.70
  36          JD   3.467   20.00
  37          JD   3.315   50.00
              * DDM   ***** Updated *****

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

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

 54          KK     R12
 55          KM   ROUTING OF FLOW FROM R12 TO SUB-BASIN 20
 56          RS       6    FLOW      -1
 57          RC    .045     .03    .045    4500     .01
 58          RX       0       1      45    52.5    72.5      80     124     125
 59          RY       4     2.5     2.5       0       0     2.5     2.5       4
             * DDM   ***** Updated *****
1                                        HEC-1 INPUT                                                    PAGE  3

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

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

 70          KK     C20
 71          KM   HYDROGRAPH COMBINATION OF SUB-BASINS 10 AND 20
 72          HC       2
             * DDM   ***** Preserved *****

 73          KK     R20
 74          KM        ROUTE FLOW THROUGH BULLDOG FLOODWAY FROM APACHE JUNCTION FRS
 75          RS       1    FLOW      -1
 76          RC    .016    .016    .016     990    .004
 77          RX       0       5       7    14.5    34.5      42      44      50
 78          RY       4       2       2       0       0       2       2       4
             * DDM   ***** Updated *****

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

 89          KK      60
 90          KM   SUB-BASIN 60
 91          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
 92          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .990
 93          KM     L = 4.19  Kb = .038  Adj. Slope =  209.6
 94          BA   1.746
 95          LG    .330    .350   5.800    .190   9.000
 96          UC    .596    .477
 97          UA       0       3       5       8      12      20      43      75      90      96
 98          UA     100
             * DDM   ***** Preserved *****
1                                        HEC-1 INPUT                                                    PAGE  4

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

 99          KK     C60
100          KM   HYDROGRAPH COMBINATION FOR APACHE JUNCTION FRS
             *      1       2
101          HC       3
             * DDM   ***** Preserved *****

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

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

117          KK    RR60
118          KM   ROUTE FLOW FROM BULLDOG FLOODWAY TO SUB-BASIN 80
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 119          RS       3    FLOW      -1
 120          RC    .016    .016    .016    3500    .005
 121          RX       0       1       2     2.1     7.1     7.2       8       9
 122          RY     3.5     3.5     3.5       0       0     3.5     3.5     3.5
              * DDM   ***** Updated *****

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

 133          KK     C80
 134          KM   HYDROGRAPH COMBINATION FOR FLOW FROM APACHE JUNCTION FRS & SUB-BASIN 80
 135          HC       2   1.475
              * DDM   ***** Preserved *****
1                                    HEC-1 INPUT                                          PAGE  5

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

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

 142          KK     100
 143          KM   SUB-BASIN 100
 144          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
 145          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .997
 146          KM     L = 1.94  Kb = .046  Adj. Slope =  108.0
 147          BA    .484
 148          LG    .320    .290   5.100    .260   3.000
 149          UC    .533    .473
 150          UA       0       5      16      30      65      77      84      90      94      97
 151          UA     100
              * DDM   ***** Preserved *****

 152          KK    C100
 153          KM   HYDROGRAPH COMBINATION FOR FLOW FROM SUB-BASIN 80 & 100
 154          HC       2
              * DDM   ***** Preserved *****

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

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

 171          KK    C120
 172          KM   HYDROGRAPH COMBINATION FOR FLOW FROM SUB-BASIN 100 & 120
 173          HC       2
              * DDM   ***** Preserved *****
1                                    HEC-1 INPUT                                          PAGE  6

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

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

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

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

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

206          KK    R152
207          KM   ROUTING OF FLOW FROM R152 TO SUB-BASIN 160
208          RS       3    FLOW      -1
209          RC    .045     .03    .045    5900    .019
210          RX       0       1       2       8      33      39      40      41
211          RY       2       2       2       0       0       2       2       2
             * DDM   ***** Updated *****

212          KK     160
213          KM   SUB-BASIN 160
214          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
215          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .998
216          KM     L = 2.10  Kb = .047  Adj. Slope =  129.0
217          BA    .369
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LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

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

222          KK     180
223          KM   SUB-BASIN 180
224          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
225          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .994
226          KM     L = 2.42  Kb = .041  Adj. Slope =  140.0
227          BA   1.000
228          LG    .350    .350   4.150    .430    .000
229          UC    .571    .403
230          UA       0       3       5       8      12      20      43      75      90      96
231          UA     100
             * DDM   ***** Preserved *****

232          KK    C180
233          KM   HYDROGRAPH COMBINATION FOR SIGNAL BUTTE FRS
234          HC       5
             * DDM   ***** Updated *****

235          KK    385B
236          KM   SUB-BASIN 385B
237          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
238          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .998
239          KM     L = 1.47  Kb = .047  Adj. Slope =  315.0
240          BA    .375
241          LG    .350    .400   6.000    .170  17.000
242          UC    .287    .221
243          UA       0       3       5       8      12      20      43      75      90      96
244          UA     100
             * DDM   ***** Preserved *****

245          KK   R385B
246          KM   CHANNEL GEOMETRY OBTAINED FROM 2' CONTOUR MAPPING & AERIAL MAPPING
247          KM   ROUTING OF FLOW FROM SUB-BASIN 385B TO 395B
248          KM   OVERBANK MANNINGS INCREASED TO ACCOUNT FOR SKEWED FLOW TO NATURAL
249          KM   WATERCOURSE FLOW PATH
250          RS       1    FLOW      -1
251          RC     .07     .03     .07     500    .045
252          RX       0       1       3       9      39      45      46      47
253          RY       3       2       2       0       0       2       2       3
             * DDM   ***** Updated *****

254          KK    395B
255          KM   SUB-BASIN 395B
256          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
257          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF 1.000
258          KM     L =  .71  Kb = .066  Adj. Slope =  249.8
259          BA    .017
260          LG    .350    .350   4.300    .400    .000
261          UC    .262    .650
262          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

 263          UA     100
              * DDM   ***** Preserved *****

 264          KK   C395B
 265          KM   HYDROGRAPH COMBINATION OF SUB-BASINS 383 & 393
 266          HC       2
              * DDM   ***** Preserved *****

 267          KK   R395B
 268          KM   CHANNEL GEOMETRY OBTAINED FROM 2' CONTOUR MAPPING & AERIAL MAPPING
 269          KM   ROUTING OF FLOW FROM SUB-BASIN 393 TO SUB-BASIN 365
 270          RS       2    FLOW      -1
 271          RC    .055     .03    .055    3630    .045
 272          RX       0       1       3       9      39      45      46      47
 273          RY       3       2       2       0       0       2       2       3
              * DDM   ***** Updated *****

 274          KK    370B
 275          KM   SUB-BASIN 370B
 276          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
 277          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .998
 278          KM     L = 2.20  Kb = .049  Adj. Slope =  299.5
 279          BA    .264
 280          LG    .350    .350   4.800    .290   5.000
 281          UC    .408    .550
 282          UA       0       3       5       8      12      20      43      75      90      96
 283          UA     100
              * DDM   ***** Preserved *****

 284          KK   C370B
 285          KM   HYDROGRAPH COMBINATION OF SUB-BASINS 395B & 370B
 286          HC       2
              * DDM   ***** Preserved *****

 287          KK   R370B
 288          KM   CHANNEL GEOMETRY OBTAINED FROM 2' CONTOUR MAPPING & AERIAL MAPPING
 289          KM   ROUTING OF FLOW FROM SUB-BASIN 370B TO ROUTING RR370B
 290          RS       2    FLOW      -1
 291          RC    .045     .03    .045    1110    .025
 292          RX       0       1      50      56      76      82     131     132
 293          RY       3       2       2       0       0       2       2       3
              * DDM   ***** Preserved *****

 294          KK  RR370B
 295          KM   CHANNEL GEOMETRY OBTAINED FROM 2' CONTOUR MAPPING & AERIAL MAPPING
 296          KM   ROUTING OF FLOW FROM RR370B TO SUB-BASIN 355B
 297          KM   OVERBANK MANNINGS INCREASED TO ACCOUNT FOR SKEWED FLOW TO NATURAL
 298          KM   WATERCOURSE FLOW PATH
 299          RS       3    FLOW      -1
 300          RC     .07     .03     .07    1550    .008
 301          RX       0       3       5      11      41      47     147     247
 302          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

 303          KK    355B
 304          KM   SUB-BASIN 355B
 305          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
 306          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .997
 307          KM     L = 2.41  Kb = .045  Adj. Slope =  298.2
 308          BA    .513
 309          LG    .350    .350   4.400    .370   1.000
 310          UC    .421    .419
 311          UA       0       3       5       8      12      20      43      75      90      96
 312          UA     100
              * DDM   ***** Preserved *****

 313          KK   C355B
 314          KM   HYDROGRAPH COMBINATION OF SUB-BASINS 370B & 355B
 315          HC       2
              * DDM   ***** Preserved *****

 316          KK   R355B
 317          KM   CHANNEL GEOMETRY OBTAINED FROM 2' CONTOUR MAPPING & AERIAL MAPPING
 318          KM   ROUTING OF FLOW FROM SUB-BASIN 355B TO ROUTING RR355B
 319          KM   OVERBANK MANNINGS INCREASED TO ACCOUNT FOR SKEWED FLOW TO NATURAL
 320          KM   WATERCOURSE FLOW PATH
 321          RS       3    FLOW      -1
 322          RC     .07     .03     .07     936    .009
 323          RX       0       3       5      11      41      47     172     302
 324          RY     3.5     2.5       2       0       0       2     2.5     3.5
              * DDM   ***** Preserved *****

 325          KK  RR355B
 326          KM   CHANNEL GEOMETRY OBTAINED FROM 2' CONTOUR MAPPING & AERIAL MAPPING
 327          KM   ROUTING OF FLOW FROM R355B TO SUB-BASIN 310
 328          RS       1    FLOW      -1
 329          RC    .045     .03    .045    1725     .03
 330          RX       0       1      25      31      51      57      81      82
 331          RY       3       2       2       0       0       2       2       3
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          * DDM   ***** Updated *****

332       KK     350
333       KM   SUB-BASIN 350
334       KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
335       KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .994
336       KM     L = 2.22  Kb = .042  Adj. Slope =  315.0
337       BA    .970
338       LG    .350    .350   4.550    .340   4.000
339       UC    .367    .234
340       UA       0       3       5       8      12      20      43      75      90      96
341       UA     100
          * DDM   ***** Preserved *****
1                                   HEC-1 INPUT                                          PAGE 10

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

342       KK    R350
343       KM   CHANNEL GEOMETRY OBTAINED FROM 2' CONTOUR MAPPING & AERIAL MAPPING
344       KM   ROUTING OF MAIN FLOW FROM DIVERSION OF SUB-BASIN 350 TO SUB-BASIN 310
345       RS       9    FLOW      -1
346       RC    .045    .035    .045    7650    .025
347       RX       0       1      50      56      86      92     141     142
348       RY       3       2       2       0       0       2       2       3
          * DDM   ***** Updated *****

349       KK     310
350       KM   SUB-BASIN 310
351       KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
352       KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .997
353       KM     L = 2.65  Kb = .046  Adj. Slope =  285.6
354       BA    .494
355       LG    .350    .350   3.910    .480    .000
356       UC    .483    .538
357       UA       0       3       5       8      12      20      43      75      90      96
358       UA     100
          * DDM   ***** Preserved *****

359       KK    C310
360       KM   HYDROGRAPH COMBINATION OF SUB-BASINS 350 & 310
361       HC       3
          * DDM   ***** Preserved *****

362       KK    R310
363       KM   CHANNEL GEOMETRY OBTAINED FROM 2' CONTOUR MAPPING & AERIAL MAPPING
364       KM   ROUTING OF FLOW FROM SUB-BASIN 310 TO R312
365       RS       3    FLOW      -1
366       RC    .045     .03    .045    2850    .021
367       RX       0       1     100     106     126     132     231     232
368       RY     3.5       2       2       0       0       2       2     3.5
          * DDM   ***** Preserved *****

369       KK    R312
370       KM   CHANNEL GEOMETRY OBTAINED FROM 2' CONTOUR MAPPING & AERIAL MAPPING
371       KM   ROUTING OF FLOW FROM SUB-BASIN 310 TO 305
372       KM   OVERBANK MANNINGS INCREASED TO ACCOUNT FOR SKEWED FLOW TO NATURAL
373       KM   WATERCOURSE FLOW PATH
374       RS       3    FLOW      -1
375       RC     .07     .03     .07    2560   .0124
376       RX       0       3       5      11      61      67     200     395
377       RY       4     2.5       2       0       0       2     2.5       4
          * DDM   ***** Updated *****

378       KK    305B
379       KM   SUB-BASIN 305B
380       KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
381       KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .998
382       KM     L = 1.65  Kb = .047  Adj. Slope =  127.0
383       BA    .414
384       LG    .350    .350   4.700    .300    .000
385       UC    .467    .392
1                                   HEC-1 INPUT                                          PAGE 11

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

386       UA       0       3       5       8      12      20      43      75      90      96
387       UA     100
          * DDM   ***** Preserved *****

388       KK   C305B
389       KM   HYDROGRAPH COMBINATION OF SUB-BASINS 310 & 295
390       HC       2
          * DDM   ***** Preserved *****

391       KK   R305B
392       KM   CHANNEL GEOMETRY OBTAINED FROM 2' CONTOUR MAPPING & AERIAL MAPPING
393       KM   ROUTING OF FLOW FROM SUBBASIN 305B TO BEGINNING OF PASS MTN. DIVERSION.
394       KM   OVERBANK MANNINGS INCREASED TO ACCOUNT FOR SKEWED FLOW TO NATURAL
395       KM   WATERCOURSE FLOW PATH
396       RS       3    FLOW      -1
397       RC     .07     .03     .07    1100   .013
398       RX       0       3       5      11      51      57     200     400
399       RY       4     2.5       2       0       0       2     2.5       4
          * DDM   ***** Updated *****

400       KK     210
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401          KM   SUB-BASIN 210
402          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
403          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .995
404          KM     L = 1.84  Kb = .043  Adj. Slope =  315.0
405          BA    .792
406          LG    .350    .360   6.800    .130   4.000
407          UC    .313    .189
408          UA       0       3       5       8      12      20      43      75      90      96
409          UA     100
             * DDM   ***** Preserved *****

410          KK    R210
411          KM   ROUTING OF FLOW FROM SUB-BASIN 210 TO SUB-BASIN 220
412          RS       2    FLOW      -1
413          RC    .045     .03    .045    5100    .022
414          RX       0       1       2      14      34      46      47      48
415          RY       4       4       4       0       0       4       4       4
             * DDM   ***** Updated *****

416          KK     240
417          KM   SUB-BASIN 240
418          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
419          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .992
420          KM     L = 2.96  Kb = .039  Adj. Slope =  305.5
421          BA   1.408
422          LG    .350    .370   5.300    .230   2.000
423          UC    .417    .274
424          UA       0       3       5       8      12      20      43      75      90      96
425          UA     100
             * DDM   ***** Preserved *****
1                                        HEC-1 INPUT                                          PAGE 12

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

426          KK    C240
427          KM   HYDROGRAPH COMBINATION FOR SUB-BASIN 240 & 220
428          HC       3
             * DDM   ***** Preserved *****

429          KK    S240
430          KM   DIGITAL MAPPING SHOWS SEDIMENTATION.  FOR SIMPLICITY NO ADDITIONAL
431          KM   SEDIMENTATION WILL BE CONSIDERED FOR STORAGE ROUTING ANALYSIS. 5/11/00
432          KM    WEIR GEOMETRY OBTAINED FROM AS-BUILT PLANS @ PASS MTN. DIVERSION.
433          KM   WEIR STORAGE DATA OBTAINED FROM 2' CONTOUR MAPPING.
             *   Weir Width Changed from 42' to 45'
434          RS       1    STOR       0
435          SA    1.38    14.2    36.5
436          SE       0       5      11
437          SS       5      45       3     1.5
             * DDM   ***** Preserved *****

438          KK    R240
439          KM   ROUTE FLOW FROM SUB-BASIN 240 TO SUB-BASIN 220
440          KM   PASS MOUNTAIN DIVERSION
441          RS       3    FLOW      -1
442          RC    .035    .025    .035    1800    .005
443          RX       0      15      30      39      69      81      96     111
444          RY     4.6     3.3       3       0       0       3       3       4
             * DDM   ***** Updated *****

445          KK     220
446          KM   SUB-BASIN 220
447          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
448          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .997
449          KM     L = 1.85  Kb = .046  Adj. Slope =  315.0
450          BA    .473
451          LG    .350    .350   7.000    .120   5.000
452          UC    .325    .266
453          UA       0       3       5       8      12      20      43      75      90      96
454          UA     100
             * DDM   ***** Preserved *****

455          KK    C220
456          KM   HYDROGRAPH COMBINATION FOR SUB-BASIN 240 & 220
457          HC       2
             * DDM   ***** Preserved *****

458          KK    S220
459          KM   DIGITAL MAPPING SHOWS SEDIMENTATION.  FOR SIMPLICITY NO ADDITIONAL
460          KM   SEDIMENTATION WILL BE CONSIDERED FOR STORAGE ROUTING ANALYSIS. 5/11/00
461          KM    WEIR GEOMETRY OBTAINED FROM AS-BUILT PLANS @ PASS MTN. DIVERSION.
462          KM   WEIR STORAGE DATA OBTAINED FROM 2' CONTOUR MAPPING.
463          RS       1    STOR       0
464          SA     .78     4.1    13.7
465          SE       0       3      10
466          SS       3      65       3     1.5
             * DDM   ***** Preserved *****
1                                        HEC-1 INPUT                                          PAGE 13

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

467          KK    R220
468          KM   ROUTE FLOW FROM SUB-BASIN 220 TO SUB-BASIN 200
469          KM   PASS MOUNTAIN DIVERSION
470          RS       3    FLOW      -1
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471          RC    .035    .025    .035    1250    .005
472          RX       0      50     100     109     139     148     178     184
473          RY       5       4       3       0       0       3       3       5
             * DDM   ***** Updated *****

474          KK     190
475          KM   SUB-BASIN 190
476          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
477          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .994
478          KM     L = 1.91  Kb = .042  Adj. Slope =  315.0
479          BA    .918
480          LG    .350    .390   5.800    .190   8.000
481          UC    .321    .185
482          UA       0       3       5       8      12      20      43      75      90      96
483          UA     100
             * DDM   ***** Preserved *****

484          KK    R190
485          KM   ROUTING OF FLOW FROM SUB-BASIN 190 TO SUB-BASIN 200
486          RS       2    FLOW      -1
487          RC    .045     .03    .045    4740     .03
488          RX       0       1       2      17      37      52      53      54
489          RY       5       5       5       0       0       5       5       5
             * DDM   ***** Preserved *****

490          KK    R192
491          KM   ROUTING OF FLOW FROM SUB-BASIN 190 TO SUB-BASIN 200
492          RS       3    FLOW      -1
493          RC    .045    .035    .045    2200    .018
494          RX       0       1      50      59      79      88     137     138
495          RY     4.5       3       3       0       0       3       3     4.5
             * DDM   ***** Updated *****

496          KK     200
497          KM   SUB-BASIN 200
498          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
499          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .997
500          KM     L = 1.55  Kb = .045  Adj. Slope =  306.9
501          BA    .530
502          LG    .350    .390   5.700    .200  10.000
503          UC    .296    .195
504          UA       0       3       5       8      12      20      43      75      90      96
505          UA     100
             * DDM   ***** Preserved *****
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LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

506          KK    C200
507          KM   HYDROGRAPH COMBINATION FOR SUB-BASIN 220 & 200
508          HC       3
             * DDM   ***** Preserved *****

509          KK    S200
510          KM    WEIR GEOMETRY OBTAINED FROM AS-BUILT PLANS @ PASS MTN. DIVERSION.
511          KM   WEIR STORAGE DATA OBTAINED FROM 2' CONTOUR MAPPING.
512          RS       1    STOR       0
513          SA    2.56     3.1     9.4
514          SE       0       3      10
515          SS       3     112       3     1.5
             * DDM   ***** Preserved *****

516          KK    R200
517          KM   ROUTE FLOW FROM SUB-BASIN 200 TO SIGNAL BUTTE FRS through storage
518          RS       1    FLOW      -1
519          RC    .035    .025    .035     650    .005
520          RX       0       1       2      17     117     132     133     134
521          RY       5       5       5       0       0       5       5       5
             * DDM   ***** Preserved *****

522          KK   SS200
523          KM    WEIR GEOMETRY OBTAINED FROM AS-BUILT PLANS @ PASS MTN. DIVERSION.
524          KM   WEIR STORAGE DATA OBTAINED FROM 2' CONTOUR MAPPING.
             * KO     1       2
525          RS       1    STOR       0
526          SA       8     9.2     9.2
527          SE       0       7      10
528          SS       7     251       3     1.5
             * DDM   ***** Preserved *****

529          KK   RR200
530          KM   ROUTE FLOW FROM SUB-BASIN 200 TO SIGNAL BUTTE FRS
531          RS       3    FLOW      -1
532          RC    .035    .025    .035    3150    .005
533          RX       0       1       2      17     117     132     133     134
534          RY       5       5       5       0       0       5       5       5
             * ******************************************************************
             * ************ END OF PASS MOUNTAIN ALTERNATIVE UPDATE. **************
             *
             * DDM   ***** Preserved *****

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

 538          KK    S180
 539          KM   SIGNAL BUTTE FRS DATED 1/28/85
 540          KM   OUTLET PIPE=36"RCP; L= 147';  INLET INV.=1690; OUTLET INV.=1687
 541          KM   EMERGENCY SPILLWAY ELEV.=1712.4; PRINCIPLE SPILLWAY ELEV.=1701
 542          KM   STORAGE VOLUME BELOW PRINCIPLE SPILLWAY FOR SEDIMENT = 250 ACRE-FEET
 543          RS       1     STOR       0
 544          SV       0       92      226      462      742     1197     1418     1776     1941     3114
 545          SQ       0       40       42      392      532      596      620     1949     3032     6465
 546          SE      99      101      103      106      109      113    114.6      117      118      120
              *
              * SV      0     46.8      106      130    161.2    170.7    230.7    322.2      543      584
              * SV 812.9   1121.9   1470.1     1865
              * SE1791.9     1973   1794.1   1794.5     1795 1795.14     1796 1797.14 1799.42 1799.
              * SE1801.7     1804 1806.28 1808.57
              * SQ      0      .04      .08    105.2    297.6    364.8    384.6    409.7    455.6      462
              * SQ   2113     8156    15656    26656
              *        0        1      250      500      750     1060
              *        0    106.5    125.5    137.5      146      160
              *       90      101    104.5      107      109    112.4
              * DDM    ***** Preserved *****

 547          KK    R180
 548          KM   Routing length updated using Signal Butte Floodway plans dated March 1983
 549          KM   Routing length increased 100' from 1500' to 1600'    12/12/00
 550          KM   CHANNEL GEOMETRY FOR SIGNAL BUTTE FRS OBTAINED FROM AS-BUILT PLANS.
 551          KM   ROUTE FLOW FROM SIGNAL BUTTE FRS TO SUB-BASIN 260
 552          RS       3     FLOW      -1
 553          RC    .035     .025     .035     1600     .003
 554          RX       0        1        2     22.6     38.6     59.2       60       61
 555          RY     9.3      9.3      9.3        0        0      9.3      9.3      9.3
              * DDM    ***** Updated *****

 556          KK     260
 557          KM   SUB-BASIN 260
 558          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
 559          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .998
 560          KM     L =  .85  Kb = .049  Adj. Slope =   65.0
 561          BA    .262
 562          LG    .300     .190    6.600     .170   15.000
 563          UC    .379     .238
 564          UA       0        5       16       30       65       77       84       90       94       97
 565          UA     100
              * DDM    ***** Preserved *****

 566          KK    C260
 567          KM   HYDROGRAPH COMBINATION FOR OUTFLOW OF SIGNAL BUTTE FRS & SUB-BASIN 260
 568          HC       2     .262
              * DDM    ***** Preserved *****
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 569          KK    R260
 570          KM   Routing length updated using Signal Butte Floodway plans dated March 1983
 571          KM   Routing length unchanged     12/12/00
 572          KM   CHANNEL GEOMETRY FOR SIGNAL BUTTE FRS OBTAINED FROM AS-BUILT PLANS.
 573          KM   ROUTE FLOW FROM SUB-BASIN 260 TO SUB-BASIN 280
 574          RS       3     FLOW      -1
 575          RC    .035     .025     .035     2300     .003
 576          RX       0        1        2     23.4     43.4     64.8       65       66
 577          RY     9.7      9.7      9.7        0        0      9.7      9.7      9.7
              * DDM    ***** Updated *****

 578          KK     280
 579          KM   SUB-BASIN 280
 580          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
 581          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .998
 582          KM     L =  .82  Kb = .048  Adj. Slope =   79.0
 583          BA    .319
 584          LG    .300     .250    5.300     .290   15.000
 585          UC    .350     .189
 586          UA       0        5       16       30       65       77       84       90       94       97
 587          UA     100
              * DDM    ***** Preserved *****

 588          KK    C280
 589          KM   HYDROGRAPH COMBINATION FOR SUB-BASIN 260 & SUB-BASIN 280
 590          HC       2
              * DDM    ***** Preserved *****

 591          KK    R280
 592          KM   Routing length updated using Signal Butte Floodway plans dated March 1983
 593          KM   Routing length decreased 400' from 2500' to 2100'    12/12/00
 594          KM   CHANNEL GEOMETRY FOR SIGNAL BUTTE FRS OBTAINED FROM AS-BUILT PLANS.
 595          KM   ROUTE FLOW FROM SUB-BASIN 280 TO SUB-BASIN 300
 596          RS       3     FLOW      -1
 597          RC    .035     .025     .035     2100     .003
 598          RX       0        1        2     23.4     43.4     64.8       65       66
 599          RY     9.7      9.7      9.7        0        0      9.7      9.7      9.7
              *
              * DDM    ***** Updated *****
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600          KK     300
601          KM   SUB-BASIN 300
602          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
603          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .998
604          KM     L =  .82  Kb = .049  Adj. Slope =   98.0
605          BA    .289
606          LG    .320    .290   4.200    .480  11.000
607          UC    .346    .197
608          UA       0       5      16      30      65      77      84      90      94      97
609          UA     100
             * DDM   ***** Preserved *****
1                                        HEC-1 INPUT                                          PAGE 17

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

610          KK    C300
611          KM   HYDROGRAPH COMBINATION OF DIVERTED FLOW
612          HC       2
             * DDM   ***** Preserved *****

613          KK    R300
614          KM   Routing length updated using Signal Butte Floodway plans dated March 1983
615          KM   Routing length increased 300' from 2200' to 2500'    12/12/00
616          KM   CHANNEL GEOMETRY FOR SIGNAL BUTTE FRS OBTAINED FROM AS-BUILT PLANS.
617          KM   ROUTE FLOW FROM SUB-BASIN 300 TO START OF FLOODWAY CONCRETE CHANNEL
618          RS       2    FLOW      -1
619          RC    .035    .025    .035    2500    .003
620          RX       0       1       2    23.4    55.4    76.8      77      78
621          RY     9.7     9.7     9.7       0       0     9.7     9.7     9.7
             * DDM   ***** Updated *****

622          KK    305A
623          KM   SUB-BASIN 305A
624          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
625          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .998
626          KM     L = 1.20  Kb = .047  Adj. Slope =   92.0
627          BA    .372
628          LG    .340    .330   4.500    .370  11.000
629          UC    .433    .297
630          UA       0       5      16      30      65      77      84      90      94      97
631          UA     100
             * DDM   ***** Preserved *****

632          KK   C305A
633          KM   HYDROGRAPH COMBINATION OF SUB-BASIN 280 & 300 & 305A
634          HC       2
             * DDM   ***** Preserved *****

635          KK   R305A
636          KM   Routing length updated using Signal Butte Floodway plans dated March 1983
637          KM   Routing length decreased 50' from 6050' to 6000'     12/12/00
638          KM   CHANNEL GEOMETRY FOR SPOOK HILL FRS OBTAINED FROM AS-BUILTS PLANS.
639          KM   CONTINUE TO ROUTE FLOW WITHIN CONCRETE CHANNEL TO SPOOK HILL FRS
640          RS       2    FLOW      -1
641          RC    .016    .016    .016    6000   .0146
642          RX       0       1       2     2.1    16.1    16.2      17      18
643          RY     7.5     7.5     7.5       0       0     7.5     7.5     7.5
             *      1       2
             * DDM   ***** Updated *****

644          KK     320
645          KM   SUB-BASIN 320
646          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
647          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .995
648          KM     L = 2.04  Kb = .042  Adj. Slope =  118.0
649          BA    .865
650          LG    .310    .290   4.500    .380  15.000
651          UC    .508    .335
652          UA       0       5      16      30      65      77      84      90      94      97
1                                        HEC-1 INPUT                                          PAGE 18

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

653          UA     100
             * DDM   ***** Preserved *****

654          KK    D320
655          KM        DIVERT FLOW INTO ONLINE  DETENTION BASIN
656          KM   DETENTION/RETENTION BASINS LOCATED WITHIN THREE SUBDIVISIONS
657          KM   SIERRA HEIGHTS       FALCON RIDGE    & MARBLE CREEK
658          KM        MAXIMUM VOLUME DIVERSION = 12.27acre-feet
             *      1
659          DT   BS320   12.27
660          DI       0   10000
661          DQ       0   10000
             * DDM   ***** Preserved *****

662          KK   RT320
663          KM   RETRIEVE FLOW FROM DIVERSION INTO ONLINE BASIN
664          DR   BS320
             * DDM   ***** Preserved *****

665          KK    S320
666          KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
667          KM   12.27 ACRE-FEETx43560/36x3600=4.1cfs
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            *      1
668         RS       1    STOR       0
669         SV       0     .01    12.3
670         SQ       0     3.0     4.2
            * DDM   ***** Preserved *****

671         KK    C320
672         KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
673         HC       3
            * ADD ROUTING ALONG SPOOK HILL FRS
            * DDM   ***** Preserved *****

674         KK    R320
675         KM   ROUTE FLOW THROUGH SPOOK HILL FRS FROM JUNCTION OF BROWN & ELLSWORTH ROAD
676         KM   TO JUST NORTH OF JUNCTION OF MCDOWELL & POWER RD.
677         RS       9    FLOW      -1
678         RC    .035    .035    .035    4500   .0007
679         RX       0       9      50      68     198     206     267     275
680         RY     100      97      97      91      91      97      97     100
            * DDM   ***** Updated *****

681         KK     340
682         KM   SUB-BASIN 340
683         KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
684         KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .991
685         KM     L = 2.40  Kb = .042  Adj. Slope =  160.0
686         BA   1.482
687         LG    .280    .280   4.150    .520  20.000
688         UC    .512    .284
689         UA       0       5      16      30      65      77      84      90      94      97
690         UA     100
            * DDM   ***** Preserved *****
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LINE        ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

691         KK    D340
692         KM        DIVERT FLOW INTO ONLINE  DETENTION BASIN
693         KM   DETENTION/RETENTION BASINS LOCATED WITHIN THREE SUBDIVISIONS
694         KM   GRANDVIEW ESTATES    BOULDER MOUNTAIN & 33% OF MESA HIGHLANDS
695         KM        MAXIMUM VOLUME DIVERSION = 56.0 acre-feet
            *      1
696         DT   BS340      56
697         DI       0   10000
698         DQ       0   10000
            * DDM   ***** Preserved *****

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

702         KK    S340
703         KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
704         KM    56.0 ACRE-FEETx43560/36x3600=18.8cfs
            *      1
705         RS       1    STOR       0
706         SV       0     .01      56
707         SQ       0     3.0    18.9
            * DDM   ***** Preserved *****

708         KK    C340
            * KO     1       2
709         KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
710         HC       3
            * ADD ROUTING ALONG SPOOK HILL FRS
            * DDM   ***** Preserved *****

711         KK    R340
712         KM   ROUTE FLOW THROUGH SPOOK HILL FRS FROM JUNCTION OF BROWN & ELLSWORTH ROAD
713         KM   TO JUST NORTH OF JUNCTION OF MCDOWELL & POWER RD.
714         RS       5    FLOW      -1
715         RC    .035    .035    .035    2300   .0007
716         RX       0       9      50      68     233     241     307     315
717         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 *****

718         KK    355A
719         KM   SUB-BASIN 355A
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  .999
722         KM     L =  .80  Kb = .052  Adj. Slope =  125.0
723         BA    .163
724         LG    .320    .290   4.550    .360  14.000
725         UC    .308    .236
726         UA       0       5      16      30      65      77      84      90      94      97
727         UA     100
            * DDM   ***** Preserved *****
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LINE        ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

728         KK   R355A
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729          KM   CHANNEL GEOMETRY OBTAINED FROM 2' CONTOUR MAPPING.
730          KM   ROUTING OF FLOW FROM SUB-BASIN 355A TO SUB-BASIN 360
731          RS       9    FLOW      -1
732          RC    .045    .035    .045   10100    .026
733          RX       0       1      40      46      56      62     102     103
734          RY       3       2       2       0       0       2       2       3
             * DDM   ***** Updated *****

735          KK     360
736          KM   SUB-BASIN 360
737          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
738          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .995
739          KM     L = 2.10  Kb = .046  Adj. Slope =  124.0
740          BA    .880
741          LG    .280    .290   4.100    .520  15.000
742          UC    .571    .387
743          UA       0       5      16      30      65      77      84      90      94      97
744          UA     100
             * DDM   ***** Preserved *****

745          KK    D360
746          KM        DIVERT FLOW INTO ONLINE  DETENTION BASIN
747          KM   DETENTION/RETENTION BASINS LOCATED WITHIN 33% OF MESA HIGHLANDS
748          KM        MAXIMUM VOLUME DIVERSION = 28.6 acre-feet
             *      1
749          DT   BS360    28.6
750          DI       0   10000
751          DQ       0   10000
             * DDM   ***** Preserved *****

752          KK   RT360
753          KM   RETRIEVE FLOW FROM DIVERSION INTO ONLINE BASIN
754          DR   BS360
             * DDM   ***** Preserved *****

755          KK    S360
756          KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
757          KM    28.6 ACRE-FEETx43560/36x3600=9.6cfs
758          RS       1    STOR       0
759          SV       0     .01    28.6
760          SQ       0     3.0     9.6
             * DDM   ***** Preserved *****

761          KK    C360
762          KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
763          HC       4
             * ADD ROUTING ALONG SPOOK HILL FRS
             * DDM   ***** Preserved *****
                                        HEC-1 INPUT                                          PAGE 21
LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

764          KK    R360
765          KM   ROUTE FLOW THROUGH SPOOK HILL FRS FROM JUNCTION OF BROWN & ELLSWORTH ROAD
766          KM   TO JUST NORTH OF JUNCTION OF MCDOWELL & POWER RD.
767          RS       6    FLOW      -1
768          RC    .035    .035    .035    2600   .0007
769          RX       0       9      50      68     268     286     337     345
770          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 *****

771          KK    370A
772          KM   SUB-BASIN 370A
773          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
774          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .998
775          KM     L = 1.04  Kb = .047  Adj. Slope =  163.0
776          BA    .408
777          LG    .330    .300   4.650    .350  11.000
778          UC    .308    .172
779          UA       0       5      16      30      65      77      84      90      94      97
780          UA     100
             * DDM   ***** Updated *****

781          KK    395A
782          KM   SUB-BASIN 395A
783          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
784          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .999
785          KM     L = 1.14  Kb = .052  Adj. Slope =  165.0
786          BA    .182
787          LG    .330    .320   5.000    .290  10.000
788          UC    .346    .334
789          UA       0       5      16      30      65      77      84      90      94      97
790          UA     100
             * DDM   ***** Preserved *****

791          KK   C370A
792          KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
793          HC       2
             * DDM   ***** Preserved *****

794          KK   R370A
795          KM   CHANNEL GEOMETRY OBTAINED FROM 2' CONTOUR MAPPING.
796          KM   ROUTING OF FLOW FROM SUB-BASINS 370 AND 395 TO SUB-BASIN 380.
797          RS      10    FLOW      -1
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 798          RC    .045    .035    .045   10250    .023
 799          RX       0       1      40      46      56      62     102     103
 800          RY     3.5       2       2       0       0       2       2     3.5
              * DDM   ***** Updated *****
                                          HEC-1 INPUT                                                          PAGE 22
LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 801          KK     380
 802          KM   SUB-BASIN 380
 803          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
 804          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .995
 805          KM     L = 2.20  Kb = .049  Adj. Slope =  114.0
 806          BA    .898
 807          LG    .300    .310   4.150    .500   7.000
 808          UC    .671    .475
 809          UA       0       5      16      30      65      77      84      90      94      97
 810          UA     100
              * DDM   ***** Preserved *****

 811          KK    D380
 812          KM        DIVERT FLOW INTO ONLINE  DETENTION BASIN
 813          KM   DETENTION/RETENTION BASINS LOCATED WITHIN 33% OF MESA HIGHLANDS
 814          KM        MAXIMUM VOLUME DIVERSION = 28.6 acre-feet
              *      1
 815          DT   BS380    28.6
 816          DI       0   10000
 817          DQ       0   10000
              * DDM   ***** Preserved *****

 818          KK   RT380
 819          KM   RETRIEVE FLOW FROM DIVERSION INTO ONLINE BASIN
 820          DR   BS380
              * DDM   ***** Preserved *****

 821          KK    S380
 822          KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
 823          KM    28.6 ACRE-FEETx43560/36x3600=9.6cfs
 824          RS       1    STOR       0
 825          SV       0     .01    28.6
 826          SQ       0     3.0     9.6
              * DDM   ***** Preserved *****

 827          KK    C380
              * KO     1       2
 828          KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
 829          HC       4
              * OFFLINE DETENTION BASIN ADDED THIS ALTERNATIVE
              * DDM   ***** Preserved *****

 830          KK   DD380
 831          KM        DIVERT FLOW INTO OFFLINE  DETENTION BASIN
 832          KM        IN RED MOUNTAIN REGIONAL PARK
 833          KM
 834          DT    380S
 835          DI       0    1975   10000
 836          DQ       0       0    8025
              * DDM   ***** Preserved *****
1                                         HEC-1 INPUT                                                          PAGE 23
LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 837          KK  RT380S
 838          KM   RETRIEVE FLOW FROM DIVERSION INTO OFFLINE BASIN
 839          DR    380S
              * DDM   ***** Preserved *****

 840          KK   SS380
 841          KM   OFFLINE BASIN IN PARK AREA
              *  Total Volume = 32 A-F, Maximum Inflow = 1400 cfs
              *  Bleed-off Pipe Diameter = 2', and Weir Flow Start at 3' of Ponding. 3/26/01
              * KO     1       2
 842          RS       1    STOR       0
 843          SV     0.0     1.0     8.0    19.0    32.0    50.0
 844          SE       0      .5       1     2.0     3.0     4.0
 845          SL     0.5    3.14     0.6     0.5
 846          SS       3      50     3.0     1.5
              * DDM   ***** Preserved *****

 847          KK   CC380
 848          KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
 849          HC       2
              * ADD ROUTING ALONG SPOOK HILL FRS
              * DDM   ***** Preserved *****

 850          KK    R380
 851          KM   ROUTE FLOW THROUGH SPOOK HILL FRS FROM JUNCTION OF BROWN & ELLSWORTH ROAD
 852          KM   TO JUST NORTH OF JUNCTION OF MCDOWELL & POWER RD.
 853          RS       3    FLOW      -1
 854          RC    .035    .035    .035    4000   .0007
 855          RX       0       9      50      68     163     181     257     265
 856          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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857          KK     390
858          KM   SUB-BASIN 390
859          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
860          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .999
861          KM     L =  .70  Kb = .050  Adj. Slope =  299.4
862          BA    .244
863          LG    .300     .250   4.700     .380  18.000
864          UC    .204     .107
865          UA       0        5      16       30       65       77       84       90       94       97
866          UA     100
             * DDM   ***** Preserved *****

867          KK    D390
868          KM        DIVERT FLOW INTO ONLINE  DETENTION BASIN
869          KM   DETENTION/RETENTION BASINS LOCATED WITHIN THUNDER MOUNTAIN ESTATES
870          KM        MAXIMUM VOLUME DIVERSION  = 3.5 acre-feet
             *      1
871          DT   BS390     3.5
872          DI       0   10000
873          DQ       0   10000
             * DDM   ***** Preserved *****
1                                        HEC-1 INPUT                                                PAGE 24

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

874          KK   RT390
875          KM   RETRIEVE FLOW FROM DIVERSION INTO ONLINE BASIN
876          DR   BS390
             * DDM   ***** Preserved *****

877          KK    S390
878          KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
879          KM     3.5 ACRE-FEETx43560/36x3600=1.2cfs
880          RS       1    STOR       0
881          SV       0     .01     3.5
882          SQ       0     0.2     1.2
             * DDM   ***** Preserved *****

883          KK    C390
884          KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
885          HC       2
             * DDM   ***** Preserved *****

886          KK    R390
887          KM   CHANNEL GEOMETRY OBTAINED FROM 2' CONTOUR MAPPING.
888          KM   FROM SUB-BASIN 390 TO SUB-BASIN 400
889          RS      15    FLOW      -1
890          RC    .045    .045    .045    8800    .020
891          RX       0       1      40      46      56      62     102     103
892          RY       3       2       2       0       0       2       2       3
             * DDM   ***** Updated *****

893          KK     400
894          KM   SUB-BASIN 400
895          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
896          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .996
897          KM     L = 1.64  Kb = .046  Adj. Slope =  110.0
898          BA    .616
899          LG    .320     .300   4.150     .490   6.000
900          UC    .508     .342
901          UA       0        5      16       30       65       77       84       90       94       97
902          UA     100
             * DDM   ***** Preserved *****

903          KK    D400
904          KM        DIVERT FLOW INTO ONLINE  DETENTION BASIN
905          KM   DETENTION/RETENTION BASIN LOCATED WITHIN SAGUARO VISTA SUBDIVISION
906          KM        MAXIMUM VOLUME DIVERSION = 5.6 ACRE-FEET
             *      1
907          DT   BS400     5.6
908          DI       0   10000
909          DQ       0   10000
             * DDM   ***** Preserved *****
1                                        HEC-1 INPUT                                                PAGE 25

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

910          KK   RT400
911          KM   RETRIEVE FLOW FROM DIVERSION INTO ONLINE BASIN
912          DR   BS400
             * DDM   ***** Preserved *****

913          KK    S400
914          KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
915          KM     5.6 ACRE-FEETx43560/36x3600 = 2 cfs
916          RS       1    STOR       0
917          SV       0     .01     5.6
918          SQ       0     1.0       2
             * DDM   ***** Preserved *****

919          KK    C400
920          KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
921          HC       2
             * DDM   ***** Preserved *****
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 922          KK   CC400
              * KO      1       2
 923          KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
 924          HC       3
              * ADD ROUTING ALONG SPOOK HILL FRS
              * DDM   ***** Preserved *****

 925          KK    R400
 926          KM   ROUTE FLOW THROUGH SPOOK HILL FRS FROM JUNCTION OF BROWN & ELLSWORTH ROAD
 927          KM   TO JUST NORTH OF JUNCTION OF MCDOWELL & POWER RD.
 928          RS       9    FLOW      -1
 929          RC    .035    .035    .035    3800    .0007
 930          RX       0       9      50      68     163     181     257     265
 931          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 *****

 932          KK    385A
 933          KM   SUB-BASIN 385A
 934          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
 935          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .999
 936          KM     L =  .90  Kb = .051  Adj. Slope =  309.5
 937          BA    .213
 938          LG    .340    .320   4.900    .300   9.000
 939          UC    .233    .163
 940          UA       0       5      16      30      65      77      84      90      94      97
 941          UA     100
              * DDM   ***** Preserved *****

 942          KK   D385A
 943          KM   DIVERT FLOW INTO SUB-BASINS 415 & 420
 944          DT  SF385A
 945          DI       0    5000
 946          DQ       0    3000
              * DDM   ***** Preserved *****
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 947          KK   R385A
 948          KM   CHANNEL GEOMETRY OBTAINED FROM 2' CONTOUR MAPPING.
 949          KM   ROUTING OF FLOW DIVERSION FROM SUB-BASIN 385A TO 420
 950          RS      11    FLOW      -1
 951          RC    .045     .04    .045   10250    .022
 952          RX       0       1      40      46      56      62     102     103
 953          RY       3       2       2       0       0       2       2       3
              * DDM   ***** Updated *****

 954          KK     420
 955          KM   SUB-BASIN 420
 956          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
 957          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .995
 958          KM     L = 1.91  Kb = .042  Adj. Slope =  120.0
 959          BA    .849
 960          LG    .310    .270   3.880    .580  12.000
 961          UC    .512    .325
 962          UA       0       5      16      30      65      77      84      90      94      97
 963          UA     100
              * DDM   ***** Preserved *****

 964          KK    D420
 965          KM        DIVERT FLOW INTO ONLINE  DETENTION BASIN
 966          KM   DETENTION/RETENTION BASINS LOCATED WITHIN GRAY FOX SUBDIVISION
 967          KM        MAXIMUM VOLUME DIVERSION = 8.65 acre-feet
              *      1
 968          DT   BS420    8.65
 969          DI       0   10000
 970          DQ       0   10000
              * DDM   ***** Preserved *****

 971          KK   RT420
 972          KM   RETRIEVE FLOW FROM DIVERSION INTO ONLINE BASIN
 973          DR   BS420
              * DDM   ***** Preserved *****

 974          KK    S420
 975          KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
 976          KM    8.65 ACRE-FEETx43560/36x3600=2.9cfs
 977          RS       1    STOR       0
 978          SV       0     .01    8.65
 979          SQ       0     1.0     2.9
              * DDM   ***** Preserved *****

 980          KK    C420
 981          KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
 982          HC       3  0.9343
              * DDM   ***** Preserved *****
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 983          KK   CC420
 984          KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
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985          HC       2
             * ADD ROUTING ALONG SPOOK HILL FRS
             * DDM   ***** Preserved *****

986          KK    R420
987          KM   ROUTE FLOW THROUGH SPOOK HILL FRS FROM JUNCTION OF BROWN & ELLSWORTH ROAD
988          KM   TO JUST NORTH OF JUNCTION OF MCDOWELL & POWER RD.
989          RS       5    FLOW      -1
990          RC    .035    .035    .035    2900    .0007
991          RX       0       9      50      68     163     181     257     265
992          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 *****

993          KK     440
994          KM   SUB-BASIN 440
995          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
996          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF 1.000
997          KM     L =  .40  Kb = .039  Adj. Slope =  315.0
998          BA    .080
999          LG    .190    .380   6.400    .140  13.000
1000         UC    .129    .077
1001         UA       0       3       5       8      12      20      43      75      90      96
1002         UA     100
             * DDM   ***** Preserved *****

1003         KK     R70
1004         KM   ROUTE FLOW FROM SUB-BASIN 440 TO C108
1005         RS       2    FLOW      -1
1006         RC     .05    .035     .05    2250     .08
1007         RX    1000    1025    1050    1070    1075    1095    1120    1145
1008         RY      30    22.9    15.7      10      10    15.7    22.9      30
             * DDM   ***** Updated *****

1009         KK     441
1010         KM   SUB-BASIN 441
1011         KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1012         KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF 1.000
1013         KM     L =  .28  Kb = .069  Adj. Slope =  315.0
1014         BA    .010
1015         LG    .300    .250   5.600    .220   5.000
1016         UC    .150    .225
1017         UA       0       5      16      30      65      77      84      90      94      97
1018         UA     100
             * DDM   ***** Preserved *****
                                        HEC-1 INPUT                                          PAGE 28
LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1019         KK    C108
1020         KM   COMBINE HYDROGRAPHS FROM SUB-BASINS 440 & 441
1021         HC       2
             * DDM   ***** Preserved *****

1022         KK      D4
1023         KM        SPLIT FLOW WITH TWO 42 INCH PIPES TO WEST AND SOUTH
             *      1
1024         DT   SPLIT
1025         DI       0      14      40      82     120     154     180
1026         DQ       0       7      20      41      60      77      90
             * DDM   ***** Preserved *****

1027         KK    R108
1028         KM        ROUTE FLOW FROM SUB-BASIN C108 TO C67
1029         RS       2    FLOW      -1
1030         RC     .05    .035     .05    3200      .1
1031         RX    1000    1025    1050    1070    1075    1095    1120    1145
1032         RY      30    22.9    15.7      10      10    15.7    22.9      30
             * DDM   ***** Updated *****

1033         KK     442
1034         KM   SUB-BASIN 442
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 =  .83  Kb = .055  Adj. Slope =  274.2
1038         BA    .100
1039         LG    .300    .270   3.290    .770   5.000
1040         UC    .258    .264
1041         UA       0       5      16      30      65      77      84      90      94      97
1042         UA     100
             * DDM   ***** Preserved *****

1043         KK     C67
1044         KM   COMBINE FLOW FROM SUB-BASIN 442 & DIV4
1045         HC       2
             * DDM   ***** Preserved *****

1046         KK      D6
1047         KM        OFFLINE BASIN WITH 25 FOOT WEIR SET AT 2.5 FEET ABOVE BOTTOM OF CHANNEL
1048         KM        FLOW CONTINUES BEYOND BASIN THROUGH 2-30" PIPES
             *      1
1049         DT  BASIN4     3.3
1050         DI       0      10      32      44    79.9   132.5     198   272.9   356.8
1051         DQ       0       0       0       0    23.9    67.5     124   190.9   266.8
             * DDM   ***** Preserved *****
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1052          KK    RTD6
1053          KM   RETRIEVE FLOW FROM DIVERSION INTO OFFLINE BASIN
1054          DR  BASIN4
              * DDM   ***** Preserved *****
                                        HEC-1 INPUT                                                    PAGE 29

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


1055          KK     SD6
1056          KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
1057          KM     3.3 ACRE-FEETx43560/36x3600=1.1cfs
              *      1
1058          RS       1    STOR       0
1059          SV       0     .01     3.3
1060          SQ       0     0.2     1.1
              * DDM   ***** Preserved *****

1061          KK     CD6
1062          KM   HYDROGRAPH COMBINATION FOR OFFLINE BASIN BLEEDOFF
1063          HC       2
              * DDM   ***** Updated *****

1064          KK     443
1065          KM   SUB-BASIN 443
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 =  .71  Kb = .050  Adj. Slope =  315.0
1069          BA    .080
1070          LG    .250    .190   8.000    .080  10.000
1071          UC    .196    .194
1072          UA       0       5      16      30      65      77      84      90      94      97
1073          UA     100
              * DDM   ***** Preserved *****

1074          KK     D66
1075          KM        DIVERT FLOW INTO 3 NATURAL WASHES WITH ONE 24" PIPE IN EACH WASH.
1076          KM        EACH PIPE CAPACITY BASED ON 4 FEET OF HEAD
1077          DT   WSH66
1078          DI       0      78     100     200
1079          DQ       0      78      78      78
              * DDM   ***** Preserved *****

1080          KK    R113
1081          KM        ROUTE FLOW FROM C113 TO C114
1082          RS       1    FLOW      -1
1083          RC    .019    .019    .019    1300    .029
1084          RX    1000    1004    1008    1012    1018    1022    1026    1030
1085          RY      17   15.33   12.67      10      10   12.67   15.33      17
              * DDM   ***** Preserved *****

1086          KK    C114
1087          KM        COMBINE HYDROGRAPHS FROM SUB-BASIN 67 AND C113
1088          HC       2
              * DDM   ***** Updated *****

1089          KK     444
1090          KM   SUB-BASIN 444
1091          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1092          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF 1.000
1093          KM     L =  .33  Kb = .034  Adj. Slope =  315.0
1094          BA    .040
1095          LG    .130    .350   4.450    .320   1.000
1                                       HEC-1 INPUT                                                    PAGE 30

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

1096          UC    .112    .084
1097          UA       0       3       5       8      12      20      43      75      90      96
1098          UA     100
              * DDM   ***** Preserved *****

1099          KK     R58
1100          KM   ROUTE FLOW FROM SUB-BASIN 444 TO C107
1101          RS       2    FLOW      -1
1102          RC     .05    .035     .05    2370   .0516
1103          RX    1000    1010    1020    1050    1055    1085    1095    1105
1104          RY      19      18      17      10      10      17      18      19
              * DDM   ***** Updated *****

1105          KK     445
1106          KM   SUB-BASIN 445
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 =  .82  Kb = .036  Adj. Slope =  315.0
1110          BA    .190
1111          LG    .170    .320   3.470    .590   3.000
1112          UC    .192    .130
1113          UA       0       5      16      30      65      77      84      90      94      97
1114          UA     100
              * DDM   ***** Preserved *****

1115          KK    C107
1116          KM   COMBINE HYDROGRAPHS FROM SUB-BASINS 444 & 445
1117          HC       2
              * DDM   ***** Preserved *****
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1118        KK    R107
1119        KM        ROUTE FLOW FROM C107 TO C109
1120        RS       2    FLOW      -1
1121        RC     .05    .035     .05     700    .0516
1122        RX    1000    1010    1020    1050    1055    1085    1095    1105
1123        RY      19      18      17      10      10      17      18      19
            * DDM   ***** Preserved *****

1124        KK    RTB2
1125        KM        RETRIEVE DIVERTED FLOW FROM BASIN 1
            *      1
1126        DR   SPLIT
            * DDM   ***** Preserved *****

1127        KK  RSPLIT
1128        KM        ROUTE FLOW FROM SPLIT TO C109
1129        RS       1    FLOW      -1
1130        RC     .05    .035     .05     800     .05
1131        RX    1000    1025    1050    1070    1075    1095    1120    1145
1132        RY      30    22.9    15.7      10      10    15.7    22.9      30
            * DDM   ***** Updated *****
1
                                        HEC-1 INPUT                                                    PAGE 31
LINE        ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1133        KK     446
1134        KM   SUB-BASIN 446
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 =  .46  Kb = .061  Adj. Slope =  303.9
1138        BA    .040
1139        LG    .270    .250   4.500    .400  19.000
1140        UC    .183    .189
1141        UA       0       5      16      30      65      77      84      90      94      97
1142        UA     100
            * DDM   ***** Preserved *****

1143        KK    C109
1144        KM        COMBINE HYDROGRAPHS FROM COMBINES C107 AND C108
1145        HC       3
            * DDM   ***** Preserved *****

1146        KK      D5
1147        KM        DIVERT FLOW INTO WASHES TOWARDS WEST
1148        KM        DIVERSION THROUGH 36" PIPE WITH 3 FEET OF HEAD
            *      1
1149        DT  WSH404
1150        DI       0    40.7    71.2   121.6     190     276   379.4   500.6
1151        DQ       0      35      35      35      35      35      35      35
            * DDM   ***** Preserved *****

1152        KK    R109
1153        KM        ROUTE FLOW FROM C109 TO C110
1154        RS       1    FLOW      -1
1155        RC    .019    .019    .019    3080     .05
1156        RX    1000    1005    1010    1015    1025    1030    1035    1040
1157        RY   13.75    12.5   11.25      10      10   11.25    12.5   13.75
            * DDM   ***** Updated *****

1158        KK     447
1159        KM   SUB-BASIN 447
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  .999
1162        KM     L =  .49  Kb = .056  Adj. Slope =  221.0
1163        BA    .090
1164        LG    .250    .270   3.350    .870  30.000
1165        UC    .208    .145
1166        UA       0       5      16      30      65      77      84      90      94      97
1167        UA     100
            * DDM   ***** Preserved *****

1168        KK   RT404
1169        KM        RETRIEVE DIVERTED FLOW FOR WASH 109
1170        DR  WSH404
            * DDM   ***** Preserved *****
1
                                        HEC-1 INPUT                                                    PAGE 32
LINE        ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1171        KK    R404
1172        KM        ROUTE FLOW FROM C110 TO C110
1173        RS       6    FLOW      -1
1174        RC    .019    .019    .019    3540     .03
1175        RX    1000    1012    1016    1020    1025    1029    1033    1045
1176        RY      15      12      11      10      10      11      12      15
            * DDM   ***** Preserved *****

1177        KK    C110
1178        KM   COMBINE HYDROGRAPHS FROM SUB-BASIN 447 AND R404
1179        HC       3
            * DDM   ***** Preserved *****

1180        KK    R110
1181        KM        ROUTE FLOW FROM C110 TO C115
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1182        RS       1    FLOW      -1
1183        RC    .019    .019    .019     580    .0291
1184        RX    1000    1012    1016    1020    1035    1039    1043    1055
1185        RY      15      12      11      10      10      11      12      15
            * DDM   ***** Preserved *****

1186        KK    C115
1187        KM        COMBINE HYDROGRAPHS FROM C114 AND C110
1188        HC       2
            * DDM   ***** Preserved *****

1189        KK    R115
            * ******OUTFLOW FROM THIS ROUTING IS GREATER THAN INFLOW TO THE
            * ******ROUTING BY 2cfs.  THIS IS NOTED BUT LEFT UNCHANGED WITHIN THE MODEL
1190        KM        ROUTE FLOW FROM C115 TO Sub 453
1191        RS       1    FLOW      -1
1192        RC    .019    .019    .019    2125    .029
1193        RX    1000    1012    1016    1020    1035    1039    1043    1055
1194        RY      15      12      11      10      10      11      12      15
            * DDM   ***** Updated *****

1195        KK     448
1196        KM   SUB-BASIN 448
1197        KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1198        KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF 1.000
1199        KM     L =  .36  Kb = .042  Adj. Slope =  315.0
1200        BA    .045
1201        LG    .170    .310   4.200    .390  11.000
1202        UC    .133    .102
1203        UA       0       5      16      30      65      77      84      90      94      97
1204        UA     100
            * DDM   ***** Updated *****

1205        KK     449
1206        KM   SUB-BASIN 449
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 =  .40  Kb = .054  Adj. Slope =  315.0
1210        BA    .050
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LINE        ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1211        LG    .260    .280   3.500    .640   6.000
1212        UC    .167    .134
1213        UA       0       5      16      30      65      77      84      90      94      97
1214        UA     100
            * DDM   ***** Preserved *****

1215        KK   C6364
1216        KM   COMBINE HYDROGRAPHS FROM SUB-BASINS 448 & 449
1217        HC       2
            * DDM   ***** Preserved *****

1218        KK   R6364
1219        KM   ROUTE FLOW FROM C116 AND SUB-BASINS 448 AND 449
1220        RS       5    FLOW      -1
1221        RC     .05    .035     .05    4375   .0333
1222        RX    1000    1027    1053    1080    1090    1117    1143    1170
1223        RY      15   13.33   11.67      10      10   11.67   13.33      15
            * DDM   ***** Updated *****

1224        KK     450
1225        KM   SUB-BASIN 450
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 =  .85  Kb = .057  Adj. Slope =  210.5
1229        BA    .070
1230        LG    .340    .350   3.630    .570   4.000
1231        UC    .296    .383
1232        UA       0       3       5       8      12      20      43      75      90      96
1233        UA     100
            * DDM   ***** Updated *****

1234        KK     451
1235        KM   SUB-BASIN 451
1236        KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1237        KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF 1.000
1238        KM     L =  .57  Kb = .063  Adj. Slope =  175.0
1239        BA    .025
1240        LG    .340    .340   3.290    .750   3.000
1241        UC    .271    .453
1242        UA       0       3       5       8      12      20      43      75      90      96
1243        UA     100
            * DDM   ***** Preserved *****

1244        KK    C451
1245        KM   COMBINE HYDROGRAPHS FROM SUB-BASINS 450 & 451
1246        HC       2
            * DDM   ***** Preserved *****

1247        KK    RT66
1248        KM        RETRIEVE DIVERTED FLOW FROM SUB-BASIN 66
1249        DR   WSH66
            * DDM   ***** Updated *****
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1250          KK     452
1251          KM   SUB-BASIN 452
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 1.000
1254          KM     L =  .43  Kb = .055  Adj. Slope =  315.0
1255          BA    .040
1256          LG    .260    .280   3.700    .550   9.000
1257          UC    .171    .166
1258          UA       0       5      16      30      65      77      84      90      94      97
1259          UA     100
              * DDM   ***** Preserved *****

1260          KK   C6465
1261          KM   COMBINE HYDROGRAPHS FROM SUB-BASINS 443 AND 452
1262          HC       2
              * DDM   ***** Preserved *****

1263          KK   R6566
1264          KM        ROUTE FLOW FROM DIVERSIONS 65 AND 66 TO C116
1265          RS       3    FLOW      -1
1266          RC     .05    .035     .05    2435   .0282
1267          RX    1000    1045    1090    1150    1160    1220    1265    1310
1268          RY      25      23      20      10      10      20      23      25
              * DDM   ***** Preserved *****

1269          KK    C116
1270          KM   COMBINE HYDROGRAPHS FROM SUB-BASINS 450 & 451 AND R6364 & R6465
1271          HC       3
              * DDM   ***** Preserved *****

1272          KK  BASIN5
1273          KM        RESERVOIR WITHIN PARCEL 31      2-48 INCH PIPES AT OUTFALL
1274          KM        BASIN 5 FEET DEEP
1275          RS       1    ELEV       0
1276          SV       0     4.5     9.9
1277          SQ       0      69     190
1278          SE       0     2.5       5
              * DDM   ***** Preserved *****

1279          KK    R116
1280          KM   ROUTE FLOW FROM C116 TO C117
1281          RS       2    FLOW      -1
1282          RC     .05    .035     .05    1300   .0333
1283          RX    1000    1100    1200    1300    1320    1420    1520    1620
1284          RY      13      12      11      10      10      11      12      13
              * DDM   ***** Updated *****

1285          KK     453
1286          KM   SUB-BASIN 453
1287          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1288          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF 1.000
1289          KM     L =  .58  Kb = .058  Adj. Slope =  138.0
1290          BA    .060
1291          LG    .290    .300   3.290    .820  18.000
1                                          HEC-1 INPUT                                                    PAGE 35

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

1292          UC    .275    .284
1293          UA       0       5      16      30      65      77      84      90      94      97
1294          UA     100
              * DDM   ***** Preserved *****

1295          KK    C117
1296          KM   COMBINE HYDROGRAPHS FROM SUB-BASIN 453 AND R116
1297          HC       2
              * DDM   ***** Preserved *****

1298          KK    C118
1299          KM   COMBINE HYDROGRAPHS FROM R115 AND C117
1300          HC       2
              * DDM   ***** Preserved *****

1301          KK    R118
1302          KM        ROUTE FLOW FROM C118 TO  DIV7
1303          RS       1    FLOW      -1
1304          RC    .019    .019    .019    1500    .024
1305          RX    1000    1012    1016    1020    1035    1039    1043    1055
1306          RY      15      12      11      10      10      11      12      15
              * DDM   ***** Preserved *****

1307          KK      D7
1308          KM        OFFLINE BASIN AT NORTH MOUNTAIN RIDGE   FLOWS ENTER BASIN OVER
1309          KM        30' WEIR SET AT 5.3' ABOVE THE CHANNEL BOTTOM
              *      1
1310          DT  BASIN6     3.6
1311          DI       0     363     487     563     645     844
1312          DQ       0       3      47      83     125     244
              * DDM   ***** Preserved *****

1313          KK    RTD7
1314          KM   RETRIEVE FLOW FROM DIVERSION INTO OFFLINE BASIN
1315          DR  BASIN6
              * DDM   ***** Preserved *****
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1316          KK     SD7
1317          KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
1318          KM     3.6 ACRE-FEETx43560/36x3600=1.2cfs
1319          RS       1     STOR       0
1320          SV       0      .01     3.6
1321          SQ       0      0.2     1.2
              * DDM   ***** Preserved *****

1322          KK     CD7
1323          KM   HYDROGRAPH COMBINATION FOR OFFLINE BASIN BLEEDOFF
1324          HC       2
              * DDM   ***** Updated *****
1                                        HEC-1 INPUT                                                    PAGE 36

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

1325          KK     454
1326          KM   SUB-BASIN 454
1327          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1328          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .999
1329          KM     L = 1.23  Kb = .051  Adj. Slope =  163.0
1330          BA    .180
1331          LG    .300     .310   3.780     .560  14.000
1332          UC    .379     .395
1333          UA       0        5      16       30       65       77       84       90       94       97
1334          UA     100
              * DDM   ***** Preserved *****

1335          KK    C119
1336          KM        COMBINE HYDROGRAPHS FROM SUB-BASIN 454 AND C119
              *      1       2
1337          HC       2
              * DDM   ***** Preserved *****

1338          KK    R454
1339          KM   CHANNEL GEOMETRY OBTAINED FROM 2' CONTOUR MAPPING.
1340          KM   ROUTE FLOW FROM C119 TO 415C
1341          RS       3    FLOW      -1
1342          RC    .045     .035    .045    2200     .009
1343          RX       0       .5       1      33       42       67     67.5       68
1344          RY       5        4       4       0        0        6        6        6
              * DDM   ***** Updated *****

1345          KK     415
1346          KM   SUB-BASIN 415
1347          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1348          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .997
1349          KM     L = 2.58  Kb = .045  Adj. Slope =  298.5
1350          BA    .547
1351          LG    .320     .280   4.350     .440  14.000
1352          UC    .433     .440
1353          UA       0        5      16       30       65       77       84       90       94       97
1354          UA     100
              * DDM   ***** Preserved *****

1355          KK  RT385A
1356          KM   RETRIEVE FLOW FROM DIVERSION OF SUB-BASIN 385A INTO 415
1357          DR  SF385A
              * DDM   ***** Preserved *****

1358          KK  RR385A
1359          KM   CHANNEL GEOMETRY OBTAINED FROM 2' CONTOUR MAPPING.
1360          KM   ROUTING OF SPLIT FLOW FROM SUB-BASIN 385A TO 415
1361          RS       5    FLOW      -1
1362          RC    .045      .04    .045    5878     .024
1363          RX       0        1      40      46       56       62      102      103
1364          RY       3        2       2       0        0        2        2        3
              * DDM   ***** Preserved *****
1                                        HEC-1 INPUT                                                    PAGE 37

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

1365          KK    C415
1366          KM   HYDROGRAPH COMBINATION OF SUB-BASINS 415, R454 & SPLIT FLOW FROM 385A
1367          HC       2  0.6748
              * DDM   ***** Preserved *****

1368          KK   CC415
1369          KM   HYDROGRAPH COMBINATION OF SUB-BASINS 415, R454 & SPLIT FLOW FROM 385A
1370          HC       2
              * DDM   ***** Preserved *****

1371          KK    R415
1372          KM   CHANNEL GEOMETRY OBTAINED FROM 2' CONTOUR MAPPING.
1373          KM   ROUTING OF FLOW FROM 415C TO 455C
1374          RS       2    FLOW      -1
1375          RC    .045      .03    .045    4100     .024
1376          RX       0       .5       1       8       16       23     23.5       24
1377          RY       8        8       8       0        0        8        8        8
              * DDM   ***** Updated *****

1378          KK     455
1379          KM   SUB-BASIN 455
1380          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
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1381        KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .993
1382        KM     L = 1.70  Kb = .041  Adj. Slope =  146.0
1383        BA   1.111
1384        LG    .270    .280   3.700    .640  24.000
1385        UC    .421    .204
1386        UA       0       5      16      30      65      77      84      90      94      97
1387        UA     100
            * DDM   ***** Preserved *****

1388        KK    D455
1389        KM        DIVERT FLOW INTO ONLINE  DETENTION BASIN
1390        KM   DETENTION/RETENTION BASINS LOCATED WITHIN LAS SENDAS ADDENDUM III
1391        KM   FOR BASIN #: 30      34      43      47&58
1392        KM        MAXIMUM VOLUME DIVERSION = 74.1 acre-feet
            *      1
1393        DT   BS455    74.1
1394        DI       0   10000
1395        DQ       0   10000
            * DDM   ***** Preserved *****

1396        KK   RT455
1397        KM   RETRIEVE FLOW FROM DIVERSION INTO ONLINE BASIN
1398        DR   BS455
            * DDM   ***** Preserved *****

1399        KK    S455
1400        KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
1401        KM    74.1 ACRE-FEETx43560/36x3600=25cfs
1402        RS       1    STOR       0
1403        SV       0     .01    74.1
1404        SQ       0     3.0      25
            * DDM   ***** Preserved *****
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LINE        ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1405        KK    C455
1406        KM   HYDROGRAPH COMBINATION FOR SUB-BASIN 455 AND DIVERTED BASIN STORAGE OF 455
1407        HC       2
            * DDM   ***** Preserved *****

1408        KK   CC455
1409        KM  HYDROGRAPH COMBINATION OF 420C, R415 AND C455
            * KO     1       2
1410        HC       3
            * 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  4051
            * SQ     0       0      10     180     367     595     800    1231    2625 24500
            * 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
1413        RS      15    FLOW      -1
1414        RC    .035    .025    .035    7000   .0002
1415        RX       0       1       2      28     158     184     185     186
1416        RY    13.5    13.5    13.5       0       0    13.5    13.5    13.5
            * DDM   ***** Updated *****

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

1435        KK   RT480
1436        KM   RETRIEVE FLOW FROM DIVERSION INTO ONLINE BASIN
1437        DR   BS480
            * DDM   ***** Preserved *****
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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
            * 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     158     184     185     186
1455        RY    13.5    13.5    13.5       0       0    13.5    13.5    13.5
            * DDM   ***** Updated *****

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 *****
                                        HEC-1 INPUT                                          PAGE 40
LINE        ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

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 *****

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 *****

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
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            * 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 *****
1                                   HEC-1 INPUT                                          PAGE 41

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


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 *****

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 *****

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 *****
1                                   HEC-1 INPUT                                          PAGE 42

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


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 *****

1565        KK    CDIV
1566        KM        COMBINE FLOWS FROM WA30 AND BASIN 1
1567        HC       2     .12
            * DDM   ***** Updated *****
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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 *****
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LINE        ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

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
1606        SE    1795  1797.5    1800  1800.4  1800.5    1801    1802    1803    1804  1805.5
            * DDM   ***** Preserved *****

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

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
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                    * 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 *****

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 *****
1                                          HEC-1 INPUT                                          PAGE 45

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


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

    38          10
                 V
                 V
    48         R10
                 V
                 V
    54         R12
                 .
                 .
    60           .          20
                 .           .
                 .           .
    70         C20............
                 V
                 V
    73         R20
                 .
                 .
    79           .          40
                 .           .
                 .           .
    89           .           .          60
                 .           .           .
                 .           .           .
    99         C60........................
                 V
                 V
   102         S60
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                V
                V
111           R60
                V
                V
117          RR60
                .
                .
123             .          80
                .           .
                .           .
133           C80............
                V
                V
136           R80
                .
                .
142             .         100
                .           .
                .           .
152         C100............
                V
                V
155         R100
                .
                .
161             .         120
                .           .
                .           .
171         C120............
                V
                V
174         R120
                .
                .
180             .         140
                .           .
                .           .
190             .           .         150
                .           .           V
                .           .           V
200             .           .        R150
                .           .           V
                .           .           V
206             .           .        R152
                .           .           .
                .           .           .
212             .           .           .         160
                .           .           .           .
                .           .           .           .
222             .           .           .           .         180
                .           .           .           .           .
                .           .           .           .           .
232         C180.............................................
                .
                .
235             .        385B
                .           V
                .           V
245             .       R385B
                .           .
                .           .
254             .           .        395B
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                .           .           .
264             .       C395B............
                .           V
                .           V
267             .       R395B
                .           .
                .           .
274             .           .        370B
                .           .           .
                .           .           .
284             .       C370B............
                .           V
                .           V
287             .       R370B
                .           V
                .           V
294             .      RR370B
                .           .
                .           .
303             .           .        355B
                .           .           .
                .           .           .
313             .       C355B............
                .           V
                .           V
316             .       R355B
                .           V
                .           V
325             .      RR355B
                .           .
                .           .
332             .           .         350
                .           .           V
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342                 V
                  R350
349                                 310
359          C310.......................
                V
                V
362          R310
                V
                V
369          R312
378                  305B
388         C305B............
                V
                V
391         R305B
400                   210
                       V
                       V
410                  R210
416                                 240
426          C240.......................
                V
                V
429          S240
                V
                V
438          R240
445                   220
455         C220............
                V
                V
458          S220
                V
                V
467          R220
474                   190
                       V
                       V
484                  R190
                       V
                       V
490                  R192
496                                 200
506          C200.......................
                V
                V
509          S200
                V
                V
516          R200
                V
                V
522         SS200
                V
                V
529         RR200
535      CC180............
            V
            V
538       S180
            V
            V
547       R180
556                 260
566       C260............
            V
            V
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569        R260
              .
              .
578           .         280
              .           .
              .           .
588        C280............
              V
              V
591        R280
              .
              .
600           .         300
              .           .
              .           .
610        C300............
              V
              V
613        R300
              .
              .
622           .        305A
              .           .
              .           .
632       C305A............
              V
              V
635       R305A
              .
              .
644           .         320
              .           .
              .           .
659           .           .------->   BS320
654           .        D320
              .           .
              .           .
664           .           .           .<-------   BS320
662           .           .       RT320
              .           .           V
              .           .           V
665           .           .        S320
              .           .           .
              .           .           .
671        C320........................
              V
              V
674        R320
              .
              .
681           .         340
              .           .
              .           .
696           .           .------->   BS340
691           .        D340
              .           .
              .           .
701           .           .           .<-------   BS340
699           .           .       RT340
              .           .           V
              .           .           V
702           .           .        S340
              .           .           .
              .           .           .
708        C340........................
              V
              V
711        R340
              .
              .
718           .        355A
              .           V
              .           V
728           .       R355A
              .           .
              .           .
735           .           .         360
              .           .           .
              .           .           .
749           .           .           .------->   BS360
745           .           .        D360
              .           .           .
              .           .           .
754           .           .           .           .<-------   BS360
752           .           .           .       RT360
              .           .           .           V
              .           .           .           V
755           .           .           .        S360
              .           .           .           .
              .           .           .           .
761        C360.....................................
              V
              V
764        R360
              .
              .
771           .        370A
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                .           .
                .           .
781             .           .        395A
                .           .           .
                .           .           .
791             .       C370A............
                .           V
                .           V
794             .       R370A
                .           .
                .           .
801             .           .         380
                .           .           .
                .           .           .
815             .           .           .-------->   BS380
811             .           .        D380
                .           .           .
                .           .           .
820             .           .           .           .<-------   BS380
818             .           .           .       RT380
                .           .           .           V
                .           .           .           V
821             .           .           .        S380
                .           .           .           .
                .           .           .           .
827         C380..................................
                .
                .
834             .-------->    380S
830        DD380
                .
                .
839             .           .<-------    380S
837             .      RT380S
                .           V
                .           V
840             .       SS380
                .           .
                .           .
847        CC380............
                V
                V
850         R380
                .
                .
857             .         390
                .           .
                .           .
871             .           .-------->   BS390
867             .        D390
                .           .
                .           .
876             .           .           .<-------   BS390
874             .           .       RT390
                .           .           V
                .           .           V
877             .           .        S390
                .           .           .
                .           .           .
883             .        C390............
                .           V
                .           V
886             .        R390
                .           .
                .           .
893             .           .         400
                .           .           .
                .           .           .
907             .           .           .-------->   BS400
903             .           .        D400
                .           .           .
                .           .           .
912             .           .           .           .<-------   BS400
910             .           .           .       RT400
                .           .           .           V
                .           .           .           V
913             .           .           .        S400
                .           .           .           .
                .           .           .           .
919             .           .        C400............
                .           .           .
                .           .           .
922        CC400........................
                V
                V
925         R400
                .
                .
932             .        385A
                .           .
                .           .
944             .           .-------->  SF385A
942             .       D385A
                .           V
                .           V
947             .       R385A
                .           .
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 954                420
                     .
 968                 .-------> BS420
 964              D420
                     .
 973                 .        .<-------- BS420
 971                 .     RT420
                     .        V
                     .        V
 974                 .      S420
                     .        .
                     .        .
 980           C420.......................
                     .
                     .
 983      CC420............
              V
              V
 986       R420
                     .
 993           440
                 V
                 V
1003           R70
                     .
                     .
1009                 .        441
                     .         .
                     .         .
1019           C108............
                     .
                     .
1024                 .-------> SPLIT
1022            D4
                 V
                 V
1027           R108
                     .
                     .
1033                 .        442
                     .         .
                     .         .
1043            C67............
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1049                 .-------> BASIN4
1046            D6
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1054                 .        .<-------- BASIN4
1052                 .     RTD6
                     .        V
                     .        V
1055                 .      SD6
                     .         .
                     .         .
1061            CD6............
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1064                 .        443
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1077                 .         .-------> WSH66
1074                 .      D66
                     .        V
                     .        V
1080                 .     R113
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1086           C114............
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1089                 .        444
                     .         V
                     .         V
1099                 .      R58
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1105                 .         .        445
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1115                 .     C107............
                     .         V
                     .         V
1118                 .     R107
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1126                 .         .        .<-------- SPLIT
1124                 .         .     RTB2
                     .         .        V
                     .         .        V
1127                 .         .    RSPLIT
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1133                                                446
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1143                        C109......................
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1149                                .-------> WSH404
1146                          D5
                               V
                               V
1152                        R109
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1158                                        447
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1170                                                 .<-------  WSH404
1168                                            RT404
                                                     V
                                                     V
1171                                             R404
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1177                        C110......................
                               V
                               V
1180                        R110
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1186                  C115............
                         V
                         V
1189                  R115
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1195                          448
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1205                                        449
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1215                      C6364............
                               V
                               V
1218                      R6364
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1224                                        450
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1234                                                 .        451
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1244                                            C451............
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1249                                                 .<-------   WSH66
1247                                            RT66
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1250                                                 .          .        452
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1260                                            C6465............
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1263                                            R6566
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1269                        C116......................
                               V
                               V
1272                      BASIN5
                               V
                               V
1279                        R116
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1285                                        453
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1295                        C117............
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1298                  C118............
                         V
                         V
1301                  R118
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1310                     .-------> BASIN6
1307                   D7
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1315                                .<-------  BASIN6
1313                        RTD7
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1316             .           .         SD7
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1322             .         CD7...........
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1325             .           .         454
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1335             .        C119...........
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                 .          V
1338             .        R454
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1345             .           .         415
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1357             .           .           .        .<-------  SF385A
1355             .           .           .     RT385A
                 .           .           .         V
                 .           .           .         V
1358             .           .           .     RR385A
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1365             .           .        C415...........
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1368             .       CC415...........
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                 .          V
1371             .       R415
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1378             .           .         455
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1393             .           .           .-------->   BS455
1388             .           .        D455
                 .           .           .
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1398             .           .           .        .<-------   BS455
1396             .           .           .     RT455
                 .           .           .         V
                 .           .           .         V
1399             .           .           .       S455
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1405             .           .        C455...........
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1408        CC455........................
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                V
1411         R455
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1417            .        480
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1432            .           .-------->   BS480
1427            .       D480
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1437            .           .           .<-------   BS480
1435            .           .       RT480
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1438            .           .        S480
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1444            .       C480...........
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1447        CC480...........
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                V
1450         R480
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1456            .        456
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1469            .           .-------->  BASIN1
1466            .         D1
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1475            .           .-------->    WA30
1472            .         D2
                .          V
                .          V
1478            .       R456
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1484            .           .         457
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1494            .       C101...........
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                .          .-------->  BASIN2
1497            .        D3
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1505            .          .          .<-------  BASIN2
1503            .          .       RTD3
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1506            .          .        SD3
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1512            .        CD3...........
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1515            .       R101
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1521            .          .        458
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1531            .       C103...........
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                .          V
1534            .       R103
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1542            .          .          .<-------    WA30
1540            .          .       RT30
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1543            .          .        R30
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1551            .          .          .           .<-------  BASIN1
1549            .          .          .       RTB1
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1552            .          .          .         B1
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1559            .          .          .        RB1
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1568            .          .          .        459
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1578            .          .        C52...........
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1581            .          .        R52
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1587            .          .          .        460
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1597            .          .       C102...........
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1600            .          .     BASIN3
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1607            .          .         R3
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1613            .          .          .        461
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1623            .          .       C104...........
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1626            .       C106...........
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1629            .       R106
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1635            .          .        462
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1645            .        C56...........
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        C462...........
           V
           V
1651    R462
           V
           V
1657   RR462
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 1663           .          500
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 1673        C500............
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(***) RUNOFF ALSO COMPUTED AT THIS LOCATION

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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   02MAY01  TIME  09:20:23  *                    *          (916) 756-1104              *
*                                      *                    *                                      *
****************************************                    ****************************************
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DDM MCUHP1 SPOOK HILL AMDP - EXISTING CONDITIONS MODEL - 100YR, 24HR STORM
Existing Condition Model with Pass Mountain Diversion, No Spook Hill FRS
Storage Routing, Instead, Channel Routing Was Assumed.
A CONSERVATIVE ESTIMATE WAS USED FOR THE LOCATION OF THE CENTROID FOR
PRECIPITATION VALUES

FLOODWAY CHANNEL ROUTING INFORMATION FOR SIGNAL BUTTE, SPOOK HILL &
BULLDOG FLOODWAY WAS FROM MCFCD AS-BUILT PLANS

UPDATE TO EXISTING CONDITION 24-HR 100-YR MODEL RUN BASED ON RE-ALIGNMENT
OF SUB-BASIN BOUNDARIES FOR SUB-BASINS 385 (REDUCED) & 415 (ENLARGED)
UPDATE BASED ON INFORMATION FROM 2' CONTOUR MAPPING.

ANALYSIS PERFORMED BY WOOD/PATEL; MW; 07/27/00 FILE: S24CE30Z.DAT

DDM MCUHP1 SPOOK HILL AMDP - EXISTING CONDITIONS MODEL - 100YR, 24HR STORM

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19 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

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

22 PI            PRECIPITATION PATTERN
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32 JD INDEX STORM NO. 2

STRM 3.79 PRECIPITATION DEPTH

TRDA 1.00 TRANSPOSITION DRAINAGE AREA

0 PI PRECIPITATION PATTERN

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33 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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.01	.01	.03	.04	.04	.04	.04	.04	.04	.04
.01	.01	.01	.01	.01	.01	.01	.00	.00	.00
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34 JD INDEX STORM NO. 4

STRM 3.57 PRECIPITATION DEPTH

TRDA 10.66 TRANSPOSITION DRAINAGE AREA

0 PI PRECIPITATION PATTERN

.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
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.01	.01	.03	.04	.04	.04	.04	.04	.04	.04
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35 JD INDEX STORM NO. 5

STRM 3.54 PRECIPITATION DEPTH

TRDA 13.70 TRANSPOSITION DRAINAGE AREA

0 PI PRECIPITATION PATTERN

.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
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36 JD INDEX STORM NO. 6

STRM 3.47 PRECIPITATION DEPTH

TRDA 20.00 TRANSPOSITION DRAINAGE AREA

0 PI PRECIPITATION PATTERN

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37 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	C370B	792.	12.23	90.	25.	9.	.66
ROUTED TO	R370B	778.	12.27	90.	25.	9.	.66
+ ROUTED TO	RR370B	743.	12.37	90.	25.	9.	.66
+ HYDROGRAPH AT	355B	465.	12.27	54.	14.	5.	.51
+ 2 COMBINED AT	C355B	1163.	12.33	143.	38.	14.	1.17
+ ROUTED TO	R355B	1149.	12.40	143.	38.	14.	1.17
+ ROUTED TO	RR355B	1135.	12.43	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	2463.	12.43	290.	76.	27.	2.63
+ ROUTED TO	R310	2414.	12.53	290.	76.	27.	2.63
+ ROUTED TO	R312	2316.	12.63	290.	76.	27.	2.63
+ HYDROGRAPH AT	305B	405.	12.30	45.	11.	4.	.41
+ 2 COMBINED AT	C305B	2498.	12.63	333.	87.	31.	3.05
ROUTED TO	R305B	2476.	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	3747.	12.27	593.	153.	55.	5.25
+ ROUTED TO	S240	1821.	12.93	528.	137.	49.	5.25
+ ROUTED TO	R240	1819.	13.00	527.	137.	49.	5.25
+ HYDROGRAPH AT	220	694.	12.20	68.	18.	6.	.47
+ 2 COMBINED AT	C220	1865.	12.97	587.	153.	55.	5.72
+ ROUTED TO	S220	1776.	13.13	575.	150.	54.	5.72
+ ROUTED TO	R220	1775.	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	1789.	13.30	615.	162.	58.	7.17
+ ROUTED TO	RR200	1785.	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	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	2756.	12.53	720.	443.	214.	3.59
+ ROUTED TO	R340	2607.	12.70	707.	441.	213.	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	3025.	12.67	775.	464.	225.	4.63
+ ROUTED TO	R360	2855.	12.87	766.	462.	224.	4.63
+ 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
+ ROUTED TO	R370A	658.	12.47	76.	21.	7.	.59
+ 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
4 COMBINED AT							

+	C380	3382.	12.83	841.	488.	237.	6.12
DIVERSION TO	380S	1407.	12.83	66.	17.	6.	6.12
HYDROGRAPH AT	DD380	1975.	12.73	775.	472.	231.	6.12
+ HYDROGRAPH AT	RT380S	1407.	12.83	66.	17.	6.	6.12
ROUTED TO	SS380	25.	13.20	22.	15.	6.	6.12
+ 2 COMBINED AT	CC380	2000.	13.17	795.	486.	237.	6.12
+ ROUTED TO	R380	1967.	13.27	788.	485.	236.	6.12
+ 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	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
+ 3 COMBINED AT	CC400	2018.	13.27	819.	500.	242.	6.98
+ ROUTED TO	R400	1995.	13.47	815.	498.	241.	6.98
+ HYDROGRAPH AT	385A	358.	12.07	27.	7.	3.	.21
+ DIVERSION TO	SF385A	215.	12.07	16.	4.	2.	.21
+ HYDROGRAPH AT	D385A	143.	12.07	11.	3.	1.	.21
+ ROUTED TO	R385A	110.	12.43	11.	3.	1.	.21
+ 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	807.	12.20	102.	28.	11.	.93
+ 2 COMBINED AT	CC420	2036.	13.47	858.	515.	249.	7.91

+	ROUTED TO	R420	2009.	13.63	854.	513.	248.	7.91
	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	487.	12.17	70.	20.	7.	.55
HYDROGRAPH AT	RT385A	215.	12.07	16.	4.	2.	.21
+ ROUTED TO	RR385A	186.	12.23	16.	4.	2.	.21
+ 2 COMBINED AT	C415	665.	12.20	86.	24.	9.	.67
+ 2 COMBINED AT	CC415	1434.	12.27	201.	57.	21.	1.77
+ ROUTED TO	R415	1422.	12.30	201.	57.	21.	1.77
+ 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	2140.	13.63	1017.	568.	274.	10.80
+ ROUTED TO	R455	2047.	14.17	994.	563.	271.	10.80
+ 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	2063.	14.17	1008.	578.	280.	11.53
+ ROUTED TO	R480	2030.	14.37	1000.	575.	279.	11.53
+ 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	2270.	14.30	1183.	664.	321.	2.09
ROUTED TO							
+	R462	2266.	14.33	1182.	664.	321.	2.09
ROUTED TO							
+	RR462	2261.	14.40	1181.	664.	320.	2.09
HYDROGRAPH AT							
+	500	1126.	12.27	128.	35.	12.	.93
2 COMBINED AT							
	C500	2320.	12.23	1279.	687.	329.	3.02

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

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1****************************************
*                                      *
*   FLOOD HYDROGRAPH PACKAGE  (HEC-1)  *
*             JUN   1998               *
*           VERSION 4.1                *
*                                      *
*  RUN DATE   02MAY01  TIME  09:41:43  *
*                                      *
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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   DDM MCUHP1 SPOOK HILL AMDP - EXISTING CONDITIONS MODEL - 500YR, 24HR STORM
   2          ID   Non-Jurisdictional Alternatives - Option NJ6
   3          ID   Spook Hill Channel w/Off-Line Basin, Pass Mountain Division, and
   4          ID   Quadrupled Signal Butte Principal Spillway Outflow
              *
              *  Original File Name: EC24_NJ6.DAT, 3/27/01
              *  Modified File Name: EF24_NJ6.DAT, 4/11/01  Wood/Patel, SZ
              *
   5          ID   A CONSERVATIVE ESTIMATE WAS USED FOR THE LOCATION OF THE CENTROID FOR
   6          ID   PRECIPITATION VALUES
   7          ID
   8          ID   FLOODWAY CHANNEL ROUTING INFORMATION FOR SIGNAL BUTTE, SPOOK HILL &
   9          ID   BULLDOG FLOODWAY WAS FROM MCFCD AS-BUILT PLANS
  10          ID
              *
              *DIAGRAM
  11          IT       2                    2000
  12          IO       5
  13          IN      15
  14          JD    4.74    0.01
  15          PC    .000    .002    .005    .008    .011    .014    .017    .020    .023    .026
  16          PC    .029    .032    .035    .038    .041    .044    .048    .052    .056    .060
  17          PC    .064    .068    .072    .076    .080    .085    .090    .095    .100    .105
  18          PC    .110    .115    .120    .126    .133    .140    .147    .155    .163    .172
  19          PC    .181    .191    .203    .218    .236    .257    .283    .387    .663    .707
  20          PC    .735    .758    .776    .791    .804    .815    .825    .834    .842    .849
  21          PC    .856    .863    .869    .875    .881    .887    .893    .898    .903    .908
  22          PC    .913    .918    .922    .926    .930    .934    .938    .942    .946    .950
  23          PC    .953    .956    .959    .962    .965    .968    .971    .974    .977    .980
  24          PC    .983    .986    .989    .992    .995    .998   1.000
  25          JD   4.712    1.00
  26          JD   4.574    5.80
  27          JD   4.446   10.66
  28          JD   4.403   13.70
  29          JD   4.313   20.00
  30          JD   4.124   50.00
              * DDM   ***** Updated *****

  31          KK      10
  32          KM   SUB-BASIN 10
  33          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
  34          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .996
  35          KM     L = 2.00  Kb = .044  Adj. Slope =  165.0
  36          BA    .702
  37          LG    .350    .320   7.600    .090  15.000
  38          UC    .421    .302
  39          UA       0       3       5       8      12      20      43      75      90      96
  40          UA     100
              * DDM   ***** Preserved *****
                                    HEC-1 INPUT                                                    PAGE  2

LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10
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 41          KK     R10
 42          KM   ROUTING OF FLOW FROM SUB-BASIN 10 TO R12
 43          RS       4    FLOW      -1
 44          RC    .045     .03    .045    8700    .021
 45          RX       0       1       2      17      27      42      43      44
 46          RY       5       5       5       0       0       5       5       5
             * DDM   ***** Preserved *****

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

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

 63          KK     C20
 64          KM   HYDROGRAPH COMBINATION OF SUB-BASINS 10 AND 20
 65          HC       2
             * DDM   ***** Preserved *****

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

 72          KK      40
 73          KM   SUB-BASIN 40
 74          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
 75          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .987
 76          KM     L = 3.08  Kb = .036  Adj. Slope =  189.0
 77          BA   2.233
 78          LG    .340    .340   4.900    .280   5.000
 79          UC    .496    .264
 80          UA       0       3       5       8      12      20      43      75      90      96
 81          UA     100
             * DDM   ***** Updated *****
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LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 82          KK      60
 83          KM   SUB-BASIN 60
 84          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
 85          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .990
 86          KM     L = 4.19  Kb = .038  Adj. Slope =  209.6
 87          BA   1.746
 88          LG    .330    .350   5.800    .190   9.000
 89          UC    .596    .477
 90          UA       0       3       5       8      12      20      43      75      90      96
 91          UA     100
             * DDM   ***** Preserved *****

 92          KK     C60
 93          KM   HYDROGRAPH COMBINATION FOR APACHE JUNCTION FRS
             *      1       2
 94          HC       3
             * DDM   ***** Preserved *****

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

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

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

 116          KK      80
 117          KM   SUB-BASIN 80
 118          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
 119          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .991
 120          KM     L = 2.69  Kb = .039  Adj. Slope =  229.8
 121          BA   1.475
 122          LG    .330    .330   5.600    .210   4.000
 123          UC    .433    .259
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 124          UA       0       3       5       8      12      20      43      75      90      96
 125          UA     100
              * DDM   ***** Preserved *****

 126          KK     C80
 127          KM   HYDROGRAPH COMBINATION FOR FLOW FROM APACHE JUNCTION FRS & SUB-BASIN 80
 128          HC       2   1.475
              * DDM   ***** Preserved *****

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

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

 145          KK    C100
 146          KM   HYDROGRAPH COMBINATION FOR FLOW FROM SUB-BASIN 80 & 100
 147          HC       2
              * DDM   ***** Preserved *****

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

 154          KK     120
 155          KM   SUB-BASIN 120
 156          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
 157          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .987
 158          KM     L = 3.07  Kb = .037  Adj. Slope =  239.0
 159          BA   2.202
 160          LG    .330    .280   6.800    .130  11.000
 161          UC    .429    .226
 162          UA       0       3       5       8      12      20      43      75      90      96
 163          UA     100
              * DDM   ***** Preserved *****
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 164          KK    C120
 165          KM   HYDROGRAPH COMBINATION FOR FLOW FROM SUB-BASIN 100 & 120
 166          HC       2
              * DDM   ***** Preserved *****

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

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

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

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

199          KK    R152
200          KM   ROUTING OF FLOW FROM R152 TO SUB-BASIN 160
201          RS       3    FLOW      -1
202          RC    .045     .03    .045    5900    .019
203          RX       0       1       2       8      33      39      40      41
204          RY       2       2       2       0       0       2       2       2
             * DDM   ***** Updated *****
                                        HEC-1 INPUT                                          PAGE  6

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

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

215          KK     180
216          KM   SUB-BASIN 180
217          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
218          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .994
219          KM     L = 2.42  Kb = .041  Adj. Slope =  140.0
220          BA   1.000
221          LG    .350    .350   4.150    .430    .000
222          UC    .571    .403
223          UA       0       3       5       8      12      20      43      75      90      96
224          UA     100
             * DDM   ***** Preserved *****

225          KK    C180
226          KM   HYDROGRAPH COMBINATION FOR SIGNAL BUTTE FRS
227          HC       5
             * DDM   ***** Updated *****

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

238          KK   R385B
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 239          KM   CHANNEL GEOMETRY OBTAINED FROM 2' CONTOUR MAPPING & AERIAL MAPPING
 240          KM   ROUTING OF FLOW FROM SUB-BASIN 385B TO 395B
 241          KM   OVERBANK MANNINGS INCREASED TO ACCOUNT FOR SKEWED FLOW TO NATURAL
 242          KM   WATERCOURSE FLOW PATH
 243          RS       1    FLOW      -1
 244          RC     .07      .03      .07      500     .045
 245          RX       0        1        3        9       39       45       46       47
 246          RY       3        2        2        0        0        2        2        3
              * DDM   ***** Updated *****
1                                          HEC-1 INPUT                                                    PAGE  7

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

 247          KK    395B
 248          KM   SUB-BASIN 395B
 249          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
 250          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF 1.000
 251          KM     L =  .71  Kb = .066  Adj. Slope =  249.8
 252          BA    .017
 253          LG    .350     .350   4.300     .400     .000
 254          UC    .262     .650
 255          UA       0        3        5        8       12       20       43       75       90       96
 256          UA     100
              * DDM   ***** Preserved *****

 257          KK   C395B
 258          KM   HYDROGRAPH COMBINATION OF SUB-BASINS 383 & 393
 259          HC       2
              * DDM   ***** Preserved *****

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

 267          KK    370B
 268          KM   SUB-BASIN 370B
 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  .998
 271          KM     L = 2.20  Kb = .049  Adj. Slope =  299.5
 272          BA    .264
 273          LG    .350     .350   4.800     .290    5.000
 274          UC    .408     .550
 275          UA       0        3        5        8       12       20       43       75       90       96
 276          UA     100
              * DDM   ***** Preserved *****

 277          KK   C370B
 278          KM   HYDROGRAPH COMBINATION OF SUB-BASINS 395B & 370B
 279          HC       2
              * DDM   ***** Preserved *****

 280          KK   R370B
 281          KM   CHANNEL GEOMETRY OBTAINED FROM 2' CONTOUR MAPPING & AERIAL MAPPING
 282          KM   ROUTING OF FLOW FROM SUB-BASIN 370B TO ROUTING RR370B
 283          RS       2    FLOW      -1
 284          RC    .045      .03     .045     1110     .025
 285          RX       0        1       50       56       76       82      131      132
 286          RY       3        2        2        0        0        2        2        3
              * DDM   ***** Preserved *****
1                                          HEC-1 INPUT                                                    PAGE  8

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

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

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

306             KK   C355B
307             KM   HYDROGRAPH COMBINATION OF SUB-BASINS 370B & 355B
308             HC       2
                * DDM   ***** Preserved *****

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

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

325             KK     350
326             KM   SUB-BASIN 350
327             KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
328             KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .994
329             KM     L = 2.22  Kb = .042  Adj. Slope =  315.0
330             BA    .970
1                                        HEC-1 INPUT                                                    PAGE  9

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

331             LG    .350    .350   4.550    .340   4.000
332             UC    .367    .234
333             UA       0       3       5       8      12      20      43      75      90      96
334             UA     100
                * DDM   ***** Preserved *****

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

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

352             KK    C310
353             KM   HYDROGRAPH COMBINATION OF SUB-BASINS 350 & 310
354             HC       3
                * DDM   ***** Preserved *****

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

362             KK    R312
363             KM   CHANNEL GEOMETRY OBTAINED FROM 2' CONTOUR MAPPING & AERIAL MAPPING
364             KM   ROUTING OF FLOW FROM SUB-BASIN 310 TO 305
365             KM   OVERBANK MANNINGS INCREASED TO ACCOUNT FOR SKEWED FLOW TO NATURAL
366             KM   WATERCOURSE FLOW PATH
367             RS       3    FLOW      -1
368             RC     .07     .03     .07    2560   .0124
369             RX       0       3       5      11      61      67     200     395
370             RY       4     2.5       2       0       0       2     2.5       4
                * DDM   ***** Updated *****
                                         HEC-1 INPUT                                                    PAGE 10

LINE            ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10
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371          KK    305B
372          KM   SUB-BASIN 305B
373          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
374          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .998
375          KM     L = 1.65  Kb = .047  Adj. Slope =  127.0
376          BA    .414
377          LG    .350    .350   4.700    .300    .000
378          UC    .467    .392
379          UA       0       3       5       8      12      20      43      75      90      96
380          UA     100
             * DDM   ***** Preserved *****

381          KK   C305B
382          KM   HYDROGRAPH COMBINATION OF SUB-BASINS 310 & 295
383          HC       2
             * DDM   ***** Preserved *****

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

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

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

409          KK     240
410          KM   SUB-BASIN 240
411          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
412          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .992
413          KM     L = 2.96  Kb = .039  Adj. Slope =  305.5
414          BA   1.408
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LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

415          LG    .350    .370   5.300    .230   2.000
416          UC    .417    .274
417          UA       0       3       5       8      12      20      43      75      90      96
418          UA     100
             * DDM   ***** Preserved *****

419          KK    C240
420          KM   HYDROGRAPH COMBINATION FOR SUB-BASIN 240 & 220
421          HC       3
             * DDM   ***** Preserved *****

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

431          KK    R240
432          KM   ROUTE FLOW FROM SUB-BASIN 240 TO SUB-BASIN 220
433          KM   PASS MOUNTAIN DIVERSION
434          RS       3    FLOW      -1
435          RC    .035    .025    .035    1800    .005
436          RX       0      15      30      39      69      81      96     111
437          RY     4.6     3.3       3       0       0       3       3       4
             * DDM   ***** Updated *****
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438          KK     220
439          KM   SUB-BASIN 220
440          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
441          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .997
442          KM     L = 1.85  Kb = .046  Adj. Slope =  315.0
443          BA    .473
444          LG    .350    .350   7.000    .120   5.000
445          UC    .325    .266
446          UA       0       3       5       8      12      20      43      75      90      96
447          UA     100
             * DDM   ***** Preserved *****

448          KK    C220
449          KM   HYDROGRAPH COMBINATION FOR SUB-BASIN 240 & 220
450          HC       2
             * DDM   ***** Preserved *****

451          KK    S220
452          KM   DIGITAL MAPPING SHOWS SEDIMENTATION.  FOR SIMPLICITY NO ADDITIONAL
453          KM   SEDIMENTATION WILL BE CONSIDERED FOR STORAGE ROUTING ANALYSIS. 5/11/00
454          KM    WEIR GEOMETRY OBTAINED FROM AS-BUILT PLANS @ PASS MTN. DIVERSION.
455          KM   WEIR STORAGE DATA OBTAINED FROM 2' CONTOUR MAPPING.
456          RS       1    STOR       0
1                                        HEC-1 INPUT                                          PAGE 12

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

457          SA     .78     4.1    13.7
458          SE       0       3      10
459          SS       3      65       3     1.5
             * DDM   ***** Preserved *****

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

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

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

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

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

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

499          KK    C200
500          KM   HYDROGRAPH COMBINATION FOR SUB-BASIN 220 & 200
501          HC       3
             * DDM   ***** Preserved *****

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

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

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

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

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

531          KK    S180
532          KM   SIGNAL BUTTE FRS DATED 1/28/85
533          KM   OUTLET PIPE=36"RCP; L= 147';  INLET INV.=1690; OUTLET INV.=1687
534          KM   EMERGENCY SPILLWAY ELEV.=1712.4; PRINCIPLE SPILLWAY ELEV.=1701
535          KM   STORAGE VOLUME BELOW PRINCIPLE SPILLWAY FOR SEDIMENT = 250 ACRE-FEET
536          RS       1    STOR       0
537          SV       0      92     226     462     742    1197    1418    1776    1941    3114
538          SQ       0      40      42     392     532     596     620    1949    3032    6465
539          SE      99     101     103     106     109     113   114.6     117     118     120
             *
             * SV     0    46.8     106     130   161.2   170.7   230.7   322.2     543   584
             * SV 812.9  1121.9  1470.1    1865
             * SE1791.9    1973  1794.1  1794.5    1795 1795.14    1796 1797.14 1799.42 1799.
             * SE1801.7    1804 1806.28 1808.57
             * SQ     0     .04     .08   105.2   297.6   364.8   384.6   409.7   455.6   462
             * SQ  2113    8156   15656   26656
             *      0       1     250     500     750    1060
             *      0   106.5   125.5   137.5     146     160
             *     90     101   104.5     107     109   112.4
             * DDM   ***** Preserved *****

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

549          KK     260
550          KM   SUB-BASIN 260
551          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
552          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .998
553          KM     L =  .85  Kb = .049  Adj. Slope =   65.0
554          BA    .262
555          LG    .300    .190   6.600    .170  15.000
556          UC    .379    .238
557          UA       0       5      16      30      65      77      84      90      94      97
558          UA     100
             * DDM   ***** Preserved *****
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```
559          KK    C260
560          KM   HYDROGRAPH COMBINATION FOR OUTFLOW OF SIGNAL BUTTE FRS & SUB-BASIN 260
561          HC       2    .262
             * DDM   ***** Preserved *****
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LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

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

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

581          KK    C280
582          KM   HYDROGRAPH COMBINATION FOR SUB-BASIN 260 & SUB-BASIN 280
583          HC       2
             * DDM   ***** Preserved *****

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

593          KK     300
594          KM   SUB-BASIN 300
595          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
596          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .998
597          KM     L =  .82  Kb = .049  Adj. Slope =   98.0
598          BA    .289
599          LG    .320    .290   4.200    .480  11.000
600          UC    .346    .197
601          UA       0       5      16      30      65      77      84      90      94      97
602          UA     100
             * DDM   ***** Preserved *****
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LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

603          KK    C300
604          KM   HYDROGRAPH COMBINATION OF DIVERTED FLOW
605          HC       2
             * DDM   ***** Preserved *****

606          KK    R300
607          KM   Routing length updated using Signal Butte Floodway plans dated March 1983
608          KM   Routing length increased 300' from 2200' to 2500'    12/12/00
609          KM   CHANNEL GEOMETRY FOR SIGNAL BUTTE FRS OBTAINED FROM AS-BUILT PLANS.
610          KM   ROUTE FLOW FROM SUB-BASIN 300 TO START OF FLOODWAY CONCRETE CHANNEL
611          RS       2    FLOW      -1
612          RC    .035    .025    .035    2500    .003
613          RX       0       1       2    23.4    55.4    76.8      77      78
614          RY     9.7     9.7     9.7       0       0     9.7     9.7     9.7
             * DDM   ***** Updated *****

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

 625        KK   C305A
 626        KM   HYDROGRAPH COMBINATION OF SUB-BASIN 280 & 300 & 305A
 627        HC       2
            * DDM   ***** Preserved *****

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

 637        KK     320
 638        KM   SUB-BASIN 320
 639        KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
 640        KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .995
 641        KM     L = 2.04  Kb = .042  Adj. Slope =  118.0
 642        BA    .865
 643        LG    .310    .290   4.500    .380  15.000
 644        UC    .508    .335
 645        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

 646        UA     100
            * DDM   ***** Preserved *****

 647        KK    D320
 648        KM        DIVERT FLOW INTO ONLINE  DETENTION BASIN
 649        KM   DETENTION/RETENTION BASINS LOCATED WITHIN THREE SUBDIVISIONS
 650        KM   SIERRA HEIGHTS       FALCON RIDGE    & MARBLE CREEK
 651        KM        MAXIMUM VOLUME DIVERSION = 12.27acre-feet
            *      1
 652        DT   BS320   12.27
 653        DI       0   10000
 654        DQ       0   10000
            * DDM   ***** Preserved *****

 655        KK   RT320
 656        KM   RETRIEVE FLOW FROM DIVERSION INTO ONLINE BASIN
 657        DR   BS320
            * DDM   ***** Preserved *****

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

 664        KK    C320
 665        KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
 666        HC       3
            * ADD ROUTING ALONG SPOOK HILL FRS
            * DDM   ***** Preserved *****

 667        KK    R320
 668        KM   ROUTE FLOW THROUGH SPOOK HILL FRS FROM JUNCTION OF BROWN & ELLSWORTH ROAD
 669        KM   TO JUST NORTH OF JUNCTION OF MCDOWELL & POWER RD.
 670        RS       9    FLOW      -1
 671        RC    .035    .035    .035    4500   .0007
 672        RX       0       9      50      68     198     206     267     275
 673        RY     100      97      97      91      91      97      97     100
            * DDM   ***** Updated *****

 674        KK     340
 675        KM   SUB-BASIN 340
 676        KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
 677        KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .991
 678        KM     L = 2.40  Kb = .042  Adj. Slope =  160.0
 679        BA   1.482
 680        LG    .280    .280   4.150    .520  20.000
 681        UC    .512    .284
 682        UA       0       5      16      30      65      77      84      90      94      97
 683        UA     100
            * DDM   ***** Preserved *****
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LINE        ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10
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684          KK    D340
685          KM        DIVERT FLOW INTO ONLINE  DETENTION BASIN
686          KM   DETENTION/RETENTION BASINS LOCATED WITHIN THREE SUBDIVISIONS
687          KM   GRANDVIEW ESTATES    BOULDER MOUNTAIN & 33% OF MESA HIGHLANDS
688          KM        MAXIMUM VOLUME DIVERSION = 56.0 acre-feet
             *      1
689          DT   BS340      56
690          DI       0   10000
691          DQ       0   10000
             * DDM   ***** Preserved *****

692          KK   RT340
693          KM   RETRIEVE FLOW FROM DIVERSION INTO ONLINE BASIN
694          DR   BS340
             * DDM   ***** Preserved *****

695          KK    S340
696          KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
697          KM    56.0 ACRE-FEETx43560/36x3600=18.8cfs
             *      1
698          RS       1    STOR       0
699          SV       0     .01      56
700          SQ       0     3.0    18.9
             * DDM   ***** Preserved *****

701          KK    C340
             * KO     1       2
702          KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
703          HC       3
             * ADD ROUTING ALONG SPOOK HILL FRS
             * DDM   ***** Preserved *****

704          KK    R340
705          KM   ROUTE FLOW THROUGH SPOOK HILL FRS FROM JUNCTION OF BROWN & ELLSWORTH ROAD
706          KM   TO JUST NORTH OF JUNCTION OF MCDOWELL & POWER RD.
707          RS       5    FLOW      -1
708          RC    .035    .035    .035    2300   .0007
709          RX       0       9      50      68     233     241     307     315
710          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 *****

711          KK    355A
712          KM   SUB-BASIN 355A
713          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
714          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .999
715          KM     L =  .80  Kb = .052  Adj. Slope =  125.0
716          BA    .163
717          LG    .320    .290   4.550    .360  14.000
718          UC    .308    .236
719          UA       0       5      16      30      65      77      84      90      94      97
720          UA     100
             * DDM   ***** Preserved *****
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LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

721          KK   R355A
722          KM   CHANNEL GEOMETRY OBTAINED FROM 2' CONTOUR MAPPING.
723          KM   ROUTING OF FLOW FROM SUB-BASIN 355A TO SUB-BASIN 360
724          RS       9    FLOW      -1
725          RC    .045    .035    .045   10100    .026
726          RX       0       1      40      46      56      62     102     103
727          RY       3       2       2       0       0       2       2       3
             * DDM   ***** Updated *****

728          KK     360
729          KM   SUB-BASIN 360
730          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
731          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .995
732          KM     L = 2.10  Kb = .046  Adj. Slope =  124.0
733          BA    .880
734          LG    .280    .290   4.100    .520  15.000
735          UC    .571    .387
736          UA       0       5      16      30      65      77      84      90      94      97
737          UA     100
             * DDM   ***** Preserved *****

738          KK    D360
739          KM        DIVERT FLOW INTO ONLINE  DETENTION BASIN
740          KM   DETENTION/RETENTION BASINS LOCATED WITHIN 33% OF MESA HIGHLANDS
741          KM        MAXIMUM VOLUME DIVERSION = 28.6 acre-feet
             *      1
742          DT   BS360    28.6
743          DI       0   10000
744          DQ       0   10000
             * DDM   ***** Preserved *****

745          KK   RT360
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746          KM   RETRIEVE FLOW FROM DIVERSION INTO ONLINE BASIN
747          DR   BS360
             * DDM   ***** Preserved *****

748          KK    S360
749          KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
750          KM    28.6 ACRE-FEETx43560/36x3600=9.6cfs
751          RS       1     STOR       0
752          SV       0      .01    28.6
753          SQ       0      3.0     9.6
             * DDM   ***** Preserved *****

754          KK    C360
755          KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
756          HC       4
             * ADD ROUTING ALONG SPOOK HILL FRS
             * DDM   ***** Preserved *****
1                                    HEC-1 INPUT                                                    PAGE 20

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

757          KK    R360
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    2600   .0007
762          RX       0        9      50      68     268     286     337     345
763          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 *****

764          KK    370A
765          KM   SUB-BASIN 370A
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  .998
768          KM     L = 1.04  Kb = .047  Adj. Slope =  163.0
769          BA    .408
770          LG    .330     .300   4.650    .350  11.000
771          UC    .308     .172
772          UA       0        5      16      30      65      77      84      90      94      97
773          UA     100
             * DDM   ***** Updated *****

774          KK    395A
775          KM   SUB-BASIN 395A
776          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
777          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .999
778          KM     L = 1.14  Kb = .052  Adj. Slope =  165.0
779          BA    .182
780          LG    .330     .320   5.000    .290  10.000
781          UC    .346     .334
782          UA       0        5      16      30      65      77      84      90      94      97
783          UA     100
             * DDM   ***** Preserved *****

784          KK   C370A
785          KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
786          HC       2
             * DDM   ***** Preserved *****

787          KK   R370A
788          KM   CHANNEL GEOMETRY OBTAINED FROM 2' CONTOUR MAPPING.
789          KM   ROUTING OF FLOW FROM SUB-BASINS 370 AND 395 TO SUB-BASIN 380.
790          RS      10     FLOW      -1
791          RC    .045     .035    .045   10250    .023
792          RX       0        1      40      46      56      62     102     103
793          RY     3.5        2       2       0       0       2       2     3.5
             * DDM   ***** Updated *****
1                                    HEC-1 INPUT                                                    PAGE 21

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

794          KK     380
795          KM   SUB-BASIN 380
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 = 2.20  Kb = .049  Adj. Slope =  114.0
799          BA    .898
800          LG    .300     .310   4.150    .500   7.000
801          UC    .671     .475
802          UA       0        5      16      30      65      77      84      90      94      97
803          UA     100
             * DDM   ***** Preserved *****

804          KK    D380
805          KM        DIVERT FLOW INTO ONLINE  DETENTION BASIN
806          KM   DETENTION/RETENTION BASINS LOCATED WITHIN 33% OF MESA HIGHLANDS
807          KM        MAXIMUM VOLUME DIVERSION = 28.6 acre-feet
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                *      1
808             DT   BS380    28.6
809             DI       0   10000
810             DQ       0   10000
                * DDM   ***** Preserved *****

811             KK   RT380
812             KM   RETRIEVE FLOW FROM DIVERSION INTO ONLINE BASIN
813             DR   BS380
                * DDM   ***** Preserved *****

814             KK    S380
815             KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
816             KM    28.6 ACRE-FEETx43560/36x3600=9.6cfs
817             RS       1    STOR       0
818             SV       0     .01    28.6
819             SQ       0     3.0     9.6
                * DDM   ***** Preserved *****

820             KK    C380
                * KO     1       2
821             KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
822             HC       4
                * OFFLINE DETENTION BASIN ADDED THIS ALTERNATIVE
                * DDM   ***** Preserved *****

823             KK   DD380
824             KM        DIVERT FLOW INTO OFFLINE  DETENTION BASIN
825             KM        IN RED MOUNTAIN REGIONAL PARK
826             KM
827             DT    380S
828             DI       0    1975   10000
829             DQ       0       0    8025
                * DDM   ***** Preserved *****
1                                          HEC-1 INPUT                                                    PAGE 22

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

830             KK  RT380S
831             KM   RETRIEVE FLOW FROM DIVERSION INTO OFFLINE BASIN
832             DR    380S
                * DDM   ***** Preserved *****

833             KK   SS380
834             KM   OFFLINE BASIN IN PARK AREA
                *  Total Volume = 32 A-F, Maximum Inflow = 1400 cfs
                *  Bleed-off Pipe Diameter = 2', and Weir Flow Start at 3' of Ponding. 3/26/01
                * KO     1       2
835             RS       1    STOR       0
836             SV     0.0     1.0     8.0    19.0    32.0    50.0
837             SE       0      .5       1     2.0     3.0     4.0
838             SL     0.5    3.14     0.6     0.5
839             SS       3      50     3.0     1.5
                * DDM   ***** Preserved *****

840             KK   CC380
841             KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
842             HC       2
                * ADD ROUTING ALONG SPOOK HILL FRS
                * DDM   ***** Preserved *****

843             KK    R380
844             KM   ROUTE FLOW THROUGH SPOOK HILL FRS FROM JUNCTION OF BROWN & ELLSWORTH ROAD
845             KM   TO JUST NORTH OF JUNCTION OF MCDOWELL & POWER RD.
846             RS       3    FLOW      -1
847             RC    .035    .035    .035    4000   .0007
848             RX       0       9      50      68     163     181     257     265
849             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 *****

850             KK     390
851             KM   SUB-BASIN 390
852             KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
853             KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .999
854             KM     L =  .70  Kb = .050  Adj. Slope =  299.4
855             BA    .244
856             LG    .300    .250   4.700    .380  18.000
857             UC    .204    .107
858             UA       0       5      16      30      65      77      84      90      94      97
859             UA     100
                * DDM   ***** Preserved *****

860             KK    D390
861             KM        DIVERT FLOW INTO ONLINE  DETENTION BASIN
862             KM   DETENTION/RETENTION BASINS LOCATED WITHIN THUNDER MOUNTAIN ESTATES
863             KM        MAXIMUM VOLUME DIVERSION  = 3.5 acre-feet
                *      1
864             DT   BS390     3.5
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865          DI        0   10000
866          DQ        0   10000
             * DDM   ***** Preserved *****
                                        HEC-1 INPUT                                                    PAGE 23

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

867          KK   RT390
868          KM   RETRIEVE FLOW FROM DIVERSION INTO ONLINE BASIN
869          DR   BS390
             * DDM   ***** Preserved *****

870          KK    S390
871          KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
872          KM     3.5 ACRE-FEETx43560/36x3600=1.2cfs
873          RS       1     STOR       0
874          SV       0      .01     3.5
875          SQ       0      0.2     1.2
             * DDM   ***** Preserved *****

876          KK    C390
877          KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
878          HC       2
             * DDM   ***** Preserved *****

879          KK    R390
880          KM   CHANNEL GEOMETRY OBTAINED FROM 2' CONTOUR MAPPING.
881          KM   FROM SUB-BASIN 390 TO SUB-BASIN 400
882          RS      15     FLOW      -1
883          RC    .045     .045    .045    8800    .020
884          RX       0        1      40      46      56      62     102     103
885          RY       3        2       2       0       0       2       2       3
             * DDM   ***** Updated *****

886          KK     400
887          KM   SUB-BASIN 400
888          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
889          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .996
890          KM     L = 1.64  Kb = .046  Adj. Slope =  110.0
891          BA    .616
892          LG    .320     .300   4.150    .490   6.000
893          UC    .508     .342
894          UA       0        5      16      30      65      77      84      90      94      97
895          UA     100
             * DDM   ***** Preserved *****

896          KK    D400
897          KM        DIVERT FLOW INTO ONLINE  DETENTION BASIN
898          KM   DETENTION/RETENTION BASIN LOCATED WITHIN SAGUARO VISTA SUBDIVISION
899          KM        MAXIMUM VOLUME DIVERSION = 5.6 ACRE-FEET
             *      1
900          DT   BS400      5.6
901          DI       0   10000
902          DQ       0   10000
             * DDM   ***** Preserved *****
1                                       HEC-1 INPUT                                                    PAGE 24

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

903          KK   RT400
904          KM   RETRIEVE FLOW FROM DIVERSION INTO ONLINE BASIN
905          DR   BS400
             * DDM   ***** Preserved *****

906          KK    S400
907          KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
908          KM     5.6 ACRE-FEETx43560/36x3600 = 2 cfs
909          RS       1     STOR       0
910          SV       0      .01     5.6
911          SQ       0      1.0       2
             * DDM   ***** Preserved *****

912          KK    C400
913          KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
914          HC       2
             * DDM   ***** Preserved *****

915          KK   CC400
             * KO      1        2
916          KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
917          HC       3
             * ADD ROUTING ALONG SPOOK HILL FRS
             * DDM   ***** Preserved *****

918          KK    R400
919          KM   ROUTE FLOW THROUGH SPOOK HILL FRS FROM JUNCTION OF BROWN & ELLSWORTH ROAD
920          KM   TO JUST NORTH OF JUNCTION OF MCDOWELL & POWER RD.
921          RS       9     FLOW      -1
922          RC    .035     .035    .035    3800   .0007
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```
923          RX       0       9      50      68     163     181     257     265
924          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 *****

925          KK    385A
926          KM   SUB-BASIN 385A
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 =  .90  Kb = .051  Adj. Slope =  309.5
930          BA    .213
931          LG    .340    .320   4.900    .300   9.000
932          UC    .233    .163
933          UA       0       5      16      30      65      77      84      90      94      97
934          UA     100
             * DDM   ***** Preserved *****

935          KK   D385A
936          KM   DIVERT FLOW INTO SUB-BASINS 415 & 420
937          DT  SF385A
938          DI       0    5000
939          DQ       0    3000
             * DDM   ***** Preserved *****
1                                        HEC-1 INPUT                                                    PAGE 25

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

940          KK   R385A
941          KM   CHANNEL GEOMETRY OBTAINED FROM 2' CONTOUR MAPPING.
942          KM   ROUTING OF FLOW DIVERSION FROM SUB-BASIN 385A TO 420
943          RS      11    FLOW      -1
944          RC    .045     .04    .045   10250    .022
945          RX       0       1      40      46      56      62     102     103
946          RY       3       2       2       0       0       2       2       3
             * DDM   ***** Updated *****

947          KK     420
948          KM   SUB-BASIN 420
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  .995
951          KM     L = 1.91  Kb = .042  Adj. Slope =  120.0
952          BA    .849
953          LG    .310    .270   3.880    .580  12.000
954          UC    .512    .325
955          UA       0       5      16      30      65      77      84      90      94      97
956          UA     100
             * DDM   ***** Preserved *****

957          KK    D420
958          KM        DIVERT FLOW INTO ONLINE  DETENTION BASIN
959          KM   DETENTION/RETENTION BASINS LOCATED WITHIN GRAY FOX SUBDIVISION
960          KM        MAXIMUM VOLUME DIVERSION = 8.65 acre-feet
             *      1
961          DT   BS420    8.65
962          DI       0   10000
963          DQ       0   10000
             * DDM   ***** Preserved *****

964          KK   RT420
965          KM   RETRIEVE FLOW FROM DIVERSION INTO ONLINE BASIN
966          DR   BS420
             * DDM   ***** Preserved *****

967          KK    S420
968          KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
969          KM    8.65 ACRE-FEETx43560/36x3600=2.9cfs
970          RS       1    STOR       0
971          SV       0     .01    8.65
972          SQ       0     1.0     2.9
             * DDM   ***** Preserved *****

973          KK    C420
974          KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
975          HC       3  0.9342
             * DDM   ***** Preserved *****
1                                        HEC-1 INPUT                                                    PAGE 26

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

976          KK   CC420
977          KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
978          HC       2
             * ADD ROUTING ALONG SPOOK HILL FRS
             * DDM   ***** Preserved *****

979          KK    R420
980          KM   ROUTE FLOW THROUGH SPOOK HILL FRS FROM JUNCTION OF BROWN & ELLSWORTH ROAD
981          KM   TO JUST NORTH OF JUNCTION OF MCDOWELL & POWER RD.
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982          RS       5    FLOW      -1
983          RC    .035    .035    .035    2900    .0007
984          RX       0       9      50      68     163     181     257     265
985          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 *****

986          KK     440
987          KM   SUB-BASIN 440
988          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
989          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF 1.000
990          KM     L =  .40  Kb = .039  Adj. Slope =  315.0
991          BA    .080
992          LG    .190    .380   6.400    .140  13.000
993          UC    .129    .077
994          UA       0       3       5       8      12      20      43      75      90      96
995          UA     100
             * DDM   ***** Preserved *****

996          KK     R70
997          KM   ROUTE FLOW FROM SUB-BASIN 440 TO C108
998          RS       2    FLOW      -1
999          RC     .05    .035     .05    2250     .08
1000         RX    1000    1025    1050    1070    1075    1095    1120    1145
1001         RY      30    22.9    15.7      10      10    15.7    22.9      30
             * DDM   ***** Updated *****

1002         KK     441
1003         KM   SUB-BASIN 441
1004         KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1005         KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF 1.000
1006         KM     L =  .28  Kb = .069  Adj. Slope =  315.0
1007         BA    .010
1008         LG    .300    .250   5.600    .220   5.000
1009         UC    .150    .225
1010         UA       0       5      16      30      65      77      84      90      94      97
1011         UA     100
             * DDM   ***** Preserved *****
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LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1012         KK    C108
1013         KM   COMBINE HYDROGRAPHS FROM SUB-BASINS 440 & 441
1014         HC       2
             * DDM   ***** Preserved *****

1015         KK      D4
1016         KM        SPLIT FLOW WITH TWO 42 INCH PIPES TO WEST AND SOUTH
             *      1
1017         DT   SPLIT
1018         DI       0      14      40      82     120     154     180
1019         DQ       0       7      20      41      60      77      90
             * DDM   ***** Preserved *****

1020         KK    R108
1021         KM        ROUTE FLOW FROM SUB-BASIN C108 TO C67
1022         RS       2    FLOW      -1
1023         RC     .05    .035     .05    3200      .1
1024         RX    1000    1025    1050    1070    1075    1095    1120    1145
1025         RY      30    22.9    15.7      10      10    15.7    22.9      30
             * DDM   ***** Updated *****

1026         KK     442
1027         KM   SUB-BASIN 442
1028         KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1029         KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .999
1030         KM     L =  .83  Kb = .055  Adj. Slope =  274.2
1031         BA    .100
1032         LG    .300    .270   3.290    .770   5.000
1033         UC    .258    .264
1034         UA       0       5      16      30      65      77      84      90      94      97
1035         UA     100
             * DDM   ***** Preserved *****

1036         KK     C67
1037         KM   COMBINE FLOW FROM SUB-BASIN 442 & DIV4
1038         HC       2
             * DDM   ***** Preserved *****

1039         KK      D6
1040         KM        OFFLINE BASIN WITH 25 FOOT WEIR SET AT 2.5 FEET ABOVE BOTTOM OF CHANNEL
1041         KM        FLOW CONTINUES BEYOND BASIN THROUGH 2-30" PIPES
             *      1
1042         DT  BASIN4     3.3
1043         DI       0      10      32      44    79.9   132.5     198   272.9   356.8
1044         DQ       0       0       0       0    23.9    67.5     124   190.9   266.8
             * DDM   ***** Preserved *****
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1045          KK    RTD6
1046          KM   RETRIEVE FLOW FROM DIVERSION INTO OFFLINE BASIN
1047          DR  BASIN4
              * DDM    ***** Preserved *****
1                                        HEC-1 INPUT                                                    PAGE 28

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


1048          KK     SD6
1049          KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
1050          KM     3.3 ACRE-FEETx43560/36x3600=1.1cfs
              *      1
1051          RS       1     STOR       0
1052          SV       0      .01     3.3
1053          SQ       0      0.2     1.1
              * DDM    ***** Preserved *****

1054          KK     CD6
1055          KM   HYDROGRAPH COMBINATION FOR OFFLINE BASIN BLEEDOFF
1056          HC       2
              * DDM    ***** Updated *****

1057          KK     443
1058          KM   SUB-BASIN 443
1059          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1060          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF 1.000
1061          KM     L =  .71  Kb = .050  Adj. Slope =  315.0
1062          BA    .080
1063          LG    .250    .190   8.000    .080  10.000
1064          UC    .196    .194
1065          UA       0       5      16      30      65      77      84      90      94      97
1066          UA     100
              * DDM    ***** Preserved *****

1067          KK     D66
1068          KM        DIVERT FLOW INTO 3 NATURAL WASHES WITH ONE 24" PIPE IN EACH WASH.
1069          KM        EACH PIPE CAPACITY BASED ON 4 FEET OF HEAD
1070          DT   WSH66
1071          DI       0      78     100     200
1072          DQ       0      78      78      78
              * DDM    ***** Preserved *****

1073          KK    R113
1074          KM        ROUTE FLOW FROM C113 TO C114
1075          RS       1    FLOW      -1
1076          RC    .019    .019    .019    1300    .029
1077          RX    1000    1004    1008    1012    1018    1022    1026    1030
1078          RY      17   15.33   12.67      10      10   12.67   15.33      17
              * DDM    ***** Preserved *****

1079          KK    C114
1080          KM        COMBINE HYDROGRAPHS FROM SUB-BASIN 67 AND C113
1081          HC       2
              * DDM    ***** Updated *****

1082          KK     444
1083          KM   SUB-BASIN 444
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 =  .33  Kb = .034  Adj. Slope =  315.0
1087          BA    .040
1088          LG    .130    .350   4.450    .320   1.000
1                                        HEC-1 INPUT                                                    PAGE 29

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

1089          UC    .112    .084
1090          UA       0       3       5       8      12      20      43      75      90      96
1091          UA     100
              * DDM    ***** Preserved *****

1092          KK     R58
1093          KM   ROUTE FLOW FROM SUB-BASIN 444 TO C107
1094          RS       2    FLOW      -1
1095          RC     .05    .035     .05    2370   .0516
1096          RX    1000    1010    1020    1050    1055    1085    1095    1105
1097          RY      19      18      17      10      10      17      18      19
              * DDM    ***** Updated *****

1098          KK     445
1099          KM   SUB-BASIN 445
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  .999
1102          KM     L =  .82  Kb = .036  Adj. Slope =  315.0
1103          BA    .190
1104          LG    .170    .320   3.470    .590   3.000
1105          UC    .192    .130
1106          UA       0       5      16      30      65      77      84      90      94      97
1107          UA     100
              * DDM    ***** Preserved *****
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1108        KK    C107
1109        KM   COMBINE HYDROGRAPHS FROM SUB-BASINS 444 & 445
1110        HC        2
            * DDM   ***** Preserved *****

1111        KK    R107
1112        KM         ROUTE FLOW FROM C107 TO C109
1113        RS        2    FLOW      -1
1114        RC      .05    .035     .05     700   .0516
1115        RX     1000    1010    1020    1050    1055    1085    1095    1105
1116        RY       19      18      17      10      10      17      18      19
            * DDM   ***** Preserved *****

1117        KK    RTB2
1118        KM         RETRIEVE DIVERTED FLOW FROM BASIN 1
            *       1
1119        DR   SPLIT
            * DDM   ***** Preserved *****

1120        KK  RSPLIT
1121        KM         ROUTE FLOW FROM SPLIT TO C109
1122        RS        1    FLOW      -1
1123        RC      .05    .035     .05     800     .05
1124        RX     1000    1025    1050    1070    1075    1095    1120    1145
1125        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

1126        KK     446
1127        KM   SUB-BASIN 446
1128        KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1129        KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF 1.000
1130        KM     L =  .46  Kb = .061  Adj. Slope =  303.9
1131        BA    .040
1132        LG    .270    .250   4.500    .400  19.000
1133        UC    .183    .189
1134        UA       0       5      16      30      65      77      84      90      94      97
1135        UA     100
            * DDM   ***** Preserved *****

1136        KK    C109
1137        KM         COMBINE HYDROGRAPHS FROM COMBINES C107 AND C108
1138        HC        3
            * DDM   ***** Preserved *****

1139        KK      D5
1140        KM         DIVERT FLOW INTO WASHES TOWARDS WEST
1141        KM         DIVERSION THROUGH 36" PIPE WITH 3 FEET OF HEAD
            *       1
1142        DT  WSH404
1143        DI       0    40.7    71.2   121.6     190     276   379.4   500.6
1144        DQ       0      35      35      35      35      35      35      35
            * DDM   ***** Preserved *****

1145        KK    R109
1146        KM         ROUTE FLOW FROM C109 TO C110
1147        RS        1    FLOW      -1
1148        RC     .019    .019    .019    3080     .05
1149        RX     1000    1005    1010    1015    1025    1030    1035    1040
1150        RY    13.75    12.5   11.25      10      10   11.25    12.5   13.75
            * DDM   ***** Updated *****

1151        KK     447
1152        KM   SUB-BASIN 447
1153        KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1154        KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .999
1155        KM     L =  .49  Kb = .056  Adj. Slope =  221.0
1156        BA    .090
1157        LG    .250    .270   3.350    .870  30.000
1158        UC    .208    .145
1159        UA       0       5      16      30      65      77      84      90      94      97
1160        UA     100
            * DDM   ***** Preserved *****

1161        KK   RT404
1162        KM         RETRIEVE DIVERTED FLOW FOR WASH 109
1163        DR  WSH404
            * DDM   ***** Preserved *****
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LINE        ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1164        KK    R404
1165        KM         ROUTE FLOW FROM C110 TO C110
1166        RS        6    FLOW      -1
1167        RC     .019    .019    .019    3540     .03
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1168          RX    1000    1012    1016    1020    1025    1029    1033    1045
1169          RY      15      12      11      10      10      11      12      15
              * DDM   ***** Preserved *****

1170          KK    C110
1171          KM   COMBINE HYDROGRAPHS FROM SUB-BASIN 447 AND R404
1172          HC       3
              * DDM   ***** Preserved *****

1173          KK    R110
1174          KM        ROUTE FLOW FROM C110 TO C115
1175          RS       1    FLOW      -1
1176          RC    .019    .019    .019     580   .0291
1177          RX    1000    1012    1016    1020    1035    1039    1043    1055
1178          RY      15      12      11      10      10      11      12      15
              * DDM   ***** Preserved *****

1179          KK    C115
1180          KM        COMBINE HYDROGRAPHS FROM C114 AND C110
1181          HC       2
              * DDM   ***** Preserved *****

1182          KK    R115
              * ******OUTFLOW FROM THIS ROUTING IS GREATER THAN INFLOW TO THE
              * ******ROUTING BY 2cfs.  THIS IS NOTED BUT LEFT UNCHANGED WITHIN THE MODEL
1183          KM        ROUTE FLOW FROM C115 TO Sub 453
1184          RS       1    FLOW      -1
1185          RC    .019    .019    .019    2125    .029
1186          RX    1000    1012    1016    1020    1035    1039    1043    1055
1187          RY      15      12      11      10      10      11      12      15
              * DDM   ***** Updated *****

1188          KK     448
1189          KM   SUB-BASIN 448
1190          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1191          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF 1.000
1192          KM     L =  .36  Kb = .042  Adj. Slope =  315.0
1193          BA    .045
1194          LG    .170    .310   4.200    .390  11.000
1195          UC    .133    .102
1196          UA       0       5      16      30      65      77      84      90      94      97
1197          UA     100
              * DDM   ***** Updated *****

1198          KK     449
1199          KM   SUB-BASIN 449
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 =  .40  Kb = .054  Adj. Slope =  315.0
1203          BA    .050
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1204          LG    .260    .280   3.500    .640   6.000
1205          UC    .167    .134
1206          UA       0       5      16      30      65      77      84      90      94      97
1207          UA     100
              * DDM   ***** Preserved *****

1208          KK   C6364
1209          KM   COMBINE HYDROGRAPHS FROM SUB-BASINS 448 & 449
1210          HC       2
              * DDM   ***** Preserved *****

1211          KK   R6364
1212          KM   ROUTE FLOW FROM C116 AND SUB-BASINS 448 AND 449
1213          RS       5    FLOW      -1
1214          RC     .05    .035     .05    4375   .0333
1215          RX    1000    1027    1053    1080    1090    1117    1143    1170
1216          RY      15   13.33   11.67      10      10   11.67   13.33      15
              * DDM   ***** Updated *****

1217          KK     450
1218          KM   SUB-BASIN 450
1219          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1220          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF 1.000
1221          KM     L =  .85  Kb = .057  Adj. Slope =  210.5
1222          BA    .070
1223          LG    .340    .350   3.630    .570   4.000
1224          UC    .296    .383
1225          UA       0       3       5       8      12      20      43      75      90      96
1226          UA     100
              * DDM   ***** Updated *****

1227          KK     451
1228          KM   SUB-BASIN 451
1229          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1230          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF 1.000
1231          KM     L =  .57  Kb = .063  Adj. Slope =  175.0
1232          BA    .025
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1233          LG    .340    .340   3.290    .750   3.000
1234          UC    .271    .453
1235          UA       0       3       5       8      12      20      43      75      90      96
1236          UA     100
              * DDM   ***** Preserved *****

1237          KK    C451
1238          KM   COMBINE HYDROGRAPHS FROM SUB-BASINS 450 & 451
1239          HC       2
              * DDM   ***** Preserved *****

1240          KK    RT66
1241          KM        RETRIEVE DIVERTED FLOW FROM SUB-BASIN 66
1242          DR   WSH66
              * DDM   ***** Updated *****
1                                        HEC-1 INPUT                                                    PAGE 33

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

1243          KK     452
1244          KM   SUB-BASIN 452
1245          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1246          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF 1.000
1247          KM     L =  .43  Kb = .055  Adj. Slope =  315.0
1248          BA    .040
1249          LG    .260    .280   3.700    .550   9.000
1250          UC    .171    .166
1251          UA       0       5      16      30      65      77      84      90      94      97
1252          UA     100
              * DDM   ***** Preserved *****

1253          KK   C6465
1254          KM   COMBINE HYDROGRAPHS FROM SUB-BASINS 443 AND 452
1255          HC       2
              * DDM   ***** Preserved *****

1256          KK   R6566
1257          KM        ROUTE FLOW FROM DIVERSIONS 65 AND 66 TO C116
1258          RS       3    FLOW      -1
1259          RC     .05    .035     .05    2435   .0282
1260          RX    1000    1045    1090    1150    1160    1220    1265    1310
1261          RY      25      23      20      10      10      20      23      25
              * DDM   ***** Preserved *****

1262          KK    C116
1263          KM   COMBINE HYDROGRAPHS FROM SUB-BASINS 450 & 451 AND R6364 & R6465
1264          HC       3
              * DDM   ***** Preserved *****

1265          KK  BASIN5
1266          KM        RESERVOIR WITHIN PARCEL 31      2-48 INCH PIPES AT OUTFALL
1267          KM        BASIN 5 FEET DEEP
1268          RS       1    ELEV       0
1269          SV       0     4.5     9.9
1270          SQ       0      69     190
1271          SE       0     2.5       5
              * DDM   ***** Preserved *****

1272          KK    R116
1273          KM   ROUTE FLOW FROM C116 TO C117
1274          RS       2    FLOW      -1
1275          RC     .05    .035     .05    1300   .0333
1276          RX    1000    1100    1200    1300    1320    1420    1520    1620
1277          RY      13      12      11      10      10      11      12      13
              * DDM   ***** Updated *****

1278          KK     453
1279          KM   SUB-BASIN 453
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 =  .58  Kb = .058  Adj. Slope =  138.0
1283          BA    .060
1284          LG    .290    .300   3.290    .820  18.000
1                                        HEC-1 INPUT                                                    PAGE 34

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

1285          UC    .275    .284
1286          UA       0       5      16      30      65      77      84      90      94      97
1287          UA     100
              * DDM   ***** Preserved *****

1288          KK    C117
1289          KM   COMBINE HYDROGRAPHS FROM SUB-BASIN 453 AND R116
1290          HC       2
              * DDM   ***** Preserved *****

1291          KK    C118
1292          KM   COMBINE HYDROGRAPHS FROM R115 AND C117
1293          HC       2
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                * DDM   ***** Preserved *****

1294            KK    R118
1295            KM        ROUTE FLOW FROM C118 TO  DIV7
1296            RS       1    FLOW      -1
1297            RC    .019    .019    .019    1500    .024
1298            RX    1000    1012    1016    1020    1035    1039    1043    1055
1299            RY      15      12      11      10      10      11      12      15
                * DDM   ***** Preserved *****

1300            KK      D7
1301            KM        OFFLINE BASIN AT NORTH MOUNTAIN RIDGE   FLOWS ENTER BASIN OVER
1302            KM        30' WEIR SET AT 5.3' ABOVE THE CHANNEL BOTTOM
                *      1
1303            DT  BASIN6     3.6
1304            DI       0     363     487     563     645     844
1305            DQ       0       3      47      83     125     244
                * DDM   ***** Preserved *****

1306            KK    RTD7
1307            KM   RETRIEVE FLOW FROM DIVERSION INTO OFFLINE BASIN
1308            DR  BASIN6
                * DDM   ***** Preserved *****

1309            KK     SD7
1310            KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
1311            KM     3.6 ACRE-FEETx43560/36x3600=1.2cfs
1312            RS       1    STOR       0
1313            SV       0     .01     3.6
1314            SQ       0     0.2     1.2
                * DDM   ***** Preserved *****

1315            KK     CD7
1316            KM   HYDROGRAPH COMBINATION FOR OFFLINE BASIN BLEEDOFF
1317            HC       2
                * DDM   ***** Updated *****
1                                        HEC-1 INPUT                                          PAGE 35

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

1318            KK     454
1319            KM   SUB-BASIN 454
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 = 1.23  Kb = .051  Adj. Slope =  163.0
1323            BA    .180
1324            LG    .300    .310   3.780    .560  14.000
1325            UC    .379    .395
1326            UA       0       5      16      30      65      77      84      90      94      97
1327            UA     100
                * DDM   ***** Preserved *****

1328            KK    C119
1329            KM        COMBINE HYDROGRAPHS FROM SUB-BASIN 454 AND C119
                *      1       2
1330            HC       2
                * DDM   ***** Preserved *****

1331            KK    R454
1332            KM   CHANNEL GEOMETRY OBTAINED FROM 2' CONTOUR MAPPING.
1333            KM   ROUTE FLOW FROM C119 TO 415C
1334            RS       3    FLOW      -1
1335            RC    .045    .035    .045    2200    .009
1336            RX       0      .5       1      33      42      67    67.5      68
1337            RY       5       4       4       0       0       6       6       6
                * DDM   ***** Updated *****

1338            KK     415
1339            KM   SUB-BASIN 415
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  .997
1342            KM     L = 2.58  Kb = .045  Adj. Slope =  298.5
1343            BA    .547
1344            LG    .320    .280   4.350    .440  14.000
1345            UC    .433    .440
1346            UA       0       5      16      30      65      77      84      90      94      97
1347            UA     100
                * DDM   ***** Preserved *****

1348            KK  RT385A
1349            KM   RETRIEVE FLOW FROM DIVERSION OF SUB-BASIN 385A INTO 415
1350            DR  SF385A
                * DDM   ***** Preserved *****

1351            KK  RR385A
1352            KM   CHANNEL GEOMETRY OBTAINED FROM 2' CONTOUR MAPPING.
1353            KM   ROUTING OF SPLIT FLOW FROM SUB-BASIN 385A TO 415
1354            RS       5    FLOW      -1
1355            RC    .045     .04    .045    5878    .024
1356            RX       0       1      40      46      56      62     102     103
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1357          RY       3       2       2       0       0       2       2       3
              * DDM   ***** Preserved *****
                                        HEC-1 INPUT                                                    PAGE 36

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


1358          KK    C415
1359          KM   HYDROGRAPH COMBINATION OF SUB-BASINS 415 & SPLIT FLOW FROM 385A
1360          HC       2  0.6748
              * DDM   ***** Preserved *****

1361          KK   CC415
1362          KM   HYDROGRAPH COMBINATION OF SUB-BASINS 415, R454 & SPLIT FLOW FROM 385A
1363          HC       2
              * DDM   ***** Preserved *****

1364          KK    R415
1365          KM   CHANNEL GEOMETRY OBTAINED FROM 2' CONTOUR MAPPING.
1366          KM   ROUTING OF FLOW FROM 415C TO 455C
1367          RS       2    FLOW      -1
1368          RC    .045     .03    .045    4100    .024
1369          RX       0      .5       1       8      16      23    23.5      24
1370          RY       8       8       8       0       0       8       8       8
              * DDM   ***** Updated *****

1371          KK     455
1372          KM   SUB-BASIN 455
1373          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1374          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .993
1375          KM     L = 1.70  Kb = .041  Adj. Slope =  146.0
1376          BA   1.111
1377          LG    .270    .280   3.700    .640  24.000
1378          UC    .421    .204
1379          UA       0       5      16      30      65      77      84      90      94      97
1380          UA     100
              * DDM   ***** Preserved *****

1381          KK    D455
1382          KM        DIVERT FLOW INTO ONLINE  DETENTION BASIN
1383          KM   DETENTION/RETENTION BASINS LOCATED WITHIN LAS SENDAS ADDENDUM III
1384          KM   FOR BASIN #: 30      34      43      47&58
1385          KM        MAXIMUM VOLUME DIVERSION = 74.1 acre-feet
              *      1
1386          DT   BS455    74.1
1387          DI       0   10000
1388          DQ       0   10000
              * DDM   ***** Preserved *****

1389          KK   RT455
1390          KM   RETRIEVE FLOW FROM DIVERSION INTO ONLINE BASIN
1391          DR   BS455
              * DDM   ***** Preserved *****

1392          KK    S455
1393          KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
1394          KM    74.1 ACRE-FEETx43560/36x3600=25cfs
1395          RS       1    STOR       0
1396          SV       0     .01    74.1
1397          SQ       0     3.0      25
              * DDM   ***** Preserved *****
1                                       HEC-1 INPUT                                                    PAGE 37

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


1398          KK    C455
1399          KM   HYDROGRAPH COMBINATION FOR SUB-BASIN 455 AND DIVERTED BASIN STORAGE OF 455
1400          HC       2
              * DDM   ***** Preserved *****

1401          KK   CC455
1402          KM  HYDROGRAPH COMBINATION OF 420C, R415 AND C455
              * KO     1       2
1403          HC       3
              * 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  4051
              * SQ     0       0      10     180     367     595     800    1231    2625 24500
              * SE    76      78      80      81      82      83    83.9      85      86    92
              * DDM   ***** Preserved *****

1404          KK    R455
1405          KM   ROUTE FLOW FROM SPOOK HILL FRS TO SUB-BASIN 480
1406          RS      15    FLOW      -1
1407          RC    .035    .025    .035    7000   .0002
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1408          RX       0       1       2      28     158     184     185     186
1409          RY    13.5    13.5    13.5       0       0    13.5    13.5    13.5
              * DDM   ***** Updated *****

1410          KK     480
1411          KM   SUB-BASIN 480
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  .996
1414          KM     L = 1.21  Kb = .042  Adj. Slope =  165.0
1415          BA    .731
1416          LG    .270    .270   3.580    .730  27.000
1417          UC    .325    .148
1418          UA       0       5      16      30      65      77      84      90      94      97
1419          UA     100
              * DDM   ***** Preserved *****

1420          KK    D480
1421          KM        DIVERT FLOW INTO ONLINE  DETENTION BASIN
1422          KM   DETENTION/RETENTION BASINS LOCATED WITHIN LAS SENDAS ADDENDUM III
1423          KM   FOR BASIN #: 18 & 26
1424          KM        MAXIMUM VOLUME DIVERSION = 16.5 acre-feet
              *      1
1425          DT   BS480    16.5
1426          DI       0   10000
1427          DQ       0   10000
              * DDM   ***** Preserved *****
1                                        HEC-1 INPUT                                                    PAGE 38

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


1428          KK   RT480
1429          KM   RETRIEVE FLOW FROM DIVERSION INTO ONLINE BASIN
1430          DR   BS480
              * DDM   ***** Preserved *****

1431          KK    S480
1432          KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
1433          KM    16.5 ACRE-FEETx43560/36x3600=5.5cfs
1434          RS       1    STOR       0
1435          SV       0     .01    16.5
1436          SQ       0     3.0     5.6
              * DDM   ***** Preserved *****

1437          KK    C480
1438          KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
1439          HC       2
              * DDM   ***** Preserved *****

1440          KK   CC480
1441          KM   HYDROGRAPH COMBINATION AT SUBBASIN 480
1442          HC       2
              * DDM   ***** Preserved *****

1443          KK    R480
1444          KM   ROUTE FLOW FROM SUB-BASIN 480 TO SUBBASIN 462
1445          RS       6    FLOW      -1
1446          RC    .035    .025    .035    2800   .0002
1447          RX       0       1       2      28     158     184     185     186
1448          RY    13.5    13.5    13.5       0       0    13.5    13.5    13.5
              * DDM   ***** Updated *****

1449          KK     456
1450          KM   SUB-BASIN 456
1451          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1452          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .998
1453          KM     L =  .94  Kb = .045  Adj. Slope =  315.0
1454          BA    .260
1455          LG    .300    .380   5.600    .200  12.000
1456          UC    .217    .139
1457          UA       0       5      16      30      65      77      84      90      94      97
1458          UA     100
              * DDM   ***** Preserved *****

1459          KK      D1
1460          KM        DIVERT FLOW INTO OFFLINE DETENTION BASIN
1461          KM        WEIR FOR BASIN SET AT 4 FEET ABOVE CHANNEL BOTTOM
              *      1
1462          DT  BASIN1     4.0
1463          DI       0    11.1   127.9   234.4   577.7   789.9  1025.5  1280.9  1555.7
1464          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


1465          KK      D2
1466          KM        SPLIT OUT FLOW FOR WASHES THAT FLOW TO THE SOUTH FROM
1467          KM        WASHES THAT DRAIN TO THE WES, SOUTHERN WASHES FED BY 30" & 24" PIPE
1468          DT    WA30
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1469          DI       0    11.1   127.9   189.6   329.7     408   491.9   579.4   671.7
1470          DQ       0    11.1    38.4    48.2      63    69.5      76      81      86
              * DDM   ***** Preserved *****

1471          KK    R456
1472          KM        ROUTE FLOW FROM SUB-BASIN 51 TO C101
1473          RS       2    FLOW      -1
1474          RC     .05    .035     .05    3800    .044
1475          RX    1000    1010    1020    1036    1041    1057    1067    1077
1476          RY   14.88   14.44      14      10      10      14   14.44   14.88
              * DDM   ***** Updated *****

1477          KK     457
1478          KM   SUB-BASIN 457
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  .999
1481          KM     L = 1.01  Kb = .045  Adj. Slope =  308.8
1482          BA    .190
1483          LG    .270    .330   3.950    .460   6.000
1484          UC    .237    .195
1485          UA       0       5      16      30      65      77      84      90      94      97
1486          UA     100
              * DDM   ***** Preserved *****

1487          KK    C101
1488          KM        COMBINE HYDROGRAPHS FROM SUB-BASINS 50 AND 51
1489          HC       2
              * DDM   ***** Preserved *****

1490          KK      D3
1491          KM        RESERVOIR AT THE EDGE OF THE PROPERTY   FLOW FROM CHANNEL
1492          KM        DIVERTED  INTO OFFLINE BASIN A 25' WEIR SET AT ELEVATION 1808 FT
              *      1
1493          DT  BASIN2     5.0
1494          DI       0      36      70     110     180   313.5     402   500.9
1495          DQ       0       0       0       0       0    67.5     124   190.9
              * DDM   ***** Preserved *****

1496          KK    RTD3
1497          KM   RETRIEVE FLOW FROM DIVERSION INTO OFFLINE BASIN
1498          DR  BASIN2
              * DDM   ***** Preserved *****

1499          KK     SD3
1500          KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
1501          KM     5.0 ACRE-FEETx43560/36x3600=1.7cfs
1502          RS       1    STOR       0
1503          SV       0     .01       5
1504          SQ       0     0.7     1.7
              * DDM   ***** Preserved *****
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1505          KK     CD3
1506          KM   HYDROGRAPH COMBINATION FOR OFFLINE BASIN BLEEDOFF
1507          HC       2
              * DDM   ***** Preserved *****

1508          KK    R101
1509          KM        ROUTE FLOW FROM SUBBASIN C101 TO C103
1510          RS       1    FLOW      -1
1511          RC     .05    .035     .05    1450     .05
1512          RX    1000    1010    1020    1036    1041    1057    1067    1077
1513          RY      15    14.5      14      10      10      14    14.5      15
              * DDM   ***** Updated *****

1514          KK     458
1515          KM   SUB-BASIN 458
1516          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1517          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .999
1518          KM     L =  .76  Kb = .048  Adj. Slope =  299.0
1519          BA    .190
1520          LG    .290    .330   5.800    .190   6.000
1521          UC    .204    .131
1522          UA       0       5      16      30      65      77      84      90      94      97
1523          UA     100
              * DDM   ***** Preserved *****

1524          KK    C103
1525          KM        COMBINE HYDROGRAPHS FROM SUB-BASIN 55 AND C101
1526          HC       2
              * DDM   ***** Preserved *****

1527          KK    R103
1528          KM        ROUTE FLOW FROM SUBBASIN C103 TO C106
1529          RS       1    FLOW      -1
1530          RC     .05    .035     .05     900     .03
1531          RX    1000    1010    1020    1030    1050    1060    1070    1080
1532          RY   13.16   12.83    12.5      10      10    12.5   12.83   13.16
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            * DDM   ***** Preserved *****

1533        KK    RT30
1534        KM        RETRIEVE DIVERTED FLOW FOR WASH BELOW 30 INCH PIPE
1535        DR    WA30
            * DDM   ***** Preserved *****

1536        KK     R30
1537        KM        ROUTE FLOW FROM WASH DIVERSION TO COMBINE C52
1538        RS       1    FLOW      -1
1539        RC     .05    .035     .05    1630     .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 *****
1                                   HEC-1 INPUT                                                    PAGE 41

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


1542        KK    RTB1
1543        KM        RETRIEVE DIVERTED FLOW FROM BASIN 1
            *      1       2
1544        DR  BASIN1
            * DDM   ***** Preserved *****

1545        KK      B1
1546        KM        ROUTE FLOW THROUGH OFFLINE DETENTION BASIN
1547        KM        FLOW OUTLETS THROUGH A 30 INCH OUTLET PIPE
            *      1       2
1548        RS       1    ELEV       0
1549        SV              .7     1.4     2.3     2.7     4.0
1550        SQ       0       5      16      28    32.5      37
1551        SE       0       1       2       3     3.5       4
            * DDM   ***** Preserved *****

1552        KK     RB1
1553        KM        ROUTE FLOW FROM BASIN DIVERSION TO COMBINE C52
1554        RS       3    FLOW      -1
1555        RC     .05    .035     .05    1720     .05
1556        RX    1000    1010    1020    1036    1041    1057    1067    1077
1557        RY      15    14.5      14      10      10      14    14.5      15
            * DDM   ***** Preserved *****

1558        KK    CDIV
1559        KM        COMBINE FLOWS FROM WA30 AND BASIN 1
1560        HC       2     .12
            * DDM   ***** Updated *****

1561        KK     459
1562        KM   SUB-BASIN 459
1563        KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1564        KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF 1.000
1565        KM     L =  .35  Kb = .052  Adj. Slope =  251.6
1566        BA    .030
1567        LG    .220    .300   3.330    .710   8.000
1568        UC    .162    .157
1569        UA       0       5      16      30      65      77      84      90      94      97
1570        UA     100
            * DDM   ***** Preserved *****

1571        KK     C52
1572        KM        COMBINE FLOWS FROM SUB-BASIN 52 WA30 AND BASIN 1
1573        HC       2
            * DDM   ***** Preserved *****

1574        KK     R52
1575        KM        ROUTE FLOW FROM SUBBASIN 52 TO C102
1576        RS       3    FLOW      -1
1577        RC     .05    .035     .05    2000     .05
1578        RX    1000    1010    1020    1036    1041    1057    1067    1077
1579        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


1580        KK     460
1581        KM   SUB-BASIN 460
1582        KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1583        KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .999
1584        KM     L =  .62  Kb = .058  Adj. Slope =  194.0
1585        BA    .140
1586        LG    .250    .260   3.740    .690  27.000
1587        UC    .242    .160
1588        UA       0       5      16      30      65      77      84      90      94      97
1589        UA     100
            * DDM   ***** Preserved *****

1590        KK    C102
1591        KM        COMBINE HYDROGRAPHS FROM SUB-BASINS 52 AND 53
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1592          HC        2
              * DDM    ***** Preserved *****

1593          KK   BASIN3
1594          KM         RESERVOIR AT CLUBHOUSE LOCATION 1-30 INCH PIPE AT OUTFALL
1595          KM         BOTTOM OF BASIN AT 6 FEET ABOVE 1795 ELEVATION
1596          RS        1    ELEV        0
1597          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
1598          SQ        0       22       45     47.4       48       51       57       62       67       73
1599          SE     1795   1797.5     1800   1800.4   1800.5     1801     1802     1803     1804   1805.5
              * DDM    ***** Preserved *****

1600          KK       R3
1601          KM         ROUTE FLOW FROM C102 to C106
1602          RS        5    FLOW       -1
1603          RC      .05      .03      .05     2750    .0375
1604          RX     1000     1010     1020     1052     1086     1118     1128     1138
1605          RY     19.2     18.4       18       10       10       18     18.4     19.2
              * DDM    ***** Updated *****

1606          KK      461
1607          KM    SUB-BASIN 461
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 =  .83  Kb = .052  Adj. Slope =  181.0
1611          BA     .120
1612          LG     .270     .250    4.250     .450   21.000
1613          UC     .271     .250
1614          UA        0        5       16       30       65       77       84       90       94       97
1615          UA      100
              * DDM    ***** Preserved *****

1616          KK     C104
1617          KM         COMBINE HYDROGRAPHS FROM SUB-BASIN 54 AND R102
1618          HC        2
              * DDM    ***** Preserved *****
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1619          KK     C106
1620          KM         COMBINE HYDROGRAPHS FROM SUB-BASIN C103 AND C104
1621          HC        2
              * DDM    ***** Preserved *****

1622          KK     R106
1623          KM         ROUTE FLOW FROM C106 TO C49
1624          RS        2    FLOW       -1
1625          RC      .05     .035      .05     3950     .033
1626          RX     1000     1010     1020     1030     1050     1060     1070     1080
1627          RY    13.16    12.83     12.5       10       10     12.5    12.83    13.16
              * DDM    ***** Updated *****

1628          KK      462
1629          KM    SUB-BASIN 462
1630          KM    24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1631          KM    THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .998
1632          KM      L =  .97  Kb = .045  Adj. Slope =  297.7
1633          BA     .301
1634          LG     .300     .330    5.300     .240   12.000
1635          UC     .225     .137
1636          UA        0        5       16       30       65       77       84       90       94       97
1637          UA      100
              * DDM    ***** Preserved *****

1638          KK      C56
1639          KM         COMBINE HYDROGRAPHS FROM SUB-BASIN 56 AND C106
              *       1        2
1640          HC        2
              * DDM    ***** Preserved *****

1641          KK     C462
1642          KM         COMBINE HYDROGRAPHS AT SUBBASIN 462
              *       1
1643          HC        2     2.09
              * DDM    ***** Preserved *****

1644          KK     R462
1645          KM    ROUTE FLOW FROM SUB-BASIN 462 TO SUB-BASIN 500 (First Channel Reach)
1646          RS        1    FLOW       -1
1647          RC     .025     .025     .025     1800     .005
1648          RX        0        1       20       32       62       74       93       94
1649          RY       13       12       12        0        0       12       12       13
              *

1650          KK    RR462
1651          KM    ROUTE FLOW FROM SUB-BASIN 462 TO SUB-BASIN 500 (Second Natural Wash Reach)
1652          RS        3    FLOW       -1
1653          RC     .055      .05     .055     4700      .05
```

```
1654          RX       0       1       2      28      58      84      85      86
1655          RY    13.5    13.5    13.5       0       0    13.5    13.5    13.5
              * DDM   ***** Updated *****
                                          HEC-1 INPUT                                                    PAGE 44

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

1656          KK     500
1657          KM   SUB-BASIN 500
1658          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1659          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .994
1660          KM     L = 2.77  Kb = .042  Adj. Slope =  286.8
1661          BA    .930
1662          LG    .350    .400   6.000    .170   9.000
1663          UC    .421    .333
1664          UA       0       3       5       8      12      20      43      75      90      96
1665          UA     100
              * DDM   ***** Preserved *****

1666          KK    C500
1667          KM   HYDROGRAPH COMBINATION FOR THE ENTIRE WATERSHED AT THE SALT RIVER
1668          HC       2    3.02
1669          ZZ
1
              SCHEMATIC DIAGRAM OF STREAM NETWORK
INPUT
 LINE      (V) ROUTING          (--->) DIVERSION OR PUMP FLOW

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

   31          10
                V
                V
   41         R10
                V
                V
   47         R12
                .
                .
   53           .          20
                .           .
                .           .
   63         C20............
                V
                V
   66         R20
                .
                .
   72           .          40
                .           .
                .           .
   82           .           .          60
                .           .           .
                .           .           .
   92         C60........................
                V
                V
   95         S60
                V
                V
  104         R60
                V
                V
  110        RR60
                .
                .
  116           .          80
                .           .
                .           .
  126         C80............
                V
                V
  129         R80
                .
                .
  135           .         100
                .           .
                .           .
  145        C100............
                V
                V
  148        R100
                .
                .
  154           .         120
                .           .
                .           .
  164        C120............
                V
                V
```

```
167        R120
             .
             .
173          .        140
             .          .
             .          .
183          .          .        150
             .          .          V
             .          .          V
193          .          .       R150
             .          .          V
             .          .          V
199          .          .       R152
             .          .          .
             .          .          .
205          .          .          .        160
             .          .          .          .
             .          .          .          .
215          .          .          .          .        180
             .          .          .          .          .
             .          .          .          .          .
225        C180.......................................
             .
             .
228          .       385B
             .         V
             .         V
238          .      R385B
             .          .
             .          .
247          .          .       395B
             .          .          .
             .          .          .
257          .      C395B...........
             .         V
             .         V
260          .      R395B
             .          .
             .          .
267          .          .       370B
             .          .          .
             .          .          .
277          .      C370B...........
             .         V
             .         V
280          .      R370B
             .         V
             .         V
287          .     RR370B
             .          .
             .          .
296          .          .       355B
             .          .          .
             .          .          .
306          .      C355B...........
             .         V
             .         V
309          .      R355B
             .         V
             .         V
318          .     RR355B
             .          .
             .          .
325          .          .        350
             .          .          V
             .          .          V
335          .          .       R350
             .          .          .
             .          .          .
342          .          .          .        310
             .          .          .          .
             .          .          .          .
352          .       C310........................
             .         V
             .         V
355          .       R310
             .         V
             .         V
362          .       R312
             .          .
             .          .
371          .          .       305B
             .          .          .
             .          .          .
381          .      C305B...........
             .         V
             .         V
384          .      R305B
             .          .
             .          .
393          .          .        210
```

```
                .           .           V
                .           .           V
403             .           .        R210
                .           .           .
                .           .           .
409             .           .           .         240
                .           .           .           .
                .           .           .           .
419             .        C240.......................
                .           V
                .           V
422             .        S240
                .           V
                .           V
431             .        R240
                .           .
                .           .
438             .           .         220
                .           .           .
                .           .           .
448             .        C220............
                .           V
                .           V
451             .        S220
                .           V
                .           V
460             .        R220
                .           .
                .           .
467             .           .         190
                .           .           V
                .           .           V
477             .           .        R190
                .           .           V
                .           .           V
483             .           .        R192
                .           .           .
                .           .           .
489             .           .           .         200
                .           .           .           .
                .           .           .           .
499             .        C200.......................
                .           V
                .           V
502             .        S200
                .           V
                .           V
509             .        R200
                .           V
                .           V
515             .       SS200
                .           V
                .           V
522             .       RR200
                .           .
                .           .
528       CC180............
             V
             V
531        S180
             V
             V
540        R180
             .
             .
549             .         260
             .           .
             .           .
559        C260............
             V
             V
562        R260
             .
             .
571             .         280
             .           .
             .           .
581        C280............
             V
             V
584        R280
             .
             .
593             .         300
             .           .
             .           .
603        C300............
             V
             V
606        R300
             .
```

```
615          .        305A
             .           .
             .           .
625      C305A...........
             V
             V
628      R305A
             .
             .
637          .         320
             .           .
             .           .
652          .           .-------> BS320
647          .        D320
             .           .
             .           .
657          .           .          .<-------   BS320
655          .           .      RT320
             .           .          V
             .           .          V
658          .           .       S320
             .           .          .
             .           .          .
664      C320......................
             V
             V
667      R320
             .
             .
674          .         340
             .           .
             .           .
689          .           .-------> BS340
684          .        D340
             .           .
             .           .
694          .           .          .<-------   BS340
692          .           .      RT340
             .           .          V
             .           .          V
695          .           .       S340
             .           .          .
             .           .          .
701      C340......................
             V
             V
704      R340
             .
             .
711          .        355A
             .           V
             .           V
721          .      R355A
             .           .
             .           .
728          .           .        360
             .           .          .
             .           .          .
742          .           .          .-------> BS360
738          .           .       D360
             .           .          .
             .           .          .
747          .           .          .          .<-------   BS360
745          .           .          .      RT360
             .           .          .          V
             .           .          .          V
748          .           .          .       S360
             .           .          .          .
             .           .          .          .
754      C360.................................
             V
             V
757      R360
             .
             .
764          .        370A
             .           .
             .           .
774          .           .       395A
             .           .          .
             .           .          .
784          .      C370A...........
             .           V
             .           V
787          .      R370A
             .           .
             .           .
794          .           .        380
             .           .          .
             .           .          .
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808          .           .           .-------->   BS380
804          .           .        D380
             .           .           .
             .           .           .
813          .           .           .           .<--------   BS380
811          .           .           .       RT380
             .           .           .           V
             .           .           .           V
814          .           .           .        S380
             .           .           .           .
             .           .           .           .
820       C380.................................
             .
             .
827          .-------->    380S
823      DD380
             .
             .
832          .           .<--------    380S
830          .      RT380S
             .           V
             .           V
833          .       SS380
             .           .
             .           .
840      CC380............
            V
            V
843       R380
             .
             .
850          .         390
             .           .
             .           .
864          .           .-------->   BS390
860          .        D390
             .           .
             .           .
869          .           .           .<--------   BS390
867          .           .       RT390
             .           .           V
             .           .           V
870          .           .        S390
             .           .           .
             .           .           .
876          .        C390............
             .           V
             .           V
879          .        R390
             .           .
             .           .
886          .           .         400
             .           .           .
             .           .           .
900          .           .           .-------->   BS400
896          .           .        D400
             .           .           .
             .           .           .
905          .           .           .           .<--------   BS400
903          .           .           .       RT400
             .           .           .           V
             .           .           .           V
906          .           .           .        S400
             .           .           .           .
             .           .           .           .
912          .           .        C400............
             .           .           .
             .           .           .
915      CC400........................
            V
            V
918       R400
             .
             .
925          .        385A
             .           .
             .           .
937          .           .-------->  SF385A
935          .       D385A
             .           V
             .           V
940          .       R385A
             .           .
             .           .
947          .           .         420
             .           .           .
             .           .           .
961          .           .           .-------->   BS420
957          .           .        D420
             .           .           .
             .           .           .
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```
 966          .           .           .           .<-------   BS420
 964          .           .           .       RT420
              .           .           .           V
              .           .           .           V
 967          .           .           .        S420
              .           .           .           .
              .           .           .           .
 973          .        C420.......................
              .           .
              .           .
 976      CC420...........
              V
              V
 979       R420
              .
              .
 986          .         440
              .           V
              .           V
 996          .         R70
              .           .
              .           .
1002          .           .         441
              .           .           .
              .           .           .
1012          .        C108............
              .           .
              .           .
1017          .           .-------->   SPLIT
1015          .          D4
              .           V
              .           V
1020          .        R108
              .           .
              .           .
1026          .           .         442
              .           .           .
              .           .           .
1036          .         C67............
              .           .
              .           .
1042          .           .-------->  BASIN4
1039          .          D6
              .           .
              .           .
1047          .           .           .<-------  BASIN4
1045          .           .        RTD6
              .           .           V
              .           .           V
1048          .           .         SD6
              .           .           .
              .           .           .
1054          .         CD6............
              .           .
              .           .
1057          .           .         443
              .           .           .
              .           .           .
1070          .           .           .-------->   WSH66
1067          .           .         D66
              .           .           V
              .           .           V
1073          .           .        R113
              .           .           .
              .           .           .
1079          .        C114............
              .           .
              .           .
1082          .           .         444
              .           .           V
              .           .           V
1092          .           .         R58
              .           .           .
              .           .           .
1098          .           .           .         445
              .           .           .           .
              .           .           .           .
1108          .           .        C107............
              .           .           V
              .           .           V
1111          .           .        R107
              .           .           .
              .           .           .
1119          .           .           .           .<-------   SPLIT
1117          .           .           .        RTB2
              .           .           .           V
              .           .           .           V
1120          .           .           .      RSPLIT
              .           .           .           .
              .           .           .           .
1126          .           .           .           .         446
```

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                .           .           .           .           .
                .           .           .           .           .
1136            .           .       C109.......................
                .           .           .
                .           .           .
1142            .           .           .-------->  WSH404
1139            .           .         D5
                .           .          V
                .           .          V
1145            .           .       R109
                .           .           .
                .           .           .
1151            .           .           .         447
                .           .           .           .
                .           .           .           .
1163            .           .           .           .           .<-------  WSH404
1161            .           .           .           .       RT404
                .           .           .           .          V
                .           .           .           .          V
1164            .           .           .           .        R404
                .           .           .           .           .
                .           .           .           .           .
1170            .           .       C110.......................
                .           .          V
                .           .          V
1173            .           .       R110
                .           .           .
                .           .           .
1179            .       C115............
                .          V
                .          V
1182            .       R115
                .           .
                .           .
1188            .           .         448
                .           .           .
                .           .           .
1198            .           .           .         449
                .           .           .           .
                .           .           .           .
1208            .           .      C6364............
                .           .          V
                .           .          V
1211            .           .      R6364
                .           .           .
                .           .           .
1217            .           .           .         450
                .           .           .           .
                .           .           .           .
1227            .           .           .           .         451
                .           .           .           .           .
                .           .           .           .           .
1237            .           .           .        C451............
                .           .           .           .
                .           .           .           .
1242            .           .           .           .           .<-------   WSH66
1240            .           .           .           .        RT66
                .           .           .           .           .
                .           .           .           .           .
1243            .           .           .           .           .         452
                .           .           .           .           .           .
                .           .           .           .           .           .
1253            .           .           .           .       C6465............
                .           .           .           .           V
                .           .           .           .           V
1256            .           .           .           .       R6566
                .           .           .           .           .
                .           .           .           .           .
1262            .           .       C116.......................
                .           .          V
                .           .          V
1265            .           .     BASIN5
                .           .          V
                .           .          V
1272            .           .       R116
                .           .           .
                .           .           .
1278            .           .           .         453
                .           .           .           .
                .           .           .           .
1288            .           .       C117............
                .           .           .
                .           .           .
1291            .       C118............
                .          V
                .          V
1294            .       R118
                .           .
                .           .
1303            .           .-------->  BASIN6
1300            .         D7
```

```
1308                .<-------  BASIN6
1306             RTD7
                    V
                    V
1309             SD7
                    .
                    .
1315          CD7............
                    .
                    .
1318             454
                    .
                    .
1328         C119............
                    V
                    V
1331         R454
                    .
                    .
1338             415
                    .
                    .
1350                          .<-------  SF385A
1348                     RT385A
                                V
                                V
1351                     RR385A
                                .
                                .
1358             C415............
                    .
                    .
1361        CC415............
                    V
                    V
1364         R415
                    .
                    .
1371             455
                    .
                    .
1386                .------->   BS455
1381             D455
                    .
                    .
1391                          .<-------   BS455
1389                     RT455
                                V
                                V
1392                      S455
                                .
                                .
1398             C455............
                    .
                    .
1401     CC455........................
             V
             V
1404      R455
             .
             .
1410          480
                    .
                    .
1425                .------->   BS480
1420         D480
                    .
                    .
1430                .<-------   BS480
1428            RT480
                    V
                    V
1431            S480
                    .
                    .
1437         C480............
                    .
                    .
1440     CC480............
             V
             V
1443      R480
             .
             .
1449          456
                    .
                    .
1462                .------->  BASIN1
1459          D1
```

```
.          .
.          .
1468       .-------->    WA30
1465     D2
         V
         V
1471   R456
         .
         .
1477     .         457
         .           .
         .           .
1487   C101............
         .
         .
1493     .-------->  BASIN2
1490   D3
         .
         .
1498     .           .<-------  BASIN2
1496     .        RTD3
         .           V
         .           V
1499     .         SD3
         .           .
         .           .
1505   CD3............
         V
         V
1508   R101
         .
         .
1514     .         458
         .           .
         .           .
1524   C103............
         V
         V
1527   R103
         .
         .
1535     .           .<-------    WA30
1533     .        RT30
         .           V
         .           V
1536     .         R30
         .           .
         .           .
1544     .           .           .<-------  BASIN1
1542     .           .        RTB1
         .           .           V
         .           .           V
1545     .           .          B1
         .           .           V
         .           .           V
1552     .           .         RB1
         .           .           .
         .           .           .
1558     .        CDIV............
         .           .
         .           .
1561     .           .         459
         .           .           .
         .           .           .
1571     .         C52............
         .           V
         .           V
1574     .         R52
         .           .
         .           .
1580     .           .         460
         .           .           .
         .           .           .
1590     .        C102............
         .           V
         .           V
1593     .      BASIN3
         .           V
         .           V
1600     .          R3
         .           .
         .           .
1606     .           .         461
         .           .           .
         .           .           .
1616     .        C104............
         .           .
         .           .
1619   C106............
         V
         V
```

```
1622            .        R106
                .          .
                .          .
1628            .          .         462
                .          .           .
                .          .           .
1638            .        C56............
                .          .
                .          .
1641        C462............
               V
               V
1644        R462
               V
               V
1650       RR462
                .
                .
1656            .        500
                .          .
                .          .
1666        C500............
```

(***) RUNOFF ALSO COMPUTED AT THIS LOCATION

```
1****************************************
*                                      *
*   FLOOD HYDROGRAPH PACKAGE  (HEC-1)  *
*              JUN  1998               *
*           VERSION 4.1                *
*                                      *
*  RUN DATE   02MAY01  TIME  09:41:43  *
*                                      *
****************************************
```

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

DDM MCUHP1 SPOOK HILL AMDP - EXISTING CONDITIONS MODEL - 500YR, 24HR STORM
Non-Jurisdictional Alternatives - Option NJ6
Spook Hill Channel w/Off-Line Basin, Pass Mountain Division, and
Quadrupled Signal Butte Principal Spillway Outflow
A CONSERVATIVE ESTIMATE WAS USED FOR THE LOCATION OF THE CENTROID FOR
PRECIPITATION VALUES

FLOODWAY CHANNEL ROUTING INFORMATION FOR SIGNAL BUTTE, SPOOK HILL &
BULLDOG FLOODWAY WAS FROM MCFCD AS-BUILT PLANS

```
 12 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

 14 JD          INDEX STORM NO. 1
                       STRM        4.74  PRECIPITATION DEPTH
                       TRDA         .01  TRANSPOSITION DRAINAGE AREA

 15 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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25 JD INDEX STORM NO. 2

STRM 4.71 PRECIPITATION DEPTH

TRDA 1.00 TRANSPOSITION DRAINAGE AREA

0 PI PRECIPITATION PATTERN

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26 JD INDEX STORM NO. 3

STRM 4.57 PRECIPITATION DEPTH

TRDA 5.80 TRANSPOSITION DRAINAGE AREA

0 PI PRECIPITATION PATTERN

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27 JD INDEX STORM NO. 4

STRM 4.45 PRECIPITATION DEPTH

TRDA 10.66 TRANSPOSITION DRAINAGE AREA

0 PI PRECIPITATION PATTERN

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28 JD INDEX STORM NO. 5

STRM 4.40 PRECIPITATION DEPTH

TRDA 13.70 TRANSPOSITION DRAINAGE AREA

0 PI PRECIPITATION PATTERN

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29 JD INDEX STORM NO. 6

STRM 4.31 PRECIPITATION DEPTH

TRDA 20.00 TRANSPOSITION DRAINAGE AREA

0 PI PRECIPITATION PATTERN

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30 JD INDEX STORM NO. 7

STRM 4.12 PRECIPITATION DEPTH

TRDA 50.00 TRANSPOSITION DRAINAGE AREA

0 PI PRECIPITATION PATTERN

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.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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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	1280.	12.27	163.	45.	16.	.70		
+	ROUTED TO	R10	1203.	12.40	163.	45.	16.	.70		
	ROUTED TO	R12	1141.	12.57	163.	45.	16.	.70		

HYDROGRAPH AT	20	1379.	12.43	193.	49.	17.	1.12
+ 2 COMBINED AT	C20	2367.	12.53	351.	92.	33.	1.82
+ ROUTED TO	R20	2363.	12.53	351.	92.	33.	1.82
+ HYDROGRAPH AT	40	3666.	12.30	374.	97.	35.	2.23
+ HYDROGRAPH AT	60	2177.	12.40	329.	88.	32.	1.75
+ 3 COMBINED AT	C60	7224.	12.37	1025.	270.	97.	5.80
+ ROUTED TO	S60	482.	13.70	273.	155.	95.	5.80
+ ROUTED TO	R60	481.	13.73	273.	155.	95.	5.80
+ ROUTED TO	RR60	480.	13.83	273.	155.	95.	5.80
+ HYDROGRAPH AT	80	2614.	12.27	263.	68.	24.	1.48
+ 2 COMBINED AT	C80	2689.	12.27	550.	228.	123.	1.48
+ ROUTED TO	R80	2653.	12.30	550.	228.	123.	1.48
+ HYDROGRAPH AT	100	573.	12.20	84.	22.	8.	.48
+ 2 COMBINED AT	C100	3190.	12.27	623.	246.	130.	1.96
+ ROUTED TO	R100	3188.	12.30	623.	246.	130.	1.96
HYDROGRAPH AT	120	4355.	12.27	465.	125.	45.	2.20
+ 2 COMBINED AT	C120	7412.	12.27	1048.	355.	172.	4.16
+ ROUTED TO	R120	7329.	12.30	1047.	355.	172.	4.16
+ HYDROGRAPH AT	140	916.	12.13	94.	25.	9.	.60
+ HYDROGRAPH AT	150	800.	12.17	72.	19.	7.	.41
+ ROUTED TO	R150	769.	12.23	72.	19.	7.	.41
+ ROUTED TO	R152	712.	12.33	72.	19.	7.	.41
+ HYDROGRAPH AT	160	324.	12.40	53.	13.	5.	.37
+ HYDROGRAPH AT	180	1186.	12.37	141.	35.	13.	1.00
+ 5 COMBINED AT	C180	9866.	12.30	1359.	434.	201.	6.54
+ HYDROGRAPH AT	385B	777.	12.17	77.	22.	8.	.38
+ ROUTED TO	R385B	776.	12.17	77.	22.	8.	.38
+ HYDROGRAPH AT	395B	16.	12.17	2.	1.	0.	.02
+ 2 COMBINED AT	C395B	793.	12.17	80.	22.	8.	.39
ROUTED TO	R395B	768.	12.20	80.	22.	8.	.39
HYDROGRAPH AT							

+	370B	300.	12.27	45.	12.	4.	.26
2 COMBINED AT	C370B	1058.	12.23	124.	34.	12.	.66
ROUTED TO +	R370B	1047.	12.27	124.	34.	12.	.66
ROUTED TO +	RR370B	997.	12.37	124.	34.	12.	.66
HYDROGRAPH AT +	355B	649.	12.27	77.	19.	7.	.51
2 COMBINED AT +	C355B	1591.	12.33	200.	53.	19.	1.17
ROUTED TO +	R355B	1569.	12.40	200.	53.	19.	1.17
ROUTED TO +	RR355B	1552.	12.43	200.	53.	19.	1.17
HYDROGRAPH AT +	350	1723.	12.20	155.	40.	15.	.97
ROUTED TO +	R350	1580.	12.40	155.	40.	15.	.97
HYDROGRAPH AT +	310	492.	12.33	68.	17.	6.	.49
3 COMBINED AT +	C310	3501.	12.40	414.	108.	39.	2.63
ROUTED TO +	R310	3425.	12.50	414.	108.	39.	2.63
ROUTED TO +	R312	3262.	12.60	414.	108.	39.	2.63
HYDROGRAPH AT +	305B	559.	12.30	65.	16.	6.	.41
2 COMBINED AT	C305B	3551.	12.60	475.	123.	44.	3.05
ROUTED TO +	R305B	3518.	12.63	475.	123.	44.	3.05
HYDROGRAPH AT +	210	1733.	12.17	154.	40.	14.	.79
ROUTED TO +	R210	1651.	12.23	154.	40.	14.	.79
HYDROGRAPH AT +	240	2378.	12.27	236.	60.	22.	1.41
3 COMBINED AT +	C240	5136.	12.30	844.	217.	78.	5.25
ROUTED TO +	S240	2651.	12.93	780.	201.	72.	5.25
ROUTED TO +	R240	2647.	13.00	779.	201.	72.	5.25
HYDROGRAPH AT +	220	909.	12.20	95.	25.	9.	.47
2 COMBINED AT +	C220	2738.	12.93	864.	223.	81.	5.72
ROUTED TO +	S220	2610.	13.13	853.	220.	79.	5.72
ROUTED TO +	R220	2608.	13.17	852.	220.	79.	5.72
HYDROGRAPH AT +	190	1954.	12.17	170.	45.	16.	.92
ROUTED TO +	R190	1893.	12.23	170.	45.	16.	.92
ROUTED TO +	R192	1844.	12.30	170.	45.	16.	.92
HYDROGRAPH AT	200	1119.	12.17	100.	27.	10.	.53

3 COMBINED AT	C200	3131.	12.30	1086.	284.	103.	7.17
+ ROUTED TO	S200	2977.	12.37	1083.	281.	101.	7.17
+ ROUTED TO	R200	2973.	12.40	1082.	281.	101.	7.17
+ ROUTED TO	SS200	2638.	13.27	963.	250.	90.	7.17
+ ROUTED TO	RR200	2635.	13.33	959.	250.	90.	7.17
+ 2 COMBINED AT	CC180	9866.	12.30	2311.	685.	291.	13.70
+ ROUTED TO	S180	554.	16.03	549.	467.	234.	13.70
+ ROUTED TO	R180	554.	16.10	549.	467.	234.	13.70
+ HYDROGRAPH AT	260	516.	12.13	58.	16.	6.	.26
+ 2 COMBINED AT	C260	578.	16.27	573.	518.	271.	.26
+ ROUTED TO	R260	578.	16.37	573.	518.	271.	.26
+ HYDROGRAPH AT	280	657.	12.10	62.	17.	6.	.32
+ 2 COMBINED AT	C280	1132.	12.13	597.	531.	276.	.58
+ ROUTED TO	R280	1114.	12.20	597.	531.	276.	.58
+ HYDROGRAPH AT	300	536.	12.10	48.	13.	5.	.29
2 COMBINED AT	C300	1580.	12.17	636.	541.	281.	.87
+ ROUTED TO	R300	1535.	12.23	634.	541.	280.	.87
+ HYDROGRAPH AT	305A	564.	12.17	64.	18.	6.	.37
+ 2 COMBINED AT	C305A	2047.	12.20	688.	553.	285.	1.24
+ ROUTED TO	R305A	2019.	12.27	687.	553.	285.	1.24
+ HYDROGRAPH AT	320	1219.	12.20	158.	44.	16.	.87
+ DIVERSION TO	BS320	338.	11.87	20.	6.	2.	.87
+ HYDROGRAPH AT	D320	1219.	12.20	147.	38.	14.	.87
+ HYDROGRAPH AT	RT320	338.	11.87	20.	6.	2.	.87
+ ROUTED TO	S320	4.	11.93	4.	4.	2.	.87
+ 3 COMBINED AT	C320	3133.	12.23	826.	588.	296.	2.11
+ ROUTED TO	R320	2901.	12.53	809.	584.	294.	2.11
+ HYDROGRAPH AT	340	2165.	12.17	268.	78.	28.	1.48
+ DIVERSION TO	BS340	1969.	12.10	102.	28.	10.	1.48
HYDROGRAPH AT	D340	2151.	12.20	186.	50.	18.	1.48
HYDROGRAPH AT							

+	RT340	1969.	12.10	102.	28.	10.	1.48
ROUTED TO	S340	18.	12.20	16.	14.	9.	1.48
3 COMBINED AT +	C340	4005.	12.47	985.	638.	316.	3.59
ROUTED TO +	R340	3857.	12.63	970.	634.	315.	3.59
HYDROGRAPH AT +	355A	303.	12.10	30.	8.	3.	.16
ROUTED TO +	R355A	257.	12.43	30.	8.	3.	.16
HYDROGRAPH AT +	360	1057.	12.20	151.	42.	15.	.88
DIVERSION TO +	BS360	1024.	12.17	53.	14.	5.	.88
HYDROGRAPH AT +	D360	1054.	12.23	107.	28.	10.	.88
HYDROGRAPH AT +	RT360	1024.	12.17	53.	14.	5.	.88
ROUTED TO +	S360	9.	12.23	8.	7.	5.	.88
4 COMBINED AT +	C360	4553.	12.60	1089.	670.	330.	4.63
ROUTED TO +	R360	4433.	12.73	1076.	667.	329.	4.63
HYDROGRAPH AT +	370A	848.	12.10	72.	20.	7.	.41
HYDROGRAPH AT +	395A	282.	12.13	33.	9.	3.	.18
2 COMBINED AT	C370A	1126.	12.10	105.	29.	10.	.59
ROUTED TO +	R370A	947.	12.40	105.	29.	10.	.59
HYDROGRAPH AT +	380	889.	12.27	138.	37.	13.	.90
DIVERSION TO +	BS380	889.	12.27	55.	14.	5.	.90
HYDROGRAPH AT +	D380	835.	12.37	87.	22.	8.	.90
HYDROGRAPH AT +	RT380	889.	12.27	55.	14.	5.	.90
ROUTED TO +	S380	9.	12.37	8.	7.	5.	.90
4 COMBINED AT +	C380	5353.	12.70	1225.	709.	348.	6.12
DIVERSION TO +	380S	3378.	12.70	261.	65.	23.	6.12
HYDROGRAPH AT +	DD380	1975.	12.50	964.	644.	325.	6.12
HYDROGRAPH AT +	RT380S	3378.	12.70	261.	65.	23.	6.12
ROUTED TO +	SS380	810.	13.13	197.	62.	23.	6.12
2 COMBINED AT +	CC380	2785.	13.13	1160.	706.	348.	6.12
ROUTED TO +	R380	2690.	13.43	1146.	703.	346.	6.12
HYDROGRAPH AT +	390	628.	12.03	47.	13.	5.	.24
DIVERSION TO	BS390	86.	11.63	5.	2.	1.	.24

	HYDROGRAPH AT	D390	628.	12.03	44.	12.	4.	.24
+	HYDROGRAPH AT	RT390	86.	11.63	5.	2.	1.	.24
+	ROUTED TO	S390	1.	11.70	1.	1.	1.	.24
+	2 COMBINED AT	C390	629.	12.03	45.	12.	5.	.24
+	ROUTED TO	R390	490.	12.40	45.	12.	5.	.24
+	HYDROGRAPH AT	400	786.	12.20	94.	25.	9.	.62
+	DIVERSION TO	BS400	243.	11.93	10.	3.	1.	.62
+	HYDROGRAPH AT	D400	786.	12.20	86.	22.	8.	.62
+	HYDROGRAPH AT	RT400	243.	11.93	10.	3.	1.	.62
+	ROUTED TO	S400	2.	11.97	2.	2.	1.	.62
+	2 COMBINED AT	C400	788.	12.20	88.	24.	9.	.62
+	3 COMBINED AT	CC400	2714.	13.40	1209.	724.	356.	6.98
+	ROUTED TO	R400	2683.	13.70	1204.	722.	354.	6.98
+	HYDROGRAPH AT	385A	477.	12.07	38.	10.	4.	.21
+	DIVERSION TO	SF385A	286.	12.07	23.	6.	2.	.21
	HYDROGRAPH AT	D385A	191.	12.07	15.	4.	1.	.21
+	ROUTED TO	R385A	155.	12.40	15.	4.	1.	.21
+	HYDROGRAPH AT	420	1112.	12.20	137.	38.	14.	.85
+	DIVERSION TO	BS420	219.	11.83	14.	4.	2.	.85
+	HYDROGRAPH AT	D420	1112.	12.20	130.	34.	12.	.85
+	HYDROGRAPH AT	RT420	219.	11.83	14.	4.	2.	.85
+	ROUTED TO	S420	3.	11.90	2.	2.	2.	.85
+	3 COMBINED AT	C420	1158.	12.20	148.	40.	15.	.93
+	2 COMBINED AT	CC420	2697.	13.67	1282.	746.	365.	7.91
+	ROUTED TO	R420	2669.	13.90	1278.	745.	364.	7.91
+	HYDROGRAPH AT	440	236.	12.03	17.	5.	2.	.08
+	ROUTED TO	R70	233.	12.07	17.	5.	2.	.08
+	HYDROGRAPH AT	441	21.	12.03	2.	0.	0.	.01
+	2 COMBINED AT	C108	254.	12.07	19.	5.	2.	.09
	DIVERSION TO	SPLIT	127.	12.07	9.	3.	1.	.09
	HYDROGRAPH AT							

+	D4	127.	12.07	9.	3.	1.	.09
ROUTED TO	R108	123.	12.10	9.	3.	1.	.09
HYDROGRAPH AT	442	150.	12.10	14.	4.	1.	.10
+ 2 COMBINED AT	C67	273.	12.10	23.	6.	2.	.19
+ DIVERSION TO	BASIN4	191.	12.10	7.	2.	1.	.19
HYDROGRAPH AT	D6	214.	12.20	16.	4.	2.	.19
+ HYDROGRAPH AT	RTD6	191.	12.10	7.	2.	1.	.19
+ ROUTED TO	SD6	1.	12.20	1.	1.	1.	.19
+ 2 COMBINED AT	CD6	215.	12.20	17.	5.	2.	.19
+ HYDROGRAPH AT	443	191.	12.07	20.	5.	2.	.08
+ DIVERSION TO	WSH66	78.	11.83	15.	4.	1.	.08
+ HYDROGRAPH AT	D66	113.	12.07	5.	1.	0.	.08
+ ROUTED TO	R113	112.	12.07	5.	1.	0.	.08
+ 2 COMBINED AT	C114	277.	12.20	22.	6.	3.	.27
+ HYDROGRAPH AT	444	110.	12.03	7.	2.	1.	.04
ROUTED TO	R58	105.	12.07	7.	2.	1.	.04
+ HYDROGRAPH AT	445	421.	12.03	27.	7.	3.	.19
+ 2 COMBINED AT	C107	522.	12.03	34.	9.	3.	.23
+ ROUTED TO	R107	519.	12.07	34.	9.	3.	.23
+ HYDROGRAPH AT	RTB2	127.	12.07	9.	3.	1.	.09
+ ROUTED TO	RSPLIT	126.	12.07	9.	3.	1.	.09
+ HYDROGRAPH AT	446	87.	12.03	8.	2.	1.	.04
+ 3 COMBINED AT	C109	731.	12.07	51.	13.	5.	.27
+ DIVERSION TO	WSH404	35.	11.63	9.	3.	1.	.27
+ HYDROGRAPH AT	D5	696.	12.07	42.	11.	4.	.27
+ ROUTED TO	R109	680.	12.07	42.	11.	4.	.27
+ HYDROGRAPH AT	447	192.	12.07	17.	5.	2.	.09
+ HYDROGRAPH AT	RT404	35.	11.63	9.	3.	1.	.27
+ ROUTED TO	R404	35.	11.80	9.	3.	1.	.27
+ 3 COMBINED AT	C110	906.	12.07	68.	19.	7.	.36
ROUTED TO	R110	902.	12.07	68.	19.	7.	.36

2 COMBINED AT	C115	1095.	12.07	90.	25.	9.	.63
+ ROUTED TO	R115	1086.	12.10	90.	25.	9.	.63
+ HYDROGRAPH AT	448	118.	12.03	8.	2.	1.	.05
+ HYDROGRAPH AT	449	111.	12.03	7.	2.	1.	.05
+ 2 COMBINED AT	C6364	229.	12.03	15.	4.	1.	.09
+ ROUTED TO	R6364	202.	12.17	15.	4.	1.	.09
+ HYDROGRAPH AT	450	90.	12.20	10.	3.	1.	.07
+ HYDROGRAPH AT	451	27.	12.17	3.	1.	0.	.03
+ 2 COMBINED AT	C451	116.	12.20	13.	3.	1.	.09
+ HYDROGRAPH AT	RT66	78.	11.83	15.	4.	1.	.08
+ HYDROGRAPH AT	452	86.	12.03	6.	2.	1.	.04
+ 2 COMBINED AT	C6465	164.	12.03	21.	6.	2.	.04
+ ROUTED TO	R6566	159.	12.10	21.	6.	2.	.04
+ 3 COMBINED AT	C116	469.	12.17	50.	13.	5.	.23
+ ROUTED TO	BASIN5	218.	12.43	49.	13.	5.	.23
ROUTED TO	R116	216.	12.50	49.	13.	5.	.23
+ HYDROGRAPH AT	453	89.	12.10	10.	3.	1.	.06
+ 2 COMBINED AT	C117	247.	12.47	59.	16.	6.	.29
+ 2 COMBINED AT	C118	1230.	12.10	148.	41.	15.	.92
+ ROUTED TO	R118	1218.	12.13	148.	41.	15.	.92
+ DIVERSION TO	BASIN6	419.	12.07	7.	2.	1.	.92
+ HYDROGRAPH AT	D7	1218.	12.13	141.	39.	14.	.92
+ HYDROGRAPH AT	RTD7	419.	12.07	7.	2.	1.	.92
+ ROUTED TO	SD7	1.	12.13	1.	1.	1.	.92
+ 2 COMBINED AT	CD7	1219.	12.13	142.	40.	15.	.92
+ HYDROGRAPH AT	454	227.	12.13	30.	8.	3.	.18
+ 2 COMBINED AT	C119	1442.	12.13	171.	48.	18.	1.10
+ ROUTED TO	R454	1407.	12.20	171.	48.	18.	1.10
+ HYDROGRAPH AT	415	668.	12.17	96.	27.	10.	.55
HYDROGRAPH AT	RT385A	286.	12.07	23.	6.	2.	.21
ROUTED TO							

+	RR385A	233.	12.30	23.	6.	2.	.21
2 COMBINED AT	C415	881.	12.17	119.	33.	12.	.67
2 COMBINED AT +	CC415	2253.	12.20	285.	80.	29.	1.77
ROUTED TO +	R415	2201.	12.27	285.	80.	29.	1.77
HYDROGRAPH AT +	455	1937.	12.13	205.	61.	22.	1.11
DIVERSION TO +	BS455	1937.	12.13	139.	37.	13.	1.11
HYDROGRAPH AT +	D455	1287.	12.30	84.	24.	9.	1.11
HYDROGRAPH AT +	RT455	1937.	12.13	139.	37.	13.	1.11
ROUTED TO +	S455	24.	12.30	22.	18.	11.	1.11
2 COMBINED AT +	C455	1311.	12.30	106.	42.	20.	1.11
3 COMBINED AT +	CC455	3709.	12.37	1565.	832.	401.	10.80
ROUTED TO +	R455	3020.	12.90	1537.	826.	397.	10.80
HYDROGRAPH AT +	480	1494.	12.10	137.	42.	15.	.73
DIVERSION TO +	BS480	298.	11.77	26.	8.	3.	.73
HYDROGRAPH AT +	D480	1494.	12.10	124.	33.	12.	.73
HYDROGRAPH AT	RT480	298.	11.77	26.	8.	3.	.73
ROUTED TO +	S480	5.	11.83	5.	4.	3.	.73
2 COMBINED AT +	C480	1499.	12.10	129.	38.	15.	.73
2 COMBINED AT +	CC480	3059.	12.90	1554.	844.	410.	11.53
ROUTED TO +	R480	2919.	13.13	1545.	841.	408.	11.53
HYDROGRAPH AT +	456	634.	12.07	50.	14.	5.	.26
DIVERSION TO +	BASIN1	283.	12.03	8.	2.	1.	.26
HYDROGRAPH AT +	D1	586.	12.10	42.	12.	4.	.26
DIVERSION TO +	WA30	81.	12.10	12.	4.	2.	.26
HYDROGRAPH AT +	D2	505.	12.10	30.	8.	3.	.26
ROUTED TO +	R456	426.	12.17	30.	8.	3.	.26
HYDROGRAPH AT +	457	373.	12.07	30.	8.	3.	.19
2 COMBINED AT +	C101	731.	12.13	60.	15.	6.	.45
DIVERSION TO +	BASIN2	326.	12.10	10.	3.	1.	.45
HYDROGRAPH AT +	D3	711.	12.17	49.	13.	5.	.45
HYDROGRAPH AT	RTD3	326.	12.10	10.	3.	1.	.45

+	ROUTED TO	SD3	2.	12.17	2.	1.	1.	.45
	2 COMBINED AT	CD3	713.	12.17	51.	14.	6.	.45
+	ROUTED TO	R101	663.	12.20	51.	14.	6.	.45
+	HYDROGRAPH AT	458	479.	12.03	36.	9.	3.	.19
+	2 COMBINED AT	C103	912.	12.20	86.	23.	9.	.64
+	ROUTED TO	R103	891.	12.20	86.	23.	9.	.64
+	HYDROGRAPH AT	RT30	81.	12.10	12.	4.	2.	.26
+	ROUTED TO	R30	77.	12.13	12.	4.	2.	.26
+	HYDROGRAPH AT	RTB1	283.	12.03	8.	2.	1.	.26
+	ROUTED TO	B1	35.	12.10	8.	2.	1.	.26
+	ROUTED TO	RB1	35.	12.17	8.	2.	1.	.26
+	2 COMBINED AT	CDIV	112.	12.13	20.	6.	2.	.12
+	HYDROGRAPH AT	459	62.	12.03	4.	1.	0.	.03
+	2 COMBINED AT	C52	159.	12.10	24.	7.	3.	.15
+	ROUTED TO	R52	157.	12.13	24.	7.	3.	.15
	HYDROGRAPH AT	460	297.	12.07	27.	8.	3.	.14
+	2 COMBINED AT	C102	436.	12.07	51.	15.	6.	.29
+	ROUTED TO	BASIN3	79.	12.63	51.	15.	6.	.29
+	ROUTED TO	R3	79.	12.80	51.	15.	6.	.29
+	HYDROGRAPH AT	461	220.	12.10	23.	7.	2.	.12
+	2 COMBINED AT	C104	278.	12.10	74.	22.	8.	.41
+	2 COMBINED AT	C106	1128.	12.20	160.	45.	17.	1.05
+	ROUTED TO	R106	1084.	12.23	160.	45.	17.	1.05
+	HYDROGRAPH AT	462	731.	12.07	58.	16.	6.	.30
+	2 COMBINED AT	C56	1692.	12.10	216.	60.	22.	1.35
+	2 COMBINED AT	C462	3433.	13.07	1848.	948.	465.	2.09
+	ROUTED TO	R462	3409.	13.10	1848.	948.	465.	2.09
+	ROUTED TO	RR462	3382.	13.17	1846.	947.	464.	2.09
+	HYDROGRAPH AT	500	1503.	12.27	177.	47.	17.	.93
+	2 COMBINED AT	C500	3578.	12.33	1985.	981.	476.	3.02

** NORMAL END OF HEC-1 ***

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1****************************************
*                                      *
*   FLOOD HYDROGRAPH PACKAGE  (HEC-1)  *
*              JUN   1998              *
*            VERSION 4.1               *
*                                      *
*  RUN DATE   02MAY01  TIME  09:42:47  *
*                                      *
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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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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   DDM MCUHP1 SPOOK HILL AMDP - EXISTING CONDITIONS MODEL - 10YR, 24HR STORM
   2          ID   Non-Jurisdictional Alternatives - Option NJ6
   3          ID   Spook Hill Channel w/Off-Line Basin, Pass Mountain Division, and
   4          ID   Quadrupled Signal Butte Principal Spillway Outflow
              *
              *  Original File Name: EC24_NJ6.DAT, 3/27/01
              *  Modified File Name: ET24_NJ6.DAT, 4/11/01  Wood/Patel, SZ
              *
   5          ID   A CONSERVATIVE ESTIMATE WAS USED FOR THE LOCATION OF THE CENTROID FOR
   6          ID   PRECIPITATION VALUES
   7          ID
   8          ID   FLOODWAY CHANNEL ROUTING INFORMATION FOR SIGNAL BUTTE, SPOOK HILL &
   9          ID   BULLDOG FLOODWAY WAS FROM MCFCD AS-BUILT PLANS
  10          ID
              *
              *DIAGRAM
  11          IT       2                    2000
  12          IO       5
  13          IN      15
  14          JD    2.48     0.01
  15          PC    .000     .002    .005    .008    .011    .014    .017    .020    .023    .026
  16          PC    .029     .032    .035    .038    .041    .044    .048    .052    .056    .060
  17          PC    .064     .068    .072    .076    .080    .085    .090    .095    .100    .105
  18          PC    .110     .115    .120    .126    .133    .140    .147    .155    .163    .172
  19          PC    .181     .191    .203    .218    .236    .257    .283    .387    .663    .707
  20          PC    .735     .758    .776    .791    .804    .815    .825    .834    .842    .849
  21          PC    .856     .863    .869    .875    .881    .887    .893    .898    .903    .908
  22          PC    .913     .918    .922    .926    .930    .934    .938    .942    .946    .950
  23          PC    .953     .956    .959    .962    .965    .968    .971    .974    .977    .980
  24          PC    .983     .986    .989    .992    .995    .998   1.000
  25          JD   2.465    1.00
  26          JD   2.393    5.80
  27          JD   2.326   10.66
  28          JD   2.304   13.70
  29          JD   2.257   20.00
  30          JD   2.158   50.00
              * DDM   ***** Updated *****

  31          KK      10
  32          KM   SUB-BASIN 10
  33          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
  34          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .996
  35          KM     L = 2.00  Kb = .044  Adj. Slope =  165.0
  36          BA    .702
  37          LG    .350     .320   7.600     .090  15.000
  38          UC    .421     .302
  39          UA       0        3       5       8      12      20      43      75      90      96
  40          UA     100
              * DDM   ***** Preserved *****
1                                    HEC-1 INPUT                                                    PAGE  2

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

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

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

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

 63          KK     C20
 64          KM   HYDROGRAPH COMBINATION OF SUB-BASINS 10 AND 20
 65          HC       2
             * DDM   ***** Preserved *****

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

 72          KK      40
 73          KM   SUB-BASIN 40
 74          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
 75          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .987
 76          KM     L = 3.08  Kb = .036  Adj. Slope =  189.0
 77          BA   2.233
 78          LG    .340    .340   4.900    .280   5.000
 79          UC    .496    .264
 80          UA       0       3       5       8      12      20      43      75      90      96
 81          UA     100
             * DDM   ***** Updated *****
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LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 82          KK      60
 83          KM   SUB-BASIN 60
 84          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
 85          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .990
 86          KM     L = 4.19  Kb = .038  Adj. Slope =  209.6
 87          BA   1.746
 88          LG    .330    .350   5.800    .190   9.000
 89          UC    .596    .477
 90          UA       0       3       5       8      12      20      43      75      90      96
 91          UA     100
             * DDM   ***** Preserved *****

 92          KK     C60
 93          KM   HYDROGRAPH COMBINATION FOR APACHE JUNCTION FRS
             *      1       2
 94          HC       3
             * DDM   ***** Preserved *****

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

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

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

116          KK      80
117          KM   SUB-BASIN 80
118          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
119          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .991
120          KM     L = 2.69  Kb = .039  Adj. Slope =  229.8
121          BA   1.475
122          LG    .330    .330   5.600    .210   4.000
123          UC    .433    .259
1                                        HEC-1 INPUT                                                    PAGE  4

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

124          UA       0       3       5       8      12      20      43      75      90      96
125          UA     100
             * DDM   ***** Preserved *****

126          KK     C80
127          KM   HYDROGRAPH COMBINATION FOR FLOW FROM APACHE JUNCTION FRS & SUB-BASIN 80
128          HC       2   1.475
             * DDM   ***** Preserved *****

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

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

145          KK    C100
146          KM   HYDROGRAPH COMBINATION FOR FLOW FROM SUB-BASIN 80 & 100
147          HC       2
             * DDM   ***** Preserved *****

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

154          KK     120
155          KM   SUB-BASIN 120
156          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
157          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .987
158          KM     L = 3.07  Kb = .037  Adj. Slope =  239.0
159          BA   2.202
160          LG    .330    .280   6.800    .130  11.000
161          UC    .429    .226
162          UA       0       3       5       8      12      20      43      75      90      96
163          UA     100
             * DDM   ***** Preserved *****
1                                        HEC-1 INPUT                                                    PAGE  5

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

164          KK    C120
165          KM   HYDROGRAPH COMBINATION FOR FLOW FROM SUB-BASIN 100 & 120
166          HC       2
             * DDM   ***** Preserved *****

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

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

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

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

199          KK     R152
200          KM    ROUTING OF FLOW FROM R152 TO SUB-BASIN 160
201          RS        3     FLOW       -1
202          RC     .045      .03     .045     5900     .019
203          RX        0        1        2        8       33       39       40       41
204          RY        2        2        2        0        0        2        2        2
             * DDM    ***** Updated *****
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LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

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

215          KK      180
216          KM    SUB-BASIN 180
217          KM    24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
218          KM    THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .994
219          KM      L = 2.42  Kb = .041  Adj. Slope =  140.0
220          BA    1.000
221          LG     .350     .350   4.150     .430     .000
222          UC     .571     .403
223          UA        0        3        5        8       12       20       43       75       90       96
224          UA      100
             * DDM    ***** Preserved *****

225          KK     C180
226          KM    HYDROGRAPH COMBINATION FOR SIGNAL BUTTE FRS
227          HC        5
             * DDM    ***** Updated *****

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

238          KK    R385B
239          KM    CHANNEL GEOMETRY OBTAINED FROM 2' CONTOUR MAPPING & AERIAL MAPPING
240          KM    ROUTING OF FLOW FROM SUB-BASIN 385B TO 395B
241          KM    OVERBANK MANNINGS INCREASED TO ACCOUNT FOR SKEWED FLOW TO NATURAL
242          KM    WATERCOURSE FLOW PATH
243          RS        1     FLOW       -1
244          RC      .07      .03      .07      500     .045
245          RX        0        1        3        9       39       45       46       47
246          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

247          KK     395B
248          KM    SUB-BASIN 395B
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249          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
250          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF 1.000
251          KM     L =  .71  Kb = .066  Adj. Slope =  249.8
252          BA    .017
253          LG    .350    .350   4.300    .400    .000
254          UC    .262    .650
255          UA       0       3       5       8      12      20      43      75      90      96
256          UA     100
             * DDM   ***** Preserved *****

257          KK   C395B
258          KM   HYDROGRAPH COMBINATION OF SUB-BASINS 383 & 393
259          HC       2
             * DDM   ***** Preserved *****

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

267          KK    370B
268          KM   SUB-BASIN 370B
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  .998
271          KM     L = 2.20  Kb = .049  Adj. Slope =  299.5
272          BA    .264
273          LG    .350    .350   4.800    .290   5.000
274          UC    .408    .550
275          UA       0       3       5       8      12      20      43      75      90      96
276          UA     100
             * DDM   ***** Preserved *****

277          KK   C370B
278          KM   HYDROGRAPH COMBINATION OF SUB-BASINS 395B & 370B
279          HC       2
             * DDM   ***** Preserved *****

280          KK   R370B
281          KM   CHANNEL GEOMETRY OBTAINED FROM 2' CONTOUR MAPPING & AERIAL MAPPING
282          KM   ROUTING OF FLOW FROM SUB-BASIN 370B TO ROUTING RR370B
283          RS       2    FLOW      -1
284          RC    .045     .03    .045    1110    .025
285          RX       0       1      50      56      76      82     131     132
286          RY       3       2       2       0       0       2       2       3
             * DDM   ***** Preserved *****
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LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

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

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

306          KK   C355B
307          KM   HYDROGRAPH COMBINATION OF SUB-BASINS 370B & 355B
308          HC       2
             * DDM   ***** Preserved *****

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

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

325          KK     350
326          KM   SUB-BASIN 350
327          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
328          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .994
329          KM     L = 2.22  Kb = .042  Adj. Slope =  315.0
330          BA    .970
1                                        HEC-1 INPUT                                                    PAGE  9

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

331          LG    .350    .350   4.550    .340   4.000
332          UC    .367    .234
333          UA       0       3       5       8      12      20      43      75      90      96
334          UA     100
             * DDM   ***** Preserved *****

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

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

352          KK    C310
353          KM   HYDROGRAPH COMBINATION OF SUB-BASINS 350 & 310
354          HC       3
             * DDM   ***** Preserved *****

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

362          KK    R312
363          KM   CHANNEL GEOMETRY OBTAINED FROM 2' CONTOUR MAPPING & AERIAL MAPPING
364          KM   ROUTING OF FLOW FROM SUB-BASIN 310 TO 305
365          KM   OVERBANK MANNINGS INCREASED TO ACCOUNT FOR SKEWED FLOW TO NATURAL
366          KM   WATERCOURSE FLOW PATH
367          RS       3    FLOW      -1
368          RC     .07     .03     .07    2560   .0124
369          RX       0       3       5      11      61      67     200     395
370          RY       4     2.5       2       0       0       2     2.5       4
             * DDM   ***** Updated *****
1                                        HEC-1 INPUT                                                    PAGE 10

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

371          KK    305B
372          KM   SUB-BASIN 305B
373          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
374          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .998
375          KM     L = 1.65  Kb = .047  Adj. Slope =  127.0
376          BA    .414
377          LG    .350    .350   4.700    .300    .000
378          UC    .467    .392
379          UA       0       3       5       8      12      20      43      75      90      96
380          UA     100
             * DDM   ***** Preserved *****

381          KK   C305B
382          KM   HYDROGRAPH COMBINATION OF SUB-BASINS 310 & 295
383          HC       2
             * DDM   ***** Preserved *****

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

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

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

409          KK     240
410          KM   SUB-BASIN 240
411          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
412          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .992
413          KM     L = 2.96  Kb = .039  Adj. Slope =  305.5
414          BA   1.408
1                                        HEC-1 INPUT                                                    PAGE 11

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

415          LG    .350    .370   5.300    .230   2.000
416          UC    .417    .274
417          UA       0       3       5       8      12      20      43      75      90      96
418          UA     100
             * DDM   ***** Preserved *****

419          KK    C240
420          KM   HYDROGRAPH COMBINATION FOR SUB-BASIN 240 & 220
421          HC       3
             * DDM   ***** Preserved *****

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

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

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

448          KK    C220
449          KM   HYDROGRAPH COMBINATION FOR SUB-BASIN 240 & 220
450          HC       2
             * DDM   ***** Preserved *****

451          KK    S220
452          KM   DIGITAL MAPPING SHOWS SEDIMENTATION.  FOR SIMPLICITY NO ADDITIONAL
453          KM   SEDIMENTATION WILL BE CONSIDERED FOR STORAGE ROUTING ANALYSIS. 5/11/00
454          KM    WEIR GEOMETRY OBTAINED FROM AS-BUILT PLANS @ PASS MTN. DIVERSION.
455          KM   WEIR STORAGE DATA OBTAINED FROM 2' CONTOUR MAPPING.
456          RS       1    STOR       0
                                         HEC-1 INPUT                                                    PAGE 12

LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10
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457          SA      .78      4.1     13.7
458          SE        0        3       10
459          SS        3       65        3      1.5
             * DDM   ***** Preserved *****

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

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

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

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

489          KK      200
490          KM   SUB-BASIN 200
491          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
492          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .997
493          KM     L = 1.55  Kb = .045  Adj. Slope =  306.9
494          BA     .530
495          LG     .350     .390    5.700     .200   10.000
496          UC     .296     .185
497          UA        0        3        5        8       12       20       43       75       90       96
498          UA      100
             * DDM   ***** Preserved *****
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LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

499          KK    C200
500          KM   HYDROGRAPH COMBINATION FOR SUB-BASIN 220 & 200
501          HC        3
             * DDM   ***** Preserved *****

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

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

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

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

528          KK   CC180
529          KM   HYDROGRAPH COMBINATION FOR SIGNAL BUTTE FRS
             * KO      1       2
530          HC       2
             * DDM   ***** Preserved *****
1                                    HEC-1 INPUT                                                    PAGE 14

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


531          KK    S180
532          KM   SIGNAL BUTTE FRS DATED 1/28/85
533          KM   OUTLET PIPE=36"RCP; L= 147';  INLET INV.=1690; OUTLET INV.=1687
534          KM   EMERGENCY SPILLWAY ELEV.=1712.4; PRINCIPLE SPILLWAY ELEV.=1701
535          KM   STORAGE VOLUME BELOW PRINCIPLE SPILLWAY FOR SEDIMENT = 250 ACRE-FEET
536          RS       1    STOR       0
537          SV       0      92     226     462     742    1197    1418    1776    1941    3114
538          SQ       0      40      42     392     532     596     620    1949    3032    6465
539          SE      99     101     103     106     109     113   114.6     117     118     120
             *
             * SV     0    46.8     106     130   161.2   170.7   230.7   322.2     543   584
             * SV 812.9  1121.9  1470.1    1865
             * SE1791.9    1973  1794.1  1794.5    1795 1795.14    1796 1797.14 1799.42 1799.
             * SE1801.7    1804 1806.28 1808.57
             * SQ     0     .04     .08   105.2   297.6   364.8   384.6   409.7   455.6   462
             * SQ  2113    8156   15656   26656
             *      0       1     250     500     750    1060
             *      0   106.5   125.5   137.5     146     160
             *     90     101   104.5     107     109   112.4
             * DDM   ***** Preserved *****

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

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

559          KK    C260
560          KM   HYDROGRAPH COMBINATION FOR OUTFLOW OF SIGNAL BUTTE FRS & SUB-BASIN 260
561          HC       2    .262
             * DDM   ***** Preserved *****
1                                    HEC-1 INPUT                                                    PAGE 15

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


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

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

581          KK    C280
582          KM   HYDROGRAPH COMBINATION FOR SUB-BASIN 260 & SUB-BASIN 280
583          HC       2
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            * DDM   ***** Preserved *****

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

593         KK     300
594         KM   SUB-BASIN 300
595         KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
596         KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .998
597         KM     L =  .82  Kb = .049  Adj. Slope =   98.0
598         BA    .289
599         LG    .320    .290   4.200    .480  11.000
600         UC    .346    .197
601         UA       0       5      16      30      65      77      84      90      94      97
602         UA     100
            * DDM   ***** Preserved *****
1                                    HEC-1 INPUT                                          PAGE 16

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

603         KK    C300
604         KM   HYDROGRAPH COMBINATION OF DIVERTED FLOW
605         HC       2
            * DDM   ***** Preserved *****

606         KK    R300
607         KM   Routing length updated using Signal Butte Floodway plans dated March 1983
608         KM   Routing length increased 300' from 2200' to 2500'    12/12/00
609         KM   CHANNEL GEOMETRY FOR SIGNAL BUTTE FRS OBTAINED FROM AS-BUILT PLANS.
610         KM   ROUTE FLOW FROM SUB-BASIN 300 TO START OF FLOODWAY CONCRETE CHANNEL
611         RS       2    FLOW      -1
612         RC    .035    .025    .035    2500    .003
613         RX       0       1       2    23.4    55.4    76.8      77      78
614         RY     9.7     9.7     9.7       0       0     9.7     9.7     9.7
            * DDM   ***** Updated *****

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

625         KK   C305A
626         KM   HYDROGRAPH COMBINATION OF SUB-BASIN 280 & 300 & 305A
627         HC       2
            * DDM   ***** Preserved *****

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

637         KK     320
638         KM   SUB-BASIN 320
639         KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
640         KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .995
641         KM     L = 2.04  Kb = .042  Adj. Slope =  118.0
642         BA    .865
643         LG    .310    .290   4.500    .380  15.000
644         UC    .508    .335
645         UA       0       5      16      30      65      77      84      90      94      97
1                                    HEC-1 INPUT                                          PAGE 17

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

646         UA     100
            * DDM   ***** Preserved *****

647         KK    D320
648         KM        DIVERT FLOW INTO ONLINE  DETENTION BASIN
649         KM   DETENTION/RETENTION BASINS LOCATED WITHIN THREE SUBDIVISIONS
650         KM   SIERRA HEIGHTS       FALCON RIDGE    & MARBLE CREEK
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651          KM        MAXIMUM VOLUME DIVERSION = 12.27acre-feet
             *      1
652          DT   BS320   12.27
653          DI       0   10000
654          DQ       0   10000
             * DDM   ***** Preserved *****

655          KK   RT320
656          KM   RETRIEVE FLOW FROM DIVERSION INTO ONLINE BASIN
657          DR   BS320
             * DDM   ***** Preserved *****

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

664          KK    C320
665          KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
666          HC       3
             * ADD ROUTING ALONG SPOOK HILL FRS
             * DDM   ***** Preserved *****

667          KK    R320
668          KM   ROUTE FLOW THROUGH SPOOK HILL FRS FROM JUNCTION OF BROWN & ELLSWORTH ROAD
669          KM   TO JUST NORTH OF JUNCTION OF MCDOWELL & POWER RD.
670          RS       9    FLOW      -1
671          RC    .035    .035    .035    4500   .0007
672          RX       0       9      50      68     198     206     267     275
673          RY     100      97      97      91      91      97      97     100
             * DDM   ***** Updated *****

674          KK     340
675          KM   SUB-BASIN 340
676          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
677          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .991
678          KM     L = 2.40  Kb = .042  Adj. Slope =  160.0
679          BA   1.482
680          LG    .280    .280   4.150    .520  20.000
681          UC    .512    .284
682          UA       0       5      16      30      65      77      84      90      94      97
683          UA     100
             * DDM   ***** Preserved *****
                                        HEC-1 INPUT                                          PAGE 18

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

684          KK    D340
685          KM        DIVERT FLOW INTO ONLINE  DETENTION BASIN
686          KM   DETENTION/RETENTION BASINS LOCATED WITHIN THREE SUBDIVISIONS
687          KM   GRANDVIEW ESTATES    BOULDER MOUNTAIN & 33% OF MESA HIGHLANDS
688          KM        MAXIMUM VOLUME DIVERSION = 56.0 acre-feet
             *      1
689          DT   BS340      56
690          DI       0   10000
691          DQ       0   10000
             * DDM   ***** Preserved *****

692          KK   RT340
693          KM   RETRIEVE FLOW FROM DIVERSION INTO ONLINE BASIN
694          DR   BS340
             * DDM   ***** Preserved *****

695          KK    S340
696          KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
697          KM    56.0 ACRE-FEETx43560/36x3600=18.8cfs
             *      1
698          RS       1    STOR       0
699          SV       0     .01      56
700          SQ       0     3.0    18.9
             * DDM   ***** Preserved *****

701          KK    C340
             * KO     1       2
702          KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
703          HC       3
             * ADD ROUTING ALONG SPOOK HILL FRS
             * DDM   ***** Preserved *****

704          KK    R340
705          KM   ROUTE FLOW THROUGH SPOOK HILL FRS FROM JUNCTION OF BROWN & ELLSWORTH ROAD
706          KM   TO JUST NORTH OF JUNCTION OF MCDOWELL & POWER RD.
707          RS       5    FLOW      -1
708          RC    .035    .035    .035    2300   .0007
709          RX       0       9      50      68     233     241     307     315
710          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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711          KK    355A
712          KM   SUB-BASIN 355A
713          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
714          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .999
715          KM     L =  .80  Kb = .052  Adj. Slope =  125.0
716          BA    .163
717          LG    .320    .290   4.550    .360  14.000
718          UC    .308    .236
719          UA       0       5      16      30      65      77      84      90      94      97
720          UA     100
             * DDM   ***** Preserved *****
1                                        HEC-1 INPUT                                          PAGE 19

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


721          KK   R355A
722          KM   CHANNEL GEOMETRY OBTAINED FROM 2' CONTOUR MAPPING.
723          KM   ROUTING OF FLOW FROM SUB-BASIN 355A TO SUB-BASIN 360
724          RS       9    FLOW      -1
725          RC    .045    .035    .045   10100    .026
726          RX       0       1      40      46      56      62     102     103
727          RY       3       2       2       0       0       2       2       3
             * DDM   ***** Updated *****

728          KK     360
729          KM   SUB-BASIN 360
730          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
731          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .995
732          KM     L = 2.10  Kb = .046  Adj. Slope =  124.0
733          BA    .880
734          LG    .280    .290   4.100    .520  15.000
735          UC    .571    .387
736          UA       0       5      16      30      65      77      84      90      94      97
737          UA     100
             * DDM   ***** Preserved *****

738          KK    D360
739          KM        DIVERT FLOW INTO ONLINE  DETENTION BASIN
740          KM   DETENTION/RETENTION BASINS LOCATED WITHIN 33% OF MESA HIGHLANDS
741          KM        MAXIMUM VOLUME DIVERSION = 28.6 acre-feet
             *      1
742          DT   BS360    28.6
743          DI       0   10000
744          DQ       0   10000
             * DDM   ***** Preserved *****

745          KK   RT360
746          KM   RETRIEVE FLOW FROM DIVERSION INTO ONLINE BASIN
747          DR   BS360
             * DDM   ***** Preserved *****

748          KK    S360
749          KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
750          KM    28.6 ACRE-FEETx43560/36x3600=9.6cfs
751          RS       1    STOR       0
752          SV       0     .01    28.6
753          SQ       0     3.0     9.6
             * DDM   ***** Preserved *****

754          KK    C360
755          KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
756          HC       4
             * ADD ROUTING ALONG SPOOK HILL FRS
             * DDM   ***** Preserved *****
1                                        HEC-1 INPUT                                          PAGE 20

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


757          KK    R360
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    2600   .0007
762          RX       0       9      50      68     268     286     337     345
763          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 *****

764          KK    370A
765          KM   SUB-BASIN 370A
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  .998
768          KM     L = 1.04  Kb = .047  Adj. Slope =  163.0
769          BA    .408
770          LG    .330    .300   4.650    .350  11.000
771          UC    .308    .172
772          UA       0       5      16      30      65      77      84      90      94      97
773          UA     100
             * DDM   ***** Updated *****

774          KK    395A
775          KM   SUB-BASIN 395A
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776          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
777          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .999
778          KM     L = 1.14  Kb = .052  Adj. Slope =  165.0
779          BA    .182
780          LG    .330     .320   5.000     .290  10.000
781          UC    .346     .334
782          UA       0        5      16       30       65       77       84       90       94       97
783          UA     100
             * DDM   ***** Preserved *****

784          KK   C370A
785          KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
786          HC       2
             * DDM   ***** Preserved *****

787          KK   R370A
788          KM   CHANNEL GEOMETRY OBTAINED FROM 2' CONTOUR MAPPING.
789          KM   ROUTING OF FLOW FROM SUB-BASINS 370 AND 395 TO SUB-BASIN 380.
790          RS      10    FLOW      -1
791          RC    .045     .035    .045   10250     .023
792          RX       0        1      40       46       56       62      102      103
793          RY     3.5        2       2        0        0        2        2      3.5
             * DDM   ***** Updated *****
1                                          HEC-1 INPUT                                                    PAGE 21

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

794          KK     380
795          KM   SUB-BASIN 380
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 = 2.20  Kb = .049  Adj. Slope =  114.0
799          BA    .898
800          LG    .300     .310   4.150     .500   7.000
801          UC    .671     .475
802          UA       0        5      16       30       65       77       84       90       94       97
803          UA     100
             * DDM   ***** Preserved *****

804          KK    D380
805          KM        DIVERT FLOW INTO ONLINE  DETENTION BASIN
806          KM   DETENTION/RETENTION BASINS LOCATED WITHIN 33% OF MESA HIGHLANDS
807          KM        MAXIMUM VOLUME DIVERSION = 28.6 acre-feet
             *      1
808          DT   BS380    28.6
809          DI       0   10000
810          DQ       0   10000
             * DDM   ***** Preserved *****

811          KK   RT380
812          KM   RETRIEVE FLOW FROM DIVERSION INTO ONLINE BASIN
813          DR   BS380
             * DDM   ***** Preserved *****

814          KK    S380
815          KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
816          KM    28.6 ACRE-FEETx43560/36x3600=9.6cfs
817          RS       1    STOR       0
818          SV       0     .01    28.6
819          SQ       0     3.0     9.6
             * DDM   ***** Preserved *****

820          KK    C380
             * KO     1       2
821          KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
822          HC       4
             * OFFLINE DETENTION BASIN ADDED THIS ALTERNATIVE
             * DDM   ***** Preserved *****

823          KK   DD380
824          KM        DIVERT FLOW INTO OFFLINE  DETENTION BASIN
825          KM        IN RED MOUNTAIN REGIONAL PARK
826          KM
827          DT    380S
828          DI       0    1975   10000
829          DQ       0       0    8025
             * DDM   ***** Preserved *****
1                                          HEC-1 INPUT                                                    PAGE 22

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

830          KK  RT380S
831          KM   RETRIEVE FLOW FROM DIVERSION INTO OFFLINE BASIN
832          DR    380S
             * DDM   ***** Preserved *****

833          KK   SS380
834          KM   OFFLINE BASIN IN PARK AREA
             *  Total Volume = 32 A-F, Maximum Inflow = 1400 cfs
             *  Bleed-off Pipe Diameter = 2', and Weir Flow Start at 3' of Ponding. 3/26/01
             * KO     1       2
835          RS       1    STOR       0
836          SV     0.0     1.0     8.0    19.0    32.0    50.0
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837          SE       0      .5       1     2.0     3.0     4.0
838          SL     0.5    3.14     0.6     0.5
839          SS       3      50     3.0     1.5
             * DDM   ***** Preserved *****

840          KK   CC380
841          KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
842          HC       2
             * ADD ROUTING ALONG SPOOK HILL FRS
             * DDM   ***** Preserved *****

843          KK    R380
844          KM   ROUTE FLOW THROUGH SPOOK HILL FRS FROM JUNCTION OF BROWN & ELLSWORTH ROAD
845          KM   TO JUST NORTH OF JUNCTION OF MCDOWELL & POWER RD.
846          RS       3    FLOW      -1
847          RC    .035    .035    .035    4000   .0007
848          RX       0       9      50      68     163     181     257     265
849          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 *****

850          KK     390
851          KM   SUB-BASIN 390
852          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
853          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .999
854          KM     L =  .70  Kb = .050  Adj. Slope =  299.4
855          BA    .244
856          LG    .300    .250   4.700    .380  18.000
857          UC    .204    .107
858          UA       0       5      16      30      65      77      84      90      94      97
859          UA     100
             * DDM   ***** Preserved *****

860          KK    D390
861          KM        DIVERT FLOW INTO ONLINE  DETENTION BASIN
862          KM   DETENTION/RETENTION BASINS LOCATED WITHIN THUNDER MOUNTAIN ESTATES
863          KM        MAXIMUM VOLUME DIVERSION  = 3.5 acre-feet
             *      1
864          DT   BS390     3.5
865          DI       0   10000
866          DQ       0   10000
             * DDM   ***** Preserved *****
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LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

867          KK   RT390
868          KM   RETRIEVE FLOW FROM DIVERSION INTO ONLINE BASIN
869          DR   BS390
             * DDM   ***** Preserved *****

870          KK    S390
871          KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
872          KM     3.5 ACRE-FEETx43560/36x3600=1.2cfs
873          RS       1    STOR       0
874          SV       0     .01     3.5
875          SQ       0     0.2     1.2
             * DDM   ***** Preserved *****

876          KK    C390
877          KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
878          HC       2
             * DDM   ***** Preserved *****

879          KK    R390
880          KM   CHANNEL GEOMETRY OBTAINED FROM 2' CONTOUR MAPPING.
881          KM   FROM SUB-BASIN 390 TO SUB-BASIN 400
882          RS      15    FLOW      -1
883          RC    .045    .045    .045    8800    .020
884          RX       0       1      40      46      56      62     102     103
885          RY       3       2       2       0       0       2       2       3
             * DDM   ***** Updated *****

886          KK     400
887          KM   SUB-BASIN 400
888          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
889          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .996
890          KM     L = 1.64  Kb = .046  Adj. Slope =  110.0
891          BA    .616
892          LG    .320    .300   4.150    .490   6.000
893          UC    .508    .342
894          UA       0       5      16      30      65      77      84      90      94      97
895          UA     100
             * DDM   ***** Preserved *****

896          KK    D400
897          KM        DIVERT FLOW INTO ONLINE  DETENTION BASIN
898          KM   DETENTION/RETENTION BASIN LOCATED WITHIN SAGUARO VISTA SUBDIVISION
899          KM        MAXIMUM VOLUME DIVERSION = 5.6 ACRE-FEET
             *      1
900          DT   BS400     5.6
901          DI       0   10000
902          DQ       0   10000
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                * DDM   ***** Preserved *****
LINE            ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 903            KK   RT400
 904            KM   RETRIEVE FLOW FROM DIVERSION INTO ONLINE BASIN
 905            DR   BS400
                * DDM   ***** Preserved *****

 906            KK    S400
 907            KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
 908            KM     5.6 ACRE-FEETx43560/36x3600 = 2 cfs
 909            RS       1    STOR       0
 910            SV       0     .01      5.6
 911            SQ       0     1.0       2
                * DDM   ***** Preserved *****

 912            KK    C400
 913            KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
 914            HC       2
                * DDM   ***** Preserved *****

 915            KK   CC400
                * KO     1       2
 916            KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
 917            HC       3
                * ADD ROUTING ALONG SPOOK HILL FRS
                * DDM   ***** Preserved *****

 918            KK    R400
 919            KM   ROUTE FLOW THROUGH SPOOK HILL FRS FROM JUNCTION OF BROWN & ELLSWORTH ROAD
 920            KM   TO JUST NORTH OF JUNCTION OF MCDOWELL & POWER RD.
 921            RS       9    FLOW      -1
 922            RC    .035    .035    .035    3800   .0007
 923            RX       0       9      50      68     163     181     257     265
 924            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 *****

 925            KK    385A
 926            KM   SUB-BASIN 385A
 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 =  .90  Kb = .051  Adj. Slope =  309.5
 930            BA    .213
 931            LG    .340    .320   4.900    .300   9.000
 932            UC    .233    .163
 933            UA       0       5      16      30      65      77      84      90      94      97
 934            UA     100
                * DDM   ***** Preserved *****

 935            KK   D385A
 936            KM   DIVERT FLOW INTO SUB-BASINS 415 & 420
 937            DT  SF385A
 938            DI       0    5000
 939            DQ       0    3000
                * DDM   ***** Preserved *****
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LINE            ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 940            KK   R385A
 941            KM   CHANNEL GEOMETRY OBTAINED FROM 2' CONTOUR MAPPING.
 942            KM   ROUTING OF FLOW DIVERSION FROM SUB-BASIN 385A TO 420
 943            RS      11    FLOW      -1
 944            RC    .045     .04    .045   10250    .022
 945            RX       0       1      40      46      56      62     102     103
 946            RY       3       2       2       0       0       2       2       3
                * DDM   ***** Updated *****

 947            KK     420
 948            KM   SUB-BASIN 420
 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  .995
 951            KM     L = 1.91  Kb = .042  Adj. Slope =  120.0
 952            BA    .849
 953            LG    .310    .270   3.880    .580  12.000
 954            UC    .512    .325
 955            UA       0       5      16      30      65      77      84      90      94      97
 956            UA     100
                * DDM   ***** Preserved *****

 957            KK    D420
 958            KM        DIVERT FLOW INTO ONLINE  DETENTION BASIN
 959            KM   DETENTION/RETENTION BASINS LOCATED WITHIN GRAY FOX SUBDIVISION
 960            KM        MAXIMUM VOLUME DIVERSION = 8.65 acre-feet
                *      1
 961            DT   BS420    8.65
 962            DI       0   10000
 963            DQ       0   10000
                * DDM   ***** Preserved *****
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 964          KK   RT420
 965          KM   RETRIEVE FLOW FROM DIVERSION INTO ONLINE BASIN
 966          DR   BS420
              * DDM   ***** Preserved *****

 967          KK    S420
 968          KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
 969          KM    8.65 ACRE-FEETx43560/36x3600=2.9cfs
 970          RS       1    STOR      0
 971          SV       0     .01    8.65
 972          SQ       0     1.0     2.9
              * DDM   ***** Preserved *****

 973          KK    C420
 974          KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
 975          HC       3  0.9342
              * DDM   ***** Preserved *****
1                                    HEC-1 INPUT                                          PAGE 26

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

 976          KK   CC420
 977          KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
 978          HC       2
              * ADD ROUTING ALONG SPOOK HILL FRS
              * DDM   ***** Preserved *****

 979          KK    R420
 980          KM   ROUTE FLOW THROUGH SPOOK HILL FRS FROM JUNCTION OF BROWN & ELLSWORTH ROAD
 981          KM   TO JUST NORTH OF JUNCTION OF MCDOWELL & POWER RD.
 982          RS       5    FLOW      -1
 983          RC    .035    .035    .035    2900    .0007
 984          RX       0       9      50      68     163     181     257     265
 985          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 *****

 986          KK     440
 987          KM   SUB-BASIN 440
 988          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
 989          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF 1.000
 990          KM     L =  .40  Kb = .039  Adj. Slope =  315.0
 991          BA    .080
 992          LG    .190    .380   6.400    .140  13.000
 993          UC    .129    .077
 994          UA       0       3       5       8      12      20      43      75      90      96
 995          UA     100
              * DDM   ***** Preserved *****

 996          KK     R70
 997          KM   ROUTE FLOW FROM SUB-BASIN 440 TO C108
 998          RS       2    FLOW      -1
 999          RC     .05    .035     .05    2250     .08
1000          RX    1000    1025    1050    1070    1075    1095    1120    1145
1001          RY      30    22.9    15.7      10      10    15.7    22.9      30
              * DDM   ***** Updated *****

1002          KK     441
1003          KM   SUB-BASIN 441
1004          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1005          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF 1.000
1006          KM     L =  .28  Kb = .069  Adj. Slope =  315.0
1007          BA    .010
1008          LG    .300    .250   5.600    .220   5.000
1009          UC    .150    .225
1010          UA       0       5      16      30      65      77      84      90      94      97
1011          UA     100
              * DDM   ***** Preserved *****
1                                    HEC-1 INPUT                                          PAGE 27

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

1012          KK    C108
1013          KM   COMBINE HYDROGRAPHS FROM SUB-BASINS 440 & 441
1014          HC       2
              * DDM   ***** Preserved *****

1015          KK      D4
1016          KM        SPLIT FLOW WITH TWO 42 INCH PIPES TO WEST AND SOUTH
              *      1
1017          DT   SPLIT
1018          DI       0      14      40      82     120     154     180
1019          DQ       0       7      20      41      60      77      90
              * DDM   ***** Preserved *****

1020          KK    R108
1021          KM        ROUTE FLOW FROM SUB-BASIN C108 TO C67
1022          RS       2    FLOW      -1
1023          RC     .05    .035     .05    3200      .1
1024          RX    1000    1025    1050    1070    1075    1095    1120    1145
1025          RY      30    22.9    15.7      10      10    15.7    22.9      30
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                * DDM   ***** Updated *****

1026            KK     442
1027            KM   SUB-BASIN 442
1028            KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1029            KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .999
1030            KM     L =  .83  Kb = .055  Adj. Slope =  274.2
1031            BA    .100
1032            LG    .300    .270   3.290    .770   5.000
1033            UC    .258    .264
1034            UA       0       5      16      30      65      77      84      90      94      97
1035            UA     100
                * DDM   ***** Preserved *****

1036            KK     C67
1037            KM   COMBINE FLOW FROM SUB-BASIN 442 & DIV4
1038            HC       2
                * DDM   ***** Preserved *****

1039            KK      D6
1040            KM        OFFLINE BASIN WITH 25 FOOT WEIR SET AT 2.5 FEET ABOVE BOTTOM OF CHANNEL
1041            KM        FLOW CONTINUES BEYOND BASIN THROUGH 2-30" PIPES
                *      1
1042            DT  BASIN4     3.3
1043            DI       0      10      32      44    79.9   132.5     198   272.9   356.8
1044            DQ       0       0       0       0    23.9    67.5     124   190.9   266.8
                * DDM   ***** Preserved *****

1045            KK    RTD6
1046            KM   RETRIEVE FLOW FROM DIVERSION INTO OFFLINE BASIN
1047            DR  BASIN4
                * DDM   ***** Preserved *****
1                                    HEC-1 INPUT                                          PAGE 28

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


1048            KK     SD6
1049            KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
1050            KM     3.3 ACRE-FEETx43560/36x3600=1.1cfs
                *      1
1051            RS       1    STOR       0
1052            SV       0     .01     3.3
1053            SQ       0     0.2     1.1
                * DDM   ***** Preserved *****

1054            KK     CD6
1055            KM   HYDROGRAPH COMBINATION FOR OFFLINE BASIN BLEEDOFF
1056            HC       2
                * DDM   ***** Updated *****

1057            KK     443
1058            KM   SUB-BASIN 443
1059            KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1060            KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF 1.000
1061            KM     L =  .71  Kb = .050  Adj. Slope =  315.0
1062            BA    .080
1063            LG    .250    .190   8.000    .080  10.000
1064            UC    .196    .194
1065            UA       0       5      16      30      65      77      84      90      94      97
1066            UA     100
                * DDM   ***** Preserved *****

1067            KK     D66
1068            KM        DIVERT FLOW INTO 3 NATURAL WASHES WITH ONE 24" PIPE IN EACH WASH.
1069            KM        EACH PIPE CAPACITY BASED ON 4 FEET OF HEAD
1070            DT   WSH66
1071            DI       0      78     100     200
1072            DQ       0      78      78      78
                * DDM   ***** Preserved *****

1073            KK    R113
1074            KM        ROUTE FLOW FROM C113 TO C114
1075            RS       1    FLOW      -1
1076            RC    .019    .019    .019    1300    .029
1077            RX    1000    1004    1008    1012    1018    1022    1026    1030
1078            RY      17   15.33   12.67      10      10   12.67   15.33      17
                * DDM   ***** Preserved *****

1079            KK    C114
1080            KM        COMBINE HYDROGRAPHS FROM SUB-BASIN 67 AND C113
1081            HC       2
                * DDM   ***** Updated *****

1082            KK     444
1083            KM   SUB-BASIN 444
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 =  .33  Kb = .034  Adj. Slope =  315.0
1087            BA    .040
1088            LG    .130    .350   4.450    .320   1.000
                                     HEC-1 INPUT                                          PAGE 29

LINE            ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10
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1089          UC    .112    .084
1090          UA       0       3       5       8      12      20      43      75      90      96
1091          UA     100
              * DDM   ***** Preserved *****

1092          KK     R58
1093          KM   ROUTE FLOW FROM SUB-BASIN 444 TO C107
1094          RS       2    FLOW      -1
1095          RC     .05    .035     .05    2370   .0516
1096          RX    1000    1010    1020    1050    1055    1085    1095    1105
1097          RY      19      18      17      10      10      17      18      19
              * DDM   ***** Updated *****

1098          KK     445
1099          KM   SUB-BASIN 445
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  .999
1102          KM     L =  .82  Kb = .036  Adj. Slope =  315.0
1103          BA    .190
1104          LG    .170    .320   3.470    .590   3.000
1105          UC    .192    .130
1106          UA       0       5      16      30      65      77      84      90      94      97
1107          UA     100
              * DDM   ***** Preserved *****

1108          KK    C107
1109          KM   COMBINE HYDROGRAPHS FROM SUB-BASINS 444 & 445
1110          HC       2
              * DDM   ***** Preserved *****

1111          KK    R107
1112          KM        ROUTE FLOW FROM C107 TO C109
1113          RS       2    FLOW      -1
1114          RC     .05    .035     .05     700   .0516
1115          RX    1000    1010    1020    1050    1055    1085    1095    1105
1116          RY      19      18      17      10      10      17      18      19
              * DDM   ***** Preserved *****

1117          KK    RTB2
1118          KM        RETRIEVE DIVERTED FLOW FROM BASIN 1
              *      1
1119          DR   SPLIT
              * DDM   ***** Preserved *****

1120          KK  RSPLIT
1121          KM        ROUTE FLOW FROM SPLIT TO C109
1122          RS       1    FLOW      -1
1123          RC     .05    .035     .05     800     .05
1124          RX    1000    1025    1050    1070    1075    1095    1120    1145
1125          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

1126          KK     446
1127          KM   SUB-BASIN 446
1128          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1129          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF 1.000
1130          KM     L =  .46  Kb = .061  Adj. Slope =  303.9
1131          BA    .040
1132          LG    .270    .250   4.500    .400  19.000
1133          UC    .183    .189
1134          UA       0       5      16      30      65      77      84      90      94      97
1135          UA     100
              * DDM   ***** Preserved *****

1136          KK    C109
1137          KM        COMBINE HYDROGRAPHS FROM COMBINES C107 AND C108
1138          HC       3
              * DDM   ***** Preserved *****

1139          KK      D5
1140          KM        DIVERT FLOW INTO WASHES TOWARDS WEST
1141          KM        DIVERSION THROUGH 36" PIPE WITH 3 FEET OF HEAD
              *      1
1142          DT  WSH404
1143          DI       0    40.7    71.2   121.6     190     276   379.4   500.6
1144          DQ       0      35      35      35      35      35      35      35
              * DDM   ***** Preserved *****

1145          KK    R109
1146          KM        ROUTE FLOW FROM C109 TO C110
1147          RS       1    FLOW      -1
1148          RC    .019    .019    .019    3080     .05
1149          RX    1000    1005    1010    1015    1025    1030    1035    1040
1150          RY   13.75    12.5   11.25      10      10   11.25    12.5   13.75
              * DDM   ***** Updated *****

1151          KK     447
1152          KM   SUB-BASIN 447
1153          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1154          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .999
1155          KM     L =  .49  Kb = .056  Adj. Slope =  221.0
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1156          BA    .090
1157          LG    .250    .270   3.350    .870  30.000
1158          UC    .208    .145
1159          UA       0       5      16      30      65      77      84      90      94      97
1160          UA     100
              * DDM   ***** Preserved *****

1161          KK   RT404
1162          KM         RETRIEVE DIVERTED FLOW FOR WASH 109
1163          DR  WSH404
              * DDM   ***** Preserved *****
1                                        HEC-1 INPUT                                          PAGE 31

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

1164          KK    R404
1165          KM        ROUTE FLOW FROM C110 TO C110
1166          RS       6    FLOW      -1
1167          RC    .019    .019    .019    3540     .03
1168          RX    1000    1012    1016    1020    1025    1029    1033    1045
1169          RY      15      12      11      10      10      11      12      15
              * DDM   ***** Preserved *****

1170          KK    C110
1171          KM   COMBINE HYDROGRAPHS FROM SUB-BASIN 447 AND R404
1172          HC       3
              * DDM   ***** Preserved *****

1173          KK    R110
1174          KM        ROUTE FLOW FROM C110 TO C115
1175          RS       1    FLOW      -1
1176          RC    .019    .019    .019     580   .0291
1177          RX    1000    1012    1016    1020    1035    1039    1043    1055
1178          RY      15      12      11      10      10      11      12      15
              * DDM   ***** Preserved *****

1179          KK    C115
1180          KM        COMBINE HYDROGRAPHS FROM C114 AND C110
1181          HC       2
              * DDM   ***** Preserved *****

1182          KK    R115
              * ******OUTFLOW FROM THIS ROUTING IS GREATER THAN INFLOW TO THE
              * ******ROUTING BY 2cfs.  THIS IS NOTED BUT LEFT UNCHANGED WITHIN THE MODEL
1183          KM        ROUTE FLOW FROM C115 TO Sub 453
1184          RS       1    FLOW      -1
1185          RC    .019    .019    .019    2125    .029
1186          RX    1000    1012    1016    1020    1035    1039    1043    1055
1187          RY      15      12      11      10      10      11      12      15
              * DDM   ***** Updated *****

1188          KK     448
1189          KM   SUB-BASIN 448
1190          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1191          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF 1.000
1192          KM     L =  .36  Kb = .042  Adj. Slope =  315.0
1193          BA    .045
1194          LG    .170    .310   4.200    .390  11.000
1195          UC    .133    .102
1196          UA       0       5      16      30      65      77      84      90      94      97
1197          UA     100
              * DDM   ***** Updated *****

1198          KK     449
1199          KM   SUB-BASIN 449
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 =  .40  Kb = .054  Adj. Slope =  315.0
1203          BA    .050
1                                        HEC-1 INPUT                                          PAGE 32

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

1204          LG    .260    .280   3.500    .640   6.000
1205          UC    .167    .134
1206          UA       0       5      16      30      65      77      84      90      94      97
1207          UA     100
              * DDM   ***** Preserved *****

1208          KK   C6364
1209          KM   COMBINE HYDROGRAPHS FROM SUB-BASINS 448 & 449
1210          HC       2
              * DDM   ***** Preserved *****

1211          KK   R6364
1212          KM   ROUTE FLOW FROM C116 AND SUB-BASINS 448 AND 449
1213          RS       5    FLOW      -1
1214          RC     .05    .035     .05    4375   .0333
1215          RX    1000    1027    1053    1080    1090    1117    1143    1170
1216          RY      15   13.33   11.67      10      10   11.67   13.33      15
              * DDM   ***** Updated *****

1217          KK     450
1218          KM   SUB-BASIN 450
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1219        KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1220        KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF 1.000
1221        KM     L =  .85  Kb = .057  Adj. Slope =  210.5
1222        BA    .070
1223        LG    .340    .350   3.630    .570   4.000
1224        UC    .296    .383
1225        UA       0       3       5       8      12      20      43      75      90      96
1226        UA     100
            * DDM   ***** Updated *****

1227        KK     451
1228        KM   SUB-BASIN 451
1229        KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1230        KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF 1.000
1231        KM     L =  .57  Kb = .063  Adj. Slope =  175.0
1232        BA    .025
1233        LG    .340    .340   3.290    .750   3.000
1234        UC    .271    .453
1235        UA       0       3       5       8      12      20      43      75      90      96
1236        UA     100
            * DDM   ***** Preserved *****

1237        KK    C451
1238        KM   COMBINE HYDROGRAPHS FROM SUB-BASINS 450 & 451
1239        HC       2
            * DDM   ***** Preserved *****

1240        KK    RT66
1241        KM        RETRIEVE DIVERTED FLOW FROM SUB-BASIN 66
1242        DR   WSH66
            * DDM   ***** Updated *****
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LINE        ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1243        KK     452
1244        KM   SUB-BASIN 452
1245        KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1246        KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF 1.000
1247        KM     L =  .43  Kb = .055  Adj. Slope =  315.0
1248        BA    .040
1249        LG    .260    .280   3.700    .550   9.000
1250        UC    .171    .166
1251        UA       0       5      16      30      65      77      84      90      94      97
1252        UA     100
            * DDM   ***** Preserved *****

1253        KK   C6465
1254        KM   COMBINE HYDROGRAPHS FROM SUB-BASINS 443 AND 452
1255        HC       2
            * DDM   ***** Preserved *****

1256        KK   R6566
1257        KM        ROUTE FLOW FROM DIVERSIONS 65 AND 66 TO C116
1258        RS       3    FLOW      -1
1259        RC     .05    .035     .05    2435   .0282
1260        RX    1000    1045    1090    1150    1160    1220    1265    1310
1261        RY      25      23      20      10      10      20      23      25
            * DDM   ***** Preserved *****

1262        KK    C116
1263        KM   COMBINE HYDROGRAPHS FROM SUB-BASINS 450 & 451 AND R6364 & R6465
1264        HC       3
            * DDM   ***** Preserved *****

1265        KK  BASIN5
1266        KM        RESERVOIR WITHIN PARCEL 31      2-48 INCH PIPES AT OUTFALL
1267        KM        BASIN 5 FEET DEEP
1268        RS       1    ELEV       0
1269        SV       0     4.5     9.9
1270        SQ       0      69     190
1271        SE       0     2.5       5
            * DDM   ***** Preserved *****

1272        KK    R116
1273        KM   ROUTE FLOW FROM C116 TO C117
1274        RS       2    FLOW      -1
1275        RC     .05    .035     .05    1300   .0333
1276        RX    1000    1100    1200    1300    1320    1420    1520    1620
1277        RY      13      12      11      10      10      11      12      13
            * DDM   ***** Updated *****

1278        KK     453
1279        KM   SUB-BASIN 453
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 =  .58  Kb = .058  Adj. Slope =  138.0
1283        BA    .060
1284        LG    .290    .300   3.290    .820  18.000
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LINE        ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1285        UC    .275    .284
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1286        UA       0       5      16      30      65      77      84      90      94      97
1287        UA     100
            * DDM   ***** Preserved *****

1288        KK    C117
1289        KM   COMBINE HYDROGRAPHS FROM SUB-BASIN 453 AND R116
1290        HC       2
            * DDM   ***** Preserved *****

1291        KK    C118
1292        KM   COMBINE HYDROGRAPHS FROM R115 AND C117
1293        HC       2
            * DDM   ***** Preserved *****

1294        KK    R118
1295        KM        ROUTE FLOW FROM C118 TO  DIV7
1296        RS       1    FLOW      -1
1297        RC    .019    .019    .019    1500    .024
1298        RX    1000    1012    1016    1020    1035    1039    1043    1055
1299        RY      15      12      11      10      10      11      12      15
            * DDM   ***** Preserved *****

1300        KK      D7
1301        KM        OFFLINE BASIN AT NORTH MOUNTAIN RIDGE   FLOWS ENTER BASIN OVER
1302        KM        30' WEIR SET AT 5.3' ABOVE THE CHANNEL BOTTOM
            *      1
1303        DT  BASIN6     3.6
1304        DI       0     363     487     563     645     844
1305        DQ       0       3      47      83     125     244
            * DDM   ***** Preserved *****

1306        KK    RTD7
1307        KM   RETRIEVE FLOW FROM DIVERSION INTO OFFLINE BASIN
1308        DR  BASIN6
            * DDM   ***** Preserved *****

1309        KK     SD7
1310        KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
1311        KM     3.6 ACRE-FEETx43560/36x3600=1.2cfs
1312        RS       1    STOR       0
1313        SV       0     .01     3.6
1314        SQ       0     0.2     1.2
            * DDM   ***** Preserved *****

1315        KK     CD7
1316        KM   HYDROGRAPH COMBINATION FOR OFFLINE BASIN BLEEDOFF
1317        HC       2
            * DDM   ***** Updated *****
                                        HEC-1 INPUT                                    PAGE 35

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

1318        KK     454
1319        KM   SUB-BASIN 454
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 = 1.23  Kb = .051  Adj. Slope =  163.0
1323        BA    .180
1324        LG    .300    .310   3.780    .560  14.000
1325        UC    .379    .395
1326        UA       0       5      16      30      65      77      84      90      94      97
1327        UA     100
            * DDM   ***** Preserved *****

1328        KK    C119
1329        KM        COMBINE HYDROGRAPHS FROM SUB-BASIN 454 AND C119
            *      1       2
1330        HC       2
            * DDM   ***** Preserved *****

1331        KK    R454
1332        KM   CHANNEL GEOMETRY OBTAINED FROM 2' CONTOUR MAPPING.
1333        KM   ROUTE FLOW FROM C119 TO 415C
1334        RS       3    FLOW      -1
1335        RC    .045    .035    .045    2200    .009
1336        RX       0      .5       1      33      42      67    67.5      68
1337        RY       5       4       4       0       0       6       6       6
            * DDM   ***** Updated *****

1338        KK     415
1339        KM   SUB-BASIN 415
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  .997
1342        KM     L = 2.58  Kb = .045  Adj. Slope =  298.5
1343        BA    .547
1344        LG    .320    .280   4.350    .440  14.000
1345        UC    .433    .440
1346        UA       0       5      16      30      65      77      84      90      94      97
1347        UA     100
            * DDM   ***** Preserved *****

1348        KK  RT385A
1349        KM   RETRIEVE FLOW FROM DIVERSION OF SUB-BASIN 385A INTO 415
1350        DR  SF385A
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                * DDM   ***** Preserved *****

1351            KK  RR385A
1352            KM   CHANNEL GEOMETRY OBTAINED FROM 2' CONTOUR MAPPING.
1353            KM   ROUTING OF SPLIT FLOW FROM SUB-BASIN 385A TO 415
1354            RS       5    FLOW      -1
1355            RC    .045     .04    .045     5878     .024
1356            RX       0       1      40       46       56       62      102      103
1357            RY       3       2       2        0        0        2        2        3
                * DDM   ***** Preserved *****
1                                          HEC-1 INPUT                                                    PAGE 36

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


1358            KK    C415
1359            KM   HYDROGRAPH COMBINATION OF SUB-BASINS 415 & SPLIT FLOW FROM 385A
1360            HC       2  0.6748
                * DDM   ***** Preserved *****

1361            KK   CC415
1362            KM   HYDROGRAPH COMBINATION OF SUB-BASINS 415, R454 & SPLIT FLOW FROM 385A
1363            HC       2
                * DDM   ***** Preserved *****

1364            KK    R415
1365            KM   CHANNEL GEOMETRY OBTAINED FROM 2' CONTOUR MAPPING.
1366            KM   ROUTING OF FLOW FROM 415C TO 455C
1367            RS       2    FLOW      -1
1368            RC    .045     .03    .045     4100     .024
1369            RX       0      .5       1        8       16       23     23.5       24
1370            RY       8       8       8        0        0        8        8        8
                * DDM   ***** Updated *****

1371            KK     455
1372            KM   SUB-BASIN 455
1373            KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1374            KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .993
1375            KM     L = 1.70  Kb = .041  Adj. Slope =  146.0
1376            BA   1.111
1377            LG    .270    .280   3.700    .640  24.000
1378            UC    .421    .204
1379            UA       0       5      16       30       65       77       84       90       94       97
1380            UA     100
                * DDM   ***** Preserved *****

1381            KK    D455
1382            KM        DIVERT FLOW INTO ONLINE  DETENTION BASIN
1383            KM   DETENTION/RETENTION BASINS LOCATED WITHIN LAS SENDAS ADDENDUM III
1384            KM   FOR BASIN #: 30      34      43      47&58
1385            KM        MAXIMUM VOLUME DIVERSION = 74.1 acre-feet
                *      1
1386            DT   BS455    74.1
1387            DI       0   10000
1388            DQ       0   10000
                * DDM   ***** Preserved *****

1389            KK   RT455
1390            KM   RETRIEVE FLOW FROM DIVERSION INTO ONLINE BASIN
1391            DR   BS455
                * DDM   ***** Preserved *****

1392            KK    S455
1393            KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
1394            KM    74.1 ACRE-FEETx43560/36x3600=25cfs
1395            RS       1    STOR       0
1396            SV       0     .01    74.1
1397            SQ       0     3.0      25
                * DDM   ***** Preserved *****
1                                          HEC-1 INPUT                                                    PAGE 37

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


1398            KK    C455
1399            KM   HYDROGRAPH COMBINATION FOR SUB-BASIN 455 AND DIVERTED BASIN STORAGE OF 455
1400            HC       2
                * DDM   ***** Preserved *****

1401            KK   CC455
1402            KM  HYDROGRAPH COMBINATION OF 420C, R415 AND C455
                * KO     1       2
1403            HC       3
                * 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  4051
                * SQ     0       0      10      180      367      595      800     1231     2625 24500
                * SE    76      78      80       81       82       83     83.9       85       86    92
                * DDM   ***** Preserved *****
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1404          KK    R455
1405          KM   ROUTE FLOW FROM SPOOK HILL FRS TO SUB-BASIN 480
1406          RS      15     FLOW      -1
1407          RC    .035     .025    .035    7000    .0002
1408          RX       0        1       2      28     158     184     185     186
1409          RY    13.5     13.5    13.5       0       0    13.5    13.5    13.5
              * DDM   ***** Updated *****

1410          KK     480
1411          KM   SUB-BASIN 480
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  .996
1414          KM     L = 1.21  Kb = .042  Adj. Slope =  165.0
1415          BA    .731
1416          LG    .270     .270   3.580    .730  27.000
1417          UC    .325     .148
1418          UA       0        5      16      30      65      77      84      90      94      97
1419          UA     100
              * DDM   ***** Preserved *****

1420          KK    D480
1421          KM        DIVERT FLOW INTO ONLINE  DETENTION BASIN
1422          KM   DETENTION/RETENTION BASINS LOCATED WITHIN LAS SENDAS ADDENDUM III
1423          KM   FOR BASIN #: 18 & 26
1424          KM        MAXIMUM VOLUME DIVERSION = 16.5 acre-feet
              *      1
1425          DT   BS480    16.5
1426          DI       0   10000
1427          DQ       0   10000
              * DDM   ***** Preserved *****
```



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

1428          KK   RT480
1429          KM   RETRIEVE FLOW FROM DIVERSION INTO ONLINE BASIN
1430          DR   BS480
              * DDM   ***** Preserved *****

1431          KK    S480
1432          KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
1433          KM    16.5 ACRE-FEETx43560/36x3600=5.5cfs
1434          RS       1     STOR       0
1435          SV       0      .01    16.5
1436          SQ       0      3.0     5.6
              * DDM   ***** Preserved *****

1437          KK    C480
1438          KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
1439          HC       2
              * DDM   ***** Preserved *****

1440          KK   CC480
1441          KM   HYDROGRAPH COMBINATION AT SUBBASIN 480
1442          HC       2
              * DDM   ***** Preserved *****

1443          KK    R480
1444          KM   ROUTE FLOW FROM SUB-BASIN 480 TO SUBBASIN 462
1445          RS       6     FLOW      -1
1446          RC    .035     .025    .035    2800    .0002
1447          RX       0        1       2      28     158     184     185     186
1448          RY    13.5     13.5    13.5       0       0    13.5    13.5    13.5
              * DDM   ***** Updated *****

1449          KK     456
1450          KM   SUB-BASIN 456
1451          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1452          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .998
1453          KM     L =  .94  Kb = .045  Adj. Slope =  315.0
1454          BA    .260
1455          LG    .300     .380   5.600    .200  12.000
1456          UC    .217     .139
1457          UA       0        5      16      30      65      77      84      90      94      97
1458          UA     100
              * DDM   ***** Preserved *****

1459          KK      D1
1460          KM        DIVERT FLOW INTO OFFLINE DETENTION BASIN
1461          KM        WEIR FOR BASIN SET AT 4 FEET ABOVE CHANNEL BOTTOM
              *      1
1462          DT  BASIN1     4.0
1463          DI       0    11.1   127.9   234.4   577.7   789.9  1025.5  1280.9  1555.7
1464          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

1465          KK      D2
1466          KM        SPLIT OUT FLOW FOR WASHES THAT FLOW TO THE SOUTH FROM
1467          KM        WASHES THAT DRAIN TO THE WES, SOUTHERN WASHES FED BY 30" & 24" PIPE
1468          DT    WA30
```

```
1469          DI        0    11.1   127.9   189.6   329.7     408   491.9   579.4   671.7
1470          DQ        0    11.1    38.4    48.2      63    69.5      76      81      86
              * DDM   ***** Preserved *****

1471          KK    R456
1472          KM        ROUTE FLOW FROM SUB-BASIN 51 TO C101
1473          RS        2    FLOW      -1
1474          RC      .05    .035     .05    3800    .044
1475          RX     1000    1010    1020    1036    1041    1057    1067    1077
1476          RY    14.88   14.44      14      10      10      14   14.44   14.88
              * DDM   ***** Updated *****

1477          KK     457
1478          KM   SUB-BASIN 457
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  .999
1481          KM     L = 1.01  Kb = .045  Adj. Slope =  308.8
1482          BA    .190
1483          LG    .270    .330   3.950    .460   6.000
1484          UC    .237    .195
1485          UA       0       5      16      30      65      77      84      90      94      97
1486          UA     100
              * DDM   ***** Preserved *****

1487          KK    C101
1488          KM        COMBINE HYDROGRAPHS FROM SUB-BASINS 50 AND 51
1489          HC        2
              * DDM   ***** Preserved *****

1490          KK      D3
1491          KM        RESERVOIR AT THE EDGE OF THE PROPERTY   FLOW FROM CHANNEL
1492          KM        DIVERTED  INTO OFFLINE BASIN A 25' WEIR SET AT ELEVATION 1808 FT
              *       1
1493          DT  BASIN2     5.0
1494          DI        0      36      70     110     180   313.5     402   500.9
1495          DQ        0       0       0       0       0    67.5     124   190.9
              * DDM   ***** Preserved *****

1496          KK    RTD3
1497          KM   RETRIEVE FLOW FROM DIVERSION INTO OFFLINE BASIN
1498          DR  BASIN2
              * DDM   ***** Preserved *****

1499          KK     SD3
1500          KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
1501          KM     5.0 ACRE-FEETx43560/36x3600=1.7cfs
1502          RS        1    STOR       0
1503          SV        0     .01       5
1504          SQ        0     0.7     1.7
              * DDM   ***** Preserved *****
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1505          KK     CD3
1506          KM   HYDROGRAPH COMBINATION FOR OFFLINE BASIN BLEEDOFF
1507          HC        2
              * DDM   ***** Preserved *****

1508          KK    R101
1509          KM        ROUTE FLOW FROM SUBBASIN C101 TO C103
1510          RS        1    FLOW      -1
1511          RC      .05    .035     .05    1450     .05
1512          RX     1000    1010    1020    1036    1041    1057    1067    1077
1513          RY       15    14.5      14      10      10      14    14.5      15
              * DDM   ***** Updated *****

1514          KK     458
1515          KM   SUB-BASIN 458
1516          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1517          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .999
1518          KM     L =  .76  Kb = .048  Adj. Slope =  299.0
1519          BA    .190
1520          LG    .290    .330   5.800    .190   6.000
1521          UC    .204    .131
1522          UA       0       5      16      30      65      77      84      90      94      97
1523          UA     100
              * DDM   ***** Preserved *****

1524          KK    C103
1525          KM        COMBINE HYDROGRAPHS FROM SUB-BASIN 55 AND C101
1526          HC        2
              * DDM   ***** Preserved *****

1527          KK    R103
1528          KM        ROUTE FLOW FROM SUBBASIN C103 TO C106
1529          RS        1    FLOW      -1
1530          RC      .05    .035     .05     900     .03
1531          RX     1000    1010    1020    1030    1050    1060    1070    1080
1532          RY    13.16   12.83    12.5      10      10    12.5   12.83   13.16
              * DDM   ***** Preserved *****

1533          KK    RT30
1534          KM        RETRIEVE DIVERTED FLOW FOR WASH BELOW 30 INCH PIPE
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1535          DR    WA30
              * DDM   ***** Preserved *****

1536          KK     R30
1537          KM        ROUTE FLOW FROM WASH DIVERSION TO COMBINE C52
1538          RS       1    FLOW      -1
1539          RC     .05    .035     .05    1630     .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 *****
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1542          KK    RTB1
1543          KM        RETRIEVE DIVERTED FLOW FROM BASIN 1
              *      1       2
1544          DR  BASIN1
              * DDM   ***** Preserved *****

1545          KK      B1
1546          KM        ROUTE FLOW THROUGH OFFLINE DETENTION BASIN
1547          KM        FLOW OUTLETS THROUGH A 30 INCH OUTLET PIPE
              *      1       2
1548          RS       1    ELEV       0
1549          SV              .7     1.4     2.3     2.7     4.0
1550          SQ       0       5      16      28    32.5      37
1551          SE       0       1       2       3     3.5       4
              * DDM   ***** Preserved *****

1552          KK     RB1
1553          KM        ROUTE FLOW FROM BASIN DIVERSION TO COMBINE C52
1554          RS       3    FLOW      -1
1555          RC     .05    .035     .05    1720     .05
1556          RX    1000    1010    1020    1036    1041    1057    1067    1077
1557          RY      15    14.5      14      10      10      14    14.5      15
              * DDM   ***** Preserved *****

1558          KK    CDIV
1559          KM        COMBINE FLOWS FROM WA30 AND BASIN 1
1560          HC       2     .12
              * DDM   ***** Updated *****

1561          KK     459
1562          KM   SUB-BASIN 459
1563          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1564          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF 1.000
1565          KM     L =  .35  Kb = .052  Adj. Slope =  251.6
1566          BA    .030
1567          LG    .220    .300   3.330    .710   8.000
1568          UC    .162    .157
1569          UA       0       5      16      30      65      77      84      90      94      97
1570          UA     100
              * DDM   ***** Preserved *****

1571          KK     C52
1572          KM        COMBINE FLOWS FROM SUB-BASIN 52 WA30 AND BASIN 1
1573          HC       2
              * DDM   ***** Preserved *****

1574          KK     R52
1575          KM        ROUTE FLOW FROM SUBBASIN 52 TO C102
1576          RS       3    FLOW      -1
1577          RC     .05    .035     .05    2000     .05
1578          RX    1000    1010    1020    1036    1041    1057    1067    1077
1579          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

1580          KK     460
1581          KM   SUB-BASIN 460
1582          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1583          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .999
1584          KM     L =  .62  Kb = .058  Adj. Slope =  194.0
1585          BA    .140
1586          LG    .250    .260   3.740    .690  27.000
1587          UC    .242    .160
1588          UA       0       5      16      30      65      77      84      90      94      97
1589          UA     100
              * DDM   ***** Preserved *****

1590          KK    C102
1591          KM        COMBINE HYDROGRAPHS FROM SUB-BASINS 52 AND 53
1592          HC       2
              * DDM   ***** Preserved *****

1593          KK  BASIN3
1594          KM        RESERVOIR AT CLUBHOUSE LOCATION 1-30 INCH PIPE AT OUTFALL
1595          KM        BOTTOM OF BASIN AT 6 FEET ABOVE 1795 ELEVATION
1596          RS       1    ELEV       0
1597          SA       0       0       0       0     .34    1.59    1.81    1.96    2.13     2.3
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                 *      0       0       0       0    1.14    3.25    5.52    9.23
1598             SQ       0      22      45    47.4      48      51      57      62      67      73
1599             SE    1795  1797.5    1800  1800.4  1800.5    1801    1802    1803    1804  1805.5
                 * DDM   ***** Preserved *****

1600             KK      R3
1601             KM        ROUTE FLOW FROM C102 to C106
1602             RS       5    FLOW      -1
1603             RC     .05     .03     .05    2750   .0375
1604             RX    1000    1010    1020    1052    1086    1118    1128    1138
1605             RY    19.2    18.4      18      10      10      18    18.4    19.2
                 * DDM   ***** Updated *****

1606             KK     461
1607             KM   SUB-BASIN 461
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 =  .83  Kb = .052  Adj. Slope =  181.0
1611             BA    .120
1612             LG    .270    .250   4.250    .450  21.000
1613             UC    .271    .250
1614             UA       0       5      16      30      65      77      84      90      94      97
1615             UA     100
                 * DDM   ***** Preserved *****

1616             KK    C104
1617             KM        COMBINE HYDROGRAPHS FROM SUB-BASIN 54 AND R102
1618             HC       2
                 * DDM   ***** Preserved *****
1                                          HEC-1 INPUT                                                    PAGE 43

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


1619             KK    C106
1620             KM        COMBINE HYDROGRAPHS FROM SUB-BASIN C103 AND C104
1621             HC       2
                 * DDM   ***** Preserved *****

1622             KK    R106
1623             KM        ROUTE FLOW FROM C106 TO C49
1624             RS       2    FLOW      -1
1625             RC     .05    .035     .05    3950    .033
1626             RX    1000    1010    1020    1030    1050    1060    1070    1080
1627             RY   13.16   12.83    12.5      10      10    12.5   12.83   13.16
                 * DDM   ***** Updated *****

1628             KK     462
1629             KM   SUB-BASIN 462
1630             KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1631             KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .998
1632             KM     L =  .97  Kb = .045  Adj. Slope =  297.7
1633             BA    .301
1634             LG    .300    .330   5.300    .240  12.000
1635             UC    .225    .137
1636             UA       0       5      16      30      65      77      84      90      94      97
1637             UA     100
                 * DDM   ***** Preserved *****

1638             KK     C56
1639             KM        COMBINE HYDROGRAPHS FROM SUB-BASIN 56 AND C106
                 *      1       2
1640             HC       2
                 * DDM   ***** Preserved *****

1641             KK    C462
1642             KM        COMBINE HYDROGRAPHS AT SUBBASIN 462
                 *      1
1643             HC       2    2.09
                 * DDM   ***** Preserved *****

1644             KK    R462
1645             KM   ROUTE FLOW FROM SUB-BASIN 462 TO SUB-BASIN 500 (First Channel Reach)
1646             RS       1    FLOW      -1
1647             RC    .025    .025    .025    1800    .005
1648             RX       0       1      20      32      62      74      93      94
1649             RY      13      12      12       0       0      12      12      13
                 *

1650             KK   RR462
1651             KM   ROUTE FLOW FROM SUB-BASIN 462 TO SUB-BASIN 500 (Second Natural Wash Reach)
1652             RS       3    FLOW      -1
1653             RC    .055     .05    .055    4700     .05
1654             RX       0       1       2      28      58      84      85      86
1655             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


1656             KK     500
1657             KM   SUB-BASIN 500
1658             KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1659             KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .994
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1660          KM     L = 2.77  Kb = .042  Adj. Slope =  286.8
1661          BA    .930
1662          LG    .350    .400   6.000    .170   9.000
1663          UC    .421    .333
1664          UA       0       3       5       8      12      20      43      75      90      96
1665          UA     100
              * DDM   ***** Preserved *****

1666          KK    C500
1667          KM   HYDROGRAPH COMBINATION FOR THE ENTIRE WATERSHED AT THE SALT RIVER
1668          HC       2    3.02
1669          ZZ
```

1

SCHEMATIC DIAGRAM OF STREAM NETWORK

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

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

   31         10
               V
               V
   41        R10
               V
               V
   47        R12
               .
               .
   53          .          20
               .           .
               .           .
   63        C20............
               V
               V
   66        R20
               .
               .
   72          .          40
               .           .
               .           .
   82          .           .          60
               .           .           .
               .           .           .
   92        C60........................
               V
               V
   95        S60
               V
               V
  104        R60
               V
               V
  110       RR60
               .
               .
  116          .          80
               .           .
               .           .
  126        C80............
               V
               V
  129        R80
               .
               .
  135          .         100
               .           .
               .           .
  145       C100............
               V
               V
  148       R100
               .
               .
  154          .         120
               .           .
               .           .
  164       C120............
               V
               V
  167       R120
               .
               .
  173          .         140
               .           .
               .           .
  183          .           .         150
               .           .           V
               .           .           V
  193          .           .        R150
               .           .           V
               .           .           V
  199          .           .        R152
               .           .           .
               .           .           .
  205          .           .           .         160
```

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                .          .          .          .
                .          .          .          .
215             .          .          .          .        180
                .          .          .          .          .
                .          .          .          .          .
225         C180.......................................
                .
                .
228             .      385B
                .         V
                .         V
238             .     R385B
                .          .
                .          .
247             .          .       395B
                .          .          .
                .          .          .
257             .     C395B............
                .         V
                .         V
260             .     R395B
                .          .
                .          .
267             .          .       370B
                .          .          .
                .          .          .
277             .     C370B............
                .         V
                .         V
280             .     R370B
                .         V
                .         V
287             .    RR370B
                .          .
                .          .
296             .          .       355B
                .          .          .
                .          .          .
306             .     C355B............
                .         V
                .         V
309             .     R355B
                .         V
                .         V
318             .    RR355B
                .          .
                .          .
325             .          .        350
                .          .          V
                .          .          V
335             .          .       R350
                .          .          .
                .          .          .
342             .          .          .        310
                .          .          .          .
                .          .          .          .
352             .      C310........................
                .         V
                .         V
355             .      R310
                .         V
                .         V
362             .      R312
                .          .
                .          .
371             .          .       305B
                .          .          .
                .          .          .
381             .     C305B............
                .         V
                .         V
384             .     R305B
                .          .
                .          .
393             .          .        210
                .          .          V
                .          .          V
403             .          .       R210
                .          .          .
                .          .          .
409             .          .          .        240
                .          .          .          .
                .          .          .          .
419             .      C240........................
                .         V
                .         V
422             .      S240
                .         V
                .         V
431             .      R240
                .          .
                .          .
438             .          .        220
                .          .          .
                .          .          .
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```
448          .        C220............
             .           V
             .           V
451          .        S220
             .           V
             .           V
460          .        R220
             .           .
             .           .
467          .           .         190
             .           .           V
             .           .           V
477          .           .        R190
             .           .           V
             .           .           V
483          .           .        R192
             .           .           .
             .           .           .
489          .           .           .         200
             .           .           .           .
             .           .           .           .
499          .        C200........................
             .           V
             .           V
502          .        S200
             .           V
             .           V
509          .        R200
             .           V
             .           V
515          .       SS200
             .           V
             .           V
522          .       RR200
             .           .
             .           .
528       CC180............
             V
             V
531        S180
             V
             V
540        R180
             .
             .
549          .         260
             .           .
             .           .
559        C260............
             V
             V
562        R260
             .
             .
571          .         280
             .           .
             .           .
581        C280............
             V
             V
584        R280
             .
             .
593          .         300
             .           .
             .           .
603        C300............
             V
             V
606        R300
             .
             .
615          .        305A
             .           .
             .           .
625       C305A............
             V
             V
628       R305A
             .
             .
637          .         320
             .           .
             .           .
652          .           .-------->   BS320
647          .        D320
             .           .
             .           .
657          .           .           .<--------   BS320
655          .           .       RT320
             .           .           V
             .           .           V
658          .           .        S320
             .           .           .
             .           .           .
```

```
664        C320.......................
              V
              V
667        R320
              .
              .
674           .         340
              .           .
              .           .
689           .           .-------->   BS340
684           .        D340
              .           .
              .           .
694           .           .           .<-------   BS340
692           .           .       RT340
              .           .           V
              .           .           V
695           .           .        S340
              .           .           .
              .           .           .
701        C340.......................
              V
              V
704        R340
              .
              .
711           .        355A
              .           V
              .           V
721           .       R355A
              .           .
              .           .
728           .           .         360
              .           .           .
              .           .           .
742           .           .           .-------->   BS360
738           .           .        D360
              .           .           .
              .           .           .
747           .           .           .           .<-------   BS360
745           .           .           .       RT360
              .           .           .           V
              .           .           .           V
748           .           .           .        S360
              .           .           .           .
              .           .           .           .
754        C360.................................
              V
              V
757        R360
              .
              .
764           .        370A
              .           .
              .           .
774           .           .        395A
              .           .           .
              .           .           .
784           .       C370A............
              .           V
              .           V
787           .       R370A
              .           .
              .           .
794           .           .         380
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              .           .           .
808           .           .           .-------->   BS380
804           .           .        D380
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813           .           .           .           .<-------   BS380
811           .           .           .       RT380
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814           .           .           .        S380
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820        C380.................................
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827           .-------->    380S
823        DD380
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832           .           .<-------    380S
830           .      RT380S
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833           .       SS380
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840        CC380............
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843        R380
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850           .          390
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864           .            .-------->   BS390
860           .         D390
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869           .            .           .<--------   BS390
867           .            .       RT390
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870           .            .        S390
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876           .         C390............
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879           .         R390
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886           .            .         400
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900           .            .           .-------->   BS400
896           .            .        D400
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905           .            .            .           .<--------   BS400
903           .            .            .       RT400
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906           .            .            .        S400
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912           .            .        C400............
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915        CC400........................
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918        R400
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925           .         385A
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937           .            .-------->  SF385A
935           .        D385A
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940           .        R385A
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947           .            .         420
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961           .            .           .-------->   BS420
957           .            .        D420
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966           .            .            .           .<--------   BS420
964           .            .            .       RT420
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967           .            .            .        S420
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973           .        C420........................
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976        CC420............
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979        R420
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986           .         440
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996           .         R70
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1002          .            .         441
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1012          .        C108............
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1017          .            .-------->   SPLIT
1015          .          D4
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1020          .        R108
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1026          .           .         442
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1036          .         C67............
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1042          .           .-------->  BASIN4
1039          .          D6
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1047          .           .           .<-------  BASIN4
1045          .           .        RTD6
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1048          .           .         SD6
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1054          .         CD6............
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1057          .           .         443
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1070          .           .           .-------->   WSH66
1067          .           .         D66
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1073          .           .        R113
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1079          .        C114............
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1082          .           .         444
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1092          .           .         R58
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1098          .           .           .         445
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1108          .           .        C107............
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1111          .           .        R107
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1119          .           .           .           .<-------   SPLIT
1117          .           .           .        RTB2
              .           .           .           V
              .           .           .           V
1120          .           .           .      RSPLIT
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1126          .           .           .           .         446
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1136          .           .        C109........................
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1142          .           .           .-------->  WSH404
1139          .           .          D5
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1145          .           .        R109
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1151          .           .           .         447
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1163          .           .           .           .           .<-------  WSH404
1161          .           .           .           .       RT404
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1164          .           .           .           .        R404
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1170          .           .        C110........................
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1173          .           .        R110
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1179          .        C115............
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1182          .        R115
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1188          .           .         448
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1198                                449
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1208                        C6364............
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1211                        R6364
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1217                                450
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1227                                      .        451
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1237                                C451............
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1242                                      .          .<-------   WSH66
1240                                      .      RT66
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1243                                      .          .        452
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1253                                      .     C6465............
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1256                                      .     R6566
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1262                         C116........................
                                 V
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1265                       BASIN5
                                 V
                                 V
1272                         R116
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1278                                453
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1288                         C117............
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1291                    C118............
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                           V
1294                    R118
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1303                       .-------> BASIN6
1300                     D7
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1308                       .          .<-------  BASIN6
1306                       .       RTD7
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1309                       .        SD7
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1315                     CD7............
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1318                       .        454
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1328                    C119............
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1331                    R454
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1338                       .        415
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1350                       .          .          .<-------  SF385A
1348                       .          .     RT385A
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1351                       .          .     RR385A
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1358                       .       C415............
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1361                   CC415............
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1364                    R415
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1386          .           .           .-------->   BS455
1381          .           .        D455
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1391          .           .           .           .<--------   BS455
1389          .           .           .       RT455
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1392          .           .           .        S455
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1398          .           .        C455............
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1401       CC455........................
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              V
1404        R455
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1410          .         480
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1425          .           .-------->   BS480
1420          .        D480
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1430          .           .           .<--------   BS480
1428          .           .       RT480
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1431          .           .        S480
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1437          .        C480............
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1440       CC480............
              V
              V
1443        R480
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1449          .         456
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1462          .           .-------->  BASIN1
1459          .          D1
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1468          .           .-------->    WA30
1465          .          D2
              .           V
              .           V
1471          .        R456
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1477          .           .         457
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1487          .        C101............
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1493          .           .-------->  BASIN2
1490          .          D3
              .           .
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1498          .           .           .<--------  BASIN2
1496          .           .        RTD3
              .           .           V
              .           .           V
1499          .           .         SD3
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1505          .         CD3............
              .           V
              .           V
1508          .        R101
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1514          .           .         458
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1524          .        C103............
              .           V
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1527          .        R103
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1535          .           .           .<--------    WA30
1533          .           .        RT30
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1536            .          .        R30
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1544            .          .          .          .<-------  BASIN1
1542            .          .          .       RTB1
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1545            .          .          .         B1
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1552            .          .          .        RB1
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1558            .          .      CDIV............
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1561            .          .          .        459
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1571            .          .        C52............
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1574            .          .        R52
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1580            .          .          .        460
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1590            .          .      C102............
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1593            .          .    BASIN3
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1600            .          .         R3
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1606            .          .          .        461
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1616            .          .      C104............
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1619            .        C106............
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1622            .        R106
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1628            .          .        462
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1638            .         C56............
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1641         C462............
                V
                V
1644         R462
                V
                V
1650        RR462
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1656            .         500
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                .          .
1666         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  09:42:47  *
 *                                      *
 ****************************************
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****************************************
*                                      *
*    U.S. ARMY CORPS OF ENGINEERS      *
*    HYDROLOGIC ENGINEERING CENTER     *
*          609 SECOND STREET           *
*       DAVIS, CALIFORNIA 95616        *
*           (916) 756-1104             *
*                                      *
****************************************
```

DDM MCUHP1 SPOOK HILL AMDP - EXISTING CONDITIONS MODEL - 10YR, 24HR STORM
Non-Jurisdictional Alternatives - Option NJ6
Spook Hill Channel w/Off-Line Basin, Pass Mountain Division, and
Quadrupled Signal Butte Principal Spillway Outflow
A CONSERVATIVE ESTIMATE WAS USED FOR THE LOCATION OF THE CENTROID FOR
PRECIPITATION VALUES

FLOODWAY CHANNEL ROUTING INFORMATION FOR SIGNAL BUTTE, SPOOK HILL &
BULLDOG FLOODWAY WAS FROM MCFCD AS-BUILT PLANS

```
12 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

14 JD            INDEX STORM NO. 1
                      STRM        2.48  PRECIPITATION DEPTH
                      TRDA         .01  TRANSPOSITION DRAINAGE AREA

15 PI            PRECIPITATION PATTERN
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25 JD INDEX STORM NO. 2
STRM 2.46 PRECIPITATION DEPTH
TRDA 1.00 TRANSPOSITION DRAINAGE AREA

0 PI PRECIPITATION PATTERN

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26 JD INDEX STORM NO. 3
STRM 2.39 PRECIPITATION DEPTH
TRDA 5.80 TRANSPOSITION DRAINAGE AREA

0 PI PRECIPITATION PATTERN

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27 JD INDEX STORM NO. 4

STRM 2.33 PRECIPITATION DEPTH

TRDA 10.66 TRANSPOSITION DRAINAGE AREA

0 PI PRECIPITATION PATTERN

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28 JD INDEX STORM NO. 5
STRM 2.30 PRECIPITATION DEPTH
TRDA 13.70 TRANSPOSITION DRAINAGE AREA

0 PI PRECIPITATION PATTERN

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29 JD INDEX STORM NO. 6
STRM 2.26 PRECIPITATION DEPTH
TRDA 20.00 TRANSPOSITION DRAINAGE AREA

0 PI PRECIPITATION PATTERN

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30 JD INDEX STORM NO. 7
STRM 2.16 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	557.	12.27	62.	18.	6.	.70		
+	ROUTED TO	R10	498.	12.43	62.	18.	6.	.70		
+	ROUTED TO	R12	480.	12.57	62.	18.	6.	.70		
+	HYDROGRAPH AT	20	470.	12.43	59.	15.	5.	1.12		
+	2 COMBINED AT	C20	898.	12.50	120.	32.	12.	1.82		
+	ROUTED TO	R20	896.	12.53	120.	32.	12.	1.82		
+	HYDROGRAPH AT	40	1292.	12.30	120.	32.	12.	2.23		
+	HYDROGRAPH AT	60	805.	12.40	114.	32.	11.	1.75		
+	3 COMBINED AT	C60	2512.	12.40	342.	93.	33.	5.80		
+	ROUTED TO	S60	108.	13.97	107.	80.	33.	5.80		
+	ROUTED TO	R60	108.	14.03	107.	80.	33.	5.80		
+	ROUTED TO	RR60	108.	14.10	107.	80.	33.	5.80		
+	HYDROGRAPH AT	80	983.	12.27	86.	23.	8.	1.48		
+	2 COMBINED AT	C80	1005.	12.27	183.	104.	43.	1.48		
+	ROUTED TO	R80	992.	12.30	183.	104.	43.	1.48		
+	HYDROGRAPH AT	100	200.	12.23	28.	7.	3.	.48		
+	2 COMBINED AT	C100	1171.	12.30	208.	110.	45.	1.96		
+	ROUTED TO	R100	1169.	12.30	208.	110.	45.	1.96		
+	HYDROGRAPH AT	120	1856.	12.27	174.	48.	17.	2.20		
+	2 COMBINED AT	C120	2935.	12.27	369.	152.	61.	4.16		
+	ROUTED TO	R120	2896.	12.30	368.	152.	61.	4.16		
+	HYDROGRAPH AT	140	307.	12.17	30.	8.	3.	.60		
+	HYDROGRAPH AT	150	294.	12.17	24.	6.	2.	.41		
+	ROUTED TO	R150	274.	12.23	24.	6.	2.	.41		
+	ROUTED TO	R152	226.	12.43	24.	6.	2.	.41		
+	HYDROGRAPH AT	160	96.	12.43	15.	4.	1.	.37		
+	HYDROGRAPH AT	180	348.	12.37	39.	10.	3.	1.00		
+	5 COMBINED AT	C180	3542.	12.30	461.	174.	69.	6.54		
	HYDROGRAPH AT									

+	385B	315.	12.17	29.	8.	3.	.38
ROUTED TO	R385B	313.	12.17	29.	8.	3.	.38
HYDROGRAPH AT +	395B	5.	12.20	1.	0.	0.	.02
2 COMBINED AT +	C395B	318.	12.17	29.	9.	3.	.39
ROUTED TO +	R395B	299.	12.23	29.	9.	3.	.39
HYDROGRAPH AT +	370B	101.	12.27	14.	4.	1.	.26
2 COMBINED AT +	C370B	397.	12.27	44.	12.	4.	.66
ROUTED TO +	R370B	396.	12.27	44.	12.	4.	.66
ROUTED TO +	RR370B	390.	12.33	44.	12.	4.	.66
HYDROGRAPH AT +	355B	203.	12.27	22.	6.	2.	.51
2 COMBINED AT +	C355B	583.	12.30	65.	18.	6.	1.17
ROUTED TO +	R355B	578.	12.37	65.	18.	6.	1.17
ROUTED TO +	RR355B	567.	12.40	65.	18.	6.	1.17
HYDROGRAPH AT +	350	591.	12.23	48.	13.	5.	.97
ROUTED TO +	R350	550.	12.40	48.	13.	5.	.97
HYDROGRAPH AT +	310	139.	12.33	18.	4.	2.	.49
3 COMBINED AT	C310	1209.	12.40	127.	34.	12.	2.63
ROUTED TO +	R310	1095.	12.53	127.	34.	12.	2.63
ROUTED TO +	R312	1058.	12.60	127.	34.	12.	2.63
HYDROGRAPH AT +	305B	184.	12.30	19.	5.	2.	.41
2 COMBINED AT +	C305B	1148.	12.60	145.	39.	14.	3.05
ROUTED TO +	R305B	1135.	12.67	145.	39.	14.	3.05
HYDROGRAPH AT +	210	707.	12.17	52.	14.	5.	.79
ROUTED TO +	R210	640.	12.27	52.	14.	5.	.79
HYDROGRAPH AT +	240	846.	12.27	73.	19.	7.	1.41
3 COMBINED AT +	C240	1604.	12.43	261.	69.	25.	5.25
ROUTED TO +	S240	642.	13.00	195.	52.	19.	5.25
ROUTED TO +	R240	640.	13.07	194.	52.	19.	5.25
HYDROGRAPH AT +	220	371.	12.20	33.	9.	3.	.47
2 COMBINED AT +	C220	657.	13.03	222.	60.	22.	5.72
ROUTED TO	S220	615.	13.23	209.	56.	20.	5.72
ROUTED TO +	R220	615.	13.27	209.	56.	20.	5.72

+	HYDROGRAPH AT 190	755.	12.20	58.	16.	6.	.92
	ROUTED TO R190	704.	12.27	58.	16.	6.	.92
+	ROUTED TO R192	694.	12.30	58.	16.	6.	.92
+	HYDROGRAPH AT 200	434.	12.17	34.	10.	3.	.53
+	3 COMBINED AT C200	926.	12.27	284.	78.	28.	7.17
+	ROUTED TO S200	819.	12.37	276.	74.	27.	7.17
+	ROUTED TO R200	815.	12.40	275.	74.	27.	7.17
+	ROUTED TO SS200	515.	13.83	158.	44.	16.	7.17
+	ROUTED TO RR200	502.	14.00	156.	44.	16.	7.17
+	2 COMBINED AT CC180	3542.	12.30	609.	219.	86.	13.70
+	ROUTED TO S180	117.	22.80	115.	92.	53.	13.70
+	ROUTED TO R180	117.	22.87	115.	92.	53.	13.70
+	HYDROGRAPH AT 260	226.	12.13	23.	6.	2.	.26
+	2 COMBINED AT C260	236.	12.13	153.	124.	67.	.26
+	ROUTED TO R260	223.	12.23	153.	124.	67.	.26
	HYDROGRAPH AT 280	262.	12.10	23.	7.	2.	.32
+	2 COMBINED AT C280	451.	12.17	154.	129.	69.	.58
+	ROUTED TO R280	440.	12.23	154.	129.	69.	.58
+	HYDROGRAPH AT 300	184.	12.10	16.	5.	2.	.29
+	2 COMBINED AT C300	588.	12.20	154.	133.	71.	.87
+	ROUTED TO R300	557.	12.30	154.	133.	71.	.87
+	HYDROGRAPH AT 305A	196.	12.17	22.	6.	2.	.37
+	2 COMBINED AT C305A	716.	12.27	162.	136.	72.	1.24
+	ROUTED TO R305A	696.	12.33	161.	136.	72.	1.24
+	HYDROGRAPH AT 320	442.	12.20	58.	17.	6.	.87
+	DIVERSION TO BS320	437.	12.17	22.	6.	2.	.87
+	HYDROGRAPH AT D320	432.	12.23	40.	11.	4.	.87
+	HYDROGRAPH AT RT320	437.	12.17	22.	6.	2.	.87
+	ROUTED TO S320	4.	12.23	4.	4.	2.	.87
+	3 COMBINED AT C320	1058.	12.30	198.	146.	76.	2.11
	ROUTED TO R320	818.	12.80	188.	144.	75.	2.11
+	HYDROGRAPH AT 340	772.	12.20	100.	31.	11.	1.48

+	DIVERSION TO	BS340	772.	12.20	100.	28.	10.	1.48
	HYDROGRAPH AT	D340	10.	15.53	7.	2.	1.	1.48
+	HYDROGRAPH AT	RT340	772.	12.20	100.	28.	10.	1.48
+	ROUTED TO	S340	17.	14.57	16.	14.	9.	1.48
+	3 COMBINED AT	C340	818.	12.80	200.	156.	83.	3.59
+	ROUTED TO	R340	704.	13.10	192.	154.	82.	3.59
+	HYDROGRAPH AT	355A	113.	12.10	11.	3.	1.	.16
+	ROUTED TO	R355A	91.	12.47	11.	3.	1.	.16
+	HYDROGRAPH AT	360	359.	12.23	53.	16.	6.	.88
+	DIVERSION TO	BS360	359.	12.23	53.	14.	5.	.88
+	HYDROGRAPH AT	D360	7.	14.90	4.	1.	1.	.88
+	HYDROGRAPH AT	RT360	359.	12.23	53.	14.	5.	.88
+	ROUTED TO	S360	9.	14.33	8.	7.	5.	.88
+	4 COMBINED AT	C360	725.	13.10	201.	160.	88.	4.63
+	ROUTED TO	R360	625.	13.47	198.	160.	87.	4.63
	HYDROGRAPH AT	370A	318.	12.10	25.	7.	3.	.41
+	HYDROGRAPH AT	395A	102.	12.13	11.	3.	1.	.18
+	2 COMBINED AT	C370A	417.	12.10	36.	10.	4.	.59
+	ROUTED TO	R370A	303.	12.60	36.	10.	4.	.59
+	HYDROGRAPH AT	380	273.	12.27	43.	12.	4.	.90
+	DIVERSION TO	BS380	273.	12.27	43.	12.	4.	.90
+	HYDROGRAPH AT	D380	0.	.00	0.	0.	0.	.90
+	HYDROGRAPH AT	RT380	273.	12.27	43.	12.	4.	.90
+	ROUTED TO	S380	7.	14.47	7.	6.	4.	.90
+	4 COMBINED AT	C380	644.	13.47	212.	169.	93.	6.12
+	DIVERSION TO	380S	0.	.00	0.	0.	0.	6.12
+	HYDROGRAPH AT	DD380	644.	13.47	212.	169.	93.	6.12
+	HYDROGRAPH AT	RT380S	0.	.00	0.	0.	0.	6.12
+	ROUTED TO	SS380	0.	.00	0.	0.	0.	6.12
+	2 COMBINED AT	CC380	644.	13.47	212.	169.	93.	6.12
	ROUTED TO	R380	513.	13.90	207.	167.	92.	6.12
+	HYDROGRAPH AT	390	255.	12.03	18.	5.	2.	.24

+	DIVERSION TO	BS390	186.	11.93	6.	2.	1.	.24
	HYDROGRAPH AT	D390	255.	12.03	13.	4.	1.	.24
+	HYDROGRAPH AT	RT390	186.	11.93	6.	2.	1.	.24
+	ROUTED TO	S390	1.	12.00	1.	1.	1.	.24
+	2 COMBINED AT	C390	256.	12.03	14.	4.	2.	.24
+	ROUTED TO	R390	171.	12.47	14.	4.	2.	.24
+	HYDROGRAPH AT	400	247.	12.20	29.	8.	3.	.62
+	DIVERSION TO	BS400	243.	12.17	11.	3.	1.	.62
+	HYDROGRAPH AT	D400	242.	12.23	20.	5.	2.	.62
+	HYDROGRAPH AT	RT400	243.	12.17	11.	3.	1.	.62
+	ROUTED TO	S400	2.	12.23	2.	2.	1.	.62
+	2 COMBINED AT	C400	244.	12.23	22.	7.	3.	.62
+	3 COMBINED AT	CC400	515.	13.90	228.	173.	95.	6.98
+	ROUTED TO	R400	496.	14.30	224.	172.	94.	6.98
+	HYDROGRAPH AT	385A	181.	12.07	13.	4.	1.	.21
	DIVERSION TO	SF385A	109.	12.07	8.	2.	1.	.21
+	HYDROGRAPH AT	D385A	73.	12.07	5.	1.	1.	.21
+	ROUTED TO	R385A	45.	12.57	5.	1.	1.	.21
+	HYDROGRAPH AT	420	364.	12.20	46.	14.	5.	.85
+	DIVERSION TO	BS420	338.	12.13	15.	4.	2.	.85
+	HYDROGRAPH AT	D420	364.	12.20	34.	9.	3.	.85
+	HYDROGRAPH AT	RT420	338.	12.13	15.	4.	2.	.85
+	ROUTED TO	S420	3.	12.20	3.	2.	2.	.85
+	3 COMBINED AT	C420	367.	12.20	42.	13.	5.	.93
+	2 COMBINED AT	CC420	498.	14.30	248.	178.	97.	7.91
+	ROUTED TO	R420	480.	14.60	244.	177.	97.	7.91
+	HYDROGRAPH AT	440	107.	12.03	7.	2.	1.	.08
+	ROUTED TO	R70	105.	12.07	7.	2.	1.	.08
+	HYDROGRAPH AT	441	9.	12.03	1.	0.	0.	.01
+	2 COMBINED AT	C108	113.	12.07	7.	2.	1.	.09
	DIVERSION TO	SPLIT	57.	12.07	4.	1.	0.	.09
+	HYDROGRAPH AT	D4	57.	12.07	4.	1.	0.	.09

+	ROUTED TO R108	51.	12.13	4.	1.	0.	.09
	HYDROGRAPH AT 442	43.	12.10	4.	1.	0.	.10
+	2 COMBINED AT C67	92.	12.13	7.	2.	1.	.19
+	DIVERSION TO BASIN4	34.	12.13	1.	0.	0.	.19
+	HYDROGRAPH AT D6	58.	12.13	6.	2.	1.	.19
+	HYDROGRAPH AT RTD6	34.	12.13	1.	0.	0.	.19
+	ROUTED TO SD6	0.	12.33	0.	0.	0.	.19
+	2 COMBINED AT CD6	58.	12.13	6.	2.	1.	.19
+	HYDROGRAPH AT 443	91.	12.07	8.	2.	1.	.08
+	DIVERSION TO WSH66	78.	12.00	8.	2.	1.	.08
+	HYDROGRAPH AT D66	13.	12.07	0.	0.	0.	.08
+	ROUTED TO R113	10.	12.10	0.	0.	0.	.08
+	2 COMBINED AT C114	68.	12.10	7.	2.	1.	.27
+	HYDROGRAPH AT 444	44.	12.03	2.	1.	0.	.04
+	ROUTED TO R58	40.	12.10	2.	1.	0.	.04
	HYDROGRAPH AT 445	140.	12.03	8.	2.	1.	.19
+	2 COMBINED AT C107	178.	12.07	10.	3.	1.	.23
+	ROUTED TO R107	178.	12.07	10.	3.	1.	.23
+	HYDROGRAPH AT RTB2	57.	12.07	4.	1.	0.	.09
+	ROUTED TO RSPLIT	55.	12.10	4.	1.	0.	.09
+	HYDROGRAPH AT 446	34.	12.07	3.	1.	0.	.04
+	3 COMBINED AT C109	266.	12.07	17.	5.	2.	.27
+	DIVERSION TO WSH404	35.	11.87	6.	2.	1.	.27
+	HYDROGRAPH AT D5	231.	12.07	11.	3.	1.	.27
+	ROUTED TO R109	215.	12.10	11.	3.	1.	.27
+	HYDROGRAPH AT 447	68.	12.07	7.	2.	1.	.09
+	HYDROGRAPH AT RT404	35.	11.87	6.	2.	1.	.27
+	ROUTED TO R404	35.	12.03	6.	2.	1.	.27
+	3 COMBINED AT C110	313.	12.10	23.	7.	2.	.36
+	ROUTED TO R110	311.	12.10	23.	7.	2.	.36
	2 COMBINED AT C115	378.	12.10	30.	9.	3.	.63
+	ROUTED TO R115	369.	12.13	30.	9.	3.	.63

+	HYDROGRAPH AT	448	48.	12.03	3.	1.	0.	.05
+	HYDROGRAPH AT	449	37.	12.03	2.	1.	0.	.05
+	2 COMBINED AT	C6364	85.	12.03	5.	1.	1.	.09
+	ROUTED TO	R6364	65.	12.23	5.	1.	1.	.09
+	HYDROGRAPH AT	450	26.	12.20	3.	1.	0.	.07
+	HYDROGRAPH AT	451	6.	12.20	1.	0.	0.	.03
+	2 COMBINED AT	C451	32.	12.20	3.	1.	0.	.09
+	HYDROGRAPH AT	RT66	78.	12.00	8.	2.	1.	.08
+	HYDROGRAPH AT	452	30.	12.03	2.	1.	0.	.04
+	2 COMBINED AT	C6465	108.	12.03	10.	3.	1.	.04
+	ROUTED TO	R6566	106.	12.13	10.	3.	1.	.04
+	3 COMBINED AT	C116	194.	12.17	18.	5.	2.	.23
+	ROUTED TO	BASIN5	73.	12.50	18.	5.	2.	.23
+	ROUTED TO	R116	72.	12.60	18.	5.	2.	.23
+	HYDROGRAPH AT	453	27.	12.10	3.	1.	0.	.06
+	2 COMBINED AT	C117	80.	12.57	21.	6.	2.	.29
+	2 COMBINED AT	C118	410.	12.13	51.	15.	5.	.92
+	ROUTED TO	R118	406.	12.17	51.	15.	5.	.92
+	DIVERSION TO	BASIN6	18.	12.17	1.	0.	0.	.92
+	HYDROGRAPH AT	D7	388.	12.17	50.	14.	5.	.92
+	HYDROGRAPH AT	RTD7	18.	12.17	1.	0.	0.	.92
+	ROUTED TO	SD7	0.	13.50	0.	0.	0.	.92
+	2 COMBINED AT	CD7	388.	12.17	51.	15.	5.	.92
+	HYDROGRAPH AT	454	75.	12.17	10.	3.	1.	.18
+	2 COMBINED AT	C119	462.	12.17	61.	18.	6.	1.10
+	ROUTED TO	R454	443.	12.27	61.	18.	6.	1.10
+	HYDROGRAPH AT	415	232.	12.17	34.	10.	4.	.55
+	HYDROGRAPH AT	RT385A	109.	12.07	8.	2.	1.	.21
+	ROUTED TO	RR385A	85.	12.30	8.	2.	1.	.21
+	2 COMBINED AT	C415	305.	12.23	42.	12.	4.	.67
	2 COMBINED AT	CC415	734.	12.27	101.	29.	11.	1.77
+	ROUTED TO	R415	713.	12.33	101.	29.	11.	1.77

+	HYDROGRAPH AT 455	695.	12.13	78.	25.	9.	1.11
	DIVERSION TO BS455	695.	12.13	78.	25.	9.	1.11
+	HYDROGRAPH AT D455	0.	.00	0.	0.	0.	1.11
+	HYDROGRAPH AT RT455	695.	12.13	78.	25.	9.	1.11
+	ROUTED TO S455	14.	14.60	14.	12.	8.	1.11
+	2 COMBINED AT C455	14.	14.60	14.	12.	8.	1.11
+	3 COMBINED AT CC455	713.	12.33	347.	215.	117.	10.80
+	ROUTED TO R455	514.	13.43	318.	198.	108.	10.80
+	HYDROGRAPH AT 480	541.	12.10	53.	17.	6.	.73
+	DIVERSION TO BS480	526.	12.07	29.	8.	3.	.73
+	HYDROGRAPH AT D480	517.	12.13	31.	9.	3.	.73
+	HYDROGRAPH AT RT480	526.	12.07	29.	8.	3.	.73
+	ROUTED TO S480	5.	12.13	5.	4.	3.	.73
+	2 COMBINED AT C480	522.	12.13	36.	13.	6.	.73
+	2 COMBINED AT CC480	532.	13.43	329.	205.	113.	11.53
+	ROUTED TO R480	497.	13.87	327.	204.	112.	11.53
+	HYDROGRAPH AT 456	261.	12.07	18.	5.	2.	.26
+	DIVERSION TO BASIN1	63.	12.07	2.	0.	0.	.26
+	HYDROGRAPH AT D1	198.	12.07	16.	5.	2.	.26
+	DIVERSION TO WA30	49.	12.07	7.	2.	1.	.26
+	HYDROGRAPH AT D2	149.	12.07	9.	2.	1.	.26
+	ROUTED TO R456	136.	12.13	9.	2.	1.	.26
+	HYDROGRAPH AT 457	128.	12.07	9.	3.	1.	.19
+	2 COMBINED AT C101	255.	12.10	19.	5.	2.	.45
+	DIVERSION TO BASIN2	38.	12.10	1.	0.	0.	.45
+	HYDROGRAPH AT D3	217.	12.10	18.	5.	2.	.45
+	HYDROGRAPH AT RTD3	38.	12.10	1.	0.	0.	.45
+	ROUTED TO SD3	1.	12.27	1.	0.	0.	.45
+	2 COMBINED AT CD3	218.	12.10	18.	5.	2.	.45
+	ROUTED TO R101	214.	12.13	18.	5.	2.	.45
	HYDROGRAPH AT 458	199.	12.03	13.	3.	1.	.19
+	2 COMBINED AT C103	394.	12.07	31.	8.	3.	.64

+	ROUTED TO	R103	390.	12.10	31.	8.	3.	.64
	HYDROGRAPH AT	RT30	49.	12.07	7.	2.	1.	.26
+	ROUTED TO	R30	48.	12.10	7.	2.	1.	.26
+	HYDROGRAPH AT	RTB1	63.	12.07	2.	0.	0.	.26
+	ROUTED TO	B1	8.	12.20	2.	0.	0.	.26
+	ROUTED TO	RB1	7.	12.30	2.	0.	0.	.26
+	2 COMBINED AT	CDIV	50.	12.13	8.	3.	1.	.12
+	HYDROGRAPH AT	459	20.	12.03	1.	0.	0.	.03
+	2 COMBINED AT	C52	67.	12.07	10.	3.	1.	.15
+	ROUTED TO	R52	66.	12.13	10.	3.	1.	.15
+	HYDROGRAPH AT	460	110.	12.07	10.	3.	1.	.14
+	2 COMBINED AT	C102	172.	12.07	20.	6.	2.	.29
+	ROUTED TO	BASIN3	59.	12.43	20.	7.	2.	.29
+	ROUTED TO	R3	59.	12.57	20.	7.	2.	.29
+	HYDROGRAPH AT	461	86.	12.10	9.	3.	1.	.12
+	2 COMBINED AT	C104	135.	12.10	29.	9.	3.	.41
+	2 COMBINED AT	C106	524.	12.10	60.	17.	6.	1.05
+	ROUTED TO	R106	485.	12.20	60.	17.	6.	1.05
+	HYDROGRAPH AT	462	299.	12.07	21.	6.	2.	.30
+	2 COMBINED AT	C56	692.	12.13	80.	23.	8.	1.35
+	2 COMBINED AT	C462	707.	12.13	414.	253.	134.	2.09
+	ROUTED TO	R462	678.	12.20	413.	252.	134.	2.09
+	ROUTED TO	RR462	647.	12.30	412.	252.	134.	2.09
+	HYDROGRAPH AT	500	567.	12.27	61.	17.	6.	.93
+	2 COMBINED AT	C500	1185.	12.27	460.	262.	138.	3.02

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

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1****************************************
*                                      *
*   FLOOD HYDROGRAPH PACKAGE  (HEC-1)  *
*             JUN   1998               *
*           VERSION 4.1                *
*                                      *
*  RUN DATE   01MAY01  TIME  11:20:52  *
*                                      *
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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   DDM MCUHP1 SPOOK HILL AMDP - EXISTING CONDITIONS MODEL - SPS, 7-Hour
    2          ID   Existing Condition Base Model with Spook Hill FRS Storage Routing
    3          ID   Original File Name: EC24BASE.DAT
    4          ID   Modified File Name: ESPSBASE.DAT, Wood/Patel, SZ, 3/28/01
               *
               *  100-Year 24-Hour Storm for subbasins upstream of Signal Butte FRS
               *  The flow of SR180 is input by QI Cards
               *  Standard Project Storm for subbasins downstream of Signal Butte FRS
               *
    5          ID   A CONSERVATIVE ESTIMATE WAS USED FOR THE LOCATION OF THE CENTROID FOR
    6          ID   PRECIPITATION VALUES
    7          ID   CHANNEL ROUTING INFORMATION FOR MCFCD FLOODWAYS WERE OBTAINED
    8          ID   FROM MCFCD SPOOK HILL, SIGNAL BUTTE AND BULLDOG FLOODWAY PLANS
    9          ID
   10          ID
   11          ID   UPDATE TO EXISTING CONDITION 24-HR 100-YR MODEL RUN BASED ON RE-ALIGNMENT
   12          ID   OF SUB-BASIN BOUNDARIES FOR SUB-BASINS 385 (REDUCED) & 415 (ENLARGED)
   13          ID   UPDATE BASED ON INFORMATION FROM 2' CONTOUR MAPPING.
               *
               *DIAGRAM
   14          IT       2                    2000
   15          IO       5
   16          IN      15
               *
               *   Standard Project Storm
               *
   17          JD    6.36    0.01
   18          PC    .000    .005    .010    .020    .030    .040    .050    .060    .070    .085
   19          PC    .100    .110    .125    .140    .155    .170    .185    .215    .270    .370
   20          PC    .600    .760    .840    .900    .930    .950    .970    .985   1.000
   21          JD    6.32    1.00
   22          JD    6.17    5.00
   23          JD    5.97   10.66
   24          JD    5.91   13.70
   25          JD    5.78   20.00
   26          JD    5.47   50.00
               *

   27          KK    R180
   28          KM       Constant inflow of 113 cfs is provided
               *
   29          IN      60
   30          BA    0.01
   31          QI     113     113     113     113     113     113     113     113     113     113
   32          QI     113     113     113     113     113     113     113     113     113     113
   33          QI     113     113     113     113     113     113     113     113     113     113
   34          QI     113     113     113     113     113     113     113     113     113     113
   35          QI     113     113     113     113     113     113     113     113     113     113
   36          QI     113     113     113     113     113     113     113     113     113     113
   37          QI     113     113     113     113     113     113     113     113     113     113
   38          QI     113     113     113
               *
               * DDM   ***** Updated *****
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

  39          KK     260
  40          KM   SUB-BASIN 260
  41          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
  42          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .998
  43          KM     L =  .81  Kb = .049  Adj. Slope =   68.0
  44          BA    .262
  45          LG    .300    .190   6.600    .170  15.000
  46          UC    .363    .217
  47          UA       0       5      16      30      65      77      84      90      94      97
  48          UA     100
              * DDM   ***** Preserved *****

  49          KK    C260
  50          KM   HYDROGRAPH COMBINATION FOR OUTFLOW OF SIGNAL BUTTE FRS & SUB-BASIN 260
  51          HC       2    .262
              * DDM   ***** Preserved *****

  52          KK    R260
  53          KM   Routing length updated using Signal Butte Floodway plans dated March 1983
  54          KM   Routing length unchanged     12/12/00
  55          KM   CHANNEL GEOMETRY FOR SIGNAL BUTTE FRS OBTAINED FROM AS-BUILT PLANS.
  56          KM   ROUTE FLOW FROM SUB-BASIN 260 TO SUB-BASIN 280
  57          RS       3    FLOW      -1
  58          RC    .035    .025    .035    2300    .003
  59          RX       0       1       2    23.4    43.4    64.8      65      66
  60          RY     9.7     9.7     9.7       0       0     9.7     9.7     9.7
              * DDM   ***** Updated *****

  61          KK     280
  62          KM   SUB-BASIN 280
  63          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
  64          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .998
  65          KM     L =  .77  Kb = .048  Adj. Slope =   84.0
  66          BA    .319
  67          LG    .300    .250   5.300    .290  15.000
  68          UC    .329    .168
  69          UA       0       5      16      30      65      77      84      90      94      97
  70          UA     100
              * DDM   ***** Preserved *****

  71          KK    C280
  72          KM   HYDROGRAPH COMBINATION FOR SUB-BASIN 260 & SUB-BASIN 280
  73          HC       2
              * DDM   ***** Preserved *****

  74          KK    R280
  75          KM   Routing length updated using Signal Butte Floodway plans dated March 1983
  76          KM   Routing length decreased 400' from 2500' to 2100'    12/12/00
  77          KM   CHANNEL GEOMETRY FOR SIGNAL BUTTE FRS OBTAINED FROM AS-BUILT PLANS.
  78          KM   ROUTE FLOW FROM SUB-BASIN 280 TO SUB-BASIN 300
  79          RS       3    FLOW      -1
  80          RC    .035    .025    .035    2100    .003
  81          RX       0       1       2    23.4    43.4    64.8      65      66
  82          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 *****
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

  83          KK     300
  84          KM   SUB-BASIN 300
  85          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
  86          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .998
  87          KM     L =  .78  Kb = .049  Adj. Slope =  103.0
  88          BA    .289
  89          LG    .320    .290   4.200    .480  11.000
  90          UC    .325    .177
  91          UA       0       5      16      30      65      77      84      90      94      97
  92          UA     100
              * DDM   ***** Preserved *****

  93          KK    C300
  94          KM   HYDROGRAPH COMBINATION OF SUB-BASIN 280 & 300
  95          HC       2
              * DDM   ***** Preserved *****

  96          KK    R300
  97          KM   Routing length updated using Signal Butte Floodway plans dated March 1983
  98          KM   Routing length increased 300' from 2200' to 2500'    12/12/00
  99          KM   CHANNEL GEOMETRY FOR SIGNAL BUTTE FRS OBTAINED FROM AS-BUILT PLANS.
 100          KM   ROUTE FLOW FROM SUB-BASIN 300 TO START OF FLOODWAY CONCRETE CHANNEL
 101          RS       2    FLOW      -1
 102          RC    .035    .025    .035    2500    .003
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103          RX       0       1       2    23.4    55.4    76.8      77      78
104          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 *****

105          KK     305
106          KM   SUB-BASIN 305
107          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
108          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .996
109          KM     L = 2.50  Kb = .044  Adj. Slope =  116.0
110          BA    .702
111          LG    .340    .340   4.550    .350   6.000
112          UC    .642    .576
113          UA       0       5      16      30      65      77      84      90      94      97
114          UA     100
             * DDM   ***** Preserved *****

115          KK    C305
116          KM   HYDROGRAPH COMBINATION OF SUB-BASIN 300 AND 305
117          HC       2
             * DDM   ***** Preserved *****

118          KK    R305
119          KM   Routing length updated using Signal Butte Floodway plans dated March 1983
120          KM   Routing length decreased 50' from 6050' to 6000'     12/12/00
121          KM   CHANNEL GEOMETRY FOR SPOOK HILL FRS OBTAINED FROM AS-BUILTS PLANS.
122          KM   CONTINUE TO ROUTE FLOW WITHIN CONCRETE CHANNEL TO SPOOK HILL FRS
123          RS       3    FLOW      -1
124          RC    .016    .016    .016    6000    .0146
1                                         HEC-1 INPUT                                                    PAGE  4

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

125          RX       0       1       2     2.1    16.1    16.2      17      18
126          RY    17.5     7.5     7.5       0       0     7.5     7.5    17.5
             *      1       2
             * DDM   ***** Updated *****

127          KK     350
128          KM   SUB-BASIN 350
129          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
130          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .994
131          KM     L = 2.22  Kb = .042  Adj. Slope =  315.0
132          BA    .970
133          LG    .350    .350   4.550    .340   4.000
134          UC    .367    .234
135          UA       0       3       5       8      12      20      43      75      90      96
136          UA     100
             * DDM   ***** Preserved *****

137          KK    D350
138          KM   DIVERT FLOW FROM SUB-BASIN 350. FOR MODELING PURPOSES THE SPLIT FLOW WILL
139          KM   BE ROUTED BETWEEN SUB-BASINS 355 & 310. THE MAIN FLOW WILL ROUTED TO 310
140          DT   SF350
141          DI       0    5000
142          DQ       0    2500
             * DDM   ***** Preserved *****

143          KK    R350
144          KM   CHANNEL GEOMETRY OBTAINED FROM 2' CONTOUR MAPPING
145          KM   ROUTING OF MAIN FLOW FROM DIVERSION OF SUB-BASIN 350 TO SUB-BASIN 310
146          RS       6    FLOW      -1
147          RC    .045    .035    .045    5150    .025
148          RX       0       1      40      46      56      62     102     103
149          RY      13       2       2       0       0       2       2      13
             * DDM   ***** Updated *****

150          KK     310
151          KM   SUB-BASIN 310
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  .997
154          KM     L = 2.70  Kb = .045  Adj. Slope =  283.5
155          BA    .555
156          LG    .350    .350   3.910    .480    .000
157          UC    .483    .511
158          UA       0       3       5       8      12      20      43      75      90      96
159          UA     100
             * DDM   ***** Preserved *****

160          KK    C310
161          KM   HYDROGRAPH COMBINATION OF SUB-BASINS 350 & 310
162          HC       2    1.04
             * DDM   ***** Preserved *****
1                                         HEC-1 INPUT                                                    PAGE  5

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

163          KK    R310
164          KM   CHANNEL GEOMETRY OBTAINED FROM 2' CONTOUR MAPPING.
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165          KM   ROUTING OF FLOW FROM SUB-BASIN 310 TO 320
166          RS      10     FLOW       -1
167          RC    .045     .035     .045   10050     .022
168          RX       0        1       40      46       56       62      102      103
169          RY      13        2        2       0        0        2        2       13
             *
             * The sub-basin area and soil make-up have been updated from CAD file 12/07/00
             * DDM   ***** Updated *****

170          KK     320
171          KM   SUB-BASIN 320
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  .994
174          KM     L = 2.20  Kb = .042  Adj. Slope =  132.0
175          BA    .950
176          LG    .310     .300   4.600     .350  14.000
177          UC    .508     .338
178          UA       0        5       16      30       65       77       84       90       94       97
179          UA     100
             * DDM   ***** Preserved *****

180          KK    D320
181          KM        DIVERT FLOW INTO ONLINE  DETENTION BASIN
182          KM   DETENTION/RETENTION BASINS LOCATED WITHIN THREE SUBDIVISIONS
183          KM   SIERRA HEIGHTS       FALCON RIDGE    & MARBLE CREEK
184          KM        MAXIMUM VOLUME DIVERSION = 12.27acre-feet
             *      1
185          DT   BS320   12.27
186          DI       0   10000
187          DQ       0   10000
             * DDM   ***** Preserved *****

188          KK   RT320
189          KM   RETRIEVE FLOW FROM DIVERSION INTO ONLINE BASIN
190          DR   BS320
             * DDM   ***** Preserved *****

191          KK    S320
192          KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
193          KM   12.27 ACRE-FEETx43560/36x3600=4.1cfs
             *      1
194          RS       1    STOR       0
195          SV       0     .01    12.3
196          SQ       0     3.0     4.2
             * DDM   ***** Preserved *****

197          KK    C320
198          KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
199          HC       4
             * DDM   ***** Updated *****
1                                        HEC-1 INPUT                                                PAGE  6

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

200          KK     340
201          KM   SUB-BASIN 340
202          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
203          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .991
204          KM     L = 2.40  Kb = .042  Adj. Slope =  160.0
205          BA   1.440
206          LG    .280     .280   4.150     .520  21.000
207          UC    .512     .288
208          UA       0        5       16      30       65       77       84       90       94       97
209          UA     100
             * DDM   ***** Preserved *****

210          KK    D340
211          KM        DIVERT FLOW INTO ONLINE  DETENTION BASIN
212          KM   DETENTION/RETENTION BASINS LOCATED WITHIN THREE SUBDIVISIONS
213          KM   GRANDVIEW ESTATES    BOULDER MOUNTAIN & 33% OF MESA HIGHLANDS
214          KM        MAXIMUM VOLUME DIVERSION = 56.0 acre-feet
             *      1
215          DT   BS340      56
216          DI       0   10000
217          DQ       0   10000
             * DDM   ***** Preserved *****

218          KK   RT340
219          KM   RETRIEVE FLOW FROM DIVERSION INTO ONLINE BASIN
220          DR   BS340
             * DDM   ***** Preserved *****

221          KK    S340
222          KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
223          KM    56.0 ACRE-FEETx43560/36x3600=18.8cfs
             *      1
224          RS       1    STOR       0
225          SV       0     .01      56
226          SQ       0     3.0    18.9
             * DDM   ***** Preserved *****
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 227          KK    C340
 228          KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
 229          HC       3
              * DDM   ***** Preserved *****

 230          KK   RT350
 231          KM   RETRIEVE SPLIT FLOW FROM DIVERSION OF SUB-BASIN 350
 232          DR   SF350
              * DDM   ***** Preserved *****

 233          KK   RR350
 234          KM   CHANNEL GEOMETRY OBTAINED FROM 2' CONTOUR MAPPING.
 235          KM   ROUTING OF FLOW FROM SPLIT OF SUB-BASIN 350 TO 355
 236          RS       7    FLOW      -1
 237          RC    .045    .035    .045    6050    .025
 238          RX       0       1      40      46      56      62     102     103
 239          RY      13       2       2       0       0       2       2      13
              *
              * The sub-basin area and soil make-up have been updated from CAD file 12/07/00
              * DDM   ***** Updated *****
1                                          HEC-1 INPUT                                                    PAGE  7

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

 240          KK     355
 241          KM   SUB-BASIN 355
 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  .996
 244          KM     L = 3.00  Kb = .044  Adj. Slope =  284.0
 245          BA    .676
 246          LG    .340    .340   4.450    .370   4.000
 247          UC    .488    .502
 248          UA       0       3       5       8      12      20      43      75      90      96
 249          UA     100
              * DDM   ***** Preserved *****

 250          KK    C355
 251          KM   HYDROGRAPH COMBINATION OF SUB-BASIN 355 AND THE SPLIT FLOW FROM SUB-BASIN 350
 252          HC       2   1.161
              * DDM   ***** Preserved *****

 253          KK    R355
 254          KM   CHANNEL GEOMETRY OBTAINED FROM 2' CONTOUR MAPPING.
 255          KM   ROUTING OF FLOW FROM SUB-BASIN 355 TO SUB-BASIN 360
 256          RS       9    FLOW      -1
 257          RC    .045    .035    .045   10100    .026
 258          RX       0       1      40      46      56      62     102     103
 259          RY      13       2       2       0       0       2       2      13
              * DDM   ***** Updated *****

 260          KK     360
 261          KM   SUB-BASIN 360
 262          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
 263          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .995
 264          KM     L = 2.10  Kb = .047  Adj. Slope =  124.0
 265          BA    .880
 266          LG    .260    .270   4.100    .560  20.000
 267          UC    .575    .390
 268          UA       0       5      16      30      65      77      84      90      94      97
 269          UA     100
              * DDM   ***** Preserved *****

 270          KK    D360
 271          KM        DIVERT FLOW INTO ONLINE  DETENTION BASIN
 272          KM   DETENTION/RETENTION BASINS LOCATED WITHIN 33% OF MESA HIGHLANDS
 273          KM        MAXIMUM VOLUME DIVERSION = 28.6 acre-feet
              *      1
 274          DT   BS360    28.6
 275          DI       0   10000
 276          DQ       0   10000
              * DDM   ***** Preserved *****

 277          KK   RT360
 278          KM   RETRIEVE FLOW FROM DIVERSION INTO ONLINE BASIN
 279          DR   BS360
              * DDM   ***** Preserved *****
1                                          HEC-1 INPUT                                                    PAGE  8

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

 280          KK    S360
 281          KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
 282          KM    28.6 ACRE-FEETx43560/36x3600=9.6cfs
 283          RS       1    STOR       0
 284          SV       0     .01    28.6
 285          SQ       0     3.0     9.6
              * DDM   ***** Preserved *****
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286          KK    C360
287          KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
288          HC       4
             *
             * The sub-basin area and soil make-up have been updated from CAD file 12/07/00
             * DDM   ***** Updated *****

289          KK     370
290          KM   SUB-BASIN 370
291          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
292          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .996
293          KM     L = 1.90  Kb = .044  Adj. Slope =  203.5
294          BA    .672
295          LG    .340    .320   4.650    .330   8.000
296          UC    .404    .284
297          UA       0       3       5       8      12      20      43      75      90      96
298          UA     100
             *
             * The sub-basin area and soil make-up have been updated from CAD file 12/07/00
             * DDM   ***** Updated *****

299          KK     395
300          KM   SUB-BASIN 395
301          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
302          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .999
303          KM     L = 1.30  Kb = .051  Adj. Slope =  219.2
304          BA    .199
305          LG    .330    .320   4.900    .300  10.000
306          UC    .333    .338
307          UA       0       3       5       8      12      20      43      75      90      96
308          UA     100
             * DDM   ***** Preserved *****

309          KK    C370
310          KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
311          HC       2
             * DDM   ***** Preserved *****

312          KK    R370
313          KM   CHANNEL GEOMETRY OBTAINED FROM 2' CONTOUR MAPPING.
314          KM   ROUTING OF FLOW FROM SUB-BASINS 370 AND 395 TO SUB-BASIN 380.
315          RS      12    FLOW      -1
316          RC    .045    .035    .045   10250    .023
317          RX       0       1      40      46      56      62     102     103
318          RY      13       2       2       0       0       2       2      13
             * DDM   ***** Updated *****
                                        HEC-1 INPUT                                          PAGE  9

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

319          KK     380
320          KM   SUB-BASIN 380
321          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
322          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .995
323          KM     L = 2.20  Kb = .049  Adj. Slope =  114.0
324          BA    .898
325          LG    .300    .310   4.150    .500   7.000
326          UC    .671    .475
327          UA       0       5      16      30      65      77      84      90      94      97
328          UA     100
             * DDM   ***** Preserved *****

329          KK    D380
330          KM        DIVERT FLOW INTO ONLINE  DETENTION BASIN
331          KM   DETENTION/RETENTION BASINS LOCATED WITHIN 33% OF MESA HIGHLANDS
332          KM        MAXIMUM VOLUME DIVERSION = 28.6 acre-feet
             *      1
333          DT   BS380    28.6
334          DI       0   10000
335          DQ       0   10000
             * DDM   ***** Preserved *****

336          KK   RT380
337          KM   RETRIEVE FLOW FROM DIVERSION INTO ONLINE BASIN
338          DR   BS380
             * DDM   ***** Preserved *****

339          KK    S380
340          KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
341          KM    28.6 ACRE-FEETx43560/36x3600=9.6cfs
342          RS       1    STOR       0
343          SV       0     .01    28.6
344          SQ       0     3.0     9.6
             * DDM   ***** Preserved *****

345          KK    C380
346          KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
347          HC       4
             * DDM   ***** Updated *****
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 348          KK     390
 349          KM   SUB-BASIN 390
 350          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
 351          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .999
 352          KM     L =  .70  Kb = .050  Adj. Slope =  299.4
 353          BA    .244
 354          LG    .300    .250   4.700    .380  18.000
 355          UC    .204    .107
 356          UA       0       5      16      30      65      77      84      90      94      97
 357          UA     100
              * DDM   ***** Preserved *****
1                                          HEC-1 INPUT                                          PAGE 10

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

 358          KK    D390
 359          KM        DIVERT FLOW INTO ONLINE  DETENTION BASIN
 360          KM   DETENTION/RETENTION BASINS LOCATED WITHIN THUNDER MOUNTAIN ESTATES
 361          KM        MAXIMUM VOLUME DIVERSION  = 3.5 acre-feet
              *      1
 362          DT   BS390     3.5
 363          DI       0   10000
 364          DQ       0   10000
              * DDM   ***** Preserved *****

 365          KK   RT390
 366          KM   RETRIEVE FLOW FROM DIVERSION INTO ONLINE BASIN
 367          DR   BS390
              * DDM   ***** Preserved *****

 368          KK    S390
 369          KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
 370          KM     3.5 ACRE-FEETx43560/36x3600=1.2cfs
 371          RS       1    STOR       0
 372          SV       0     .01     3.5
 373          SQ       0     0.2     1.2
              * DDM   ***** Preserved *****

 374          KK    C390
 375          KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
 376          HC       2
              * DDM   ***** Preserved *****

 377          KK    R390
 378          KM   CHANNEL GEOMETRY OBTAINED FROM 2' CONTOUR MAPPING.
 379          KM   FROM SUB-BASIN 390 TO SUB-BASIN 400
 380          RS      15    FLOW      -1
 381          RC    .045    .045    .045    8800    .020
 382          RX       0       1      40      46      56      62     102     103
 383          RY       3       2       2       0       0       2       2       3
              * DDM   ***** Updated *****

 384          KK     400
 385          KM   SUB-BASIN 400
 386          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
 387          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .996
 388          KM     L = 1.64  Kb = .046  Adj. Slope =  110.0
 389          BA    .616
 390          LG    .320    .300   4.150    .490   6.000
 391          UC    .508    .342
 392          UA       0       5      16      30      65      77      84      90      94      97
 393          UA     100
              * DDM   ***** Preserved *****
1                                          HEC-1 INPUT                                          PAGE 11

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

 394          KK    D400
 395          KM        DIVERT FLOW INTO ONLINE  DETENTION BASIN
 396          KM   DETENTION/RETENTION BASIN LOCATED WITHIN SAGUARO VISTA SUBDIVISION
 397          KM        MAXIMUM VOLUME DIVERSION = 5.6 ACRE-FEET
              *      1
 398          DT   BS400     5.6
 399          DI       0   10000
 400          DQ       0   10000
              * DDM   ***** Preserved *****

 401          KK   RT400
 402          KM   RETRIEVE FLOW FROM DIVERSION INTO ONLINE BASIN
 403          DR   BS400
              * DDM   ***** Preserved *****

 404          KK    S400
 405          KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
 406          KM     5.6 ACRE-FEETx43560/36x3600 = 2 cfs
 407          RS       1    STOR       0
 408          SV       0     .01     5.6
 409          SQ       0       1       2
              * DDM   ***** Preserved *****
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410          KK    C400
411          KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
412          HC       2
             * DDM   ***** Preserved *****

413          KK   CC400
414          KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
415          HC       3
             * DDM   ***** Updated *****

416          KK     385
417          KM   SUB-BASIN 385
418          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
419          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .997
420          KM     L = 2.30  Kb = .045  Adj. Slope =  303.0
421          BA    .527
422          LG    .340    .360   5.600    .220  13.000
423          UC    .383    .358
424          UA       0       3       5       8      12      20      43      75      90      96
425          UA     100
             * DDM   ***** Preserved *****

426          KK    D385
427          KM   DIVERT FLOW INTO SUB-BASINS 415 & 420
428          DT   SF385
429          DI       0    5000
430          DQ       0    3000
             * DDM   ***** Preserved *****
1                                    HEC-1 INPUT                                          PAGE 12

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

431          KK    R385
432          KM   CHANNEL GEOMETRY OBTAINED FROM 2' CONTOUR MAPPING.
433          KM   ROUTING OF FLOW DIVERSION FROM SUB-BASIN 385 INTO SUB-BASIN 420
434          RS      13    FLOW      -1
435          RC    .045     .04    .045   10250    .022
436          RX       0       1      40      46      56      62     102     103
437          RY       3       2       2       0       0       2       2       3
             * DDM   ***** Updated *****

438          KK     420
439          KM   SUB-BASIN 420
440          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
441          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .995
442          KM     L = 1.91  Kb = .042  Adj. Slope =  120.0
443          BA    .849
444          LG    .310    .270   3.880    .580  12.000
445          UC    .512    .325
446          UA       0       5      16      30      65      77      84      90      94      97
447          UA     100
             * DDM   ***** Preserved *****

448          KK    D420
449          KM        DIVERT FLOW INTO ONLINE  DETENTION BASIN
450          KM   DETENTION/RETENTION BASINS LOCATED WITHIN GRAY FOX SUBDIVISION
451          KM        MAXIMUM VOLUME DIVERSION = 8.65 acre-feet
             *      1
452          DT   BS420    8.65
453          DI       0   10000
454          DQ       0   10000
             * DDM   ***** Preserved *****

455          KK   RT420
456          KM   RETRIEVE FLOW FROM DIVERSION INTO ONLINE BASIN
457          DR   BS420
             * DDM   ***** Preserved *****

458          KK    S420
459          KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
460          KM    8.65 ACRE-FEETx43560/36x3600=2.9cfs
461          RS       1    STOR       0
462          SV       0     .01    8.65
463          SQ       0     1.0     2.9
             * DDM   ***** Preserved *****

464          KK    C420
465          KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
466          HC       3  1.0598
             * DDM   ***** Preserved *****
1                                    HEC-1 INPUT                                          PAGE 13

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

467          KK   CC420
468          KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
469          HC       2
             * DDM   ***** Updated *****
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470          KK     440
471          KM   SUB-BASIN 440
472          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
473          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF 1.000
474          KM     L =  .40  Kb = .039  Adj. Slope =  315.0
475          BA    .080
476          LG    .190    .380   6.400    .140  13.000
477          UC    .129    .077
478          UA       0       3       5       8      12      20      43      75      90      96
479          UA     100
             * DDM   ***** Preserved *****

480          KK     R70
481          KM   ROUTE FLOW FROM SUB-BASIN 440 TO C108
482          RS       2    FLOW      -1
483          RC     .05    .035     .05    2250     .08
484          RX    1000    1025    1050    1070    1075    1095    1120    1145
485          RY      30    22.9    15.7      10      10    15.7    22.9      30
             * DDM   ***** Updated *****

486          KK     441
487          KM   SUB-BASIN 441
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 1.000
490          KM     L =  .28  Kb = .069  Adj. Slope =  315.0
491          BA    .010
492          LG    .300    .250   5.600    .220   5.000
493          UC    .150    .225
494          UA       0       5      16      30      65      77      84      90      94      97
495          UA     100
             * DDM   ***** Preserved *****

496          KK    C108
497          KM   COMBINE HYDROGRAPHS FROM SUB-BASINS 440 & 441
498          HC       2
             * DDM   ***** Preserved *****

499          KK      D4
500          KM        SPLIT FLOW WITH TWO 42 INCH PIPES TO WEST AND SOUTH
             *      1
501          DT   SPLIT
502          DI       0      14      40      82     120     154     180
503          DQ       0       7      20      41      60      77      90
             * DDM   ***** Preserved *****
                                        HEC-1 INPUT                                          PAGE 14

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

504          KK    R108
505          KM        ROUTE FLOW FROM SUB-BASIN C108 TO C67
506          RS       2    FLOW      -1
507          RC     .05    .035     .05    3200      .1
508          RX    1000    1025    1050    1070    1075    1095    1120    1145
509          RY      30    22.9    15.7      10      10    15.7    22.9      30
             * DDM   ***** Updated *****

510          KK     442
511          KM   SUB-BASIN 442
512          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
513          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .999
514          KM     L =  .83  Kb = .055  Adj. Slope =  274.2
515          BA    .100
516          LG    .300    .270   3.290    .770   5.000
517          UC    .258    .264
518          UA       0       5      16      30      65      77      84      90      94      97
519          UA     100
             * DDM   ***** Preserved *****

520          KK     C67
521          KM   COMBINE FLOW FROM SUB-BASIN 442 & DIV4
522          HC       2
             * DDM   ***** Preserved *****

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

529          KK    RTD6
530          KM   RETRIEVE FLOW FROM DIVERSION INTO OFFLINE BASIN
531          DR  BASIN4
             * DDM   ***** Preserved *****

532          KK     SD6
533          KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
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534          KM     3.3 ACRE-FEETx43560/36x3600=1.1cfs
             *      1
535          RS       1    STOR       0
536          SV       0     .01     3.3
537          SQ       0     0.2     1.1
             * DDM   ***** Preserved *****

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

541          KK     443
542          KM   SUB-BASIN 443
543          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
544          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF 1.000
545          KM     L =  .71  Kb = .050  Adj. Slope =  315.0
546          BA    .080
547          LG    .250    .190   8.000    .080  10.000
548          UC    .196    .194
549          UA       0       5      16      30      65      77      84      90      94      97
550          UA     100
             * DDM   ***** Preserved *****

551          KK     D66
552          KM        DIVERT FLOW INTO 3 NATURAL WASHES WITH ONE 24" PIPE IN EACH WASH.
553          KM        EACH PIPE CAPACITY BASED ON 4 FEET OF HEAD
554          DT   WSH66
555          DI       0      78     100     200
556          DQ       0      78      78      78
             * DDM   ***** Preserved *****

557          KK    R113
558          KM        ROUTE FLOW FROM C113 TO C114
559          RS       1    FLOW      -1
560          RC    .019    .019    .019    1300    .029
561          RX    1000    1004    1008    1012    1018    1022    1026    1030
562          RY      17   15.33   12.67      10      10   12.67   15.33      17
             * DDM   ***** Preserved *****

563          KK    C114
564          KM        COMBINE HYDROGRAPHS FROM SUB-BASIN 67 AND C113
565          HC       2
             * DDM   ***** Updated *****

566          KK     444
567          KM   SUB-BASIN 444
568          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
569          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF 1.000
570          KM     L =  .33  Kb = .034  Adj. Slope =  315.0
571          BA    .040
572          LG    .130    .350   4.450    .320   1.000
573          UC    .112    .084
574          UA       0       3       5       8      12      20      43      75      90      96
575          UA     100
             * DDM   ***** Preserved *****

576          KK     R58
577          KM   ROUTE FLOW FROM SUB-BASIN 444 TO C107
578          RS       2    FLOW      -1
579          RC     .05    .035     .05    2370   .0516
580          RX    1000    1010    1020    1050    1055    1085    1095    1105
581          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

582          KK     445
583          KM   SUB-BASIN 445
584          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
585          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .999
586          KM     L =  .82  Kb = .036  Adj. Slope =  315.0
587          BA    .190
588          LG    .170    .320   3.470    .590   3.000
589          UC    .192    .130
590          UA       0       5      16      30      65      77      84      90      94      97
591          UA     100
             * DDM   ***** Preserved *****

592          KK    C107
593          KM   COMBINE HYDROGRAPHS FROM SUB-BASINS 444 & 445
594          HC       2
             * DDM   ***** Preserved *****

595          KK    R107
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596          KM        ROUTE FLOW FROM C107 TO C109
597          RS       2    FLOW      -1
598          RC     .05    .035     .05     700   .0516
599          RX    1000    1010    1020    1050    1055    1085    1095    1105
600          RY      19      18      17      10      10      17      18      19
             * DDM   ***** Preserved *****

601          KK    RTB2
602          KM        RETRIEVE DIVERTED FLOW FROM BASIN 1
             *      1
603          DR   SPLIT
             * DDM   ***** Preserved *****

604          KK  RSPLIT
605          KM        ROUTE FLOW FROM SPLIT TO C109
606          RS       1    FLOW      -1
607          RC     .05    .035     .05     800     .05
608          RX    1000    1025    1050    1070    1075    1095    1120    1145
609          RY      30    22.9    15.7      10      10    15.7    22.9      30
             * DDM   ***** Updated *****

610          KK     446
611          KM   SUB-BASIN 446
612          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
613          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF 1.000
614          KM     L =  .46  Kb = .061  Adj. Slope =  303.9
615          BA    .040
616          LG    .270    .250   4.500    .400  19.000
617          UC    .183    .189
618          UA       0       5      16      30      65      77      84      90      94      97
619          UA     100
             * DDM   ***** Preserved *****
1                                    HEC-1 INPUT                                          PAGE 17

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

620          KK    C109
621          KM        COMBINE HYDROGRAPHS FROM COMBINES C107 AND C108
622          HC       3
             * DDM   ***** Preserved *****

623          KK      D5
624          KM        DIVERT FLOW INTO WASHES TOWARDS WEST
625          KM        DIVERSION THROUGH 36" PIPE WITH 3 FEET OF HEAD
             *      1
626          DT  WSH404
627          DI       0    40.7    71.2   121.6     190     276   379.4   500.6
628          DQ       0      35      35      35      35      35      35      35
             * DDM   ***** Preserved *****

629          KK    R109
630          KM        ROUTE FLOW FROM C109 TO C110
631          RS       1    FLOW      -1
632          RC    .019    .019    .019    3080     .05
633          RX    1000    1005    1010    1015    1025    1030    1035    1040
634          RY   13.75    12.5   11.25      10      10   11.25    12.5   13.75
             * DDM   ***** Updated *****

635          KK     447
636          KM   SUB-BASIN 447
637          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
638          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .999
639          KM     L =  .49  Kb = .056  Adj. Slope =  221.0
640          BA    .090
641          LG    .250    .270   3.350    .870  30.000
642          UC    .208    .145
643          UA       0       5      16      30      65      77      84      90      94      97
644          UA     100
             * DDM   ***** Preserved *****

645          KK   RT404
646          KM        RETRIEVE DIVERTED FLOW FOR WASH 109
647          DR  WSH404
             * DDM   ***** Preserved *****

648          KK    R404
649          KM        ROUTE FLOW FROM C110 TO C110
650          RS       6    FLOW      -1
651          RC    .019    .019    .019    3540     .03
652          RX    1000    1012    1016    1020    1025    1029    1033    1045
653          RY      15      12      11      10      10      11      12      15
             * DDM   ***** Preserved *****

654          KK    C110
655          KM   COMBINE HYDROGRAPHS FROM SUB-BASIN 447 AND R404
656          HC       3
             * DDM   ***** Preserved *****
                                    HEC-1 INPUT                                          PAGE 18

LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10
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657          KK    R110
658          KM        ROUTE FLOW FROM C110 TO C115
659          RS       1    FLOW      -1
660          RC    .019    .019    .019     580   .0291
661          RX    1000    1012    1016    1020    1035    1039    1043    1055
662          RY      15      12      11      10      10      11      12      15
             * DDM   ***** Preserved *****

663          KK    C115
664          KM        COMBINE HYDROGRAPHS FROM C114 AND C110
665          HC       2
             * DDM   ***** Preserved *****

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

672          KK     448
673          KM   SUB-BASIN 448
674          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
675          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF 1.000
676          KM     L =  .36  Kb = .042  Adj. Slope =  315.0
677          BA    .045
678          LG    .170    .310   4.200    .390  11.000
679          UC    .133    .102
680          UA       0       5      16      30      65      77      84      90      94      97
681          UA     100
             * DDM   ***** Updated *****

682          KK     449
683          KM   SUB-BASIN 449
684          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
685          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF 1.000
686          KM     L =  .40  Kb = .054  Adj. Slope =  315.0
687          BA    .050
688          LG    .260    .280   3.500    .640   6.000
689          UC    .167    .134
690          UA       0       5      16      30      65      77      84      90      94      97
691          UA     100
             * DDM   ***** Preserved *****

692          KK   C6364
693          KM   COMBINE HYDROGRAPHS FROM SUB-BASINS 448 & 449
694          HC       2
             * DDM   ***** Preserved *****
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LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

695          KK   R6364
696          KM   ROUTE FLOW FROM C116 AND SUB-BASINS 448 AND 449
697          RS       5    FLOW      -1
698          RC     .05    .035     .05    4375   .0333
699          RX    1000    1027    1053    1080    1090    1117    1143    1170
700          RY      15   13.33   11.67      10      10   11.67   13.33      15
             * DDM   ***** Updated *****

701          KK     450
702          KM   SUB-BASIN 450
703          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
704          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF 1.000
705          KM     L =  .85  Kb = .057  Adj. Slope =  210.5
706          BA    .070
707          LG    .340    .350   3.630    .570   4.000
708          UC    .296    .383
709          UA       0       3       5       8      12      20      43      75      90      96
710          UA     100
             * DDM   ***** Updated *****

711          KK     451
712          KM   SUB-BASIN 451
713          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
714          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF 1.000
715          KM     L =  .57  Kb = .063  Adj. Slope =  175.0
716          BA    .025
717          LG    .340    .340   3.290    .750   3.000
718          UC    .271    .453
719          UA       0       3       5       8      12      20      43      75      90      96
720          UA     100
             * DDM   ***** Preserved *****

721          KK    C451
722          KM   COMBINE HYDROGRAPHS FROM SUB-BASINS 450 & 451
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723          HC       2
             * DDM   ***** Preserved *****

724          KK    RT66
725          KM        RETRIEVE DIVERTED FLOW FROM SUB-BASIN 66
726          DR   WSH66
             * DDM   ***** Updated *****

727          KK     452
728          KM   SUB-BASIN 452
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 1.000
731          KM     L =  .43  Kb = .055  Adj. Slope =  315.0
732          BA    .040
733          LG    .260    .280   3.700    .550   9.000
734          UC    .171    .166
735          UA       0       5      16      30      65      77      84      90      94      97
736          UA     100
             * DDM   ***** Preserved *****
1                                        HEC-1 INPUT                                          PAGE 20

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

737          KK   C6465
738          KM   COMBINE HYDROGRAPHS FROM SUB-BASINS 443 AND 452
739          HC       2
             * DDM   ***** Preserved *****

740          KK   R6566
741          KM        ROUTE FLOW FROM DIVERSIONS 65 AND 66 TO C116
742          RS       3    FLOW      -1
743          RC     .05    .035     .05    2435   .0282
744          RX    1000    1045    1090    1150    1160    1220    1265    1310
745          RY      25      23      20      10      10      20      23      25
             * DDM   ***** Preserved *****

746          KK    C116
747          KM   COMBINE HYDROGRAPHS FROM SUB-BASINS 450 & 451 AND R6364 & R6465
748          HC       3
             * DDM   ***** Preserved *****

749          KK  BASIN5
750          KM        RESERVOIR WITHIN PARCEL 31      2-48 INCH PIPES AT OUTFALL
751          KM        BASIN 5 FEET DEEP
752          RS       1    ELEV       0
753          SV       0     4.5     9.9      12
754          SQ       0      69     190    1000
755          SE       0     2.5       5       6
             * DDM   ***** Preserved *****

756          KK    R116
757          KM   ROUTE FLOW FROM C116 TO C117
758          RS       2    FLOW      -1
759          RC     .05    .035     .05    1300   .0333
760          RX    1000    1100    1200    1300    1320    1420    1520    1620
761          RY      13      12      11      10      10      11      12      13
             * DDM   ***** Updated *****

762          KK     453
763          KM   SUB-BASIN 453
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 1.000
766          KM     L =  .58  Kb = .058  Adj. Slope =  138.0
767          BA    .060
768          LG    .290    .300   3.290    .820  18.000
769          UC    .275    .284
770          UA       0       5      16      30      65      77      84      90      94      97
771          UA     100
             * DDM   ***** Preserved *****

772          KK    C117
773          KM   COMBINE HYDROGRAPHS FROM SUB-BASIN 453 AND R116
774          HC       2
             * DDM   ***** Preserved *****
1                                        HEC-1 INPUT                                          PAGE 21

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

775          KK    C118
776          KM   COMBINE HYDROGRAPHS FROM R115 AND C117
777          HC       2
             * DDM   ***** Preserved *****

778          KK    R118
779          KM        ROUTE FLOW FROM C118 TO  DIV7
780          RS       1    FLOW      -1
781          RC    .019    .019    .019    1500    .024
782          RX    1000    1012    1016    1020    1035    1039    1043    1055
783          RY      15      12      11      10      10      11      12      15
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            * DDM   ***** Preserved *****

 784        KK      D7
 785        KM        OFFLINE BASIN AT NORTH MOUNTAIN RIDGE   FLOWS ENTER BASIN OVER
 786        KM        30' WEIR SET AT 5.3' ABOVE THE CHANNEL BOTTOM
            *      1
 787        DT  BASIN6     3.6
 788        DI       0     363     487     563     645     844
 789        DQ       0       3      47      83     125     244
            * DDM   ***** Preserved *****

 790        KK    RTD7
 791        KM   RETRIEVE FLOW FROM DIVERSION INTO OFFLINE BASIN
 792        DR  BASIN6
            * DDM   ***** Preserved *****

 793        KK     SD7
 794        KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
 795        KM     3.6 ACRE-FEETx43560/36x3600=1.2cfs
 796        RS       1    STOR       0
 797        SV       0     .01     3.6
 798        SQ       0     0.2     1.2
            * DDM   ***** Preserved *****

 799        KK     CD7
 800        KM   HYDROGRAPH COMBINATION FOR OFFLINE BASIN BLEEDOFF
 801        HC       2
            * DDM   ***** Updated *****

 802        KK     454
 803        KM   SUB-BASIN 454
 804        KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
 805        KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .999
 806        KM     L = 1.23  Kb = .051  Adj. Slope =  163.0
 807        BA    .180
 808        LG    .300    .310   3.780    .560  14.000
 809        UC    .379    .395
 810        UA       0       5      16      30      65      77      84      90      94      97
 811        UA     100
            * DDM   ***** Preserved *****
1                                   HEC-1 INPUT                                          PAGE 22

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

 812        KK    C119
 813        KM        COMBINE HYDROGRAPHS FROM SUB-BASIN 454 AND C119
            *      1       2
 814        HC       2
            * DDM   ***** Preserved *****

 815        KK    R454
 816        KM   CHANNEL GEOMETRY OBTAINED FROM 2' CONTOUR MAPPING.
 817        KM   ROUTE FLOW FROM C119 TO 415C
 818        RS       3    FLOW      -1
 819        RC    .045    .035    .045    2200    .009
 820        RX       0      .5       1      33      42      67    67.5      68
 821        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 *****

 822        KK     415
 823        KM   SUB-BASIN 415
 824        KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
 825        KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .996
 826        KM     L = 2.58  Kb = .044  Adj. Slope =  298.5
 827        BA    .609
 828        LG    .320    .290   4.500    .400  15.000
 829        UC    .421    .401
 830        UA       0       5      16      30      65      77      84      90      94      97
 831        UA     100
            * DDM   ***** Preserved *****

 832        KK   RT385
 833        KM   RETRIEVE FLOW FROM DIVERSION OF SUB-BASIN 385 INTO SUB-BASIN 415
 834        DR   SF385
            * DDM   ***** Preserved *****

 835        KK   RR385
 836        KM   CHANNEL GEOMETRY OBTAINED FROM 2' CONTOUR MAPPING.
 837        KM   ROUTING OF SPLIT FLOW FROM SUB-BASIN 385 TO SUB-BASIN 415
 838        RS      11    FLOW      -1
 839        RC    .045     .04    .045    5878    .024
 840        RX       0       1      40      46      56      62     102     103
 841        RY       3       2       2       0       0       2       2       3
            * DDM   ***** Preserved *****

 842        KK    C415
 843        KM   HYDROGRAPH COMBINATION OF SUB-BASINS 415 & SPLIT FLOW FROM 385
 844        HC       2  0.9252
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                * DDM   ***** Preserved *****

 845            KK   CC415
 846            KM   HYDROGRAPH COMBINATION OF SUB-BASINS 415, R454 & SPLIT FLOW FROM 385
 847            HC       2
                * DDM   ***** Preserved *****
1                                          HEC-1 INPUT                                                    PAGE 23

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


 848            KK    R415
 849            KM   CHANNEL GEOMETRY OBTAINED FROM 2' CONTOUR MAPPING.
 850            KM   ROUTING OF FLOW FROM 415C TO 455C
 851            RS       3    FLOW      -1
 852            RC    .045     .03    .045    4100    .024
 853            RX       0      .5       1       8      16      23    23.5      24
 854            RY      18       8       8       0       0       8       8      18
                * DDM   ***** Updated *****

 855            KK     455
 856            KM   SUB-BASIN 455
 857            KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
 858            KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .993
 859            KM     L = 1.70  Kb = .041  Adj. Slope =  146.0
 860            BA   1.111
 861            LG    .270    .280   3.700    .640  24.000
 862            UC    .421    .204
 863            UA       0       5      16      30      65      77      84      90      94      97
 864            UA     100
                * DDM   ***** Preserved *****

 865            KK    D455
 866            KM        DIVERT FLOW INTO ONLINE  DETENTION BASIN
 867            KM   DETENTION/RETENTION BASINS LOCATED WITHIN LAS SENDAS ADDENDUM III
 868            KM   FOR BASIN #: 30      34      43      47&58
 869            KM        MAXIMUM VOLUME DIVERSION = 74.1 acre-feet
                *      1
 870            DT   BS455    74.1
 871            DI       0   10000
 872            DQ       0   10000
                * DDM   ***** Preserved *****

 873            KK   RT455
 874            KM   RETRIEVE FLOW FROM DIVERSION INTO ONLINE BASIN
 875            DR   BS455
                * DDM   ***** Preserved *****

 876            KK    S455
 877            KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
 878            KM    74.1 ACRE-FEETx43560/36x3600=25cfs
 879            RS       1    STOR       0
 880            SV       0     .01    74.1
 881            SQ       0     3.0      25
                * DDM   ***** Preserved *****

 882            KK    C455
 883            KM   HYDROGRAPH COMBINATION FOR SUB-BASIN 455 AND DIVERTED BASIN STORAGE OF 455
 884            HC       2
                * DDM   ***** Preserved *****
1                                          HEC-1 INPUT                                                    PAGE 24

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


 885            KK   CC455
 886            KM  HYDROGRAPH COMBINATION OF 420C, R415 AND C455
                *      1       2
 887            HC       3
                * DDM   ***** Preserved *****

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

 897            KK    R455
 898            KM   ROUTE FLOW FROM SPOOK HILL FRS TO SUB-BASIN 480
 899            RS      15    FLOW      -1
 900            RC    .035    .025    .035    7000   .0002
 901            RX       0       1       2      28     158     184     185     186
 902            RY    13.5    13.5    13.5       0       0    13.5    13.5    13.5
                * DDM   ***** Updated *****
```

```
903          KK     480
904          KM   SUB-BASIN 480
905          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
906          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .996
907          KM     L = 1.21  Kb = .042  Adj. Slope =  165.0
908          BA    .731
909          LG    .270    .270   3.580    .730  27.000
910          UC    .325    .148
911          UA       0       5      16      30      65      77      84      90      94      97
912          UA     100
             * DDM   ***** Preserved *****

913          KK    D480
914          KM        DIVERT FLOW INTO ONLINE  DETENTION BASIN
915          KM   DETENTION/RETENTION BASINS LOCATED WITHIN LAS SENDAS ADDENDUM III
916          KM   FOR BASIN #: 18 & 26
917          KM        MAXIMUM VOLUME DIVERSION = 16.5 acre-feet
             *      1
918          DT   BS480    16.5
919          DI       0   10000
920          DQ       0   10000
             * DDM   ***** Preserved *****
1                                        HEC-1 INPUT                                          PAGE 25

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

921          KK   RT480
922          KM   RETRIEVE FLOW FROM DIVERSION INTO ONLINE BASIN
923          DR   BS480
             * DDM   ***** Preserved *****

924          KK    S480
925          KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
926          KM    16.5 ACRE-FEETx43560/36x3600=5.5cfs
927          RS       1    STOR       0
928          SV       0     .01    16.5
929          SQ       0     3.0     5.6
             * DDM   ***** Preserved *****

930          KK    C480
931          KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
932          HC       2
             * DDM   ***** Preserved *****

933          KK   CC480
934          KM   HYDROGRAPH COMBINATION AT SUBBASIN 480
935          HC       2   0.731
             * DDM   ***** Preserved *****

936          KK    R480
937          KM   ROUTE FLOW FROM SUB-BASIN 480 TO SUBBASIN 462
938          RS       6    FLOW      -1
939          RC    .035    .025    .035    2800   .0002
940          RX       0       1       2      28     158     184     185     186
941          RY    13.5    13.5    13.5       0       0    13.5    13.5    13.5
             * DDM   ***** Updated *****

942          KK     456
943          KM   SUB-BASIN 456
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  .998
946          KM     L =  .94  Kb = .045  Adj. Slope =  315.0
947          BA    .260
948          LG    .300    .380   5.600    .200  12.000
949          UC    .217    .139
950          UA       0       5      16      30      65      77      84      90      94      97
951          UA     100
             * DDM   ***** Preserved *****

952          KK      D1
953          KM        DIVERT FLOW INTO OFFLINE DETENTION BASIN
954          KM        WEIR FOR BASIN SET AT 4 FEET ABOVE CHANNEL BOTTOM
             *      1
955          DT  BASIN1     4.0
956          DI       0    11.1   127.9   234.4   577.7   789.9  1025.5  1280.9  1555.7
957          DQ       0       0       0    47.7     248   381.8   533.6   701.5     884
             * DDM   ***** Preserved *****
1                                        HEC-1 INPUT                                          PAGE 26

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

958          KK     CD2
959          KM        SPLIT OUT FLOW FOR WASHES THAT FLOW TO THE SOUTH FROM
960          KM        WASHES THAT DRAIN TO THE WES, SOUTHERN WASHES FED BY 30" & 24" PIPE
961          DT    WA30
962          DI       0    11.1   127.9   189.6   329.7     408   491.9   579.4   671.7
963          DQ       0    11.1    38.4    48.2      63    69.5      76      81      86
             * DDM   ***** Preserved *****
```

```
 964          KK    R456
 965          KM        ROUTE FLOW FROM SUB-BASIN 51 TO C101
 966          RS       2    FLOW      -1
 967          RC     .05    .035     .05    3800    .044
 968          RX    1000    1010    1020    1036    1041    1057    1067    1077
 969          RY   14.88   14.44      14      10      10      14   14.44   14.88
              * DDM   ***** Updated *****

 970          KK     457
 971          KM   SUB-BASIN 457
 972          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
 973          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .999
 974          KM     L = 1.01  Kb = .045  Adj. Slope =  308.8
 975          BA    .190
 976          LG    .270    .330   3.950    .460   6.000
 977          UC    .237    .195
 978          UA       0       5      16      30      65      77      84      90      94      97
 979          UA     100
              * DDM   ***** Preserved *****

 980          KK    C101
 981          KM        COMBINE HYDROGRAPHS FROM SUB-BASINS 50 AND 51
 982          HC       2
              * DDM   ***** Preserved *****

 983          KK      D3
 984          KM        RESERVOIR AT THE EDGE OF THE PROPERTY   FLOW FROM CHANNEL
 985          KM        DIVERTED  INTO OFFLINE BASIN A 25' WEIR SET AT ELEVATION 1808 FT
              *      1
 986          DT  BASIN2     5.0
 987          DI       0      36      70     110     180   313.5     402   500.9
 988          DQ       0       0       0       0       0    67.5     124   190.9
              * DDM   ***** Preserved *****

 989          KK    RTD3
 990          KM   RETRIEVE FLOW FROM DIVERSION INTO OFFLINE BASIN
 991          DR  BASIN2
              * DDM   ***** Preserved *****

 992          KK     SD3
 993          KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
 994          KM     5.0 ACRE-FEETx43560/36x3600=1.7cfs
 995          RS       1    STOR       0
 996          SV       0     .01       5
 997          SQ       0     0.7     1.7
              * DDM   ***** Preserved *****
                                        HEC-1 INPUT                                          PAGE 27

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

 998          KK     CD3
 999          KM   HYDROGRAPH COMBINATION FOR OFFLINE BASIN BLEEDOFF
1000          HC       2
              * DDM   ***** Preserved *****

1001          KK    R101
1002          KM        ROUTE FLOW FROM SUBBASIN C101 TO C103
1003          RS       1    FLOW      -1
1004          RC     .05    .035     .05    1450     .05
1005          RX    1000    1010    1020    1036    1041    1057    1067    1077
1006          RY      15    14.5      14      10      10      14    14.5      15
              * DDM   ***** Updated *****

1007          KK     458
1008          KM   SUB-BASIN 458
1009          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1010          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .999
1011          KM     L =  .76  Kb = .048  Adj. Slope =  299.0
1012          BA    .190
1013          LG    .290    .330   5.800    .190   6.000
1014          UC    .204    .131
1015          UA       0       5      16      30      65      77      84      90      94      97
1016          UA     100
              * DDM   ***** Preserved *****

1017          KK    C103
1018          KM        COMBINE HYDROGRAPHS FROM SUB-BASIN 55 AND C101
1019          HC       2
              * DDM   ***** Preserved *****

1020          KK    R103
1021          KM        ROUTE FLOW FROM SUBBASIN C103 TO C106
1022          RS       1    FLOW      -1
1023          RC     .05    .035     .05     900     .03
1024          RX    1000    1010    1020    1030    1050    1060    1070    1080
1025          RY   23.16   12.83    12.5      10      10    12.5   12.83   23.16
              * DDM   ***** Preserved *****

1026          KK    RT30
1027          KM        RETRIEVE DIVERTED FLOW FOR WASH BELOW 30 INCH PIPE
```

```
1028          DR    WA30
              * DDM   ***** Preserved *****

1029          KK     R30
1030          KM        ROUTE FLOW FROM WASH DIVERSION TO COMBINE C52
1031          RS       1    FLOW      -1
1032          RC     .05    .035     .05    1630     .05
1033          RX    1000    1010    1020    1036    1041    1057    1067    1077
1034          RY      15    14.5      14      10      10      14    14.5      15
              * DDM   ***** Preserved *****
1                                          HEC-1 INPUT                                                    PAGE 28

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


1035          KK    RTB1
1036          KM        RETRIEVE DIVERTED FLOW FROM BASIN 1
              *      1        2
1037          DR  BASIN1
              * DDM   ***** Preserved *****

1038          KK      B1
1039          KM        ROUTE FLOW THROUGH OFFLINE DETENTION BASIN
1040          KM        FLOW OUTLETS THROUGH A 30 INCH OUTLET PIPE
              *      1        2
1041          RS       1    ELEV       0
1042          SV              .7     1.4     2.3     2.7     4.0
1043          SQ       0       5      16      28    32.5      37
1044          SE       0       1       2       3     3.5       4
              * DDM   ***** Preserved *****

1045          KK     RB1
1046          KM        ROUTE FLOW FROM BASIN DIVERSION TO COMBINE C52
1047          RS       3    FLOW      -1
1048          RC     .05    .035     .05    1720     .05
1049          RX    1000    1010    1020    1036    1041    1057    1067    1077
1050          RY      15    14.5      14      10      10      14    14.5      15
              * DDM   ***** Preserved *****

1051          KK    CDIV
1052          KM        COMBINE FLOWS FROM WA30 AND BASIN 1
1053          HC       2     .12
              * DDM   ***** Updated *****

1054          KK     459
1055          KM   SUB-BASIN 459
1056          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1057          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF 1.000
1058          KM     L =  .35  Kb = .052  Adj. Slope =  251.6
1059          BA    .030
1060          LG    .220    .300   3.330    .710   8.000
1061          UC    .162    .157
1062          UA       0       5      16      30      65      77      84      90      94      97
1063          UA     100
              * DDM   ***** Preserved *****

1064          KK     C52
1065          KM        COMBINE FLOWS FROM SUB-BASIN 52 WA30 AND BASIN 1
1066          HC       2
              * DDM   ***** Preserved *****

1067          KK     R52
1068          KM        ROUTE FLOW FROM SUBBASIN 52 TO C102
1069          RS       3    FLOW      -1
1070          RC     .05    .035     .05    2000     .05
1071          RX    1000    1010    1020    1036    1041    1057    1067    1077
1072          RY      15    14.5      14      10      10      14    14.5      15
              * DDM   ***** Updated *****
1                                          HEC-1 INPUT                                                    PAGE 29

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


1073          KK     460
1074          KM   SUB-BASIN 460
1075          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1076          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .999
1077          KM     L =  .62  Kb = .058  Adj. Slope =  194.0
1078          BA    .140
1079          LG    .250    .260   3.740    .690  27.000
1080          UC    .242    .160
1081          UA       0       5      16      30      65      77      84      90      94      97
1082          UA     100
              * DDM   ***** Preserved *****

1083          KK    C102
1084          KM        COMBINE HYDROGRAPHS FROM SUB-BASINS 52 AND 53
1085          HC       2
              * DDM   ***** Preserved *****

1086          KK  BASIN3
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1087          KM        RESERVOIR AT CLUBHOUSE LOCATION 1-30 INCH PIPE AT OUTFALL
1088          KM        BOTTOM OF BASIN AT 6 FEET ABOVE 1795 ELEVATION
1089          RS       1    ELEV       0
1090          SA       0       0       0     .34    1.59    1.81    1.96    2.13     2.3     2.5
1091          SQ      22      45    47.4      48      51      57      62      67      73     500
1092          SE  1797.5    1800  1800.4  1800.5    1801    1802    1803    1804  1805.5    1807
              * DDM   ***** Preserved *****

1093          KK      R3
1094          KM        ROUTE FLOW FROM C102 to C106
1095          RS       5    FLOW      -1
1096          RC     .05     .03     .05    2750   .0375
1097          RX    1000    1010    1020    1052    1086    1118    1128    1138
1098          RY    19.2    18.4      18      10      10      18    18.4    19.2
              * DDM   ***** Updated *****

1099          KK     461
1100          KM   SUB-BASIN 461
1101          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1102          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .999
1103          KM     L =  .83  Kb = .052  Adj. Slope =  181.0
1104          BA    .120
1105          LG    .270    .250   4.250    .450  21.000
1106          UC    .271    .250
1107          UA       0       5      16      30      65      77      84      90      94      97
1108          UA     100
              * DDM   ***** Preserved *****

1109          KK    C104
1110          KM        COMBINE HYDROGRAPHS FROM SUB-BASIN 54 AND R102
1111          HC       2
              * DDM   ***** Preserved *****
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1112          KK    C106
1113          KM        COMBINE HYDROGRAPHS FROM SUB-BASIN C103 AND C104
1114          HC       2
              * DDM   ***** Preserved *****

1115          KK    R106
1116          KM        ROUTE FLOW FROM C106 TO C49
1117          RS       2    FLOW      -1
1118          RC     .05    .035     .05    3950    .033
1119          RX    1000    1010    1020    1030    1050    1060    1070    1080
1120          RY   23.16   12.83    12.5      10      10    12.5   12.83   23.16
              * DDM   ***** Updated *****

1121          KK     462
1122          KM   SUB-BASIN 462
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  .998
1125          KM     L =  .97  Kb = .045  Adj. Slope =  297.7
1126          BA    .301
1127          LG    .300    .330   5.300    .240  12.000
1128          UC    .225    .137
1129          UA       0       5      16      30      65      77      84      90      94      97
1130          UA     100
              * DDM   ***** Preserved *****

1131          KK     C56
1132          KM        COMBINE HYDROGRAPHS FROM SUB-BASIN 56 AND C106
              *      1       2
1133          HC       2
              * DDM   ***** Preserved *****

1134          KK    C462
1135          KM        COMBINE HYDROGRAPHS AT SUBBASIN 462
              *      1
1136          HC       2    2.09
              * DDM   ***** Preserved *****

1137          KK    R462
1138          KM   ROUTE FLOW FROM SUB-BASIN 462 TO SUB-BASIN 500 (First Channel Reach)
1139          RS       1    FLOW      -1
1140          RC    .025    .025    .025    1800    .005
1141          RX       0       1      20      32      62      74      93      94
1142          RY      13      12      12       0       0      12      12      13
              *

1143          KK   RR462
1144          KM   ROUTE FLOW FROM SUB-BASIN 462 TO SUB-BASIN 500 (Second Natural Wash Reach)
1145          RS       3    FLOW      -1
1146          RC    .055     .05    .055    4700     .05
1147          RX       0       1       2      28      58      84      85      86
1148          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

1149          KK     500
1150          KM   SUB-BASIN 500
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  .994
1153          KM     L = 2.77  Kb = .042  Adj. Slope =  286.8
1154          BA    .930
1155          LG    .350    .400   6.000    .170   9.000
1156          UC    .421    .333
1157          UA       0       3       5       8      12      20      43      75      90      96
1158          UA     100
              * DDM   ***** Preserved *****

1159          KK    C500
1160          KM   HYDROGRAPH COMBINATION FOR THE ENTIRE WATERSHED AT THE SALT RIVER
1161          HC       2    3.02
1162          ZZ
```

1

SCHEMATIC DIAGRAM OF STREAM NETWORK

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

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

   27        R180
                .
                .
   39           .         260
                .           .
                .           .
   49        C260............
                V
                V
   52        R260
                .
                .
   61           .         280
                .           .
                .           .
   71        C280............
                V
                V
   74        R280
                .
                .
   83           .         300
                .           .
                .           .
   93        C300............
                V
                V
   96        R300
                .
                .
  105           .         305
                .           .
                .           .
  115        C305............
                V
                V
  118        R305
                .
                .
  127           .         350
                .           .
                .           .
  140           .           .-------->   SF350
  137           .        D350
                .           V
                .           V
  143           .        R350
                .           .
                .           .
  150           .           .         310
                .           .           .
                .           .           .
  160           .        C310............
                .           V
                .           V
  163           .        R310
                .           .
                .           .
  170           .           .         320
                .           .           .
                .           .           .
  185           .           .           .-------->   BS320
  180           .           .        D320
                .           .           .
                .           .           .
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```
190          .           .           .           .<-------   BS320
188          .           .           .       RT320
             .           .           .           V
             .           .           .           V
191          .           .           .       S320
             .           .           .           .
             .           .           .           .
197       C320.................................
             .
             .
200          .        340
             .           .
             .           .
215          .           .------->   BS340
210          .       D340
             .           .
             .           .
220          .           .           .<-------   BS340
218          .           .       RT340
             .           .           V
             .           .           V
221          .           .       S340
             .           .           .
             .           .           .
227       C340......................
             .
             .
232          .           .<-------   SF350
230          .      RT350
             .          V
             .          V
233          .      RR350
             .           .
             .           .
240          .           .        355
             .           .           .
             .           .           .
250          .       C355............
             .          V
             .          V
253          .       R355
             .           .
             .           .
260          .           .        360
             .           .           .
             .           .           .
274          .           .           .------->   BS360
270          .           .       D360
             .           .           .
             .           .           .
279          .           .           .           .<-------   BS360
277          .           .           .       RT360
             .           .           .           V
             .           .           .           V
280          .           .           .       S360
             .           .           .           .
             .           .           .           .
286       C360.................................
             .
             .
289          .        370
             .           .
             .           .
299          .           .        395
             .           .           .
             .           .           .
309          .       C370............
             .          V
             .          V
312          .       R370
             .           .
             .           .
319          .           .        380
             .           .           .
             .           .           .
333          .           .           .------->   BS380
329          .           .       D380
             .           .           .
             .           .           .
338          .           .           .           .<-------   BS380
336          .           .           .       RT380
             .           .           .           V
             .           .           .           V
339          .           .           .       S380
             .           .           .           .
             .           .           .           .
345       C380.................................
             .
             .
348          .        390
             .           .
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                .
362             .-------->   BS390
358             .       D390
                .
                .
367             .           .<-------   BS390
365             .       RT390
                .           V
                .           V
368             .        S390
                .           .
                .           .
374             .       C390............
                .          V
                .          V
377             .       R390
                .
                .
384             .           .        400
                .           .
                .           .
398             .           .-------->   BS400
394             .           .       D400
                .           .
                .           .
403             .           .           .<-------   BS400
401             .           .       RT400
                .           .           V
                .           .           V
404             .           .        S400
                .           .           .
                .           .           .
410             .           .       C400............
                .           .
                .           .
413         CC400........................
                .
                .
416             .        385
                .
                .
428             .-------->   SF385
426             .       D385
                .          V
                .          V
431             .       R385
                .
                .
438             .           .        420
                .           .
                .           .
452             .           .-------->   BS420
448             .           .       D420
                .           .
                .           .
457             .           .           .<-------   BS420
455             .           .       RT420
                .           .           V
                .           .           V
458             .           .        S420
                .           .           .
                .           .           .
464             .       C420........................
                .
                .
467         CC420............
                .
                .
470             .        440
                .          V
                .          V
480             .        R70
                .
                .
486             .           .        441
                .           .
                .           .
496             .       C108............
                .
                .
501             .-------->   SPLIT
499             .         D4
                .          V
                .          V
504             .       R108
                .
                .
510             .           .        442
                .           .
                .           .
520             .        C67............
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```
526                 .-------> BASIN4
523               D6
                    .
                    .
531                 .<-------  BASIN4
529                 .       RTD6
                    .         V
                    .         V
532                 .        SD6
                    .          .
                    .          .
538               CD6............
                    .
                    .
541                 .        443
                    .          .
                    .          .
554                 .------->   WSH66
551                 .        D66
                    .         V
                    .         V
557                 .       R113
                    .          .
                    .          .
563             C114............
                    .
                    .
566                 .        444
                    .         V
                    .         V
576                 .        R58
                    .          .
                    .          .
582                 .          .        445
                    .          .          .
                    .          .          .
592                 .       C107............
                    .         V
                    .         V
595                 .       R107
                    .          .
                    .          .
603                 .          .          .<-------   SPLIT
601                 .          .       RTB2
                    .          .          V
                    .          .          V
604                 .          .     RSPLIT
                    .          .          .
                    .          .          .
610                 .          .          .         446
                    .          .          .           .
                    .          .          .           .
620                 .       C109........................
                    .          .
                    .          .
626                 .          .-------> WSH404
623                 .        D5
                    .         V
                    .         V
629                 .       R109
                    .          .
                    .          .
635                 .          .        447
                    .          .          .
                    .          .          .
647                 .          .          .           .<-------  WSH404
645                 .          .          .       RT404
                    .          .          .           V
                    .          .          .           V
648                 .          .          .        R404
                    .          .          .           .
                    .          .          .           .
654                 .       C110........................
                    .         V
                    .         V
657                 .       R110
                    .          .
                    .          .
663             C115............
                    V
                    V
666             R115
                    .
                    .
672                 .        448
                    .          .
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682                 .          .        449
                    .          .          .
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692                 C6364............
                      V
                      V
695                 R6364
                      .
                      .
701                   .        450
                      .          .
                      .          .
711                   .          .        451
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                      .          .          .
721                   .       C451............
                      .          .
                      .          .
726                   .          .          .<-------   WSH66
724                   .          .       RT66
                      .          .          .
                      .          .          .
727                   .          .          .         452
                      .          .          .           .
                      .          .          .           .
737                   .          .      C6465............
                      .          .          V
                      .          .          V
740                   .          .      R6566
                      .          .          .
                      .          .          .
746                 C116......................
                      V
                      V
749               BASIN5
                      V
                      V
756                 R116
                      .
                      .
762                   .        453
                      .          .
                      .          .
772                 C117............
                      .
                      .
775             C118............
                  V
                  V
778             R118
                  .
                  .
787               .-------> BASIN6
784             D7
                  .
                  .
792               .<-------  BASIN6
790                 RTD7
                      V
                      V
793                 SD7
                      .
                      .
799             CD7............
                  .
                  .
802                 454
                      .
                      .
812             C119............
                  V
                  V
815             R454
                  .
                  .
822                 415
                      .
                      .
834                   .          .<-------   SF385
832                   .       RT385
                      .          V
                      .          V
835                   .       RR385
                      .          .
                      .          .
842                 C415............
                      .
                      .
845            CC415............
                  V
                  V
848             R415
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855          .           .         455
             .           .           .
             .           .           .
870          .           .           .-------->   BS455
865          .           .       D455
             .           .           .
             .           .           .
875          .           .           .           .<--------   BS455
873          .           .           .      RT455
             .           .           .          V
             .           .           .          V
876          .           .           .       S455
             .           .           .          .
             .           .           .          .
882          .           .       C455............
             .           .           .
             .           .           .
885      CC455........................
             V
             V
888       S440
             V
             V
897       R455
             .
             .
903          .        480
             .          .
             .          .
918          .          .-------->   BS480
913          .       D480
             .          .
             .          .
923          .          .           .<--------   BS480
921          .          .      RT480
             .          .          V
             .          .          V
924          .          .       S480
             .          .          .
             .          .          .
930          .       C480............
             .          .
             .          .
933      CC480............
             V
             V
936       R480
             .
             .
942          .        456
             .          .
             .          .
955          .          .-------->  BASIN1
952          .         D1
             .          .
             .          .
961          .          .-------->    WA30
958          .        CD2
             .          V
             .          V
964          .       R456
             .          .
             .          .
970          .          .         457
             .          .           .
             .          .           .
980          .       C101............
             .          .
             .          .
986          .          .-------->  BASIN2
983          .         D3
             .          .
             .          .
991          .          .           .<--------  BASIN2
989          .          .       RTD3
             .          .          V
             .          .          V
992          .          .        SD3
             .          .          .
             .          .          .
998          .        CD3............
             .          V
             .          V
1001         .       R101
             .          .
             .          .
1007         .          .         458
             .          .           .
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1017         .       C103............
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                 .          V
                 .          V
1020             .       R103
                 .          .
                 .          .
1028             .          .          .<-------    WA30
1026             .          .      RT30
                 .          .         V
                 .          .         V
1029             .          .       R30
                 .          .         .
                 .          .         .
1037             .          .         .          .<-------  BASIN1
1035             .          .         .      RTB1
                 .          .         .         V
                 .          .         .         V
1038             .          .         .        B1
                 .          .         .         V
                 .          .         .         V
1045             .          .         .       RB1
                 .          .         .         .
                 .          .         .         .
1051             .          .      CDIV............
                 .          .         .
                 .          .         .
1054             .          .         .       459
                 .          .         .         .
                 .          .         .         .
1064             .          .       C52............
                 .          .         V
                 .          .         V
1067             .          .       R52
                 .          .         .
                 .          .         .
1073             .          .         .       460
                 .          .         .         .
                 .          .         .         .
1083             .          .      C102............
                 .          .         V
                 .          .         V
1086             .          .    BASIN3
                 .          .         V
                 .          .         V
1093             .          .        R3
                 .          .         .
                 .          .         .
1099             .          .         .       461
                 .          .         .         .
                 .          .         .         .
1109             .          .      C104............
                 .          .         .
                 .          .         .
1112             .       C106............
                 .          V
                 .          V
1115             .       R106
                 .          .
                 .          .
1121             .          .       462
                 .          .         .
                 .          .         .
1131             .        C56............
                 .          .
                 .          .
1134        C462............
                V
                V
1137        R462
                V
                V
1143       RR462
                .
                .
1149             .        500
                 .          .
                 .          .
1159        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  11:20:52   *
 *                                       *
*****************************************
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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 - SPS, 7-Hour
                Existing Condition Base Model with Spook Hill FRS Storage Routing
                Original File Name: EC24BASE.DAT
                Modified File Name: ESPSBASE.DAT, Wood/Patel, SZ, 3/28/01
                A CONSERVATIVE ESTIMATE WAS USED FOR THE LOCATION OF THE CENTROID FOR
                PRECIPITATION VALUES
                CHANNEL ROUTING INFORMATION FOR MCFCD FLOODWAYS WERE OBTAINED
                FROM MCFCD SPOOK HILL, SIGNAL BUTTE AND BULLDOG FLOODWAY PLANS


                UPDATE TO EXISTING CONDITION 24-HR 100-YR MODEL RUN BASED ON RE-ALIGNMENT
                OF SUB-BASIN BOUNDARIES FOR SUB-BASINS 385 (REDUCED) & 415 (ENLARGED)
                UPDATE BASED ON INFORMATION FROM 2' CONTOUR MAPPING.

15 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

17 JD        INDEX STORM NO. 1
                STRM         6.36  PRECIPITATION DEPTH
                TRDA          .01  TRANSPOSITION DRAINAGE AREA

 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       .01       .01       .01
                .01       .01       .01       .01       .01       .01       .01       .01       .01       .01
                .01       .01       .02       .03       .03       .03       .03       .03       .03       .03
                .02       .02       .02       .02       .02       .02       .02       .02       .01       .01
                .01       .01       .01       .01       .01       .01       .01       .01       .01       .01
                .01       .01       .01       .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

21 JD        INDEX STORM NO. 2
                STRM         6.32  PRECIPITATION DEPTH
                TRDA         1.00  TRANSPOSITION DRAINAGE AREA

 0 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       .01       .01       .01
                .01       .01       .01       .01       .01       .01       .01       .01       .01       .01
                .01       .01       .02       .03       .03       .03       .03       .03       .03       .03
                .02       .02       .02       .02       .02       .02       .02       .02       .01       .01
                .01       .01       .01       .01       .01       .01       .01       .01       .01       .01
                .01       .01       .01       .00       .00       .00       .00       .00       .00       .00
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                .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

22 JD        INDEX STORM NO. 3
                STRM        6.17  PRECIPITATION DEPTH
                TRDA        5.00  TRANSPOSITION DRAINAGE AREA

 0 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       .01       .01       .01
                .01       .01       .01       .01       .01       .01       .01       .01       .01       .01
                .01       .01       .02       .03       .03       .03       .03       .03       .03       .03
                .02       .02       .02       .02       .02       .02       .02       .02       .01       .01
                .01       .01       .01       .01       .01       .01       .01       .01       .01       .01
                .01       .01       .01       .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

23 JD        INDEX STORM NO. 4
                STRM        5.97  PRECIPITATION DEPTH
                TRDA       10.66  TRANSPOSITION DRAINAGE AREA

 0 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       .01       .01       .01
                .01       .01       .01       .01       .01       .01       .01       .01       .01       .01
                .01       .01       .02       .03       .03       .03       .03       .03       .03       .03
                .02       .02       .02       .02       .02       .02       .02       .02       .01       .01
                .01       .01       .01       .01       .01       .01       .01       .01       .01       .01
                .01       .01       .01       .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

24 JD        INDEX STORM NO. 5
                STRM        5.91  PRECIPITATION DEPTH
                TRDA       13.70  TRANSPOSITION DRAINAGE AREA

 0 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       .01       .01       .01
                .01       .01       .01       .01       .01       .01       .01       .01       .01       .01
                .01       .01       .02       .03       .03       .03       .03       .03       .03       .03
                .02       .02       .02       .02       .02       .02       .02       .02       .01       .01
                .01       .01       .01       .01       .01       .01       .01       .01       .01       .01
                .01       .01       .01       .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

25 JD        INDEX STORM NO. 6
                STRM        5.78  PRECIPITATION DEPTH
                TRDA       20.00  TRANSPOSITION DRAINAGE AREA

 0 PI         PRECIPITATION PATTERN
                .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
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.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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.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	.01	.01	.01
.01	.01	.01	.01	.01	.01	.01	.01	.01	.01
.01	.01	.02	.03	.03	.03	.03	.03	.03	.03
.02	.02	.02	.02	.02	.02	.02	.02	.01	.01
.01	.01	.01	.01	.01	.01	.01	.01	.01	.01
.01	.01	.01	.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

26 JD INDEX STORM NO. 7
STRM 5.47 PRECIPITATION DEPTH
TRDA 50.00 TRANSPOSITION DRAINAGE AREA

0 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	.01	.01	.01
.01	.01	.01	.01	.01	.01	.01	.01	.01	.01
.01	.01	.02	.03	.03	.03	.03	.03	.03	.03
.02	.02	.02	.02	.02	.02	.02	.02	.01	.01
.01	.01	.01	.01	.01	.01	.01	.01	.01	.01
.01	.01	.01	.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

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	R180	113.	.00	113.	113.	113.	.01		
+	HYDROGRAPH AT	260	694.	5.20	125.	32.	11.	.26		
+	2 COMBINED AT	C260	807.	5.20	238.	145.	124.	.26		
+	ROUTED TO	R260	804.	5.27	238.	145.	124.	.26		
+	HYDROGRAPH AT	280	870.	5.13	136.	34.	12.	.32		
+	2 COMBINED AT	C280	1640.	5.20	373.	179.	137.	.58		
+	ROUTED TO	R280	1637.	5.27	373.	179.	137.	.58		
+	HYDROGRAPH AT	300	727.	5.13	106.	27.	10.	.29		
+	2 COMBINED AT	C300	2335.	5.23	479.	205.	146.	.87		
+	ROUTED TO	R300	2323.	5.30	478.	205.	146.	.87		
	HYDROGRAPH AT	305	1139.	5.50	260.	66.	24.	.70		
	2 COMBINED AT									

+	C305	3351.	5.37	731.	269.	169.	1.57
+ ROUTED TO	R305	3347.	5.40	731.	269.	169.	1.57
+ HYDROGRAPH AT	350	2316.	5.27	356.	89.	32.	.97
+ DIVERSION TO	SF350	1158.	5.27	178.	45.	16.	.97
+ HYDROGRAPH AT	D350	1158.	5.27	178.	45.	16.	.97
+ ROUTED TO	R350	1142.	5.43	178.	45.	16.	.97
+ HYDROGRAPH AT	310	913.	5.53	179.	45.	16.	.56
+ 2 COMBINED AT	C310	2038.	5.47	356.	89.	32.	1.04
+ ROUTED TO	R310	2013.	5.67	356.	89.	32.	1.04
+ HYDROGRAPH AT	320	2015.	5.37	381.	96.	35.	.95
+ DIVERSION TO	BS320	273.	4.67	25.	6.	2.	.95
+ HYDROGRAPH AT	D320	2015.	5.37	360.	90.	32.	.95
+ HYDROGRAPH AT	RT320	273.	4.67	25.	6.	2.	.95
+ ROUTED TO	S320	4.	4.73	4.	4.	2.	.95
+ 4 COMBINED AT	C320	6600.	5.53	1420.	444.	233.	3.56
HYDROGRAPH AT	340	3083.	5.33	559.	142.	51.	1.44
+ DIVERSION TO	BS340	1798.	5.00	113.	28.	10.	1.44
+ HYDROGRAPH AT	D340	3083.	5.33	454.	113.	41.	1.44
+ HYDROGRAPH AT	RT340	1798.	5.00	113.	28.	10.	1.44
+ ROUTED TO	S340	18.	5.07	17.	14.	9.	1.44
+ 3 COMBINED AT	C340	9174.	5.50	1863.	565.	281.	5.00
+ HYDROGRAPH AT	RT350	1158.	5.27	178.	45.	16.	.97
+ ROUTED TO	RR350	1140.	5.43	178.	45.	16.	.97
+ HYDROGRAPH AT	355	1189.	5.53	244.	61.	22.	.68
+ 2 COMBINED AT	C355	2311.	5.47	420.	105.	38.	1.16
+ ROUTED TO	R355	2284.	5.67	420.	105.	38.	1.16
+ HYDROGRAPH AT	360	1675.	5.40	336.	85.	31.	.88
+ DIVERSION TO	BS360	948.	5.03	58.	14.	5.	.88
+ HYDROGRAPH AT	D360	1675.	5.40	284.	71.	26.	.88
+ HYDROGRAPH AT	RT360	948.	5.03	58.	14.	5.	.88
+ ROUTED TO	S360	9.	5.10	9.	7.	5.	.88

4 COMBINED AT	C360	12385.	5.53	2494.	728.	343.	7.04
+ HYDROGRAPH AT	370	1524.	5.33	259.	65.	23.	.67
+ HYDROGRAPH AT	395	433.	5.33	79.	20.	7.	.20
+ 2 COMBINED AT	C370	1956.	5.33	338.	85.	31.	.87
+ ROUTED TO	R370	1938.	5.57	338.	85.	31.	.87
+ HYDROGRAPH AT	380	1504.	5.47	308.	78.	28.	.90
+ DIVERSION TO	BS380	1093.	5.17	58.	14.	5.	.90
+ HYDROGRAPH AT	D380	1504.	5.47	253.	63.	23.	.90
+ HYDROGRAPH AT	RT380	1093.	5.17	58.	14.	5.	.90
+ ROUTED TO	S380	9.	5.23	9.	7.	5.	.90
+ 4 COMBINED AT	C380	15413.	5.53	3011.	864.	394.	8.81
+ HYDROGRAPH AT	390	742.	5.07	101.	26.	9.	.24
+ DIVERSION TO	BS390	64.	4.40	7.	2.	1.	.24
+ HYDROGRAPH AT	D390	742.	5.07	95.	24.	9.	.24
+ HYDROGRAPH AT	RT390	64.	4.40	7.	2.	1.	.24
ROUTED TO	S390	1.	4.47	1.	1.	1.	.24
+ 2 COMBINED AT	C390	743.	5.07	96.	25.	9.	.24
+ ROUTED TO	R390	689.	5.40	96.	25.	9.	.24
+ HYDROGRAPH AT	400	1214.	5.37	212.	53.	19.	.62
+ DIVERSION TO	BS400	209.	4.77	11.	3.	1.	.62
+ HYDROGRAPH AT	D400	1214.	5.37	202.	51.	18.	.62
+ HYDROGRAPH AT	RT400	209.	4.77	11.	3.	1.	.62
+ ROUTED TO	S400	2.	4.83	2.	2.	1.	.62
+ 2 COMBINED AT	C400	1216.	5.37	204.	52.	19.	.62
+ 3 COMBINED AT	CC400	16908.	5.53	3268.	930.	419.	9.67
+ HYDROGRAPH AT	385	1148.	5.40	223.	56.	20.	.53
+ DIVERSION TO	SF385	689.	5.40	134.	34.	12.	.53
+ HYDROGRAPH AT	D385	459.	5.40	89.	23.	8.	.53
+ ROUTED TO	R385	435.	5.87	89.	23.	8.	.53
HYDROGRAPH AT	420	1693.	5.37	300.	76.	27.	.85
DIVERSION TO							

+	BS420	168.	4.67	17.	4.	2.	.85
+ HYDROGRAPH AT	D420	1693.	5.37	285.	71.	26.	.85
+ HYDROGRAPH AT	RT420	168.	4.67	17.	4.	2.	.85
+ ROUTED TO	S420	3.	4.73	3.	2.	2.	.85
+ 3 COMBINED AT	C420	1896.	5.37	376.	96.	35.	1.06
+ 2 COMBINED AT	CC420	18404.	5.53	3590.	1012.	449.	10.73
+ HYDROGRAPH AT	440	270.	5.03	37.	9.	3.	.08
+ ROUTED TO	R70	267.	5.07	37.	9.	3.	.08
+ HYDROGRAPH AT	441	26.	5.07	4.	1.	0.	.01
+ 2 COMBINED AT	C108	294.	5.07	41.	10.	4.	.09
+ DIVERSION TO	SPLIT	147.	5.07	21.	5.	2.	.09
+ HYDROGRAPH AT	D4	147.	5.07	21.	5.	2.	.09
+ ROUTED TO	R108	145.	5.13	21.	5.	2.	.09
+ HYDROGRAPH AT	442	204.	5.20	30.	8.	3.	.10
+ 2 COMBINED AT	C67	347.	5.13	51.	13.	5.	.19
DIVERSION TO	BASIN4	221.	5.03	7.	2.	1.	.19
+ HYDROGRAPH AT	D6	347.	5.13	44.	11.	4.	.19
+ HYDROGRAPH AT	RTD6	221.	5.03	7.	2.	1.	.19
+ ROUTED TO	SD6	1.	5.10	1.	1.	1.	.19
+ 2 COMBINED AT	CD6	348.	5.13	44.	12.	5.	.19
+ HYDROGRAPH AT	443	231.	5.10	42.	10.	4.	.08
+ DIVERSION TO	WSH66	78.	4.70	26.	7.	2.	.08
+ HYDROGRAPH AT	D66	153.	5.10	15.	4.	1.	.08
+ ROUTED TO	R113	152.	5.10	15.	4.	1.	.08
+ 2 COMBINED AT	C114	499.	5.13	60.	16.	6.	.27
+ HYDROGRAPH AT	444	127.	5.03	15.	4.	1.	.04
+ ROUTED TO	R58	124.	5.10	15.	4.	1.	.04
+ HYDROGRAPH AT	445	514.	5.07	61.	15.	6.	.19
+ 2 COMBINED AT	C107	636.	5.07	76.	19.	7.	.23
+ ROUTED TO	R107	634.	5.07	76.	19.	7.	.23
+ HYDROGRAPH AT	RTB2	147.	5.07	21.	5.	2.	.09

ROUTED TO	RSPLIT	147.	5.10	21.	5.	2.	.09
+ HYDROGRAPH AT	446	107.	5.07	17.	4.	2.	.04
+ 3 COMBINED AT	C109	885.	5.07	114.	28.	10.	.27
+ DIVERSION TO	WSH404	35.	4.43	14.	4.	1.	.27
+ HYDROGRAPH AT	D5	850.	5.07	99.	25.	9.	.27
+ ROUTED TO	R109	844.	5.10	99.	25.	9.	.27
+ HYDROGRAPH AT	447	238.	5.07	34.	9.	3.	.09
+ HYDROGRAPH AT	RT404	35.	4.43	14.	4.	1.	.27
+ ROUTED TO	R404	35.	4.60	14.	4.	1.	.27
+ 3 COMBINED AT	C110	1115.	5.10	148.	37.	13.	.36
+ ROUTED TO	R110	1113.	5.10	148.	37.	13.	.36
+ 2 COMBINED AT	C115	1607.	5.10	207.	53.	19.	.63
+ ROUTED TO	R115	1599.	5.13	207.	53.	19.	.63
+ HYDROGRAPH AT	448	139.	5.03	18.	4.	2.	.05
+ HYDROGRAPH AT	449	134.	5.07	16.	4.	1.	.05
2 COMBINED AT	C6364	273.	5.03	34.	9.	3.	.09
+ ROUTED TO	R6364	258.	5.20	34.	9.	3.	.09
+ HYDROGRAPH AT	450	130.	5.37	22.	6.	2.	.07
+ HYDROGRAPH AT	451	40.	5.37	7.	2.	1.	.03
+ 2 COMBINED AT	C451	170.	5.37	29.	7.	3.	.09
+ HYDROGRAPH AT	RT66	78.	4.70	26.	7.	2.	.08
+ HYDROGRAPH AT	452	105.	5.07	14.	4.	1.	.04
+ 2 COMBINED AT	C6465	183.	5.07	40.	10.	4.	.04
+ ROUTED TO	R6566	181.	5.17	40.	10.	4.	.04
+ 3 COMBINED AT	C116	596.	5.20	104.	26.	9.	.23
+ ROUTED TO	BASIN5	589.	5.27	102.	26.	9.	.23
+ ROUTED TO	R116	582.	5.33	102.	26.	9.	.23
+ HYDROGRAPH AT	453	122.	5.23	20.	5.	2.	.06
+ 2 COMBINED AT	C117	700.	5.33	122.	31.	11.	.29
2 COMBINED AT	C118	2099.	5.30	326.	84.	30.	.92
ROUTED TO							

+	R118	2100.	5.30	326.	84.	30.	.92
+ DIVERSION TO	BASIN6	427.	5.00	7.	2.	1.	.92
+ HYDROGRAPH AT	D7	2100.	5.30	319.	82.	30.	.92
+ HYDROGRAPH AT	RTD7	427.	5.00	7.	2.	1.	.92
+ ROUTED TO	SD7	1.	5.07	1.	1.	1.	.92
+ 2 COMBINED AT	CD7	2101.	5.30	320.	83.	30.	.92
+ HYDROGRAPH AT	454	344.	5.33	65.	16.	6.	.18
+ 2 COMBINED AT	C119	2437.	5.30	383.	99.	36.	1.10
+ ROUTED TO	R454	2423.	5.33	383.	99.	36.	1.10
+ HYDROGRAPH AT	415	1213.	5.37	240.	61.	22.	.61
+ HYDROGRAPH AT	RT385	689.	5.40	134.	34.	12.	.53
+ ROUTED TO	RR385	685.	5.57	134.	34.	12.	.53
+ 2 COMBINED AT	C415	1802.	5.43	373.	94.	34.	.93
+ 2 COMBINED AT	CC415	4092.	5.40	744.	190.	69.	2.03
+ ROUTED TO	R415	4081.	5.43	744.	190.	69.	2.03
HYDROGRAPH AT	455	2609.	5.23	427.	108.	39.	1.11
+ DIVERSION TO	BS455	2394.	5.10	149.	37.	13.	1.11
+ HYDROGRAPH AT	D455	2609.	5.23	284.	71.	26.	1.11
+ HYDROGRAPH AT	RT455	2394.	5.10	149.	37.	13.	1.11
+ ROUTED TO	S455	24.	5.17	23.	18.	12.	1.11
+ 2 COMBINED AT	C455	2633.	5.23	306.	89.	38.	1.11
+ 3 COMBINED AT	CC455	23577.	5.47	4477.	1251.	542.	13.87
+ ROUTED TO	S440	4151.	6.63	2087.	943.	452.	13.87
+ ROUTED TO	R455	4119.	7.03	2068.	936.	447.	13.87
+ HYDROGRAPH AT	480	1894.	5.13	281.	71.	26.	.73
+ DIVERSION TO	BS480	220.	4.60	33.	8.	3.	.73
+ HYDROGRAPH AT	D480	1894.	5.13	252.	63.	23.	.73
+ HYDROGRAPH AT	RT480	220.	4.60	33.	8.	3.	.73
+ ROUTED TO	S480	5.	4.67	5.	5.	3.	.73
+ 2 COMBINED AT	C480	1899.	5.13	257.	68.	26.	.73
2 COMBINED AT	CC480	5423.	6.93	2524.	1102.	518.	.73

	ROUTED TO	R480	5410.	7.07	2510.	1099.	516.	.73
+	HYDROGRAPH AT	456	765.	5.07	112.	28.	10.	.26
+	DIVERSION TO	BASIN1	296.	4.97	8.	2.	1.	.26
+	HYDROGRAPH AT	D1	765.	5.07	104.	26.	9.	.26
+	DIVERSION TO	WA30	91.	5.07	23.	6.	2.	.26
+	HYDROGRAPH AT	CD2	674.	5.07	81.	20.	7.	.26
+	ROUTED TO	R456	651.	5.17	81.	20.	7.	.26
+	HYDROGRAPH AT	457	471.	5.10	67.	17.	6.	.19
+	2 COMBINED AT	C101	1114.	5.17	148.	37.	13.	.45
+	DIVERSION TO	BASIN2	417.	5.03	10.	3.	1.	.45
+	HYDROGRAPH AT	D3	1114.	5.17	138.	35.	12.	.45
+	HYDROGRAPH AT	RTD3	417.	5.03	10.	3.	1.	.45
+	ROUTED TO	SD3	2.	5.10	2.	1.	1.	.45
+	2 COMBINED AT	CD3	1115.	5.17	138.	36.	13.	.45
+	ROUTED TO	R101	1111.	5.17	138.	36.	13.	.45
	HYDROGRAPH AT	458	571.	5.07	81.	20.	7.	.19
+	2 COMBINED AT	C103	1637.	5.17	219.	56.	21.	.64
+	ROUTED TO	R103	1633.	5.17	219.	56.	21.	.64
+	HYDROGRAPH AT	RT30	91.	5.07	23.	6.	2.	.26
+	ROUTED TO	R30	90.	5.13	23.	6.	2.	.26
+	HYDROGRAPH AT	RTB1	296.	4.97	8.	2.	1.	.26
+	ROUTED TO	B1	35.	5.00	8.	2.	1.	.26
+	ROUTED TO	RB1	35.	5.10	8.	2.	1.	.26
+	2 COMBINED AT	CDIV	125.	5.13	30.	8.	3.	.12
+	HYDROGRAPH AT	459	76.	5.07	10.	2.	1.	.03
+	2 COMBINED AT	C52	199.	5.10	39.	10.	4.	.15
+	ROUTED TO	R52	198.	5.13	39.	10.	4.	.15
+	HYDROGRAPH AT	460	368.	5.10	55.	14.	5.	.14
+	2 COMBINED AT	C102	561.	5.10	94.	24.	9.	.29
	ROUTED TO	BASIN3	480.	5.33	92.	24.	9.	.29
	ROUTED TO							

+	R3	479.	5.40	92.	24.	9.	.29
+ HYDROGRAPH AT	461	287.	5.17	49.	13.	5.	.12
+ 2 COMBINED AT	C104	739.	5.37	140.	37.	13.	.41
+ 2 COMBINED AT	C106	2257.	5.27	358.	93.	34.	1.05
+ ROUTED TO	R106	2231.	5.33	358.	93.	34.	1.05
+ HYDROGRAPH AT	462	882.	5.07	128.	32.	12.	.30
+ 2 COMBINED AT	C56	2930.	5.30	481.	124.	45.	1.35
+ 2 COMBINED AT	C462	5409.	7.07	2823.	1199.	557.	2.09
+ ROUTED TO	R462	5294.	7.10	2776.	1187.	552.	2.09
+ ROUTED TO	RR462	5290.	7.17	2775.	1187.	552.	2.09
+ HYDROGRAPH AT	500	2090.	5.40	398.	100.	36.	.93
+ 2 COMBINED AT	C500	6577.	5.40	3087.	1268.	583.	3.02

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

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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  11:20:22  *                    *           (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

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

  1           ID   DDM MCUHP1 SPOOK HILL AMDP - EXISTING CONDITIONS MODEL - SPS, 7-Hour
  2           ID   Existing Condition Base Model with Spook Hill FRS Channel Routing
  3           ID   Original File Name: EC24B_R.DAT
  4           ID   Modified File Name: ESPS_CHL.DAT, Wood/Patel, 3/29/01, Modified by SZ
              *
              *  100-Year 24-Hour Storm for subbasins upstream of Signal Butte FRS
              *  The flow of SR180 is input by QI Cards
              *  Standard Project Storm for subbasins downstream of Signal Butte FRS
              *  No. Storage Routing SR440, and with Channel Routing: R320, R340, R360,
              *  R380, R400 & R420.
              *
              *
  5           ID   A CONSERVATIVE ESTIMATE WAS USED FOR THE LOCATION OF THE CENTROID FOR
  6           ID   PRECIPITATION VALUES
  7           ID   CHANNEL ROUTING INFORMATION FOR MCFCD FLOODWAYS WERE OBTAINED
  8           ID   FROM MCFCD SPOOK HILL, SIGNAL BUTTE AND BULLDOG FLOODWAY PLANS
  9           ID
 10           ID
 11           ID   UPDATE TO EXISTING CONDITION 24-HR 100-YR MODEL RUN BASED ON RE-ALIGNMENT
 12           ID   OF SUB-BASIN BOUNDARIES FOR SUB-BASINS 385 (REDUCED) & 415 (ENLARGED)
 13           ID   UPDATE BASED ON INFORMATION FROM 2' CONTOUR MAPPING.
 14           ID
              *
              *DIAGRAM
 15           IT       2                    2000
 16           IO       5
 17           IN      15
              *
              *   Standard Project Storm
              *
 18           JD    6.36    0.01
 19           PC    .000    .005    .010    .020    .030    .040    .050    .060    .070    .085
 20           PC    .100    .110    .125    .140    .155    .170    .185    .215    .270    .370
 21           PC    .600    .760    .840    .900    .930    .950    .970    .985   1.000
 22           JD    6.32    1.00
 23           JD    6.17    5.00
 24           JD    5.97   10.66
 25           JD    5.91   13.70
 26           JD    5.78   20.00
 27           JD    5.47   50.00
              *

 28           KK    R180
 29           KM       Constant inflow of 113 cfs is provided
              *
 30           IN      60
 31           BA    0.01
 32           QI     113     113     113     113     113     113     113     113     113     113
 33           QI     113     113     113     113     113     113     113     113     113     113
 34           QI     113     113     113     113     113     113     113     113     113     113
 35           QI     113     113     113     113     113     113     113     113     113     113
 36           QI     113     113     113     113     113     113     113     113     113     113
 37           QI     113     113     113     113     113     113     113     113     113     113
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 38          QI      113      113      113      113      113      113      113      113      113      113
 39          QI      113      113      113
             *
             * DDM    ***** Updated *****
1                                          HEC-1 INPUT                                                    PAGE  2

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

 40          KK      260
 41          KM    SUB-BASIN 260
 42          KM    24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
 43          KM    THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .998
 44          KM      L =  .81  Kb = .049  Adj. Slope =   68.0
 45          BA     .262
 46          LG     .300     .190   6.600     .170  15.000
 47          UC     .363     .217
 48          UA        0        5       16       30       65       77       84       90       94       97
 49          UA      100
             * DDM    ***** Preserved *****

 50          KK     C260
 51          KM    HYDROGRAPH COMBINATION FOR OUTFLOW OF SIGNAL BUTTE FRS & SUB-BASIN 260
 52          HC        2     .262
             * DDM    ***** Preserved *****

 53          KK     R260
 54          KM    Routing length updated using Signal Butte Floodway plans dated March 1983
 55          KM    Routing length unchanged     12/12/00
 56          KM    CHANNEL GEOMETRY FOR SIGNAL BUTTE FRS OBTAINED FROM AS-BUILT PLANS.
 57          KM    ROUTE FLOW FROM SUB-BASIN 260 TO SUB-BASIN 280
 58          RS        3    FLOW       -1
 59          RC     .035     .025     .035     2300     .003
 60          RX        0        1        2     23.4     43.4     64.8       65       66
 61          RY      9.7      9.7      9.7        0        0      9.7      9.7      9.7
             * DDM    ***** Updated *****

 62          KK      280
 63          KM    SUB-BASIN 280
 64          KM    24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
 65          KM    THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .998
 66          KM      L =  .77  Kb = .048  Adj. Slope =   84.0
 67          BA     .319
 68          LG     .300     .250   5.300     .290  15.000
 69          UC     .329     .168
 70          UA        0        5       16       30       65       77       84       90       94       97
 71          UA      100
             * DDM    ***** Preserved *****

 72          KK     C280
 73          KM    HYDROGRAPH COMBINATION FOR SUB-BASIN 260 & SUB-BASIN 280
 74          HC        2
             * DDM    ***** Preserved *****

 75          KK     R280
 76          KM    Routing length updated using Signal Butte Floodway plans dated March 1983
 77          KM    Routing length decreased 400' from 2500' to 2100'    12/12/00
 78          KM    CHANNEL GEOMETRY FOR SIGNAL BUTTE FRS OBTAINED FROM AS-BUILT PLANS.
 79          KM    ROUTE FLOW FROM SUB-BASIN 280 TO SUB-BASIN 300
 80          RS        3    FLOW       -1
 81          RC     .035     .025     .035     2100     .003
 82          RX        0        1        2     23.4     43.4     64.8       65       66
 83          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 *****
1                                          HEC-1 INPUT                                                    PAGE  3

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

 84          KK      300
 85          KM    SUB-BASIN 300
 86          KM    24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
 87          KM    THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .998
 88          KM      L =  .78  Kb = .049  Adj. Slope =  103.0
 89          BA     .289
 90          LG     .320     .290   4.200     .480  11.000
 91          UC     .325     .177
 92          UA        0        5       16       30       65       77       84       90       94       97
 93          UA      100
             * DDM    ***** Preserved *****

 94          KK     C300
 95          KM    HYDROGRAPH COMBINATION OF SUB-BASIN 280 & 300
 96          HC        2
             * DDM    ***** Preserved *****

 97          KK     R300
 98          KM    Routing length updated using Signal Butte Floodway plans dated March 1983
 99          KM    Routing length increased 300' from 2200' to 2500'    12/12/00
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100          KM   CHANNEL GEOMETRY FOR SIGNAL BUTTE FRS OBTAINED FROM AS-BUILT PLANS.
101          KM   ROUTE FLOW FROM SUB-BASIN 300 TO START OF FLOODWAY CONCRETE CHANNEL
102          RS       2    FLOW      -1
103          RC    .035    .025    .035    2500    .003
104          RX       0       1       2    23.4    55.4    76.8      77      78
105          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 *****

106          KK     305
107          KM   SUB-BASIN 305
108          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
109          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .996
110          KM     L = 2.50  Kb = .044  Adj. Slope =  116.0
111          BA    .702
112          LG    .340    .340   4.550    .350   6.000
113          UC    .642    .576
114          UA       0       5      16      30      65      77      84      90      94      97
115          UA     100
             * DDM   ***** Preserved *****

116          KK    C305
117          KM   HYDROGRAPH COMBINATION OF SUB-BASIN 300 AND 305
118          HC       2
             * DDM   ***** Preserved *****

119          KK    R305
120          KM   Routing length updated using Signal Butte Floodway plans dated March 1983
121          KM   Routing length decreased 50' from 6050' to 6000'     12/12/00
122          KM   CHANNEL GEOMETRY FOR SPOOK HILL FRS OBTAINED FROM AS-BUILTS PLANS.
123          KM   CONTINUE TO ROUTE FLOW WITHIN CONCRETE CHANNEL TO SPOOK HILL FRS
124          RS       3    FLOW      -1
125          RC    .016    .016    .016    6000   .0146
1                                         HEC-1 INPUT                                          PAGE  4

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

126          RX       0       1       2     2.1    16.1    16.2      17      18
127          RY    17.5     7.5     7.5       0       0     7.5     7.5    17.5
             *      1       2
             * DDM   ***** Updated *****

128          KK     350
129          KM   SUB-BASIN 350
130          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
131          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .994
132          KM     L = 2.22  Kb = .042  Adj. Slope =  315.0
133          BA    .970
134          LG    .350    .350   4.550    .340   4.000
135          UC    .367    .234
136          UA       0       3       5       8      12      20      43      75      90      96
137          UA     100
             * DDM   ***** Preserved *****

138          KK    D350
139          KM   DIVERT FLOW FROM SUB-BASIN 350. FOR MODELING PURPOSES THE SPLIT FLOW WILL
140          KM   BE ROUTED BETWEEN SUB-BASINS 355 & 310. THE MAIN FLOW WILL ROUTED TO 310
141          DT   SF350
142          DI       0    5000
143          DQ       0    2500
             * DDM   ***** Preserved *****

144          KK    R350
145          KM   CHANNEL GEOMETRY OBTAINED FROM 2' CONTOUR MAPPING
146          KM   ROUTING OF MAIN FLOW FROM DIVERSION OF SUB-BASIN 350 TO SUB-BASIN 310
147          RS       6    FLOW      -1
148          RC    .045    .035    .045    5150    .025
149          RX       0       1      40      46      56      62     102     103
150          RY      13       2       2       0       0       2       2      13
             * DDM   ***** Updated *****

151          KK     310
152          KM   SUB-BASIN 310
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  .997
155          KM     L = 2.70  Kb = .045  Adj. Slope =  283.5
156          BA    .555
157          LG    .350    .350   3.910    .480    .000
158          UC    .483    .511
159          UA       0       3       5       8      12      20      43      75      90      96
160          UA     100
             * DDM   ***** Preserved *****

161          KK    C310
162          KM   HYDROGRAPH COMBINATION OF SUB-BASINS 350 & 310
163          HC       2    1.04
             * DDM   ***** Preserved *****
                                          HEC-1 INPUT                                          PAGE  5

LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10
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164          KK    R310
165          KM   CHANNEL GEOMETRY OBTAINED FROM 2' CONTOUR MAPPING.
166          KM   ROUTING OF FLOW FROM SUB-BASIN 310 TO 320
167          RS      10    FLOW      -1
168          RC    .045    .035    .045   10050    .022
169          RX       0       1      40      46      56      62     102     103
170          RY      13       2       2       0       0       2       2      13
             *
             * The sub-basin area and soil make-up have been updated from CAD file 12/07/00
             * DDM   ***** Updated *****

171          KK     320
172          KM   SUB-BASIN 320
173          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
174          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .994
175          KM     L = 2.20  Kb = .042  Adj. Slope =  132.0
176          BA    .950
177          LG    .310    .300   4.600    .350  14.000
178          UC    .508    .338
179          UA       0       5      16      30      65      77      84      90      94      97
180          UA     100
             * DDM   ***** Preserved *****

181          KK    D320
182          KM        DIVERT FLOW INTO ONLINE  DETENTION BASIN
183          KM   DETENTION/RETENTION BASINS LOCATED WITHIN THREE SUBDIVISIONS
184          KM   SIERRA HEIGHTS       FALCON RIDGE    & MARBLE CREEK
185          KM        MAXIMUM VOLUME DIVERSION = 12.27acre-feet
             *      1
186          DT   BS320   12.27
187          DI       0   10000
188          DQ       0   10000
             * DDM   ***** Preserved *****

189          KK   RT320
190          KM   RETRIEVE FLOW FROM DIVERSION INTO ONLINE BASIN
191          DR   BS320
             * DDM   ***** Preserved *****

192          KK    S320
193          KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
194          KM   12.27 ACRE-FEETx43560/36x3600=4.1cfs
             *      1
195          RS       1    STOR       0
196          SV       0     .01    12.3
197          SQ       0     3.0     4.2
             * DDM   ***** Preserved *****

198          KK    C320
199          KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
200          HC       4
             * ADD ROUTING ALONG SPOOK HILL FRS
             * DDM   ***** Preserved *****
1                                          HEC-1 INPUT                                                    PAGE  6

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

201          KK    R320
202          KM   ROUTE FLOW THROUGH SPOOK HILL FRS FROM JUNCTION OF BROWN & ELLSWORTH ROAD
203          KM   TO JUST NORTH OF JUNCTION OF MCDOWELL & POWER RD.
204          RS       9    FLOW      -1
205          RC    .035    .035    .035    4500   .0007
206          RX       0       9      50      68     198     206     267     275
207          RY     100      97      97      91      91      97      97     100
             *
             * DDM   ***** Updated *****

208          KK     340
209          KM   SUB-BASIN 340
210          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
211          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .991
212          KM     L = 2.40  Kb = .042  Adj. Slope =  160.0
213          BA   1.440
214          LG    .280    .280   4.150    .520  21.000
215          UC    .512    .288
216          UA       0       5      16      30      65      77      84      90      94      97
217          UA     100
             * DDM   ***** Preserved *****

218          KK    D340
219          KM        DIVERT FLOW INTO ONLINE  DETENTION BASIN
220          KM   DETENTION/RETENTION BASINS LOCATED WITHIN THREE SUBDIVISIONS
221          KM   GRANDVIEW ESTATES    BOULDER MOUNTAIN & 33% OF MESA HIGHLANDS
222          KM        MAXIMUM VOLUME DIVERSION = 56.0 acre-feet
             *      1
223          DT   BS340      56
224          DI       0   10000
225          DQ       0   10000
             * DDM   ***** Preserved *****
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226          KK   RT340
227          KM   RETRIEVE FLOW FROM DIVERSION INTO ONLINE BASIN
228          DR   BS340
             * DDM   ***** Preserved *****

229          KK    S340
230          KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
231          KM    56.0 ACRE-FEETx43560/36x3600=18.8cfs
             *      1
232          RS       1    STOR       0
233          SV       0     .01      56
234          SQ       0     3.0    18.9
             * DDM   ***** Preserved *****

235          KK    C340
236          KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
237          HC       3
             * ADD ROUTING ALONG SPOOK HILL FRS
             * DDM   ***** Preserved *****
1                                    HEC-1 INPUT                                          PAGE  7

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

238          KK    R340
239          KM   ROUTE FLOW THROUGH SPOOK HILL FRS FROM JUNCTION OF BROWN & ELLSWORTH ROAD
240          KM   TO JUST NORTH OF JUNCTION OF MCDOWELL & POWER RD.
241          RS       6    FLOW      -1
242          RC    .035    .035    .035    2300    .0007
243          RX       0       9      50      68     233     241     307     315
244          RY     110      97      97      91      91      97      97     110
             * DDM   ***** Preserved *****

245          KK   RT350
246          KM   RETRIEVE SPLIT FLOW FROM DIVERSION OF SUB-BASIN 350
247          DR   SF350
             * DDM   ***** Preserved *****

248          KK   RR350
249          KM   CHANNEL GEOMETRY OBTAINED FROM 2' CONTOUR MAPPING.
250          KM   ROUTING OF FLOW FROM SPLIT OF SUB-BASIN 350 TO 355
251          RS       7    FLOW      -1
252          RC    .045    .035    .045    6050    .025
253          RX       0       1      40      46      56      62     102     103
254          RY      13       2       2       0       0       2       2      13
             *
             * The sub-basin area and soil make-up have been updated from CAD file 12/07/00
             * DDM   ***** Updated *****

255          KK     355
256          KM   SUB-BASIN 355
257          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
258          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .996
259          KM     L = 3.00  Kb = .044  Adj. Slope =  284.0
260          BA    .676
261          LG    .340    .340   4.450    .370   4.000
262          UC    .488    .502
263          UA       0       3       5       8      12      20      43      75      90      96
264          UA     100
             * DDM   ***** Preserved *****

265          KK    C355
266          KM   HYDROGRAPH COMBINATION OF SUB-BASIN 355 AND THE SPLIT FLOW FROM SUB-BASIN 350
267          HC       2   1.161
             * DDM   ***** Preserved *****

268          KK    R355
269          KM   CHANNEL GEOMETRY OBTAINED FROM 2' CONTOUR MAPPING.
270          KM   ROUTING OF FLOW FROM SUB-BASIN 355 TO SUB-BASIN 360
271          RS       9    FLOW      -1
272          RC    .045    .035    .045   10100    .026
273          RX       0       1      40      46      56      62     102     103
274          RY      13       2       2       0       0       2       2      13
             * DDM   ***** Updated *****
1                                    HEC-1 INPUT                                          PAGE  8

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

275          KK     360
276          KM   SUB-BASIN 360
277          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
278          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .995
279          KM     L = 2.10  Kb = .047  Adj. Slope =  124.0
280          BA    .880
281          LG    .260    .270   4.100    .560  20.000
282          UC    .575    .390
283          UA       0       5      16      30      65      77      84      90      94      97
284          UA     100
             * DDM   ***** Preserved *****
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 285          KK    D360
 286          KM        DIVERT FLOW INTO ONLINE  DETENTION BASIN
 287          KM   DETENTION/RETENTION BASINS LOCATED WITHIN 33% OF MESA HIGHLANDS
 288          KM        MAXIMUM VOLUME DIVERSION = 28.6 acre-feet
              *      1
 289          DT   BS360    28.6
 290          DI       0   10000
 291          DQ       0   10000
              * DDM   ***** Preserved *****

 292          KK   RT360
 293          KM   RETRIEVE FLOW FROM DIVERSION INTO ONLINE BASIN
 294          DR   BS360
              * DDM   ***** Preserved *****

 295          KK    S360
 296          KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
 297          KM    28.6 ACRE-FEETx43560/36x3600=9.6cfs
 298          RS       1    STOR       0
 299          SV       0     .01    28.6
 300          SQ       0     3.0     9.6
              * DDM   ***** Preserved *****

 301          KK    C360
 302          KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
 303          HC       4
              *
              * ADD ROUTING ALONG SPOOK HILL FRS
              * DDM   ***** Preserved *****

 304          KK    R360
 305          KM   ROUTE FLOW THROUGH SPOOK HILL FRS FROM JUNCTION OF BROWN & ELLSWORTH ROAD
 306          KM   TO JUST NORTH OF JUNCTION OF MCDOWELL & POWER RD.
 307          RS       6    FLOW      -1
 308          RC    .035    .035    .035    2600    .0007
 309          RX       0       9      50      68     268     286     337     345
 310          RY     110      97      97      91      91      97      97     110
              *
              * The sub-basin area and soil make-up have been updated from CAD file 12/07/00
              * DDM   ***** Updated *****
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 311          KK     370
 312          KM   SUB-BASIN 370
 313          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
 314          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .996
 315          KM     L = 1.90  Kb = .044  Adj. Slope =  203.5
 316          BA    .672
 317          LG    .340    .320   4.650    .330   8.000
 318          UC    .404    .284
 319          UA       0       3       5       8      12      20      43      75      90      96
 320          UA     100
              *
              * The sub-basin area and soil make-up have been updated from CAD file 12/07/00
              * DDM   ***** Updated *****

 321          KK     395
 322          KM   SUB-BASIN 395
 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  .999
 325          KM     L = 1.30  Kb = .051  Adj. Slope =  219.2
 326          BA    .199
 327          LG    .330    .320   4.900    .300  10.000
 328          UC    .333    .338
 329          UA       0       3       5       8      12      20      43      75      90      96
 330          UA     100
              * DDM   ***** Preserved *****

 331          KK    C370
 332          KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
 333          HC       2
              * DDM   ***** Preserved *****

 334          KK    R370
 335          KM   CHANNEL GEOMETRY OBTAINED FROM 2' CONTOUR MAPPING.
 336          KM   ROUTING OF FLOW FROM SUB-BASINS 370 AND 395 TO SUB-BASIN 380.
 337          RS      12    FLOW      -1
 338          RC    .045    .035    .045   10250    .023
 339          RX       0       1      40      46      56      62     102     103
 340          RY      13       2       2       0       0       2       2      13
              * DDM   ***** Updated *****

 341          KK     380
 342          KM   SUB-BASIN 380
 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  .995
 345          KM     L = 2.20  Kb = .049  Adj. Slope =  114.0
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346          BA     .898
347          LG     .300     .310   4.150     .500   7.000
348          UC     .671     .475
349          UA        0        5      16       30      65      77      84      90      94      97
350          UA      100
             * DDM    ***** Preserved *****
1                                          HEC-1 INPUT                                          PAGE 10

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


351          KK     D380
352          KM         DIVERT FLOW INTO ONLINE  DETENTION BASIN
353          KM    DETENTION/RETENTION BASINS LOCATED WITHIN 33% OF MESA HIGHLANDS
354          KM         MAXIMUM VOLUME DIVERSION = 28.6 acre-feet
             *       1
355          DT    BS380     28.6
356          DI        0    10000
357          DQ        0    10000
             * DDM    ***** Preserved *****

358          KK    RT380
359          KM    RETRIEVE FLOW FROM DIVERSION INTO ONLINE BASIN
360          DR    BS380
             * DDM    ***** Preserved *****

361          KK     S380
362          KM    RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
363          KM     28.6 ACRE-FEETx43560/36x3600=9.6cfs
364          RS        1     STOR        0
365          SV        0      .01     28.6
366          SQ        0      3.0      9.6
             * DDM    ***** Preserved *****

367          KK     C380
368          KM    HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
369          HC        4
             * ADD ROUTING ALONG SPOOK HILL FRS
             * DDM    ***** Preserved *****

370          KK     R380
371          KM    ROUTE FLOW THROUGH SPOOK HILL FRS FROM JUNCTION OF BROWN & ELLSWORTH ROAD
372          KM    TO JUST NORTH OF JUNCTION OF MCDOWELL & POWER RD.
373          RS        8     FLOW       -1
374          RC     .035     .035     .035     4000    .0007
375          RX        0        9       50       68     163     181     257     265
376          RY      110       97       97       91      91      97      97     110
             *
             * DDM    ***** Updated *****

377          KK      390
378          KM    SUB-BASIN 390
379          KM    24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
380          KM    THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .999
381          KM      L =  .70  Kb = .050  Adj. Slope =  299.4
382          BA     .244
383          LG     .300     .250   4.700     .380  18.000
384          UC     .204     .107
385          UA        0        5      16       30      65      77      84      90      94      97
386          UA      100
             * DDM    ***** Preserved *****
1                                          HEC-1 INPUT                                          PAGE 11

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


387          KK     D390
388          KM         DIVERT FLOW INTO ONLINE  DETENTION BASIN
389          KM    DETENTION/RETENTION BASINS LOCATED WITHIN THUNDER MOUNTAIN ESTATES
390          KM         MAXIMUM VOLUME DIVERSION  = 3.5 acre-feet
             *       1
391          DT    BS390      3.5
392          DI        0    10000
393          DQ        0    10000
             * DDM    ***** Preserved *****

394          KK    RT390
395          KM    RETRIEVE FLOW FROM DIVERSION INTO ONLINE BASIN
396          DR    BS390
             * DDM    ***** Preserved *****

397          KK     S390
398          KM    RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
399          KM      3.5 ACRE-FEETx43560/36x3600=1.2cfs
400          RS        1     STOR        0
401          SV        0      .01      3.5
402          SQ        0      0.2      1.2
             * DDM    ***** Preserved *****

403          KK     C390
404          KM    HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
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405          HC       2
             * DDM   ***** Preserved *****

406          KK    R390
407          KM   CHANNEL GEOMETRY OBTAINED FROM 2' CONTOUR MAPPING.
408          KM   FROM SUB-BASIN 390 TO SUB-BASIN 400
409          RS      15    FLOW      -1
410          RC    .045    .045    .045    8800    .020
411          RX       0       1      40      46      56      62     102     103
412          RY       3       2       2       0       0       2       2       3
             * DDM   ***** Updated *****

413          KK     400
414          KM   SUB-BASIN 400
415          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
416          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .996
417          KM     L = 1.64  Kb = .046  Adj. Slope =  110.0
418          BA    .616
419          LG    .320    .300   4.150    .490   6.000
420          UC    .508    .342
421          UA       0       5      16      30      65      77      84      90      94      97
422          UA     100
             * DDM   ***** Preserved *****
1                                        HEC-1 INPUT                                          PAGE 12

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

423          KK    D400
424          KM        DIVERT FLOW INTO ONLINE  DETENTION BASIN
425          KM   DETENTION/RETENTION BASIN LOCATED WITHIN SAGUARO VISTA SUBDIVISION
426          KM        MAXIMUM VOLUME DIVERSION = 5.6 ACRE-FEET
             *      1
427          DT   BS400     5.6
428          DI       0   10000
429          DQ       0   10000
             * DDM   ***** Preserved *****

430          KK   RT400
431          KM   RETRIEVE FLOW FROM DIVERSION INTO ONLINE BASIN
432          DR   BS400
             * DDM   ***** Preserved *****

433          KK    S400
434          KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
435          KM     5.6 ACRE-FEETx43560/36x3600 = 2 cfs
436          RS       1    STOR       0
437          SV       0     .01     5.6
438          SQ       0     1.0       2
             * DDM   ***** Preserved *****

439          KK    C400
440          KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
441          HC       2
             * DDM   ***** Preserved *****

442          KK   CC400
443          KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
444          HC       3
             * ADD ROUTING ALONG SPOOK HILL FRS
             * DDM   ***** Preserved *****

445          KK    R400
446          KM   ROUTE FLOW THROUGH SPOOK HILL FRS FROM JUNCTION OF BROWN & ELLSWORTH ROAD
447          KM   TO JUST NORTH OF JUNCTION OF MCDOWELL & POWER RD.
448          RS       9    FLOW      -1
449          RC    .035    .035    .035    3800   .0007
450          RX       0       9      50      68     163     181     257     265
451          RY     110      97      97      91      91      97      97     110
             *
             * DDM   ***** Updated *****

452          KK     385
453          KM   SUB-BASIN 385
454          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
455          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .997
456          KM     L = 2.30  Kb = .045  Adj. Slope =  303.0
457          BA    .527
458          LG    .340    .360   5.600    .220  13.000
459          UC    .383    .358
460          UA       0       3       5       8      12      20      43      75      90      96
461          UA     100
             * DDM   ***** Preserved *****
1                                        HEC-1 INPUT                                          PAGE 13

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

462          KK    D385
463          KM   DIVERT FLOW INTO SUB-BASINS 415 & 420
464          DT   SF385
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465          DI        0    5000
466          DQ        0    3000
             * DDM   ***** Preserved *****

467          KK    R385
468          KM   CHANNEL GEOMETRY OBTAINED FROM 2' CONTOUR MAPPING.
469          KM   ROUTING OF FLOW DIVERSION FROM SUB-BASIN 385 INTO SUB-BASIN 420
470          RS      13    FLOW      -1
471          RC    .045     .04    .045   10250    .022
472          RX       0       1      40      46      56      62     102     103
473          RY       3       2       2       0       0       2       2       3
             * DDM   ***** Updated *****

474          KK     420
475          KM   SUB-BASIN 420
476          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
477          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .995
478          KM     L = 1.91  Kb = .042  Adj. Slope =  120.0
479          BA    .849
480          LG    .310    .270   3.880    .580  12.000
481          UC    .512    .325
482          UA       0       5      16      30      65      77      84      90      94      97
483          UA     100
             * DDM   ***** Preserved *****

484          KK    D420
485          KM        DIVERT FLOW INTO ONLINE  DETENTION BASIN
486          KM   DETENTION/RETENTION BASINS LOCATED WITHIN GRAY FOX SUBDIVISION
487          KM        MAXIMUM VOLUME DIVERSION = 8.65 acre-feet
             *      1
488          DT   BS420    8.65
489          DI       0   10000
490          DQ       0   10000
             * DDM   ***** Preserved *****

491          KK   RT420
492          KM   RETRIEVE FLOW FROM DIVERSION INTO ONLINE BASIN
493          DR   BS420
             * DDM   ***** Preserved *****

494          KK    S420
495          KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
496          KM    8.65 ACRE-FEETx43560/36x3600=2.9cfs
497          RS       1    STOR       0
498          SV       0     .01    8.65
499          SQ       0     1.0     2.9
             * DDM   ***** Preserved *****
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LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

500          KK    C420
501          KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
502          HC       3  1.0598
             * DDM   ***** Preserved *****

503          KK   CC420
504          KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
505          HC       2
             * ADD ROUTING ALONG SPOOK HILL FRS
             * DDM   ***** Preserved *****

506          KK    R420
507          KM   ROUTE FLOW THROUGH SPOOK HILL FRS FROM JUNCTION OF BROWN & ELLSWORTH ROAD
508          KM   TO JUST NORTH OF JUNCTION OF MCDOWELL & POWER RD.
509          RS       6    FLOW      -1
510          RC    .035    .035    .035    2900    .0007
511          RX       0       9      50      68     163     181     257     265
512          RY     110      97      97      91      91      97      97     110
             *
             * DDM   ***** Updated *****

513          KK     440
514          KM   SUB-BASIN 440
515          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
516          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF 1.000
517          KM     L =  .40  Kb = .039  Adj. Slope =  315.0
518          BA    .080
519          LG    .190    .380   6.400    .140  13.000
520          UC    .129    .077
521          UA       0       3       5       8      12      20      43      75      90      96
522          UA     100
             * DDM   ***** Preserved *****

523          KK     R70
524          KM   ROUTE FLOW FROM SUB-BASIN 440 TO C108
525          RS       2    FLOW      -1
526          RC     .05    .035     .05    2250     .08
527          RX    1000    1025    1050    1070    1075    1095    1120    1145
528          RY      30    22.9    15.7      10      10    15.7    22.9      30
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                * DDM   ***** Updated *****

529             KK     441
530             KM   SUB-BASIN 441
531             KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
532             KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF 1.000
533             KM     L =  .28  Kb = .069  Adj. Slope =  315.0
534             BA    .010
535             LG    .300    .250   5.600    .220   5.000
536             UC    .150    .225
537             UA       0       5      16      30      65      77      84      90      94      97
538             UA     100
                * DDM   ***** Preserved *****
1                                          HEC-1 INPUT                                                    PAGE 15

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


539             KK    C108
540             KM   COMBINE HYDROGRAPHS FROM SUB-BASINS 440 & 441
541             HC       2
                * DDM   ***** Preserved *****

542             KK      D4
543             KM        SPLIT FLOW WITH TWO 42 INCH PIPES TO WEST AND SOUTH
                *      1
544             DT   SPLIT
545             DI       0      14      40      82     120     154     180
546             DQ       0       7      20      41      60      77      90
                * DDM   ***** Preserved *****

547             KK    R108
548             KM        ROUTE FLOW FROM SUB-BASIN C108 TO C67
549             RS       2    FLOW      -1
550             RC     .05    .035     .05    3200      .1
551             RX    1000    1025    1050    1070    1075    1095    1120    1145
552             RY      30    22.9    15.7      10      10    15.7    22.9      30
                * DDM   ***** Updated *****

553             KK     442
554             KM   SUB-BASIN 442
555             KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
556             KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .999
557             KM     L =  .83  Kb = .055  Adj. Slope =  274.2
558             BA    .100
559             LG    .300    .270   3.290    .770   5.000
560             UC    .258    .264
561             UA       0       5      16      30      65      77      84      90      94      97
562             UA     100
                * DDM   ***** Preserved *****

563             KK     C67
564             KM   COMBINE FLOW FROM SUB-BASIN 442 & DIV4
565             HC       2
                * DDM   ***** Preserved *****

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

572             KK    RTD6
573             KM   RETRIEVE FLOW FROM DIVERSION INTO OFFLINE BASIN
574             DR  BASIN4
                * DDM   ***** Preserved *****
1                                          HEC-1 INPUT                                                    PAGE 16

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


575             KK     SD6
576             KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
577             KM     3.3 ACRE-FEETx43560/36x3600=1.1cfs
                *      1
578             RS       1    STOR       0
579             SV       0     .01     3.3
580             SQ       0     0.2     1.1
                * DDM   ***** Preserved *****

581             KK     CD6
582             KM   HYDROGRAPH COMBINATION FOR OFFLINE BASIN BLEEDOFF
583             HC       2
                * DDM   ***** Updated *****

584             KK     443
585             KM   SUB-BASIN 443
586             KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
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587          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF 1.000
588          KM     L =  .71  Kb = .050  Adj. Slope =  315.0
589          BA    .080
590          LG    .250    .190   8.000    .080  10.000
591          UC    .196    .194
592          UA       0       5      16      30      65      77      84      90      94      97
593          UA     100
             * DDM   ***** Preserved *****

594          KK     D66
595          KM        DIVERT FLOW INTO 3 NATURAL WASHES WITH ONE 24" PIPE IN EACH WASH.
596          KM        EACH PIPE CAPACITY BASED ON 4 FEET OF HEAD
597          DT   WSH66
598          DI       0      78     100     200
599          DQ       0      78      78      78
             * DDM   ***** Preserved *****

600          KK    R113
601          KM        ROUTE FLOW FROM C113 TO C114
602          RS       1    FLOW      -1
603          RC    .019    .019    .019    1300    .029
604          RX    1000    1004    1008    1012    1018    1022    1026    1030
605          RY      17   15.33   12.67      10      10   12.67   15.33      17
             * DDM   ***** Preserved *****

606          KK    C114
607          KM        COMBINE HYDROGRAPHS FROM SUB-BASIN 67 AND C113
608          HC       2
             * DDM   ***** Updated *****

609          KK     444
610          KM   SUB-BASIN 444
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 1.000
613          KM     L =  .33  Kb = .034  Adj. Slope =  315.0
614          BA    .040
615          LG    .130    .350   4.450    .320   1.000
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LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

616          UC    .112    .084
617          UA       0       3       5       8      12      20      43      75      90      96
618          UA     100
             * DDM   ***** Preserved *****

619          KK     R58
620          KM   ROUTE FLOW FROM SUB-BASIN 444 TO C107
621          RS       2    FLOW      -1
622          RC     .05    .035     .05    2370   .0516
623          RX    1000    1010    1020    1050    1055    1085    1095    1105
624          RY      19      18      17      10      10      17      18      19
             * DDM   ***** Updated *****

625          KK     445
626          KM   SUB-BASIN 445
627          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
628          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .999
629          KM     L =  .82  Kb = .036  Adj. Slope =  315.0
630          BA    .190
631          LG    .170    .320   3.470    .590   3.000
632          UC    .192    .130
633          UA       0       5      16      30      65      77      84      90      94      97
634          UA     100
             * DDM   ***** Preserved *****

635          KK    C107
636          KM   COMBINE HYDROGRAPHS FROM SUB-BASINS 444 & 445
637          HC       2
             * DDM   ***** Preserved *****

638          KK    R107
639          KM        ROUTE FLOW FROM C107 TO C109
640          RS       2    FLOW      -1
641          RC     .05    .035     .05     700   .0516
642          RX    1000    1010    1020    1050    1055    1085    1095    1105
643          RY      19      18      17      10      10      17      18      19
             * DDM   ***** Preserved *****

644          KK    RTB2
645          KM        RETRIEVE DIVERTED FLOW FROM BASIN 1
             *      1
646          DR   SPLIT
             * DDM   ***** Preserved *****

647          KK  RSPLIT
648          KM        ROUTE FLOW FROM SPLIT TO C109
649          RS       1    FLOW      -1
650          RC     .05    .035     .05     800     .05
651          RX    1000    1025    1050    1070    1075    1095    1120    1145
652          RY      30    22.9    15.7      10      10    15.7    22.9      30
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                * DDM   ***** Updated *****
                                          HEC-1 INPUT                                                    PAGE 18

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

 653            KK     446
 654            KM   SUB-BASIN 446
 655            KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
 656            KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF 1.000
 657            KM     L =  .46  Kb = .061  Adj. Slope =  303.9
 658            BA    .040
 659            LG    .270    .250   4.500    .400  19.000
 660            UC    .183    .189
 661            UA       0       5      16      30      65      77      84      90      94      97
 662            UA     100
                * DDM   ***** Preserved *****

 663            KK    C109
 664            KM        COMBINE HYDROGRAPHS FROM COMBINES C107 AND C108
 665            HC       3
                * DDM   ***** Preserved *****

 666            KK      D5
 667            KM        DIVERT FLOW INTO WASHES TOWARDS WEST
 668            KM        DIVERSION THROUGH 36" PIPE WITH 3 FEET OF HEAD
                *       1
 669            DT  WSH404
 670            DI       0    40.7    71.2   121.6     190     276   379.4   500.6
 671            DQ       0      35      35      35      35      35      35      35
                * DDM   ***** Preserved *****

 672            KK    R109
 673            KM        ROUTE FLOW FROM C109 TO C110
 674            RS       1    FLOW      -1
 675            RC    .019    .019    .019    3080     .05
 676            RX    1000    1005    1010    1015    1025    1030    1035    1040
 677            RY   13.75    12.5   11.25      10      10   11.25    12.5   13.75
                * DDM   ***** Updated *****

 678            KK     447
 679            KM   SUB-BASIN 447
 680            KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
 681            KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .999
 682            KM     L =  .49  Kb = .056  Adj. Slope =  221.0
 683            BA    .090
 684            LG    .250    .270   3.350    .870  30.000
 685            UC    .208    .145
 686            UA       0       5      16      30      65      77      84      90      94      97
 687            UA     100
                * DDM   ***** Preserved *****

 688            KK   RT404
 689            KM        RETRIEVE DIVERTED FLOW FOR WASH 109
 690            DR  WSH404
                * DDM   ***** Preserved *****
1                                         HEC-1 INPUT                                                    PAGE 19

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

 691            KK    R404
 692            KM        ROUTE FLOW FROM C110 TO C110
 693            RS       6    FLOW      -1
 694            RC    .019    .019    .019    3540     .03
 695            RX    1000    1012    1016    1020    1025    1029    1033    1045
 696            RY      15      12      11      10      10      11      12      15
                * DDM   ***** Preserved *****

 697            KK    C110
 698            KM   COMBINE HYDROGRAPHS FROM SUB-BASIN 447 AND R404
 699            HC       3
                * DDM   ***** Preserved *****

 700            KK    R110
 701            KM        ROUTE FLOW FROM C110 TO C115
 702            RS       1    FLOW      -1
 703            RC    .019    .019    .019     580   .0291
 704            RX    1000    1012    1016    1020    1035    1039    1043    1055
 705            RY      15      12      11      10      10      11      12      15
                * DDM   ***** Preserved *****

 706            KK    C115
 707            KM        COMBINE HYDROGRAPHS FROM C114 AND C110
 708            HC       2
                * DDM   ***** Preserved *****

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

715          KK     448
716          KM   SUB-BASIN 448
717          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
718          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF 1.000
719          KM     L =  .36  Kb = .042  Adj. Slope =  315.0
720          BA    .045
721          LG    .170    .310   4.200    .390  11.000
722          UC    .133    .102
723          UA       0       5      16      30      65      77      84      90      94      97
724          UA     100
             * DDM   ***** Updated *****

725          KK     449
726          KM   SUB-BASIN 449
727          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
728          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF 1.000
729          KM     L =  .40  Kb = .054  Adj. Slope =  315.0
730          BA    .050
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LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

731          LG    .260    .280   3.500    .640   6.000
732          UC    .167    .134
733          UA       0       5      16      30      65      77      84      90      94      97
734          UA     100
             * DDM   ***** Preserved *****

735          KK   C6364
736          KM   COMBINE HYDROGRAPHS FROM SUB-BASINS 448 & 449
737          HC       2
             * DDM   ***** Preserved *****

738          KK   R6364
739          KM   ROUTE FLOW FROM C116 AND SUB-BASINS 448 AND 449
740          RS       5    FLOW      -1
741          RC     .05    .035     .05    4375   .0333
742          RX    1000    1027    1053    1080    1090    1117    1143    1170
743          RY      15   13.33   11.67      10      10   11.67   13.33      15
             * DDM   ***** Updated *****

744          KK     450
745          KM   SUB-BASIN 450
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 =  .85  Kb = .057  Adj. Slope =  210.5
749          BA    .070
750          LG    .340    .350   3.630    .570   4.000
751          UC    .296    .383
752          UA       0       3       5       8      12      20      43      75      90      96
753          UA     100
             * DDM   ***** Updated *****

754          KK     451
755          KM   SUB-BASIN 451
756          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
757          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF 1.000
758          KM     L =  .57  Kb = .063  Adj. Slope =  175.0
759          BA    .025
760          LG    .340    .340   3.290    .750   3.000
761          UC    .271    .453
762          UA       0       3       5       8      12      20      43      75      90      96
763          UA     100
             * DDM   ***** Preserved *****

764          KK    C451
765          KM   COMBINE HYDROGRAPHS FROM SUB-BASINS 450 & 451
766          HC       2
             * DDM   ***** Preserved *****

767          KK    RT66
768          KM        RETRIEVE DIVERTED FLOW FROM SUB-BASIN 66
769          DR   WSH66
             * DDM   ***** Updated *****
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LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

770          KK     452
771          KM   SUB-BASIN 452
772          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
773          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF 1.000
774          KM     L =  .43  Kb = .055  Adj. Slope =  315.0
775          BA    .040
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776          LG    .260    .280   3.700    .550   9.000
777          UC    .171    .166
778          UA       0       5      16      30      65      77      84      90      94      97
779          UA     100
             * DDM   ***** Preserved *****

780          KK   C6465
781          KM   COMBINE HYDROGRAPHS FROM SUB-BASINS 443 AND 452
782          HC       2
             * DDM   ***** Preserved *****

783          KK   R6566
784          KM        ROUTE FLOW FROM DIVERSIONS 65 AND 66 TO C116
785          RS       3    FLOW      -1
786          RC     .05    .035     .05    2435   .0282
787          RX    1000    1045    1090    1150    1160    1220    1265    1310
788          RY      25      23      20      10      10      20      23      25
             * DDM   ***** Preserved *****

789          KK    C116
790          KM   COMBINE HYDROGRAPHS FROM SUB-BASINS 450 & 451 AND R6364 & R6465
791          HC       3
             * DDM   ***** Preserved *****

792          KK  BASIN5
793          KM        RESERVOIR WITHIN PARCEL 31      2-48 INCH PIPES AT OUTFALL
794          KM        BASIN 5 FEET DEEP
795          RS       1    ELEV      0
796          SV       0     4.5     9.9      12
797          SQ       0      69     190    1000
798          SE       0     2.5       5       6
             * DDM   ***** Preserved *****

799          KK    R116
800          KM   ROUTE FLOW FROM C116 TO C117
801          RS       2    FLOW      -1
802          RC     .05    .035     .05    1300   .0333
803          RX    1000    1100    1200    1300    1320    1420    1520    1620
804          RY      13      12      11      10      10      11      12      13
             * DDM   ***** Updated *****

805          KK     453
806          KM   SUB-BASIN 453
807          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
808          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF 1.000
809          KM     L =  .58  Kb = .058  Adj. Slope =  138.0
810          BA    .060
811          LG    .290    .300   3.290    .820  18.000
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LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

812          UC    .275    .284
813          UA       0       5      16      30      65      77      84      90      94      97
814          UA     100
             * DDM   ***** Preserved *****

815          KK    C117
816          KM   COMBINE HYDROGRAPHS FROM SUB-BASIN 453 AND R116
817          HC       2
             * DDM   ***** Preserved *****

818          KK    C118
819          KM   COMBINE HYDROGRAPHS FROM R115 AND C117
820          HC       2
             * DDM   ***** Preserved *****

821          KK    R118
822          KM        ROUTE FLOW FROM C118 TO  DIV7
823          RS       1    FLOW      -1
824          RC    .019    .019    .019    1500    .024
825          RX    1000    1012    1016    1020    1035    1039    1043    1055
826          RY      15      12      11      10      10      11      12      15
             * DDM   ***** Preserved *****

827          KK      D7
828          KM        OFFLINE BASIN AT NORTH MOUNTAIN RIDGE   FLOWS ENTER BASIN OVER
829          KM        30' WEIR SET AT 5.3' ABOVE THE CHANNEL BOTTOM
             *      1
830          DT  BASIN6     3.6
831          DI       0     363     487     563     645     844
832          DQ       0       3      47      83     125     244
             * DDM   ***** Preserved *****

833          KK    RTD7
834          KM   RETRIEVE FLOW FROM DIVERSION INTO OFFLINE BASIN
835          DR  BASIN6
             * DDM   ***** Preserved *****

836          KK     SD7
837          KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
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838          KM      3.6 ACRE-FEETx43560/36x3600=1.2cfs
839          RS        1     STOR        0
840          SV        0      .01      3.6
841          SQ        0      0.2      1.2
             * DDM    ***** Preserved *****

842          KK      CD7
843          KM    HYDROGRAPH COMBINATION FOR OFFLINE BASIN BLEEDOFF
844          HC        2
             * DDM    ***** Updated *****
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LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

845          KK      454
846          KM    SUB-BASIN 454
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 = 1.23  Kb = .051  Adj. Slope =  163.0
850          BA     .180
851          LG     .300     .310   3.780     .560  14.000
852          UC     .379     .395
853          UA        0        5      16       30       65       77       84       90       94       97
854          UA      100
             * DDM    ***** Preserved *****

855          KK     C119
856          KM         COMBINE HYDROGRAPHS FROM SUB-BASIN 454 AND C119
             *       1        2
857          HC        2
             * DDM    ***** Preserved *****

858          KK     R454
859          KM    CHANNEL GEOMETRY OBTAINED FROM 2' CONTOUR MAPPING.
860          KM    ROUTE FLOW FROM C119 TO 415C
861          RS        3     FLOW       -1
862          RC     .045     .035     .045     2200     .009
863          RX        0       .5        1       33       42       67     67.5       68
864          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 *****

865          KK      415
866          KM    SUB-BASIN 415
867          KM    24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
868          KM    THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .996
869          KM      L = 2.58  Kb = .044  Adj. Slope =  298.5
870          BA     .609
871          LG     .320     .290   4.500     .400  15.000
872          UC     .421     .401
873          UA        0        5      16       30       65       77       84       90       94       97
874          UA      100
             * DDM    ***** Preserved *****

875          KK    RT385
876          KM    RETRIEVE FLOW FROM DIVERSION OF SUB-BASIN 385 INTO SUB-BASIN 415
877          DR    SF385
             * DDM    ***** Preserved *****

878          KK    RR385
879          KM    CHANNEL GEOMETRY OBTAINED FROM 2' CONTOUR MAPPING.
880          KM    ROUTING OF SPLIT FLOW FROM SUB-BASIN 385 TO SUB-BASIN 415
881          RS       11     FLOW       -1
882          RC     .045      .04     .045     5878     .024
883          RX        0        1       40       46       56       62      102      103
884          RY        3        2        2        0        0        2        2        3
             * DDM    ***** Preserved *****
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LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

885          KK     C415
886          KM    HYDROGRAPH COMBINATION OF SUB-BASINS 415 & SPLIT FLOW FROM 385
887          HC        2  0.9252
             * DDM    ***** Preserved *****

888          KK    CC415
889          KM    HYDROGRAPH COMBINATION OF SUB-BASINS 415, R454 & SPLIT FLOW FROM 385
890          HC        2
             * DDM    ***** Preserved *****

891          KK     R415
892          KM    CHANNEL GEOMETRY OBTAINED FROM 2' CONTOUR MAPPING.
893          KM    ROUTING OF FLOW FROM 415C TO 455C
894          RS        3     FLOW       -1
895          RC     .045      .03     .045     4100     .024
896          RX        0       .5        1        8       16       23     23.5       24
897          RY       18        8        8        0        0        8        8       18
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                * DDM   ***** Updated *****

898             KK     455
899             KM   SUB-BASIN 455
900             KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
901             KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .993
902             KM     L = 1.70  Kb = .041  Adj. Slope =  146.0
903             BA   1.111
904             LG    .270    .280   3.700    .640  24.000
905             UC    .421    .204
906             UA       0       5      16      30      65      77      84      90      94      97
907             UA     100
                * DDM   ***** Preserved *****

908             KK    D455
909             KM        DIVERT FLOW INTO ONLINE  DETENTION BASIN
910             KM   DETENTION/RETENTION BASINS LOCATED WITHIN LAS SENDAS ADDENDUM III
911             KM   FOR BASIN #: 30      34      43      47&58
912             KM        MAXIMUM VOLUME DIVERSION = 74.1 acre-feet
                *      1
913             DT   BS455    74.1
914             DI       0   10000
915             DQ       0   10000
                * DDM   ***** Preserved *****

916             KK   RT455
917             KM   RETRIEVE FLOW FROM DIVERSION INTO ONLINE BASIN
918             DR   BS455
                * DDM   ***** Preserved *****

919             KK    S455
920             KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
921             KM    74.1 ACRE-FEETx43560/36x3600=25cfs
922             RS       1    STOR       0
923             SV       0     .01    74.1
924             SQ       0     3.0      25
                * DDM   ***** Preserved *****
1                                          HEC-1 INPUT                                                    PAGE 25

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

925             KK    C455
926             KM   HYDROGRAPH COMBINATION FOR SUB-BASIN 455 AND DIVERTED BASIN STORAGE OF 455
927             HC       2
                * DDM   ***** Preserved *****

928             KK   CC455
929             KM  HYDROGRAPH COMBINATION OF 420C, R415 AND C455
                *      1       2
930             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 *****

931             KK    R455
932             KM   ROUTE FLOW FROM SPOOK HILL FRS TO SUB-BASIN 480
933             RS      15    FLOW      -1
934             RC    .035    .025    .035    7000   .0002
935             RX       0       1       2      28     258     284     285     286
936             RY    23.5    13.5    13.5       0       0    13.5    13.5    23.5
                * DDM   ***** Updated *****

937             KK     480
938             KM   SUB-BASIN 480
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  .996
941             KM     L = 1.21  Kb = .042  Adj. Slope =  165.0
942             BA    .731
943             LG    .270    .270   3.580    .730  27.000
944             UC    .325    .148
945             UA       0       5      16      30      65      77      84      90      94      97
946             UA     100
                * DDM   ***** Preserved *****

947             KK    D480
948             KM        DIVERT FLOW INTO ONLINE  DETENTION BASIN
949             KM   DETENTION/RETENTION BASINS LOCATED WITHIN LAS SENDAS ADDENDUM III
950             KM   FOR BASIN #: 18 & 26
951             KM        MAXIMUM VOLUME DIVERSION = 16.5 acre-feet
                *      1
952             DT   BS480    16.5
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 953          DI        0   10000
 954          DQ        0   10000
              * DDM   ***** Preserved *****
1                                        HEC-1 INPUT                                                    PAGE 26

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

 955          KK   RT480
 956          KM   RETRIEVE FLOW FROM DIVERSION INTO ONLINE BASIN
 957          DR   BS480
              * DDM   ***** Preserved *****

 958          KK    S480
 959          KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
 960          KM    16.5 ACRE-FEETx43560/36x3600=5.5cfs
 961          RS        1    STOR       0
 962          SV        0     .01    16.5
 963          SQ        0     3.0     5.6
              * DDM   ***** Preserved *****

 964          KK    C480
 965          KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
 966          HC        2
              * DDM   ***** Preserved *****

 967          KK   CC480
 968          KM   HYDROGRAPH COMBINATION AT SUBBASIN 480
 969          HC        2
              * DDM   ***** Preserved *****

 970          KK    R480
 971          KM   ROUTE FLOW FROM SUB-BASIN 480 TO SUBBASIN 462
 972          RS        6    FLOW      -1
 973          RC     .035    .025    .035    2800   .0002
 974          RX        0       1       2      28     258     284     285     286
 975          RY     23.5    13.5    13.5       0       0    13.5    13.5    23.5
              * DDM   ***** Preserved *****

 976          KK     456
 977          KM   SUB-BASIN 456
 978          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
 979          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .998
 980          KM     L =  .94  Kb = .045  Adj. Slope =  315.0
 981          BA     .260
 982          LG     .300    .380   5.600    .200  12.000
 983          UC     .217    .139
 984          UA        0       5      16      30      65      77      84      90      94      97
 985          UA      100
              * DDM   ***** Preserved *****

 986          KK      D1
 987          KM        DIVERT FLOW INTO OFFLINE DETENTION BASIN
 988          KM        WEIR FOR BASIN SET AT 4 FEET ABOVE CHANNEL BOTTOM
              *      1
 989          DT  BASIN1     4.0
 990          DI        0    11.1   127.9   234.4   577.7   789.9  1025.5  1280.9  1555.7
 991          DQ        0       0       0    47.7     248   381.8   533.6   701.5     884
              * DDM   ***** Preserved *****
1                                        HEC-1 INPUT                                                    PAGE 27

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

 992          KK      D2
 993          KM        SPLIT OUT FLOW FOR WASHES THAT FLOW TO THE SOUTH FROM
 994          KM        WASHES THAT DRAIN TO THE WES, SOUTHERN WASHES FED BY 30" & 24" PIPE
 995          DT    WA30
 996          DI        0    11.1   127.9   189.6   329.7     408   491.9   579.4   671.7
 997          DQ        0    11.1    38.4    48.2      63    69.5      76      81      86
              * DDM   ***** Preserved *****

 998          KK    R456
 999          KM        ROUTE FLOW FROM SUB-BASIN 51 TO C101
1000          RS        2    FLOW      -1
1001          RC      .05    .035     .05    3800    .044
1002          RX     1000    1010    1020    1036    1041    1057    1067    1077
1003          RY    14.88   14.44      14      10      10      14   14.44   14.88
              * DDM   ***** Updated *****

1004          KK     457
1005          KM   SUB-BASIN 457
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  .999
1008          KM     L = 1.01  Kb = .045  Adj. Slope =  308.8
1009          BA     .190
1010          LG     .270    .330   3.950    .460   6.000
1011          UC     .237    .195
1012          UA        0       5      16      30      65      77      84      90      94      97
1013          UA      100
              * DDM   ***** Preserved *****
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1014          KK    C101
1015          KM        COMBINE HYDROGRAPHS FROM SUB-BASINS 50 AND 51
1016          HC       2
              * DDM   ***** Preserved *****

1017          KK      D3
1018          KM        RESERVOIR AT THE EDGE OF THE PROPERTY   FLOW FROM CHANNEL
1019          KM        DIVERTED  INTO OFFLINE BASIN A 25' WEIR SET AT ELEVATION 1808 FT
              *      1
1020          DT  BASIN2     5.0
1021          DI       0      36      70     110     180   313.5     402   500.9
1022          DQ       0       0       0       0       0    67.5     124   190.9
              * DDM   ***** Preserved *****

1023          KK    RTD3
1024          KM   RETRIEVE FLOW FROM DIVERSION INTO OFFLINE BASIN
1025          DR  BASIN2
              * DDM   ***** Preserved *****

1026          KK     SD3
1027          KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
1028          KM     5.0 ACRE-FEETx43560/36x3600=1.7cfs
1029          RS       1    STOR       0
1030          SV       0     .01       5
1031          SQ       0     0.7     1.7
              * DDM   ***** Preserved *****
1                                   HEC-1 INPUT                                          PAGE 28

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

1032          KK     CD3
1033          KM   HYDROGRAPH COMBINATION FOR OFFLINE BASIN BLEEDOFF
1034          HC       2
              * DDM   ***** Preserved *****

1035          KK    R101
1036          KM        ROUTE FLOW FROM SUBBASIN C101 TO C103
1037          RS       1    FLOW      -1
1038          RC     .05    .035     .05    1450     .05
1039          RX    1000    1010    1020    1036    1041    1057    1067    1077
1040          RY      15    14.5      14      10      10      14    14.5      15
              * DDM   ***** Updated *****

1041          KK     458
1042          KM   SUB-BASIN 458
1043          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1044          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .999
1045          KM     L =  .76  Kb = .048  Adj. Slope =  299.0
1046          BA    .190
1047          LG    .290    .330   5.800    .190   6.000
1048          UC    .204    .131
1049          UA       0       5      16      30      65      77      84      90      94      97
1050          UA     100
              * DDM   ***** Preserved *****

1051          KK    C103
1052          KM        COMBINE HYDROGRAPHS FROM SUB-BASIN 55 AND C101
1053          HC       2
              * DDM   ***** Preserved *****

1054          KK    R103
1055          KM        ROUTE FLOW FROM SUBBASIN C103 TO C106
1056          RS       1    FLOW      -1
1057          RC     .05    .035     .05     900     .03
1058          RX    1000    1010    1020    1030    1050    1060    1070    1080
1059          RY   23.16   12.83    12.5      10      10    12.5   12.83   23.16
              * DDM   ***** Preserved *****

1060          KK    RT30
1061          KM        RETRIEVE DIVERTED FLOW FOR WASH BELOW 30 INCH PIPE
1062          DR    WA30
              * DDM   ***** Preserved *****

1063          KK     R30
1064          KM        ROUTE FLOW FROM WASH DIVERSION TO COMBINE C52
1065          RS       1    FLOW      -1
1066          RC     .05    .035     .05    1630     .05
1067          RX    1000    1010    1020    1036    1041    1057    1067    1077
1068          RY      15    14.5      14      10      10      14    14.5      15
              * DDM   ***** Preserved *****
1                                   HEC-1 INPUT                                          PAGE 29

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

1069          KK    RTB1
1070          KM        RETRIEVE DIVERTED FLOW FROM BASIN 1
              *      1       2
1071          DR  BASIN1
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                * DDM   ***** Preserved *****

1072            KK      B1
1073            KM        ROUTE FLOW THROUGH OFFLINE DETENTION BASIN
1074            KM        FLOW OUTLETS THROUGH A 30 INCH OUTLET PIPE
                *      1       2
1075            RS       1    ELEV       0
1076            SV              .7     1.4     2.3     2.7     4.0
1077            SQ       0       5      16      28    32.5      37
1078            SE       0       1       2       3     3.5       4
                * DDM   ***** Preserved *****

1079            KK     RB1
1080            KM        ROUTE FLOW FROM BASIN DIVERSION TO COMBINE C52
1081            RS       3    FLOW      -1
1082            RC     .05    .035     .05    1720     .05
1083            RX    1000    1010    1020    1036    1041    1057    1067    1077
1084            RY      15    14.5      14      10      10      14    14.5      15
                * DDM   ***** Preserved *****

1085            KK    CDIV
1086            KM        COMBINE FLOWS FROM WA30 AND BASIN 1
1087            HC       2     .12
                * DDM   ***** Updated *****

1088            KK     459
1089            KM   SUB-BASIN 459
1090            KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1091            KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF 1.000
1092            KM     L =  .35  Kb = .052  Adj. Slope =  251.6
1093            BA    .030
1094            LG    .220    .300   3.330    .710   8.000
1095            UC    .162    .157
1096            UA       0       5      16      30      65      77      84      90      94      97
1097            UA     100
                * DDM   ***** Preserved *****

1098            KK     C52
1099            KM        COMBINE FLOWS FROM SUB-BASIN 52 WA30 AND BASIN 1
1100            HC       2
                * DDM   ***** Preserved *****

1101            KK     R52
1102            KM        ROUTE FLOW FROM SUBBASIN 52 TO C102
1103            RS       3    FLOW      -1
1104            RC     .05    .035     .05    2000     .05
1105            RX    1000    1010    1020    1036    1041    1057    1067    1077
1106            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

1107            KK     460
1108            KM   SUB-BASIN 460
1109            KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1110            KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .999
1111            KM     L =  .62  Kb = .058  Adj. Slope =  194.0
1112            BA    .140
1113            LG    .250    .260   3.740    .690  27.000
1114            UC    .242    .160
1115            UA       0       5      16      30      65      77      84      90      94      97
1116            UA     100
                * DDM   ***** Preserved *****

1117            KK    C102
1118            KM        COMBINE HYDROGRAPHS FROM SUB-BASINS 52 AND 53
1119            HC       2
                * DDM   ***** Preserved *****

1120            KK  BASIN3
1121            KM        RESERVOIR AT CLUBHOUSE LOCATION 1-30 INCH PIPE AT OUTFALL
1122            KM        BOTTOM OF BASIN AT 6 FEET ABOVE 1795 ELEVATION
1123            RS       1    ELEV       0
1124            SA       0       0       0     .34    1.59    1.81    1.96    2.13     2.3     2.5
1125            SQ      22      45    47.4      48      51      57      62      67      73    1000
1126            SE  1797.5    1800  1800.4  1800.5    1801    1802    1803    1804  1805.5    1806
                * DDM   ***** Preserved *****

1127            KK      R3
1128            KM        ROUTE FLOW FROM C102 to C106
1129            RS       5    FLOW      -1
1130            RC     .05     .03     .05    2750   .0375
1131            RX    1000    1010    1020    1052    1086    1118    1128    1138
1132            RY    19.2    18.4      18      10      10      18    18.4    19.2
                * DDM   ***** Updated *****

1133            KK     461
1134            KM   SUB-BASIN 461
1135            KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
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1136          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .999
1137          KM     L =  .83  Kb = .052  Adj. Slope =  181.0
1138          BA    .120
1139          LG    .270    .250   4.250    .450  21.000
1140          UC    .271    .250
1141          UA       0       5      16      30      65      77      84      90      94      97
1142          UA     100
              * DDM   ***** Preserved *****

1143          KK    C104
1144          KM        COMBINE HYDROGRAPHS FROM SUB-BASIN 54 AND R102
1145          HC       2
              * DDM   ***** Preserved *****
1                                        HEC-1 INPUT                                          PAGE 31

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


1146          KK    C106
1147          KM        COMBINE HYDROGRAPHS FROM SUB-BASIN C103 AND C104
1148          HC       2
              * DDM   ***** Preserved *****

1149          KK    R106
1150          KM        ROUTE FLOW FROM C106 TO C49
1151          RS       2    FLOW      -1
1152          RC     .05    .035     .05    3950    .033
1153          RX    1000    1010    1020    1030    1050    1060    1070    1080
1154          RY   23.16   12.83    12.5      10      10    12.5   12.83   23.16
              * DDM   ***** Updated *****

1155          KK     462
1156          KM   SUB-BASIN 462
1157          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1158          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .998
1159          KM     L =  .97  Kb = .045  Adj. Slope =  297.7
1160          BA    .301
1161          LG    .300    .330   5.300    .240  12.000
1162          UC    .225    .137
1163          UA       0       5      16      30      65      77      84      90      94      97
1164          UA     100
              * DDM   ***** Preserved *****

1165          KK     C56
1166          KM        COMBINE HYDROGRAPHS FROM SUB-BASIN 56 AND C106
              *      1       2
1167          HC       2

1168          KK    C462
1169          KM        COMBINE HYDROGRAPHS AT SUBBASIN 462
              *      1
1170          HC       2    2.09
              * DDM   ***** Preserved *****

1171          KK    R462
1172          KM   ROUTE FLOW FROM SUB-BASIN 462 TO SUB-BASIN 500 (First Channel Reach)
1173          RS       1    FLOW      -1
1174          RC    .025    .025    .025    1800    .005
1175          RX       0       1      20      32     262     274     293     294
1176          RY      13      12      12       0       0      12      12      13
              * DDM   ***** Preserved *****

1177          KK   RR462
1178          KM   ROUTE FLOW FROM SUB-BASIN 462 TO SUB-BASIN 500 (Second Natural Wash Reach)
1179          RS       3    FLOW      -1
1180          RC    .055     .05    .055    4700     .05
1181          RX       0       1       2      28      58      84      85      86
1182          RY    13.5    13.5    13.5       0       0    13.5    13.5    13.5
              * DDM   ***** Updated *****
1                                        HEC-1 INPUT                                          PAGE 32

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


1183          KK     500
1184          KM   SUB-BASIN 500
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  .994
1187          KM     L = 2.77  Kb = .042  Adj. Slope =  286.8
1188          BA    .930
1189          LG    .350    .400   6.000    .170   9.000
1190          UC    .421    .333
1191          UA       0       3       5       8      12      20      43      75      90      96
1192          UA     100
              * DDM   ***** Preserved *****

1193          KK    C500
1194          KM   HYDROGRAPH COMBINATION FOR THE ENTIRE WATERSHED AT THE SALT RIVER
1195          HC       2    3.02
1196          ZZ
```

SCHEMATIC DIAGRAM OF STREAM NETWORK

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

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

 28         R180
            .
            .
 40         .         260
            .           .
            .           .
 50         C260............
               V
               V
 53         R260
            .
            .
 62         .         280
            .           .
            .           .
 72         C280............
               V
               V
 75         R280
            .
            .
 84         .         300
            .           .
            .           .
 94         C300............
               V
               V
 97         R300
            .
            .
106         .         305
            .           .
            .           .
116         C305............
               V
               V
119         R305
            .
            .
128         .         350
            .           .
            .           .
141         .           .------->   SF350
138         .        D350
            .           V
            .           V
144         .        R350
            .           .
            .           .
151         .           .         310
            .           .           .
            .           .           .
161         .        C310............
            .           V
            .           V
164         .        R310
            .           .
            .           .
171         .           .         320
            .           .           .
            .           .           .
186         .           .           .------->   BS320
181         .           .        D320
            .           .           .
            .           .           .
191         .           .           .           .<-------   BS320
189         .           .           .       RT320
            .           .           .           V
            .           .           .           V
192         .           .           .        S320
            .           .           .           .
            .           .           .           .
198         C320.....................................
               V
               V
201         R320
            .
            .
208         .         340
            .           .
            .           .
223         .           .------->   BS340
218         .        D340
            .           .
            .           .
```

```
228          .           .           .<-------   BS340
226          .           .       RT340
             .           .           V
             .           .           V
229          .           .        S340
             .           .           .
             .           .           .
235       C340.......................
             V
             V
238       R340
             .
             .
247          .           .<-------   SF350
245          .       RT350
             .           V
             .           V
248          .       RR350
             .           .
             .           .
255          .           .         355
             .           .           .
             .           .           .
265          .        C355............
             .           V
             .           V
268          .        R355
             .           .
             .           .
275          .           .         360
             .           .           .
             .           .           .
289          .           .           .------->   BS360
285          .           .        D360
             .           .           .
             .           .           .
294          .           .           .           .<-------   BS360
292          .           .           .       RT360
             .           .           .           V
             .           .           .           V
295          .           .           .        S360
             .           .           .           .
             .           .           .           .
301       C360.................................
             V
             V
304       R360
             .
             .
311          .         370
             .           .
             .           .
321          .           .         395
             .           .           .
             .           .           .
331          .        C370............
             .           V
             .           V
334          .        R370
             .           .
             .           .
341          .           .         380
             .           .           .
             .           .           .
355          .           .           .------->   BS380
351          .           .        D380
             .           .           .
             .           .           .
360          .           .           .           .<-------   BS380
358          .           .           .       RT380
             .           .           .           V
             .           .           .           V
361          .           .           .        S380
             .           .           .           .
             .           .           .           .
367       C380.................................
             V
             V
370       R380
             .
             .
377          .         390
             .           .
             .           .
391          .           .------->   BS390
387          .        D390
             .           .
             .           .
396          .           .           .<-------   BS390
394          .           .       RT390
             .           .           V
```

```
397                 .           .          V
                    .           .       S390
                    .           .          .
                    .           .          .
403                 .       C390............
                    .          V
                    .          V
406                 .       R390
                    .           .
                    .           .
413                 .           .        400
                    .           .          .
                    .           .          .
427                 .           .          .-------->   BS400
423                 .           .       D400
                    .           .          .
                    .           .          .
432                 .           .          .          .<--------   BS400
430                 .           .          .      RT400
                    .           .          .          V
                    .           .          .          V
433                 .           .          .       S400
                    .           .          .          .
                    .           .          .          .
439                 .           .       C400............
                    .           .          .
                    .           .          .
442            CC400........................
                   V
                   V
445             R400
                    .
                    .
452                 .         385
                    .           .
                    .           .
464                 .           .-------->   SF385
462                 .       D385
                    .          V
                    .          V
467                 .       R385
                    .           .
                    .           .
474                 .           .        420
                    .           .          .
                    .           .          .
488                 .           .          .-------->   BS420
484                 .           .       D420
                    .           .          .
                    .           .          .
493                 .           .          .          .<--------   BS420
491                 .           .          .      RT420
                    .           .          .          V
                    .           .          .          V
494                 .           .          .       S420
                    .           .          .          .
                    .           .          .          .
500                 .       C420........................
                    .           .
                    .           .
503            CC420............
                   V
                   V
506             R420
                    .
                    .
513                 .         440
                    .          V
                    .          V
523                 .         R70
                    .           .
                    .           .
529                 .           .        441
                    .           .          .
                    .           .          .
539                 .       C108............
                    .           .
                    .           .
544                 .           .-------->   SPLIT
542                 .          D4
                    .          V
                    .          V
547                 .       R108
                    .           .
                    .           .
553                 .           .        442
                    .           .          .
                    .           .          .
563                 .         C67............
                    .           .
                    .           .
```

```
569          .          .-------> BASIN4
566          .        D6
             .          .
             .          .
574          .          .          .<-------  BASIN4
572          .          .       RTD6
             .          .          V
             .          .          V
575          .          .        SD6
             .          .          .
             .          .          .
581          .       CD6............
             .          .
             .          .
584          .          .        443
             .          .          .
             .          .          .
597          .          .          .-------> WSH66
594          .          .        D66
             .          .          V
             .          .          V
600          .          .       R113
             .          .          .
             .          .          .
606          .      C114............
             .          .
             .          .
609          .          .        444
             .          .          V
             .          .          V
619          .          .        R58
             .          .          .
             .          .          .
625          .          .          .        445
             .          .          .          .
             .          .          .          .
635          .          .       C107............
             .          .          V
             .          .          V
638          .          .       R107
             .          .          .
             .          .          .
646          .          .          .          .<-------  SPLIT
644          .          .          .       RTB2
             .          .          .          V
             .          .          .          V
647          .          .          .     RSPLIT
             .          .          .          .
             .          .          .          .
653          .          .          .          .        446
             .          .          .          .          .
             .          .          .          .          .
663          .          .       C109........................
             .          .          .
             .          .          .
669          .          .          .-------> WSH404
666          .          .         D5
             .          .          V
             .          .          V
672          .          .       R109
             .          .          .
             .          .          .
678          .          .          .        447
             .          .          .          .
             .          .          .          .
690          .          .          .          .          .<-------  WSH404
688          .          .          .          .      RT404
             .          .          .          .          V
             .          .          .          .          V
691          .          .          .          .       R404
             .          .          .          .          .
             .          .          .          .          .
697          .          .       C110........................
             .          .          V
             .          .          V
700          .          .       R110
             .          .          .
             .          .          .
706          .      C115............
             .         V
             .         V
709          .      R115
             .          .
             .          .
715          .          .        448
             .          .          .
             .          .          .
725          .          .          .        449
             .          .          .          .
             .          .          .          .
735          .          .      C6364............
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                 .          .          V
                 .          .          V
738              .          .       R6364
                 .          .          .
                 .          .          .
744              .          .          .         450
                 .          .          .          .
                 .          .          .          .
754              .          .          .          .         451
                 .          .          .          .          .
                 .          .          .          .          .
764              .          .          .       C451............
                 .          .          .          .
                 .          .          .          .
769              .          .          .          .          .<-------   WSH66
767              .          .          .          .       RT66
                 .          .          .          .          .
                 .          .          .          .          .
770              .          .          .          .          .         452
                 .          .          .          .          .           .
                 .          .          .          .          .           .
780              .          .          .          .      C6465............
                 .          .          .          .          V
                 .          .          .          .          V
783              .          .          .          .      R6566
                 .          .          .          .          .
                 .          .          .          .          .
789              .          .       C116........................
                 .          .          V
                 .          .          V
792              .          .      BASIN5
                 .          .          V
                 .          .          V
799              .          .       R116
                 .          .          .
                 .          .          .
805              .          .          .         453
                 .          .          .          .
                 .          .          .          .
815              .          .       C117............
                 .          .          .
                 .          .          .
818              .       C118............
                 .          V
                 .          V
821              .       R118
                 .          .
                 .          .
830              .          .-------->  BASIN6
827              .          D7
                 .          .
                 .          .
835              .          .          .<-------  BASIN6
833              .          .       RTD7
                 .          .          V
                 .          .          V
836              .          .        SD7
                 .          .          .
                 .          .          .
842              .        CD7............
                 .          .
                 .          .
845              .          .        454
                 .          .          .
                 .          .          .
855              .       C119............
                 .          V
                 .          V
858              .       R454
                 .          .
                 .          .
865              .          .        415
                 .          .          .
                 .          .          .
877              .          .          .          .<-------   SF385
875              .          .          .       RT385
                 .          .          .          V
                 .          .          .          V
878              .          .          .       RR385
                 .          .          .          .
                 .          .          .          .
885              .          .       C415............
                 .          .          .
                 .          .          .
888              .      CC415............
                 .          V
                 .          V
891              .       R415
                 .          .
                 .          .
898              .          .        455
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          .          .          .
          .          .          .
913       .          .          .-------->   BS455
908       .          .       D455
          .          .          .
          .          .          .
918       .          .          .          .<-------   BS455
916       .          .          .      RT455
          .          .          .          V
          .          .          .          V
919       .          .          .       S455
          .          .          .          .
          .          .          .          .
925       .          .       C455............
          .          .          .
          .          .          .
928    CC455......................
          V
          V
931     R455
          .
          .
937       .        480
          .          .
          .          .
952       .          .-------->   BS480
947       .       D480
          .          .
          .          .
957       .          .          .<-------   BS480
955       .          .      RT480
          .          .          V
          .          .          V
958       .          .       S480
          .          .          .
          .          .          .
964       .       C480............
          .          .
          .          .
967    CC480............
          V
          V
970     R480
          .
          .
976       .        456
          .          .
          .          .
989       .          .-------->  BASIN1
986       .         D1
          .          .
          .          .
995       .          .-------->    WA30
992       .         D2
          .          V
          .          V
998       .       R456
          .          .
          .          .
1004      .          .        457
          .          .          .
          .          .          .
1014      .       C101............
          .          .
          .          .
1020      .          .-------->  BASIN2
1017      .         D3
          .          .
          .          .
1025      .          .          .<-------  BASIN2
1023      .          .       RTD3
          .          .          V
          .          .          V
1026      .          .        SD3
          .          .          .
          .          .          .
1032      .        CD3............
          .          V
          .          V
1035      .       R101
          .          .
          .          .
1041      .          .        458
          .          .          .
          .          .          .
1051      .       C103............
          .          V
          .          V
1054      .       R103
          .          .
          .          .
```

```
1062          .           .           .<-------    WA30
1060          .           .       RT30
              .           .          V
              .           .          V
1063          .           .        R30
              .           .          .
              .           .          .
1071          .           .          .           .<-------  BASIN1
1069          .           .          .       RTB1
              .           .          .          V
              .           .          .          V
1072          .           .          .         B1
              .           .          .          V
              .           .          .          V
1079          .           .          .        RB1
              .           .          .          .
              .           .          .          .
1085          .           .       CDIV...........
              .           .          .
              .           .          .
1088          .           .          .        459
              .           .          .          .
              .           .          .          .
1098          .           .        C52...........
              .           .          V
              .           .          V
1101          .           .        R52
              .           .          .
              .           .          .
1107          .           .          .        460
              .           .          .          .
              .           .          .          .
1117          .           .      C102...........
              .           .          V
              .           .          V
1120          .           .     BASIN3
              .           .          V
              .           .          V
1127          .           .         R3
              .           .          .
              .           .          .
1133          .           .          .        461
              .           .          .          .
              .           .          .          .
1143          .           .      C104...........
              .           .          .
              .           .          .
1146          .       C106...........
              .          V
              .          V
1149          .       R106
              .          .
              .          .
1155          .           .        462
              .           .          .
              .           .          .
1165          .        C56...........
              .           .
              .           .
1168       C462...........
              V
              V
1171       R462
              V
              V
1177      RR462
              .
              .
1183          .        500
              .           .
              .           .
1193       C500...........
```

(***) RUNOFF ALSO COMPUTED AT THIS LOCATION

```
1****************************************
*                                      *
*   FLOOD HYDROGRAPH PACKAGE  (HEC-1)  *
*              JUN   1998              *
*           VERSION 4.1                *
*                                      *
*  RUN DATE   01MAY01  TIME  11:20:22  *
*                                      *
****************************************
```

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

DDM MCUHP1 SPOOK HILL AMDP - EXISTING CONDITIONS MODEL - SPS, 7-Hour
Existing Condition Base Model with Spook Hill FRS Channel Routing
Original File Name: EC24B_R.DAT

```
                    Modified File Name: ESPS_CHL.DAT, Wood/Patel, 3/29/01, Modified by SZ
                    A CONSERVATIVE ESTIMATE WAS USED FOR THE LOCATION OF THE CENTROID FOR
                    PRECIPITATION VALUES
                    CHANNEL ROUTING INFORMATION FOR MCFCD FLOODWAYS WERE OBTAINED
                    FROM MCFCD SPOOK HILL, SIGNAL BUTTE AND BULLDOG FLOODWAY PLANS


                    UPDATE TO EXISTING CONDITION 24-HR 100-YR MODEL RUN BASED ON RE-ALIGNMENT
                    OF SUB-BASIN BOUNDARIES FOR SUB-BASINS 385 (REDUCED) & 415 (ENLARGED)
                    UPDATE BASED ON INFORMATION FROM 2' CONTOUR MAPPING.

16 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

18 JD          INDEX STORM NO. 1
                      STRM       6.36  PRECIPITATION DEPTH
                      TRDA        .01  TRANSPOSITION DRAINAGE AREA

19 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       .01       .01       .01
                 .01       .01       .01       .01       .01       .01       .01       .01       .01       .01
                 .01       .01       .02       .03       .03       .03       .03       .03       .03       .03
                 .02       .02       .02       .02       .02       .02       .02       .02       .01       .01
                 .01       .01       .01       .01       .01       .01       .01       .01       .01       .01
                 .01       .01       .01       .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

22 JD          INDEX STORM NO. 2
                      STRM       6.32  PRECIPITATION DEPTH
                      TRDA       1.00  TRANSPOSITION DRAINAGE AREA

 0 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       .01       .01       .01
                 .01       .01       .01       .01       .01       .01       .01       .01       .01       .01
                 .01       .01       .02       .03       .03       .03       .03       .03       .03       .03
                 .02       .02       .02       .02       .02       .02       .02       .02       .01       .01
                 .01       .01       .01       .01       .01       .01       .01       .01       .01       .01
                 .01       .01       .01       .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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23 JD          INDEX STORM NO. 3
                    STRM        6.17  PRECIPITATION DEPTH
                    TRDA        5.00  TRANSPOSITION DRAINAGE AREA

 0 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       .01       .01       .01
                  .01       .01       .01       .01       .01       .01       .01       .01       .01       .01
                  .01       .01       .02       .03       .03       .03       .03       .03       .03       .03
                  .02       .02       .02       .02       .02       .02       .02       .02       .01       .01
                  .01       .01       .01       .01       .01       .01       .01       .01       .01       .01
                  .01       .01       .01       .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

24 JD          INDEX STORM NO. 4
                    STRM        5.97  PRECIPITATION DEPTH
                    TRDA       10.66  TRANSPOSITION DRAINAGE AREA

 0 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       .01       .01       .01
                  .01       .01       .01       .01       .01       .01       .01       .01       .01       .01
                  .01       .01       .02       .03       .03       .03       .03       .03       .03       .03
                  .02       .02       .02       .02       .02       .02       .02       .02       .01       .01
                  .01       .01       .01       .01       .01       .01       .01       .01       .01       .01
                  .01       .01       .01       .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

25 JD          INDEX STORM NO. 5
                    STRM        5.91  PRECIPITATION DEPTH
                    TRDA       13.70  TRANSPOSITION DRAINAGE AREA

 0 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       .01       .01       .01
                  .01       .01       .01       .01       .01       .01       .01       .01       .01       .01
                  .01       .01       .02       .03       .03       .03       .03       .03       .03       .03
                  .02       .02       .02       .02       .02       .02       .02       .02       .01       .01
                  .01       .01       .01       .01       .01       .01       .01       .01       .01       .01
                  .01       .01       .01       .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

26 JD          INDEX STORM NO. 6
                    STRM        5.78  PRECIPITATION DEPTH
                    TRDA       20.00  TRANSPOSITION DRAINAGE AREA

 0 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
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.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	.01	.01	.01
.01	.01	.01	.01	.01	.01	.01	.01	.01	.01
.01	.01	.02	.03	.03	.03	.03	.03	.03	.03
.02	.02	.02	.02	.02	.02	.02	.02	.01	.01
.01	.01	.01	.01	.01	.01	.01	.01	.01	.01
.01	.01	.01	.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

27 JD INDEX STORM NO. 7

STRM 5.47 PRECIPITATION DEPTH

TRDA 50.00 TRANSPOSITION DRAINAGE AREA

0 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	.01	.01	.01
.01	.01	.01	.01	.01	.01	.01	.01	.01	.01
.01	.01	.02	.03	.03	.03	.03	.03	.03	.03
.02	.02	.02	.02	.02	.02	.02	.02	.01	.01
.01	.01	.01	.01	.01	.01	.01	.01	.01	.01
.01	.01	.01	.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

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	R180	113.	.00	113.	113.	113.	.01		
+	HYDROGRAPH AT	260	694.	5.20	125.	32.	11.	.26		
+	2 COMBINED AT	C260	807.	5.20	238.	145.	124.	.26		
+	ROUTED TO	R260	804.	5.27	238.	145.	124.	.26		
+	HYDROGRAPH AT	280	870.	5.13	136.	34.	12.	.32		
+	2 COMBINED AT	C280	1640.	5.20	373.	179.	137.	.58		
+	ROUTED TO	R280	1637.	5.27	373.	179.	137.	.58		
+	HYDROGRAPH AT	300	727.	5.13	106.	27.	10.	.29		
+	2 COMBINED AT	C300	2335.	5.23	479.	205.	146.	.87		
+	ROUTED TO	R300	2323.	5.30	478.	205.	146.	.87		
+	HYDROGRAPH AT	305	1139.	5.50	260.	66.	24.	.70		
+	2 COMBINED AT	C305	3351.	5.37	731.	269.	169.	1.57		
+	ROUTED TO	R305	3347.	5.40	731.	269.	169.	1.57		

	HYDROGRAPH AT	350	2316.	5.27	356.	89.	32.	.97
+	DIVERSION TO	SF350	1158.	5.27	178.	45.	16.	.97
+	HYDROGRAPH AT	D350	1158.	5.27	178.	45.	16.	.97
+	ROUTED TO	R350	1142.	5.43	178.	45.	16.	.97
+	HYDROGRAPH AT	310	913.	5.53	179.	45.	16.	.56
+	2 COMBINED AT	C310	2038.	5.47	356.	89.	32.	1.04
+	ROUTED TO	R310	2013.	5.67	356.	89.	32.	1.04
+	HYDROGRAPH AT	320	2015.	5.37	381.	96.	35.	.95
+	DIVERSION TO	BS320	273.	4.67	25.	6.	2.	.95
+	HYDROGRAPH AT	D320	2015.	5.37	360.	90.	32.	.95
+	HYDROGRAPH AT	RT320	273.	4.67	25.	6.	2.	.95
+	ROUTED TO	S320	4.	4.73	4.	4.	2.	.95
+	4 COMBINED AT	C320	6600.	5.53	1420.	444.	233.	3.56
+	ROUTED TO	R320	6420.	5.77	1419.	444.	233.	3.56
+	HYDROGRAPH AT	340	3083.	5.33	559.	142.	51.	1.44
	DIVERSION TO	BS340	1798.	5.00	113.	28.	10.	1.44
+	HYDROGRAPH AT	D340	3083.	5.33	454.	113.	41.	1.44
+	HYDROGRAPH AT	RT340	1798.	5.00	113.	28.	10.	1.44
+	ROUTED TO	S340	18.	5.07	17.	14.	9.	1.44
+	3 COMBINED AT	C340	8300.	5.70	1864.	565.	281.	5.00
+	ROUTED TO	R340	8259.	5.80	1863.	565.	281.	5.00
+	HYDROGRAPH AT	RT350	1158.	5.27	178.	45.	16.	.97
+	ROUTED TO	RR350	1140.	5.43	178.	45.	16.	.97
+	HYDROGRAPH AT	355	1189.	5.53	244.	61.	22.	.68
+	2 COMBINED AT	C355	2311.	5.47	420.	105.	38.	1.16
+	ROUTED TO	R355	2284.	5.67	420.	105.	38.	1.16
+	HYDROGRAPH AT	360	1675.	5.40	336.	85.	31.	.88
+	DIVERSION TO	BS360	948.	5.03	58.	14.	5.	.88
+	HYDROGRAPH AT	D360	1675.	5.40	284.	71.	26.	.88
	HYDROGRAPH AT	RT360	948.	5.03	58.	14.	5.	.88
	ROUTED TO							

	S360	9.	5.10	9.	7.	5.	.88
+ 4 COMBINED AT	C360	11367.	5.73	2494.	729.	343.	7.04
+ ROUTED TO	R360	11333.	5.83	2494.	729.	343.	7.04
+ HYDROGRAPH AT	370	1524.	5.33	259.	65.	23.	.67
+ HYDROGRAPH AT	395	433.	5.33	79.	20.	7.	.20
+ 2 COMBINED AT	C370	1956.	5.33	338.	85.	31.	.87
+ ROUTED TO	R370	1938.	5.57	338.	85.	31.	.87
+ HYDROGRAPH AT	380	1504.	5.47	308.	78.	28.	.90
+ DIVERSION TO	BS380	1093.	5.17	58.	14.	5.	.90
+ HYDROGRAPH AT	D380	1504.	5.47	253.	63.	23.	.90
+ HYDROGRAPH AT	RT380	1093.	5.17	58.	14.	5.	.90
+ ROUTED TO	S380	9.	5.23	9.	7.	5.	.90
+ 4 COMBINED AT	C380	13851.	5.77	3009.	863.	394.	8.81
+ ROUTED TO	R380	13779.	5.90	3008.	863.	394.	8.81
+ HYDROGRAPH AT	390	742.	5.07	101.	26.	9.	.24
DIVERSION TO	BS390	64.	4.40	7.	2.	1.	.24
+ HYDROGRAPH AT	D390	742.	5.07	95.	24.	9.	.24
+ HYDROGRAPH AT	RT390	64.	4.40	7.	2.	1.	.24
+ ROUTED TO	S390	1.	4.47	1.	1.	1.	.24
+ 2 COMBINED AT	C390	743.	5.07	96.	25.	9.	.24
+ ROUTED TO	R390	689.	5.40	96.	25.	9.	.24
+ HYDROGRAPH AT	400	1214.	5.37	212.	53.	19.	.62
+ DIVERSION TO	BS400	209.	4.77	11.	3.	1.	.62
+ HYDROGRAPH AT	D400	1214.	5.37	202.	51.	18.	.62
+ HYDROGRAPH AT	RT400	209.	4.77	11.	3.	1.	.62
+ ROUTED TO	S400	2.	4.83	2.	2.	1.	.62
+ 2 COMBINED AT	C400	1216.	5.37	204.	52.	19.	.62
+ 3 COMBINED AT	CC400	14613.	5.90	3266.	930.	419.	9.67
+ ROUTED TO	R400	14547.	6.03	3265.	930.	419.	9.67
HYDROGRAPH AT	385	1148.	5.40	223.	56.	20.	.53
+ DIVERSION TO	SF385	689.	5.40	134.	34.	12.	.53

HYDROGRAPH AT	D385	459.	5.40	89.	23.	8.	.53
+ ROUTED TO	R385	435.	5.87	89.	23.	8.	.53
+ HYDROGRAPH AT	420	1693.	5.37	300.	76.	27.	.85
+ DIVERSION TO	BS420	168.	4.67	17.	4.	2.	.85
+ HYDROGRAPH AT	D420	1693.	5.37	285.	71.	26.	.85
+ HYDROGRAPH AT	RT420	168.	4.67	17.	4.	2.	.85
+ ROUTED TO	S420	3.	4.73	3.	2.	2.	.85
+ 3 COMBINED AT	C420	1896.	5.37	376.	96.	35.	1.06
+ 2 COMBINED AT	CC420	15427.	6.00	3585.	1012.	449.	10.73
+ ROUTED TO	R420	15368.	6.10	3584.	1012.	449.	10.73
+ HYDROGRAPH AT	440	270.	5.03	37.	9.	3.	.08
+ ROUTED TO	R70	267.	5.07	37.	9.	3.	.08
+ HYDROGRAPH AT	441	26.	5.07	4.	1.	0.	.01
+ 2 COMBINED AT	C108	294.	5.07	41.	10.	4.	.09
+ DIVERSION TO	SPLIT	147.	5.07	21.	5.	2.	.09
HYDROGRAPH AT	D4	147.	5.07	21.	5.	2.	.09
+ ROUTED TO	R108	145.	5.13	21.	5.	2.	.09
+ HYDROGRAPH AT	442	204.	5.20	30.	8.	3.	.10
+ 2 COMBINED AT	C67	347.	5.13	51.	13.	5.	.19
+ DIVERSION TO	BASIN4	221.	5.03	7.	2.	1.	.19
+ HYDROGRAPH AT	D6	347.	5.13	44.	11.	4.	.19
+ HYDROGRAPH AT	RTD6	221.	5.03	7.	2.	1.	.19
+ ROUTED TO	SD6	1.	5.10	1.	1.	1.	.19
+ 2 COMBINED AT	CD6	348.	5.13	44.	12.	5.	.19
+ HYDROGRAPH AT	443	231.	5.10	42.	10.	4.	.08
+ DIVERSION TO	WSH66	78.	4.70	26.	7.	2.	.08
+ HYDROGRAPH AT	D66	153.	5.10	15.	4.	1.	.08
+ ROUTED TO	R113	152.	5.10	15.	4.	1.	.08
+ 2 COMBINED AT	C114	499.	5.13	60.	16.	6.	.27
HYDROGRAPH AT	444	127.	5.03	15.	4.	1.	.04
ROUTED TO							

+	R58	124.	5.10	15.	4.	1.	.04
HYDROGRAPH AT	445	514.	5.07	61.	15.	6.	.19
+ 2 COMBINED AT	C107	636.	5.07	76.	19.	7.	.23
+ ROUTED TO	R107	634.	5.07	76.	19.	7.	.23
+ HYDROGRAPH AT	RTB2	147.	5.07	21.	5.	2.	.09
+ ROUTED TO	RSPLIT	147.	5.10	21.	5.	2.	.09
+ HYDROGRAPH AT	446	107.	5.07	17.	4.	2.	.04
+ 3 COMBINED AT	C109	885.	5.07	114.	28.	10.	.27
+ DIVERSION TO	WSH404	35.	4.43	14.	4.	1.	.27
+ HYDROGRAPH AT	D5	850.	5.07	99.	25.	9.	.27
+ ROUTED TO	R109	844.	5.10	99.	25.	9.	.27
+ HYDROGRAPH AT	447	238.	5.07	34.	9.	3.	.09
+ HYDROGRAPH AT	RT404	35.	4.43	14.	4.	1.	.27
+ ROUTED TO	R404	35.	4.60	14.	4.	1.	.27
+ 3 COMBINED AT	C110	1115.	5.10	148.	37.	13.	.36
ROUTED TO	R110	1113.	5.10	148.	37.	13.	.36
+ 2 COMBINED AT	C115	1607.	5.10	207.	53.	19.	.63
+ ROUTED TO	R115	1599.	5.13	207.	53.	19.	.63
+ HYDROGRAPH AT	448	139.	5.03	18.	4.	2.	.05
+ HYDROGRAPH AT	449	134.	5.07	16.	4.	1.	.05
+ 2 COMBINED AT	C6364	273.	5.03	34.	9.	3.	.09
+ ROUTED TO	R6364	258.	5.20	34.	9.	3.	.09
+ HYDROGRAPH AT	450	130.	5.37	22.	6.	2.	.07
+ HYDROGRAPH AT	451	40.	5.37	7.	2.	1.	.03
+ 2 COMBINED AT	C451	170.	5.37	29.	7.	3.	.09
+ HYDROGRAPH AT	RT66	78.	4.70	26.	7.	2.	.08
+ HYDROGRAPH AT	452	105.	5.07	14.	4.	1.	.04
+ 2 COMBINED AT	C6465	183.	5.07	40.	10.	4.	.04
+ ROUTED TO	R6566	181.	5.17	40.	10.	4.	.04
+ 3 COMBINED AT	C116	596.	5.20	104.	26.	9.	.23
ROUTED TO	BASIN5	589.	5.27	102.	26.	9.	.23

	ROUTED TO	R116	582.	5.33	102.	26.	9.	.23
+	HYDROGRAPH AT	453	122.	5.23	20.	5.	2.	.06
+	2 COMBINED AT	C117	700.	5.33	122.	31.	11.	.29
+	2 COMBINED AT	C118	2099.	5.30	326.	84.	30.	.92
+	ROUTED TO	R118	2100.	5.30	326.	84.	30.	.92
+	DIVERSION TO	BASIN6	427.	5.00	7.	2.	1.	.92
+	HYDROGRAPH AT	D7	2100.	5.30	319.	82.	30.	.92
+	HYDROGRAPH AT	RTD7	427.	5.00	7.	2.	1.	.92
+	ROUTED TO	SD7	1.	5.07	1.	1.	1.	.92
+	2 COMBINED AT	CD7	2101.	5.30	320.	83.	30.	.92
+	HYDROGRAPH AT	454	344.	5.33	65.	16.	6.	.18
+	2 COMBINED AT	C119	2437.	5.30	383.	99.	36.	1.10
+	ROUTED TO	R454	2423.	5.33	383.	99.	36.	1.10
+	HYDROGRAPH AT	415	1213.	5.37	240.	61.	22.	.61
+	HYDROGRAPH AT	RT385	689.	5.40	134.	34.	12.	.53
	ROUTED TO	RR385	685.	5.57	134.	34.	12.	.53
+	2 COMBINED AT	C415	1802.	5.43	373.	94.	34.	.93
+	2 COMBINED AT	CC415	4092.	5.40	744.	190.	69.	2.03
+	ROUTED TO	R415	4081.	5.43	744.	190.	69.	2.03
+	HYDROGRAPH AT	455	2609.	5.23	427.	108.	39.	1.11
+	DIVERSION TO	BS455	2394.	5.10	149.	37.	13.	1.11
+	HYDROGRAPH AT	D455	2609.	5.23	284.	71.	26.	1.11
+	HYDROGRAPH AT	RT455	2394.	5.10	149.	37.	13.	1.11
+	ROUTED TO	S455	24.	5.17	23.	18.	12.	1.11
+	2 COMBINED AT	C455	2633.	5.23	306.	89.	38.	1.11
+	3 COMBINED AT	CC455	17099.	6.07	4460.	1249.	541.	13.87
+	ROUTED TO	R455	16763.	6.37	4449.	1249.	541.	13.87
+	HYDROGRAPH AT	480	1894.	5.13	281.	71.	26.	.73
+	DIVERSION TO	BS480	220.	4.60	33.	8.	3.	.73
	HYDROGRAPH AT	D480	1894.	5.13	252.	63.	23.	.73
	HYDROGRAPH AT							

+	RT480	220.	4.60	33.	8.	3.	.73
+ ROUTED TO	S480	5.	4.67	5.	5.	3.	.73
+ 2 COMBINED AT	C480	1899.	5.13	257.	68.	26.	.73
+ 2 COMBINED AT	CC480	16756.	6.37	4640.	1305.	563.	14.60
+ ROUTED TO	R480	16567.	6.50	4628.	1305.	562.	14.60
+ HYDROGRAPH AT	456	765.	5.07	112.	28.	10.	.26
+ DIVERSION TO	BASIN1	296.	4.97	8.	2.	1.	.26
+ HYDROGRAPH AT	D1	765.	5.07	104.	26.	9.	.26
+ DIVERSION TO	WA30	91.	5.07	23.	6.	2.	.26
+ HYDROGRAPH AT	D2	674.	5.07	81.	20.	7.	.26
+ ROUTED TO	R456	651.	5.17	81.	20.	7.	.26
+ HYDROGRAPH AT	457	471.	5.10	67.	17.	6.	.19
+ 2 COMBINED AT	C101	1114.	5.17	148.	37.	13.	.45
+ DIVERSION TO	BASIN2	417.	5.03	10.	3.	1.	.45
+ HYDROGRAPH AT	D3	1114.	5.17	138.	35.	12.	.45
HYDROGRAPH AT	RTD3	417.	5.03	10.	3.	1.	.45
+ ROUTED TO	SD3	2.	5.10	2.	1.	1.	.45
+ 2 COMBINED AT	CD3	1115.	5.17	138.	36.	13.	.45
+ ROUTED TO	R101	1111.	5.17	138.	36.	13.	.45
+ HYDROGRAPH AT	458	571.	5.07	81.	20.	7.	.19
+ 2 COMBINED AT	C103	1637.	5.17	219.	56.	21.	.64
+ ROUTED TO	R103	1633.	5.17	219.	56.	21.	.64
+ HYDROGRAPH AT	RT30	91.	5.07	23.	6.	2.	.26
+ ROUTED TO	R30	90.	5.13	23.	6.	2.	.26
+ HYDROGRAPH AT	RTB1	296.	4.97	8.	2.	1.	.26
+ ROUTED TO	B1	35.	5.00	8.	2.	1.	.26
+ ROUTED TO	RB1	35.	5.10	8.	2.	1.	.26
+ 2 COMBINED AT	CDIV	125.	5.13	30.	8.	3.	.12
+ HYDROGRAPH AT	459	76.	5.07	10.	2.	1.	.03
+ 2 COMBINED AT	C52	199.	5.10	39.	10.	4.	.15
+ ROUTED TO	R52	198.	5.13	39.	10.	4.	.15

	HYDROGRAPH AT	460	368.	5.10	55.	14.	5.	.14
+	2 COMBINED AT	C102	561.	5.10	94.	24.	9.	.29
+	ROUTED TO	BASIN3	571.	5.13	92.	24.	9.	.29
+	ROUTED TO	R3	579.	5.23	92.	24.	9.	.29
+	HYDROGRAPH AT	461	287.	5.17	49.	13.	5.	.12
+	2 COMBINED AT	C104	864.	5.23	140.	37.	13.	.41
+	2 COMBINED AT	C106	2461.	5.23	358.	93.	34.	1.05
+	ROUTED TO	R106	2388.	5.30	358.	93.	34.	1.05
+	HYDROGRAPH AT	462	882.	5.07	128.	32.	12.	.30
+	2 COMBINED AT	C56	3116.	5.27	481.	124.	45.	1.35
+	2 COMBINED AT	C462	18618.	6.43	5517.	1537.	648.	2.09
+	ROUTED TO	R462	18553.	6.47	5515.	1537.	648.	2.09
+	ROUTED TO	RR462	18518.	6.50	5514.	1537.	648.	2.09
+	HYDROGRAPH AT	500	2090.	5.40	398.	100.	36.	.93
+	2 COMBINED AT	C500	18679.	6.50	5838.	1621.	679.	3.02

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

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1****************************************
*                                      *
*   FLOOD HYDROGRAPH PACKAGE  (HEC-1)  *
*              JUN   1998              *
*            VERSION 4.1               *
*                                      *
*  RUN DATE   26MAY01  TIME  17:02:18  *
*                                      *
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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   DDM MCUHP1 SPOOK HILL AMDP - EXISTING CONDITIONS MODEL - SPS, 7-Hour
   2          ID   Existing Condition Base Model with Spook Hill FRS Channel Routing
   3          ID   Original File Name: EC24B_R.DAT
   4          ID   Modified File Name: ESPS_GCL.DAT, Wood/Patel, 3/29/01, Modified by SZ
              *
              *  100-Year 24-Hour Storm for subbasins upstream of Signal Butte FRS
              *  The flow of SR180 is input by QI Cards
              *  Standard Project Storm for subbasins downstream of Signal Butte FRS
              *  No. Storage Routing SR440, and with Channel Routing: R320, R340, R360,
              *  R380, R400 & R420.
              *
              *
   5          ID   A CONSERVATIVE ESTIMATE WAS USED FOR THE LOCATION OF THE CENTROID FOR
   6          ID   PRECIPITATION VALUES
   7          ID   CHANNEL ROUTING INFORMATION FOR MCFCD FLOODWAYS WERE OBTAINED
   8          ID   FROM MCFCD SPOOK HILL, SIGNAL BUTTE AND BULLDOG FLOODWAY PLANS
   9          ID
  10          ID
  11          ID   UPDATE TO EXISTING CONDITION 24-HR 100-YR MODEL RUN BASED ON RE-ALIGNMENT
  12          ID   OF SUB-BASIN BOUNDARIES FOR SUB-BASINS 385 (REDUCED) & 415 (ENLARGED)
  13          ID   UPDATE BASED ON INFORMATION FROM 2' CONTOUR MAPPING.
  14          ID
              *
              *DIAGRAM
  15          IT       2                    2000
  16          IO       5
  17          IN      30
              *
              *   Standard Project Storm - General Storm
              *
              *

  18          KK    R180
  19          KM       Constant inflow of 113 cfs is provided
  20          KM       ARIZONA GENERAL STORM SEPTEMBER 1970  (50 HR. DURATION
  21          PB    7.79
  22          PI    .000    .000    .000   1.669    .668    .075    .000    .000    .000    .000
  23          PI    .037    .594    .111    .000    .000    .000    .000    .371    .371    .185
  24          PI    .184    .000    .000    .000    .000    .000    .000    .000    .000    .000
  25          PI    .000    .000    .000    .000    .000    .000    .000    .000    .000    .000
  26          PI    .000    .000    .000    .000    .000    .000    .000    .000    .000    .000
  27          PI    .000    .000    .000    .000    .000    .000    .000    .000    .185    .000
  28          PI    .000    .000    .037    .000    .000    .000    .000    .037    .000    .000
  29          PI    .000    .000    .037    .000    .075    .000    .000    .000    .000    .000
  30          PI    .000    .000    .000    .075    .000    .000    .000    .000    .000    .000
  31          PI    .668   1.856   1.298   1.112   2.597   1.298    .371   1.483    .185    .000
              *
              *
  32          IN      60
  33          BA    0.01
  34          QI     113     113     113     113     113     113     113     113     113     113
  35          QI     113     113     113     113     113     113     113     113     113     113
  36          QI     113     113     113     113     113     113     113     113     113     113
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 37          QI     113     113     113     113     113     113     113     113     113     113
 38          QI     113     113     113     113     113     113     113     113     113     113
                                          HEC-1 INPUT                                                    PAGE  2

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

 39          QI     113     113     113     113     113     113     113     113     113     113
 40          QI     113     113     113     113     113     113     113     113     113     113
 41          QI     113     113     113
             *
             * DDM   ***** Updated *****

 42          KK     260
 43          KM   SUB-BASIN 260
 44          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
 45          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .998
 46          KM     L =  .81  Kb = .049  Adj. Slope =   68.0
 47          BA    .262
 48          LG    .300    .190   6.600    .170  15.000
 49          UC    .363    .217
 50          UA       0       5      16      30      65      77      84      90      94      97
 51          UA     100
             * DDM   ***** Preserved *****

 52          KK    C260
 53          KM   HYDROGRAPH COMBINATION FOR OUTFLOW OF SIGNAL BUTTE FRS & SUB-BASIN 260
 54          HC       2    .267
             * DDM   ***** Preserved *****

 55          KK    R260
 56          KM   Routing length updated using Signal Butte Floodway plans dated March 1983
 57          KM   Routing length unchanged     12/12/00
 58          KM   CHANNEL GEOMETRY FOR SIGNAL BUTTE FRS OBTAINED FROM AS-BUILT PLANS.
 59          KM   ROUTE FLOW FROM SUB-BASIN 260 TO SUB-BASIN 280
 60          RS       3    FLOW      -1
 61          RC    .035    .025    .035    2300    .003
 62          RX       0       1       2    23.4    43.4    64.8      65      66
 63          RY     9.7     9.7     9.7       0       0     9.7     9.7     9.7
             * DDM   ***** Updated *****

 64          KK     280
 65          KM   SUB-BASIN 280
 66          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
 67          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .998
 68          KM     L =  .77  Kb = .048  Adj. Slope =   84.0
 69          BA    .319
 70          LG    .300    .250   5.300    .290  15.000
 71          UC    .329    .168
 72          UA       0       5      16      30      65      77      84      90      94      97
 73          UA     100
             * DDM   ***** Preserved *****

 74          KK    C280
 75          KM   HYDROGRAPH COMBINATION FOR SUB-BASIN 260 & SUB-BASIN 280
 76          HC       2
             * DDM   ***** Preserved *****
1                                         HEC-1 INPUT                                                    PAGE  3

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

 77          KK    R280
 78          KM   Routing length updated using Signal Butte Floodway plans dated March 1983
 79          KM   Routing length decreased 400' from 2500' to 2100'    12/12/00
 80          KM   CHANNEL GEOMETRY FOR SIGNAL BUTTE FRS OBTAINED FROM AS-BUILT PLANS.
 81          KM   ROUTE FLOW FROM SUB-BASIN 280 TO SUB-BASIN 300
 82          RS       3    FLOW      -1
 83          RC    .035    .025    .035    2100    .003
 84          RX       0       1       2    23.4    43.4    64.8      65      66
 85          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 *****

 86          KK     300
 87          KM   SUB-BASIN 300
 88          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
 89          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .998
 90          KM     L =  .78  Kb = .049  Adj. Slope =  103.0
 91          BA    .289
 92          LG    .320    .290   4.200    .480  11.000
 93          UC    .325    .177
 94          UA       0       5      16      30      65      77      84      90      94      97
 95          UA     100
             * DDM   ***** Preserved *****

 96          KK    C300
 97          KM   HYDROGRAPH COMBINATION OF SUB-BASIN 280 & 300
 98          HC       2
             * DDM   ***** Preserved *****
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 99          KK    R300
100          KM   Routing length updated using Signal Butte Floodway plans dated March 1983
101          KM   Routing length increased 300' from 2200' to 2500'    12/12/00
102          KM   CHANNEL GEOMETRY FOR SIGNAL BUTTE FRS OBTAINED FROM AS-BUILT PLANS.
103          KM   ROUTE FLOW FROM SUB-BASIN 300 TO START OF FLOODWAY CONCRETE CHANNEL
104          RS       2    FLOW      -1
105          RC    .035    .025    .035    2500    .003
106          RX       0       1       2    23.4    55.4    76.8      77      78
107          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 *****

108          KK     305
109          KM   SUB-BASIN 305
110          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
111          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .996
112          KM     L = 2.50  Kb = .044  Adj. Slope =  116.0
113          BA    .702
114          LG    .340    .340   4.550    .350   6.000
115          UC    .642    .576
116          UA       0       5      16      30      65      77      84      90      94      97
117          UA     100
             * DDM   ***** Preserved *****
1                                        HEC-1 INPUT                                          PAGE  4

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

118          KK    C305
119          KM   HYDROGRAPH COMBINATION OF SUB-BASIN 300 AND 305
120          HC       2
             * DDM   ***** Preserved *****

121          KK    R305
122          KM   Routing length updated using Signal Butte Floodway plans dated March 1983
123          KM   Routing length decreased 50' from 6050' to 6000'     12/12/00
124          KM   CHANNEL GEOMETRY FOR SPOOK HILL FRS OBTAINED FROM AS-BUILTS PLANS.
125          KM   CONTINUE TO ROUTE FLOW WITHIN CONCRETE CHANNEL TO SPOOK HILL FRS
126          RS       3    FLOW      -1
127          RC    .016    .016    .016    6000   .0146
128          RX       0       1       2     2.1    16.1    16.2      17      18
129          RY    17.5     7.5     7.5       0       0     7.5     7.5    17.5
             *      1       2
             * DDM   ***** Updated *****

130          KK     350
131          KM   SUB-BASIN 350
132          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
133          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .994
134          KM     L = 2.22  Kb = .042  Adj. Slope =  315.0
135          BA    .970
136          LG    .350    .350   4.550    .340   4.000
137          UC    .367    .234
138          UA       0       3       5       8      12      20      43      75      90      96
139          UA     100
             * DDM   ***** Preserved *****

140          KK    D350
141          KM   DIVERT FLOW FROM SUB-BASIN 350. FOR MODELING PURPOSES THE SPLIT FLOW WILL
142          KM   BE ROUTED BETWEEN SUB-BASINS 355 & 310. THE MAIN FLOW WILL ROUTED TO 310
143          DT   SF350
144          DI       0    5000
145          DQ       0    2500
             * DDM   ***** Preserved *****

146          KK    R350
147          KM   CHANNEL GEOMETRY OBTAINED FROM 2' CONTOUR MAPPING
148          KM   ROUTING OF MAIN FLOW FROM DIVERSION OF SUB-BASIN 350 TO SUB-BASIN 310
149          RS       6    FLOW      -1
150          RC    .045    .035    .045    5150    .025
151          RX       0       1      40      46      56      62     102     103
152          RY      13       2       2       0       0       2       2      13
             * DDM   ***** Updated *****

153          KK     310
154          KM   SUB-BASIN 310
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  .997
157          KM     L = 2.70  Kb = .045  Adj. Slope =  283.5
158          BA    .555
159          LG    .350    .350   3.910    .480    .000
160          UC    .483    .511
1                                        HEC-1 INPUT                                          PAGE  5

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

161          UA       0       3       5       8      12      20      43      75      90      96
162          UA     100
             * DDM   ***** Preserved *****
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163          KK    C310
164          KM   HYDROGRAPH COMBINATION OF SUB-BASINS 350 & 310
165          HC       2    .943
             * DDM   ***** Preserved *****

166          KK    R310
167          KM   CHANNEL GEOMETRY OBTAINED FROM 2' CONTOUR MAPPING.
168          KM   ROUTING OF FLOW FROM SUB-BASIN 310 TO 320
169          RS      10    FLOW      -1
170          RC    .045    .035    .045   10050    .022
171          RX       0       1      40      46      56      62     102     103
172          RY      13       2       2       0       0       2       2      13
             *
             * The sub-basin area and soil make-up have been updated from CAD file 12/07/00
             * DDM   ***** Updated *****

173          KK     320
174          KM   SUB-BASIN 320
175          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
176          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .994
177          KM     L = 2.20  Kb = .042  Adj. Slope =  132.0
178          BA    .950
179          LG    .310    .300   4.600    .350  14.000
180          UC    .508    .338
181          UA       0       5      16      30      65      77      84      90      94      97
182          UA     100
             * DDM   ***** Preserved *****

183          KK    D320
184          KM        DIVERT FLOW INTO ONLINE  DETENTION BASIN
185          KM   DETENTION/RETENTION BASINS LOCATED WITHIN THREE SUBDIVISIONS
186          KM   SIERRA HEIGHTS       FALCON RIDGE    & MARBLE CREEK
187          KM        MAXIMUM VOLUME DIVERSION = 12.27acre-feet
             *      1
188          DT   BS320   12.27
189          DI       0   10000
190          DQ       0   10000
             * DDM   ***** Preserved *****

191          KK   RT320
192          KM   RETRIEVE FLOW FROM DIVERSION INTO ONLINE BASIN
193          DR   BS320
             * DDM   ***** Preserved *****

194          KK    S320
195          KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
196          KM   12.27 ACRE-FEETx43560/36x3600=4.1cfs
             *      1
197          RS       1    STOR       0
198          SV       0     .01    12.3
199          SQ       0     3.0     4.2
             * DDM   ***** Preserved *****
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LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

200          KK    C320
201          KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
202          HC       4
             * ADD ROUTING ALONG SPOOK HILL FRS
             * DDM   ***** Preserved *****

203          KK    R320
204          KM   ROUTE FLOW THROUGH SPOOK HILL FRS FROM JUNCTION OF BROWN & ELLSWORTH ROAD
205          KM   TO JUST NORTH OF JUNCTION OF MCDOWELL & POWER RD.
206          RS       9    FLOW      -1
207          RC    .035    .035    .035    4500   .0007
208          RX       0       9      50      68     198     206     267     275
209          RY     100      97      97      91      91      97      97     100
             *
             * DDM   ***** Updated *****

210          KK     340
211          KM   SUB-BASIN 340
212          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
213          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .991
214          KM     L = 2.40  Kb = .042  Adj. Slope =  160.0
215          BA   1.440
216          LG    .280    .280   4.150    .520  21.000
217          UC    .512    .288
218          UA       0       5      16      30      65      77      84      90      94      97
219          UA     100
             * DDM   ***** Preserved *****

220          KK    D340
221          KM        DIVERT FLOW INTO ONLINE  DETENTION BASIN
222          KM   DETENTION/RETENTION BASINS LOCATED WITHIN THREE SUBDIVISIONS
223          KM   GRANDVIEW ESTATES    BOULDER MOUNTAIN & 33% OF MESA HIGHLANDS
224          KM        MAXIMUM VOLUME DIVERSION = 56.0 acre-feet
             *      1
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225          DT   BS340      56
226          DI       0   10000
227          DQ       0   10000
             * DDM   ***** Preserved *****

228          KK   RT340
229          KM   RETRIEVE FLOW FROM DIVERSION INTO ONLINE BASIN
230          DR   BS340
             * DDM   ***** Preserved *****

231          KK    S340
232          KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
233          KM    56.0 ACRE-FEETx43560/36x3600=18.8cfs
             *      1
234          RS       1    STOR       0
235          SV       0     .01      56
236          SQ       0     3.0    18.9
             * DDM   ***** Preserved *****
1                                    HEC-1 INPUT                                                    PAGE  7

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

237          KK    C340
238          KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
239          HC       3
             * ADD ROUTING ALONG SPOOK HILL FRS
             * DDM   ***** Preserved *****

240          KK    R340
241          KM   ROUTE FLOW THROUGH SPOOK HILL FRS FROM JUNCTION OF BROWN & ELLSWORTH ROAD
242          KM   TO JUST NORTH OF JUNCTION OF MCDOWELL & POWER RD.
243          RS       6    FLOW      -1
244          RC    .035    .035    .035    2300    .0007
245          RX       0       9      50      68     233     241     307     315
246          RY     110      97      97      91      91      97      97     110
             * DDM   ***** Preserved *****

247          KK   RT350
248          KM   RETRIEVE SPLIT FLOW FROM DIVERSION OF SUB-BASIN 350
249          DR   SF350
             * DDM   ***** Preserved *****

250          KK   RR350
251          KM   CHANNEL GEOMETRY OBTAINED FROM 2' CONTOUR MAPPING.
252          KM   ROUTING OF FLOW FROM SPLIT OF SUB-BASIN 350 TO 355
253          RS       7    FLOW      -1
254          RC    .045    .035    .045    6050    .025
255          RX       0       1      40      46      56      62     102     103
256          RY      13       2       2       0       0       2       2      13
             *
             * The sub-basin area and soil make-up have been updated from CAD file 12/07/00
             * DDM   ***** Updated *****

257          KK     355
258          KM   SUB-BASIN 355
259          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
260          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .996
261          KM     L = 3.00  Kb = .044  Adj. Slope =  284.0
262          BA    .676
263          LG    .340    .340   4.450    .370   4.000
264          UC    .488    .502
265          UA       0       3       5       8      12      20      43      75      90      96
266          UA     100
             * DDM   ***** Preserved *****

267          KK    C355
268          KM   HYDROGRAPH COMBINATION OF SUB-BASIN 355 AND THE SPLIT FLOW FROM SUB-BASIN 350
269          HC       2    1.24
             * DDM   ***** Preserved *****

270          KK    R355
271          KM   CHANNEL GEOMETRY OBTAINED FROM 2' CONTOUR MAPPING.
272          KM   ROUTING OF FLOW FROM SUB-BASIN 355 TO SUB-BASIN 360
273          RS       9    FLOW      -1
274          RC    .045    .035    .045   10100    .026
275          RX       0       1      40      46      56      62     102     103
1                                    HEC-1 INPUT                                                    PAGE  8

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

276          RY      13       2       2       0       0       2       2      13
             * DDM   ***** Updated *****

277          KK     360
278          KM   SUB-BASIN 360
279          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
280          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .995
281          KM     L = 2.10  Kb = .047  Adj. Slope =  124.0
282          BA    .880
283          LG    .260    .270   4.100    .560  20.000
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284          UC     .575     .390
285          UA        0        5       16       30       65       77       84       90       94       97
286          UA      100
             * DDM    ***** Preserved *****

287          KK     D360
288          KM         DIVERT FLOW INTO ONLINE  DETENTION BASIN
289          KM    DETENTION/RETENTION BASINS LOCATED WITHIN 33% OF MESA HIGHLANDS
290          KM         MAXIMUM VOLUME DIVERSION = 28.6 acre-feet
             *       1
291          DT    BS360     28.6
292          DI        0    10000
293          DQ        0    10000
             * DDM    ***** Preserved *****

294          KK    RT360
295          KM    RETRIEVE FLOW FROM DIVERSION INTO ONLINE BASIN
296          DR    BS360
             * DDM    ***** Preserved *****

297          KK     S360
298          KM    RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
299          KM     28.6 ACRE-FEETx43560/36x3600=9.6cfs
300          RS        1     STOR        0
301          SV        0      .01     28.6
302          SQ        0      3.0      9.6
             * DDM    ***** Preserved *****

303          KK     C360
304          KM    HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
305          HC        4
             *
             * ADD ROUTING ALONG SPOOK HILL FRS
             * DDM    ***** Preserved *****

306          KK     R360
307          KM    ROUTE FLOW THROUGH SPOOK HILL FRS FROM JUNCTION OF BROWN & ELLSWORTH ROAD
308          KM    TO JUST NORTH OF JUNCTION OF MCDOWELL & POWER RD.
309          RS        6     FLOW       -1
310          RC     .035     .035     .035     2600    .0007
311          RX        0        9       50       68      268      286      337      345
312          RY      110       97       97       91       91       97       97      110
             *
             * The sub-basin area and soil make-up have been updated from CAD file 12/07/00
             * DDM    ***** Updated *****
                                          HEC-1 INPUT                                                PAGE  9

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

313          KK      370
314          KM    SUB-BASIN 370
315          KM    24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
316          KM    THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .996
317          KM      L = 1.90  Kb = .044  Adj. Slope =  203.5
318          BA     .672
319          LG     .340     .320    4.650     .330    8.000
320          UC     .404     .284
321          UA        0        3        5        8       12       20       43       75       90       96
322          UA      100
             *
             * The sub-basin area and soil make-up have been updated from CAD file 12/07/00
             * DDM    ***** Updated *****

323          KK      395
324          KM    SUB-BASIN 395
325          KM    24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
326          KM    THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .999
327          KM      L = 1.30  Kb = .051  Adj. Slope =  219.2
328          BA     .199
329          LG     .330     .320    4.900     .300   10.000
330          UC     .333     .338
331          UA        0        3        5        8       12       20       43       75       90       96
332          UA      100
             * DDM    ***** Preserved *****

333          KK     C370
334          KM    HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
335          HC        2
             * DDM    ***** Preserved *****

336          KK     R370
337          KM    CHANNEL GEOMETRY OBTAINED FROM 2' CONTOUR MAPPING.
338          KM    ROUTING OF FLOW FROM SUB-BASINS 370 AND 395 TO SUB-BASIN 380.
339          RS       12     FLOW       -1
340          RC     .045     .035     .045    10250     .023
341          RX        0        1       40       46       56       62      102      103
342          RY       13        2        2        0        0        2        2       13
             * DDM    ***** Updated *****

343          KK      380
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 344          KM   SUB-BASIN 380
 345          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
 346          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .995
 347          KM     L = 2.20  Kb = .049  Adj. Slope =  114.0
 348          BA    .898
 349          LG    .300    .310   4.150    .500   7.000
 350          UC    .671    .475
 351          UA       0       5      16      30      65      77      84      90      94      97
 352          UA     100
              * DDM   ***** Preserved *****
1                                          HEC-1 INPUT                                          PAGE 10

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


 353          KK    D380
 354          KM        DIVERT FLOW INTO ONLINE  DETENTION BASIN
 355          KM   DETENTION/RETENTION BASINS LOCATED WITHIN 33% OF MESA HIGHLANDS
 356          KM        MAXIMUM VOLUME DIVERSION = 28.6 acre-feet
              *      1
 357          DT   BS380    28.6
 358          DI       0   10000
 359          DQ       0   10000
              * DDM   ***** Preserved *****

 360          KK   RT380
 361          KM   RETRIEVE FLOW FROM DIVERSION INTO ONLINE BASIN
 362          DR   BS380
              * DDM   ***** Preserved *****

 363          KK    S380
 364          KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
 365          KM    28.6 ACRE-FEETx43560/36x3600=9.6cfs
 366          RS       1    STOR       0
 367          SV       0     .01    28.6
 368          SQ       0     3.0     9.6
              * DDM   ***** Preserved *****

 369          KK    C380
 370          KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
 371          HC       4
              * ADD ROUTING ALONG SPOOK HILL FRS
              * DDM   ***** Preserved *****

 372          KK    R380
 373          KM   ROUTE FLOW THROUGH SPOOK HILL FRS FROM JUNCTION OF BROWN & ELLSWORTH ROAD
 374          KM   TO JUST NORTH OF JUNCTION OF MCDOWELL & POWER RD.
 375          RS       8    FLOW      -1
 376          RC    .035    .035    .035    4000   .0007
 377          RX       0       9      50      68     163     181     257     265
 378          RY     110      97      97      91      91      97      97     110
              *
              * DDM   ***** Updated *****

 379          KK     390
 380          KM   SUB-BASIN 390
 381          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
 382          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .999
 383          KM     L =  .70  Kb = .050  Adj. Slope =  299.4
 384          BA    .244
 385          LG    .300    .250   4.700    .380  18.000
 386          UC    .204    .107
 387          UA       0       5      16      30      65      77      84      90      94      97
 388          UA     100
              * DDM   ***** Preserved *****
1                                          HEC-1 INPUT                                          PAGE 11

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


 389          KK    D390
 390          KM        DIVERT FLOW INTO ONLINE  DETENTION BASIN
 391          KM   DETENTION/RETENTION BASINS LOCATED WITHIN THUNDER MOUNTAIN ESTATES
 392          KM        MAXIMUM VOLUME DIVERSION  = 3.5 acre-feet
              *      1
 393          DT   BS390     3.5
 394          DI       0   10000
 395          DQ       0   10000
              * DDM   ***** Preserved *****

 396          KK   RT390
 397          KM   RETRIEVE FLOW FROM DIVERSION INTO ONLINE BASIN
 398          DR   BS390
              * DDM   ***** Preserved *****

 399          KK    S390
 400          KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
 401          KM     3.5 ACRE-FEETx43560/36x3600=1.2cfs
 402          RS       1    STOR       0
 403          SV       0     .01     3.5
 404          SQ       0     0.2     1.2
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                * DDM   ***** Preserved *****

 405            KK    C390
 406            KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
 407            HC       2
                * DDM   ***** Preserved *****

 408            KK    R390
 409            KM   CHANNEL GEOMETRY OBTAINED FROM 2' CONTOUR MAPPING.
 410            KM   FROM SUB-BASIN 390 TO SUB-BASIN 400
 411            RS      15    FLOW      -1
 412            RC    .045    .045    .045    8800    .020
 413            RX       0       1      40      46      56      62     102     103
 414            RY       3       2       2       0       0       2       2       3
                * DDM   ***** Updated *****

 415            KK     400
 416            KM   SUB-BASIN 400
 417            KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
 418            KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .996
 419            KM     L = 1.64  Kb = .046  Adj. Slope =  110.0
 420            BA    .616
 421            LG    .320    .300   4.150    .490   6.000
 422            UC    .508    .342
 423            UA       0       5      16      30      65      77      84      90      94      97
 424            UA     100
                * DDM   ***** Preserved *****
1                                          HEC-1 INPUT                                          PAGE 12

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


 425            KK    D400
 426            KM        DIVERT FLOW INTO ONLINE  DETENTION BASIN
 427            KM   DETENTION/RETENTION BASIN LOCATED WITHIN SAGUARO VISTA SUBDIVISION
 428            KM        MAXIMUM VOLUME DIVERSION = 5.6 ACRE-FEET
                *      1
 429            DT   BS400     5.6
 430            DI       0   10000
 431            DQ       0   10000
                * DDM   ***** Preserved *****

 432            KK   RT400
 433            KM   RETRIEVE FLOW FROM DIVERSION INTO ONLINE BASIN
 434            DR   BS400
                * DDM   ***** Preserved *****

 435            KK    S400
 436            KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
 437            KM     5.6 ACRE-FEETx43560/36x3600 = 2 cfs
 438            RS       1    STOR       0
 439            SV       0     .01     5.6
 440            SQ       0     1.0       2
                * DDM   ***** Preserved *****

 441            KK    C400
 442            KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
 443            HC       2
                * DDM   ***** Preserved *****

 444            KK   CC400
 445            KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
 446            HC       3
                * ADD ROUTING ALONG SPOOK HILL FRS
                * DDM   ***** Preserved *****

 447            KK    R400
 448            KM   ROUTE FLOW THROUGH SPOOK HILL FRS FROM JUNCTION OF BROWN & ELLSWORTH ROAD
 449            KM   TO JUST NORTH OF JUNCTION OF MCDOWELL & POWER RD.
 450            RS       9    FLOW      -1
 451            RC    .035    .035    .035    3800   .0007
 452            RX       0       9      50      68     163     181     257     265
 453            RY     110      97      97      91      91      97      97     110
                *
                * DDM   ***** Updated *****

 454            KK     385
 455            KM   SUB-BASIN 385
 456            KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
 457            KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .997
 458            KM     L = 2.30  Kb = .045  Adj. Slope =  303.0
 459            BA    .527
 460            LG    .340    .360   5.600    .220  13.000
 461            UC    .383    .358
 462            UA       0       3       5       8      12      20      43      75      90      96
 463            UA     100
                * DDM   ***** Preserved *****
                                           HEC-1 INPUT                                          PAGE 13

LINE            ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10
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464          KK    D385
465          KM   DIVERT FLOW INTO SUB-BASINS 415 & 420
466          DT   SF385
467          DI       0    5000
468          DQ       0    3000
             * DDM   ***** Preserved *****

469          KK    R385
470          KM   CHANNEL GEOMETRY OBTAINED FROM 2' CONTOUR MAPPING.
471          KM   ROUTING OF FLOW DIVERSION FROM SUB-BASIN 385 INTO SUB-BASIN 420
472          RS      13    FLOW      -1
473          RC    .045     .04    .045   10250    .022
474          RX       0       1      40      46      56      62     102     103
475          RY       3       2       2       0       0       2       2       3
             * DDM   ***** Updated *****

476          KK     420
477          KM   SUB-BASIN 420
478          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
479          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .995
480          KM     L = 1.91  Kb = .042  Adj. Slope =  120.0
481          BA    .849
482          LG    .310    .270   3.880    .580  12.000
483          UC    .512    .325
484          UA       0       5      16      30      65      77      84      90      94      97
485          UA     100
             * DDM   ***** Preserved *****

486          KK    D420
487          KM        DIVERT FLOW INTO ONLINE  DETENTION BASIN
488          KM   DETENTION/RETENTION BASINS LOCATED WITHIN GRAY FOX SUBDIVISION
489          KM        MAXIMUM VOLUME DIVERSION = 8.65 acre-feet
             *      1
490          DT   BS420    8.65
491          DI       0   10000
492          DQ       0   10000
             * DDM   ***** Preserved *****

493          KK   RT420
494          KM   RETRIEVE FLOW FROM DIVERSION INTO ONLINE BASIN
495          DR   BS420
             * DDM   ***** Preserved *****

496          KK    S420
497          KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
498          KM    8.65 ACRE-FEETx43560/36x3600=2.9cfs
499          RS       1    STOR       0
500          SV       0     .01    8.65
501          SQ       0     1.0     2.9
             * DDM   ***** Preserved *****
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LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

502          KK    C420
503          KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
504          HC       4   10.87
             * ADD ROUTING ALONG SPOOK HILL FRS
             * DDM   ***** Preserved *****

505          KK    R420
506          KM   ROUTE FLOW THROUGH SPOOK HILL FRS FROM JUNCTION OF BROWN & ELLSWORTH ROAD
507          KM   TO JUST NORTH OF JUNCTION OF MCDOWELL & POWER RD.
508          RS       6    FLOW      -1
509          RC    .035    .035    .035    2900   .0007
510          RX       0       9      50      68     163     181     257     265
511          RY     110      97      97      91      91      97      97     110
             *
             * DDM   ***** Updated *****

512          KK     440
513          KM   SUB-BASIN 440
514          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
515          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF 1.000
516          KM     L =  .40  Kb = .039  Adj. Slope =  315.0
517          BA    .080
518          LG    .190    .380   6.400    .140  13.000
519          UC    .129    .077
520          UA       0       3       5       8      12      20      43      75      90      96
521          UA     100
             * DDM   ***** Preserved *****

522          KK     R70
523          KM   ROUTE FLOW FROM SUB-BASIN 440 TO C108
524          RS       2    FLOW      -1
525          RC     .05    .035     .05    2250     .08
526          RX    1000    1025    1050    1070    1075    1095    1120    1145
527          RY      30    22.9    15.7      10      10    15.7    22.9      30
             * DDM   ***** Updated *****
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528          KK     441
529          KM   SUB-BASIN 441
530          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
531          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF 1.000
532          KM     L =  .28  Kb = .069  Adj. Slope =  315.0
533          BA    .010
534          LG    .300    .250   5.600    .220   5.000
535          UC    .150    .225
536          UA       0       5      16      30      65      77      84      90      94      97
537          UA     100
             * DDM   ***** Preserved *****

538          KK    C108
539          KM   COMBINE HYDROGRAPHS FROM SUB-BASINS 440 & 441
540          HC       2
             * DDM   ***** Preserved *****
1                                        HEC-1 INPUT                                          PAGE 15

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

541          KK      D4
542          KM        SPLIT FLOW WITH TWO 42 INCH PIPES TO WEST AND SOUTH
             *      1
543          DT   SPLIT
544          DI       0      14      40      82     120     154     180
545          DQ       0       7      20      41      60      77      90
             * DDM   ***** Preserved *****

546          KK    R108
547          KM        ROUTE FLOW FROM SUB-BASIN C108 TO C67
548          RS       2    FLOW      -1
549          RC     .05    .035     .05    3200      .1
550          RX    1000    1025    1050    1070    1075    1095    1120    1145
551          RY      30    22.9    15.7      10      10    15.7    22.9      30
             * DDM   ***** Updated *****

552          KK     442
553          KM   SUB-BASIN 442
554          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
555          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .999
556          KM     L =  .83  Kb = .055  Adj. Slope =  274.2
557          BA    .100
558          LG    .300    .270   3.290    .770   5.000
559          UC    .258    .264
560          UA       0       5      16      30      65      77      84      90      94      97
561          UA     100
             * DDM   ***** Preserved *****

562          KK     C67
563          KM   COMBINE FLOW FROM SUB-BASIN 442 & DIV4
564          HC       2
             * DDM   ***** Preserved *****

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

571          KK    RTD6
572          KM   RETRIEVE FLOW FROM DIVERSION INTO OFFLINE BASIN
573          DR  BASIN4
             * DDM   ***** Preserved *****

574          KK     SD6
575          KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
576          KM     3.3 ACRE-FEETx43560/36x3600=1.1cfs
             *      1
577          RS       1    STOR       0
578          SV       0     .01     3.3
579          SQ       0     0.2     1.1
             * DDM   ***** Preserved *****
1                                        HEC-1 INPUT                                          PAGE 16

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

580          KK     CD6
581          KM   HYDROGRAPH COMBINATION FOR OFFLINE BASIN BLEEDOFF
582          HC       2
             * DDM   ***** Updated *****

583          KK     443
584          KM   SUB-BASIN 443
585          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
586          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF 1.000
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587          KM     L =  .71  Kb = .050  Adj. Slope =  315.0
588          BA    .080
589          LG    .250    .190   8.000    .080  10.000
590          UC    .196    .194
591          UA       0       5      16      30      65      77      84      90      94      97
592          UA     100
             * DDM   ***** Preserved *****

593          KK     D66
594          KM        DIVERT FLOW INTO 3 NATURAL WASHES WITH ONE 24" PIPE IN EACH WASH.
595          KM        EACH PIPE CAPACITY BASED ON 4 FEET OF HEAD
596          DT   WSH66
597          DI       0      78     100     200
598          DQ       0      78      78      78
             * DDM   ***** Preserved *****

599          KK    R113
600          KM        ROUTE FLOW FROM C113 TO C114
601          RS       1    FLOW      -1
602          RC    .019    .019    .019    1300    .029
603          RX    1000    1004    1008    1012    1018    1022    1026    1030
604          RY      17   15.33   12.67      10      10   12.67   15.33      17
             * DDM   ***** Preserved *****

605          KK    C114
606          KM        COMBINE HYDROGRAPHS FROM SUB-BASIN 67 AND C113
607          HC       2
             * DDM   ***** Updated *****

608          KK     444
609          KM   SUB-BASIN 444
610          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
611          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF 1.000
612          KM     L =  .33  Kb = .034  Adj. Slope =  315.0
613          BA    .040
614          LG    .130    .350   4.450    .320   1.000
615          UC    .112    .084
616          UA       0       3       5       8      12      20      43      75      90      96
617          UA     100
             * DDM   ***** Preserved *****
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LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

618          KK     R58
619          KM   ROUTE FLOW FROM SUB-BASIN 444 TO C107
620          RS       2    FLOW      -1
621          RC     .05    .035     .05    2370   .0516
622          RX    1000    1010    1020    1050    1055    1085    1095    1105
623          RY      19      18      17      10      10      17      18      19
             * DDM   ***** Updated *****

624          KK     445
625          KM   SUB-BASIN 445
626          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
627          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .999
628          KM     L =  .82  Kb = .036  Adj. Slope =  315.0
629          BA    .190
630          LG    .170    .320   3.470    .590   3.000
631          UC    .192    .130
632          UA       0       5      16      30      65      77      84      90      94      97
633          UA     100
             * DDM   ***** Preserved *****

634          KK    C107
635          KM   COMBINE HYDROGRAPHS FROM SUB-BASINS 444 & 445
636          HC       2
             * DDM   ***** Preserved *****

637          KK    R107
638          KM        ROUTE FLOW FROM C107 TO C109
639          RS       2    FLOW      -1
640          RC     .05    .035     .05     700   .0516
641          RX    1000    1010    1020    1050    1055    1085    1095    1105
642          RY      19      18      17      10      10      17      18      19
             * DDM   ***** Preserved *****

643          KK    RTB2
644          KM        RETRIEVE DIVERTED FLOW FROM BASIN 1
             *      1
645          DR   SPLIT
             * DDM   ***** Preserved *****

646          KK  RSPLIT
647          KM        ROUTE FLOW FROM SPLIT TO C109
648          RS       1    FLOW      -1
649          RC     .05    .035     .05     800     .05
650          RX    1000    1025    1050    1070    1075    1095    1120    1145
651          RY      30    22.9    15.7      10      10    15.7    22.9      30
             * DDM   ***** Updated *****
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 652          KK     446
 653          KM   SUB-BASIN 446
 654          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
 655          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF 1.000
 656          KM     L =  .46  Kb = .061  Adj. Slope =  303.9
 657          BA    .040
 658          LG    .270    .250   4.500    .400  19.000
1                                          HEC-1 INPUT                                                    PAGE 18

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

 659          UC    .183    .189
 660          UA       0       5      16      30      65      77      84      90      94      97
 661          UA     100
              * DDM   ***** Preserved *****

 662          KK    C109
 663          KM        COMBINE HYDROGRAPHS FROM COMBINES C107 AND C108
 664          HC       3
              * DDM   ***** Preserved *****

 665          KK      D5
 666          KM        DIVERT FLOW INTO WASHES TOWARDS WEST
 667          KM        DIVERSION THROUGH 36" PIPE WITH 3 FEET OF HEAD
              *      1
 668          DT  WSH404
 669          DI       0    40.7    71.2   121.6     190     276   379.4   500.6
 670          DQ       0      35      35      35      35      35      35      35
              * DDM   ***** Preserved *****

 671          KK    R109
 672          KM        ROUTE FLOW FROM C109 TO C110
 673          RS       1    FLOW      -1
 674          RC    .019    .019    .019    3080     .05
 675          RX    1000    1005    1010    1015    1025    1030    1035    1040
 676          RY   13.75    12.5   11.25      10      10   11.25    12.5   13.75
              * DDM   ***** Updated *****

 677          KK     447
 678          KM   SUB-BASIN 447
 679          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
 680          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .999
 681          KM     L =  .49  Kb = .056  Adj. Slope =  221.0
 682          BA    .090
 683          LG    .250    .270   3.350    .870  30.000
 684          UC    .208    .145
 685          UA       0       5      16      30      65      77      84      90      94      97
 686          UA     100
              * DDM   ***** Preserved *****

 687          KK   RT404
 688          KM        RETRIEVE DIVERTED FLOW FOR WASH 109
 689          DR  WSH404
              * DDM   ***** Preserved *****

 690          KK    R404
 691          KM        ROUTE FLOW FROM C110 TO C110
 692          RS       6    FLOW      -1
 693          RC    .019    .019    .019    3540     .03
 694          RX    1000    1012    1016    1020    1025    1029    1033    1045
 695          RY      15      12      11      10      10      11      12      15
              * DDM   ***** Preserved *****
1                                          HEC-1 INPUT                                                    PAGE 19

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

 696          KK    C110
 697          KM   COMBINE HYDROGRAPHS FROM SUB-BASIN 447 AND R404
 698          HC       3
              * DDM   ***** Preserved *****

 699          KK    R110
 700          KM        ROUTE FLOW FROM C110 TO C115
 701          RS       1    FLOW      -1
 702          RC    .019    .019    .019     580   .0291
 703          RX    1000    1012    1016    1020    1035    1039    1043    1055
 704          RY      15      12      11      10      10      11      12      15
              * DDM   ***** Preserved *****

 705          KK    C115
 706          KM        COMBINE HYDROGRAPHS FROM C114 AND C110
 707          HC       2
              * DDM   ***** Preserved *****

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

714          KK     448
715          KM   SUB-BASIN 448
716          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
717          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF 1.000
718          KM     L =  .36  Kb = .042  Adj. Slope =  315.0
719          BA    .045
720          LG    .170    .310   4.200    .390  11.000
721          UC    .133    .102
722          UA       0       5      16      30      65      77      84      90      94      97
723          UA     100
             * DDM   ***** Updated *****

724          KK     449
725          KM   SUB-BASIN 449
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 1.000
728          KM     L =  .40  Kb = .054  Adj. Slope =  315.0
729          BA    .050
730          LG    .260    .280   3.500    .640   6.000
731          UC    .167    .134
732          UA       0       5      16      30      65      77      84      90      94      97
733          UA     100
             * DDM   ***** Preserved *****
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LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

734          KK   C6364
735          KM   COMBINE HYDROGRAPHS FROM SUB-BASINS 448 & 449
736          HC       2
             * DDM   ***** Preserved *****

737          KK   R6364
738          KM   ROUTE FLOW FROM C116 AND SUB-BASINS 448 AND 449
739          RS       5    FLOW      -1
740          RC     .05    .035     .05    4375   .0333
741          RX    1000    1027    1053    1080    1090    1117    1143    1170
742          RY      15   13.33   11.67      10      10   11.67   13.33      15
             * DDM   ***** Updated *****

743          KK     450
744          KM   SUB-BASIN 450
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 1.000
747          KM     L =  .85  Kb = .057  Adj. Slope =  210.5
748          BA    .070
749          LG    .340    .350   3.630    .570   4.000
750          UC    .296    .383
751          UA       0       3       5       8      12      20      43      75      90      96
752          UA     100
             * DDM   ***** Updated *****

753          KK     451
754          KM   SUB-BASIN 451
755          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
756          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF 1.000
757          KM     L =  .57  Kb = .063  Adj. Slope =  175.0
758          BA    .025
759          LG    .340    .340   3.290    :750   3.000
760          UC    .271    .453
761          UA       0       3       5       8      12      20      43      75      90      96
762          UA     100
             * DDM   ***** Preserved *****

763          KK    C451
764          KM   COMBINE HYDROGRAPHS FROM SUB-BASINS 450 & 451
765          HC       2
             * DDM   ***** Preserved *****

766          KK    RT66
767          KM        RETRIEVE DIVERTED FLOW FROM SUB-BASIN 66
768          DR   WSH66
             * DDM   ***** Updated *****

769          KK     452
770          KM   SUB-BASIN 452
771          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
772          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF 1.000
773          KM     L =  .43  Kb = .055  Adj. Slope =  315.0
774          BA    .040
775          LG    .260    .280   3.700    .550   9.000
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LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10
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776          UC    .171    .166
777          UA       0       5      16      30      65      77      84      90      94      97
778          UA     100
             * DDM   ***** Preserved *****

779          KK   C6465
780          KM   COMBINE HYDROGRAPHS FROM SUB-BASINS 443 AND 452
781          HC       2
             * DDM   ***** Preserved *****

782          KK   R6566
783          KM        ROUTE FLOW FROM DIVERSIONS 65 AND 66 TO C116
784          RS       3    FLOW      -1
785          RC     .05    .035     .05    2435   .0282
786          RX    1000    1045    1090    1150    1160    1220    1265    1310
787          RY      25      23      20      10      10      20      23      25
             * DDM   ***** Preserved *****

788          KK    C116
789          KM   COMBINE HYDROGRAPHS FROM SUB-BASINS 450 & 451 AND R6364 & R6465
790          HC       3
             * DDM   ***** Preserved *****

791          KK  BASIN5
792          KM        RESERVOIR WITHIN PARCEL 31      2-48 INCH PIPES AT OUTFALL
793          KM        BASIN 5 FEET DEEP
794          RS       1    ELEV       0
795          SV       0     4.5     9.9      12
796          SQ       0      69     190    1000
797          SE       0     2.5       5       6
             * DDM   ***** Preserved *****

798          KK    R116
799          KM   ROUTE FLOW FROM C116 TO C117
800          RS       2    FLOW      -1
801          RC     .05    .035     .05    1300   .0333
802          RX    1000    1100    1200    1300    1320    1420    1520    1620
803          RY      13      12      11      10      10      11      12      13
             * DDM   ***** Updated *****

804          KK     453
805          KM   SUB-BASIN 453
806          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
807          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF 1.000
808          KM     L =  .58  Kb = .058  Adj. Slope =  138.0
809          BA    .060
810          LG    .290    .300   3.290    .820  18.000
811          UC    .275    .284
812          UA       0       5      16      30      65      77      84      90      94      97
813          UA     100
             * DDM   ***** Preserved *****
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LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

814          KK    C117
815          KM   COMBINE HYDROGRAPHS FROM SUB-BASIN 453 AND R116
816          HC       2
             * DDM   ***** Preserved *****

817          KK    C118
818          KM   COMBINE HYDROGRAPHS FROM R115 AND C117
819          HC       2
             * DDM   ***** Preserved *****

820          KK    R118
821          KM        ROUTE FLOW FROM C118 TO  DIV7
822          RS       1    FLOW      -1
823          RC    .019    .019    .019    1500    .024
824          RX    1000    1012    1016    1020    1035    1039    1043    1055
825          RY      15      12      11      10      10      11      12      15
             * DDM   ***** Preserved *****

826          KK      D7
827          KM        OFFLINE BASIN AT NORTH MOUNTAIN RIDGE   FLOWS ENTER BASIN OVER
828          KM        30' WEIR SET AT 5.3' ABOVE THE CHANNEL BOTTOM
             *      1
829          DT  BASIN6     3.6
830          DI       0     363     487     563     645     844
831          DQ       0       3      47      83     125     244
             * DDM   ***** Preserved *****

832          KK    RTD7
833          KM   RETRIEVE FLOW FROM DIVERSION INTO OFFLINE BASIN
834          DR  BASIN6
             * DDM   ***** Preserved *****

835          KK     SD7
836          KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
837          KM     3.6 ACRE-FEETx43560/36x3600=1.2cfs
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 838          RS        1     STOR        0
 839          SV        0      .01      3.6
 840          SQ        0      0.2      1.2
              * DDM    ***** Preserved *****

 841          KK      CD7
 842          KM    HYDROGRAPH COMBINATION FOR OFFLINE BASIN BLEEDOFF
 843          HC        2
              * DDM    ***** Updated *****

 844          KK      454
 845          KM    SUB-BASIN 454
 846          KM    24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
 847          KM    THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .999
 848          KM      L = 1.23  Kb = .051  Adj. Slope =  163.0
 849          BA     .180
 850          LG     .300     .310   3.780     .560  14.000
 851          UC     .379     .395
 852          UA        0        5      16       30       65       77       84       90       94       97
1                                          HEC-1 INPUT                                                    PAGE 23

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

 853          UA      100
              * DDM    ***** Preserved *****

 854          KK     C119
 855          KM          COMBINE HYDROGRAPHS FROM SUB-BASIN 454 AND C119
              *       1        2
 856          HC        2
              * DDM    ***** Preserved *****

 857          KK     R454
 858          KM    CHANNEL GEOMETRY OBTAINED FROM 2' CONTOUR MAPPING.
 859          KM    ROUTE FLOW FROM C119 TO 415C
 860          RS        3     FLOW       -1
 861          RC     .045     .035     .045     2200     .009
 862          RX        0       .5        1       33       42       67     67.5       68
 863          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 *****

 864          KK      415
 865          KM    SUB-BASIN 415
 866          KM    24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
 867          KM    THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .996
 868          KM      L = 2.58  Kb = .044  Adj. Slope =  298.5
 869          BA     .609
 870          LG     .320     .290   4.500     .400  15.000
 871          UC     .421     .401
 872          UA        0        5      16       30       65       77       84       90       94       97
 873          UA      100
              * DDM    ***** Preserved *****

 874          KK    RT385
 875          KM    RETRIEVE FLOW FROM DIVERSION OF SUB-BASIN 385 INTO SUB-BASIN 415
 876          DR    SF385
              * DDM    ***** Preserved *****

 877          KK    RR385
 878          KM    CHANNEL GEOMETRY OBTAINED FROM 2' CONTOUR MAPPING.
 879          KM    ROUTING OF SPLIT FLOW FROM SUB-BASIN 385 TO SUB-BASIN 415
 880          RS       11     FLOW       -1
 881          RC     .045      .04     .045     5878     .024
 882          RX        0        1       40       46       56       62      102      103
 883          RY        3        2        2        0        0        2        2        3
              * DDM    ***** Preserved *****

 884          KK     C415
 885          KM    HYDROGRAPH COMBINATION OF SUB-BASINS 415, R454 & SPLIT FLOW FROM 385
 886          HC        3     1.71
              * DDM    ***** Preserved *****
1                                          HEC-1 INPUT                                                    PAGE 24

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

 887          KK     R415
 888          KM    CHANNEL GEOMETRY OBTAINED FROM 2' CONTOUR MAPPING.
 889          KM    ROUTING OF FLOW FROM 415C TO 455C
 890          RS        3     FLOW       -1
 891          RC     .045      .03     .045     4100     .024
 892          RX        0       .5        1        8       16       23     23.5       24
 893          RY       18        8        8        0        0        8        8       18
              * DDM    ***** Updated *****

 894          KK      455
 895          KM    SUB-BASIN 455
 896          KM    24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
 897          KM    THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .993
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898          KM     L = 1.70  Kb = .041  Adj. Slope =  146.0
899          BA   1.111
900          LG    .270    .280   3.700    .640  24.000
901          UC    .421    .204
902          UA      0       5      16      30      65      77      84      90      94      97
903          UA    100
             * DDM   ***** Preserved *****

904          KK    D455
905          KM        DIVERT FLOW INTO ONLINE  DETENTION BASIN
906          KM   DETENTION/RETENTION BASINS LOCATED WITHIN LAS SENDAS ADDENDUM III
907          KM   FOR BASIN #: 30      34      43      47&58
908          KM        MAXIMUM VOLUME DIVERSION = 74.1 acre-feet
             *      1
909          DT   BS455    74.1
910          DI       0   10000
911          DQ       0   10000
             * DDM   ***** Preserved *****

912          KK   RT455
913          KM   RETRIEVE FLOW FROM DIVERSION INTO ONLINE BASIN
914          DR   BS455
             * DDM   ***** Preserved *****

915          KK    S455
916          KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
917          KM    74.1 ACRE-FEETx43560/36x3600=25cfs
918          RS       1    STOR       0
919          SV       0     .01    74.1
920          SQ       0     3.0      25
             * DDM   ***** Preserved *****

921          KK    C455
922          KM   HYDROGRAPH COMBINATION FOR SUB-BASIN 455 AND DIVERTED BASIN STORAGE OF 455
923          HC       2
             * DDM   ***** Preserved *****
1                                        HEC-1 INPUT                                          PAGE 25

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

924          KK   CC455
925          KM  HYDROGRAPH COMBINATION OF 420C, R415 AND C455
             *      1       2
926          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 *****

927          KK    R455
928          KM   ROUTE FLOW FROM SPOOK HILL FRS TO SUB-BASIN 480
929          RS      15    FLOW      -1
930          RC    .035    .025    .035    7000   .0002
931          RX       0       1       2      28     258     284     285     286
932          RY    23.5    13.5    13.5       0       0    13.5    13.5    23.5
             * DDM   ***** Updated *****

933          KK     480
934          KM   SUB-BASIN 480
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  .996
937          KM     L = 1.21  Kb = .042  Adj. Slope =  165.0
938          BA    .731
939          LG    .270    .270   3.580    .730  27.000
940          UC    .325    .148
941          UA      0       5      16      30      65      77      84      90      94      97
942          UA    100
             * DDM   ***** Preserved *****

943          KK    D480
944          KM        DIVERT FLOW INTO ONLINE  DETENTION BASIN
945          KM   DETENTION/RETENTION BASINS LOCATED WITHIN LAS SENDAS ADDENDUM III
946          KM   FOR BASIN #: 18 & 26
947          KM        MAXIMUM VOLUME DIVERSION = 16.5 acre-feet
             *      1
948          DT   BS480    16.5
949          DI       0   10000
950          DQ       0   10000
             * DDM   ***** Preserved *****

951          KK   RT480
952          KM   RETRIEVE FLOW FROM DIVERSION INTO ONLINE BASIN
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 953          DR   BS480
              * DDM   ***** Preserved *****
                                          HEC-1 INPUT                                                    PAGE 26

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

 954          KK    S480
 955          KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
 956          KM    16.5 ACRE-FEETx43560/36x3600=5.5cfs
 957          RS       1     STOR       0
 958          SV       0      .01    16.5
 959          SQ       0      3.0     5.6
              * DDM   ***** Preserved *****

 960          KK    C480
 961          KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
 962          HC       2
              * DDM   ***** Preserved *****

 963          KK   CC480
 964          KM   HYDROGRAPH COMBINATION AT SUBBASIN 480
 965          HC       2   0.731
              * DDM   ***** Preserved *****

 966          KK    R480
 967          KM   ROUTE FLOW FROM SUB-BASIN 480 TO SUBBASIN 462
 968          RS       6     FLOW      -1
 969          RC    .035     .025    .035    2800    .0002
 970          RX       0        1       2      28     258     284     285     286
 971          RY    23.5     13.5    13.5       0       0    13.5    13.5    23.5
              * DDM   ***** Preserved *****

 972          KK     456
 973          KM   SUB-BASIN 456
 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  .998
 976          KM     L =  .94  Kb = .045  Adj. Slope =  315.0
 977          BA    .260
 978          LG    .300     .380   5.600    .200  12.000
 979          UC    .217     .139
 980          UA       0        5      16      30      65      77      84      90      94      97
 981          UA     100
              * DDM   ***** Preserved *****

 982          KK      D1
 983          KM        DIVERT FLOW INTO OFFLINE DETENTION BASIN
 984          KM        WEIR FOR BASIN SET AT 4 FEET ABOVE CHANNEL BOTTOM
              *      1
 985          DT  BASIN1     4.0
 986          DI       0     11.1   127.9   234.4   577.7   789.9  1025.5  1280.9  1555.7
 987          DQ       0        0       0    47.7     248   381.8   533.6   701.5     884
              * DDM   ***** Preserved *****

 988          KK      D2
 989          KM        SPLIT OUT FLOW FOR WASHES THAT FLOW TO THE SOUTH FROM
 990          KM        WASHES THAT DRAIN TO THE WES, SOUTHERN WASHES FED BY 30" & 24" PIPE
 991          DT    WA30
 992          DI       0     11.1   127.9   189.6   329.7     408   491.9   579.4   671.7
 993          DQ       0     11.1    38.4    48.2      63    69.5      76      81      86
              * DDM   ***** Preserved *****
1                                         HEC-1 INPUT                                                    PAGE 27

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

 994          KK    R456
 995          KM        ROUTE FLOW FROM SUB-BASIN 51 TO C101
 996          RS       2     FLOW      -1
 997          RC     .05     .035     .05    3800    .044
 998          RX    1000     1010    1020    1036    1041    1057    1067    1077
 999          RY   14.88    14.44      14      10      10      14   14.44   14.88
              * DDM   ***** Updated *****

1000          KK     457
1001          KM   SUB-BASIN 457
1002          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1003          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .999
1004          KM     L = 1.01  Kb = .045  Adj. Slope =  308.8
1005          BA    .190
1006          LG    .270     .330   3.950    .460   6.000
1007          UC    .237     .195
1008          UA       0        5      16      30      65      77      84      90      94      97
1009          UA     100
              * DDM   ***** Preserved *****

1010          KK    C101
1011          KM        COMBINE HYDROGRAPHS FROM SUB-BASINS 50 AND 51
1012          HC       2
              * DDM   ***** Preserved *****
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1013        KK      D3
1014        KM        RESERVOIR AT THE EDGE OF THE PROPERTY   FLOW FROM CHANNEL
1015        KM        DIVERTED  INTO OFFLINE BASIN A 25' WEIR SET AT ELEVATION 1808 FT
            *      1
1016        DT  BASIN2     5.0
1017        DI       0      36      70     110     180   313.5     402   500.9
1018        DQ       0       0       0       0       0    67.5     124   190.9
            * DDM   ***** Preserved *****

1019        KK    RTD3
1020        KM   RETRIEVE FLOW FROM DIVERSION INTO OFFLINE BASIN
1021        DR  BASIN2
            * DDM   ***** Preserved *****

1022        KK     SD3
1023        KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
1024        KM     5.0 ACRE-FEETx43560/36x3600=1.7cfs
1025        RS       1    STOR       0
1026        SV       0     .01       5
1027        SQ       0     0.7     1.7
            * DDM   ***** Preserved *****

1028        KK     CD3
1029        KM   HYDROGRAPH COMBINATION FOR OFFLINE BASIN BLEEDOFF
1030        HC       2
            * DDM   ***** Preserved *****
1                                    HEC-1 INPUT                                    PAGE 28

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

1031        KK    R101
1032        KM        ROUTE FLOW FROM SUBBASIN C101 TO C103
1033        RS       1    FLOW      -1
1034        RC     .05    .035     .05    1450     .05
1035        RX    1000    1010    1020    1036    1041    1057    1067    1077
1036        RY      15    14.5      14      10      10      14    14.5      15
            * DDM   ***** Updated *****

1037        KK     458
1038        KM   SUB-BASIN 458
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  .999
1041        KM     L =  .76  Kb = .048  Adj. Slope =  299.0
1042        BA    .190
1043        LG    .290    .330   5.800    .190   6.000
1044        UC    .204    .131
1045        UA       0       5      16      30      65      77      84      90      94      97
1046        UA     100
            * DDM   ***** Preserved *****

1047        KK    C103
1048        KM        COMBINE HYDROGRAPHS FROM SUB-BASIN 55 AND C101
1049        HC       2
            * DDM   ***** Preserved *****

1050        KK    R103
1051        KM        ROUTE FLOW FROM SUBBASIN C103 TO C106
1052        RS       1    FLOW      -1
1053        RC     .05    .035     .05     900     .03
1054        RX    1000    1010    1020    1030    1050    1060    1070    1080
1055        RY   23.16   12.83    12.5      10      10    12.5   12.83   23.16
            * DDM   ***** Preserved *****

1056        KK    RT30
1057        KM        RETRIEVE DIVERTED FLOW FOR WASH BELOW 30 INCH PIPE
1058        DR    WA30
            * DDM   ***** Preserved *****

1059        KK     R30
1060        KM        ROUTE FLOW FROM WASH DIVERSION TO COMBINE C52
1061        RS       1    FLOW      -1
1062        RC     .05    .035     .05    1630     .05
1063        RX    1000    1010    1020    1036    1041    1057    1067    1077
1064        RY      15    14.5      14      10      10      14    14.5      15
            * DDM   ***** Preserved *****

1065        KK    RTB1
1066        KM        RETRIEVE DIVERTED FLOW FROM BASIN 1
            *      1       2
1067        DR  BASIN1
            * DDM   ***** Preserved *****
1                                    HEC-1 INPUT                                    PAGE 29

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

1068        KK      B1
1069        KM        ROUTE FLOW THROUGH OFFLINE DETENTION BASIN
1070        KM        FLOW OUTLETS THROUGH A 30 INCH OUTLET PIPE
            *      1       2
```

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1071          RS       1    ELEV       0
1072          SV              .7     1.4     2.3     2.7     4.0
1073          SQ       0       5      16      28    32.5      37
1074          SE       0       1       2       3     3.5       4
              * DDM   ***** Preserved *****

1075          KK     RB1
1076          KM        ROUTE FLOW FROM BASIN DIVERSION TO COMBINE C52
1077          RS       3    FLOW      -1
1078          RC     .05    .035     .05    1720     .05
1079          RX    1000    1010    1020    1036    1041    1057    1067    1077
1080          RY      15    14.5      14      10      10      14    14.5      15
              * DDM   ***** Preserved *****

1081          KK    CDIV
1082          KM        COMBINE FLOWS FROM WA30 AND BASIN 1
1083          HC       2     .12
              * DDM   ***** Updated *****

1084          KK     459
1085          KM   SUB-BASIN 459
1086          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1087          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF 1.000
1088          KM     L =  .35  Kb = .052  Adj. Slope =  251.6
1089          BA    .030
1090          LG    .220    .300   3.330    .710   8.000
1091          UC    .162    .157
1092          UA       0       5      16      30      65      77      84      90      94      97
1093          UA     100
              * DDM   ***** Preserved *****

1094          KK     C52
1095          KM        COMBINE FLOWS FROM SUB-BASIN 52 WA30 AND BASIN 1
1096          HC       2
              * DDM   ***** Preserved *****

1097          KK     R52
1098          KM        ROUTE FLOW FROM SUBBASIN 52 TO C102
1099          RS       3    FLOW      -1
1100          RC     .05    .035     .05    2000     .05
1101          RX    1000    1010    1020    1036    1041    1057    1067    1077
1102          RY      15    14.5      14      10      10      14    14.5      15
              * DDM   ***** Updated *****

1103          KK     460
1104          KM   SUB-BASIN 460
1105          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1106          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .999
1107          KM     L =  .62  Kb = .058  Adj. Slope =  194.0
1108          BA    .140
```



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

1109          LG    .250    .260   3.740    .690  27.000
1110          UC    .242    .160
1111          UA       0       5      16      30      65      77      84      90      94      97
1112          UA     100
              * DDM   ***** Preserved *****

1113          KK    C102
1114          KM        COMBINE HYDROGRAPHS FROM SUB-BASINS 52 AND 53
1115          HC       2
              * DDM   ***** Preserved *****

1116          KK  BASIN3
1117          KM        RESERVOIR AT CLUBHOUSE LOCATION 1-30 INCH PIPE AT OUTFALL
1118          KM        BOTTOM OF BASIN AT 6 FEET ABOVE 1795 ELEVATION
1119          RS       1    ELEV       0
1120          SA       0       0       0     .34    1.59    1.81    1.96    2.13     2.3     2.5
1121          SQ      22      45    47.4      48      51      57      62      67      73    1000
1122          SE  1797.5    1800  1800.4  1800.5    1801    1802    1803    1804  1805.5    1806
              * DDM   ***** Preserved *****

1123          KK      R3
1124          KM        ROUTE FLOW FROM C102 to C106
1125          RS       5    FLOW      -1
1126          RC     .05     .03     .05    2750   .0375
1127          RX    1000    1010    1020    1052    1086    1118    1128    1138
1128          RY    19.2    18.4      18      10      10      18    18.4    19.2
              * DDM   ***** Updated *****

1129          KK     461
1130          KM   SUB-BASIN 461
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  .999
1133          KM     L =  .83  Kb = .052  Adj. Slope =  181.0
1134          BA    .120
1135          LG    .270    .250   4.250    .450  21.000
1136          UC    .271    .250
1137          UA       0       5      16      30      65      77      84      90      94      97
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1138          UA     100
              * DDM   ***** Preserved *****

1139          KK    C104
1140          KM        COMBINE HYDROGRAPHS FROM SUB-BASIN 54 AND R102
1141          HC       2
              * DDM   ***** Preserved *****

1142          KK    C106
1143          KM        COMBINE HYDROGRAPHS FROM SUB-BASIN C103 AND C104
1144          HC       2
              * DDM   ***** Preserved *****
1                                        HEC-1 INPUT                                                    PAGE 31

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


1145          KK    R106
1146          KM        ROUTE FLOW FROM C106 TO C49
1147          RS       2    FLOW      -1
1148          RC     .05    .035     .05    3950    .033
1149          RX    1000    1010    1020    1030    1050    1060    1070    1080
1150          RY   23.16   12.83    12.5      10      10    12.5   12.83   23.16
              * DDM   ***** Updated *****

1151          KK     462
1152          KM   SUB-BASIN 462
1153          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1154          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .998
1155          KM     L =  .97  Kb = .045  Adj. Slope =  297.7
1156          BA    .301
1157          LG    .300    .330   5.300    .240  12.000
1158          UC    .225    .137
1159          UA       0       5      16      30      65      77      84      90      94      97
1160          UA     100
              * DDM   ***** Preserved *****

1161          KK     C56
1162          KM        COMBINE HYDROGRAPHS FROM SUB-BASIN 56 AND C106
              *      1       2
1163          HC       2

1164          KK    C462
1165          KM        COMBINE HYDROGRAPHS AT SUBBASIN 462
              *      1
1166          HC       2    2.09
              * DDM   ***** Preserved *****

1167          KK    R462
1168          KM   ROUTE FLOW FROM SUB-BASIN 462 TO SUB-BASIN 500 (First Channel Reach)
1169          RS       1    FLOW      -1
1170          RC    .025    .025    .025    1800    .005
1171          RX       0       1      20      32     262     274     293     294
1172          RY      13      12      12       0       0      12      12      13
              * DDM   ***** Preserved *****

1173          KK   RR462
1174          KM   ROUTE FLOW FROM SUB-BASIN 462 TO SUB-BASIN 500 (Second Natural Wash Reach)
1175          RS       3    FLOW      -1
1176          RC    .055     .05    .055    4700     .05
1177          RX       0       1       2      28      58      84      85      86
1178          RY    13.5    13.5    13.5       0       0    13.5    13.5    13.5
              * DDM   ***** Updated *****

1179          KK     500
1180          KM   SUB-BASIN 500
1181          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1182          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .994
1183          KM     L = 2.77  Kb = .042  Adj. Slope =  286.8
1184          BA    .930
1185          LG    .350    .400   6.000    .170   9.000
1                                        HEC-1 INPUT                                                    PAGE 32

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

1186          UC    .421    .333
1187          UA       0       3       5       8      12      20      43      75      90      96
1188          UA     100
              * DDM   ***** Preserved *****

1189          KK    C500
1190          KM   HYDROGRAPH COMBINATION FOR THE ENTIRE WATERSHED AT THE SALT RIVER
1191          HC       2    3.02
1192          ZZ
1
        SCHEMATIC DIAGRAM OF STREAM NETWORK

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

  NO.     (.) CONNECTOR        (<---) RETURN OF DIVERTED OR PUMPED FLOW
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 18        R180
              .
              .
 42           .         260
              .           .
              .           .
 52        C260............
              V
              V
 55        R260
              .
              .
 64           .         280
              .           .
              .           .
 74        C280............
              V
              V
 77        R280
              .
              .
 86           .         300
              .           .
              .           .
 96        C300............
              V
              V
 99        R300
              .
              .
108           .         305
              .           .
              .           .
118        C305............
              V
              V
121        R305
              .
              .
130           .         350
              .           .
              .           .
143           .           .-------->   SF350
140           .        D350
              .           V
              .           V
146           .        R350
              .           .
              .           .
153           .           .         310
              .           .           .
              .           .           .
163           .        C310............
              .           V
              .           V
166           .        R310
              .           .
              .           .
173           .           .         320
              .           .           .
              .           .           .
188           .           .           .-------->   BS320
183           .           .        D320
              .           .           .
              .           .           .
193           .           .           .           .<--------   BS320
191           .           .           .       RT320
              .           .           .           V
              .           .           .           V
194           .           .           .        S320
              .           .           .           .
              .           .           .           .
200        C320.................................
              V
              V
203        R320
              .
              .
210           .         340
              .           .
              .           .
225           .           .-------->   BS340
220           .        D340
              .           .
              .           .
230           .           .           .<--------   BS340
228           .           .        RT340
              .           .           V
              .           .           V
231           .           .        S340
              .           .           .
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237        C340.......................
              V
              V
240        R340
              .
              .
249           .           .<-------   SF350
247           .       RT350
              .           V
              .           V
250           .       RR350
              .           .
              .           .
257           .           .         355
              .           .           .
              .           .           .
267           .        C355............
              .           V
              .           V
270           .        R355
              .           .
              .           .
277           .           .         360
              .           .           .
              .           .           .
291           .           .           .------->   BS360
287           .           .        D360
              .           .           .
              .           .           .
296           .           .           .           .<-------   BS360
294           .           .           .       RT360
              .           .           .           V
              .           .           .           V
297           .           .           .        S360
              .           .           .           .
              .           .           .           .
303        C360.................................
              V
              V
306        R360
              .
              .
313           .         370
              .           .
              .           .
323           .           .         395
              .           .           .
              .           .           .
333           .        C370............
              .           V
              .           V
336           .        R370
              .           .
              .           .
343           .           .         380
              .           .           .
              .           .           .
357           .           .           .------->   BS380
353           .           .        D380
              .           .           .
              .           .           .
362           .           .           .           .<-------   BS380
360           .           .           .       RT380
              .           .           .           V
              .           .           .           V
363           .           .           .        S380
              .           .           .           .
              .           .           .           .
369        C380.................................
              V
              V
372        R380
              .
              .
379           .         390
              .           .
              .           .
393           .           .------->   BS390
389           .        D390
              .           .
              .           .
398           .           .           .<-------   BS390
396           .           .       RT390
              .           .           V
              .           .           V
399           .           .        S390
              .           .           .
              .           .           .
405           .        C390............
              .           V
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                .          V
408             .       R390
                .          .
                .          .
415             .          .         400
                .          .           .
                .          .           .
429             .          .           .-------->   BS400
425             .          .       D400
                .          .           .
                .          .           .
434             .          .           .           .<--------   BS400
432             .          .           .       RT400
                .          .           .           V
                .          .           .           V
435             .          .           .        S400
                .          .           .           .
                .          .           .           .
441             .          .       C400............
                .          .           .
                .          .           .
444         CC400........................
                V
                V
447          R400
                .
                .
454             .        385
                .          .
                .          .-------->   SF385
466             .       D385
464             .          V
                .          V
469             .       R385
                .          .
                .          .
476             .          .         420
                .          .           .
                .          .           .
490             .          .           .-------->   BS420
486             .          .       D420
                .          .           .
                .          .           .
495             .          .           .           .<--------   BS420
493             .          .           .       RT420
                .          .           .           V
                .          .           .           V
496             .          .           .        S420
                .          .           .           .
                .          .           .           .
502          C420....................................
                V
                V
505          R420
                .
                .
512             .        440
                .          V
                .          V
522             .        R70
                .          .
                .          .
528             .          .         441
                .          .           .
                .          .           .
538             .       C108............
                .          .
                .          .
543             .          .-------->   SPLIT
541             .         D4
                .          V
                .          V
546             .       R108
                .          .
                .          .
552             .          .         442
                .          .           .
                .          .           .
562             .        C67............
                .          .
                .          .
568             .          .-------->  BASIN4
565             .         D6
                .          .
                .          .
573             .          .           .<--------  BASIN4
571             .          .       RTD6
                .          .          V
                .          .          V
574             .          .        SD6
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580          CD6............
583                  443
596                  .------->   WSH66
593                  D66
                     V
                     V
599                R113
605          C114............
608                  444
                     V
                     V
618                  R58
624                  .         445
                     .
634                C107............
                     V
                     V
637                R107
645                  .           .<-------   SPLIT
643                  .       RTB2
                     .           V
                     .           V
646                  .     RSPLIT
652                  .           .        446
                     .           .
662                C109........................
668                  .------->  WSH404
665                  D5
                     V
                     V
671                R109
677                  .         447
689                  .           .          .<-------  WSH404
687                  .           .      RT404
                     .           .          V
                     .           .          V
690                  .           .       R404
                     .           .
696                C110........................
                     V
                     V
699                R110
705          C115............
                V
                V
708          R115
714                  448
724                  .         449
                     .
734                C6364...........
                     V
                     V
737                R6364
743                  .         450
                     .
753                  .           .        451
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763                 C451............
768                                     .<-------   WSH66
766                                 RT66
769                                                     452
779                             C6465............
                                    V
                                    V
782                             R6566
788                 C116........................
                        V
                        V
791               BASIN5
                        V
                        V
798                 R116
804                             453
814                 C117............
817           C118............
                 V
                 V
820           R118
829           .------->  BASIN6
826             D7
834                     .<-------  BASIN6
832                 RTD7
                        V
                        V
835                  SD7
841            CD7............
844                  454
854           C119............
                 V
                 V
857           R454
864                  415
876                                     .<-------   SF385
874                             RT385
                                    V
                                    V
877                             RR385
884           C415........................
                 V
                 V
887           R415
894                  455
909                     .------->   BS455
904                 D455
914                                     .<-------   BS455
912                             RT455
                                    V
                                    V
915                              S455
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921          .          .          .          .
             .          .       C455...........
             .          .          .
             .          .          .
924      CC455......................
             V
             V
927       R455
             .
             .
933          .        480
             .          .
             .          .
948          .          .------->   BS480
943          .       D480
             .          .
             .          .
953          .          .          .<-------   BS480
951          .          .      RT480
             .          .          V
             .          .          V
954          .          .       S480
             .          .          .
             .          .          .
960          .       C480...........
             .          .
             .          .
963      CC480...........
             V
             V
966       R480
             .
             .
972          .        456
             .          .
             .          .
985          .          .------->  BASIN1
982          .         D1
             .          .
             .          .
991          .          .------->    WA30
988          .         D2
             .          V
             .          V
994          .       R456
             .          .
             .          .
1000         .          .        457
             .          .          .
             .          .          .
1010         .       C101...........
             .          .
             .          .
1016         .          .------->  BASIN2
1013         .         D3
             .          .
             .          .
1021         .          .          .<-------  BASIN2
1019         .          .       RTD3
             .          .          V
             .          .          V
1022         .          .        SD3
             .          .          .
             .          .          .
1028         .        CD3...........
             .          V
             .          V
1031         .       R101
             .          .
             .          .
1037         .          .        458
             .          .          .
             .          .          .
1047         .       C103...........
             .          V
             .          V
1050         .       R103
             .          .
             .          .
1058         .          .          .<-------    WA30
1056         .          .       RT30
             .          .          V
             .          .          V
1059         .          .        R30
             .          .          .
             .          .          .
1067         .          .          .          .<-------  BASIN1
1065         .          .          .       RTB1
             .          .          .          V
             .          .          .          V
1068         .          .          .         B1
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                .          .          .          V
                .          .          .          V
 1075           .          .          .        RB1
                .          .          .          .
                .          .          .          .
 1081           .          .       CDIV...........
                .          .          .
                .          .          .
 1084           .          .          .        459
                .          .          .          .
                .          .          .          .
 1094           .          .        C52...........
                .          .          V
                .          .          V
 1097           .          .        R52
                .          .          .
                .          .          .
 1103           .          .          .        460
                .          .          .          .
                .          .          .          .
 1113           .          .       C102...........
                .          .          V
                .          .          V
 1116           .          .     BASIN3
                .          .          V
                .          .          V
 1123           .          .         R3
                .          .          .
                .          .          .
 1129           .          .          .        461
                .          .          .          .
                .          .          .          .
 1139           .          .       C104...........
                .          .          .
                .          .          .
 1142           .       C106...........
                .          V
                .          V
 1145           .       R106
                .          .
                .          .
 1151           .          .        462
                .          .          .
                .          .          .
 1161           .        C56...........
                .          .
                .          .
 1164        C462...........
                V
                V
 1167        R462
                V
                V
 1173       RR462
                .
                .
 1179           .        500
                .          .
                .          .
 1189        C500...........
```

(***) RUNOFF ALSO COMPUTED AT THIS LOCATION

```
1*****************************************
 *                                       *
 *   FLOOD HYDROGRAPH PACKAGE  (HEC-1)   *
 *              JUN   1998               *
 *            VERSION 4.1                *
 *                                       *
 *  RUN DATE   01MAY01  TIME  11:21:24   *
 *                                       *
 *****************************************
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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 - SPS, 7-Hour
Existing Condition Base Model with Spook Hill FRS Channel Routing
Original File Name: EC24B_R.DAT
Modified File Name: ESPS_CHL.DAT, Wood/Patel, 3/29/01, Modified by SZ
A CONSERVATIVE ESTIMATE WAS USED FOR THE LOCATION OF THE CENTROID FOR
PRECIPITATION VALUES
CHANNEL ROUTING INFORMATION FOR MCFCD FLOODWAYS WERE OBTAINED
FROM MCFCD SPOOK HILL, SIGNAL BUTTE AND BULLDOG FLOODWAY PLANS

UPDATE TO EXISTING CONDITION 24-HR 100-YR MODEL RUN BASED ON RE-ALIGNMENT
OF SUB-BASIN BOUNDARIES FOR SUB-BASINS 385 (REDUCED) & 415 (ENLARGED)
UPDATE BASED ON INFORMATION FROM 2' CONTOUR MAPPING.

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16 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
1
                                                RUNOFF SUMMARY
                                        FLOW IN CUBIC FEET PER SECOND
                                      TIME IN HOURS,  AREA IN SQUARE MILES

                                     PEAK   TIME OF    AVERAGE FLOW FOR MAXIMUM PERIOD      BASIN    MAXIMUM    TIME OF
         OPERATION        STATION    FLOW    PEAK                                          AREA     STAGE    MAX STAGE
+                                                        6-HOUR     24-HOUR     72-HOUR

         HYDROGRAPH AT
+                          R180      113.     .00        113.        113.        113.       .01
         HYDROGRAPH AT
+                           260      360.   47.57        125.         31.         13.       .26
         2 COMBINED AT
+                          C260      473.   47.57        238.        144.        126.       .27
         ROUTED TO
                           R260      469.   47.67        238.        144.        126.       .27
                                                                                            3.04      47.67
         HYDROGRAPH AT
+                           280      430.   47.57        134.         34.         13.       .32
         2 COMBINED AT
+                          C280      889.   47.60        372.        178.        139.       .59
         ROUTED TO
+                          R280      884.   47.63        372.        178.        139.       .59
+                                                                                            4.30      47.63
         HYDROGRAPH AT
+                           300      346.   47.57         97.         24.          9.       .29
         2 COMBINED AT
+                          C300     1219.   47.60        469.        203.        149.       .88
         ROUTED TO
+                          R300     1204.   47.67        469.        203.        149.       .88
+                                                                                            4.10      47.67
         HYDROGRAPH AT
+                           305      632.   47.73        255.         64.         24.       .70
         2 COMBINED AT
+                          C305     1823.   47.70        724.        267.        173.      1.58
         ROUTED TO
+                          R305     1818.   47.73        724.        267.        173.      1.58
+                                                                                            5.43      47.73
         HYDROGRAPH AT
+                           350     1146.   47.67        352.         88.         33.       .97
         DIVERSION TO
+                         SF350      573.   47.67        176.         44.         16.       .97
         HYDROGRAPH AT
+                          D350      573.   47.67        176.         44.         16.       .97
         ROUTED TO
+                          R350      555.   47.87        176.         44.         16.       .97
                                                                                            2.42      47.87
         HYDROGRAPH AT
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+	310	471.	47.80	165.	41.	15.	.56		
+ 2 COMBINED AT	C310	1022.	47.83	342.	86.	31.	1.53		
+ ROUTED TO	R310	993.	48.10	341.	86.	31.	1.53		
+								2.98	48.10
+ HYDROGRAPH AT	320	1045.	47.67	370.	93.	36.	.95		
+ DIVERSION TO	BS320	117.	47.67	24.	6.	2.	.95		
+ HYDROGRAPH AT	D320	1045.	47.67	370.	93.	34.	.95		
+ HYDROGRAPH AT	RT320	117.	2.20	24.	6.	2.	.00		
+ ROUTED TO	S320	4.	7.10	4.	4.	2.	.00		
+ 4 COMBINED AT	C320	3328.	47.73	1434.	448.	240.	4.06		
+ ROUTED TO	R320	3289.	48.13	1433.	448.	240.	4.06		
+								97.32	48.13
+ HYDROGRAPH AT	340	1534.	47.63	508.	129.	53.	1.44		
+ DIVERSION TO	BS340	764.	47.63	51.	17.	10.	1.44		
+ HYDROGRAPH AT	D340	1534.	47.63	472.	118.	42.	1.44		
+ HYDROGRAPH AT	RT340	764.	46.00	51.	17.	10.	.00		
ROUTED TO	S340	11.	11.03	10.	9.	8.	.00		
+ 3 COMBINED AT	C340	4353.	47.90	1914.	573.	291.	5.50		
+ ROUTED TO	R340	4339.	48.07	1912.	573.	291.	5.50		
+								97.45	48.07
+ HYDROGRAPH AT	RT350	573.	47.67	176.	44.	16.	.00		
+ ROUTED TO	RR350	552.	47.90	176.	44.	16.	.00		
+								2.42	47.90
+ HYDROGRAPH AT	355	641.	47.80	237.	60.	22.	.68		
+ 2 COMBINED AT	C355	1182.	47.83	414.	104.	38.	.68		
+ ROUTED TO	R355	1154.	48.10	413.	104.	38.	.68		
+								3.04	48.10
+ HYDROGRAPH AT	360	840.	47.70	299.	76.	31.	.88		
+ DIVERSION TO	BS360	307.	47.70	30.	10.	5.	.88		
+ HYDROGRAPH AT	D360	840.	47.70	285.	71.	26.	.88		
+ HYDROGRAPH AT	RT360	307.	45.93	30.	10.	5.	.00		
+ ROUTED TO	S360	7.	11.20	6.	6.	5.	.00		
+ 4 COMBINED AT	C360	6138.	48.03	2614.	753.	359.	7.05		
ROUTED TO	R360	6107.	48.20	2609.	753.	359.	7.05		
								97.97	48.20

	HYDROGRAPH AT	370	776.	47.70	256.	64.	24.	.67		
+	HYDROGRAPH AT	395	228.	47.67	79.	20.	8.	.20		
+	2 COMBINED AT	C370	1005.	47.70	335.	84.	32.	.87		
+	ROUTED TO	R370	976.	47.97	335.	84.	32.	.87		
+									2.94	47.97
+	HYDROGRAPH AT	380	768.	47.73	282.	71.	27.	.90		
+	DIVERSION TO	BS380	412.	47.73	42.	11.	5.	.90		
+	HYDROGRAPH AT	D380	768.	47.73	241.	60.	22.	.90		
+	HYDROGRAPH AT	RT380	412.	46.40	42.	11.	5.	.00		
+	ROUTED TO	S380	8.	46.57	7.	6.	3.	.00		
+	4 COMBINED AT	C380	7562.	48.10	3186.	900.	416.	8.82		
+	ROUTED TO	R380	7523.	48.27	3184.	900.	416.	8.82		
+									101.20	48.27
+	HYDROGRAPH AT	390	337.	47.50	96.	24.	10.	.24		
+	DIVERSION TO	BS390	60.	47.50	7.	2.	1.	.24		
+	HYDROGRAPH AT	D390	337.	47.50	96.	24.	9.	.24		
	HYDROGRAPH AT	RT390	60.	2.07	7.	2.	1.	.00		
+	ROUTED TO	S390	1.	5.97	1.	1.	1.	.00		
+	2 COMBINED AT	C390	337.	47.50	96.	25.	10.	.24		
+	ROUTED TO	R390	309.	47.93	96.	25.	10.	.24		
+									2.30	47.93
+	HYDROGRAPH AT	400	599.	47.67	195.	49.	18.	.62		
+	DIVERSION TO	BS400	82.	47.67	6.	2.	1.	.62		
+	HYDROGRAPH AT	D400	599.	47.67	193.	48.	17.	.62		
+	HYDROGRAPH AT	RT400	82.	45.73	6.	2.	1.	.00		
+	ROUTED TO	S400	2.	11.00	2.	1.	1.	.00		
+	2 COMBINED AT	C400	600.	47.67	194.	49.	18.	.62		
+	3 COMBINED AT	CC400	8060.	48.23	3458.	974.	444.	9.68		
+	ROUTED TO	R400	8021.	48.40	3455.	974.	444.	9.68		
+									101.50	48.40
+	HYDROGRAPH AT	385	621.	47.70	227.	57.	22.	.53		
+	DIVERSION TO	SF385	372.	47.70	136.	34.	13.	.53		
	HYDROGRAPH AT	D385	248.	47.70	91.	23.	9.	.53		

	ROUTED TO	R385	231.	48.23	90.	23.	9.	.53	2.02	48.23
+	HYDROGRAPH AT	420	818.	47.67	263.	66.	26.	.85		
+	DIVERSION TO	BS420	78.	47.67	17.	4.	2.	.85		
+	HYDROGRAPH AT	D420	818.	47.67	263.	66.	24.	.85		
+	HYDROGRAPH AT	RT420	78.	2.17	17.	4.	2.	.00		
+	ROUTED TO	S420	3.	7.13	3.	2.	2.	.00		
+	4 COMBINED AT	C420	8533.	48.37	3787.	1064.	479.	11.06		
+	ROUTED TO	R420	8495.	48.47	3785.	1064.	479.	11.06	101.78	48.47
+	HYDROGRAPH AT	440	121.	47.50	38.	9.	4.	.08		
+	ROUTED TO	R70	121.	47.53	38.	9.	4.	.08	11.17	47.53
+	HYDROGRAPH AT	441	13.	47.53	4.	1.	0.	.01		
+	2 COMBINED AT	C108	135.	47.53	42.	11.	4.	.09		
+	DIVERSION TO	SPLIT	67.	47.53	21.	5.	2.	.09		
+	HYDROGRAPH AT	D4	67.	47.53	21.	5.	2.	.09		
+	ROUTED TO	R108	67.	47.57	21.	5.	2.	.09	10.71	47.57
+	HYDROGRAPH AT	442	92.	47.57	23.	6.	2.	.10		
+	2 COMBINED AT	C67	158.	47.57	44.	11.	4.	.19		
+	DIVERSION TO	BASIN4	87.	47.57	7.	2.	1.	.19		
+	HYDROGRAPH AT	D6	158.	47.57	37.	9.	4.	.19		
+	HYDROGRAPH AT	RTD6	87.	47.50	7.	2.	1.	.00		
+	ROUTED TO	SD6	1.	47.57	1.	1.	0.	.00		
+	2 COMBINED AT	CD6	159.	47.57	38.	10.	4.	.19		
+	HYDROGRAPH AT	443	119.	47.53	41.	10.	4.	.08		
+	DIVERSION TO	WSH66	78.	47.53	39.	10.	4.	.08		
+	HYDROGRAPH AT	D66	41.	47.53	3.	1.	0.	.08		
+	ROUTED TO	R113	40.	47.57	3.	1.	0.	.08	10.63	47.57
+	2 COMBINED AT	C114	199.	47.57	41.	11.	4.	.27		
+	HYDROGRAPH AT	444	55.	47.50	15.	4.	1.	.04		
+	ROUTED TO	R58	54.	47.53	15.	4.	1.	.04		

+								10.87	47.53
	HYDROGRAPH AT								
+	445	221.	47.50	53.	13.	5.	.19		
	2 COMBINED AT								
+	C107	275.	47.50	68.	17.	6.	.23		
	ROUTED TO								
+	R107	275.	47.53	68.	17.	6.	.23		
+								11.93	47.53
	HYDROGRAPH AT								
+	RTB2	67.	47.53	21.	5.	2.	.00		
	ROUTED TO								
+	RSPLIT	67.	47.53	21.	5.	2.	.00		
+								11.01	47.53
	HYDROGRAPH AT								
+	446	52.	47.53	16.	4.	2.	.04		
	3 COMBINED AT								
+	C109	395.	47.53	104.	26.	10.	.27		
	DIVERSION TO								
+	WSH404	35.	47.53	23.	6.	3.	.27		
	HYDROGRAPH AT								
+	D5	360.	47.53	81.	20.	7.	.27		
	ROUTED TO								
+	R109	357.	47.53	81.	20.	7.	.27		
+								11.32	47.53
	HYDROGRAPH AT								
+	447	103.	47.53	27.	7.	3.	.09		
	HYDROGRAPH AT								
+	RT404	35.	45.63	23.	6.	3.	.00		
	ROUTED TO								
+	R404	35.	48.80	23.	6.	3.	.00		
+								10.59	48.80
	3 COMBINED AT								
	C110	495.	47.53	131.	33.	13.	.36		
	ROUTED TO								
+	R110	495.	47.53	131.	33.	13.	.36		
+								11.50	47.53
	2 COMBINED AT								
+	C115	693.	47.57	171.	43.	17.	.63		
	ROUTED TO								
+	R115	682.	47.60	171.	43.	17.	.63		
+								11.77	47.60
	HYDROGRAPH AT								
+	448	61.	47.50	17.	4.	2.	.05		
	HYDROGRAPH AT								
+	449	58.	47.50	14.	3.	1.	.05		
	2 COMBINED AT								
+	C6364	119.	47.50	30.	8.	3.	.09		
	ROUTED TO								
+	R6364	115.	47.60	30.	8.	3.	.09		
+								10.88	47.60
	HYDROGRAPH AT								
+	450	64.	47.67	19.	5.	2.	.07		
	HYDROGRAPH AT								
+	451	18.	47.67	5.	1.	0.	.03		
	2 COMBINED AT								
+	C451	82.	47.67	25.	6.	2.	.09		
	HYDROGRAPH AT								
+	RT66	78.	45.97	39.	10.	4.	.00		
	HYDROGRAPH AT								
+	452	48.	47.53	13.	3.	1.	.04		
	2 COMBINED AT								
	C6465	126.	47.53	51.	13.	5.	.04		
	ROUTED TO								

+	R6566	125.	47.57	51.	13.	5.	.04		
								11.10	47.57
	3 COMBINED AT								
+	C116	320.	47.63	106.	27.	11.	.23		
	ROUTED TO								
+	BASIN5	316.	47.67	105.	27.	11.	.23		
+								5.16	47.67
	ROUTED TO								
+	R116	308.	47.73	105.	27.	11.	.23		
+								10.74	47.73
	HYDROGRAPH AT								
+	453	56.	47.57	15.	4.	2.	.06		
	2 COMBINED AT								
+	C117	353.	47.73	120.	31.	12.	.29		
	2 COMBINED AT								
+	C118	970.	47.63	291.	74.	29.	.92		
	ROUTED TO								
+	R118	964.	47.67	291.	74.	29.	.92		
+								12.21	47.67
	DIVERSION TO								
+	BASIN6	187.	47.67	7.	2.	1.	.92		
	HYDROGRAPH AT								
+	D7	964.	47.67	284.	72.	29.	.92		
	HYDROGRAPH AT								
+	RTD7	187.	47.43	7.	2.	1.	.00		
	ROUTED TO								
+	SD7	1.	47.50	1.	1.	0.	.00		
	2 COMBINED AT								
+	CD7	965.	47.67	285.	73.	29.	.92		
	HYDROGRAPH AT								
+	454	171.	47.63	57.	14.	6.	.18		
	2 COMBINED AT								
	C119	1134.	47.63	342.	87.	35.	1.10		
	ROUTED TO								
+	R454	1125.	47.70	342.	87.	35.	1.10		
+								4.29	47.70
	HYDROGRAPH AT								
+	415	635.	47.63	227.	57.	23.	.61		
	HYDROGRAPH AT								
+	RT385	372.	47.70	136.	34.	13.	.00		
	ROUTED TO								
+	RR385	361.	48.00	136.	34.	13.	.00		
+								2.28	48.00
	3 COMBINED AT								
+	C415	2004.	47.70	704.	178.	71.	1.71		
	ROUTED TO								
+	R415	1993.	47.73	704.	178.	71.	1.71		
+								7.31	47.73
	HYDROGRAPH AT								
+	455	1246.	47.60	367.	93.	39.	1.11		
	DIVERSION TO								
+	BS455	736.	47.60	83.	22.	13.	1.11		
	HYDROGRAPH AT								
+	D455	1246.	47.60	285.	71.	26.	1.11		
	HYDROGRAPH AT								
+	RT455	736.	46.13	83.	22.	13.	.00		
	ROUTED TO								
+	S455	17.	46.47	16.	12.	9.	.00		
	2 COMBINED AT								
+	C455	1262.	47.60	300.	83.	35.	1.11		
	3 COMBINED AT								
	CC455	9708.	48.37	4768.	1324.	584.	13.88		
	ROUTED TO								

+	R455	9640.	48.70	4744.	1324.	583.	13.88	10.29	48.70
+ HYDROGRAPH AT	480	859.	47.53	232.	59.	25.	.73		
+ DIVERSION TO	BS480	197.	47.53	33.	8.	3.	.73		
+ HYDROGRAPH AT	D480	859.	47.53	232.	59.	22.	.73		
+ HYDROGRAPH AT	RT480	197.	2.07	33.	8.	3.	.00		
+ ROUTED TO	S480	5.	6.80	5.	5.	3.	.00		
+ 2 COMBINED AT	C480	862.	47.53	235.	63.	25.	.73		
+ 2 COMBINED AT	CC480	9853.	48.73	4902.	1384.	609.	14.61		
+ ROUTED TO	R480	9823.	48.87	4895.	1384.	608.	14.61	10.40	48.87
+ HYDROGRAPH AT	456	371.	47.53	114.	29.	11.	.26		
+ DIVERSION TO	BASIN1	101.	47.53	8.	2.	1.	.26		
+ HYDROGRAPH AT	D1	371.	47.53	106.	27.	10.	.26		
+ DIVERSION TO	WA30	66.	47.53	28.	7.	3.	.26		
+ HYDROGRAPH AT	D2	304.	47.53	77.	19.	7.	.26		
+ ROUTED TO	R456	299.	47.57	77.	19.	7.	.26	12.12	47.57
+ HYDROGRAPH AT	457	225.	47.53	62.	16.	6.	.19		
+ 2 COMBINED AT	C101	523.	47.57	140.	35.	13.	.45		
+ DIVERSION TO	BASIN2	186.	47.57	10.	3.	1.	.45		
+ HYDROGRAPH AT	D3	523.	47.57	130.	32.	12.	.45		
+ HYDROGRAPH AT	RTD3	186.	47.47	10.	3.	1.	.00		
+ ROUTED TO	SD3	2.	47.53	2.	1.	0.	.00		
+ 2 COMBINED AT	CD3	525.	47.57	131.	34.	13.	.45		
+ ROUTED TO	R101	516.	47.60	131.	34.	13.	.45	12.63	47.60
+ HYDROGRAPH AT	458	273.	47.50	84.	21.	8.	.19		
+ 2 COMBINED AT	C103	766.	47.57	214.	54.	21.	.64		
+ ROUTED TO	R103	766.	47.60	214.	54.	21.	.64	12.35	47.60
+ HYDROGRAPH AT	RT30	66.	47.53	28.	7.	3.	.00		
+ ROUTED TO	R30	66.	47.57	28.	7.	3.	.00	10.99	47.57
+ HYDROGRAPH AT	RTB1	101.	47.30	8.	2.	1.	.00		

	ROUTED TO								
		B1	25.	47.33	8.	2.	1.	.00	2.75	47.33
	ROUTED TO								
+		RB1	24.	47.40	8.	2.	1.	.00		
+									10.58	47.40
	2 COMBINED AT								
+		CDIV	88.	47.47	36.	9.	4.	.00		
	HYDROGRAPH AT								
+		459	33.	47.50	8.	2.	1.	.03		
	2 COMBINED AT								
+		C52	121.	47.50	44.	11.	5.	.03		
	ROUTED TO								
+		R52	121.	47.53	44.	11.	5.	.03		
+									11.34	47.53
	HYDROGRAPH AT								
+		460	168.	47.53	46.	12.	5.	.14		
	2 COMBINED AT								
+		C102	288.	47.53	90.	23.	10.	.17		
	ROUTED TO								
+		BASIN3	288.	47.53	89.	23.	10.	.17		
+									1805.62	47.53
	ROUTED TO								
+		R3	286.	47.60	89.	23.	10.	.17		
+									10.89	47.60
	HYDROGRAPH AT								
+		461	144.	47.57	45.	12.	5.	.12		
	2 COMBINED AT								
+		C104	428.	47.60	134.	34.	14.	.29		
	2 COMBINED AT								
+		C106	1194.	47.60	347.	88.	35.	.93		
	ROUTED TO								
		R106	1150.	47.67	346.	88.	35.	.93	12.82	47.67
	HYDROGRAPH AT								
+		462	424.	47.53	128.	32.	12.	.30		
	2 COMBINED AT								
+		C56	1489.	47.63	472.	120.	47.	1.23		
	2 COMBINED AT								
+		C462	10391.	48.93	5246.	1504.	656.	15.84		
	ROUTED TO								
+		R462	10381.	48.97	5245.	1504.	656.	15.84		
+									4.15	48.97
	ROUTED TO								
+		RR462	10375.	49.00	5245.	1504.	656.	15.84		
+									9.40	49.00
	HYDROGRAPH AT								
+		500	1130.	47.73	414.	104.	40.	.93		
	2 COMBINED AT								
+		C500	10861.	49.03	5608.	1608.	695.	16.77		

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