Spook Hill ADMP Update

Flood Control District of Maricopa County

Appendix B
Volume 7A

HEC-1 Modeling Output Files
(Level II)

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Spook Hill Area Drainage Master Plan Update

Flood Control District of Maricopa County

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Appendix B

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Registered Professional Engineer (Civil)
CERTIFICATE NO.
28615
RICHARD L.
HINER
Date Signed 9-20-02
ARIZONA U.S.A.

Spook Hill ADMP Level II Alternative Summary - Peak Flows I

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

Spook Hill ADMP Level II Alternative Summary - Peak Flows II

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

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".

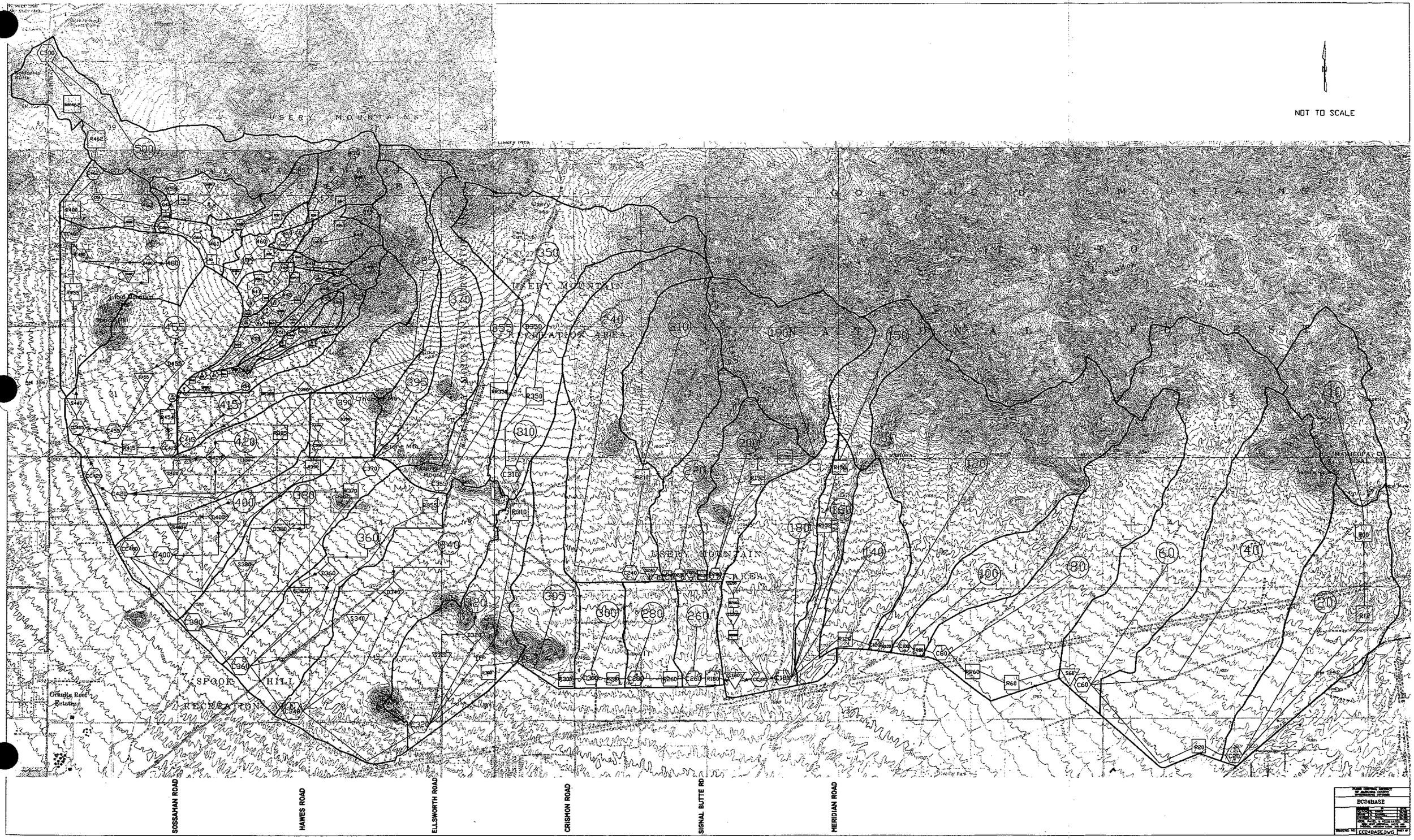
NOT TO SCALE
USERY MOUNTAINS
USERY MOUNTAIN
SPOOK HILL
RECREATION AREA
Granite Reef Estates
SOSSAMAN ROAD
HAWES ROAD
ELLSWORTH ROAD
CRISHON ROAD
SIGNAL BUTTE RD
MERIDIAN ROAD
EC24BASE
EC24BASE.DWG

TABLE 1
SPOOK HILL ADMP UPDATE
Summary of HEC-1 Sub-basin Physical Parameters

Basin ID	Area (mi^2)	Length (mi)	Kb	Slope (ft/mi)
10	0.7020	2.000	0.044	165.00
20	1.1200	2.500	0.041	88.00
40	2.2330	3.080	0.036	189.00
60	1.7460	4.190	0.038	209.60
80	1.4750	2.690	0.039	229.80
100	0.4840	1.940	0.046	108.00
120	2.2020	3.070	0.037	239.00
140	0.5980	1.610	0.044	149.00
150	0.4080	1.500	0.047	314.60
160	0.3690	2.100	0.047	129.00
180	1.0000	2.420	0.041	140.00
210	0.7920	1.840	0.043	315.00
240	1.4080	3.500	0.039	298.60
220	0.4730	1.920	0.046	315.00
190	0.9180	1.910	0.042	315.00
200	0.5300	1.580	0.045	305.60
260	0.2620	0.810	0.049	68.00
280	0.3190	0.770	0.048	84.00
300	0.2890	0.780	0.049	103.00
305	0.7020	2.500	0.044	116.00
350	0.9700	2.220	0.042	315.00
310	0.5550	2.700	0.045	283.50
320	0.9500	2.200	0.042	132.00
340	1.4400	2.400	0.042	160.00
355	0.6760	3.000	0.044	284.00
360	0.8800	2.100	0.047	124.00
370	0.6720	1.900	0.044	203.50
395	0.1990	1.300	0.051	219.20
380	0.8980	2.200	0.049	114.00
390	0.2440	0.700	0.050	299.40
400	0.6160	1.640	0.046	110.00
385	0.5270	2.300	0.045	303.00

TABLE 1
SPOOK HILL ADMP UPDATE
Summary of HEC-1 Sub-basin Physical Parameters

Basin ID	Area (mi^2)	Length (mi)	Kb	Slope (ft/mi)
420	0.8490	1.910	0.042	120.00
440	0.0800	0.400	0.039	315.00
441	0.0100	0.280	0.069	315.00
442	0.1000	0.830	0.055	274.20
443	0.0800	0.710	0.050	315.00
444	0.0400	0.330	0.034	315.00
445	0.1900	0.820	0.036	315.00
446	0.0400	0.460	0.061	303.90
447	0.0900	0.490	0.056	221.00
448	0.0450	0.360	0.042	315.00
449	0.0500	0.400	0.054	315.00
450	0.0700	0.850	0.057	210.50
451	0.0250	0.570	0.063	175.00
452	0.0400	0.430	0.055	315.00
453	0.0600	0.580	0.058	138.00
454	0.1800	1.230	0.051	163.00
415	0.6090	2.580	0.044	298.50
455	1.1110	1.700	0.041	146.00
480	0.7310	1.210	0.042	165.00
456	0.2600	0.940	0.045	315.00
457	0.1900	1.010	0.045	308.80
458	0.1900	0.760	0.048	299.00
459	0.0300	0.350	0.052	251.60
460	0.1400	0.620	0.058	194.00
461	0.1200	0.830	0.052	181.00
462	0.3010	0.970	0.045	297.70
500	0.9300	2.770	0.042	286.80

TABLE 2
SPOOK HILL ADMP UPDATE
Summary of HEC-1 Green & Ampt / Clark Parameters

Basin ID	IA	DTHETA	PSIF	XKSAT	RTIMP	Tc (hr)	R coeff. (hr)
10	0.35	0.32	7.6	0.09	15	0.421	0.302
20	0.35	0.39	5.8	0.19	1	0.658	0.454
40	0.34	0.34	4.9	0.28	5	0.496	0.264
60	0.33	0.35	5.8	0.19	9	0.596	0.477
80	0.33	0.33	5.6	0.21	4	0.433	0.259
100	0.32	0.29	5.1	0.26	3	0.533	0.473
120	0.33	0.28	6.8	0.13	11	0.429	0.226
140	0.31	0.28	4.2	0.44	5	0.421	0.278
150	0.35	0.36	5.1	0.26	7	0.296	0.221
160	0.34	0.33	4.15	0.44	1	0.587	0.655
180	0.35	0.35	4.15	0.43	0	0.571	0.403
210	0.35	0.36	6.8	0.13	4	0.313	0.189
240	0.35	0.37	5.3	0.23	2	0.467	0.356
220	0.35	0.35	7	0.12	5	0.333	0.282
190	0.35	0.39	5.8	0.19	8	0.321	0.185
200	0.35	0.39	5.7	0.2	10	0.3	0.201
260	0.3	0.19	6.6	0.17	15	0.363	0.217
280	0.3	0.25	5.3	0.29	15	0.329	0.168
300	0.32	0.29	4.2	0.48	11	0.325	0.177
305	0.34	0.34	4.55	0.35	6	0.642	0.576
350	0.35	0.35	4.55	0.34	4	0.367	0.234
310	0.35	0.35	3.91	0.48	0	0.483	0.511
320	0.31	0.3	4.6	0.35	14	0.508	0.338
340	0.28	0.28	4.15	0.52	21	0.512	0.288
355	0.34	0.34	4.45	0.37	4	0.488	0.502
360	0.26	0.27	4.1	0.56	20	0.575	0.39
370	0.34	0.32	4.65	0.33	8	0.404	0.284
395	0.33	0.32	4.9	0.3	10	0.333	0.338
380	0.3	0.31	4.15	0.5	7	0.671	0.475
390	0.3	0.25	4.7	0.38	18	0.204	0.107
400	0.32	0.3	4.15	0.49	6	0.508	0.342
385	0.34	0.36	5.6	0.22	13	0.383	0.358
420	0.31	0.27	3.88	0.58	12	0.512	0.325
440	0.19	0.38	6.4	0.14	13	0.129	0.077
441	0.3	0.25	5.6	0.22	5	0.15	0.225
442	0.3	0.27	3.29	0.77	5	0.258	0.264
443	0.25	0.19	8	0.08	10	0.196	0.194
444	0.13	0.35	4.45	0.32	1	0.112	0.084
445	0.17	0.32	3.47	0.59	3	0.192	0.13
446	0.27	0.25	4.5	0.4	19	0.183	0.189
447	0.25	0.27	3.35	0.87	30	0.208	0.145
448	0.17	0.31	4.2	0.39	11	0.133	0.102
449	0.26	0.28	3.5	0.64	6	0.167	0.134
450	0.34	0.35	3.63	0.57	4	0.296	0.383
451	0.34	0.34	3.29	0.75	3	0.271	0.453
452	0.26	0.28	3.7	0.55	9	0.171	0.166
453	0.29	0.3	3.29	0.82	18	0.275	0.284
454	0.3	0.31	3.78	0.56	14	0.379	0.395
415	0.32	0.29	4.5	0.4	15	0.421	0.401
455	0.27	0.28	3.7	0.64	24	0.421	0.204
480	0.27	0.27	3.58	0.73	27	0.325	0.148
456	0.3	0.38	5.6	0.2	12	0.217	0.139
457	0.27	0.33	3.95	0.46	6	0.237	0.195
458	0.29	0.33	5.8	0.19	6	0.204	0.131
459	0.22	0.3	3.33	0.71	8	0.162	0.157
460	0.25	0.26	3.74	0.69	27	0.242	0.16
461	0.27	0.25	4.25	0.45	21	0.271	0.25
462	0.3	0.33	5.3	0.24	12	0.225	0.137
500	0.35	0.4	6	0.17	9	0.421	0.333

TABLE 3
SPOOK HILL ADMP UPDATE
Summary of HEC-1 Soil Data

Basin ID	Map Unit	Area (ac)	Area Percent	XKSAT	Rock Percent
10	63	271.2	60.4	0.14	25
	98	2.3	0.5	0.37	0
	44	172.5	38.4	0.03	0
	13	3	0.7	0.01	0
20	3	26.35	3.7	0.58	0
	13	9.2	1.3	0.01	0
	44	213.94	29.9	0.03	0
	61	49.01	6.8	0.15	0
	63	3.23	0.5	0.14	25
	98	399.06	55.7	0.37	0
	116	15.81	2.2	0.23	0
40	63	156.84	11	0.14	25
	44	185.29	13	0.03	0
	98	1005.86	70.4	0.37	0
	3	9.88	0.7	0.58	0
	116	46.24	3.2	0.23	0
	113	24.93	1.7	0.39	0
60	63	219.74	19.7	0.14	25
	44	285.7	25.6	0.03	0
	98	547.99	49	0.37	0
	3	40.27	3.6	0.58	0
	116	15.47	1.4	0.23	0
	68	8.37	0.7	0.63	0
80	63	49.93	5.3	0.14	25
	52	10.68	1.1	0.16	20
	45	57.06	6	0.03	0
	49	80.62	8.5	0.06	0
	68	12.88	1.4	0.63	0
	48	196.95	20.9	0.06	0
	113	95.71	10.1	0.39	0
	98	439.92	46.6	0.37	0
100	98	214.47	69.2	0.37	0
	44	7.98	2.6	0.03	0
	48	79.8	25.8	0.06	0
	3	7.5	2.4	0.58	0
120	98	201.48	14.3	0.37	0
	63	501.81	35.6	0.14	25
	61	171.4	12.2	0.15	0
	49	175.31	12.4	0.06	0
	44	313.15	22.2	0.03	0
	3	45.95	3.3	0.58	0
140	98	371.24	97.1	0.37	0
	63	11.27	2.9	0.14	25

TABLE 3
SPOOK HILL ADMP UPDATE
Summary of HEC-1 Soil Data

Basin ID	Map Unit	Area (ac)	Area Percent	XKSAT	Rock Percent
150	61	70	26.8	0.15	0
	63	71	27.2	0.14	25
	98	120	46	0.37	0
160	3	1	0.4	0.58	0
	63	1	0.4	0.14	25
	115	10	4.2	0.39	0
	98	224	94.9	0.37	0
180	98	639.98	100	0.37	0
190	61	340.3	57.9	0.15	0
	63	185	31.5	0.14	25
	98	62.3	10.6	0.37	0
200	3	22.7	6.7	0.58	0
	44	42.8	12.6	0.03	0
	61	42.9	12.6	0.15	0
	63	130.1	38.3	0.14	25
	98	100.9	29.7	0.37	0
210	44	90	17.7	0.03	0
	47	6.1	1.2	0.11	0
	48	44.5	8.8	0.06	0
	61	254.9	50.3	0.15	0
	63	81.9	16.2	0.14	25
	98	29.7	5.9	0.37	0
220	44	126.5	41.8	0.03	0
	61	24.9	8.2	0.15	0
	63	55	18.2	0.14	25
	98	96.2	31.8	0.37	0
240	44	119.2	13.2	0.03	0
	47	1.4	0.2	0.11	0
	48	131.4	14.6	0.06	0
	61	93.6	10.4	0.15	0
	63	58.6	6.5	0.14	25
	68	207.7	23.1	0.63	0
	98	289	32.1	0.37	0
260	44	76.7	45.7	0.03	0
	98	72.7	43.3	0.37	0
	3	18.4	11	0.58	0
280	98	153.6	75.3	0.37	0
	44	50.3	24.7	0.03	0
300	63	6.1	3.3	0.14	25
	98	178.9	96.7	0.37	0

TABLE 3
SPOOK HILL ADMP UPDATE
Summary of HEC-1 Soil Data

Basin ID	Map Unit	Area (ac)	Area Percent	XKSAT	Rock Percent
305	44	16.6	3.7	0.03	0
	61	29.7	6.6	0.15	0
	63	63.4	14.1	0.14	25
	68	36.3	8.1	0.63	0
	98	271	60.3	0.37	0
	115	3.2	0.7	0.39	0
	118	29	6.5	0.42	0
320	44	14.6	2.4	0.03	0
	61	49.5	8.1	0.15	0
	63	109.2	18	0.14	25
	68	23.5	3.9	0.63	0
	98	243.7	40.1	0.37	0
	115	97	15.9	0.39	0
	118	70.7	11.6	0.42	0
310	44	6	1.7	0.03	0
	61	16	4.5	0.15	0
	63	6	1.7	0.14	25
	68	109	30.7	0.63	0
	98	112	31.5	0.37	0
	118	106	29.9	0.42	0
340	61	23.5	2.5	0.15	0
	63	76.2	8.3	0.14	25
	68	167.2	18.1	0.63	0
	98	461	50	0.37	0
	3	10.5	1.1	0.58	0
	115	152.1	16.5	0.39	0
	113	3.8	0.4	0.39	0
	44	6.9	0.7	0.03	0
	118	20.4	2.2	0.42	0
350	63	102.57	16.5	0.14	25
	61	124	20	0.15	0
	118	311.74	50.2	0.42	0
	68	57.67	9.3	0.63	0
	98	17.95	2.9	0.37	0
	101	6.68	1.1	0.28	0
360	98	398.3	70.7	0.37	0
	63	3.7	0.7	0.14	25
	115	72.8	12.9	0.39	0
	68	8.8	1.6	0.63	0
	113	79.6	14.1	0.39	0

TABLE 3
SPOOK HILL ADMP UPDATE
Summary of HEC-1 Soil Data

Basin ID	Map Unit	Area (ac)	Area Percent	XKSAT	Rock Percent
355	61	33.8	7.8	0.15	0
	63	46.5	10.7	0.14	25
	68	19.6	4.5	0.63	0
	90	171.8	39.7	0.39	0
	98	9.7	2.2	0.37	0
	101	43.5	10.1	0.28	0
	110	18.8	4.3	0.13	0
	115	9.1	2.1	0.39	0
	118	79.9	18.5	0.42	0
370	61	45.2	10.5	0.15	0
	63	77	17.9	0.14	25
	90	179.7	41.8	0.39	0
	98	1	0.2	0.37	0
	101	111.8	26	0.28	0
	110	5.4	1.3	0.13	0
	115	2	0.5	0.39	0
	118	8	1.9	0.42	0
380	63	15	2.6	0.14	25
	98	246.6	42.9	0.37	0
	110	8.1	1.4	0.13	0
	112	74.2	12.9	0.39	0
	113	142	24.7	0.39	0
	115	48.7	8.5	0.39	0
	118	40	7	0.42	0
385	61	111.1	32.9	0.15	0
	63	153	45.4	0.14	25
	90	72.7	21.6	0.39	0
	118	0.4	0.1	0.42	0
390	61	11	7.1	0.15	0
	63	18	11.5	0.14	25
	90	74	47.4	0.39	0
	101	29	18.6	0.28	0
	110	24	15.4	0.13	0
395	61	23.6	18.5	0.15	0
	63	25.6	20.1	0.14	25
	90	43.4	34	0.39	0
	101	34	26.6	0.28	0
	110	1	0.8	0.13	0
400	98	258.15	65.4	0.37	0
	110	6.9	1.7	0.13	0
	112	24.02	6.1	0.39	0
	113	23.19	5.9	0.39	0
	115	82.28	20.9	0.39	0

TABLE 3
SPOOK HILL ADMP UPDATE
Summary of HEC-1 Soil Data

Basin ID	Map Unit	Area (ac)	Area Percent	XKSAT	Rock Percent
415	61	67.2	17.3	0.15	0
	63	92.9	23.9	0.14	25
	68	127	32.6	0.63	0
	90	98.4	25.3	0.39	0
	115	0.3	0.1	0.39	0
	118	3.7	0.9	0.42	0
420	90	57.73	9	0.39	0
	68	97.52	15.2	0.63	0
	110	82.38	12.9	0.13	0
	118	70.36	11	0.42	0
	98	235.15	36.7	0.37	0
440	63	26.3	51.4	0.14	25
	61	22.1	43.2	0.15	0
	44	2.8	5.5	0.03	0
441	68	3.8	59.4	0.63	0
	44	2.6	40.6	0.03	0
442	68	64	100	0.63	0
443	63	12.9	25.2	0.14	25
	68	6.9	13.5	0.63	0
	44	31.4	61.3	0.03	0
444	63	0.6	2.3	0.14	25
	61	12.1	47.3	0.15	0
	68	12.9	50.4	0.63	0
445	63	4.5	3.7	0.14	25
	61	6.7	5.5	0.15	0
	68	110.4	90.8	0.63	0
446	68	19.4	75.8	0.63	0
	44	6.2	24.2	0.03	0
447	68	52	90.3	0.63	0
	115	5.6	9.7	0.39	0
448	63	10.6	36.8	0.14	25
	68	18.2	63.2	0.63	0
449	63	3.1	9.7	0.14	25
	68	28.9	90.3	0.63	0
450	63	5.9	13.2	0.14	25
	68	33.4	74.6	0.63	0
	90	5.5	12.3	0.39	0
451	68	16	100	0.63	0
452	63	4.8	18.8	0.14	25
	68	20.8	81.2	0.63	0
453	68	38.4	100	0.63	0

TABLE 3
SPOOK HILL ADMP UPDATE
Summary of HEC-1 Soil Data

Basin ID	Map Unit	Area (ac)	Area Percent	XKSAT	Rock Percent
454	63	6.8	5.9	0.14	25
	68	48.9	42.4	0.63	0
	90	59.5	51.6	0.39	0
455	63	25	3.5	0.14	25
	68	384	54	0.63	0
	115	268	37.7	0.39	0
	110	19	2.7	0.13	0
	98	10	1.4	0.37	0
	118	5	0.7	0.42	0
456	63	78.8	47.4	0.14	25
	61	62	37.3	0.15	0
	68	25.6	15.4	0.63	0
457	63	9.5	7.8	0.14	25
	61	26.1	21.5	0.15	0
	68	79.5	65.4	0.63	0
	115	6.5	5.3	0.39	0
458	63	21.4	17.6	0.14	25
	61	87.9	72.3	0.15	0
	68	2.1	1.7	0.63	0
	115	10.2	8.4	0.39	0
459	68	18.2	94.8	0.63	0
	115	1	5.2	0.39	0
460	68	29.8	33.2	0.63	0
	115	59.9	66.8	0.39	0
461	63	1.6	2.1	0.14	25
	68	1.6	2.1	0.63	0
	61	8.3	10.8	0.15	0
	115	65.3	85	0.39	0
462	63	20	10.4	0.14	25
	61	131.1	68.1	0.15	0
	68	39.4	20.5	0.63	0
	115	2.1	1.1	0.39	0
480	63	43.11	9.2	0.14	25
	68	348.53	74.5	0.63	0
	115	76.19	16.3	0.39	0
500	63	208.27	35	0.14	25
	61	368.91	62	0.15	0
	113	17.75	3	0.39	0

TABLE 4
SPOOK HILL ADMP UPDATE
Summary of HEC-1 Land Use Data

Basin ID	Land Use	Area (ac)	Area Percent	DTHETA Description	Vegetative Cover %	Percent Impervious	IA (in)	Kn	kb
10	Desert	449	100	Dry	25	0	0.35	0.03	0.04
20	Desert	693.6	96.8	Dry	25	0	0.35	0.03	0.04
	V.L.D.R	12.52	1.7	Normal	30	5	0.3	0.05	0.06
	M.D.R.	10.48	1.5	Normal	50	30	0.25	0.05	0.07
40	Desert	1297.6	90.8	Dry	25	0	0.35	0.03	0.04
	V.L.D.R	94.314	6.6	Normal	30	5	0.3	0.05	0.05
	Comm	37.15	2.6	Normal	75	80	0.1	0.02	0.03
60	Desert	764.4	68.4	Dry	25	0	0.35	0.03	0.04
	V.L.D.R	318.5	28.5	Normal	30	5	0.3	0.05	0.05
	Comm	34.6	3.1	Normal	75	80	0.1	0.02	0.03
80	Desert	579.5	61.4	Dry	25	0	0.35	0.03	0.04
	V.L.D.R	364.3	38.6	Normal	30	5	0.3	0.05	0.04
100	Desert	121.2	39.1	Dry	25	0	0.35	0.03	0.05
	V.L.D.R	188.6	60.9	Normal	30	5	0.3	0.05	0.05
120	Desert	840.2	59.6	Dry	25	0	0.35	0.03	0.04
	V.L.D.R	568.9	40.4	Normal	30	5	0.3	0.05	0.04
140	Desert	109	28.5	Dry	25	0	0.35	0.03	0.05
	V.L.D.R	273.5	71.5	Normal	30	5	0.3	0.05	0.05
150	Desert	255	97.7	Dry	25	0	0.35	0.03	0.05
	V.L.D.R	6	2.3	Normal	30	5	0.3	0.05	0.07
160	Desert	190	80.5	Dry	25	0	0.35	0.03	0.05
	V.L.D.R	46	19.5	Normal	30	5	0.3	0.05	0.06
180	Desert	640	100	Dry	25	0	0.35	0.03	0.04
190	Desert	587.6	100	Dry	25	0	0.35	0.03	0.04
200	Desert	339.4	100	Dry	25	0	0.35	0.03	0.05
210	Desert	507.1	100	Dry	25	0	0.35	0.03	0.04
220	Desert	302.6	100	Dry	25	0	0.35	0.03	0.05
240	Desert	900.9	100	Dry	25	0	0.35	0.03	0.04
260	L.D.R.	167.8	100	Normal	50	15	0.3	0.05	0.05
280	L.D.R.	203.9	100	Normal	50	15	0.3	0.05	0.05
300	Desert	67.8	36.6	Dry	25	0	0.35	0.03	0.05
	L.D.R.	117.2	63.4	Normal	50	15	0.3	0.05	0.05
305	Desert	391.8	87.2	Dry	25	0	0.35	0.03	0.04
	L.D.R.	57.4	12.8	Normal	50	15	0.3	0.05	0.06
320	Desert	298	49	Dry	25	0	0.35	0.03	0.05
	V.L.D.R	101	16.6	Normal	30	5	0.3	0.05	0.05
	L.D.R.	85	14	Normal	50	15	0.3	0.05	0.05
	M.D.R.	121	19.9	Normal	50	30	0.25	0.05	0.05
	Comm	3.2	0.5	Normal	75	80	0.1	0.02	0.04
310	Desert	347	97.7	Dry	25	0	0.35	0.03	0.05
	V.L.D.R	8	2.3	Normal	30	5	0.3	0.05	0.07
340	Desert	247.9	26.9	Dry	25	0	0.35	0.03	0.05
	V.L.D.R	15.2	1.6	Normal	30	5	0.3	0.05	0.06
	L.D.R.	164.3	17.8	Normal	50	15	0.3	0.05	0.05
	M.D.R.	326.3	35.4	Normal	50	30	0.25	0.05	0.05
	M.F.R.	38.3	4.2	Normal	50	45	0.25	0.05	0.06
	Comm	40	4.3	Normal	75	80	0.1	0.02	0.03
	Park	89.6	9.7	Normal	90	0	0.2	0.1	0.1
350	Desert	620.6	100	Dry	25	0	0.35	0.03	0.04

TABLE 4
SPOOK HILL ADMP UPDATE
Summary of HEC-1 Land Use Data

Basin ID	Land Use	Area (ac)	Area Percent	DTHETA Description	Vegetative Cover %	Percent Impervious	IA (in)	Kn	kb
360	Desert	127.3	22.6	Dry	25	0	0.35	0.03	0.05
	L.D.R.	148.6	26.4	Normal	50	15	0.3	0.05	0.05
	M.D.R.	81.1	14.4	Normal	50	30	0.25	0.05	0.05
	M.F.R.	59.2	10.5	Normal	50	45	0.25	0.05	0.06
	Comm	50.2	8.9	Normal	75	80	0.1	0.02	0.03
	Park	96.8	17.2	Normal	90	0	0.2	0.1	0.1
355	Desert	368.7	85.2	Dry	25	0	0.35	0.03	0.04
	V.L.D.R	33	7.6	Normal	30	5	0.3	0.05	0.06
	L.D.R.	31	7.2	Normal	50	15	0.3	0.05	0.06
370	Desert	307.1	71.4	Dry	25	0	0.35	0.03	0.05
	L.D.R.	123	28.6	Normal	50	15	0.3	0.05	0.05
380	Desert	351.6	61.2	Dry	25	0	0.35	0.03	0.04
	L.D.R.	81.1	14.1	Normal	50	15	0.3	0.05	0.05
	Comm	29.2	5.1	Normal	75	80	0.1	0.02	0.03
	Park	112.7	19.6	Normal	90	0	0.2	0.1	0.1
385	Desert	296.2	87.8	Dry	25	0	0.35	0.03	0.05
	L.D.R.	41	12.2	Normal	50	15	0.3	0.05	0.06
390	L.D.R.	156	100	Normal	50	15	0.3	0.05	0.05
395	Desert	86.6	67.9	Dry	25	0	0.35	0.03	0.05
	L.D.R.	41	32.1	Normal	50	15	0.3	0.05	0.06
400	Desert	207.1	52.5	Dry	25	0	0.35	0.03	0.05
	L.D.R.	167.94	42.6	Normal	50	15	0.3	0.05	0.05
	Park	19.5	4.9	Normal	90	0	0.2	0.1	0.12
415	Desert	162.5	41.7	Dry	25	0	0.35	0.03	0.05
	L.D.R.	227	58.3	Normal	50	15	0.3	0.05	0.05
420	Desert	115.7	21.3	Dry	25	0	0.35	0.03	0.05
	L.D.R.	427.4	78.7	Normal	50	15	0.3	0.05	0.04
440	Desert	17.4	34	Dry	25	0	0.35	0.03	0.06
	OPEN	33.8	66	Dry	10	0	0.1	0.02	0.03
441	V.L.D.R	6.4	100	Normal	30	5	0.3	0.05	0.07
442	V.L.D.R	64	100	Normal	30	5	0.3	0.05	0.06
443	OPEN	13.3	26	Dry	10	0	0.1	0.02	0.03
	V.L.D.R	37.9	74	Normal	30	5	0.3	0.05	0.06
444	Desert	2.8	10.9	Dry	25	0	0.35	0.03	0.07
	OPEN	22.8	89.1	Dry	10	0	0.1	0.02	0.03
445	OPEN	76.5	62.9	Dry	10	0	0.1	0.02	0.03
	V.L.D.R	45.1	37.1	Normal	30	5	0.3	0.05	0.06
446	V.L.D.R	11.3	44.1	Normal	30	5	0.3	0.05	0.07
	M.D.R.	14.3	55.9	Normal	50	30	0.25	0.05	0.06
447	M.D.R.	57.6	100	Normal	50	30	0.25	0.05	0.06
448	OPEN	18.3	63.5	Dry	10	0	0.1	0.02	0.03
	V.L.D.R	10.5	36.5	Normal	30	5	0.3	0.05	0.07
449	OPEN	6.6	20.6	Dry	10	0	0.1	0.02	0.03
	V.L.D.R	25.4	79.4	Normal	30	5	0.3	0.05	0.06
450	Desert	42	93.8	Dry	25	0	0.35	0.03	0.06
	OPEN	1.5	3.3	Dry	10	0	0.1	0.02	0.04
	M.D.R.	1.3	2.9	Normal	50	30	0.25	0.05	0.08
451	Desert	14.6	91.2	Dry	25	0	0.35	0.03	0.06
	M.D.R.	1.4	8.8	Normal	50	30	0.25	0.05	0.08

TABLE 4
SPOOK HILL ADMP UPDATE
Summary of HEC-1 Land Use Data

Basin ID	Land Use	Area (ac)	Area Percent	DTHETA Description	Vegetative Cover %	Percent Impervious	IA (in)	Kn	kb
452	OPEN	4.9	19.1	Dry	10	0	0.1	0.02	0.04
	V.L.D.R	20.7	80.9	Normal	30	5	0.3	0.05	0.06
453	Desert	15.9	41.4	Dry	25	0	0.35	0.03	0.06
	M.D.R.	22.5	58.6	Normal	50	30	0.25	0.05	0.06
454	Desert	62.5	54.3	Dry	25	0	0.35	0.03	0.06
	OPEN	3.1	2.7	Dry	10	0	0.1	0.02	0.04
	M.D.R.	49.6	43.1	Normal	50	30	0.25	0.05	0.06
455	Desert	179.3	25.2	Dry	25	0	0.35	0.03	0.05
	M.D.R.	522.8	73.5	Normal	50	30	0.25	0.05	0.04
	M.F.R.	4.3	0.6	Normal	50	45	0.25	0.05	0.07
	Comm	4.6	0.6	Normal	75	80	0.1	0.02	0.04
456	Desert	136.3	81.9	Dry	25	0	0.35	0.03	0.05
	OPEN	30.1	18.1	Dry	10	0	0.1	0.02	0.03
457	Desert	64.3	52.9	Dry	25	0	0.35	0.03	0.06
	OPEN	30.5	25.1	Dry	10	0	0.1	0.02	0.03
	V.L.D.R	13.3	10.9	Normal	30	5	0.3	0.05	0.06
	M.D.R.	13.5	11.1	Normal	50	30	0.25	0.05	0.06
458	Desert	50.3	41.4	Dry	25	0	0.35	0.03	0.06
	OPEN	17.1	14.1	Dry	10	0	0.1	0.02	0.03
	V.L.D.R	54.2	44.6	Normal	30	5	0.3	0.05	0.06
459	Desert	0.7	3.6	Dry	25	0	0.35	0.03	0.08
	OPEN	6.8	35.4	Dry	10	0	0.1	0.02	0.03
	V.L.D.R	7.8	40.6	Normal	30	5	0.3	0.05	0.07
	M.D.R.	3.9	20.3	Normal	50	30	0.25	0.05	0.07
460	M.D.R.	81.2	90.5	Normal	50	30	0.25	0.05	0.05
	Park	8.5	9.5	Normal	90	0	0.2	0.1	0.13
461	V.L.D.R	43.9	57.2	Normal	30	5	0.3	0.05	0.06
	M.D.R.	26.4	34.4	Normal	50	30	0.25	0.05	0.06
	Comm	6.5	8.5	Normal	75	80	0.1	0.02	0.03
462	Desert	109.4	56.8	Dry	25	0	0.35	0.03	0.05
	OPEN	11.1	5.8	Dry	10	0	0.1	0.02	0.03
	V.L.D.R	52.2	27.1	Normal	30	5	0.3	0.05	0.06
	M.D.R.	0.7	0.4	Normal	50	30	0.25	0.05	0.08
	Comm	19.2	10	Normal	75	80	0.1	0.02	0.03
480	Desert	25.7	5.5	Dry	25	0	0.35	0.03	0.06
	L.D.R.	216.5	46.3	Normal	50	15	0.3	0.05	0.05
	M.D.R.	171	36.6	Normal	50	30	0.25	0.05	0.05
	M.F.R.	23.4	5	Normal	50	45	0.25	0.05	0.06
	Comm	31.2	6.7	Normal	75	80	0.1	0.02	0.03
500	Desert	594.9	100	Dry	25	0	0.35	0.03	0.04

TABLE 5
SPOOK HILL ADMP UPDATE
Summary of HEC-1 Rainfall Data

Area	ARF	Total Rainfall (inches)						
		2-yr	5-yr	10-yr	25-yr	50-yr	100-yr	500-yr
0	1.0000	1.550	2.110	2.480	3.000	3.410	3.810	4.740
10	0.9396	1.456	1.983	2.330	2.819	3.204	3.580	4.454
30	0.9003	1.395	1.900	2.233	2.701	3.070	3.430	4.267
60	0.8609	1.334	1.816	2.135	2.583	2.936	3.280	4.081
90	0.8451	1.310	1.783	2.096	2.535	2.882	3.220	4.006
120	0.8346	1.294	1.761	2.070	2.504	2.846	3.180	3.956
150	0.8241	1.277	1.739	2.044	2.472	2.810	3.140	3.906
300	0.8005	1.241	1.689	1.985	2.402	2.730	3.050	3.794
500	0.7795	1.208	1.645	1.933	2.339	2.658	2.970	3.695

TABLE 6
SPOOK HILL ADMP UPDATE
Summary of HEC-1 Routing Parameters

HEC-1 Operation	Manning's "n" Left Overbank	Manning's "n" Main Channel	Manning's "n" Right Overbank	Length (ft)	Slope (ft/ft)	Channel Bottom Width (ft)	NSTPS
R10	0.045	0.03	0.045	8700	0.021	10	4
R12	0.045	0.03	0.045	4500	0.01	20	6
R20	0.016	0.016	0.016	990	0.004	20	1
R60	0.016	0.016	0.016	2850	0.012	3.5	1
RR60	0.016	0.016	0.016	3500	0.005	5	3
R80	0.025	0.016	0.025	1200	0.003	35	1
R100	0.016	0.016	0.016	940	0.005	50	1
R120	0.025	0.016	0.025	2100	0.005	50	1
R150	0.045	0.04	0.045	3100	0.032	10	2
R152	0.045	0.03	0.045	5900	0.019	25	3
R210	0.045	0.03	0.045	5100	0.022	20	2
R240	0.035	0.025	0.035	1800	0.005	30	3
R220	0.035	0.025	0.035	1250	0.005	30	1
R190	0.045	0.03	0.045	4740	0.03	20	2
R192	0.045	0.035	0.045	2200	0.018	20	3
R200	0.035	0.025	0.035	650	0.005	100	1
RR200	0.035	0.025	0.035	3150	0.005	100	3
R180	0.035	0.025	0.035	1600	0.003	16	2
R260	0.035	0.025	0.035	2300	0.003	20	3
R280	0.035	0.025	0.035	2100	0.003	20	3
R300	0.035	0.025	0.035	2500	0.003	32	2
R305	0.016	0.016	0.016	6000	0.0146	14	3
R350	0.045	0.035	0.045	5150	0.025	10	6
R310	0.045	0.035	0.045	10050	0.022	10	10
RR350	0.045	0.035	0.045	6050	0.025	10	7
R355	0.045	0.035	0.045	10100	0.026	10	9
R370	0.045	0.035	0.045	10250	0.023	10	12
R390	0.045	0.045	0.045	8800	0.02	10	15
R385	0.045	0.04	0.045	10250	0.022	10	13
R70	0.05	0.035	0.05	2250	0.08	5	2
R108	0.05	0.035	0.05	3200	0.1	5	2
R113	0.019	0.019	0.019	1300	0.029	6	1
R58	0.05	0.035	0.05	2370	0.0516	5	2
R107	0.05	0.035	0.05	700	0.0516	5	2
RSPLIT	0.05	0.035	0.05	800	0.05	5	1
R109	0.019	0.019	0.019	3080	0.05	10	1
R404	0.019	0.019	0.019	3540	0.03	5	6
R110	0.019	0.019	0.019	580	0.0291	15	1
R115	0.019	0.019	0.019	2125	0.029	15	1
R6364	0.05	0.035	0.05	4375	0.0333	10	5
R6566	0.05	0.035	0.05	2435	0.0282	10	3
R116	0.05	0.035	0.05	1300	0.0333	20	2
R118	0.019	0.019	0.019	1500	0.024	15	1
R454	0.045	0.035	0.045	2200	0.009	9	3
RR385	0.045	0.04	0.045	5878	0.024	10	11
R415	0.045	0.03	0.045	4100	0.024	8	3
R455	0.035	0.025	0.035	7000	0.0002	30	15
R480	0.035	0.025	0.035	2800	0.0002	30	6
R456	0.05	0.035	0.05	3800	0.044	5	2
R101	0.05	0.035	0.05	1450	0.05	5	1
R103	0.05	0.035	0.05	900	0.03	20	1
R30	0.05	0.035	0.05	1630	0.05	5	1
RB1	0.05	0.035	0.05	1720	0.05	5	3
R52	0.05	0.035	0.05	2000	0.05	5	3
R3	0.05	0.03	0.05	2750	0.0375	34	5
R106	0.05	0.035	0.05	3950	0.033	20	2
R462	0.025	0.025	0.025	1800	0.005	30	1
RR462	0.055	0.05	0.055	4700	0.05	30	3

TABLE 7
SPOOK HILL ADMP UPDATE
Summary of HEC-1 Storage/Discharge/Elevation Relationships

Apache Junction FRS
Emergency Spillway Elevation = 1801.92 ft.
Principal Spillway Elevation = 1795.65 ft.

HEC-1 Operation S60
Sediment Volume = 237 ac-ft.

Storage (ac-ft)	0	0	77	242	371	439	563	687	2163
Discharge (cfs)	0	12	103	114	120	362	1462	3101	30000
Elevation (ft)	95	96	98	100	101.6	101.9	103	104	112.9

Signal Butte FRS
Emergency Spillway Elevation = 1714.63 ft.
Principal Spillway Elevation = 1703.23 ft.

HEC-1 Operation S180
Sediment Volume = 247 ac-ft.

Storage (ac-ft)	0	92	226	462	742	1197	1418	1776	1941	3114
Discharge (cfs)	0	10	10.5	98	133	149	155	1484	2567	6000
Elevation (ft)	99	101	103	106	109	113	114.6	117	118	120

Spook Hill FRS
Emergency Spillway Elevation = 1583.86 ft.
Principal Spillway Elevation = 1579.36 ft.

HEC-1 Operation S440
Sediment Volume = 271 ac-ft.

Storage (ac-ft)	0	81	363	533	719	925	1120	1399	1668	4051
Discharge (cfs)	0	0	10	180	367	595	800	1231	2625	24500
Elevation (ft)	76	78	80	81	82	83	83.9	85	86	92

TABLE 8
SPOOK HILL ADMP UPDATE
Summary of HEC-1 Diversion Data

Diversion Location: Sub-basin 350
50% - 50% split

Inflow (cfs)	0	5000
Diversion (cfs)	0	2500

Diversion Location: Sub-basin 385
40% - 60% split

Inflow (cfs)	0	5000
Diversion (cfs)	0	3000

TABLE 9
SPOOK HILL ADMP UPDATE
Summary of HEC-1 Sub-basin on-site retention volumes

Basin ID	*Maximum Diversion Volume (ac-ft)*
320	12.27
340	56
360	28.6
380	28.6
390	3.5
400	5.6
420	8.65
442	3.3
453	3.6
455	74.1
480	16.5
456	4
457	5

```
1****************************************
*                                      *
*   FLOOD HYDROGRAPH PACKAGE  (HEC-1)  *
*              JUN   1998              *
*            VERSION 4.1               *
*                                      *
*  RUN DATE   01MAY01  TIME  10:48:46  *
*                                      *
****************************************
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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 - 100YR, 24HR STORM
   2          ID   Existing Condition Base Model with Spook Hill FRS Storage Routing
   3          ID   File Name: EC24BASE.DAT
              *
   4          ID   A CONSERVATIVE ESTIMATE WAS USED FOR THE LOCATION OF THE CENTROID FOR
   5          ID   PRECIPITATION VALUES
   6          ID   CHANNEL ROUTING INFORMATION FOR MCFCD FLOODWAYS WERE OBTAINED
   7          ID   FROM MCFCD SPOOK HILL, SIGNAL BUTTE AND BULLDOG FLOODWAY PLANS
   8          ID
   9          ID
  10          ID   UPDATE TO EXISTING CONDITION 24-HR 100-YR MODEL RUN BASED ON RE-ALIGNMENT
  11          ID   OF SUB-BASIN BOUNDARIES FOR SUB-BASINS 385 (REDUCED) & 415 (ENLARGED)
  12          ID   UPDATE BASED ON INFORMATION FROM 2' CONTOUR MAPPING.
  13          ID
  14          ID   ANALYSIS PERFORMED BY WOOD/PATEL; MW;        07/27/00  FILE: S24CE30Z.DAT
  15          ID
  16          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 12/06/00 the following has been added to update the base hec1 file
              *  S24CE30z. This file is used   to begin update process towards resulting 100yr
              *  existing condition 24-hour hec run which upon its completion will be  file
              *  from which all subsequent (future) runs will be derived.
              *
              *  This new file will be named (labeled):    EC24base.dat
              *                E  =  Existing condition model
              *                C  =  100-year return period
              *                24 =  Storm Duration
              *
              *  MAJOR ASSUMPTIONS / CRITERIA / CHANGES FROM PREVIOUS MODELS: 2/14/1
              *
              *       1. Refinement of areas for sub-basins 200, 210, 220, 240, 260, 280, 300,
              *          305, 320, 340, 355, 360, 370, 380, 395 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 305 changes to  .702 sq. miles
              *                Area of 320 changes to  .950 sq. miles
              *                Area of 340 changes to 1.440 sq. miles
              *                Area of 355 changes to  .676 sq. miles
              *                Area of 360 changes to  .880 sq. miles
              *                Area of 370 changes to  .672 sq. miles
              *                Area of 380 changes to  .898 sq. miles
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*              Area of 395 changes to  .199 sq. miles
*              Area of 415 changes to  .609 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.
*
*
*
*
*DIAGRAM
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1 HEC-1 INPUT PAGE 2

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

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

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

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

  53          KK     R12
  54          KM    ROUTING OF FLOW FROM R12 TO SUB-BASIN 20
  55          RS       6     FLOW       -1
  56          RC    .045      .03     .045     4500      .01
  57          RX       0        1       45     52.5     72.5       80      124      125
  58          RY       4      2.5      2.5        0        0      2.5      2.5        4
              * DDM    ***** Updated *****
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10
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 59          KK      20
 60          KM   SUB-BASIN 20
 61          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
 62          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .993
 63          KM     L = 2.50  Kb = .041  Adj. Slope =   88.0
 64          BA   1.120
 65          LG    .350    .390   5.800    .190   1.000
 66          UC    .658    .454
 67          UA       0       3       5       8      12      20      43      75      90      96
 68          UA     100
             * DDM   ***** Preserved *****

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

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

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

 88          KK      60
 89          KM   SUB-BASIN 60
 90          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
 91          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .990
 92          KM     L = 4.19  Kb = .038  Adj. Slope =  209.6
 93          BA   1.746
 94          LG    .330    .350   5.800    .190   9.000
 95          UC    .596    .477
 96          UA       0       3       5       8      12      20      43      75      90      96
 97          UA     100
             * DDM   ***** Preserved *****
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LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 98          KK     C60
 99          KM     C60GRAPH COMBINATION FOR APACHE JUNCTION FRS
             *      1       2
100          HC       3
             * DDM   ***** Preserved *****

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

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

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

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

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

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

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

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

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

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

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

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

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

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

179          KK     140
180          KM   SUB-BASIN 140
181          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
182          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .996
183          KM     L = 1.61  Kb = .044  Adj. Slope =  149.0
184          BA    .598
185          LG    .310    .280   4.200    .440   5.000
186          UC    .421    .278
187          UA       0       5      16      30      65      77      84      90      94      97
188          UA     100
             * DDM   ***** Updated *****
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 189          KK     150
 190          KM   SUB-BASIN 150
 191          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
 192          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .998
 193          KM     L = 1.50  Kb = .047  Adj. Slope =  314.6
 194          BA    .408
 195          LG    .350    .360   5.100    .260   7.000
 196          UC    .296    .221
 197          UA      0       3       5       8      12      20      43      75      90      96
 198          UA    100
              * DDM   ***** Preserved *****

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

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

 211          KK     160
 212          KM   SUB-BASIN 160
 213          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
 214          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .998
 215          KM     L = 2.10  Kb = .047  Adj. Slope =  129.0
 216          BA    .369
1                                        HEC-1 INPUT                                          PAGE  7

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

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

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

 231          KK    C180
 232          KM   HYDROGRAPH COMBINATION FOR SIGNAL BUTTE FRS
 233          HC       5
              *
              * The sub-basin area and soil make-up have been updated from CAD file 12/07/00
              * DDM   ***** Updated *****

 234          KK     210
 235          KM   SUB-BASIN 210
 236          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
 237          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .995
 238          KM     L = 1.84  Kb = .043  Adj. Slope =  315.0
 239          BA    .792
 240          LG    .350    .360   6.800    .130   4.000
 241          UC    .313    .189
 242          UA      0       3       5       8      12      20      43      75      90      96
 243          UA    100
              * DDM   ***** Preserved *****

 244          KK    R210
 245          KM   ROUTING OF FLOW FROM SUB-BASIN 210 TO SUB-BASIN 220
 246          RS       2    FLOW      -1
 247          RC    .045     .03    .045    5100    .022
 248          RX       0       1       2      14      34      46      47      48
 249          RY       4       4       4       0       0       4       4       4
              *
              * The sub-basin area and soil make-up have been updated from CAD file 12/07/00
              * DDM   ***** Updated *****

 250          KK     240
 251          KM   SUB-BASIN 240
 252          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
 253          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .992
 254          KM     L = 3.50  Kb = .039  Adj. Slope =  298.6
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255          BA   1.408
256          LG    .350     .370   5.300     .230   2.000
257          UC    .467     .356
1                                        HEC-1 INPUT                                                    PAGE  8

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

258          UA       0        3        5        8       12       20       43       75       90       96
259          UA     100
             * DDM   ***** Preserved *****

260          KK    C240
261          KM   HYDROGRAPH COMBINATION FOR SUB-BASIN 240 & 220
262          HC       2
             * DDM   ***** Preserved *****

263          KK    S240
264          KM    WEIR GEOMETRY OBTAINED FROM AS-BUILT PLANS @ PASS MTN. DIVERSION.
265          KM   WEIR STORAGE DATA OBTAINED FROM 2' CONTOUR MAPPING.
266          RS       1     STOR        0
267          SA    1.38     14.2     36.5
268          SE     1.7        5       11
269          SS       5       42        3      1.5
             * DDM   ***** Preserved *****

270          KK    R240
271          KM   ROUTE FLOW FROM SUB-BASIN 240 TO SUB-BASIN 220
272          KM   PASS MOUNTAIN DIVERSION
273          RS       3     FLOW       -1
274          RC    .035     .025     .035     1800     .005
275          RX       0       15       30       39       69       81       96      111
276          RY     3.6      3.3        3        0        0        3        3        4
             *
             * The sub-basin area and soil make-up have been updated from CAD file 12/07/00
             * DDM   ***** Updated *****

277          KK     220
278          KM   SUB-BASIN 220
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  .997
281          KM     L = 1.92  Kb = .046  Adj. Slope =  315.0
282          BA    .473
283          LG    .350     .350   7.000     .120   5.000
284          UC    .333     .282
285          UA       0        3        5        8       12       20       43       75       90       96
286          UA     100
             * DDM   ***** Preserved *****

287          KK    C220
288          KM   HYDROGRAPH COMBINATION FOR SUB-BASIN 240 & 220
289          HC       2
             * DDM   ***** Preserved *****

290          KK    S220
291          KM    WEIR GEOMETRY OBTAINED FROM AS-BUILT PLANS @ PASS MTN. DIVERSION.
292          KM   WEIR STORAGE DATA OBTAINED FROM 2' CONTOUR MAPPING.
293          RS       1     STOR        0
294          SA     .78      4.1     13.7
295          SE       1        3       10
296          SS       3       65        3      1.5
             * DDM   ***** Preserved *****
1                                        HEC-1 INPUT                                                    PAGE  9

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

297          KK    R220
298          KM   ROUTE FLOW FROM SUB-BASIN 220 TO SUB-BASIN 200
299          KM   PASS MOUNTAIN DIVERSION
300          RS       1     FLOW       -1
301          RC    .035     .025     .035     1250     .005
302          RX       0       50      100      109      139      148      178      184
303          RY       5        4        3        0        0        3        3        5
             * DDM   ***** Updated *****

304          KK     190
305          KM   SUB-BASIN 190
306          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
307          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .994
308          KM     L = 1.91  Kb = .042  Adj. Slope =  315.0
309          BA    .918
310          LG    .350     .390   5.800     .190   8.000
311          UC    .321     .185
312          UA       0        3        5        8       12       20       43       75       90       96
313          UA     100
             * DDM   ***** Preserved *****

314          KK    R190
315          KM   ROUTING OF FLOW FROM SUB-BASIN 190 TO SUB-BASIN 200
316          RS       2     FLOW       -1
317          RC    .045      .03     .045     4740      .03
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318          RX       0       1       2      17      37      52      53      54
319          RY       5       5       5       0       0       5       5       5
             * DDM   ***** Preserved *****

320          KK    R192
321          KM   ROUTING OF FLOW FROM SUB-BASIN 190 TO SUB-BASIN 200
322          RS       3    FLOW      -1
323          RC    .045    .035    .045    2200    .018
324          RX       0       1      50      59      79      88     137     138
325          RY     4.5       3       3       0       0       3       3     4.5
             * DDM   ***** Updated *****

326          KK     200
327          KM   SUB-BASIN 200
328          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
329          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .997
330          KM     L = 1.58  Kb = .045  Adj. Slope =  305.6
331          BA    .530
332          LG    .350    .390   5.700    .200  10.000
333          UC    .300    .201
334          UA       0       3       5       8      12      20      43      75      90      96
335          UA     100
             * DDM   ***** Preserved *****
1                                        HEC-1 INPUT                                          PAGE 10

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

336          KK    C200
337          KM   HYDROGRAPH COMBINATION FOR SUB-BASIN 220 & 200
338          HC       3
             * DDM   ***** Preserved *****

339          KK    S200
340          KM    WEIR GEOMETRY OBTAINED FROM AS-BUILT PLANS @ PASS MTN. DIVERSION.
341          KM   WEIR STORAGE DATA OBTAINED FROM 2' CONTOUR MAPPING.
342          RS       1    STOR       0
343          SA    2.56     3.1     9.4
344          SE       0       3      10
345          SS       3     112       3     1.5
             * DDM   ***** Preserved *****

346          KK    R200
347          KM   ROUTE FLOW FROM SUB-BASIN 200 TO SIGNAL BUTTE FRS through storage
348          RS       1    FLOW      -1
349          RC    .035    .025    .035     650    .005
350          RX       0       1       2      17     117     132     133     134
351          RY       5       5       5       0       0       5       5       5
             * DDM   ***** Preserved *****

352          KK   SS200
353          KM    WEIR GEOMETRY OBTAINED FROM AS-BUILT PLANS @ PASS MTN. DIVERSION.
354          KM   WEIR STORAGE DATA OBTAINED FROM 2' CONTOUR MAPPING.
355          RS       1    STOR       0
356          SA       8     9.2     9.2
357          SE       0       7      10
358          SS       7     251       3     1.5
             * DDM   ***** Preserved *****

359          KK   RR200
360          KM   ROUTE FLOW FROM SUB-BASIN 200 TO SIGNAL BUTTE FRS
361          RS       3    FLOW      -1
362          RC    .035    .025    .035    3150    .005
363          RX       0       1       2      17     117     132     133     134
364          RY       5       5       5       0       0       5       5       5
             * DDM   ***** Preserved *****

365          KK   CC180
366          KM   HYDROGRAPH COMBINATION FOR SIGNAL BUTTE FRS
             *      1       2
367          HC       2
             * DDM   ***** Preserved *****

368          KK    S180
369          KM   SIGNAL BUTTE FRS DATED 1/28/85
370          KM   OUTLET PIPE=36"RCP; L= 147';  INLET INV.=1690; OUTLET INV.=1687
371          KM   EMERGENCY SPILLWAY ELEV.=1712.4; PRINCIPLE SPILLWAY ELEV.=1701
372          KM   STORAGE VOLUME BELOW PRINCIPLE SPILLWAY FOR SEDIMENT = 250 ACRE-FEET
             *  ESE = 1714.63 ft; PSE = 1703.23 ft; Sediment Vol. = 247 Ac-Ft.
373          RS       1    STOR       0
374          SV       0      92     226     462     742    1197    1418    1776    1941    3114
375          SQ       0      10    10.5      98     133     149     155    1484    2567    6000
1                                        HEC-1 INPUT                                          PAGE 11

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

376          SE      99     101   103.0     106     109   113.0   114.6     117     118     120
             * DDM   ***** Preserved *****

377          KK    R180
378          KM   Routing length updated using Signal Butte Floodway plans dated March 1983
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379          KM   Routing length increased 100' from 1500' to 1600'    12/12/00
380          KM   CHANNEL GEOMETRY FOR SIGNAL BUTTE FRS OBTAINED FROM AS-BUILT PLANS.
381          KM   ROUTE FLOW FROM SIGNAL BUTTE FRS TO SUB-BASIN 260
382          RS       2    FLOW      -1
383          RC    .035    .025    .035    1600    .003
384          RX       0       1       2    22.6    38.6    59.2      60      61
385          RY     9.3     9.3     9.3       0       0     9.3     9.3     9.3
             * DDM   ***** Updated *****

386          KK     260
387          KM   SUB-BASIN 260
388          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
389          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .998
390          KM     L =  .81  Kb = .049  Adj. Slope =   68.0
391          BA    .262
392          LG    .300    .190   6.600    .170  15.000
393          UC    .363    .217
394          UA       0       5      16      30      65      77      84      90      94      97
395          UA     100
             * DDM   ***** Preserved *****

396          KK    C260
397          KM   HYDROGRAPH COMBINATION FOR OUTFLOW OF SIGNAL BUTTE FRS & SUB-BASIN 260
398          HC       2    .262
             * DDM   ***** Preserved *****

399          KK    R260
400          KM   Routing length updated using Signal Butte Floodway plans dated March 1983
401          KM   Routing length unchanged     12/12/00
402          KM   CHANNEL GEOMETRY FOR SIGNAL BUTTE FRS OBTAINED FROM AS-BUILT PLANS.
403          KM   ROUTE FLOW FROM SUB-BASIN 260 TO SUB-BASIN 280
404          RS       3    FLOW      -1
405          RC    .035    .025    .035    2300    .003
406          RX       0       1       2    23.4    43.4    64.8      65      66
407          RY     9.7     9.7     9.7       0       0     9.7     9.7     9.7
             * DDM   ***** Updated *****

408          KK     280
409          KM   SUB-BASIN 280
410          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
411          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .998
412          KM     L =  .77  Kb = .048  Adj. Slope =   84.0
413          BA    .319
414          LG    .300    .250   5.300    .290  15.000
415          UC    .329    .168
416          UA       0       5      16      30      65      77      84      90      94      97
417          UA     100
             * DDM   ***** Preserved *****
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LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

418          KK    C280
419          KM   HYDROGRAPH COMBINATION FOR SUB-BASIN 260 & SUB-BASIN 280
420          HC       2
             * DDM   ***** Preserved *****

421          KK    R280
422          KM   Routing length updated using Signal Butte Floodway plans dated March 1983
423          KM   Routing length decreased 400' from 2500' to 2100'    12/12/00
424          KM   CHANNEL GEOMETRY FOR SIGNAL BUTTE FRS OBTAINED FROM AS-BUILT PLANS.
425          KM   ROUTE FLOW FROM SUB-BASIN 280 TO SUB-BASIN 300
426          RS       3    FLOW      -1
427          RC    .035    .025    .035    2100    .003
428          RX       0       1       2    23.4    43.4    64.8      65      66
429          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 *****

430          KK     300
431          KM   SUB-BASIN 300
432          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
433          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .998
434          KM     L =  .78  Kb = .049  Adj. Slope =  103.0
435          BA    .289
436          LG    .320    .290   4.200    .480  11.000
437          UC    .325    .177
438          UA       0       5      16      30      65      77      84      90      94      97
439          UA     100
             * DDM   ***** Preserved *****

440          KK    C300
441          KM   HYDROGRAPH COMBINATION OF SUB-BASIN 280 & 300
442          HC       2
             * DDM   ***** Preserved *****

443          KK    R300
444          KM   Routing length updated using Signal Butte Floodway plans dated March 1983
445          KM   Routing length increased 300' from 2200' to 2500'    12/12/00
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446          KM   CHANNEL GEOMETRY FOR SIGNAL BUTTE FRS OBTAINED FROM AS-BUILT PLANS.
447          KM   ROUTE FLOW FROM SUB-BASIN 300 TO START OF FLOODWAY CONCRETE CHANNEL
448          RS       2    FLOW      -1
449          RC    .035    .025    .035    2500    .003
450          RX       0       1       2    23.4    55.4    76.8      77      78
451          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 *****

452          KK     305
453          KM   SUB-BASIN 305
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  .996
456          KM     L = 2.50  Kb = .044  Adj. Slope =  116.0
457          BA    .702
1                                        HEC-1 INPUT                                          PAGE 13

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

458          LG    .340    .340   4.550    .350   6.000
459          UC    .642    .576
460          UA       0       5      16      30      65      77      84      90      94      97
461          UA     100
             * DDM   ***** Preserved *****

462          KK    C305
463          KM   HYDROGRAPH COMBINATION OF SUB-BASIN 300 AND 305
464          HC       2
             * DDM   ***** Preserved *****

465          KK    R305
466          KM   Routing length updated using Signal Butte Floodway plans dated March 1983
467          KM   Routing length decreased 50' from 6050' to 6000'     12/12/00
468          KM   CHANNEL GEOMETRY FOR SPOOK HILL FRS OBTAINED FROM AS-BUILTS PLANS.
469          KM   CONTINUE TO ROUTE FLOW WITHIN CONCRETE CHANNEL TO SPOOK HILL FRS
470          RS       3    FLOW      -1
471          RC    .016    .016    .016    6000   .0146
472          RX       0       1       2     2.1    16.1    16.2      17      18
473          RY     7.5     7.5     7.5       0       0     7.5     7.5     7.5
             *      1       2
             * DDM   ***** Updated *****

474          KK     350
475          KM   SUB-BASIN 350
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 = 2.22  Kb = .042  Adj. Slope =  315.0
479          BA    .970
480          LG    .350    .350   4.550    .340   4.000
481          UC    .367    .234
482          UA       0       3       5       8      12      20      43      75      90      96
483          UA     100
             * DDM   ***** Preserved *****

484          KK    D350
485          KM   DIVERT FLOW FROM SUB-BASIN 350. FOR MODELING PURPOSES THE SPLIT FLOW WILL
486          KM   BE ROUTED BETWEEN SUB-BASINS 355 & 310. THE MAIN FLOW WILL ROUTED TO 310
487          DT   SF350
488          DI       0    5000
489          DQ       0    2500
             * DDM   ***** Preserved *****

490          KK    R350
491          KM   CHANNEL GEOMETRY OBTAINED FROM 2' CONTOUR MAPPING
492          KM   ROUTING OF MAIN FLOW FROM DIVERSION OF SUB-BASIN 350 TO SUB-BASIN 310
493          RS       6    FLOW      -1
494          RC    .045    .035    .045    5150    .025
495          RX       0       1      40      46      56      62     102     103
496          RY       3       2       2       0       0       2       2       3
             * DDM   ***** Updated *****
1                                        HEC-1 INPUT                                          PAGE 14

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

497          KK     310
498          KM   SUB-BASIN 310
499          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
500          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .997
501          KM     L = 2.70  Kb = .045  Adj. Slope =  283.5
502          BA    .555
503          LG    .350    .350   3.910    .480    .000
504          UC    .483    .511
505          UA       0       3       5       8      12      20      43      75      90      96
506          UA     100
             * DDM   ***** Preserved *****

507          KK    C310
508          KM   HYDROGRAPH COMBINATION OF SUB-BASINS 350 & 310
509          HC       2    1.04
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            * DDM   ***** Preserved *****

510         KK    R310
511         KM   CHANNEL GEOMETRY OBTAINED FROM 2' CONTOUR MAPPING.
512         KM   ROUTING OF FLOW FROM SUB-BASIN 310 TO 320
513         RS      10    FLOW      -1
514         RC    .045    .035    .045   10050    .022
515         RX       0       1      40      46      56      62     102     103
516         RY       3       2       2       0       0       2       2       3
            *
            * The sub-basin area and soil make-up have been updated from CAD file 12/07/00
            * DDM   ***** Updated *****

517         KK     320
518         KM   SUB-BASIN 320
519         KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
520         KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .994
521         KM     L = 2.20  Kb = .042  Adj. Slope =  132.0
522         BA    .950
523         LG    .310    .300   4.600    .350  14.000
524         UC    .508    .338
525         UA       0       5      16      30      65      77      84      90      94      97
526         UA     100
            * DDM   ***** Preserved *****

527         KK    D320
528         KM        DIVERT FLOW INTO ONLINE  DETENTION BASIN
529         KM   DETENTION/RETENTION BASINS LOCATED WITHIN THREE SUBDIVISIONS
530         KM   SIERRA HEIGHTS       FALCON RIDGE    & MARBLE CREEK
531         KM        MAXIMUM VOLUME DIVERSION = 12.27acre-feet
            *      1
532         DT   BS320   12.27
533         DI       0   10000
534         DQ       0   10000
            * DDM   ***** Preserved *****
1                                    HEC-1 INPUT                                    PAGE 15

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

535         KK   RT320
536         KM   RETRIEVE FLOW FROM DIVERSION INTO ONLINE BASIN
537         DR   BS320
            * DDM   ***** Preserved *****

538         KK    S320
539         KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
540         KM   12.27 ACRE-FEETx43560/36x3600=4.1cfs
            *      1
541         RS       1    STOR       0
542         SV       0     .01    12.3
543         SQ       0     3.0     4.2
            * DDM   ***** Preserved *****

544         KK    C320
545         KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
546         HC       4
            * DDM   ***** Updated *****

547         KK     340
548         KM   SUB-BASIN 340
549         KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
550         KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .991
551         KM     L = 2.40  Kb = .042  Adj. Slope =  160.0
552         BA   1.440
553         LG    .280    .280   4.150    .520  21.000
554         UC    .512    .288
555         UA       0       5      16      30      65      77      84      90      94      97
556         UA     100
            * DDM   ***** Preserved *****

557         KK    D340
558         KM        DIVERT FLOW INTO ONLINE  DETENTION BASIN
559         KM   DETENTION/RETENTION BASINS LOCATED WITHIN THREE SUBDIVISIONS
560         KM   GRANDVIEW ESTATES    BOULDER MOUNTAIN & 33% OF MESA HIGHLANDS
561         KM        MAXIMUM VOLUME DIVERSION = 56.0 acre-feet
            *      1
562         DT   BS340      56
563         DI       0   10000
564         DQ       0   10000
            * DDM   ***** Preserved *****

565         KK   RT340
566         KM   RETRIEVE FLOW FROM DIVERSION INTO ONLINE BASIN
567         DR   BS340
            * DDM   ***** Preserved *****

568         KK    S340
569         KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
570         KM    56.0 ACRE-FEETx43560/36x3600=18.8cfs
            *      1
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571          RS        1     STOR        0
572          SV        0      .01       56
573          SQ        0      3.0     18.9
             * DDM    ***** Preserved *****
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LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

574          KK     C340
575          KM    HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
576          HC        3
             * DDM    ***** Preserved *****

577          KK    RT350
578          KM    RETRIEVE SPLIT FLOW FROM DIVERSION OF SUB-BASIN 350
579          DR    SF350
             * DDM    ***** Preserved *****

580          KK    RR350
581          KM    CHANNEL GEOMETRY OBTAINED FROM 2' CONTOUR MAPPING.
582          KM    ROUTING OF FLOW FROM SPLIT OF SUB-BASIN 350 TO 355
583          RS        7     FLOW       -1
584          RC     .045     .035     .045     6050     .025
585          RX        0        1       40       46       56       62      102      103
586          RY        3        2        2        0        0        2        2        3
             *
             * The sub-basin area and soil make-up have been updated from CAD file 12/07/00
             * DDM    ***** Updated *****

587          KK      355
588          KM    SUB-BASIN 355
589          KM    24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
590          KM    THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .996
591          KM      L = 3.00  Kb = .044  Adj. Slope =  284.0
592          BA     .676
593          LG     .340     .340    4.450     .370    4.000
594          UC     .488     .502
595          UA        0        3        5        8       12       20       43       75       90       96
596          UA      100
             * DDM    ***** Preserved *****

597          KK     C355
598          KM    HYDROGRAPH COMBINATION OF SUB-BASIN 355 AND THE SPLIT FLOW FROM SUB-BASIN 350
599          HC        2    1.161
             * DDM    ***** Preserved *****

600          KK     R355
601          KM    CHANNEL GEOMETRY OBTAINED FROM 2' CONTOUR MAPPING.
602          KM    ROUTING OF FLOW FROM SUB-BASIN 355 TO SUB-BASIN 360
603          RS        9     FLOW       -1
604          RC     .045     .035     .045    10100     .026
605          RX        0        1       40       46       56       62      102      103
606          RY        3        2        2        0        0        2        2        3
             * DDM    ***** Updated *****

607          KK      360
608          KM    SUB-BASIN 360
609          KM    24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
610          KM    THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .995
611          KM      L = 2.10  Kb = .047  Adj. Slope =  124.0
612          BA     .880
613          LG     .260     .270    4.100     .560   20.000
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LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

614          UC     .575     .390
615          UA        0        5       16       30       65       77       84       90       94       97
616          UA      100
             * DDM    ***** Preserved *****

617          KK     D360
618          KM         DIVERT FLOW INTO ONLINE  DETENTION BASIN
619          KM    DETENTION/RETENTION BASINS LOCATED WITHIN 33% OF MESA HIGHLANDS
620          KM         MAXIMUM VOLUME DIVERSION = 28.6 acre-feet
             *        1
621          DT    BS360     28.6
622          DI        0    10000
623          DQ        0    10000
             * DDM    ***** Preserved *****

624          KK    RT360
625          KM    RETRIEVE FLOW FROM DIVERSION INTO ONLINE BASIN
626          DR    BS360
             * DDM    ***** Preserved *****

627          KK     S360
628          KM    RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
629          KM     28.6 ACRE-FEETx43560/36x3600=9.6cfs
630          RS        1     STOR        0
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631          SV       0     .01    28.6
632          SQ       0     3.0     9.6
             * DDM   ***** Preserved *****

633          KK    C360
634          KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
635          HC       4
             *
             * The sub-basin area and soil make-up have been updated from CAD file 12/07/00
             * DDM   ***** Updated *****

636          KK     370
637          KM   SUB-BASIN 370
638          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
639          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .996
640          KM     L = 1.90  Kb = .044  Adj. Slope =  203.5
641          BA    .672
642          LG    .340    .320   4.650    .330   8.000
643          UC    .404    .284
644          UA       0       3       5       8      12      20      43      75      90      96
645          UA     100
             *
             * The sub-basin area and soil make-up have been updated from CAD file 12/07/00
             * DDM   ***** Updated *****

646          KK     395
647          KM   SUB-BASIN 395
648          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
649          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .999
650          KM     L = 1.30  Kb = .051  Adj. Slope =  219.2
651          BA    .199
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LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

652          LG    .330    .320   4.900    .300  10.000
653          UC    .333    .338
654          UA       0       3       5       8      12      20      43      75      90      96
655          UA     100
             * DDM   ***** Preserved *****

656          KK    C370
657          KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
658          HC       2
             * DDM   ***** Preserved *****

659          KK    R370
660          KM   CHANNEL GEOMETRY OBTAINED FROM 2' CONTOUR MAPPING.
661          KM   ROUTING OF FLOW FROM SUB-BASINS 370 AND 395 TO SUB-BASIN 380.
662          RS      12    FLOW      -1
663          RC    .045    .035    .045   10250    .023
664          RX       0       1      40      46      56      62     102     103
665          RY       3       2       2       0       0       2       2       3
             * DDM   ***** Updated *****

666          KK     380
667          KM   SUB-BASIN 380
668          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
669          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .995
670          KM     L = 2.20  Kb = .049  Adj. Slope =  114.0
671          BA    .898
672          LG    .300    .310   4.150    .500   7.000
673          UC    .671    .475
674          UA       0       5      16      30      65      77      84      90      94      97
675          UA     100
             * DDM   ***** Preserved *****

676          KK    D380
677          KM        DIVERT FLOW INTO ONLINE  DETENTION BASIN
678          KM   DETENTION/RETENTION BASINS LOCATED WITHIN 33% OF MESA HIGHLANDS
679          KM        MAXIMUM VOLUME DIVERSION = 28.6 acre-feet
             *      1
680          DT   BS380    28.6
681          DI       0   10000
682          DQ       0   10000
             * DDM   ***** Preserved *****

683          KK   RT380
684          KM   RETRIEVE FLOW FROM DIVERSION INTO ONLINE BASIN
685          DR   BS380
             * DDM   ***** Preserved *****

686          KK    S380
687          KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
688          KM    28.6 ACRE-FEETx43560/36x3600=9.6cfs
689          RS       1    STOR       0
690          SV       0     .01    28.6
691          SQ       0     3.0     9.6
             * DDM   ***** Preserved *****
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 692          KK    C380
 693          KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
 694          HC       4
              * DDM   ***** Updated *****

 695          KK     390
 696          KM   SUB-BASIN 390
 697          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
 698          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .999
 699          KM     L =  .70  Kb = .050  Adj. Slope =  299.4
 700          BA    .244
 701          LG    .300    .250   4.700    .380  18.000
 702          UC    .204    .107
 703          UA       0       5      16      30      65      77      84      90      94      97
 704          UA     100
              * DDM   ***** Preserved *****

 705          KK    D390
 706          KM        DIVERT FLOW INTO ONLINE  DETENTION BASIN
 707          KM   DETENTION/RETENTION BASINS LOCATED WITHIN THUNDER MOUNTAIN ESTATES
 708          KM        MAXIMUM VOLUME DIVERSION  = 3.5 acre-feet
              *      1
 709          DT   BS390     3.5
 710          DI       0   10000
 711          DQ       0   10000
              * DDM   ***** Preserved *****

 712          KK   RT390
 713          KM   RETRIEVE FLOW FROM DIVERSION INTO ONLINE BASIN
 714          DR   BS390
              * DDM   ***** Preserved *****

 715          KK    S390
 716          KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
 717          KM     3.5 ACRE-FEETx43560/36x3600=1.2cfs
 718          RS       1    STOR       0
 719          SV       0     .01     3.5
 720          SQ       0     0.2     1.2
              * DDM   ***** Preserved *****

 721          KK    C390
 722          KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
 723          HC       2
              * DDM   ***** Preserved *****

 724          KK    R390
 725          KM   CHANNEL GEOMETRY OBTAINED FROM 2' CONTOUR MAPPING.
 726          KM   FROM SUB-BASIN 390 TO SUB-BASIN 400
 727          RS      15    FLOW      -1
 728          RC    .045    .045    .045    8800    .020
 729          RX       0       1      40      46      56      62     102     103
 730          RY       3       2       2       0       0       2       2       3
              * DDM   ***** Updated *****
1                                        HEC-1 INPUT                                          PAGE 20
LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 731          KK     400
 732          KM   SUB-BASIN 400
 733          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
 734          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .996
 735          KM     L = 1.64  Kb = .046  Adj. Slope =  110.0
 736          BA    .616
 737          LG    .320    .300   4.150    .490   6.000
 738          UC    .508    .342
 739          UA       0       5      16      30      65      77      84      90      94      97
 740          UA     100
              * DDM   ***** Preserved *****

 741          KK    D400
 742          KM        DIVERT FLOW INTO ONLINE  DETENTION BASIN
 743          KM   DETENTION/RETENTION BASIN LOCATED WITHIN SAGUARO VISTA SUBDIVISION
 744          KM        MAXIMUM VOLUME DIVERSION = 5.6 ACRE-FEET
              *      1
 745          DT   BS400     5.6
 746          DI       0   10000
 747          DQ       0   10000
              * DDM   ***** Preserved *****

 748          KK   RT400
 749          KM   RETRIEVE FLOW FROM DIVERSION INTO ONLINE BASIN
 750          DR   BS400
              * DDM   ***** Preserved *****

 751          KK    S400
 752          KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
 753          KM     5.6 ACRE-FEETx43560/36x3600 = 2 cfs
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754          RS       1    STOR       0
755          SV       0     .01     5.6
756          SQ       0       1       2
             * DDM   ***** Preserved *****

757          KK    C400
758          KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
759          HC       2
             * DDM   ***** Preserved *****

760          KK   CC400
761          KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
762          HC       3
             * DDM   ***** Updated *****

763          KK     385
764          KM   SUB-BASIN 385
765          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
766          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .997
767          KM     L = 2.30  Kb = .045  Adj. Slope =  303.0
768          BA    .527
769          LG    .340    .360   5.600    .220  13.000
770          UC    .383    .358
771          UA       0       3       5       8      12      20      43      75      90      96
1                                          HEC-1 INPUT                                          PAGE 21

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

772          UA     100
             * DDM   ***** Preserved *****

773          KK    D385
774          KM   DIVERT FLOW INTO SUB-BASINS 415 & 420
775          DT   SF385
776          DI       0    5000
777          DQ       0    3000
             * DDM   ***** Preserved *****

778          KK    R385
779          KM   CHANNEL GEOMETRY OBTAINED FROM 2' CONTOUR MAPPING.
780          KM   ROUTING OF FLOW DIVERSION FROM SUB-BASIN 385 INTO SUB-BASIN 420
781          RS      13    FLOW      -1
782          RC    .045     .04    .045   10250    .022
783          RX       0       1      40      46      56      62     102     103
784          RY       3       2       2       0       0       2       2       3
             * DDM   ***** Updated *****

785          KK     420
786          KM   SUB-BASIN 420
787          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
788          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .995
789          KM     L = 1.91  Kb = .042  Adj. Slope =  120.0
790          BA    .849
791          LG    .310    .270   3.880    .580  12.000
792          UC    .512    .325
793          UA       0       5      16      30      65      77      84      90      94      97
794          UA     100
             * DDM   ***** Preserved *****

795          KK    D420
796          KM        DIVERT FLOW INTO ONLINE  DETENTION BASIN
797          KM   DETENTION/RETENTION BASINS LOCATED WITHIN GRAY FOX SUBDIVISION
798          KM        MAXIMUM VOLUME DIVERSION = 8.65 acre-feet
             *      1
799          DT   BS420    8.65
800          DI       0   10000
801          DQ       0   10000
             * DDM   ***** Preserved *****

802          KK   RT420
803          KM   RETRIEVE FLOW FROM DIVERSION INTO ONLINE BASIN
804          DR   BS420
             * DDM   ***** Preserved *****

805          KK    S420
806          KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
807          KM    8.65 ACRE-FEETx43560/36x3600=2.9cfs
808          RS       1    STOR       0
809          SV       0     .01    8.65
810          SQ       0     1.0     2.9
             * DDM   ***** Preserved *****
1                                          HEC-1 INPUT                                          PAGE 22

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

811          KK    C420
812          KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
813          HC       3  1.0598
             * DDM   ***** Preserved *****
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814          KK   CC420
815          KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
816          HC       2
             * DDM   ***** Updated *****

817          KK     440
818          KM   SUB-BASIN 440
819          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
820          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF 1.000
821          KM     L =  .40  Kb = .039  Adj. Slope =  315.0
822          BA    .080
823          LG    .190    .380   6.400    .140  13.000
824          UC    .129    .077
825          UA       0       3       5       8      12      20      43      75      90      96
826          UA     100
             * DDM   ***** Preserved *****

827          KK     R70
828          KM   ROUTE FLOW FROM SUB-BASIN 440 TO C108
829          RS       2    FLOW      -1
830          RC     .05    .035     .05    2250     .08
831          RX    1000    1025    1050    1070    1075    1095    1120    1145
832          RY      30    22.9    15.7      10      10    15.7    22.9      30
             * DDM   ***** Updated *****

833          KK     441
834          KM   SUB-BASIN 441
835          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
836          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF 1.000
837          KM     L =  .28  Kb = .069  Adj. Slope =  315.0
838          BA    .010
839          LG    .300    .250   5.600    .220   5.000
840          UC    .150    .225
841          UA       0       5      16      30      65      77      84      90      94      97
842          UA     100
             * DDM   ***** Preserved *****

843          KK    C108
844          KM   COMBINE HYDROGRAPHS FROM SUB-BASINS 440 & 441
845          HC       2
             * DDM   ***** Preserved *****

846          KK      D4
847          KM        SPLIT FLOW WITH TWO 42 INCH PIPES TO WEST AND SOUTH
             *      1
848          DT   SPLIT
849          DI       0      14      40      82     120     154     180
850          DQ       0       7      20      41      60      77      90
             * DDM   ***** Preserved *****
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LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

851          KK    R108
852          KM        ROUTE FLOW FROM SUB-BASIN C108 TO C67
853          RS       2    FLOW      -1
854          RC     .05    .035     .05    3200      .1
855          RX    1000    1025    1050    1070    1075    1095    1120    1145
856          RY      30    22.9    15.7      10      10    15.7    22.9      30
             * DDM   ***** Updated *****

857          KK     442
858          KM   SUB-BASIN 442
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 =  .83  Kb = .055  Adj. Slope =  274.2
862          BA    .100
863          LG    .300    .270   3.290    .770   5.000
864          UC    .258    .264
865          UA       0       5      16      30      65      77      84      90      94      97
866          UA     100
             * DDM   ***** Preserved *****

867          KK     C67
868          KM   COMBINE FLOW FROM SUB-BASIN 442 & DIV4
869          HC       2
             * DDM   ***** Preserved *****

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

876          KK    RTD6
877          KM   RETRIEVE FLOW FROM DIVERSION INTO OFFLINE BASIN
878          DR  BASIN4
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                * DDM   ***** Preserved *****

 879            KK     SD6
 880            KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
 881            KM     3.3 ACRE-FEETx43560/36x3600=1.1cfs
                *      1
 882            RS       1    STOR       0
 883            SV       0     .01     3.3
 884            SQ       0     0.2     1.1
                * DDM   ***** Preserved *****

 885            KK     CD6
 886            KM   HYDROGRAPH COMBINATION FOR OFFLINE BASIN BLEEDOFF
 887            HC       2
                * DDM   ***** Updated *****
1                                          HEC-1 INPUT                                                    PAGE 24

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


 888            KK     443
 889            KM   SUB-BASIN 443
 890            KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
 891            KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF 1.000
 892            KM     L =  .71  Kb = .050  Adj. Slope =  315.0
 893            BA    .080
 894            LG    .250    .190   8.000    .080  10.000
 895            UC    .196    .194
 896            UA       0       5      16      30      65      77      84      90      94      97
 897            UA     100
                * DDM   ***** Preserved *****

 898            KK     D66
 899            KM        DIVERT FLOW INTO 3 NATURAL WASHES WITH ONE 24" PIPE IN EACH WASH.
 900            KM        EACH PIPE CAPACITY BASED ON 4 FEET OF HEAD
 901            DT   WSH66
 902            DI       0      78     100     200
 903            DQ       0      78      78      78
                * DDM   ***** Preserved *****

 904            KK    R113
 905            KM        ROUTE FLOW FROM C113 TO C114
 906            RS       1    FLOW      -1
 907            RC    .019    .019    .019    1300    .029
 908            RX    1000    1004    1008    1012    1018    1022    1026    1030
 909            RY      17   15.33   12.67      10      10   12.67   15.33      17
                * DDM   ***** Preserved *****

 910            KK    C114
 911            KM        COMBINE HYDROGRAPHS FROM SUB-BASIN 67 AND C113
 912            HC       2
                * DDM   ***** Updated *****

 913            KK     444
 914            KM   SUB-BASIN 444
 915            KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
 916            KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF 1.000
 917            KM     L =  .33  Kb = .034  Adj. Slope =  315.0
 918            BA    .040
 919            LG    .130    .350   4.450    .320   1.000
 920            UC    .112    .084
 921            UA       0       3       5       8      12      20      43      75      90      96
 922            UA     100
                * DDM   ***** Preserved *****

 923            KK     R58
 924            KM   ROUTE FLOW FROM SUB-BASIN 444 TO C107
 925            RS       2    FLOW      -1
 926            RC     .05    .035     .05    2370   .0516
 927            RX    1000    1010    1020    1050    1055    1085    1095    1105
 928            RY      19      18      17      10      10      17      18      19
                * DDM   ***** Updated *****
1                                          HEC-1 INPUT                                                    PAGE 25

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


 929            KK     445
 930            KM   SUB-BASIN 445
 931            KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
 932            KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .999
 933            KM     L =  .82  Kb = .036  Adj. Slope =  315.0
 934            BA    .190
 935            LG    .170    .320   3.470    .590   3.000
 936            UC    .192    .130
 937            UA       0       5      16      30      65      77      84      90      94      97
 938            UA     100
                * DDM   ***** Preserved *****

 939            KK    C107
 940            KM   COMBINE HYDROGRAPHS FROM SUB-BASINS 444 & 445
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 941          HC       2
              * DDM   ***** Preserved *****

 942          KK    R107
 943          KM        ROUTE FLOW FROM C107 TO C109
 944          RS       2    FLOW      -1
 945          RC     .05    .035     .05     700   .0516
 946          RX    1000    1010    1020    1050    1055    1085    1095    1105
 947          RY      19      18      17      10      10      17      18      19
              * DDM   ***** Preserved *****

 948          KK    RTB2
 949          KM        RETRIEVE DIVERTED FLOW FROM BASIN 1
              *      1
 950          DR   SPLIT
              * DDM   ***** Preserved *****

 951          KK  RSPLIT
 952          KM        ROUTE FLOW FROM SPLIT TO C109
 953          RS       1    FLOW      -1
 954          RC     .05    .035     .05     800     .05
 955          RX    1000    1025    1050    1070    1075    1095    1120    1145
 956          RY      30    22.9    15.7      10      10    15.7    22.9      30
              * DDM   ***** Updated *****

 957          KK     446
 958          KM   SUB-BASIN 446
 959          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
 960          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF 1.000
 961          KM     L =  .46  Kb = .061  Adj. Slope =  303.9
 962          BA    .040
 963          LG    .270    .250   4.500    .400  19.000
 964          UC    .183    .189
 965          UA       0       5      16      30      65      77      84      90      94      97
 966          UA     100
              * DDM   ***** Preserved *****
1                                        HEC-1 INPUT                                          PAGE 26

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

 967          KK    C109
 968          KM        COMBINE HYDROGRAPHS FROM COMBINES C107 AND C108
 969          HC       3
              * DDM   ***** Preserved *****

 970          KK      D5
 971          KM        DIVERT FLOW INTO WASHES TOWARDS WEST
 972          KM        DIVERSION THROUGH 36" PIPE WITH 3 FEET OF HEAD
              *      1
 973          DT  WSH404
 974          DI       0    40.7    71.2   121.6     190     276   379.4   500.6
 975          DQ       0      35      35      35      35      35      35      35
              * DDM   ***** Preserved *****

 976          KK    R109
 977          KM        ROUTE FLOW FROM C109 TO C110
 978          RS       1    FLOW      -1
 979          RC    .019    .019    .019    3080     .05
 980          RX    1000    1005    1010    1015    1025    1030    1035    1040
 981          RY   13.75    12.5   11.25      10      10   11.25    12.5   13.75
              * DDM   ***** Updated *****

 982          KK     447
 983          KM   SUB-BASIN 447
 984          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
 985          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .999
 986          KM     L =  .49  Kb = .056  Adj. Slope =  221.0
 987          BA    .090
 988          LG    .250    .270   3.350    .870  30.000
 989          UC    .208    .145
 990          UA       0       5      16      30      65      77      84      90      94      97
 991          UA     100
              * DDM   ***** Preserved *****

 992          KK   RT404
 993          KM        RETRIEVE DIVERTED FLOW FOR WASH 109
 994          DR  WSH404
              * DDM   ***** Preserved *****

 995          KK    R404
 996          KM        ROUTE FLOW FROM C110 TO C110
 997          RS       6    FLOW      -1
 998          RC    .019    .019    .019    3540     .03
 999          RX    1000    1012    1016    1020    1025    1029    1033    1045
1000          RY      15      12      11      10      10      11      12      15
              * DDM   ***** Preserved *****

1001          KK    C110
1002          KM   COMBINE HYDROGRAPHS FROM SUB-BASIN 447 AND R404
1003          HC       3
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                * DDM   ***** Preserved *****
                                        HEC-1 INPUT                                                    PAGE 27

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

1004            KK    R110
1005            KM        ROUTE FLOW FROM C110 TO C115
1006            RS       1    FLOW      -1
1007            RC    .019    .019    .019     580   .0291
1008            RX    1000    1012    1016    1020    1035    1039    1043    1055
1009            RY      15      12      11      10      10      11      12      15
                * DDM   ***** Preserved *****

1010            KK    C115
1011            KM        COMBINE HYDROGRAPHS FROM C114 AND C110
1012            HC       2
                * DDM   ***** Preserved *****

1013            KK    R115
                * ******OUTFLOW FROM THIS ROUTING IS GREATER THAN INFLOW TO THE
                * ******ROUTING BY 2cfs.  THIS IS NOTED BUT LEFT UNCHANGED WITHIN THE MODEL
1014            KM        ROUTE FLOW FROM C115 TO Sub 453
1015            RS       1    FLOW      -1
1016            RC    .019    .019    .019    2125    .029
1017            RX    1000    1012    1016    1020    1035    1039    1043    1055
1018            RY      15      12      11      10      10      11      12      15
                * DDM   ***** Updated *****

1019            KK     448
1020            KM   SUB-BASIN 448
1021            KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1022            KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF 1.000
1023            KM     L =  .36  Kb = .042  Adj. Slope =  315.0
1024            BA    .045
1025            LG    .170    .310   4.200    .390  11.000
1026            UC    .133    .102
1027            UA       0       5      16      30      65      77      84      90      94      97
1028            UA     100
                * DDM   ***** Updated *****

1029            KK     449
1030            KM   SUB-BASIN 449
1031            KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1032            KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF 1.000
1033            KM     L =  .40  Kb = .054  Adj. Slope =  315.0
1034            BA    .050
1035            LG    .260    .280   3.500    .640   6.000
1036            UC    .167    .134
1037            UA       0       5      16      30      65      77      84      90      94      97
1038            UA     100
                * DDM   ***** Preserved *****

1039            KK   C6364
1040            KM   COMBINE HYDROGRAPHS FROM SUB-BASINS 448 & 449
1041            HC       2
                * DDM   ***** Preserved *****
1                                       HEC-1 INPUT                                                    PAGE 28

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

1042            KK   R6364
1043            KM   ROUTE FLOW FROM C116 AND SUB-BASINS 448 AND 449
1044            RS       5    FLOW      -1
1045            RC     .05    .035     .05    4375   .0333
1046            RX    1000    1027    1053    1080    1090    1117    1143    1170
1047            RY      15   13.33   11.67      10      10   11.67   13.33      15
                * DDM   ***** Updated *****

1048            KK     450
1049            KM   SUB-BASIN 450
1050            KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1051            KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF 1.000
1052            KM     L =  .85  Kb = .057  Adj. Slope =  210.5
1053            BA    .070
1054            LG    .340    .350   3.630    .570   4.000
1055            UC    .296    .383
1056            UA       0       3       5       8      12      20      43      75      90      96
1057            UA     100
                * DDM   ***** Updated *****

1058            KK     451
1059            KM   SUB-BASIN 451
1060            KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1061            KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF 1.000
1062            KM     L =  .57  Kb = .063  Adj. Slope =  175.0
1063            BA    .025
1064            LG    .340    .340   3.290    .750   3.000
1065            UC    .271    .453
1066            UA       0       3       5       8      12      20      43      75      90      96
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1067          UA     100
              * DDM   ***** Preserved *****

1068          KK    C451
1069          KM   COMBINE HYDROGRAPHS FROM SUB-BASINS 450 & 451
1070          HC       2
              * DDM   ***** Preserved *****

1071          KK    RT66
1072          KM        RETRIEVE DIVERTED FLOW FROM SUB-BASIN 66
1073          DR   WSH66
              * DDM   ***** Updated *****

1074          KK     452
1075          KM   SUB-BASIN 452
1076          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1077          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF 1.000
1078          KM     L =  .43  Kb = .055  Adj. Slope =  315.0
1079          BA    .040
1080          LG    .260    .280   3.700    .550   9.000
1081          UC    .171    .166
1082          UA       0       5      16      30      65      77      84      90      94      97
1083          UA     100
              * DDM   ***** Preserved *****
1                                        HEC-1 INPUT                                          PAGE 29

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

1084          KK   C6465
1085          KM   COMBINE HYDROGRAPHS FROM SUB-BASINS 443 AND 452
1086          HC       2
              * DDM   ***** Preserved *****

1087          KK   R6566
1088          KM        ROUTE FLOW FROM DIVERSIONS 65 AND 66 TO C116
1089          RS       3    FLOW      -1
1090          RC     .05    .035     .05    2435    .0282
1091          RX    1000    1045    1090    1150    1160    1220    1265    1310
1092          RY      25      23      20      10      10      20      23      25
              * DDM   ***** Preserved *****

1093          KK    C116
1094          KM   COMBINE HYDROGRAPHS FROM SUB-BASINS 450 & 451 AND R6364 & R6465
1095          HC       3
              * DDM   ***** Preserved *****

1096          KK  BASIN5
1097          KM        RESERVOIR WITHIN PARCEL 31      2-48 INCH PIPES AT OUTFALL
1098          KM        BASIN 5 FEET DEEP
1099          RS       1    ELEV       0
1100          SV       0     4.5     9.9
1101          SQ       0      69     190
1102          SE       0     2.5       5
              * DDM   ***** Preserved *****

1103          KK    R116
1104          KM   ROUTE FLOW FROM C116 TO C117
1105          RS       2    FLOW      -1
1106          RC     .05    .035     .05    1300    .0333
1107          RX    1000    1100    1200    1300    1320    1420    1520    1620
1108          RY      13      12      11      10      10      11      12      13
              * DDM   ***** Updated *****

1109          KK     453
1110          KM   SUB-BASIN 453
1111          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1112          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF 1.000
1113          KM     L =  .58  Kb = .058  Adj. Slope =  138.0
1114          BA    .060
1115          LG    .290    .300   3.290    .820  18.000
1116          UC    .275    .284
1117          UA       0       5      16      30      65      77      84      90      94      97
1118          UA     100
              * DDM   ***** Preserved *****

1119          KK    C117
1120          KM   COMBINE HYDROGRAPHS FROM SUB-BASIN 453 AND R116
1121          HC       2
              * DDM   ***** Preserved *****
1                                        HEC-1 INPUT                                          PAGE 30

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

1122          KK    C118
1123          KM   COMBINE HYDROGRAPHS FROM R115 AND C117
1124          HC       2
              * DDM   ***** Preserved *****

1125          KK    R118
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1126        KM        ROUTE FLOW FROM C118 TO  DIV7
1127        RS       1    FLOW      -1
1128        RC    .019    .019    .019    1500    .024
1129        RX    1000    1012    1016    1020    1035    1039    1043    1055
1130        RY      15      12      11      10      10      11      12      15
            * DDM   ***** Preserved *****

1131        KK      D7
1132        KM        OFFLINE BASIN AT NORTH MOUNTAIN RIDGE   FLOWS ENTER BASIN OVER
1133        KM        30' WEIR SET AT 5.3' ABOVE THE CHANNEL BOTTOM
            *      1
1134        DT  BASIN6     3.6
1135        DI       0     363     487     563     645     844
1136        DQ       0       3      47      83     125     244
            * DDM   ***** Preserved *****

1137        KK    RTD7
1138        KM   RETRIEVE FLOW FROM DIVERSION INTO OFFLINE BASIN
1139        DR  BASIN6
            * DDM   ***** Preserved *****

1140        KK     SD7
1141        KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
1142        KM     3.6 ACRE-FEETx43560/36x3600=1.2cfs
1143        RS       1    STOR       0
1144        SV       0     .01     3.6
1145        SQ       0     0.2     1.2
            * DDM   ***** Preserved *****

1146        KK     CD7
1147        KM   HYDROGRAPH COMBINATION FOR OFFLINE BASIN BLEEDOFF
1148        HC       2
            * DDM   ***** Updated *****

1149        KK     454
1150        KM   SUB-BASIN 454
1151        KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1152        KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .999
1153        KM     L = 1.23  Kb = .051  Adj. Slope =  163.0
1154        BA    .180
1155        LG    .300    .310   3.780    .560  14.000
1156        UC    .379    .395
1157        UA       0       5      16      30      65      77      84      90      94      97
1158        UA     100
            * DDM   ***** Preserved *****
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LINE        ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1159        KK    C119
1160        KM        COMBINE HYDROGRAPHS FROM SUB-BASIN 454 AND C119
            *      1       2
1161        HC       2
            * DDM   ***** Preserved *****

1162        KK    R454
1163        KM   CHANNEL GEOMETRY OBTAINED FROM 2' CONTOUR MAPPING.
1164        KM   ROUTE FLOW FROM C119 TO 415C
1165        RS       3    FLOW      -1
1166        RC    .045    .035    .045    2200    .009
1167        RX       0      .5       1      33      42      67    67.5      68
1168        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 *****

1169        KK     415
1170        KM   SUB-BASIN 415
1171        KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1172        KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .996
1173        KM     L = 2.58  Kb = .044  Adj. Slope =  298.5
1174        BA    .609
1175        LG    .320    .290   4.500    .400  15.000
1176        UC    .421    .401
1177        UA       0       5      16      30      65      77      84      90      94      97
1178        UA     100
            * DDM   ***** Preserved *****

1179        KK   RT385
1180        KM   RETRIEVE FLOW FROM DIVERSION OF SUB-BASIN 385 INTO SUB-BASIN 415
1181        DR   SF385
            * DDM   ***** Preserved *****

1182        KK   RR385
1183        KM   CHANNEL GEOMETRY OBTAINED FROM 2' CONTOUR MAPPING.
1184        KM   ROUTING OF SPLIT FLOW FROM SUB-BASIN 385 TO SUB-BASIN 415
1185        RS      11    FLOW      -1
1186        RC    .045     .04    .045    5878    .024
1187        RX       0       1      40      46      56      62     102     103
1188        RY       3       2       2       0       0       2       2       3
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                * DDM   ***** Preserved *****

1189            KK    C415
1190            KM   HYDROGRAPH COMBINATION OF SUB-BASINS 415, R454 & SPLIT FLOW FROM 385
1191            HC       2  0.9252
                * DDM   ***** Preserved *****

1192            KK   CC415
1193            KM   HYDROGRAPH COMBINATION OF SUB-BASINS 415, R454 & SPLIT FLOW FROM 385
1194            HC       2
                * DDM   ***** Preserved *****
1                                          HEC-1 INPUT                                                    PAGE 32

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


1195            KK    R415
1196            KM   CHANNEL GEOMETRY OBTAINED FROM 2' CONTOUR MAPPING.
1197            KM   ROUTING OF FLOW FROM 415C TO 455C
1198            RS       3    FLOW      -1
1199            RC    .045     .03    .045    4100    .024
1200            RX       0      .5       1       8      16      23    23.5      24
1201            RY       8       8       8       0       0       8       8       8
                * DDM   ***** Updated *****

1202            KK     455
1203            KM   SUB-BASIN 455
1204            KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1205            KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .993
1206            KM     L = 1.70  Kb = .041  Adj. Slope =  146.0
1207            BA   1.111
1208            LG    .270    .280   3.700    .640  24.000
1209            UC    .421    .204
1210            UA       0       5      16      30      65      77      84      90      94      97
1211            UA     100
                * DDM   ***** Preserved *****

1212            KK    D455
1213            KM        DIVERT FLOW INTO ONLINE  DETENTION BASIN
1214            KM   DETENTION/RETENTION BASINS LOCATED WITHIN LAS SENDAS ADDENDUM III
1215            KM   FOR BASIN #: 30      34      43      47&58
1216            KM        MAXIMUM VOLUME DIVERSION = 74.1 acre-feet
                *      1
1217            DT   BS455    74.1
1218            DI       0   10000
1219            DQ       0   10000
                * DDM   ***** Preserved *****

1220            KK   RT455
1221            KM   RETRIEVE FLOW FROM DIVERSION INTO ONLINE BASIN
1222            DR   BS455
                * DDM   ***** Preserved *****

1223            KK    S455
1224            KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
1225            KM    74.1 ACRE-FEETx43560/36x3600=25cfs
1226            RS       1    STOR       0
1227            SV       0     .01    74.1
1228            SQ       0     3.0      25
                * DDM   ***** Preserved *****

1229            KK    C455
1230            KM   HYDROGRAPH COMBINATION FOR SUB-BASIN 455 AND DIVERTED BASIN STORAGE OF 455
1231            HC       2
                * DDM   ***** Preserved *****
1                                          HEC-1 INPUT                                                    PAGE 33

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


1232            KK   CC455
1233            KM  HYDROGRAPH COMBINATION OF 420C, R415 AND C455
                *      1       2
1234            HC       3
                * DDM   ***** Preserved *****

1235            KK    S440
1236            KM   SPOOK HILL FRS PLANS DATED 6/15/77
1237            KM   OUTLET PIPE=7'x7.5'RCBC; L=70 INLET INV.=1566; OUTLET INV.=1566
1238            KM   EMERGENCY SPILLWAY ELEV.=1582; PRINCIPLE SPILLWAY ELEV.=1577.5
1239            KM   STORAGE VOLUME BELOW PRINCIPLE SPILLWAY FOR SEDIMENT = 200 ACRE-FEET
                *   ESE = 1583.86 ft; PSE = 1579.36 ft; Sediment Vol. = 271 Ac-Ft.
1240            RS       1    STOR       0
1241            SV       0      81     363     533     719     925    1120    1399    1668    4051
1242            SQ       0       0      10     180     367     595     800    1231    2625   24500
1243            SE      76      78      80      81      82      83    83.9      85      86      92
                * DDM   ***** Preserved *****

1244            KK    R455
1245            KM   ROUTE FLOW FROM SPOOK HILL FRS TO SUB-BASIN 480
1246            RS      15    FLOW      -1
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1247          RC     .035     .025     .035     7000    .0002
1248          RX        0        1        2       28       58       84       85       86
1249          RY     13.5     13.5     13.5        0        0     13.5     13.5     13.5
              * DDM    ***** Updated *****

1250          KK      480
1251          KM    SUB-BASIN 480
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  .996
1254          KM      L = 1.21  Kb = .042  Adj. Slope =  165.0
1255          BA     .731
1256          LG     .270     .270   3.580     .730  27.000
1257          UC     .325     .148
1258          UA        0        5       16       30       65       77       84       90       94       97
1259          UA      100
              * DDM    ***** Preserved *****

1260          KK     D480
1261          KM         DIVERT FLOW INTO ONLINE  DETENTION BASIN
1262          KM    DETENTION/RETENTION BASINS LOCATED WITHIN LAS SENDAS ADDENDUM III
1263          KM    FOR BASIN #: 18 & 26
1264          KM         MAXIMUM VOLUME DIVERSION = 16.5 acre-feet
              *       1
1265          DT    BS480     16.5
1266          DI        0    10000
1267          DQ        0    10000
              * DDM    ***** Preserved *****
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1268          KK    RT480
1269          KM    RETRIEVE FLOW FROM DIVERSION INTO ONLINE BASIN
1270          DR    BS480
              * DDM    ***** Preserved *****

1271          KK     S480
1272          KM    RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
1273          KM     16.5 ACRE-FEETx43560/36x3600=5.5cfs
1274          RS        1     STOR        0
1275          SV        0      .01     16.5
1276          SQ        0      3.0      5.6
              * DDM    ***** Preserved *****

1277          KK     C480
1278          KM    HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
1279          HC        2
              * DDM    ***** Preserved *****

1280          KK    CC480
1281          KM    HYDROGRAPH COMBINATION AT SUBBASIN 480
1282          HC        2    0.731
              * DDM    ***** Preserved *****

1283          KK     R480
1284          KM    ROUTE FLOW FROM SUB-BASIN 480 TO SUBBASIN 462
1285          RS        6     FLOW       -1
1286          RC     .035     .025     .035     2800    .0002
1287          RX        0        1        2       28       58       84       85       86
1288          RY     13.5     13.5     13.5        0        0     13.5     13.5     13.5
              * DDM    ***** Updated *****

1289          KK      456
1290          KM    SUB-BASIN 456
1291          KM    24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1292          KM    THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .998
1293          KM      L =  .94  Kb = .045  Adj. Slope =  315.0
1294          BA     .260
1295          LG     .300     .380   5.600     .200  12.000
1296          UC     .217     .139
1297          UA        0        5       16       30       65       77       84       90       94       97
1298          UA      100
              * DDM    ***** Preserved *****

1299          KK       D1
1300          KM         DIVERT FLOW INTO OFFLINE DETENTION BASIN
1301          KM         WEIR FOR BASIN SET AT 4 FEET ABOVE CHANNEL BOTTOM
              *       1
1302          DT   BASIN1      4.0
1303          DI        0     11.1    127.9    234.4    577.7    789.9   1025.5   1280.9   1555.7
1304          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

1305          KK      CD2
1306          KM         SPLIT OUT FLOW FOR WASHES THAT FLOW TO THE SOUTH FROM
1307          KM         WASHES THAT DRAIN TO THE WES, SOUTHERN WASHES FED BY 30" & 24" PIPE
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1308        DT    WA30
1309        DI       0    11.1   127.9   189.6   329.7     408   491.9   579.4   671.7
1310        DQ       0    11.1    38.4    48.2      63    69.5      76      81      86
            * DDM   ***** Preserved *****

1311        KK    R456
1312        KM        ROUTE FLOW FROM SUB-BASIN 51 TO C101
1313        RS       2    FLOW      -1
1314        RC     .05    .035     .05    3800    .044
1315        RX    1000    1010    1020    1036    1041    1057    1067    1077
1316        RY   14.88   14.44      14      10      10      14   14.44   14.88
            * DDM   ***** Updated *****

1317        KK     457
1318        KM   SUB-BASIN 457
1319        KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1320        KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .999
1321        KM     L = 1.01  Kb = .045  Adj. Slope =  308.8
1322        BA    .190
1323        LG    .270    .330   3.950    .460   6.000
1324        UC    .237    .195
1325        UA       0       5      16      30      65      77      84      90      94      97
1326        UA     100
            * DDM   ***** Preserved *****

1327        KK    C101
1328        KM        COMBINE HYDROGRAPHS FROM SUB-BASINS 50 AND 51
1329        HC       2
            * DDM   ***** Preserved *****

1330        KK      D3
1331        KM        RESERVOIR AT THE EDGE OF THE PROPERTY   FLOW FROM CHANNEL
1332        KM        DIVERTED  INTO OFFLINE BASIN A 25' WEIR SET AT ELEVATION 1808 FT
            *      1
1333        DT  BASIN2     5.0
1334        DI       0      36      70     110     180   313.5     402   500.9
1335        DQ       0       0       0       0       0    67.5     124   190.9
            * DDM   ***** Preserved *****

1336        KK    RTD3
1337        KM   RETRIEVE FLOW FROM DIVERSION INTO OFFLINE BASIN
1338        DR  BASIN2
            * DDM   ***** Preserved *****

1339        KK     SD3
1340        KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
1341        KM     5.0 ACRE-FEETx43560/36x3600=1.7cfs
1342        RS       1    STOR       0
1343        SV       0     .01       5
1344        SQ       0     0.7     1.7
            * DDM   ***** Preserved *****
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LINE        ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1345        KK     CD3
1346        KM   HYDROGRAPH COMBINATION FOR OFFLINE BASIN BLEEDOFF
1347        HC       2
            * DDM   ***** Preserved *****

1348        KK    R101
1349        KM        ROUTE FLOW FROM SUBBASIN C101 TO C103
1350        RS       1    FLOW      -1
1351        RC     .05    .035     .05    1450     .05
1352        RX    1000    1010    1020    1036    1041    1057    1067    1077
1353        RY      15    14.5      14      10      10      14    14.5      15
            * DDM   ***** Updated *****

1354        KK     458
1355        KM   SUB-BASIN 458
1356        KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1357        KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .999
1358        KM     L =  .76  Kb = .048  Adj. Slope =  299.0
1359        BA    .190
1360        LG    .290    .330   5.800    .190   6.000
1361        UC    .204    .131
1362        UA       0       5      16      30      65      77      84      90      94      97
1363        UA     100
            * DDM   ***** Preserved *****

1364        KK    C103
1365        KM        COMBINE HYDROGRAPHS FROM SUB-BASIN 55 AND C101
1366        HC       2
            * DDM   ***** Preserved *****

1367        KK    R103
1368        KM        ROUTE FLOW FROM SUBBASIN C103 TO C106
1369        RS       1    FLOW      -1
1370        RC     .05    .035     .05     900     .03
1371        RX    1000    1010    1020    1030    1050    1060    1070    1080
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1372        RY   13.16   12.83    12.5      10      10    12.5   12.83   13.16
            * DDM   ***** Preserved *****

1373        KK    RT30
1374        KM        RETRIEVE DIVERTED FLOW FOR WASH BELOW 30 INCH PIPE
1375        DR    WA30
            * DDM   ***** Preserved *****

1376        KK     R30
1377        KM        ROUTE FLOW FROM WASH DIVERSION TO COMBINE C52
1378        RS       1    FLOW      -1
1379        RC     .05    .035     .05    1630     .05
1380        RX    1000    1010    1020    1036    1041    1057    1067    1077
1381        RY      15    14.5      14      10      10      14    14.5      15
            * DDM   ***** Preserved *****
1                                     HEC-1 INPUT                                                    PAGE 37

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

1382        KK    RTB1
1383        KM        RETRIEVE DIVERTED FLOW FROM BASIN 1
            *      1       2
1384        DR  BASIN1
            * DDM   ***** Preserved *****

1385        KK      B1
1386        KM        ROUTE FLOW THROUGH OFFLINE DETENTION BASIN
1387        KM        FLOW OUTLETS THROUGH A 30 INCH OUTLET PIPE
            *      1       2
1388        RS       1    ELEV       0
1389        SV              .7     1.4     2.3     2.7     4.0
1390        SQ       0       5      16      28    32.5      37
1391        SE       0       1       2       3     3.5       4
            * DDM   ***** Preserved *****

1392        KK     RB1
1393        KM        ROUTE FLOW FROM BASIN DIVERSION TO COMBINE C52
1394        RS       3    FLOW      -1
1395        RC     .05    .035     .05    1720     .05
1396        RX    1000    1010    1020    1036    1041    1057    1067    1077
1397        RY      15    14.5      14      10      10      14    14.5      15
            * DDM   ***** Preserved *****

1398        KK    CDIV
1399        KM        COMBINE FLOWS FROM WA30 AND BASIN 1
1400        HC       2     .12
            * DDM   ***** Updated *****

1401        KK     459
1402        KM   SUB-BASIN 459
1403        KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1404        KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF 1.000
1405        KM     L =  .35  Kb = .052  Adj. Slope =  251.6
1406        BA    .030
1407        LG    .220    .300   3.330    .710   8.000
1408        UC    .162    .157
1409        UA       0       5      16      30      65      77      84      90      94      97
1410        UA     100
            * DDM   ***** Preserved *****

1411        KK     C52
1412        KM        COMBINE FLOWS FROM SUB-BASIN 52 WA30 AND BASIN 1
1413        HC       2
            * DDM   ***** Preserved *****

1414        KK     R52
1415        KM        ROUTE FLOW FROM SUBBASIN 52 TO C102
1416        RS       3    FLOW      -1
1417        RC     .05    .035     .05    2000     .05
1418        RX    1000    1010    1020    1036    1041    1057    1067    1077
1419        RY      15    14.5      14      10      10      14    14.5      15
            * DDM   ***** Updated *****
1                                     HEC-1 INPUT                                                    PAGE 38

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

1420        KK     460
1421        KM   SUB-BASIN 460
1422        KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1423        KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .999
1424        KM     L =  .62  Kb = .058  Adj. Slope =  194.0
1425        BA    .140
1426        LG    .250    .260   3.740    .690  27.000
1427        UC    .242    .160
1428        UA       0       5      16      30      65      77      84      90      94      97
1429        UA     100
            * DDM   ***** Preserved *****

1430        KK    C102
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1431          KM        COMBINE HYDROGRAPHS FROM SUB-BASINS 52 AND 53
1432          HC       2
              * DDM   ***** Preserved *****

1433          KK  BASIN3
1434          KM        RESERVOIR AT CLUBHOUSE LOCATION 1-30 INCH PIPE AT OUTFALL
1435          KM        BOTTOM OF BASIN AT 6 FEET ABOVE 1795 ELEVATION
1436          RS       1    ELEV       0
1437          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
1438          SQ       0      22      45    47.4      48      51      57      62      67      73
1439          SE    1795  1797.5    1800  1800.4  1800.5    1801    1802    1803    1804  1805.5
              * DDM   ***** Preserved *****

1440          KK      R3
1441          KM        ROUTE FLOW FROM C102 to C106
1442          RS       5    FLOW      -1
1443          RC     .05     .03     .05    2750   .0375
1444          RX    1000    1010    1020    1052    1086    1118    1128    1138
1445          RY    19.2    18.4      18      10      10      18    18.4    19.2
              * DDM   ***** Updated *****

1446          KK     461
1447          KM   SUB-BASIN 461
1448          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1449          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .999
1450          KM     L =  .83  Kb = .052  Adj. Slope =  181.0
1451          BA    .120
1452          LG    .270    .250   4.250    .450  21.000
1453          UC    .271    .250
1454          UA       0       5      16      30      65      77      84      90      94      97
1455          UA     100
              * DDM   ***** Preserved *****

1456          KK    C104
1457          KM        COMBINE HYDROGRAPHS FROM SUB-BASIN 54 AND R102
1458          HC       2
              * DDM   ***** Preserved *****
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1459          KK    C106
1460          KM        COMBINE HYDROGRAPHS FROM SUB-BASIN C103 AND C104
1461          HC       2
              * DDM   ***** Preserved *****

1462          KK    R106
1463          KM        ROUTE FLOW FROM C106 TO C49
1464          RS       2    FLOW      -1
1465          RC     .05    .035     .05    3950    .033
1466          RX    1000    1010    1020    1030    1050    1060    1070    1080
1467          RY   13.16   12.83    12.5      10      10    12.5   12.83   13.16
              * DDM   ***** Updated *****

1468          KK     462
1469          KM   SUB-BASIN 462
1470          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1471          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .998
1472          KM     L =  .97  Kb = .045  Adj. Slope =  297.7
1473          BA    .301
1474          LG    .300    .330   5.300    .240  12.000
1475          UC    .225    .137
1476          UA       0       5      16      30      65      77      84      90      94      97
1477          UA     100
              * DDM   ***** Preserved *****

1478          KK     C56
1479          KM        COMBINE HYDROGRAPHS FROM SUB-BASIN 56 AND C106
              *      1       2
1480          HC       2
              * DDM   ***** Preserved *****

1481          KK    C462
1482          KM        COMBINE HYDROGRAPHS AT SUBBASIN 462
              *      1
1483          HC       2    2.09
              * DDM   ***** Preserved *****

1484          KK    R462
1485          KM   ROUTE FLOW FROM SUB-BASIN 462 TO SUB-BASIN 500 (First Channel Reach)
1486          RS       1    FLOW      -1
1487          RC    .025    .025    .025    1800    .005
1488          RX       0       1      20      32      62      74      93      94
1489          RY      13      12      12       0       0      12      12      13
              *

1490          KK   RR462
1491          KM   ROUTE FLOW FROM SUB-BASIN 462 TO SUB-BASIN 500 (Second Natural Wash Reach)
1492          RS       3    FLOW      -1
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1493          RC    .055     .05    .055    4700     .05
1494          RX       0       1       2      28      58      84      85      86
1495          RY    13.5    13.5    13.5       0       0    13.5    13.5    13.5
              * DDM   ***** Updated *****
1                                          HEC-1 INPUT                                                    PAGE 40

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


1496          KK     500
1497          KM   SUB-BASIN 500
1498          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1499          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .994
1500          KM     L = 2.77  Kb = .042  Adj. Slope =  286.8
1501          BA    .930
1502          LG    .350    .400   6.000    .170   9.000
1503          UC    .421    .333
1504          UA       0       3       5       8      12      20      43      75      90      96
1505          UA     100
              * DDM   ***** Preserved *****

1506          KK    C500
1507          KM   HYDROGRAPH COMBINATION FOR THE ENTIRE WATERSHED AT THE SALT RIVER
1508          HC       2    3.02
1509          ZZ
1
              SCHEMATIC DIAGRAM OF STREAM NETWORK
 INPUT
 LINE      (V) ROUTING          (--->) DIVERSION OR PUMP FLOW

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

   37          10
                V
                V
   47         R10
                V
                V
   53         R12
                .
                .
   59           .          20
                .           .
                .           .
   69         C20............
                V
                V
   72         R20
                .
                .
   78           .          40
                .           .
                .           .
   88           .           .          60
                .           .           .
                .           .           .
   98         C60........................
                V
                V
  101         S60
                V
                V
  110         R60
                V
                V
  116        RR60
                .
                .
  122           .          80
                .           .
                .           .
  132         C80............
                V
                V
  135         R80
                .
                .
  141           .         100
                .           .
                .           .
  151        C100............
                V
                V
  154        R100
                .
                .
  160           .         120
                .           .
                .           .
  170        C120............
                V
```

```
                V
173          R120
                .
                .
179             .          140
                .            .
                .            .
189             .            .          150
                .            .            V
                .            .            V
199             .            .         R150
                .            .            V
                .            .            V
205             .            .         R152
                .            .            .
                .            .            .
211             .            .            .          160
                .            .            .            .
                .            .            .            .
221             .            .            .            .          180
                .            .            .            .            .
                .            .            .            .            .
231          C180.............................................
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                .
234             .          210
                .            V
                .            V
244             .         R210
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250             .            .          240
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260             .         C240............
                .            V
                .            V
263             .         S240
                .            V
                .            V
270             .         R240
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277             .            .          220
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287             .         C220............
                .            V
                .            V
290             .         S220
                .            V
                .            V
297             .         R220
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                .            .
304             .            .          190
                .            .            V
                .            .            V
314             .            .         R190
                .            .            V
                .            .            V
320             .            .         R192
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326             .            .            .          200
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336             .         C200........................
                .            V
                .            V
339             .         S200
                .            V
                .            V
346             .         R200
                .            V
                .            V
352             .        SS200
                .            V
                .            V
359             .        RR200
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365       CC180............
             V
             V
368        S180
             V
             V
377        R180
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386          .         260
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396       C260............
             V
             V
399       R260
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408          .         280
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418       C280............
             V
             V
421       R280
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430          .         300
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440       C300............
             V
             V
443       R300
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452          .         305
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462       C305............
             V
             V
465       R305
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474          .         350
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487          .           .-------->   SF350
484          .        D350
             .           V
             .           V
490          .        R350
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497          .           .         310
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507          .        C310............
             .           V
             .           V
510          .        R310
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517          .           .         320
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532          .           .           .-------->   BS320
527          .           .        D320
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537          .           .           .           .<-------   BS320
535          .           .           .       RT320
             .           .           .           V
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538          .           .           .        S320
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544       C320.................................
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547          .         340
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562          .           .-------->   BS340
557          .        D340
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567          .           .           .<-------   BS340
565          .           .       RT340
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             .           .           V
568          .           .        S340
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574       C340......................
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579          .           .<-------   SF350
577          .       RT350
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580             .       RR350
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587             .          .         355
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597             .       C355............
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                .          V
600             .       R355
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607             .          .         360
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621             .          .           .-------->   BS360
617             .          .       D360
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626             .          .           .           .<-------   BS360
624             .          .           .       RT360
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627             .          .           .        S360
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633          C360...................................
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636             .       370
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646             .          .         395
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656             .       C370............
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659             .       R370
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666             .          .         380
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680             .          .           .-------->   BS380
676             .          .       D380
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685             .          .           .           .<-------   BS380
683             .          .           .       RT380
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686             .          .           .        S380
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692          C380...................................
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695             .       390
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709             .          .-------->   BS390
705             .       D390
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714             .          .           .<-------   BS390
712             .          .       RT390
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715             .          .       S390
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721             .       C390............
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                .          V
724             .       R390
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731             .          .         400
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745             .          .           .-------->   BS400
741             .          .       D400
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750             .          .           .           .<-------   BS400
748             .          .           .       RT400
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751          .           .           .        S400
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757          .           .        C400............
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760      CC400......................
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763          .         385
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775          .           .-------->   SF385
773          .       D385
             .          V
             .          V
778          .       R385
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785          .           .         420
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799          .           .           .-------->   BS420
795          .           .        D420
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804          .           .           .           .<-------   BS420
802          .           .           .       RT420
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805          .           .           .        S420
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811          .       C420......................
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814      CC420............
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817          .         440
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827          .         R70
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833          .           .         441
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843          .       C108............
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848          .           .-------->   SPLIT
846          .          D4
             .          V
             .          V
851          .       R108
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857          .           .         442
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867          .         C67............
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873          .           .-------->  BASIN4
870          .          D6
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878          .           .           .<-------  BASIN4
876          .           .        RTD6
             .           .          V
             .           .          V
879          .           .         SD6
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885          .         CD6............
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888          .           .         443
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901          .           .           .-------->   WSH66
898          .           .         D66
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904          .           .        R113
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910          .       C114............
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913                 444
                     V
                     V
923                 R58
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929                 .          445
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939                 C107.........
                     V
                     V
942                 R107
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950                 .            .<-------   SPLIT
948                 .        RTB2
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                    .          V
951                 .      RSPLIT
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957                 .          .         446
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967                 C109........................
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973                 .-------> WSH404
970                  D5
                     V
                     V
976                 R109
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982                 .          447
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994                 .            .           .<-------  WSH404
992                 .            .       RT404
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995                 .            .       R404
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1001                C110........................
                     V
                     V
1004                R110
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1010            C115............
                 V
                 V
1013            R115
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1019                448
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1029                .          449
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1039            C6364............
                     V
                     V
1042            R6364
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1048                .          450
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1058                .            .         451
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1068                .        C451............
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1073                .            .           .<-------   WSH66
1071                .            .       RT66
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1074                .            .           .         452
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1084                .            .       C6465............
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1087                .            .       R6566
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1093          .           .        C116.......................
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1096          .           .      BASIN5
              .           .          V
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1103          .           .        R116
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1109          .           .           .         453
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1119          .           .        C117............
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1122          .        C118............
              .           V
              .           V
1125          .        R118
              .           .
              .           .
1134          .           .-------> BASIN6
1131          .          D7
              .           .
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1139          .           .           .<-------  BASIN6
1137          .           .        RTD7
              .           .          V
              .           .          V
1140          .           .         SD7
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              .           .           .
1146          .         CD7............
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1149          .           .         454
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1159          .        C119............
              .           V
              .           V
1162          .        R454
              .           .
              .           .
1169          .           .         415
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              .           .           .
1181          .           .           .           .<-------   SF385
1179          .           .           .       RT385
              .           .           .           V
              .           .           .           V
1182          .           .           .       RR385
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1189          .           .        C415............
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1192          .       CC415............
              .           V
              .           V
1195          .        R415
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1202          .           .         455
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1217          .           .           .------->   BS455
1212          .           .        D455
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1222          .           .           .           .<-------   BS455
1220          .           .           .       RT455
              .           .           .           V
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1223          .           .           .        S455
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1229          .           .        C455............
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1232       CC455........................
              V
              V
1235       S440
              V
              V
1244       R455
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1250          .        480
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1265          .           .-------->   BS480
1260          .        D480
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1270          .           .           .<-------   BS480
1268          .           .       RT480
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              .           .           V
1271          .           .        S480
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1277          .        C480............
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              .           .
1280       CC480............
              V
              V
1283       R480
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1289          .         456
              .           .
              .           .
1302          .           .-------->  BASIN1
1299          .          D1
              .           .
              .           .
1308          .           .-------->    WA30
1305          .         CD2
              .           V
              .           V
1311          .        R456
              .           .
              .           .
1317          .           .         457
              .           .           .
              .           .           .
1327          .        C101............
              .           .
              .           .
1333          .           .-------->  BASIN2
1330          .          D3
              .           .
              .           .
1338          .           .           .<-------  BASIN2
1336          .           .       RTD3
              .           .           V
              .           .           V
1339          .           .         SD3
              .           .           .
              .           .           .
1345          .         CD3............
              .           V
              .           V
1348          .        R101
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              .           .
1354          .           .         458
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1364          .        C103............
              .           V
              .           V
1367          .        R103
              .           .
              .           .
1375          .           .           .<-------    WA30
1373          .           .       RT30
              .           .           V
              .           .           V
1376          .           .        R30
              .           .           .
              .           .           .
1384          .           .           .           .<-------  BASIN1
1382          .           .           .       RTB1
              .           .           .          V
              .           .           .          V
1385          .           .           .         B1
              .           .           .          V
              .           .           .          V
1392          .           .           .        RB1
              .           .           .          .
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1398          .           .       CDIV............
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1401          .           .           .        459
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1411          .           .        C52............
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 1414           .          .        R52
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 1420           .          .          .        460
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 1430           .          .      C102............
                .          .          V
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 1433           .          .    BASIN3
                .          .          V
                .          .          V
 1440           .          .         R3
                .          .          .
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 1446           .          .          .        461
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 1456           .          .      C104............
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 1459           .       C106............
                .          V
                .          V
 1462           .       R106
                .          .
                .          .
 1468           .          .        462
                .          .          .
                .          .          .
 1478           .        C56............
                .          .
                .          .
 1481       C462............
               V
               V
 1484       R462
               V
               V
 1490      RR462
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               .
 1496           .        500
                .          .
                .          .
 1506       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  10:48:46  *
*                                      *
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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 - 100YR, 24HR STORM
Existing Condition Base Model with Spook Hill FRS Storage Routing
File Name: EC24BASE.DAT
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.

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

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

```
 18 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

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

21 PI PRECIPITATION PATTERN

.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
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31 JD INDEX STORM NO. 2
STRM 3.79 PRECIPITATION DEPTH
TRDA 1.00 TRANSPOSITION DRAINAGE AREA

0 PI PRECIPITATION PATTERN

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32 JD INDEX STORM NO. 3
STRM 3.68 PRECIPITATION DEPTH
TRDA 5.80 TRANSPOSITION DRAINAGE AREA

0 PI PRECIPITATION PATTERN

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33 JD INDEX STORM NO. 4

STRM 3.57 PRECIPITATION DEPTH

TRDA 10.66 TRANSPOSITION DRAINAGE AREA

0 PI PRECIPITATION PATTERN

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34 JD INDEX STORM NO. 5

STRM 3.54 PRECIPITATION DEPTH

TRDA 13.70 TRANSPOSITION DRAINAGE AREA

0 PI PRECIPITATION PATTERN

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35 JD INDEX STORM NO. 6

STRM 3.47 PRECIPITATION DEPTH

TRDA 20.00 TRANSPOSITION DRAINAGE AREA

0 PI PRECIPITATION PATTERN

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36 JD INDEX STORM NO. 7

STRM 3.32 PRECIPITATION DEPTH

TRDA 50.00 TRANSPOSITION DRAINAGE AREA

0 PI PRECIPITATION PATTERN

.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
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WARNING EXCESS AT PONDING LESS THAN ZERO FOR PERIOD. EXCESS SET TO ZERO
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WARNING --- ROUTED OUTFLOW (1029.) IS GREATER THAN MAXIMUM OUTFLOW (1018.) IN STORAGE-OUTFLOW TABLE

WARNING --- ROUTED OUTFLOW (1042.) IS GREATER THAN MAXIMUM OUTFLOW (1018.) IN STORAGE-OUTFLOW TABLE

WARNING --- ROUTED OUTFLOW (1027.) IS GREATER THAN MAXIMUM OUTFLOW (1018.) IN STORAGE-OUTFLOW TABLE

WARNING --- ROUTED OUTFLOW (1027.) IS GREATER THAN MAXIMUM OUTFLOW (1018.) IN STORAGE-OUTFLOW TABLE

WARNING --- ROUTED OUTFLOW (1021.) IS GREATER THAN MAXIMUM OUTFLOW (1018.) IN STORAGE-OUTFLOW TABLE

WARNING --- ROUTED OUTFLOW (1020.) IS GREATER THAN MAXIMUM OUTFLOW (1018.) IN STORAGE-OUTFLOW TABLE

WARNING --- ROUTED OUTFLOW (1033.) IS GREATER THAN MAXIMUM OUTFLOW (1018.) IN STORAGE-OUTFLOW TABLE

WARNING --- ROUTED OUTFLOW (1018.) IS GREATER THAN MAXIMUM OUTFLOW (1018.) IN STORAGE-OUTFLOW TABLE
WARNING EXCESS AT PONDING LESS THAN ZERO FOR PERIOD. EXCESS SET TO ZERO

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

	OPERATION	STATION	PEAK FLOW	TIME OF PEAK	AVERAGE FLOW FOR MAXIMUM PERIOD 6-HOUR	24-HOUR	72-HOUR	BASIN AREA	MAXIMUM STAGE	TIME OF MAX STAGE
+	HYDROGRAPH AT	10	989.	12.27	119.	33.	12.	.70		
+	ROUTED TO	R10	920.	12.40	119.	33.	12.	.70		
+	ROUTED TO	R12	853.	12.60	119.	33.	12.	.70		
+	HYDROGRAPH AT	20	1011.	12.43	136.	34.	12.	1.12		
+	2 COMBINED AT	C20	1684.	12.53	252.	66.	24.	1.82		
+	ROUTED TO	R20	1683.	12.57	252.	66.	24.	1.82		
+	HYDROGRAPH AT	40	2695.	12.30	264.	69.	25.	2.23		
+	HYDROGRAPH AT	60	1623.	12.40	239.	64.	23.	1.75		
+	3 COMBINED AT	C60	5371.	12.37	733.	194.	70.	5.80		
+	ROUTED TO	S60	118.	14.27	118.	114.	70.	5.80		
+	ROUTED TO	R60	118.	14.37	118.	114.	70.	5.80		
+	ROUTED TO	RR60	118.	14.40	118.	114.	70.	5.80		
+	HYDROGRAPH AT	80	1956.	12.27	189.	49.	18.	1.48		
+	2 COMBINED AT	C80	2009.	12.27	295.	160.	90.	1.48		
+	ROUTED TO	R80	1981.	12.30	295.	160.	90.	1.48		
+	HYDROGRAPH AT	100	423.	12.20	60.	16.	6.	.48		

	2 COMBINED AT	C100	2373.	12.27	351.	174.	95.	1.96
+	ROUTED TO	R100	2370.	12.30	351.	174.	95.	1.96
+	HYDROGRAPH AT	120	3352.	12.27	340.	92.	33.	2.20
+	2 COMBINED AT	C120	5618.	12.27	673.	256.	126.	4.16
+	ROUTED TO	R120	5546.	12.30	673.	256.	126.	4.16
+	HYDROGRAPH AT	140	665.	12.13	67.	18.	6.	.60
+	HYDROGRAPH AT	150	595.	12.17	51.	14.	5.	.41
+	ROUTED TO	R150	568.	12.23	51.	14.	5.	.41
+	ROUTED TO	R152	514.	12.33	51.	14.	5.	.41
+	HYDROGRAPH AT	160	228.	12.40	37.	9.	3.	.37
+	HYDROGRAPH AT	180	836.	12.37	97.	24.	9.	1.00
+	5 COMBINED AT	C180	7306.	12.30	898.	313.	146.	6.54
+	HYDROGRAPH AT	210	1322.	12.17	111.	29.	10.	.79
+	ROUTED TO	R210	1246.	12.23	111.	29.	10.	.79
	HYDROGRAPH AT	240	1513.	12.30	167.	42.	15.	1.41
+	2 COMBINED AT	C240	2684.	12.27	273.	70.	25.	2.20
+	ROUTED TO	S240	799.	12.70	226.	59.	21.	2.20
+	ROUTED TO	R240	798.	12.77	225.	59.	21.	2.20
+	HYDROGRAPH AT	220	676.	12.20	68.	18.	6.	.47
+	2 COMBINED AT	C220	962.	12.60	288.	75.	27.	2.67
+	ROUTED TO	S220	900.	12.80	280.	73.	26.	2.67
+	ROUTED TO	R220	897.	12.83	280.	73.	26.	2.67
+	HYDROGRAPH AT	190	1471.	12.17	123.	33.	12.	.92
+	ROUTED TO	R190	1415.	12.23	123.	33.	12.	.92
+	ROUTED TO	R192	1359.	12.30	123.	33.	12.	.92
+	HYDROGRAPH AT	200	831.	12.17	72.	20.	7.	.53
+	3 COMBINED AT	C200	2254.	12.30	459.	122.	44.	4.12
+	ROUTED TO	S200	2135.	12.37	454.	119.	43.	4.12
+	ROUTED TO	R200	2127.	12.37	454.	119.	43.	4.12
	ROUTED TO	SS200	1365.	12.73	333.	88.	32.	4.12
	ROUTED TO							

	RR200	1330.	12.83	330.	88.	32.	4.12
+ 2 COMBINED AT	CC180	7306.	12.30	1212.	399.	177.	10.66
+ ROUTED TO	S180	113.	29.07	113.	113.	88.	10.66
+ ROUTED TO	R180	113.	28.93	113.	113.	88.	10.66
+ HYDROGRAPH AT	260	416.	12.10	43.	12.	4.	.26
+ 2 COMBINED AT	C260	421.	12.10	135.	124.	99.	.26
+ ROUTED TO	R260	407.	12.20	135.	124.	98.	.26
+ HYDROGRAPH AT	280	527.	12.10	46.	13.	5.	.32
+ 2 COMBINED AT	C280	884.	12.13	176.	135.	103.	.58
+ ROUTED TO	R280	862.	12.20	176.	134.	103.	.58
+ HYDROGRAPH AT	300	415.	12.10	34.	10.	3.	.29
+ 2 COMBINED AT	C300	1217.	12.17	207.	143.	106.	.87
+ ROUTED TO	R300	1172.	12.23	207.	142.	106.	.87
+ HYDROGRAPH AT	305	476.	12.27	81.	22.	8.	.70
+ 2 COMBINED AT	C305	1624.	12.23	283.	161.	112.	1.57
ROUTED TO	R305	1603.	12.30	282.	161.	112.	1.57
+ HYDROGRAPH AT	350	1258.	12.20	109.	28.	10.	.97
+ DIVERSION TO	SF350	629.	12.20	55.	14.	5.	.97
+ HYDROGRAPH AT	D350	629.	12.20	55.	14.	5.	.97
+ ROUTED TO	R350	557.	12.40	55.	14.	5.	.97
+ HYDROGRAPH AT	310	398.	12.33	52.	13.	5.	.56
+ 2 COMBINED AT	C310	928.	12.40	106.	27.	10.	1.04
+ ROUTED TO	R310	820.	12.73	106.	27.	10.	1.04
+ HYDROGRAPH AT	320	991.	12.20	127.	36.	13.	.95
+ DIVERSION TO	BS320	386.	11.93	21.	6.	2.	.95
+ HYDROGRAPH AT	D320	991.	12.20	113.	29.	11.	.95
+ HYDROGRAPH AT	RT320	386.	11.93	21.	6.	2.	.95
+ ROUTED TO	S320	4.	12.00	4.	4.	2.	.95
+ 4 COMBINED AT	C320	2546.	12.30	491.	216.	132.	3.56
HYDROGRAPH AT	340	1534.	12.17	194.	57.	21.	1.44
+ DIVERSION TO	BS340	1534.	12.17	103.	28.	10.	1.44

HYDROGRAPH AT	D340	1285.	12.30	106.	29.	10.	1.44
+ HYDROGRAPH AT	RT340	1534.	12.17	103.	28.	10.	1.44
+ ROUTED TO	S340	18.	12.33	17.	14.	9.	1.44
+ 3 COMBINED AT	C340	3733.	12.33	602.	255.	150.	5.00
+ HYDROGRAPH AT	RT350	629.	12.20	55.	14.	5.	.97
+ ROUTED TO	RR350	544.	12.43	55.	14.	5.	.97
+ HYDROGRAPH AT	355	546.	12.33	75.	19.	7.	.68
+ 2 COMBINED AT	C355	1028.	12.40	129.	34.	12.	1.16
+ ROUTED TO	R355	941.	12.70	129.	34.	12.	1.16
+ HYDROGRAPH AT	360	773.	12.23	116.	34.	12.	.88
+ DIVERSION TO	BS360	773.	12.23	52.	14.	5.	.88
+ HYDROGRAPH AT	D360	709.	12.33	73.	20.	7.	.88
+ HYDROGRAPH AT	RT360	773.	12.23	52.	14.	5.	.88
+ ROUTED TO	S360	9.	12.33	8.	7.	5.	.88
4 COMBINED AT	C360	4484.	12.33	784.	307.	171.	7.04
+ HYDROGRAPH AT	370	817.	12.23	83.	22.	8.	.67
+ HYDROGRAPH AT	395	234.	12.20	26.	7.	3.	.20
+ 2 COMBINED AT	C370	1046.	12.23	108.	29.	11.	.87
+ ROUTED TO	R370	913.	12.57	108.	29.	11.	.87
+ HYDROGRAPH AT	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	4667.	12.37	911.	344.	186.	8.81
+ 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	5262.	12.37	985.	365.	194.	9.67
HYDROGRAPH AT							
+	385	613.	12.23	74.	20.	7.	.53
DIVERSION TO							
+	SF385	368.	12.23	44.	12.	4.	.53
HYDROGRAPH AT							
+	D385	245.	12.23	29.	8.	3.	.53
ROUTED TO							
+	R385	208.	12.67	29.	8.	3.	.53
HYDROGRAPH AT							
+	420	796.	12.20	98.	27.	10.	.85
DIVERSION TO							
+	BS420	266.	11.93	14.	4.	2.	.85
HYDROGRAPH AT							
	D420	796.	12.20	89.	23.	8.	.85
HYDROGRAPH AT							
+	RT420	266.	11.93	14.	4.	2.	.85
ROUTED TO							
+	S420	3.	12.00	2.	2.	2.	.85
3 COMBINED AT							
+	C420	805.	12.20	120.	33.	13.	1.06
2 COMBINED AT							
+	CC420	5884.	12.37	1084.	392.	205.	10.73
HYDROGRAPH AT							
+	440	184.	12.03	12.	3.	1.	.08
ROUTED TO							
+	R70	181.	12.07	12.	3.	1.	.08
HYDROGRAPH AT							
+	441	16.	12.03	1.	0.	0.	.01
2 COMBINED AT							
+	C108	197.	12.07	14.	4.	1.	.09
DIVERSION TO							
+	SPLIT	98.	12.07	7.	2.	1.	.09
HYDROGRAPH AT							
+	D4	98.	12.07	7.	2.	1.	.09
ROUTED TO							
+	R108	92.	12.13	7.	2.	1.	.09
HYDROGRAPH AT							
+	442	105.	12.10	9.	2.	1.	.10
2 COMBINED AT							
+	C67	195.	12.10	16.	4.	2.	.19
DIVERSION TO							
	BASIN4	121.	12.10	6.	2.	1.	.19
HYDROGRAPH AT							
+	D6	74.	12.10	10.	3.	1.	.19

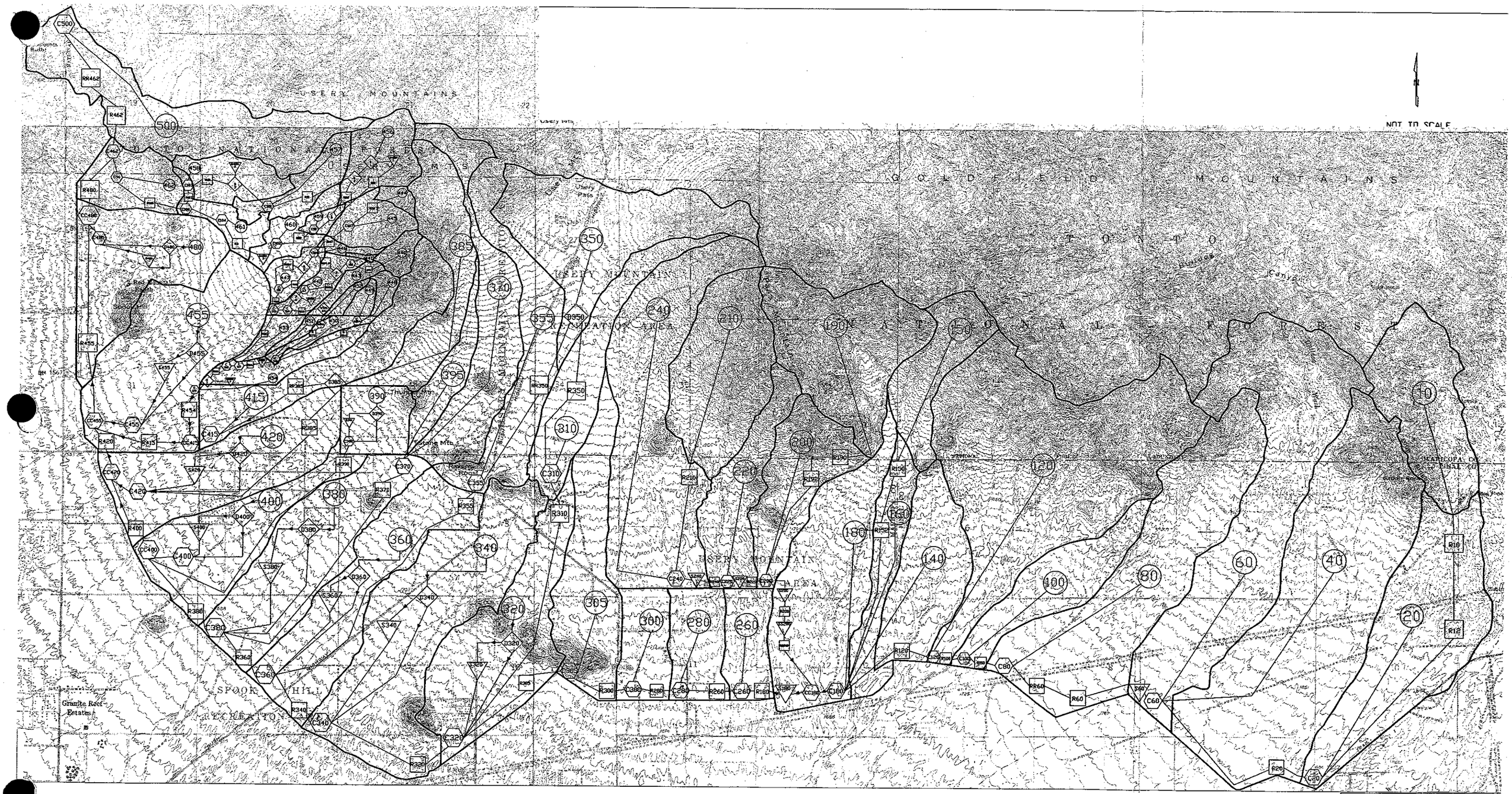
HYDROGRAPH AT	RTD6	121.	12.10	6.	2.	1.	.19
ROUTED TO	SD6	1.	12.47	1.	1.	0.	.19
2 COMBINED AT	CD6	74.	12.10	10.	3.	1.	.19
HYDROGRAPH AT	443	151.	12.07	15.	4.	1.	.08
DIVERSION TO	WSH66	78.	11.87	12.	3.	1.	.08
HYDROGRAPH AT	D66	73.	12.07	3.	1.	0.	.08
ROUTED TO	R113	71.	12.07	3.	1.	0.	.08
2 COMBINED AT	C114	144.	12.07	13.	4.	2.	.27
HYDROGRAPH AT	444	83.	12.03	5.	1.	0.	.04
ROUTED TO	R58	79.	12.07	5.	1.	0.	.04
HYDROGRAPH AT	445	307.	12.03	19.	5.	2.	.19
2 COMBINED AT	C107	382.	12.03	23.	6.	2.	.23
ROUTED TO	R107	382.	12.07	23.	6.	2.	.23
HYDROGRAPH AT	RTB2	98.	12.07	7.	2.	1.	.09
ROUTED TO	RSPLIT	98.	12.07	7.	2.	1.	.09
HYDROGRAPH AT	446	66.	12.03	6.	2.	1.	.04
3 COMBINED AT	C109	545.	12.07	36.	10.	3.	.27
DIVERSION TO	WSH404	35.	11.70	8.	2.	1.	.27
HYDROGRAPH AT	D5	510.	12.07	28.	7.	3.	.27
ROUTED TO	R109	493.	12.10	28.	7.	3.	.27
HYDROGRAPH AT	447	141.	12.07	12.	4.	1.	.09
HYDROGRAPH AT	RT404	35.	11.70	8.	2.	1.	.27
ROUTED TO	R404	35.	11.83	8.	2.	1.	.27
3 COMBINED AT	C110	666.	12.07	48.	13.	5.	.36
ROUTED TO	R110	663.	12.10	48.	13.	5.	.36
2 COMBINED AT	C115	805.	12.07	61.	17.	7.	.63
ROUTED TO	R115	799.	12.10	61.	17.	7.	.63
HYDROGRAPH AT	448	89.	12.03	6.	2.	1.	.05
HYDROGRAPH AT	449	81.	12.03	5.	1.	0.	.05
2 COMBINED AT	C6364	170.	12.03	11.	3.	1.	.09
ROUTED TO							

	R6364	145.	12.17	11.	3.	1.	.09
HYDROGRAPH AT							
+ 450	63.	12.20	7.	2.	1.	.07	
HYDROGRAPH AT							
+ 451	18.	12.17	2.	1.	0.	.03	
2 COMBINED AT							
+ C451	80.	12.20	9.	2.	1.	.09	
HYDROGRAPH AT							
+ RT66	78.	11.87	12.	3.	1.	.08	
HYDROGRAPH AT							
+ 452	63.	12.03	5.	1.	0.	.04	
2 COMBINED AT							
+ C6465	141.	12.03	17.	4.	2.	.04	
ROUTED TO							
+ R6566	137.	12.10	17.	4.	2.	.04	
3 COMBINED AT							
+ C116	357.	12.17	36.	10.	3.	.23	
ROUTED TO							
+ BASIN5	159.	12.47	36.	10.	3.	.23	
ROUTED TO							
+ R116	157.	12.53	36.	10.	3.	.23	
HYDROGRAPH AT							
+ 453	63.	12.10	7.	2.	1.	.06	
2 COMBINED AT							
+ C117	177.	12.47	43.	12.	4.	.29	
2 COMBINED AT							
+ C118	892.	12.10	104.	29.	11.	.92	
ROUTED TO							
+ R118	887.	12.13	104.	29.	11.	.92	
DIVERSION TO							
BASIN6	270.	12.13	7.	2.	1.	.92	
HYDROGRAPH AT							
+ D7	737.	12.20	97.	27.	10.	.92	
HYDROGRAPH AT							
+ RTD7	270.	12.13	7.	2.	1.	.92	
ROUTED TO							
+ SD7	1.	12.23	1.	1.	1.	.92	
2 COMBINED AT							
+ CD7	739.	12.20	97.	28.	11.	.92	
HYDROGRAPH AT							
+ 454	162.	12.13	21.	6.	2.	.18	
2 COMBINED AT							
+ C119	885.	12.20	118.	34.	13.	1.10	
ROUTED TO							
+ R454	833.	12.27	118.	34.	13.	1.10	
HYDROGRAPH AT							
+ 415	589.	12.17	80.	23.	8.	.61	
HYDROGRAPH AT							
+ RT385	368.	12.23	44.	12.	4.	.53	
ROUTED TO							
+ RR385	322.	12.57	44.	12.	4.	.53	
2 COMBINED AT							
+ C415	757.	12.23	124.	35.	13.	.93	
2 COMBINED AT							
+ CC415	1540.	12.27	238.	67.	25.	2.03	
ROUTED TO							
+ R415	1527.	12.30	238.	67.	25.	2.03	
HYDROGRAPH AT							
455	1418.	12.13	150.	45.	16.	1.11	
DIVERSION TO							
+ BS455	1418.	12.13	139.	37.	13.	1.11	

	HYDROGRAPH AT	D455	145.	12.80	24.	8.	3.	1.11
+	HYDROGRAPH AT	RT455	1418.	12.13	139.	37.	13.	1.11
+	ROUTED TO	S455	23.	12.80	22.	18.	11.	1.11
+	2 COMBINED AT	C455	169.	12.80	46.	26.	14.	1.11
+	3 COMBINED AT	CC455	7116.	12.37	1301.	464.	237.	13.87
+	ROUTED TO	S440	242.	18.33	241.	220.	149.	13.87
+	ROUTED TO	R455	242.	19.13	241.	220.	146.	13.87
+	HYDROGRAPH AT	480	1102.	12.10	100.	31.	11.	.73
+	DIVERSION TO	BS480	487.	11.90	27.	8.	3.	.73
+	HYDROGRAPH AT	D480	1102.	12.10	83.	23.	8.	.73
+	HYDROGRAPH AT	RT480	487.	11.90	27.	8.	3.	.73
+	ROUTED TO	S480	5.	11.97	5.	4.	3.	.73
+	2 COMBINED AT	C480	1107.	12.10	88.	27.	11.	.73
+	2 COMBINED AT	CC480	1107.	12.10	323.	275.	180.	.73
+	ROUTED TO	R480	878.	12.33	323.	273.	179.	.73
+	HYDROGRAPH AT	456	483.	12.07	37.	10.	4.	.26
+	DIVERSION TO	BASIN1	193.	12.07	8.	2.	1.	.26
+	HYDROGRAPH AT	D1	290.	12.07	29.	8.	3.	.26
+	DIVERSION TO	WA30	59.	12.07	10.	3.	1.	.26
+	HYDROGRAPH AT	CD2	231.	12.07	19.	5.	2.	.26
+	ROUTED TO	R456	218.	12.13	19.	5.	2.	.26
+	HYDROGRAPH AT	457	273.	12.07	21.	6.	2.	.19
+	2 COMBINED AT	C101	480.	12.10	40.	10.	4.	.45
+	DIVERSION TO	BASIN2	177.	12.10	8.	2.	1.	.45
+	HYDROGRAPH AT	D3	303.	12.10	32.	8.	3.	.45
+	HYDROGRAPH AT	RTD3	177.	12.10	8.	2.	1.	.45
+	ROUTED TO	SD3	1.	12.40	1.	1.	1.	.45
+	2 COMBINED AT	CD3	304.	12.10	33.	9.	4.	.45
+	ROUTED TO	R101	302.	12.10	33.	9.	4.	.45
+	HYDROGRAPH AT	458	366.	12.03	26.	7.	2.	.19
	2 COMBINED AT							

		C103	655.	12.07	59.	16.	6.	.64
+	ROUTED TO	R103	651.	12.07	59.	16.	6.	.64
+	HYDROGRAPH AT	RT30	59.	12.07	10.	3.	1.	.26
+	ROUTED TO	R30	58.	12.10	10.	3.	1.	.26
+	HYDROGRAPH AT	RTB1	193.	12.07	8.	2.	1.	.26
+	ROUTED TO	B1	35.	12.20	8.	2.	1.	.26
+	ROUTED TO	RB1	35.	12.27	8.	2.	1.	.26
+	2 COMBINED AT	CDIV	87.	12.20	18.	5.	2.	.12
+	HYDROGRAPH AT	459	45.	12.03	3.	1.	0.	.03
+	2 COMBINED AT	C52	117.	12.10	21.	6.	2.	.15
+	ROUTED TO	R52	116.	12.17	21.	6.	2.	.15
+	HYDROGRAPH AT	460	221.	12.07	20.	6.	2.	.14
+	2 COMBINED AT	C102	323.	12.07	40.	12.	4.	.29
+	ROUTED TO	BASIN3	71.	12.63	40.	12.	4.	.29
+	ROUTED TO	R3	71.	12.77	40.	12.	4.	.29
	HYDROGRAPH AT	461	165.	12.10	17.	5.	2.	.12
+	2 COMBINED AT	C104	220.	12.10	57.	17.	6.	.41
+	2 COMBINED AT	C106	866.	12.07	115.	33.	12.	1.05
+	ROUTED TO	R106	828.	12.13	115.	33.	12.	1.05
+	HYDROGRAPH AT	462	557.	12.07	42.	12.	4.	.30
+	2 COMBINED AT	C56	1306.	12.10	156.	44.	16.	1.35
+	2 COMBINED AT	C462	1603.	12.30	399.	301.	191.	2.09
+	ROUTED TO	R462	1575.	12.33	399.	300.	191.	2.09
+	ROUTED TO	RR462	1543.	12.40	397.	300.	190.	2.09
+	HYDROGRAPH AT	500	1126.	12.27	128.	35.	12.	.93
+	2 COMBINED AT	C500	2475.	12.33	507.	326.	200.	3.02

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



FLOOD CONTROL DISTRICT
OF MARICOPA COUNTY
ENGINEERING DIVISION

EXISTING CONDITION CHANNEL ROUTING ALTERNATIVE

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

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

DRAWING NO. EC24B_R.DWG

SHEET OF

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*              Area of 340 changes to 1.440 sq. miles
*              Area of 355 changes to  .676 sq. miles
*              Area of 360 changes to  .880 sq. miles
*              Area of 370 changes to  .672 sq. miles
*              Area of 380 changes to  .898 sq. miles
*              Area of 395 changes to  .199 sq. miles
*              Area of 415 changes to  .609 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.
*
*
*
*
*DIAGRAM
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LINE      ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

210          KK      160
211          KM    SUB-BASIN 160
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  .998
214          KM      L = 2.10  Kb = .047  Adj. Slope =  129.0
215          BA     .369
```



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

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

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

230          KK     C180
231          KM    HYDROGRAPH COMBINATION FOR SIGNAL BUTTE FRS
232          HC        5
             *
             * The sub-basin area and soil make-up have been updated from CAD file 12/07/00
             * DDM    ***** Updated *****

233          KK      210
234          KM    SUB-BASIN 210
235          KM    24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
236          KM    THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .995
237          KM      L = 1.84  Kb = .043  Adj. Slope =  315.0
238          BA     .792
239          LG     .350     .360    6.800     .130    4.000
240          UC     .313     .189
241          UA        0        3        5        8       12       20       43       75       90       96
242          UA      100
             * DDM    ***** Preserved *****

243          KK     R210
244          KM    ROUTING OF FLOW FROM SUB-BASIN 210 TO SUB-BASIN 220
245          RS        2     FLOW       -1
246          RC     .045      .03     .045     5100     .022
247          RX        0        1        2       14       34       46       47       48
248          RY        4        4        4        0        0        4        4        4
             *
             * The sub-basin area and soil make-up have been updated from CAD file 12/07/00
             * DDM    ***** Updated *****
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 249          KK     240
 250          KM   SUB-BASIN 240
 251          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
 252          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .992
 253          KM     L = 3.50  Kb = .039  Adj. Slope =  298.6
 254          BA   1.408
 255          LG    .350    .370   5.300    .230   2.000
 256          UC    .467    .356
1                                        HEC-1 INPUT                                                    PAGE  8

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

 257          UA       0       3       5       8      12      20      43      75      90      96
 258          UA     100
              * DDM   ***** Preserved *****

 259          KK    C240
 260          KM   HYDROGRAPH COMBINATION FOR SUB-BASIN 240 & 220
 261          HC       2
              * DDM   ***** Preserved *****

 262          KK    S240
 263          KM    WEIR GEOMETRY OBTAINED FROM AS-BUILT PLANS @ PASS MTN. DIVERSION.
 264          KM   WEIR STORAGE DATA OBTAINED FROM 2' CONTOUR MAPPING.
 265          RS       1    STOR       0
 266          SA    1.38    14.2    36.5
 267          SE     1.7       5      11
 268          SS       5      42       3     1.5
              * DDM   ***** Preserved *****

 269          KK    R240
 270          KM   ROUTE FLOW FROM SUB-BASIN 240 TO SUB-BASIN 220
 271          KM   PASS MOUNTAIN DIVERSION
 272          RS       3    FLOW      -1
 273          RC    .035    .025    .035    1800    .005
 274          RX       0      15      30      39      69      81      96     111
 275          RY     3.6     3.3       3       0       0       3       3       4
              *
              * The sub-basin area and soil make-up have been updated from CAD file 12/07/00
              * DDM   ***** Updated *****

 276          KK     220
 277          KM   SUB-BASIN 220
 278          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
 279          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .997
 280          KM     L = 1.92  Kb = .046  Adj. Slope =  315.0
 281          BA    .473
 282          LG    .350    .350   7.000    .120   5.000
 283          UC    .333    .282
 284          UA       0       3       5       8      12      20      43      75      90      96
 285          UA     100
              * DDM   ***** Preserved *****

 286          KK    C220
 287          KM   HYDROGRAPH COMBINATION FOR SUB-BASIN 240 & 220
 288          HC       2
              * DDM   ***** Preserved *****

 289          KK    S220
 290          KM    WEIR GEOMETRY OBTAINED FROM AS-BUILT PLANS @ PASS MTN. DIVERSION.
 291          KM   WEIR STORAGE DATA OBTAINED FROM 2' CONTOUR MAPPING.
 292          RS       1    STOR       0
 293          SA     .78     4.1    13.7
 294          SE       1       3      10
 295          SS       3      65       3     1.5
              * DDM   ***** Preserved *****
1                                        HEC-1 INPUT                                                    PAGE  9

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

 296          KK    R220
 297          KM   ROUTE FLOW FROM SUB-BASIN 220 TO SUB-BASIN 200
 298          KM   PASS MOUNTAIN DIVERSION
 299          RS       1    FLOW      -1
 300          RC    .035    .025    .035    1250    .005
 301          RX       0      50     100     109     139     148     178     184
 302          RY       5       4       3       0       0       3       3       5
              * DDM   ***** Updated *****

 303          KK     190
 304          KM   SUB-BASIN 190
 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  .994
 307          KM     L = 1.91  Kb = .042  Adj. Slope =  315.0
 308          BA    .918
 309          LG    .350    .390   5.800    .190   8.000
 310          UC    .321    .185
 311          UA       0       3       5       8      12      20      43      75      90      96
 312          UA     100
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            * DDM   ***** Preserved *****

313         KK    R190
314         KM   ROUTING OF FLOW FROM SUB-BASIN 190 TO SUB-BASIN 200
315         RS       2    FLOW      -1
316         RC    .045     .03    .045    4740     .03
317         RX       0       1       2      17      37      52      53      54
318         RY       5       5       5       0       0       5       5       5
            * DDM   ***** Preserved *****

319         KK    R192
320         KM   ROUTING OF FLOW FROM SUB-BASIN 190 TO SUB-BASIN 200
321         RS       3    FLOW      -1
322         RC    .045    .035    .045    2200    .018
323         RX       0       1      50      59      79      88     137     138
324         RY     4.5       3       3       0       0       3       3     4.5
            * DDM   ***** Updated *****

325         KK     200
326         KM   SUB-BASIN 200
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  .997
329         KM     L = 1.58  Kb = .045  Adj. Slope =  305.6
330         BA    .530
331         LG    .350    .390   5.700    .200  10.000
332         UC    .300    .201
333         UA       0       3       5       8      12      20      43      75      90      96
334         UA     100
            * DDM   ***** Preserved *****
1                                   HEC-1 INPUT                                          PAGE 10

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

335         KK    C200
336         KM   HYDROGRAPH COMBINATION FOR SUB-BASIN 220 & 200
337         HC       3
            * DDM   ***** Preserved *****

338         KK    S200
339         KM    WEIR GEOMETRY OBTAINED FROM AS-BUILT PLANS @ PASS MTN. DIVERSION.
340         KM   WEIR STORAGE DATA OBTAINED FROM 2' CONTOUR MAPPING.
341         RS       1    STOR       0
342         SA    2.56     3.1     9.4
343         SE       0       3      10
344         SS       3     112       3     1.5
            * DDM   ***** Preserved *****

345         KK    R200
346         KM   ROUTE FLOW FROM SUB-BASIN 200 TO SIGNAL BUTTE FRS through storage
347         RS       1    FLOW      -1
348         RC    .035    .025    .035     650    .005
349         RX       0       1       2      17     117     132     133     134
350         RY       5       5       5       0       0       5       5       5
            * DDM   ***** Preserved *****

351         KK   SS200
352         KM    WEIR GEOMETRY OBTAINED FROM AS-BUILT PLANS @ PASS MTN. DIVERSION.
353         KM   WEIR STORAGE DATA OBTAINED FROM 2' CONTOUR MAPPING.
354         RS       1    STOR       0
355         SA       8     9.2     9.2
356         SE       0       7      10
357         SS       7     251       3     1.5
            * DDM   ***** Preserved *****

358         KK   RR200
359         KM   ROUTE FLOW FROM SUB-BASIN 200 TO SIGNAL BUTTE FRS
360         RS       3    FLOW      -1
361         RC    .035    .025    .035    3150    .005
362         RX       0       1       2      17     117     132     133     134
363         RY       5       5       5       0       0       5       5       5
            * DDM   ***** Preserved *****

364         KK   CC180
365         KM   HYDROGRAPH COMBINATION FOR SIGNAL BUTTE FRS
            *      1       2
366         HC       2
            * DDM   ***** Preserved *****

367         KK    S180
368         KM   SIGNAL BUTTE FRS DATED 1/28/85
369         KM   OUTLET PIPE=36"RCP; L= 147';  INLET INV.=1690; OUTLET INV.=1687
370         KM   EMERGENCY SPILLWAY ELEV.=1712.4; PRINCIPLE SPILLWAY ELEV.=1701
371         KM   STORAGE VOLUME BELOW PRINCIPLE SPILLWAY FOR SEDIMENT = 250 ACRE-FEET
            *  ESE = 1714.63 ft; PSE = 1703.23 ft; Sediment Vol. = 247 Ac-Ft.
372         RS       1    STOR       0
373         SV       0      92     226     462     742    1197    1418    1776    1941    3114
374         SQ       0      10    10.5      98     133     149     155    1484    2567    6000
                                    HEC-1 INPUT                                          PAGE 11

LINE        ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10
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375          SE      99     101   103.0     106     109   113.0   114.6     117     118     120
             * DDM   ***** Preserved *****

376          KK    R180
377          KM   Routing length updated using Signal Butte Floodway plans dated March 1983
378          KM   Routing length increased 100' from 1500' to 1600'    12/12/00
379          KM   CHANNEL GEOMETRY FOR SIGNAL BUTTE FRS OBTAINED FROM AS-BUILT PLANS.
380          KM   ROUTE FLOW FROM SIGNAL BUTTE FRS TO SUB-BASIN 260
381          RS       2    FLOW      -1
382          RC    .035    .025    .035    1600    .003
383          RX       0       1       2    22.6    38.6    59.2      60      61
384          RY     9.3     9.3     9.3       0       0     9.3     9.3     9.3
             * DDM   ***** Updated *****

385          KK     260
386          KM   SUB-BASIN 260
387          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
388          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .998
389          KM     L =  .81  Kb = .049  Adj. Slope =   68.0
390          BA    .262
391          LG    .300    .190   6.600    .170  15.000
392          UC    .363    .217
393          UA       0       5      16      30      65      77      84      90      94      97
394          UA     100
             * DDM   ***** Preserved *****

395          KK    C260
396          KM   HYDROGRAPH COMBINATION FOR OUTFLOW OF SIGNAL BUTTE FRS & SUB-BASIN 260
397          HC       2    .262
             * DDM   ***** Preserved *****

398          KK    R260
399          KM   Routing length updated using Signal Butte Floodway plans dated March 1983
400          KM   Routing length unchanged     12/12/00
401          KM   CHANNEL GEOMETRY FOR SIGNAL BUTTE FRS OBTAINED FROM AS-BUILT PLANS.
402          KM   ROUTE FLOW FROM SUB-BASIN 260 TO SUB-BASIN 280
403          RS       3    FLOW      -1
404          RC    .035    .025    .035    2300    .003
405          RX       0       1       2    23.4    43.4    64.8      65      66
406          RY     9.7     9.7     9.7       0       0     9.7     9.7     9.7
             * DDM   ***** Updated *****

407          KK     280
408          KM   SUB-BASIN 280
409          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
410          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .998
411          KM     L =  .77  Kb = .048  Adj. Slope =   84.0
412          BA    .319
413          LG    .300    .250   5.300    .290  15.000
414          UC    .329    .168
415          UA       0       5      16      30      65      77      84      90      94      97
416          UA     100
             * DDM   ***** Preserved *****
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LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

417          KK    C280
418          KM   HYDROGRAPH COMBINATION FOR SUB-BASIN 260 & SUB-BASIN 280
419          HC       2
             * DDM   ***** Preserved *****

420          KK    R280
421          KM   Routing length updated using Signal Butte Floodway plans dated March 1983
422          KM   Routing length decreased 400' from 2500' to 2100'    12/12/00
423          KM   CHANNEL GEOMETRY FOR SIGNAL BUTTE FRS OBTAINED FROM AS-BUILT PLANS.
424          KM   ROUTE FLOW FROM SUB-BASIN 280 TO SUB-BASIN 300
425          RS       3    FLOW      -1
426          RC    .035    .025    .035    2100    .003
427          RX       0       1       2    23.4    43.4    64.8      65      66
428          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 *****

429          KK     300
430          KM   SUB-BASIN 300
431          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
432          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .998
433          KM     L =  .78  Kb = .049  Adj. Slope =  103.0
434          BA    .289
435          LG    .320    .290   4.200    .480  11.000
436          UC    .325    .177
437          UA       0       5      16      30      65      77      84      90      94      97
438          UA     100
             * DDM   ***** Preserved *****

439          KK    C300
440          KM   HYDROGRAPH COMBINATION OF SUB-BASIN 280 & 300
441          HC       2
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                * DDM   ***** Preserved *****

 442            KK    R300
 443            KM   Routing length updated using Signal Butte Floodway plans dated March 1983
 444            KM   Routing length increased 300' from 2200' to 2500'    12/12/00
 445            KM   CHANNEL GEOMETRY FOR SIGNAL BUTTE FRS OBTAINED FROM AS-BUILT PLANS.
 446            KM   ROUTE FLOW FROM SUB-BASIN 300 TO START OF FLOODWAY CONCRETE CHANNEL
 447            RS       2    FLOW      -1
 448            RC    .035    .025    .035    2500    .003
 449            RX       0       1       2    23.4    55.4    76.8      77      78
 450            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 *****

 451            KK     305
 452            KM   SUB-BASIN 305
 453            KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
 454            KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .996
 455            KM     L = 2.50  Kb = .044  Adj. Slope =  116.0
 456            BA    .702
1                                          HEC-1 INPUT                                                    PAGE 13

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

 457            LG    .340    .340   4.550    .350   6.000
 458            UC    .642    .576
 459            UA       0       5      16      30      65      77      84      90      94      97
 460            UA     100
                * DDM   ***** Preserved *****

 461            KK    C305
 462            KM   HYDROGRAPH COMBINATION OF SUB-BASIN 300 AND 305
 463            HC       2
                * DDM   ***** Preserved *****

 464            KK    R305
 465            KM   Routing length updated using Signal Butte Floodway plans dated March 1983
 466            KM   Routing length decreased 50' from 6050' to 6000'     12/12/00
 467            KM   CHANNEL GEOMETRY FOR SPOOK HILL FRS OBTAINED FROM AS-BUILTS PLANS.
 468            KM   CONTINUE TO ROUTE FLOW WITHIN CONCRETE CHANNEL TO SPOOK HILL FRS
 469            RS       3    FLOW      -1
 470            RC    .016    .016    .016    6000   .0146
 471            RX       0       1       2     2.1    16.1    16.2      17      18
 472            RY     7.5     7.5     7.5       0       0     7.5     7.5     7.5
                *       1       2
                * DDM   ***** Updated *****

 473            KK     350
 474            KM   SUB-BASIN 350
 475            KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
 476            KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .994
 477            KM     L = 2.22  Kb = .042  Adj. Slope =  315.0
 478            BA    .970
 479            LG    .350    .350   4.550    .340   4.000
 480            UC    .367    .234
 481            UA       0       3       5       8      12      20      43      75      90      96
 482            UA     100
                * DDM   ***** Preserved *****

 483            KK    D350
 484            KM   DIVERT FLOW FROM SUB-BASIN 350. FOR MODELING PURPOSES THE SPLIT FLOW WILL
 485            KM   BE ROUTED BETWEEN SUB-BASINS 355 & 310. THE MAIN FLOW WILL ROUTED TO 310
 486            DT   SF350
 487            DI       0    5000
 488            DQ       0    2500
                * DDM   ***** Preserved *****

 489            KK    R350
 490            KM   CHANNEL GEOMETRY OBTAINED FROM 2' CONTOUR MAPPING
 491            KM   ROUTING OF MAIN FLOW FROM DIVERSION OF SUB-BASIN 350 TO SUB-BASIN 310
 492            RS       6    FLOW      -1
 493            RC    .045    .035    .045    5150    .025
 494            RX       0       1      40      46      56      62     102     103
 495            RY       3       2       2       0       0       2       2       3
                * DDM   ***** Updated *****
1                                          HEC-1 INPUT                                                    PAGE 14

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

 496            KK     310
 497            KM   SUB-BASIN 310
 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 = 2.70  Kb = .045  Adj. Slope =  283.5
 501            BA    .555
 502            LG    .350    .350   3.910    .480    .000
 503            UC    .483    .511
 504            UA       0       3       5       8      12      20      43      75      90      96
 505            UA     100
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            * DDM   ***** Preserved *****

506         KK    C310
507         KM   HYDROGRAPH COMBINATION OF SUB-BASINS 350 & 310
508         HC       2    1.04
            * DDM   ***** Preserved *****

509         KK    R310
510         KM   CHANNEL GEOMETRY OBTAINED FROM 2' CONTOUR MAPPING.
511         KM   ROUTING OF FLOW FROM SUB-BASIN 310 TO 320
512         RS      10    FLOW      -1
513         RC    .045    .035    .045   10050    .022
514         RX       0       1      40      46      56      62     102     103
515         RY       3       2       2       0       0       2       2       3
            *
            * The sub-basin area and soil make-up have been updated from CAD file 12/07/00
            * DDM   ***** Updated *****

516         KK     320
517         KM   SUB-BASIN 320
518         KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
519         KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .994
520         KM     L = 2.20  Kb = .042  Adj. Slope =  132.0
521         BA    .950
522         LG    .310    .300   4.600    .350  14.000
523         UC    .508    .338
524         UA       0       5      16      30      65      77      84      90      94      97
525         UA     100
            * DDM   ***** Preserved *****

526         KK    D320
527         KM        DIVERT FLOW INTO ONLINE  DETENTION BASIN
528         KM   DETENTION/RETENTION BASINS LOCATED WITHIN THREE SUBDIVISIONS
529         KM   SIERRA HEIGHTS       FALCON RIDGE    & MARBLE CREEK
530         KM        MAXIMUM VOLUME DIVERSION = 12.27acre-feet
            *      1
531         DT   BS320   12.27
532         DI       0   10000
533         DQ       0   10000
            * DDM   ***** Preserved *****
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LINE        ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

534         KK   RT320
535         KM   RETRIEVE FLOW FROM DIVERSION INTO ONLINE BASIN
536         DR   BS320
            * DDM   ***** Preserved *****

537         KK    S320
538         KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
539         KM   12.27 ACRE-FEETx43560/36x3600=4.1cfs
            *      1
540         RS       1    STOR       0
541         SV       0     .01    12.3
542         SQ       0     3.0     4.2
            * DDM   ***** Preserved *****

543         KK    C320
544         KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
545         HC       4
            * ADD ROUTING ALONG SPOOK HILL FRS
            * DDM   ***** Preserved *****

546         KK    R320
547         KM   ROUTE FLOW THROUGH SPOOK HILL FRS FROM JUNCTION OF BROWN & ELLSWORTH ROAD
548         KM   TO JUST NORTH OF JUNCTION OF MCDOWELL & POWER RD.
549         RS       9    FLOW      -1
550         RC    .035    .035    .035    4500   .0007
551         RX       0       9      50      68     198     206     267     275
552         RY     100      97      97      91      91      97      97     100
            *
            * DDM   ***** Updated *****

553         KK     340
554         KM   SUB-BASIN 340
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  .991
557         KM     L = 2.40  Kb = .042  Adj. Slope =  160.0
558         BA   1.440
559         LG    .280    .280   4.150    .520  21.000
560         UC    .512    .288
561         UA       0       5      16      30      65      77      84      90      94      97
562         UA     100
            * DDM   ***** Preserved *****

563         KK    D340
564         KM        DIVERT FLOW INTO ONLINE  DETENTION BASIN
565         KM   DETENTION/RETENTION BASINS LOCATED WITHIN THREE SUBDIVISIONS
566         KM   GRANDVIEW ESTATES    BOULDER MOUNTAIN & 33% OF MESA HIGHLANDS
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567          KM        MAXIMUM VOLUME DIVERSION = 56.0 acre-feet
             *      1
568          DT   BS340      56
569          DI       0   10000
570          DQ       0   10000
             * DDM   ***** Preserved *****
1                                          HEC-1 INPUT                                                    PAGE 16

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


571          KK   RT340
572          KM   RETRIEVE FLOW FROM DIVERSION INTO ONLINE BASIN
573          DR   BS340
             * DDM   ***** Preserved *****

574          KK    S340
575          KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
576          KM    56.0 ACRE-FEETx43560/36x3600=18.8cfs
             *      1
577          RS       1    STOR       0
578          SV       0     .01      56
579          SQ       0     3.0    18.9
             * DDM   ***** Preserved *****

580          KK    C340
581          KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
582          HC       3
             * ADD ROUTING ALONG SPOOK HILL FRS
             * DDM   ***** Preserved *****

583          KK    R340
584          KM   ROUTE FLOW THROUGH SPOOK HILL FRS FROM JUNCTION OF BROWN & ELLSWORTH ROAD
585          KM   TO JUST NORTH OF JUNCTION OF MCDOWELL & POWER RD.
586          RS       6    FLOW      -1
587          RC    .035    .035    .035    2300   .0007
588          RX       0       9      50      68     233     241     307     315
589          RY     100      97      97      91      91      97      97     100
             * DDM   ***** Preserved *****

590          KK   RT350
591          KM   RETRIEVE SPLIT FLOW FROM DIVERSION OF SUB-BASIN 350
592          DR   SF350
             * DDM   ***** Preserved *****

593          KK   RR350
594          KM   CHANNEL GEOMETRY OBTAINED FROM 2' CONTOUR MAPPING.
595          KM   ROUTING OF FLOW FROM SPLIT OF SUB-BASIN 350 TO 355
596          RS       7    FLOW      -1
597          RC    .045    .035    .045    6050    .025
598          RX       0       1      40      46      56      62     102     103
599          RY       3       2       2       0       0       2       2       3
             *
             * The sub-basin area and soil make-up have been updated from CAD file 12/07/00
             * DDM   ***** Updated *****

600          KK     355
601          KM   SUB-BASIN 355
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  .996
604          KM     L = 3.00  Kb = .044  Adj. Slope =  284.0
605          BA    .676
606          LG    .340    .340   4.450    .370   4.000
607          UC    .488    .502
608          UA       0       3       5       8      12      20      43      75      90      96
1                                          HEC-1 INPUT                                                    PAGE 17

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

609          UA     100
             * DDM   ***** Preserved *****

610          KK    C355
611          KM   HYDROGRAPH COMBINATION OF SUB-BASIN 355 AND THE SPLIT FLOW FROM SUB-BASIN 350
612          HC       2   1.161
             * DDM   ***** Preserved *****

613          KK    R355
614          KM   CHANNEL GEOMETRY OBTAINED FROM 2' CONTOUR MAPPING.
615          KM   ROUTING OF FLOW FROM SUB-BASIN 355 TO SUB-BASIN 360
616          RS       9    FLOW      -1
617          RC    .045    .035    .045   10100    .026
618          RX       0       1      40      46      56      62     102     103
619          RY       3       2       2       0       0       2       2       3
             * DDM   ***** Updated *****

620          KK     360
621          KM   SUB-BASIN 360
622          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
623          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .995
624          KM     L = 2.10  Kb = .047  Adj. Slope =  124.0
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625          BA     .880
626          LG     .260     .270    4.100     .560   20.000
627          UC     .575     .390
628          UA        0        5       16       30       65       77       84       90       94       97
629          UA      100
             * DDM    ***** Preserved *****

630          KK     D360
631          KM         DIVERT FLOW INTO ONLINE  DETENTION BASIN
632          KM    DETENTION/RETENTION BASINS LOCATED WITHIN 33% OF MESA HIGHLANDS
633          KM         MAXIMUM VOLUME DIVERSION = 28.6 acre-feet
             *       1
634          DT    BS360     28.6
635          DI        0    10000
636          DQ        0    10000
             * DDM    ***** Preserved *****

637          KK    RT360
638          KM    RETRIEVE FLOW FROM DIVERSION INTO ONLINE BASIN
639          DR    BS360
             * DDM    ***** Preserved *****

640          KK     S360
641          KM    RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
642          KM     28.6 ACRE-FEETx43560/36x3600=9.6cfs
643          RS        1     STOR        0
644          SV        0      .01     28.6
645          SQ        0      3.0      9.6
             * DDM    ***** Preserved *****
1                                          HEC-1 INPUT                                                PAGE 18

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

646          KK     C360
647          KM    HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
648          HC        4
             *
             * ADD ROUTING ALONG SPOOK HILL FRS
             * DDM    ***** Preserved *****

649          KK     R360
650          KM    ROUTE FLOW THROUGH SPOOK HILL FRS FROM JUNCTION OF BROWN & ELLSWORTH ROAD
651          KM    TO JUST NORTH OF JUNCTION OF MCDOWELL & POWER RD.
652          RS        6     FLOW       -1
653          RC     .035     .035     .035     2600    .0007
654          RX        0        9       50       68      268      286      337      345
655          RY      100       97       97       91       91       97       97      100
             *
             * The sub-basin area and soil make-up have been updated from CAD file 12/07/00
             * DDM    ***** Updated *****

656          KK      370
657          KM    SUB-BASIN 370
658          KM    24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
659          KM    THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .996
660          KM      L = 1.90  Kb = .044  Adj. Slope =  203.5
661          BA     .672
662          LG     .340     .320    4.650     .330    8.000
663          UC     .404     .284
664          UA        0        3        5        8       12       20       43       75       90       96
665          UA      100
             *
             * The sub-basin area and soil make-up have been updated from CAD file 12/07/00
             * DDM    ***** Updated *****

666          KK      395
667          KM    SUB-BASIN 395
668          KM    24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
669          KM    THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .999
670          KM      L = 1.30  Kb = .051  Adj. Slope =  219.2
671          BA     .199
672          LG     .330     .320    4.900     .300   10.000
673          UC     .333     .338
674          UA        0        3        5        8       12       20       43       75       90       96
675          UA      100
             * DDM    ***** Preserved *****

676          KK     C370
677          KM    HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
678          HC        2
             * DDM    ***** Preserved *****
1                                          HEC-1 INPUT                                                PAGE 19

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

679          KK     R370
680          KM    CHANNEL GEOMETRY OBTAINED FROM 2' CONTOUR MAPPING.
681          KM    ROUTING OF FLOW FROM SUB-BASINS 370 AND 395 TO SUB-BASIN 380.
682          RS       12     FLOW       -1
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683          RC    .045    .035    .045   10250    .023
684          RX       0       1      40      46      56      62     102     103
685          RY       3       2       2       0       0       2       2       3
             * DDM   ***** Updated *****

686          KK     380
687          KM   SUB-BASIN 380
688          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
689          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .995
690          KM     L = 2.20  Kb = .049  Adj. Slope =  114.0
691          BA    .898
692          LG    .300    .310   4.150    .500   7.000
693          UC    .671    .475
694          UA       0       5      16      30      65      77      84      90      94      97
695          UA     100
             * DDM   ***** Preserved *****

696          KK    D380
697          KM        DIVERT FLOW INTO ONLINE  DETENTION BASIN
698          KM   DETENTION/RETENTION BASINS LOCATED WITHIN 33% OF MESA HIGHLANDS
699          KM        MAXIMUM VOLUME DIVERSION = 28.6 acre-feet
             *      1
700          DT   BS380    28.6
701          DI       0   10000
702          DQ       0   10000
             * DDM   ***** Preserved *****

703          KK   RT380
704          KM   RETRIEVE FLOW FROM DIVERSION INTO ONLINE BASIN
705          DR   BS380
             * DDM   ***** Preserved *****

706          KK    S380
707          KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
708          KM    28.6 ACRE-FEETx43560/36x3600=9.6cfs
709          RS       1    STOR       0
710          SV       0     .01    28.6
711          SQ       0     3.0     9.6
             * DDM   ***** Preserved *****

712          KK    C380
713          KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
714          HC       4
             * ADD ROUTING ALONG SPOOK HILL FRS
             * DDM   ***** Preserved *****
                                        HEC-1 INPUT                                          PAGE 20

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

715          KK    R380
716          KM   ROUTE FLOW THROUGH SPOOK HILL FRS FROM JUNCTION OF BROWN & ELLSWORTH ROAD
717          KM   TO JUST NORTH OF JUNCTION OF MCDOWELL & POWER RD.
718          RS       8    FLOW      -1
719          RC    .035    .035    .035    4000   .0007
720          RX       0       9      50      68     163     181     257     265
721          RY     100      97      97      91      91      97      97     100
             *
             * DDM   ***** Updated *****

722          KK     390
723          KM   SUB-BASIN 390
724          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
725          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .999
726          KM     L =  .70  Kb = .050  Adj. Slope =  299.4
727          BA    .244
728          LG    .300    .250   4.700    .380  18.000
729          UC    .204    .107
730          UA       0       5      16      30      65      77      84      90      94      97
731          UA     100
             * DDM   ***** Preserved *****

732          KK    D390
733          KM        DIVERT FLOW INTO ONLINE  DETENTION BASIN
734          KM   DETENTION/RETENTION BASINS LOCATED WITHIN THUNDER MOUNTAIN ESTATES
735          KM        MAXIMUM VOLUME DIVERSION  = 3.5 acre-feet
             *      1
736          DT   BS390     3.5
737          DI       0   10000
738          DQ       0   10000
             * DDM   ***** Preserved *****

739          KK   RT390
740          KM   RETRIEVE FLOW FROM DIVERSION INTO ONLINE BASIN
741          DR   BS390
             * DDM   ***** Preserved *****

742          KK    S390
743          KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
744          KM     3.5 ACRE-FEETx43560/36x3600=1.2cfs
745          RS       1    STOR       0
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746          SV       0      .01      3.5
747          SQ       0      0.2      1.2
             * DDM    ***** Preserved *****

748          KK     C390
749          KM    HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
750          HC       2
             * DDM    ***** Preserved *****
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LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

751          KK     R390
752          KM    CHANNEL GEOMETRY OBTAINED FROM 2' CONTOUR MAPPING.
753          KM    FROM SUB-BASIN 390 TO SUB-BASIN 400
754          RS      15     FLOW      -1
755          RC    .045     .045    .045     8800     .020
756          RX       0        1      40       46       56       62      102      103
757          RY       3        2       2        0        0        2        2        3
             * DDM    ***** Updated *****

758          KK      400
759          KM    SUB-BASIN 400
760          KM    24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
761          KM    THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .996
762          KM      L = 1.64  Kb = .046  Adj. Slope =  110.0
763          BA     .616
764          LG     .320     .300   4.150     .490   6.000
765          UC     .508     .342
766          UA       0        5      16       30       65       77       84       90       94       97
767          UA     100
             * DDM    ***** Preserved *****

768          KK     D400
769          KM         DIVERT FLOW INTO ONLINE  DETENTION BASIN
770          KM    DETENTION/RETENTION BASIN LOCATED WITHIN SAGUARO VISTA SUBDIVISION
771          KM         MAXIMUM VOLUME DIVERSION = 5.6 ACRE-FEET
             *       1
772          DT    BS400      5.6
773          DI       0    10000
774          DQ       0    10000
             * DDM    ***** Preserved *****

775          KK    RT400
776          KM    RETRIEVE FLOW FROM DIVERSION INTO ONLINE BASIN
777          DR    BS400
             * DDM    ***** Preserved *****

778          KK     S400
779          KM    RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
780          KM      5.6 ACRE-FEETx43560/36x3600 = 2 cfs
781          RS       1     STOR       0
782          SV       0      .01     5.6
783          SQ       0      1.0       2
             * DDM    ***** Preserved *****

784          KK     C400
785          KM    HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
786          HC       2
             * DDM    ***** Preserved *****
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LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

787          KK    CC400
788          KM    HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
789          HC       3
             * ADD ROUTING ALONG SPOOK HILL FRS
             * DDM    ***** Preserved *****

790          KK     R400
791          KM    ROUTE FLOW THROUGH SPOOK HILL FRS FROM JUNCTION OF BROWN & ELLSWORTH ROAD
792          KM    TO JUST NORTH OF JUNCTION OF MCDOWELL & POWER RD.
793          RS       9     FLOW      -1
794          RC    .035     .035    .035     3800    .0007
795          RX       0        9      50       68      163      181      257      265
796          RY     100       97      97       91       91       97       97      100
             *
             * DDM    ***** Updated *****

797          KK      385
798          KM    SUB-BASIN 385
799          KM    24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
800          KM    THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .997
801          KM      L = 2.30  Kb = .045  Adj. Slope =  303.0
802          BA     .527
803          LG     .340     .360   5.600     .220  13.000
804          UC     .383     .358
805          UA       0        3       5        8       12       20       43       75       90       96
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806          UA     100
             * DDM   ***** Preserved *****

807          KK    D385
808          KM   DIVERT FLOW INTO SUB-BASINS 415 & 420
809          DT   SF385
810          DI       0    5000
811          DQ       0    3000
             * DDM   ***** Preserved *****

812          KK    R385
813          KM   CHANNEL GEOMETRY OBTAINED FROM 2' CONTOUR MAPPING.
814          KM   ROUTING OF FLOW DIVERSION FROM SUB-BASIN 385 INTO SUB-BASIN 420
815          RS      13    FLOW      -1
816          RC    .045     .04    .045   10250    .022
817          RX       0       1      40      46      56      62     102     103
818          RY       3       2       2       0       0       2       2       3
             * DDM   ***** Updated *****

819          KK     420
820          KM   SUB-BASIN 420
821          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
822          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .995
823          KM     L = 1.91  Kb = .042  Adj. Slope =  120.0
824          BA    .849
825          LG    .310    .270   3.880    .580  12.000
826          UC    .512    .325
827          UA       0       5      16      30      65      77      84      90      94      97
828          UA     100
             * DDM   ***** Preserved *****
1                                          HEC-1 INPUT                                          PAGE 23

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

829          KK    D420
830          KM        DIVERT FLOW INTO ONLINE  DETENTION BASIN
831          KM   DETENTION/RETENTION BASINS LOCATED WITHIN GRAY FOX SUBDIVISION
832          KM        MAXIMUM VOLUME DIVERSION = 8.65 acre-feet
             *      1
833          DT   BS420    8.65
834          DI       0   10000
835          DQ       0   10000
             * DDM   ***** Preserved *****

836          KK   RT420
837          KM   RETRIEVE FLOW FROM DIVERSION INTO ONLINE BASIN
838          DR   BS420
             * DDM   ***** Preserved *****

839          KK    S420
840          KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
841          KM    8.65 ACRE-FEETx43560/36x3600=2.9cfs
842          RS       1    STOR       0
843          SV       0     .01    8.65
844          SQ       0     1.0     2.9
             * DDM   ***** Preserved *****

845          KK    C420
846          KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
847          HC       3  1.0598
             * DDM   ***** Preserved *****

848          KK   cC420
849          KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
850          HC       2
             * ADD ROUTING ALONG SPOOK HILL FRS
             * DDM   ***** Preserved *****

851          KK    R420
852          KM   ROUTE FLOW THROUGH SPOOK HILL FRS FROM JUNCTION OF BROWN & ELLSWORTH ROAD
853          KM   TO JUST NORTH OF JUNCTION OF MCDOWELL & POWER RD.
854          RS       6    FLOW      -1
855          RC    .035    .035    .035    2900   .0007
856          RX       0       9      50      68     163     181     257     265
857          RY     100      97      97      91      91      97      97     100
             *
             * DDM   ***** Updated *****

858          KK     440
859          KM   SUB-BASIN 440
860          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
861          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF 1.000
862          KM     L =  .40  Kb = .039  Adj. Slope =  315.0
863          BA    .080
864          LG    .190    .380   6.400    .140  13.000
865          UC    .129    .077
866          UA       0       3       5       8      12      20      43      75      90      96
867          UA     100
             * DDM   ***** Preserved *****
                                           HEC-1 INPUT                                          PAGE 24
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9.......10

 868          KK     R70
 869          KM   ROUTE FLOW FROM SUB-BASIN 440 TO C108
 870          RS       2    FLOW      -1
 871          RC     .05    .035     .05    2250     .08
 872          RX    1000    1025    1050    1070    1075    1095    1120    1145
 873          RY      30    22.9    15.7      10      10    15.7    22.9      30
              * DDM   ***** Updated *****

 874          KK     441
 875          KM   SUB-BASIN 441
 876          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
 877          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF 1.000
 878          KM     L =  .28  Kb = .069  Adj. Slope =  315.0
 879          BA    .010
 880          LG    .300    .250   5.600    .220   5.000
 881          UC    .150    .225
 882          UA       0       5      16      30      65      77      84      90      94      97
 883          UA     100
              * DDM   ***** Preserved *****

 884          KK    C108
 885          KM   COMBINE HYDROGRAPHS FROM SUB-BASINS 440 & 441
 886          HC       2
              * DDM   ***** Preserved *****

 887          KK      D4
 888          KM        SPLIT FLOW WITH TWO 42 INCH PIPES TO WEST AND SOUTH
              *      1
 889          DT   SPLIT
 890          DI       0      14      40      82     120     154     180
 891          DQ       0       7      20      41      60      77      90
              * DDM   ***** Preserved *****

 892          KK    R108
 893          KM        ROUTE FLOW FROM SUB-BASIN C108 TO C67
 894          RS       2    FLOW      -1
 895          RC     .05    .035     .05    3200      .1
 896          RX    1000    1025    1050    1070    1075    1095    1120    1145
 897          RY      30    22.9    15.7      10      10    15.7    22.9      30
              * DDM   ***** Updated *****

 898          KK     442
 899          KM   SUB-BASIN 442
 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  .999
 902          KM     L =  .83  Kb = .055  Adj. Slope =  274.2
 903          BA    .100
 904          LG    .300    .270   3.290    .770   5.000
 905          UC    .258    .264
 906          UA       0       5      16      30      65      77      84      90      94      97
 907          UA     100
              * DDM   ***** Preserved *****
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9.......10

 908          KK     C67
 909          KM   COMBINE FLOW FROM SUB-BASIN 442 & DIV4
 910          HC       2
              * DDM   ***** Preserved *****

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

 917          KK    RTD6
 918          KM   RETRIEVE FLOW FROM DIVERSION INTO OFFLINE BASIN
 919          DR  BASIN4
              * DDM   ***** Preserved *****

 920          KK     SD6
 921          KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
 922          KM     3.3 ACRE-FEETx43560/36x3600=1.1cfs
              *      1
 923          RS       1    STOR       0
 924          SV       0     .01     3.3
 925          SQ       0     0.2     1.1
              * DDM   ***** Preserved *****

 926          KK     CD6
 927          KM   HYDROGRAPH COMBINATION FOR OFFLINE BASIN BLEEDOFF
 928          HC       2
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                * DDM   ***** Updated *****

 929            KK     443
 930            KM   SUB-BASIN 443
 931            KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
 932            KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF 1.000
 933            KM     L =  .71  Kb = .050  Adj. Slope =  315.0
 934            BA    .080
 935            LG    .250    .190   8.000    .080  10.000
 936            UC    .196    .194
 937            UA       0       5      16      30      65      77      84      90      94      97
 938            UA     100
                * DDM   ***** Preserved *****

 939            KK     D66
 940            KM        DIVERT FLOW INTO 3 NATURAL WASHES WITH ONE 24" PIPE IN EACH WASH.
 941            KM        EACH PIPE CAPACITY BASED ON 4 FEET OF HEAD
 942            DT   WSH66
 943            DI       0      78     100     200
 944            DQ       0      78      78      78
                * DDM   ***** Preserved *****
1                                          HEC-1 INPUT                                          PAGE 26

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

 945            KK    R113
 946            KM        ROUTE FLOW FROM C113 TO C114
 947            RS       1    FLOW      -1
 948            RC    .019    .019    .019    1300    .029
 949            RX    1000    1004    1008    1012    1018    1022    1026    1030
 950            RY      17   15.33   12.67      10      10   12.67   15.33      17
                * DDM   ***** Preserved *****

 951            KK    C114
 952            KM        COMBINE HYDROGRAPHS FROM SUB-BASIN 67 AND C113
 953            HC       2
                * DDM   ***** Updated *****

 954            KK     444
 955            KM   SUB-BASIN 444
 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 1.000
 958            KM     L =  .33  Kb = .034  Adj. Slope =  315.0
 959            BA    .040
 960            LG    .130    .350   4.450    .320   1.000
 961            UC    .112    .084
 962            UA       0       3       5       8      12      20      43      75      90      96
 963            UA     100
                * DDM   ***** Preserved *****

 964            KK     R58
 965            KM   ROUTE FLOW FROM SUB-BASIN 444 TO C107
 966            RS       2    FLOW      -1
 967            RC     .05    .035     .05    2370   .0516
 968            RX    1000    1010    1020    1050    1055    1085    1095    1105
 969            RY      19      18      17      10      10      17      18      19
                * DDM   ***** Updated *****

 970            KK     445
 971            KM   SUB-BASIN 445
 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 =  .82  Kb = .036  Adj. Slope =  315.0
 975            BA    .190
 976            LG    .170    .320   3.470    .590   3.000
 977            UC    .192    .130
 978            UA       0       5      16      30      65      77      84      90      94      97
 979            UA     100
                * DDM   ***** Preserved *****

 980            KK    C107
 981            KM   COMBINE HYDROGRAPHS FROM SUB-BASINS 444 & 445
 982            HC       2
                * DDM   ***** Preserved *****
1                                          HEC-1 INPUT                                          PAGE 27

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

 983            KK    R107
 984            KM        ROUTE FLOW FROM C107 TO C109
 985            RS       2    FLOW      -1
 986            RC     .05    .035     .05     700   .0516
 987            RX    1000    1010    1020    1050    1055    1085    1095    1105
 988            RY      19      18      17      10      10      17      18      19
                * DDM   ***** Preserved *****

 989            KK    RTB2
 990            KM        RETRIEVE DIVERTED FLOW FROM BASIN 1
                *      1
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 991          DR   SPLIT
              * DDM   ***** Preserved *****

 992          KK  RSPLIT
 993          KM        ROUTE FLOW FROM SPLIT TO C109
 994          RS       1    FLOW      -1
 995          RC     .05    .035     .05     800     .05
 996          RX    1000    1025    1050    1070    1075    1095    1120    1145
 997          RY      30    22.9    15.7      10      10    15.7    22.9      30
              * DDM   ***** Updated *****

 998          KK     446
 999          KM   SUB-BASIN 446
1000          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1001          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF 1.000
1002          KM     L =  .46  Kb = .061  Adj. Slope =  303.9
1003          BA    .040
1004          LG    .270    .250   4.500    .400  19.000
1005          UC    .183    .189
1006          UA       0       5      16      30      65      77      84      90      94      97
1007          UA     100
              * DDM   ***** Preserved *****

1008          KK    C109
1009          KM        COMBINE HYDROGRAPHS FROM COMBINES C107 AND C108
1010          HC       3
              * DDM   ***** Preserved *****

1011          KK      D5
1012          KM        DIVERT FLOW INTO WASHES TOWARDS WEST
1013          KM        DIVERSION THROUGH 36" PIPE WITH 3 FEET OF HEAD
              *      1
1014          DT  WSH404
1015          DI       0    40.7    71.2   121.6     190     276   379.4   500.6
1016          DQ       0      35      35      35      35      35      35      35
              * DDM   ***** Preserved *****

1017          KK    R109
1018          KM        ROUTE FLOW FROM C109 TO C110
1019          RS       1    FLOW      -1
1020          RC    .019    .019    .019    3080     .05
1021          RX    1000    1005    1010    1015    1025    1030    1035    1040
1022          RY   13.75    12.5   11.25      10      10   11.25    12.5   13.75
              * DDM   ***** Updated *****
                                          HEC-1 INPUT                                          PAGE 28

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

1023          KK     447
1024          KM   SUB-BASIN 447
1025          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1026          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .999
1027          KM     L =  .49  Kb = .056  Adj. Slope =  221.0
1028          BA    .090
1029          LG    .250    .270   3.350    .870  30.000
1030          UC    .208    .145
1031          UA       0       5      16      30      65      77      84      90      94      97
1032          UA     100
              * DDM   ***** Preserved *****

1033          KK   RT404
1034          KM        RETRIEVE DIVERTED FLOW FOR WASH 109
1035          DR  WSH404
              * DDM   ***** Preserved *****

1036          KK    R404
1037          KM        ROUTE FLOW FROM C110 TO C110
1038          RS       6    FLOW      -1
1039          RC    .019    .019    .019    3540     .03
1040          RX    1000    1012    1016    1020    1025    1029    1033    1045
1041          RY      15      12      11      10      10      11      12      15
              * DDM   ***** Preserved *****

1042          KK    C110
1043          KM   COMBINE HYDROGRAPHS FROM SUB-BASIN 447 AND R404
1044          HC       3
              * DDM   ***** Preserved *****

1045          KK    R110
1046          KM        ROUTE FLOW FROM C110 TO C115
1047          RS       1    FLOW      -1
1048          RC    .019    .019    .019     580   .0291
1049          RX    1000    1012    1016    1020    1035    1039    1043    1055
1050          RY      15      12      11      10      10      11      12      15
              * DDM   ***** Preserved *****

1051          KK    C115
1052          KM        COMBINE HYDROGRAPHS FROM C114 AND C110
1053          HC       2
              * DDM   ***** Preserved *****
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1054        KK    R115
            * ******OUTFLOW FROM THIS ROUTING IS GREATER THAN INFLOW TO THE
            * ******ROUTING BY 2cfs.  THIS IS NOTED BUT LEFT UNCHANGED WITHIN THE MODEL
1055        KM        ROUTE FLOW FROM C115 TO Sub 453
1056        RS       1    FLOW      -1
1057        RC    .019    .019    .019    2125    .029
1058        RX    1000    1012    1016    1020    1035    1039    1043    1055
1059        RY      15      12      11      10      10      11      12      15
            * DDM   ***** Updated *****
1                                        HEC-1 INPUT                                                    PAGE 29

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


1060        KK     448
1061        KM   SUB-BASIN 448
1062        KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1063        KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF 1.000
1064        KM     L =  .36  Kb = .042  Adj. Slope =  315.0
1065        BA    .045
1066        LG    .170    .310   4.200    .390  11.000
1067        UC    .133    .102
1068        UA       0       5      16      30      65      77      84      90      94      97
1069        UA     100
            * DDM   ***** Updated *****

1070        KK     449
1071        KM   SUB-BASIN 449
1072        KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1073        KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF 1.000
1074        KM     L =  .40  Kb = .054  Adj. Slope =  315.0
1075        BA    .050
1076        LG    .260    .280   3.500    .640   6.000
1077        UC    .167    .134
1078        UA       0       5      16      30      65      77      84      90      94      97
1079        UA     100
            * DDM   ***** Preserved *****

1080        KK   C6364
1081        KM   COMBINE HYDROGRAPHS FROM SUB-BASINS 448 & 449
1082        HC       2
            * DDM   ***** Preserved *****

1083        KK   R6364
1084        KM   ROUTE FLOW FROM C116 AND SUB-BASINS 448 AND 449
1085        RS       5    FLOW      -1
1086        RC     .05    .035     .05    4375   .0333
1087        RX    1000    1027    1053    1080    1090    1117    1143    1170
1088        RY      15   13.33   11.67      10      10   11.67   13.33      15
            * DDM   ***** Updated *****

1089        KK     450
1090        KM   SUB-BASIN 450
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 =  .85  Kb = .057  Adj. Slope =  210.5
1094        BA    .070
1095        LG    .340    .350   3.630    .570   4.000
1096        UC    .296    .383
1097        UA       0       3       5       8      12      20      43      75      90      96
1098        UA     100
            * DDM   ***** Updated *****
1                                        HEC-1 INPUT                                                    PAGE 30

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


1099        KK     451
1100        KM   SUB-BASIN 451
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 1.000
1103        KM     L =  .57  Kb = .063  Adj. Slope =  175.0
1104        BA    .025
1105        LG    .340    .340   3.290    .750   3.000
1106        UC    .271    .453
1107        UA       0       3       5       8      12      20      43      75      90      96
1108        UA     100
            * DDM   ***** Preserved *****

1109        KK    C451
1110        KM   COMBINE HYDROGRAPHS FROM SUB-BASINS 450 & 451
1111        HC       2
            * DDM   ***** Preserved *****

1112        KK    RT66
1113        KM        RETRIEVE DIVERTED FLOW FROM SUB-BASIN 66
1114        DR   WSH66
            * DDM   ***** Updated *****

1115        KK     452
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1116          KM   SUB-BASIN 452
1117          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1118          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF 1.000
1119          KM     L =  .43  Kb = .055  Adj. Slope =  315.0
1120          BA    .040
1121          LG    .260    .280   3.700    .550   9.000
1122          UC    .171    .166
1123          UA       0       5      16      30      65      77      84      90      94      97
1124          UA     100
              * DDM   ***** Preserved *****

1125          KK   C6465
1126          KM   COMBINE HYDROGRAPHS FROM SUB-BASINS 443 AND 452
1127          HC       2
              * DDM   ***** Preserved *****

1128          KK   R6566
1129          KM        ROUTE FLOW FROM DIVERSIONS 65 AND 66 TO C116
1130          RS       3    FLOW      -1
1131          RC     .05    .035     .05    2435   .0282
1132          RX    1000    1045    1090    1150    1160    1220    1265    1310
1133          RY      25      23      20      10      10      20      23      25
              * DDM   ***** Preserved *****

1134          KK    C116
1135          KM   COMBINE HYDROGRAPHS FROM SUB-BASINS 450 & 451 AND R6364 & R6465
1136          HC       3
              * DDM   ***** Preserved *****
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1137          KK  BASIN5
1138          KM        RESERVOIR WITHIN PARCEL 31      2-48 INCH PIPES AT OUTFALL
1139          KM        BASIN 5 FEET DEEP
1140          RS       1    ELEV       0
1141          SV       0     4.5     9.9
1142          SQ       0      69     190
1143          SE       0     2.5       5
              * DDM   ***** Preserved *****

1144          KK    R116
1145          KM   ROUTE FLOW FROM C116 TO C117
1146          RS       2    FLOW      -1
1147          RC     .05    .035     .05    1300   .0333
1148          RX    1000    1100    1200    1300    1320    1420    1520    1620
1149          RY      13      12      11      10      10      11      12      13
              * DDM   ***** Updated *****

1150          KK     453
1151          KM   SUB-BASIN 453
1152          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1153          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF 1.000
1154          KM     L =  .58  Kb = .058  Adj. Slope =  138.0
1155          BA    .060
1156          LG    .290    .300   3.290    .820  18.000
1157          UC    .275    .284
1158          UA       0       5      16      30      65      77      84      90      94      97
1159          UA     100
              * DDM   ***** Preserved *****

1160          KK    C117
1161          KM   COMBINE HYDROGRAPHS FROM SUB-BASIN 453 AND R116
1162          HC       2
              * DDM   ***** Preserved *****

1163          KK    C118
1164          KM   COMBINE HYDROGRAPHS FROM R115 AND C117
1165          HC       2
              * DDM   ***** Preserved *****

1166          KK    R118
1167          KM        ROUTE FLOW FROM C118 TO  DIV7
1168          RS       1    FLOW      -1
1169          RC    .019    .019    .019    1500    .024
1170          RX    1000    1012    1016    1020    1035    1039    1043    1055
1171          RY      15      12      11      10      10      11      12      15
              * DDM   ***** Preserved *****

1172          KK      D7
1173          KM        OFFLINE BASIN AT NORTH MOUNTAIN RIDGE   FLOWS ENTER BASIN OVER
1174          KM        30' WEIR SET AT 5.3' ABOVE THE CHANNEL BOTTOM
              *      1
1175          DT  BASIN6     3.6
1176          DI       0     363     487     563     645     844
1177          DQ       0       3      47      83     125     244
              * DDM   ***** Preserved *****
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10
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1178          KK    RTD7
1179          KM   RETRIEVE FLOW FROM DIVERSION INTO OFFLINE BASIN
1180          DR  BASIN6
              * DDM   ***** Preserved *****

1181          KK     SD7
1182          KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
1183          KM     3.6 ACRE-FEETx43560/36x3600=1.2cfs
1184          RS       1    STOR       0
1185          SV       0     .01     3.6
1186          SQ       0     0.2     1.2
              * DDM   ***** Preserved *****

1187          KK     CD7
1188          KM   HYDROGRAPH COMBINATION FOR OFFLINE BASIN BLEEDOFF
1189          HC       2
              * DDM   ***** Updated *****

1190          KK     454
1191          KM   SUB-BASIN 454
1192          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1193          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .999
1194          KM     L = 1.23  Kb = .051  Adj. Slope =  163.0
1195          BA    .180
1196          LG    .300    .310   3.780    .560  14.000
1197          UC    .379    .395
1198          UA       0       5      16      30      65      77      84      90      94      97
1199          UA     100
              * DDM   ***** Preserved *****

1200          KK    C119
1201          KM        COMBINE HYDROGRAPHS FROM SUB-BASIN 454 AND C119
              *      1       2
1202          HC       2
              * DDM   ***** Preserved *****

1203          KK    R454
1204          KM   CHANNEL GEOMETRY OBTAINED FROM 2' CONTOUR MAPPING.
1205          KM   ROUTE FLOW FROM C119 TO 415C
1206          RS       3    FLOW      -1
1207          RC    .045    .035    .045    2200    .009
1208          RX       0      .5       1      33      42      67    67.5      68
1209          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 *****

1210          KK     415
1211          KM   SUB-BASIN 415
1212          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1213          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .996
1214          KM     L = 2.58  Kb = .044  Adj. Slope =  298.5
1215          BA    .609
1216          LG    .320    .290   4.500    .400  15.000
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1217          UC    .421    .401
1218          UA       0       5      16      30      65      77      84      90      94      97
1219          UA     100
              * DDM   ***** Preserved *****

1220          KK   RT385
1221          KM   RETRIEVE FLOW FROM DIVERSION OF SUB-BASIN 385 INTO SUB-BASIN 415
1222          DR   SF385
              * DDM   ***** Preserved *****

1223          KK   RR385
1224          KM   CHANNEL GEOMETRY OBTAINED FROM 2' CONTOUR MAPPING.
1225          KM   ROUTING OF SPLIT FLOW FROM SUB-BASIN 385 TO SUB-BASIN 415
1226          RS      11    FLOW      -1
1227          RC    .045     .04    .045    5878    .024
1228          RX       0       1      40      46      56      62     102     103
1229          RY       3       2       2       0       0       2       2       3
              * DDM   ***** Preserved *****

1230          KK    C415
1231          KM   HYDROGRAPH COMBINATION OF SUB-BASINS 415 & SPLIT FLOW FROM 385
1232          HC       2  0.9252
              * DDM   ***** Preserved *****

1233          KK   CC415
1234          KM   HYDROGRAPH COMBINATION OF SUB-BASINS 415, R454 & SPLIT FLOW FROM 385
1235          HC       2
              * DDM   ***** Preserved *****

1236          KK    R415
1237          KM   CHANNEL GEOMETRY OBTAINED FROM 2' CONTOUR MAPPING.
1238          KM   ROUTING OF FLOW FROM 415C TO 455C
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1239          RS       3    FLOW      -1
1240          RC    .045     .03    .045    4100    .024
1241          RX       0      .5       1       8      16      23    23.5      24
1242          RY       8       8       8       0       0       8       8       8
              * DDM   ***** Updated *****

1243          KK     455
1244          KM   SUB-BASIN 455
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  .993
1247          KM     L = 1.70  Kb = .041  Adj. Slope =  146.0
1248          BA   1.111
1249          LG    .270    .280   3.700    .640  24.000
1250          UC    .421    .204
1251          UA       0       5      16      30      65      77      84      90      94      97
1252          UA     100
              * DDM   ***** Preserved *****
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1253          KK    D455
1254          KM        DIVERT FLOW INTO ONLINE  DETENTION BASIN
1255          KM   DETENTION/RETENTION BASINS LOCATED WITHIN LAS SENDAS ADDENDUM III
1256          KM   FOR BASIN #: 30      34      43      47&58
1257          KM        MAXIMUM VOLUME DIVERSION = 74.1 acre-feet
              *      1
1258          DT   BS455    74.1
1259          DI       0   10000
1260          DQ       0   10000
              * DDM   ***** Preserved *****

1261          KK   RT455
1262          KM   RETRIEVE FLOW FROM DIVERSION INTO ONLINE BASIN
1263          DR   BS455
              * DDM   ***** Preserved *****

1264          KK    S455
1265          KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
1266          KM    74.1 ACRE-FEETx43560/36x3600=25cfs
1267          RS       1    STOR       0
1268          SV       0     .01    74.1
1269          SQ       0     3.0      25
              * DDM   ***** Preserved *****

1270          KK    C455
1271          KM   HYDROGRAPH COMBINATION FOR SUB-BASIN 455 AND DIVERTED BASIN STORAGE OF 455
1272          HC       2
              * DDM   ***** Preserved *****

1273          KK   CC455
1274          KM  HYDROGRAPH COMBINATION OF 420C, R415 AND C455
              *      1       2
1275          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 *****

1276          KK    R455
1277          KM   ROUTE FLOW FROM SPOOK HILL FRS TO SUB-BASIN 480
1278          RS      15    FLOW      -1
1279          RC    .035    .025    .035    7000   .0002
1280          RX       0       1       2      28     158     184     185     186
1281          RY    13.5    13.5    13.5       0       0    13.5    13.5    13.5
              * DDM   ***** Updated *****
1                                          HEC-1 INPUT                                          PAGE 35

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

1282          KK     480
1283          KM   SUB-BASIN 480
1284          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1285          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .996
1286          KM     L = 1.21  Kb = .042  Adj. Slope =  165.0
1287          BA    .731
1288          LG    .270    .270   3.580    .730  27.000
1289          UC    .325    .148
1290          UA       0       5      16      30      65      77      84      90      94      97
1291          UA     100
              * DDM   ***** Preserved *****
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1292        KK    D480
1293        KM         DIVERT FLOW INTO ONLINE  DETENTION BASIN
1294        KM   DETENTION/RETENTION BASINS LOCATED WITHIN LAS SENDAS ADDENDUM III
1295        KM   FOR BASIN #: 18 & 26
1296        KM         MAXIMUM VOLUME DIVERSION = 16.5 acre-feet
            *      1
1297        DT   BS480    16.5
1298        DI       0   10000
1299        DQ       0   10000
            * DDM   ***** Preserved *****

1300        KK   RT480
1301        KM   RETRIEVE FLOW FROM DIVERSION INTO ONLINE BASIN
1302        DR   BS480
            * DDM   ***** Preserved *****

1303        KK    S480
1304        KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
1305        KM    16.5 ACRE-FEETx43560/36x3600=5.5cfs
1306        RS       1    STOR       0
1307        SV       0     .01    16.5
1308        SQ       0     3.0     5.6
            * DDM   ***** Preserved *****

1309        KK    C480
1310        KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
1311        HC       2
            * DDM   ***** Preserved *****

1312        KK   CC480
1313        KM   HYDROGRAPH COMBINATION AT SUBBASIN 480
1314        HC       2
            * DDM   ***** Preserved *****

1315        KK    R480
1316        KM   ROUTE FLOW FROM SUB-BASIN 480 TO SUBBASIN 462
1317        RS       6    FLOW      -1
1318        RC    .035    .025    .035    2800   .0002
1319        RX       0       1       2      28     158     184     185     186
1320        RY    13.5    13.5    13.5       0       0    13.5    13.5    13.5
            * DDM   ***** Preserved *****
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LINE        ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1321        KK     456
1322        KM   SUB-BASIN 456
1323        KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1324        KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .998
1325        KM     L =  .94  Kb = .045  Adj. Slope =  315.0
1326        BA    .260
1327        LG    .300    .380   5.600    .200  12.000
1328        UC    .217    .139
1329        UA       0       5      16      30      65      77      84      90      94      97
1330        UA     100
            * DDM   ***** Preserved *****

1331        KK      D1
1332        KM        DIVERT FLOW INTO OFFLINE DETENTION BASIN
1333        KM        WEIR FOR BASIN SET AT 4 FEET ABOVE CHANNEL BOTTOM
            *      1
1334        DT  BASIN1     4.0
1335        DI       0    11.1   127.9   234.4   577.7   789.9  1025.5  1280.9  1555.7
1336        DQ       0       0       0    47.7     248   381.8   533.6   701.5     884
            * DDM   ***** Preserved *****

1337        KK      D2
1338        KM        SPLIT OUT FLOW FOR WASHES THAT FLOW TO THE SOUTH FROM
1339        KM        WASHES THAT DRAIN TO THE WES, SOUTHERN WASHES FED BY 30" & 24" PIPE
1340        DT    WA30
1341        DI       0    11.1   127.9   189.6   329.7     408   491.9   579.4   671.7
1342        DQ       0    11.1    38.4    48.2      63    69.5      76      81      86
            * DDM   ***** Preserved *****

1343        KK    R456
1344        KM        ROUTE FLOW FROM SUB-BASIN 51 TO C101
1345        RS       2    FLOW      -1
1346        RC     .05    .035     .05    3800    .044
1347        RX    1000    1010    1020    1036    1041    1057    1067    1077
1348        RY   14.88   14.44      14      10      10      14   14.44   14.88
            * DDM   ***** Updated *****

1349        KK     457
1350        KM   SUB-BASIN 457
1351        KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1352        KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .999
1353        KM     L = 1.01  Kb = .045  Adj. Slope =  308.8
1354        BA    .190
1355        LG    .270    .330   3.950    .460   6.000
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1356          UC    .237    .195
1357          UA       0       5      16      30      65      77      84      90      94      97
1358          UA     100
              * DDM   ***** Preserved *****
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1359          KK    C101
1360          KM        COMBINE HYDROGRAPHS FROM SUB-BASINS 50 AND 51
1361          HC       2
              * DDM   ***** Preserved *****

1362          KK      D3
1363          KM        RESERVOIR AT THE EDGE OF THE PROPERTY   FLOW FROM CHANNEL
1364          KM        DIVERTED  INTO OFFLINE BASIN A 25' WEIR SET AT ELEVATION 1808 FT
              *      1
1365          DT  BASIN2     5.0
1366          DI       0      36      70     110     180   313.5     402   500.9
1367          DQ       0       0       0       0       0    67.5     124   190.9
              * DDM   ***** Preserved *****

1368          KK    RTD3
1369          KM   RETRIEVE FLOW FROM DIVERSION INTO OFFLINE BASIN
1370          DR  BASIN2
              * DDM   ***** Preserved *****

1371          KK     SD3
1372          KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
1373          KM     5.0 ACRE-FEETx43560/36x3600=1.7cfs
1374          RS       1    STOR       0
1375          SV       0     .01       5
1376          SQ       0     0.7     1.7
              * DDM   ***** Preserved *****

1377          KK     CD3
1378          KM   HYDROGRAPH COMBINATION FOR OFFLINE BASIN BLEEDOFF
1379          HC       2
              * DDM   ***** Preserved *****

1380          KK    R101
1381          KM        ROUTE FLOW FROM SUBBASIN C101 TO C103
1382          RS       1    FLOW      -1
1383          RC     .05    .035     .05    1450     .05
1384          RX    1000    1010    1020    1036    1041    1057    1067    1077
1385          RY      15    14.5      14      10      10      14    14.5      15
              * DDM   ***** Updated *****

1386          KK     458
1387          KM   SUB-BASIN 458
1388          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1389          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .999
1390          KM     L =  .76  Kb = .048  Adj. Slope =  299.0
1391          BA    .190
1392          LG    .290    .330   5.800    .190   6.000
1393          UC    .204    .131
1394          UA       0       5      16      30      65      77      84      90      94      97
1395          UA     100
              * DDM   ***** Preserved *****
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1396          KK    C103
1397          KM        COMBINE HYDROGRAPHS FROM SUB-BASIN 55 AND C101
1398          HC       2
              * DDM   ***** Preserved *****

1399          KK    R103
1400          KM        ROUTE FLOW FROM SUBBASIN C103 TO C106
1401          RS       1    FLOW      -1
1402          RC     .05    .035     .05     900     .03
1403          RX    1000    1010    1020    1030    1050    1060    1070    1080
1404          RY   13.16   12.83    12.5      10      10    12.5   12.83   13.16
              * DDM   ***** Preserved *****

1405          KK    RT30
1406          KM        RETRIEVE DIVERTED FLOW FOR WASH BELOW 30 INCH PIPE
1407          DR    WA30
              * DDM   ***** Preserved *****

1408          KK     R30
1409          KM        ROUTE FLOW FROM WASH DIVERSION TO COMBINE C52
1410          RS       1    FLOW      -1
1411          RC     .05    .035     .05    1630     .05
1412          RX    1000    1010    1020    1036    1041    1057    1067    1077
1413          RY      15    14.5      14      10      10      14    14.5      15
              * DDM   ***** Preserved *****
```

```
1414          KK    RTB1
1415          KM        RETRIEVE DIVERTED FLOW FROM BASIN 1
              *      1        2
1416          DR  BASIN1
              * DDM   ***** Preserved *****

1417          KK      B1
1418          KM        ROUTE FLOW THROUGH OFFLINE DETENTION BASIN
1419          KM        FLOW OUTLETS THROUGH A 30 INCH OUTLET PIPE
              *      1        2
1420          RS       1    ELEV       0
1421          SV              .7      1.4      2.3      2.7      4.0
1422          SQ       0       5       16       28     32.5       37
1423          SE       0       1        2        3      3.5        4
              * DDM   ***** Preserved *****

1424          KK     RB1
1425          KM        ROUTE FLOW FROM BASIN DIVERSION TO COMBINE C52
1426          RS       3    FLOW      -1
1427          RC     .05    .035     .05     1720     .05
1428          RX    1000    1010    1020     1036    1041    1057    1067    1077
1429          RY      15    14.5      14       10      10      14    14.5      15
              * DDM   ***** Preserved *****
```



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

1430          KK    CDIV
1431          KM        COMBINE FLOWS FROM WA30 AND BASIN 1
1432          HC       2      .12
              * DDM   ***** Updated *****

1433          KK     459
1434          KM   SUB-BASIN 459
1435          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1436          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF 1.000
1437          KM     L =  .35  Kb = .052  Adj. Slope =  251.6
1438          BA    .030
1439          LG    .220    .300   3.330    .710   8.000
1440          UC    .162    .157
1441          UA       0       5      16      30      65      77      84      90      94      97
1442          UA     100
              * DDM   ***** Preserved *****

1443          KK     C52
1444          KM        COMBINE FLOWS FROM SUB-BASIN 52 WA30 AND BASIN 1
1445          HC       2
              * DDM   ***** Preserved *****

1446          KK     R52
1447          KM        ROUTE FLOW FROM SUBBASIN 52 TO C102
1448          RS       3    FLOW      -1
1449          RC     .05    .035     .05     2000     .05
1450          RX    1000    1010    1020     1036    1041    1057    1067    1077
1451          RY      15    14.5      14       10      10      14    14.5      15
              * DDM   ***** Updated *****

1452          KK     460
1453          KM   SUB-BASIN 460
1454          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1455          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .999
1456          KM     L =  .62  Kb = .058  Adj. Slope =  194.0
1457          BA    .140
1458          LG    .250    .260   3.740    .690  27.000
1459          UC    .242    .160
1460          UA       0       5      16      30      65      77      84      90      94      97
1461          UA     100
              * DDM   ***** Preserved *****

1462          KK    C102
1463          KM        COMBINE HYDROGRAPHS FROM SUB-BASINS 52 AND 53
1464          HC       2
              * DDM   ***** Preserved *****

1465          KK  BASIN3
1466          KM        RESERVOIR AT CLUBHOUSE LOCATION 1-30 INCH PIPE AT OUTFALL
1467          KM        BOTTOM OF BASIN AT 6 FEET ABOVE 1795 ELEVATION
1468          RS       1    ELEV       0
1469          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
1470          SQ       0      22      45    47.4      48      51      57      62      67      73
```



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

1471          SE    1795  1797.5    1800  1800.4  1800.5    1801    1802    1803    1804  1805.5
              * DDM   ***** Preserved *****

1472          KK      R3
1473          KM        ROUTE FLOW FROM C102 to C106
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```
1474          RS       5    FLOW      -1
1475          RC     .05     .03     .05    2750   .0375
1476          RX    1000    1010    1020    1052    1086    1118    1128    1138
1477          RY    19.2    18.4      18      10      10      18    18.4    19.2
              * DDM   ***** Updated *****

1478          KK     461
1479          KM   SUB-BASIN 461
1480          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1481          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .999
1482          KM     L =  .83  Kb = .052  Adj. Slope =  181.0
1483          BA    .120
1484          LG    .270    .250   4.250    .450  21.000
1485          UC    .271    .250
1486          UA       0       5      16      30      65      77      84      90      94      97
1487          UA     100
              * DDM   ***** Preserved *****

1488          KK    C104
1489          KM        COMBINE HYDROGRAPHS FROM SUB-BASIN 54 AND R102
1490          HC       2
              * DDM   ***** Preserved *****

1491          KK    C106
1492          KM        COMBINE HYDROGRAPHS FROM SUB-BASIN C103 AND C104
1493          HC       2
              * DDM   ***** Preserved *****

1494          KK    R106
1495          KM        ROUTE FLOW FROM C106 TO C49
1496          RS       2    FLOW      -1
1497          RC     .05    .035     .05    3950    .033
1498          RX    1000    1010    1020    1030    1050    1060    1070    1080
1499          RY   13.16   12.83    12.5      10      10    12.5   12.83   13.16
              * DDM   ***** Updated *****

1500          KK     462
1501          KM   SUB-BASIN 462
1502          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1503          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .998
1504          KM     L =  .97  Kb = .045  Adj. Slope =  297.7
1505          BA    .301
1506          LG    .300    .330   5.300    .240  12.000
1507          UC    .225    .137
1508          UA       0       5      16      30      65      77      84      90      94      97
1509          UA     100
              * DDM   ***** Preserved *****
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```
LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1510          KK     C56
1511          KM        COMBINE HYDROGRAPHS FROM SUB-BASIN 56 AND C106
              *      1       2
1512          HC       2

1513          KK    C462
1514          KM        COMBINE HYDROGRAPHS AT SUBBASIN 462
              *      1
1515          HC       2    2.09
              * DDM   ***** Preserved *****

1516          KK    R462
1517          KM   ROUTE FLOW FROM SUB-BASIN 462 TO SUB-BASIN 500 (First Channel Reach)
1518          RS       1    FLOW      -1
1519          RC    .025    .025    .025    1800    .005
1520          RX       0       1      20      32      62      74      93      94
1521          RY      13      12      12       0       0      12      12      13
              * DDM   ***** Preserved *****

1522          KK   RR462
1523          KM   ROUTE FLOW FROM SUB-BASIN 462 TO SUB-BASIN 500 (Second Natural Wash Reach)
1524          RS       3    FLOW      -1
1525          RC    .055     .05    .055    4700     .05
1526          RX       0       1       2      28      58      84      85      86
1527          RY    13.5    13.5    13.5       0       0    13.5    13.5    13.5
              * DDM   ***** Updated *****

1528          KK     500
1529          KM   SUB-BASIN 500
1530          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1531          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .994
1532          KM     L = 2.77  Kb = .042  Adj. Slope =  286.8
1533          BA    .930
1534          LG    .350    .400   6.000    .170   9.000
1535          UC    .421    .333
1536          UA       0       3       5       8      12      20      43      75      90      96
1537          UA     100
              * DDM   ***** Preserved *****
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1538          KK    C500
1539          KM   HYDROGRAPH COMBINATION FOR THE ENTIRE WATERSHED AT THE SALT RIVER
1540          HC       2    3.02
1541          ZZ
```

1

SCHEMATIC DIAGRAM OF STREAM NETWORK

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

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

   36          10
                V
                V
   46         R10
                V
                V
   52         R12
                .
                .
   58           .          20
                .           .
                .           .
   68         C20............
                V
                V
   71         R20
                .
                .
   77           .          40
                .           .
                .           .
   87           .           .          60
                .           .           .
                .           .           .
   97         C60........................
                V
                V
  100         S60
                V
                V
  109         R60
                V
                V
  115        RR60
                .
                .
  121           .          80
                .           .
                .           .
  131         C80............
                V
                V
  134         R80
                .
                .
  140           .         100
                .           .
                .           .
  150        C100............
                V
                V
  153        R100
                .
                .
  159           .         120
                .           .
                .           .
  169        C120............
                V
                V
  172        R120
                .
                .
  178           .         140
                .           .
                .           .
  188           .           .         150
                .           .           V
                .           .           V
  198           .           .        R150
                .           .           V
                .           .           V
  204           .           .        R152
                .           .           .
                .           .           .
  210           .           .           .        160
                .           .           .          .
                .           .           .          .
  220           .           .           .          .         180
                .           .           .          .           .
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230        C180.............................................
              .
              .
233           .         210
              .           V
              .           V
243           .        R210
              .           .
              .           .
249           .           .         240
              .           .           .
              .           .           .
259           .        C240............
              .           V
              .           V
262           .        S240
              .           V
              .           V
269           .        R240
              .           .
              .           .
276           .           .         220
              .           .           .
              .           .           .
286           .        C220............
              .           V
              .           V
289           .        S220
              .           V
              .           V
296           .        R220
              .           .
              .           .
303           .           .         190
              .           .           V
              .           .           V
313           .           .        R190
              .           .           V
              .           .           V
319           .           .        R192
              .           .           .
              .           .           .
325           .           .           .         200
              .           .           .           .
              .           .           .           .
335           .        C200........................
              .           V
              .           V
338           .        S200
              .           V
              .           V
345           .        R200
              .           V
              .           V
351           .       SS200
              .           V
              .           V
358           .       RR200
              .           .
              .           .
364        CC180............
              V
              V
367        S180
              V
              V
376        R180
              .
              .
385           .         260
              .           .
              .           .
395        C260............
              V
              V
398        R260
              .
              .
407           .         280
              .           .
              .           .
417        C280............
              V
              V
420        R280
              .
              .
429           .         300
              .           .
              .           .
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439        C300...........
              V
              V
442        R300
              .
              .
451           .         305
              .           .
              .           .
461        C305...........
              V
              V
464        R305
              .
              .
473           .         350
              .           .
              .           .
486           .           .-------->   SF350
483           .        D350
              .           V
              .           V
489           .        R350
              .           .
              .           .
496           .           .         310
              .           .           .
              .           .           .
506           .        C310............
              .           V
              .           V
509           .        R310
              .           .
              .           .
516           .           .         320
              .           .           .
              .           .           .
531           .           .           .-------->   BS320
526           .           .        D320
              .           .           .
              .           .           .
536           .           .           .           .<--------   BS320
534           .           .           .       RT320
              .           .           .           V
              .           .           .           V
537           .           .           .        S320
              .           .           .           .
              .           .           .           .
543        C320.....................................
              V
              V
546        R320
              .
              .
553           .         340
              .           .
              .           .
568           .           .-------->   BS340
563           .        D340
              .           .
              .           .
573           .           .           .<--------   BS340
571           .           .       RT340
              .           .           V
              .           .           V
574           .           .        S340
              .           .           .
              .           .           .
580        C340........................
              V
              V
583        R340
              .
              .
592           .           .<--------   SF350
590           .       RT350
              .           V
              .           V
593           .       RR350
              .           .
              .           .
600           .           .         355
              .           .           .
              .           .           .
610           .        C355............
              .           V
              .           V
613           .        R355
              .           .
              .           .
620           .           .         360
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                .          .          .
                .          .          .
634             .          .          .-------->   BS360
630             .          .       D360
                .          .          .
                .          .          .
639             .          .          .          .<-------   BS360
637             .          .          .      RT360
                .          .          .          V
                .          .          .          V
640             .          .          .       S360
                .          .          .          .
                .          .          .          .
646          C360.................................
                V
                V
649          R360
                .
                .
656             .       370
                .          .
                .          .
666             .          .       395
                .          .          .
                .          .          .
676             .      C370............
                .          V
                .          V
679             .      R370
                .          .
                .          .
686             .          .       380
                .          .          .
                .          .          .
700             .          .          .-------->   BS380
696             .          .       D380
                .          .          .
                .          .          .
705             .          .          .          .<-------   BS380
703             .          .          .      RT380
                .          .          .          V
                .          .          .          V
706             .          .          .       S380
                .          .          .          .
                .          .          .          .
712          C380.................................
                V
                V
715          R380
                .
                .
722             .       390
                .          .
                .          .
736             .          .-------->   BS390
732             .      D390
                .          .
                .          .
741             .          .          .<-------   BS390
739             .          .      RT390
                .          .          V
                .          .          V
742             .          .       S390
                .          .          .
                .          .          .
748             .      C390............
                .          V
                .          V
751             .      R390
                .          .
                .          .
758             .          .       400
                .          .          .
                .          .          .
772             .          .          .-------->   BS400
768             .          .       D400
                .          .          .
                .          .          .
777             .          .          .          .<--------   BS400
775             .          .          .      RT400
                .          .          .          V
                .          .          .          V
778             .          .          .       S400
                .          .          .          .
                .          .          .          .
784             .          .       C400............
                .          .          .
                .          .          .
787          CC400........................
                V
                V
```

```
790        R400
              .
              .
797           .         385
              .           .
              .           .
809           .           .-------->   SF385
807           .        D385
              .           V
              .           V
812           .        R385
              .           .
              .           .
819           .           .         420
              .           .           .
              .           .           .
833           .           .           .-------->   BS420
829           .           .        D420
              .           .           .
              .           .           .
838           .           .           .           .<-------   BS420
836           .           .           .       RT420
              .           .           .           V
              .           .           .           V
839           .           .           .        S420
              .           .           .           .
              .           .           .           .
845           .        C420.......................
              .           .
              .           .
848       cC420............
             V
             V
851        R420
              .
              .
858           .         440
              .           V
              .           V
868           .         R70
              .           .
              .           .
874           .           .         441
              .           .           .
              .           .           .
884           .        C108............
              .           .
              .           .
889           .           .-------->   SPLIT
887           .          D4
              .           V
              .           V
892           .        R108
              .           .
              .           .
898           .           .         442
              .           .           .
              .           .           .
908           .         C67............
              .           .
              .           .
914           .           .-------->  BASIN4
911           .          D6
              .           .
              .           .
919           .           .           .<-------  BASIN4
917           .           .        RTD6
              .           .           V
              .           .           V
920           .           .         SD6
              .           .           .
              .           .           .
926           .         CD6............
              .           .
              .           .
929           .           .         443
              .           .           .
              .           .           .
942           .           .           .-------->   WSH66
939           .           .         D66
              .           .           V
              .           .           V
945           .           .        R113
              .           .           .
              .           .           .
951           .        C114............
              .           .
              .           .
954           .           .         444
              .           .           V
              .           .           V
```

```
964                R58
                    .
                    .
970                 .        445
                    .          .
                    .          .
980             C107...........
                   V
                   V
983             R107
                    .
                    .
991                 .          .<-------   SPLIT
989                 .       RTB2
                    .          V
                    .          V
992                 .      RSPLIT
                    .          .
                    .          .
998                 .          .        446
                    .          .          .
                    .          .          .
1008            C109......................
                    .
                    .
1014                .-------> WSH404
1011              D5
                   V
                   V
1017            R109
                    .
                    .
1023                .        447
                    .          .
                    .          .
1035                .          .          .<-------  WSH404
1033                .          .      RT404
                    .          .          V
                    .          .          V
1036                .          .       R404
                    .          .          .
                    .          .          .
1042            C110......................
                   V
                   V
1045            R110
                    .
                    .
1051        C115...........
               V
               V
1054        R115
                    .
                    .
1060                448
                    .
                    .
1070                .        449
                    .          .
                    .          .
1080            C6364..........
                   V
                   V
1083            R6364
                    .
                    .
1089                .        450
                    .          .
                    .          .
1099                .          .        451
                    .          .          .
                    .          .          .
1109                .       C451...........
                    .          .
                    .          .
1114                .          .          .<-------   WSH66
1112                .          .       RT66
                    .          .          .
                    .          .          .
1115                .          .          .         452
                    .          .          .           .
                    .          .          .           .
1125                .          .      C6465...........
                    .          .          V
                    .          .          V
1128                .          .      R6566
                    .          .          .
                    .          .          .
1134            C116......................
                   V
                   V
```

```
1137          .           .      BASIN5
              .           .          V
              .           .          V
1144          .           .       R116
              .           .          .
              .           .          .
1150          .           .          .         453
              .           .          .           .
              .           .          .           .
1160          .           .       C117............
              .           .          .
              .           .          .
1163          .       C118............
              .          V
              .          V
1166          .       R118
              .           .
              .           .
1175          .           .-------> BASIN6
1172          .         D7
              .           .
              .           .
1180          .           .          .<-------  BASIN6
1178          .           .       RTD7
              .           .          V
              .           .          V
1181          .           .        SD7
              .           .          .
              .           .          .
1187          .        CD7............
              .           .
              .           .
1190          .           .        454
              .           .          .
              .           .          .
1200          .       C119............
              .          V
              .          V
1203          .       R454
              .           .
              .           .
1210          .           .        415
              .           .          .
              .           .          .
1222          .           .          .           .<-------   SF385
1220          .           .          .      RT385
              .           .          .          V
              .           .          .          V
1223          .           .          .      RR385
              .           .          .           .
              .           .          .           .
1230          .           .       C415............
              .           .          .
              .           .          .
1233          .      CC415............
              .          V
              .          V
1236          .       R415
              .           .
              .           .
1243          .           .        455
              .           .          .
              .           .          .
1258          .           .          .------->   BS455
1253          .           .       D455
              .           .          .
              .           .          .
1263          .           .          .           .<-------   BS455
1261          .           .          .      RT455
              .           .          .          V
              .           .          .          V
1264          .           .          .       S455
              .           .          .           .
              .           .          .           .
1270          .           .       C455............
              .           .          .
              .           .          .
1273      CC455......................
              V
              V
1276      R455
              .
              .
1282          .        480
              .           .
              .           .
1297          .           .------->   BS480
1292          .       D480
              .           .
              .           .
1302          .           .          .<-------   BS480
```

```
1300          .           .       RT480
              .           .           V
              .           .           V
1303          .           .        S480
              .           .           .
              .           .           .
1309          .        C480............
              .           .
              .           .
1312       CC480............
              V
              V
1315       R480
              .
              .
1321          .         456
              .           .
              .           .
1334          .           .-------> BASIN1
1331          .          D1
              .           .
              .           .
1340          .           .------->   WA30
1337          .          D2
              .           V
              .           V
1343          .        R456
              .           .
              .           .
1349          .           .         457
              .           .           .
              .           .           .
1359          .        C101............
              .           .
              .           .
1365          .           .-------> BASIN2
1362          .          D3
              .           .
              .           .
1370          .           .           .<-------  BASIN2
1368          .           .        RTD3
              .           .           V
              .           .           V
1371          .           .         SD3
              .           .           .
              .           .           .
1377          .         CD3............
              .           V
              .           V
1380          .        R101
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1386          .           .         458
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1396          .        C103............
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              .           V
1399          .        R103
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1407          .           .           .<-------    WA30
1405          .           .        RT30
              .           .           V
              .           .           V
1408          .           .         R30
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1416          .           .           .           .<-------  BASIN1
1414          .           .           .        RTB1
              .           .           .           V
              .           .           .           V
1417          .           .           .          B1
              .           .           .           V
              .           .           .           V
1424          .           .           .         RB1
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1430          .           .        CDIV............
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1433          .           .           .         459
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1443          .           .         C52............
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1446          .           .         R52
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1452          .           .           .         460
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1462            .          .       C102...........
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1465            .          .      BASIN3
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1472            .          .         R3
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1478            .          .          .         461
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1488            .          .       C104...........
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1491            .       C106...........
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1494            .       R106
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1500            .          .         462
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1510            .        C56...........
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1513        C462...........
               V
               V
1516        R462
               V
               V
1522       RR462
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1528            .        500
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1538        C500...........
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(***) RUNOFF ALSO COMPUTED AT THIS LOCATION

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*                                      *
*   FLOOD HYDROGRAPH PACKAGE  (HEC-1)  *
*              JUN  1998               *
*           VERSION 4.1                *
*                                      *
*  RUN DATE   01MAY01  TIME  10:49:32  *
*                                      *
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*                                      *
*    U.S. ARMY CORPS OF ENGINEERS      *
*    HYDROLOGIC ENGINEERING CENTER     *
*          609 SECOND STREET           *
*       DAVIS, CALIFORNIA 95616        *
*           (916) 756-1104             *
*                                      *
****************************************
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DDM MCUHP1 SPOOK HILL AMDP - EXISTING CONDITIONS MODEL - 100YR, 24HR STORM
Existing Condition Model without Spook Hill FRS Storage Routing
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.

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

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

```
 17 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
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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

19 JD INDEX STORM NO. 1

STRM	3.81	PRECIPITATION DEPTH
TRDA	.01	TRANSPOSITION DRAINAGE AREA

20 PI PRECIPITATION PATTERN

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30 JD INDEX STORM NO. 2

STRM	3.79	PRECIPITATION DEPTH
TRDA	1.00	TRANSPOSITION DRAINAGE AREA

0 PI PRECIPITATION PATTERN

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31 JD INDEX STORM NO. 3

STRM 3.68 PRECIPITATION DEPTH

TRDA 5.80 TRANSPOSITION DRAINAGE AREA

0 PI PRECIPITATION PATTERN

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

0 PI PRECIPITATION PATTERN

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33 JD INDEX STORM NO. 5

STRM 3.54 PRECIPITATION DEPTH

TRDA 13.70 TRANSPOSITION DRAINAGE AREA

0 PI PRECIPITATION PATTERN

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

0 PI PRECIPITATION PATTERN

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35 JD INDEX STORM NO. 7

STRM 3.32 PRECIPITATION DEPTH

TRDA 50.00 TRANSPOSITION DRAINAGE AREA

0 PI PRECIPITATION PATTERN

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WARNING EXCESS AT PONDING LESS THAN ZERO FOR PERIOD. EXCESS SET TO ZERO
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WARNING --- ROUTED OUTFLOW (1029.) IS GREATER THAN MAXIMUM OUTFLOW (1018.) IN STORAGE-OUTFLOW TABLE

WARNING --- ROUTED OUTFLOW (1042.) IS GREATER THAN MAXIMUM OUTFLOW (1018.) IN STORAGE-OUTFLOW TABLE

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WARNING --- ROUTED OUTFLOW (1033.) IS GREATER THAN MAXIMUM OUTFLOW (1018.) IN STORAGE-OUTFLOW TABLE

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WARNING EXCESS AT PONDING LESS THAN ZERO FOR PERIOD. EXCESS SET TO ZERO

1

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

	OPERATION	STATION	PEAK FLOW	TIME OF PEAK	AVERAGE FLOW FOR MAXIMUM PERIOD 6-HOUR	24-HOUR	72-HOUR	BASIN AREA	MAXIMUM STAGE	TIME OF MAX STAGE
+	HYDROGRAPH AT	10	989.	12.27	119.	33.	12.	.70		
+	ROUTED TO	R10	920.	12.40	119.	33.	12.	.70		
+	ROUTED TO	R12	853.	12.60	119.	33.	12.	.70		
+	HYDROGRAPH AT	20	1011.	12.43	136.	34.	12.	1.12		
+	2 COMBINED AT	C20	1684.	12.53	252.	66.	24.	1.82		
+	ROUTED TO	R20	1683.	12.57	252.	66.	24.	1.82		
+	HYDROGRAPH AT	40	2695.	12.30	264.	69.	25.	2.23		
+	HYDROGRAPH AT	60	1623.	12.40	239.	64.	23.	1.75		
+	3 COMBINED AT	C60	5371.	12.37	733.	194.	70.	5.80		
+	ROUTED TO	S60	118.	14.27	118.	114.	70.	5.80		
+	ROUTED TO	R60	118.	14.37	118.	114.	70.	5.80		
+	ROUTED TO	RR60	118.	14.40	118.	114.	70.	5.80		
+	HYDROGRAPH AT	80	1956.	12.27	189.	49.	18.	1.48		
+	2 COMBINED AT	C80	2009.	12.27	295.	160.	90.	1.48		
+	ROUTED TO	R80	1981.	12.30	295.	160.	90.	1.48		
+	HYDROGRAPH AT	100	423.	12.20	60.	16.	6.	.48		
+	2 COMBINED AT	C100	2373.	12.27	351.	174.	95.	1.96		
	ROUTED TO	R100	2370.	12.30	351.	174.	95.	1.96		
	HYDROGRAPH AT									

+	120	3352.	12.27	340.	92.	33.	2.20
+ 2 COMBINED AT	C120	5618.	12.27	673.	256.	126.	4.16
+ ROUTED TO	R120	5546.	12.30	673.	256.	126.	4.16
+ HYDROGRAPH AT	140	665.	12.13	67.	18.	6.	.60
+ HYDROGRAPH AT	150	595.	12.17	51.	14.	5.	.41
+ ROUTED TO	R150	568.	12.23	51.	14.	5.	.41
+ ROUTED TO	R152	514.	12.33	51.	14.	5.	.41
+ HYDROGRAPH AT	160	228.	12.40	37.	9.	3.	.37
+ HYDROGRAPH AT	180	836.	12.37	97.	24.	9.	1.00
+ 5 COMBINED AT	C180	7306.	12.30	898.	313.	146.	6.54
+ HYDROGRAPH AT	210	1322.	12.17	111.	29.	10.	.79
+ ROUTED TO	R210	1246.	12.23	111.	29.	10.	.79
+ HYDROGRAPH AT	240	1513.	12.30	167.	42.	15.	1.41
+ 2 COMBINED AT	C240	2684.	12.27	273.	70.	25.	2.20
+ ROUTED TO	S240	799.	12.70	226.	59.	21.	2.20
ROUTED TO	R240	798.	12.77	225.	59.	21.	2.20
+ HYDROGRAPH AT	220	676.	12.20	68.	18.	6.	.47
+ 2 COMBINED AT	C220	962.	12.60	288.	75.	27.	2.67
+ ROUTED TO	S220	900.	12.80	280.	73.	26.	2.67
+ ROUTED TO	R220	897.	12.83	280.	73.	26.	2.67
+ HYDROGRAPH AT	190	1471.	12.17	123.	33.	12.	.92
+ ROUTED TO	R190	1415.	12.23	123.	33.	12.	.92
+ ROUTED TO	R192	1359.	12.30	123.	33.	12.	.92
+ HYDROGRAPH AT	200	831.	12.17	72.	20.	7.	.53
+ 3 COMBINED AT	C200	2254.	12.30	459.	122.	44.	4.12
+ ROUTED TO	S200	2135.	12.37	454.	119.	43.	4.12
+ ROUTED TO	R200	2127.	12.37	454.	119.	43.	4.12
+ ROUTED TO	SS200	1365.	12.73	333.	88.	32.	4.12
+ ROUTED TO	RR200	1330.	12.83	330.	88.	32.	4.12
+ 2 COMBINED AT	CC180	7306.	12.30	1212.	399.	177.	10.66
+ ROUTED TO	S180	113.	29.07	113.	113.	88.	10.66

	ROUTED TO	R180	113.	28.93	113.	113.	88.	10.66
+	HYDROGRAPH AT	260	416.	12.10	43.	12.	4.	.26
+	2 COMBINED AT	C260	421.	12.10	135.	124.	99.	.26
+	ROUTED TO	R260	407.	12.20	135.	124.	98.	.26
+	HYDROGRAPH AT	280	527.	12.10	46.	13.	5.	.32
+	2 COMBINED AT	C280	884.	12.13	176.	135.	103.	.58
+	ROUTED TO	R280	862.	12.20	176.	134.	103.	.58
+	HYDROGRAPH AT	300	415.	12.10	34.	10.	3.	.29
+	2 COMBINED AT	C300	1217.	12.17	207.	143.	106.	.87
+	ROUTED TO	R300	1172.	12.23	207.	142.	106.	.87
+	HYDROGRAPH AT	305	476.	12.27	81.	22.	8.	.70
+	2 COMBINED AT	C305	1624.	12.23	283.	161.	112.	1.57
+	ROUTED TO	R305	1603.	12.30	282.	161.	112.	1.57
+	HYDROGRAPH AT	350	1258.	12.20	109.	28.	10.	.97
+	DIVERSION TO	SF350	629.	12.20	55.	14.	5.	.97
	HYDROGRAPH AT	D350	629.	12.20	55.	14.	5.	.97
+	ROUTED TO	R350	557.	12.40	55.	14.	5.	.97
+	HYDROGRAPH AT	310	398.	12.33	52.	13.	5.	.56
+	2 COMBINED AT	C310	928.	12.40	106.	27.	10.	1.04
+	ROUTED TO	R310	820.	12.73	106.	27.	10.	1.04
+	HYDROGRAPH AT	320	991.	12.20	127.	36.	13.	.95
+	DIVERSION TO	BS320	386.	11.93	21.	6.	2.	.95
+	HYDROGRAPH AT	D320	991.	12.20	113.	29.	11.	.95
+	HYDROGRAPH AT	RT320	386.	11.93	21.	6.	2.	.95
+	ROUTED TO	S320	4.	12.00	4.	4.	2.	.95
+	4 COMBINED AT	C320	2546.	12.30	491.	216.	132.	3.56
+	ROUTED TO	R320	2374.	12.57	480.	214.	130.	3.56
+	HYDROGRAPH AT	340	1534.	12.17	194.	57.	21.	1.44
+	DIVERSION TO	BS340	1534.	12.17	103.	28.	10.	1.44
	HYDROGRAPH AT	D340	1285.	12.30	106.	29.	10.	1.44
	HYDROGRAPH AT							

+	RT340	1534.	12.17	103.	28.	10.	1.44
+ ROUTED TO	S340	18.	12.33	17.	14.	9.	1.44
+ 3 COMBINED AT	C340	3025.	12.53	591.	253.	148.	5.00
+ ROUTED TO	R340	2930.	12.70	583.	251.	147.	5.00
+ HYDROGRAPH AT	RT350	629.	12.20	55.	14.	5.	.97
+ ROUTED TO	RR350	544.	12.43	55.	14.	5.	.97
+ HYDROGRAPH AT	355	546.	12.33	75.	19.	7.	.68
+ 2 COMBINED AT	C355	1028.	12.40	129.	34.	12.	1.16
+ ROUTED TO	R355	941.	12.70	129.	34.	12.	1.16
+ HYDROGRAPH AT	360	773.	12.23	116.	34.	12.	.88
+ DIVERSION TO	BS360	773.	12.23	52.	14.	5.	.88
+ HYDROGRAPH AT	D360	709.	12.33	73.	20.	7.	.88
+ HYDROGRAPH AT	RT360	773.	12.23	52.	14.	5.	.88
+ ROUTED TO	S360	9.	12.33	8.	7.	5.	.88
+ 4 COMBINED AT	C360	4079.	12.70	759.	301.	168.	7.04
ROUTED TO	R360	3915.	12.87	752.	300.	166.	7.04
+ HYDROGRAPH AT	370	817.	12.23	83.	22.	8.	.67
+ HYDROGRAPH AT	395	234.	12.20	26.	7.	3.	.20
+ 2 COMBINED AT	C370	1046.	12.23	108.	29.	11.	.87
+ ROUTED TO	R370	913.	12.57	108.	29.	11.	.87
+ HYDROGRAPH AT	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	4597.	12.87	868.	335.	182.	8.81
+ ROUTED TO	R380	4226.	13.13	864.	334.	180.	8.81
+ 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	4253.	13.13	923.	352.	188.	9.67
+ ROUTED TO	R400	4045.	13.40	916.	351.	187.	9.67
+ HYDROGRAPH AT	385	613.	12.23	74.	20.	7.	.53
+ DIVERSION TO	SF385	368.	12.23	44.	12.	4.	.53
+ HYDROGRAPH AT	D385	245.	12.23	29.	8.	3.	.53
+ ROUTED TO	R385	208.	12.67	29.	8.	3.	.53
HYDROGRAPH AT	420	796.	12.20	98.	27.	10.	.85
+ DIVERSION TO	BS420	266.	11.93	14.	4.	2.	.85
+ HYDROGRAPH AT	D420	796.	12.20	89.	23.	8.	.85
+ HYDROGRAPH AT	RT420	266.	11.93	14.	4.	2.	.85
+ ROUTED TO	S420	3.	12.00	2.	2.	2.	.85
+ 3 COMBINED AT	C420	805.	12.20	120.	33.	13.	1.06
+ 2 COMBINED AT	cC420	4082.	13.40	1001.	376.	197.	10.73
+ ROUTED TO	R420	3924.	13.63	995.	375.	196.	10.73
+ HYDROGRAPH AT	440	184.	12.03	12.	3.	1.	.08
+ ROUTED TO	R70	181.	12.07	12.	3.	1.	.08
+ HYDROGRAPH AT	441	16.	12.03	1.	0.	0.	.01
+ 2 COMBINED AT	C108	197.	12.07	14.	4.	1.	.09
+ DIVERSION TO	SPLIT	98.	12.07	7.	2.	1.	.09
+ HYDROGRAPH AT	D4	98.	12.07	7.	2.	1.	.09
ROUTED TO	R108	92.	12.13	7.	2.	1.	.09
HYDROGRAPH AT							

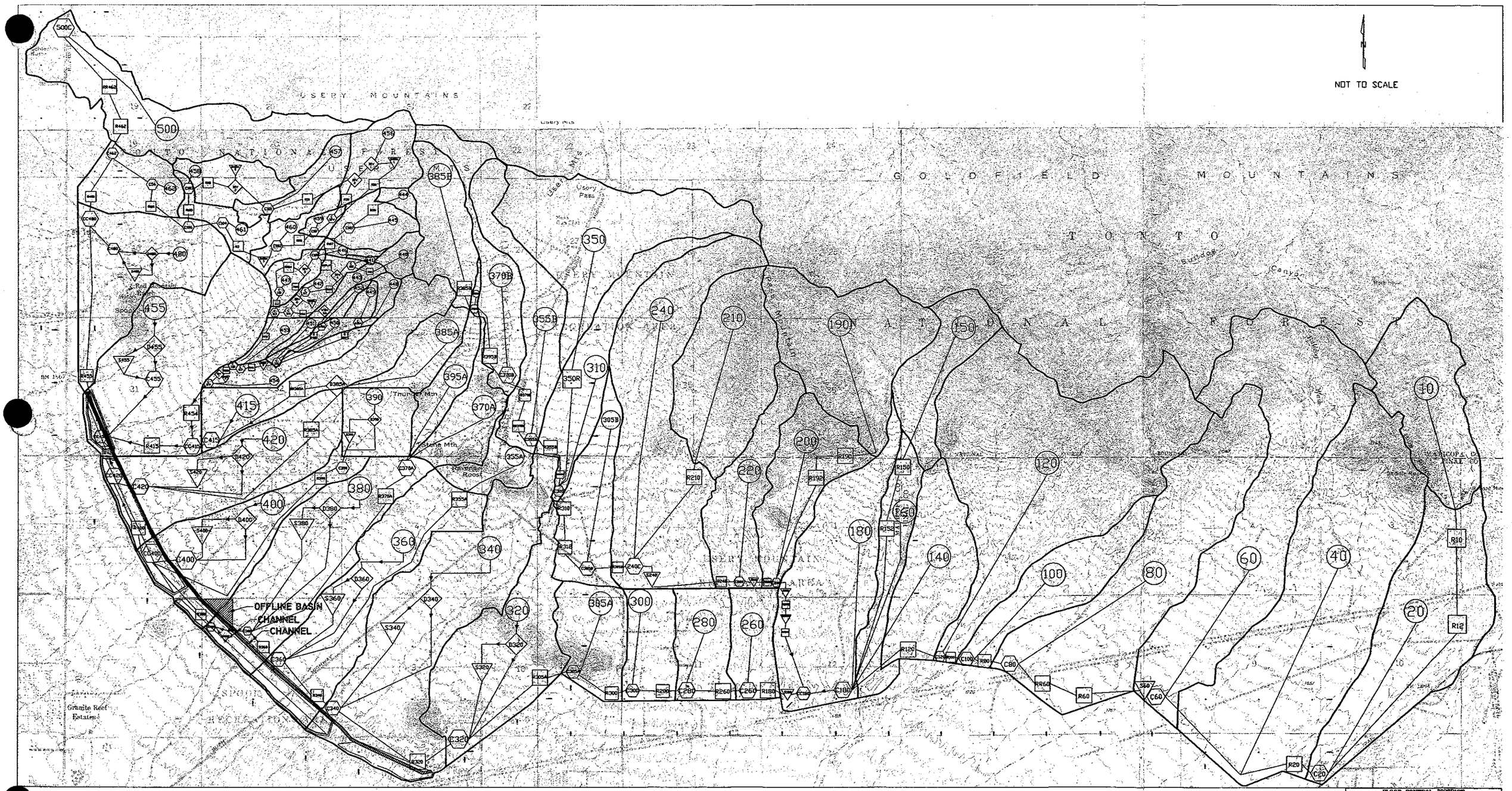
+	442	105.	12.10	9.	2.	1.	.10
+ 2 COMBINED AT	C67	195.	12.10	16.	4.	2.	.19
+ DIVERSION TO	BASIN4	121.	12.10	6.	2.	1.	.19
+ HYDROGRAPH AT	D6	74.	12.10	10.	3.	1.	.19
+ HYDROGRAPH AT	RTD6	121.	12.10	6.	2.	1.	.19
+ ROUTED TO	SD6	1.	12.47	1.	1.	0.	.19
+ 2 COMBINED AT	CD6	74.	12.10	10.	3.	1.	.19
+ HYDROGRAPH AT	443	151.	12.07	15.	4.	1.	.08
+ DIVERSION TO	WSH66	78.	11.87	12.	3.	1.	.08
+ HYDROGRAPH AT	D66	73.	12.07	3.	1.	0.	.08
+ ROUTED TO	R113	71.	12.07	3.	1.	0.	.08
+ 2 COMBINED AT	C114	144.	12.07	13.	4.	2.	.27
+ HYDROGRAPH AT	444	83.	12.03	5.	1.	0.	.04
+ ROUTED TO	R58	79.	12.07	5.	1.	0.	.04
+ HYDROGRAPH AT	445	307.	12.03	19.	5.	2.	.19
2 COMBINED AT	C107	382.	12.03	23.	6.	2.	.23
+ ROUTED TO	R107	382.	12.07	23.	6.	2.	.23
+ HYDROGRAPH AT	RTB2	98.	12.07	7.	2.	1.	.09
+ ROUTED TO	RSPLIT	98.	12.07	7.	2.	1.	.09
+ HYDROGRAPH AT	446	66.	12.03	6.	2.	1.	.04
+ 3 COMBINED AT	C109	545.	12.07	36.	10.	3.	.27
+ DIVERSION TO	WSH404	35.	11.70	8.	2.	1.	.27
+ HYDROGRAPH AT	D5	510.	12.07	28.	7.	3.	.27
+ ROUTED TO	R109	493.	12.10	28.	7.	3.	.27
+ HYDROGRAPH AT	447	141.	12.07	12.	4.	1.	.09
+ HYDROGRAPH AT	RT404	35.	11.70	8.	2.	1.	.27
+ ROUTED TO	R404	35.	11.83	8.	2.	1.	.27
+ 3 COMBINED AT	C110	666.	12.07	48.	13.	5.	.36
+ ROUTED TO	R110	663.	12.10	48.	13.	5.	.36
+ 2 COMBINED AT	C115	805.	12.07	61.	17.	7.	.63
+ ROUTED TO	R115	799.	12.10	61.	17.	7.	.63

	HYDROGRAPH AT	448	89.	12.03	6.	2.	1.	.05
+	HYDROGRAPH AT	449	81.	12.03	5.	1.	0.	.05
+	2 COMBINED AT	C6364	170.	12.03	11.	3.	1.	.09
+	ROUTED TO	R6364	145.	12.17	11.	3.	1.	.09
+	HYDROGRAPH AT	450	63.	12.20	7.	2.	1.	.07
+	HYDROGRAPH AT	451	18.	12.17	2.	1.	0.	.03
+	2 COMBINED AT	C451	80.	12.20	9.	2.	1.	.09
+	HYDROGRAPH AT	RT66	78.	11.87	12.	3.	1.	.08
+	HYDROGRAPH AT	452	63.	12.03	5.	1.	0.	.04
+	2 COMBINED AT	C6465	141.	12.03	17.	4.	2.	.04
+	ROUTED TO	R6566	137.	12.10	17.	4.	2.	.04
+	3 COMBINED AT	C116	357.	12.17	36.	10.	3.	.23
+	ROUTED TO	BASIN5	159.	12.47	36.	10.	3.	.23
+	ROUTED TO	R116	157.	12.53	36.	10.	3.	.23
+	HYDROGRAPH AT	453	63.	12.10	7.	2.	1.	.06
	2 COMBINED AT	C117	177.	12.47	43.	12.	4.	.29
+	2 COMBINED AT	C118	892.	12.10	104.	29.	11.	.92
+	ROUTED TO	R118	887.	12.13	104.	29.	11.	.92
+	DIVERSION TO	BASIN6	270.	12.13	7.	2.	1.	.92
+	HYDROGRAPH AT	D7	737.	12.20	97.	27.	10.	.92
+	HYDROGRAPH AT	RTD7	270.	12.13	7.	2.	1.	.92
+	ROUTED TO	SD7	1.	12.23	1.	1.	1.	.92
+	2 COMBINED AT	CD7	739.	12.20	97.	28.	11.	.92
+	HYDROGRAPH AT	454	162.	12.13	21.	6.	2.	.18
+	2 COMBINED AT	C119	885.	12.20	118.	34.	13.	1.10
+	ROUTED TO	R454	833.	12.27	118.	34.	13.	1.10
+	HYDROGRAPH AT	415	589.	12.17	80.	23.	8.	.61
+	HYDROGRAPH AT	RT385	368.	12.23	44.	12.	4.	.53
+	ROUTED TO	RR385	322.	12.57	44.	12.	4.	.53
	2 COMBINED AT	C415	757.	12.23	124.	35.	13.	.93
	2 COMBINED AT							

+	CC415	1540.	12.27	238.	67.	25.	2.03
+ ROUTED TO	R415	1527.	12.30	238.	67.	25.	2.03
+ HYDROGRAPH AT	455	1418.	12.13	150.	45.	16.	1.11
+ DIVERSION TO	BS455	1418.	12.13	139.	37.	13.	1.11
+ HYDROGRAPH AT	D455	145.	12.80	24.	8.	3.	1.11
+ HYDROGRAPH AT	RT455	1418.	12.13	139.	37.	13.	1.11
+ ROUTED TO	S455	23.	12.80	22.	18.	11.	1.11
+ 2 COMBINED AT	C455	169.	12.80	46.	26.	14.	1.11
+ 3 COMBINED AT	CC455	3996.	13.63	1203.	445.	229.	13.87
+ ROUTED TO	R455	3773.	14.10	1186.	442.	225.	13.87
+ HYDROGRAPH AT	480	1102.	12.10	100.	31.	11.	.73
+ DIVERSION TO	BS480	487.	11.90	27.	8.	3.	.73
+ HYDROGRAPH AT	D480	1102.	12.10	83.	23.	8.	.73
+ HYDROGRAPH AT	RT480	487.	11.90	27.	8.	3.	.73
+ ROUTED TO	S480	5.	11.97	5.	4.	3.	.73
+ 2 COMBINED AT	C480	1107.	12.10	88.	27.	11.	.73
+ 2 COMBINED AT	CC480	3772.	14.10	1222.	461.	234.	14.60
+ ROUTED TO	R480	3699.	14.27	1210.	458.	232.	14.60
+ HYDROGRAPH AT	456	483.	12.07	37.	10.	4.	.26
+ DIVERSION TO	BASIN1	193.	12.07	8.	2.	1.	.26
+ HYDROGRAPH AT	D1	290.	12.07	29.	8.	3.	.26
+ DIVERSION TO	WA30	59.	12.07	10.	3.	1.	.26
+ HYDROGRAPH AT	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	4374.	14.17	1504.	545.	270.	2.09
+	ROUTED TO	R462	4358.	14.20	1504.	545.	270.	2.09
+	ROUTED TO	RR462	4345.	14.23	1503.	545.	269.	2.09
+	HYDROGRAPH AT	500	1126.	12.27	128.	35.	12.	.93
+	2 COMBINED AT	C500	4332.	14.23	1614.	574.	280.	3.02

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



FLOOD CONTROL DISTRICT
OF MARICOPA COUNTY
ENGINEERING DIVISION

NON JURISDICTIONAL ALTERNATIVE NJ6

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

WOOD, PATEL & ASSOCIATES, INC.
2051 WEST NORTHERN, SUITE 100
PHOENIX, ARIZONA (602) 335-6500

DRAWING NO. EC_NJ6.DWG SHEET OF

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1****************************************                    ****************************************
*                                      *                    *                                      *
*  FLOOD HYDROGRAPH PACKAGE  (HEC-1)   *                    *   U.S. ARMY CORPS OF ENGINEERS       *
*            JUN  1998                 *                    *   HYDROLOGIC ENGINEERING CENTER      *
*          VERSION 4.1                 *                    *         609 SECOND STREET            *
*                                      *                    *      DAVIS, CALIFORNIA 95616         *
*  RUN DATE   01MAY01  TIME  11:15:12  *                    *          (916) 756-1104              *
*                                      *                    *                                      *
****************************************                    ****************************************

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

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

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

1                                          HEC-1 INPUT                                          PAGE  1

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

  1           ID  DDM MCUHP1 SPOOK HILL AMDP - EXISTING CONDITIONS MODEL - 100YR, 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: EC24PM_R.DAT, 3/27/01
              *  Modified File Name: EC24_NJ6.DAT, 3/27/01  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   3.81    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  3.787    1.00
 26           JD  3.677    5.80
 27           JD  3.574   10.66
 28           JD  3.539   13.70
 29           JD  3.467   20.00
 30           JD  3.315   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
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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
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
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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 *****
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 *****
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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 *****
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
              * 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
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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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KM   RETRIEVE FLOW FROM DIVERSION INTO ONLINE BASIN
DR   BS360
* DDM   ***** Preserved *****

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

KK    C360
KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
HC       4
* ADD ROUTING ALONG SPOOK HILL FRS
* DDM   ***** Preserved *****
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LINE      ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

KK    R360
KM   ROUTE FLOW THROUGH SPOOK HILL FRS FROM JUNCTION OF BROWN & ELLSWORTH ROAD
KM   TO JUST NORTH OF JUNCTION OF MCDOWELL & POWER RD.
RS       6    FLOW      -1
RC    .035    .035    .035    2600    .0007
RX       0       9      50      68     268     286     337     345
RY     100      97      97      91      91      97      97     100
*      0       9      50      68     308     326     367     376
*    100      97      97      91      91      97      97     100
* DDM   ***** Updated *****

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

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

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

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

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

KK    D380
KM        DIVERT FLOW INTO ONLINE  DETENTION BASIN
KM   DETENTION/RETENTION BASINS LOCATED WITHIN 33% OF MESA HIGHLANDS
KM        MAXIMUM VOLUME DIVERSION = 28.6 acre-feet
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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 *****
1                                   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 *****
1                                    HEC-1 INPUT                                    PAGE 30

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 *****
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
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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 *****
```



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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
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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
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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 *****
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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

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      SCHEMATIC DIAGRAM OF STREAM NETWORK
INPUT
 LINE     (V) ROUTING          (--->) DIVERSION OR PUMP FLOW

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

   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
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                .           .           V
                .           .           V
403             .           .       R210
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409             .           .           .         240
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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
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                .           .
467             .           .         190
                .           .           V
                .           .           V
477             .           .       R190
                .           .           V
                .           .           V
483             .           .       R192
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489             .           .           .         200
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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
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549             .         260
                .           .
                .           .
559          C260............
                V
                V
562          R260
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571             .         280
                .           .
                .           .
581          C280............
                V
                V
584          R280
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593             .         300
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                .           .
603          C300............
                V
                V
606          R300
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615          .        305A
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625      C305A............
             V
             V
628      R305A
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637          .         320
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             .           .
652          .           .-------->   BS320
647          .        D320
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             .           .
657          .           .           .<-------   BS320
655          .           .       RT320
             .           .           V
             .           .           V
658          .           .        S320
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664      C320......................
             V
             V
667      R320
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674          .         340
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689          .           .-------->   BS340
684          .        D340
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694          .           .           .<-------   BS340
692          .           .       RT340
             .           .           V
             .           .           V
695          .           .        S340
             .           .           .
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701      C340......................
             V
             V
704      R340
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711          .        355A
             .           V
             .           V
721          .       R355A
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728          .           .         360
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742          .           .           .-------->   BS360
738          .           .        D360
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747          .           .           .           .<-------   BS360
745          .           .           .       RT360
             .           .           .           V
             .           .           .           V
748          .           .           .       S360
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754      C360...................................
             V
             V
757      R360
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764          .        370A
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774          .           .        395A
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784          .       C370A............
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787          .       R370A
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794          .           .         380
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808          .           .           .-------->   BS380
804          .           .        D380
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813          .           .           .           .<-------   BS380
811          .           .           .       RT380
             .           .           .           V
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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
             .           V
             .           V
833          .       SS380
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840      CC380............
            V
            V
843       R380
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850          .         390
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864          .           .-------->   BS390
860          .        D390
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869          .           .           .<-------   BS390
867          .           .       RT390
             .           .           V
             .           .           V
870          .           .        S390
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876          .        C390............
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             .           V
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........................
            V
            V
918       R400
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925          .        385A
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937          .           .-------->  SF385A
935          .       D385A
             .           V
             .           V
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............
             V
             V
 979      R420
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 986          .        440
              .          V
              .          V
 996          .        R70
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1002          .          .        441
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1012          .       C108............
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              .          .
1017          .          .------->   SPLIT
1015          .         D4
              .          V
              .          V
1020          .       R108
              .          .
              .          .
1026          .          .        442
              .          .          .
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1036          .        C67............
              .          .
              .          .
1042          .          .------->  BASIN4
1039          .         D6
              .          .
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1047          .          .          .<-------  BASIN4
1045          .          .       RTD6
              .          .          V
              .          .          V
1048          .          .        SD6
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              .          .          .
1054          .        CD6............
              .          .
              .          .
1057          .          .        443
              .          .          .
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1070          .          .          .------->   WSH66
1067          .          .        D66
              .          .          V
              .          .          V
1073          .          .       R113
              .          .          .
              .          .          .
1079          .       C114............
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              .          .
1082          .          .        444
              .          .          V
              .          .          V
1092          .          .        R58
              .          .          .
              .          .          .
1098          .          .          .        445
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1108          .          .       C107............
              .          .          V
              .          .          V
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
                      V
                      V
1145                R109
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1151                   .         447
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1163                   .           .          .<-------  WSH404
1161                   .           .       RT404
                       .           .          V
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1164                   .           .       R404
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1170                C110.......................
                      V
                      V
1173                R110
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1179            C115............
                  V
                  V
1182            R115
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1188                 448
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1198                   .         449
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1208              C6364............
                      V
                      V
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...........
                       .           .          V
                       .           .          V
1256                   .           .       R6566
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1262                C116.......................
                      V
                      V
1265              BASIN5
                      V
                      V
1272                R116
                       .
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1278                   .         453
                       .           .
                       .           .
1288                C117............
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1291            C118............
                  V
                  V
1294            R118
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1303                   .-------> BASIN6
1300                 D7
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1308            .           .          .<-------  BASIN6
1306            .           .       RTD7
                .           .          V
                .           .          V
1309            .           .       SD7
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                .           .          .
1315            .        CD7............
                .           .
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1318            .           .       454
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1328            .       C119............
                .          V
                .          V
1331            .       R454
                .           .
                .           .
1338            .           .       415
                .           .          .
                .           .          .
1350            .           .          .          .<-------  SF385A
1348            .           .          .     RT385A
                .           .          .          V
                .           .          .          V
1351            .           .          .     RR385A
                .           .          .          .
                .           .          .          .
1358            .           .       C415............
                .           .          .
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1361            .      CC415............
                .          V
                .          V
1364            .       R415
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1371            .           .       455
                .           .          .
                .           .          .
1386            .           .          .-------->   BS455
1381            .           .       D455
                .           .          .
                .           .          .
1391            .           .          .          .<-------   BS455
1389            .           .          .      RT455
                .           .          .          V
                .           .          .          V
1392            .           .          .       S455
                .           .          .          .
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1398            .           .       C455............
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1401         CC455........................
                V
                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
                .           .          V
                .           .          V
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
                .
                .
1498            .           .<-------  BASIN2
1496            .        RTD3
                .           V
                .           V
1499            .         SD3
                .           .
                .           .
1505          CD3............
                V
                V
1508          R101
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1514            .         458
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1524          C103............
                V
                V
1527          R103
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1535            .           .<-------    WA30
1533            .        RT30
                .           V
                .           V
1536            .         R30
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1544            .           .           .<-------  BASIN1
1542            .           .        RTB1
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                .           .           V
1545            .           .          B1
                .           .           V
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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
                .           V
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1600            .          R3
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1606            .           .         461
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1616            .        C104............
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1619          C106............
                V
                V
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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
                .          .
                .          .
1666        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  11:15:12  *
*                                      *
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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 - 100YR, 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        3.81  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 3.79 PRECIPITATION DEPTH

TRDA 1.00 TRANSPOSITION DRAINAGE AREA

0 PI PRECIPITATION PATTERN

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26 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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27 JD INDEX STORM NO. 4

STRM 3.57 PRECIPITATION DEPTH

TRDA 10.66 TRANSPOSITION DRAINAGE AREA

0 PI PRECIPITATION PATTERN

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28 JD INDEX STORM NO. 5

STRM 3.54 PRECIPITATION DEPTH

TRDA 13.70 TRANSPOSITION DRAINAGE AREA

0 PI PRECIPITATION PATTERN

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29 JD INDEX STORM NO. 6

STRM 3.47 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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.01	.01	.03	.04	.04	.04	.04	.04	.04	.04
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30 JD INDEX STORM NO. 7

STRM 3.32 PRECIPITATION DEPTH

TRDA 50.00 TRANSPOSITION DRAINAGE AREA

0 PI PRECIPITATION PATTERN

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WARNING EXCESS AT PONDING LESS THAN ZERO FOR PERIOD. EXCESS SET TO ZERO
WARNING EXCESS AT PONDING LESS THAN ZERO FOR PERIOD. EXCESS SET TO ZERO
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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

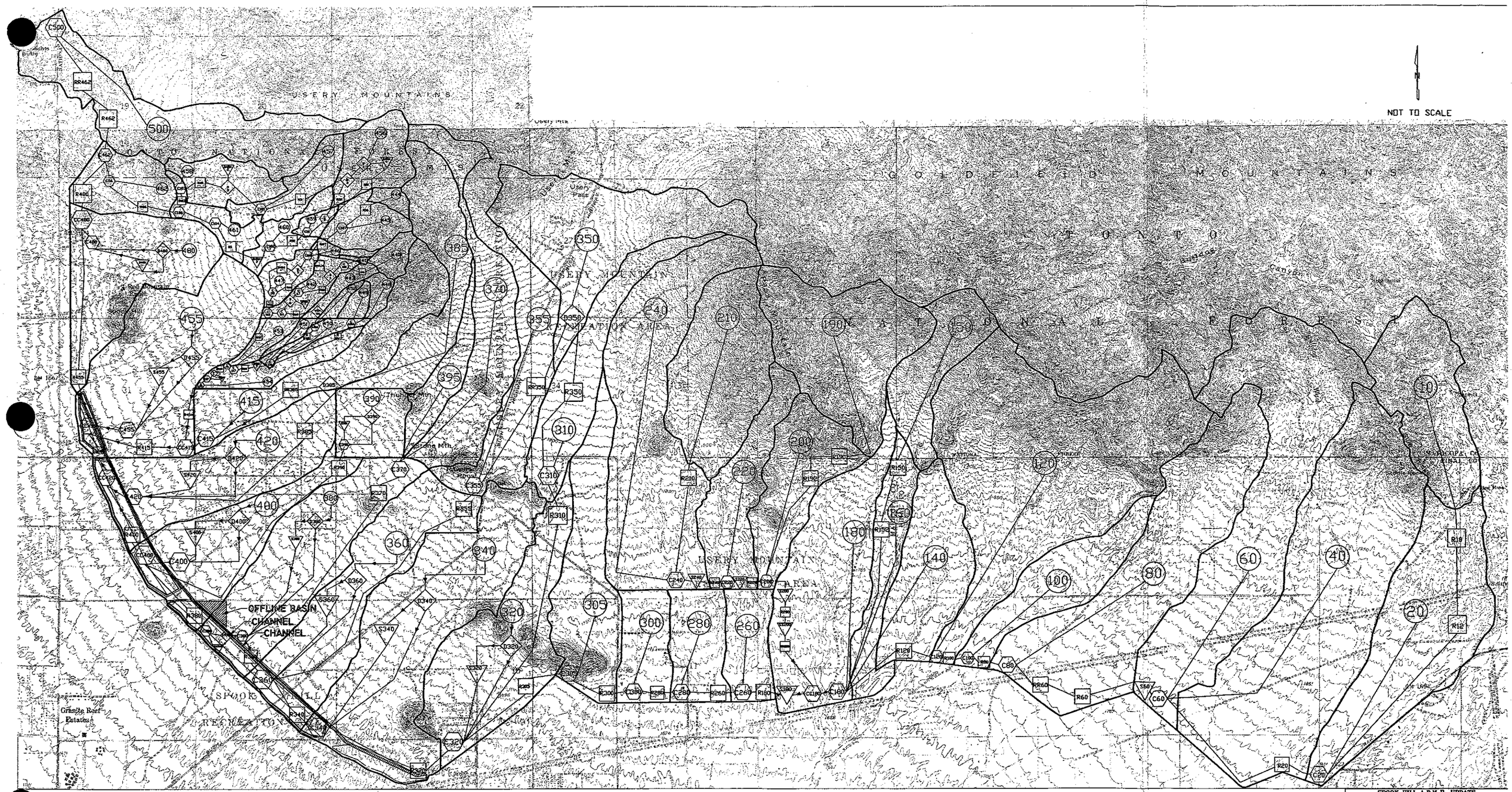
	ROUTED TO	R110	663.	12.10	48.	13.	5.	.36
+	2 COMBINED AT	C115	805.	12.07	61.	17.	7.	.63
+	ROUTED TO	R115	799.	12.10	61.	17.	7.	.63
+	HYDROGRAPH AT	448	89.	12.03	6.	2.	1.	.05
+	HYDROGRAPH AT	449	81.	12.03	5.	1.	0.	.05
+	2 COMBINED AT	C6364	170.	12.03	11.	3.	1.	.09
+	ROUTED TO	R6364	145.	12.17	11.	3.	1.	.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 ***
```



SPOOK HILL A.D.M.P. UPDATE
FLOOD CONTROL DISTRICT
OF MARICOPA COUNTY

NON JURISDICTIONAL ALTERNATIVE NJ4

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

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

DRAWING NO. EC24_NJ4. dwg SHEET OF

```
1****************************************
*                                      *
*   FLOOD HYDROGRAPH PACKAGE  (HEC-1)  *
*              JUN   1998              *
*            VERSION 4.1               *
*                                      *
*  RUN DATE   01MAY01  TIME  11:15:45  *
*                                      *
****************************************
```

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

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

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

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

```
1                                    HEC-1 INPUT                                    PAGE  1

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

  1           ID   DDM MCUHP1 SPOOK HILL AMDP - EXISTING CONDITIONS MODEL - 100YR, 24HR STORM
  2           ID   Non-Jurisdictional Alternatives - Option NJ4
  3           ID   Spook Hill Channel w/Off-Line Basin
              *
              *  Original File Name: EC24B_R.DAT, 3/27/01
              *  This File Name: EC24_NJ4.DAT, 3/27/01  Wood/Patel, SZ
              *
  4           ID   A CONSERVATIVE ESTIMATE WAS USED FOR THE LOCATION OF THE CENTROID FOR
  5           ID   PRECIPITATION VALUES
  6           ID   CHANNEL ROUTING INFORMATION FOR MCFCD FLOODWAYS WERE OBTAINED
  7           ID   FROM MCFCD SPOOK HILL, SIGNAL BUTTE AND BULLDOG FLOODWAY PLANS
  8           ID
              *
              *
              *DIAGRAM
  9           IT       2                    2000
 10           IO       5
 11           IN      15
 12           JD    3.81     0.01
 13           PC    .000     .002    .005    .008    .011    .014    .017    .020    .023    .026
 14           PC    .029     .032    .035    .038    .041    .044    .048    .052    .056    .060
 15           PC    .064     .068    .072    .076    .080    .085    .090    .095    .100    .105
 16           PC    .110     .115    .120    .126    .133    .140    .147    .155    .163    .172
 17           PC    .181     .191    .203    .218    .236    .257    .283    .387    .663    .707
 18           PC    .735     .758    .776    .791    .804    .815    .825    .834    .842    .849
 19           PC    .856     .863    .869    .875    .881    .887    .893    .898    .903    .908
 20           PC    .913     .918    .922    .926    .930    .934    .938    .942    .946    .950
 21           PC    .953     .956    .959    .962    .965    .968    .971    .974    .977    .980
 22           PC    .983     .986    .989    .992    .995    .998   1.000
 23           JD   3.787     1.00
 24           JD   3.677     5.80
 25           JD   3.574    10.66
 26           JD   3.539    13.70
 27           JD   3.467    20.00
 28           JD   3.315    50.00
              * DDM   ***** Updated *****

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

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

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

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

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

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

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

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

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

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

 89          UA     100
             * DDM   ***** Preserved *****

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

171          KK     140
172          KM   SUB-BASIN 140
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  .996
175          KM     L = 1.61  Kb = .044  Adj. Slope =  149.0
176          BA    .598
177          LG    .310    .280   4.200    .440   5.000
178          UC    .421    .278
179          UA       0       5      16      30      65      77      84      90      94      97
180          UA     100
             * DDM   ***** Updated *****

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

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

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

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

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

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

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

223          KK    C180
224          KM   HYDROGRAPH COMBINATION FOR SIGNAL BUTTE FRS
225          HC       5
             *
             * The sub-basin area and soil make-up have been updated from CAD file 12/07/00
             * DDM   ***** Updated *****

226          KK     210
227          KM   SUB-BASIN 210
228          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
229          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .995
230          KM     L = 1.84  Kb = .043  Adj. Slope =  315.0
231          BA    .792
232          LG    .350    .360   6.800    .130   4.000
233          UC    .313    .189
234          UA       0       3       5       8      12      20      43      75      90      96
235          UA     100
             * DDM   ***** Preserved *****
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236          KK    R210
237          KM   ROUTING OF FLOW FROM SUB-BASIN 210 TO SUB-BASIN 220
238          RS       2     FLOW      -1
239          RC    .045      .03     .045     5100     .022
240          RX       0        1        2       14       34       46       47       48
241          RY       4        4        4        0        0        4        4        4
             *
             * The sub-basin area and soil make-up have been updated from CAD file 12/07/00
             * DDM    ***** Updated *****

242          KK     240
243          KM   SUB-BASIN 240
244          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
245          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .992
246          KM     L = 3.50  Kb = .039  Adj. Slope =  298.6
247          BA   1.408
248          LG    .350     .370   5.300     .230   2.000
249          UC    .467     .356
1                                          HEC-1 INPUT                                                    PAGE  7

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

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

252          KK    C240
253          KM   HYDROGRAPH COMBINATION FOR SUB-BASIN 240 & 220
254          HC       2
             * DDM    ***** Preserved *****

255          KK    S240
256          KM    WEIR GEOMETRY OBTAINED FROM AS-BUILT PLANS @ PASS MTN. DIVERSION.
257          KM   WEIR STORAGE DATA OBTAINED FROM 2' CONTOUR MAPPING.
258          RS       1     STOR       0
259          SA    1.38     14.2    36.5
260          SE     1.7        5      11
261          SS       5       42       3      1.5
             * DDM    ***** Preserved *****

262          KK    R240
263          KM   ROUTE FLOW FROM SUB-BASIN 240 TO SUB-BASIN 220
264          KM   PASS MOUNTAIN DIVERSION
265          RS       3     FLOW      -1
266          RC    .035     .025     .035     1800     .005
267          RX       0       15       30       39       69       81       96      111
268          RY     3.6      3.3        3        0        0        3        3        4
             *
             * The sub-basin area and soil make-up have been updated from CAD file 12/07/00
             * DDM    ***** Updated *****

269          KK     220
270          KM   SUB-BASIN 220
271          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
272          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .997
273          KM     L = 1.92  Kb = .046  Adj. Slope =  315.0
274          BA    .473
275          LG    .350     .350   7.000     .120   5.000
276          UC    .333     .282
277          UA       0        3        5        8       12       20       43       75       90       96
278          UA     100
             * DDM    ***** Preserved *****

279          KK    C220
280          KM   HYDROGRAPH COMBINATION FOR SUB-BASIN 240 & 220
281          HC       2
             * DDM    ***** Preserved *****

282          KK    S220
283          KM    WEIR GEOMETRY OBTAINED FROM AS-BUILT PLANS @ PASS MTN. DIVERSION.
284          KM   WEIR STORAGE DATA OBTAINED FROM 2' CONTOUR MAPPING.
285          RS       1     STOR       0
286          SA     .78      4.1    13.7
287          SE       1        3      10
288          SS       3       65       3      1.5
             * DDM    ***** Preserved *****
1                                          HEC-1 INPUT                                                    PAGE  8

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

289          KK    R220
290          KM   ROUTE FLOW FROM SUB-BASIN 220 TO SUB-BASIN 200
291          KM   PASS MOUNTAIN DIVERSION
292          RS       1     FLOW      -1
293          RC    .035     .025     .035     1250     .005
294          RX       0       50      100      109      139      148      178      184
295          RY       5        4        3        0        0        3        3        5
             * DDM    ***** Updated *****

296          KK     190
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297          KM   SUB-BASIN 190
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  .994
300          KM     L = 1.91  Kb = .042  Adj. Slope =  315.0
301          BA    .918
302          LG    .350    .390   5.800    .190   8.000
303          UC    .321    .185
304          UA       0       3       5       8      12      20      43      75      90      96
305          UA     100
             * DDM   ***** Preserved *****

306          KK    R190
307          KM   ROUTING OF FLOW FROM SUB-BASIN 190 TO SUB-BASIN 200
308          RS       2    FLOW      -1
309          RC    .045     .03    .045    4740     .03
310          RX       0       1       2      17      37      52      53      54
311          RY       5       5       5       0       0       5       5       5
             * DDM   ***** Preserved *****

312          KK    R192
313          KM   ROUTING OF FLOW FROM SUB-BASIN 190 TO SUB-BASIN 200
314          RS       3    FLOW      -1
315          RC    .045    .035    .045    2200    .018
316          RX       0       1      50      59      79      88     137     138
317          RY     4.5       3       3       0       0       3       3     4.5
             * DDM   ***** Updated *****

318          KK     200
319          KM   SUB-BASIN 200
320          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
321          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .997
322          KM     L = 1.58  Kb = .045  Adj. Slope =  305.6
323          BA    .530
324          LG    .350    .390   5.700    .200  10.000
325          UC    .300    .201
326          UA       0       3       5       8      12      20      43      75      90      96
327          UA     100
             * DDM   ***** Preserved *****
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LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

328          KK    C200
329          KM   HYDROGRAPH COMBINATION FOR SUB-BASIN 220 & 200
330          HC       3
             * DDM   ***** Preserved *****

331          KK    S200
332          KM    WEIR GEOMETRY OBTAINED FROM AS-BUILT PLANS @ PASS MTN. DIVERSION.
333          KM   WEIR STORAGE DATA OBTAINED FROM 2' CONTOUR MAPPING.
334          RS       1    STOR       0
335          SA    2.56     3.1     9.4
336          SE       0       3      10
337          SS       3     112       3     1.5
             * DDM   ***** Preserved *****

338          KK    R200
339          KM   ROUTE FLOW FROM SUB-BASIN 200 TO SIGNAL BUTTE FRS through storage
340          RS       1    FLOW      -1
341          RC    .035    .025    .035     650    .005
342          RX       0       1       2      17     117     132     133     134
343          RY       5       5       5       0       0       5       5       5
             * DDM   ***** Preserved *****

344          KK   SS200
345          KM    WEIR GEOMETRY OBTAINED FROM AS-BUILT PLANS @ PASS MTN. DIVERSION.
346          KM   WEIR STORAGE DATA OBTAINED FROM 2' CONTOUR MAPPING.
347          RS       1    STOR       0
348          SA       8     9.2     9.2
349          SE       0       7      10
350          SS       7     251       3     1.5
             * DDM   ***** Preserved *****

351          KK   RR200
352          KM   ROUTE FLOW FROM SUB-BASIN 200 TO SIGNAL BUTTE FRS
353          RS       3    FLOW      -1
354          RC    .035    .025    .035    3150    .005
355          RX       0       1       2      17     117     132     133     134
356          RY       5       5       5       0       0       5       5       5
             * DDM   ***** Preserved *****

357          KK   CC180
358          KM   HYDROGRAPH COMBINATION FOR SIGNAL BUTTE FRS
             *      1       2
359          HC       2
             * DDM   ***** Preserved *****

360          KK    S180
361          KM   SIGNAL BUTTE FRS DATED 1/28/85
362          KM   OUTLET PIPE=36"RCP; L= 147';  INLET INV.=1690; OUTLET INV.=1687
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363          KM   EMERGENCY SPILLWAY ELEV.=1712.4; PRINCIPLE SPILLWAY ELEV.=1701
364          KM   STORAGE VOLUME BELOW PRINCIPLE SPILLWAY FOR SEDIMENT = 250 ACRE-FEET
             *  ESE = 1714.63 ft; PSE = 1703.23 ft; Sediment Vol. = 247 Ac-Ft.
365          RS       1    STOR       0
366          SV       0      92     226     462     742    1197    1418    1776    1941    3114
367          SQ       0      10    10.5      98     133     149     155    1484    2567    6000
1                                          HEC-1 INPUT                                          PAGE 10

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

368          SE      99     101   103.0     106     109   113.0   114.6     117     118     120
             * DDM   ***** Preserved *****

369          KK    R180
370          KM   Routing length updated using Signal Butte Floodway plans dated March 1983
371          KM   Routing length increased 100' from 1500' to 1600'    12/12/00
372          KM   CHANNEL GEOMETRY FOR SIGNAL BUTTE FRS OBTAINED FROM AS-BUILT PLANS.
373          KM   ROUTE FLOW FROM SIGNAL BUTTE FRS TO SUB-BASIN 260
374          RS       2    FLOW      -1
375          RC    .035    .025    .035    1600    .003
376          RX       0       1       2    22.6    38.6    59.2      60      61
377          RY     9.3     9.3     9.3       0       0     9.3     9.3     9.3
             * DDM   ***** Updated *****

378          KK     260
379          KM   SUB-BASIN 260
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 =  .81  Kb = .049  Adj. Slope =   68.0
383          BA    .262
384          LG    .300    .190   6.600    .170  15.000
385          UC    .363    .217
386          UA       0       5      16      30      65      77      84      90      94      97
387          UA     100
             * DDM   ***** Preserved *****

388          KK    C260
389          KM   HYDROGRAPH COMBINATION FOR OUTFLOW OF SIGNAL BUTTE FRS & SUB-BASIN 260
390          HC       2    .262
             * DDM   ***** Preserved *****

391          KK    R260
392          KM   Routing length updated using Signal Butte Floodway plans dated March 1983
393          KM   Routing length unchanged     12/12/00
394          KM   CHANNEL GEOMETRY FOR SIGNAL BUTTE FRS OBTAINED FROM AS-BUILT PLANS.
395          KM   ROUTE FLOW FROM SUB-BASIN 260 TO SUB-BASIN 280
396          RS       3    FLOW      -1
397          RC    .035    .025    .035    2300    .003
398          RX       0       1       2    23.4    43.4    64.8      65      66
399          RY     9.7     9.7     9.7       0       0     9.7     9.7     9.7
             * DDM   ***** Updated *****

400          KK     280
401          KM   SUB-BASIN 280
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  .998
404          KM     L =  .77  Kb = .048  Adj. Slope =   84.0
405          BA    .319
406          LG    .300    .250   5.300    .290  15.000
407          UC    .329    .168
408          UA       0       5      16      30      65      77      84      90      94      97
409          UA     100
             * DDM   ***** Preserved *****
1                                          HEC-1 INPUT                                          PAGE 11

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

410          KK    C280
411          KM   HYDROGRAPH COMBINATION FOR SUB-BASIN 260 & SUB-BASIN 280
412          HC       2
             * DDM   ***** Preserved *****

413          KK    R280
414          KM   Routing length updated using Signal Butte Floodway plans dated March 1983
415          KM   Routing length decreased 400' from 2500' to 2100'    12/12/00
416          KM   CHANNEL GEOMETRY FOR SIGNAL BUTTE FRS OBTAINED FROM AS-BUILT PLANS.
417          KM   ROUTE FLOW FROM SUB-BASIN 280 TO SUB-BASIN 300
418          RS       3    FLOW      -1
419          RC    .035    .025    .035    2100    .003
420          RX       0       1       2    23.4    43.4    64.8      65      66
421          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 *****

422          KK     300
423          KM   SUB-BASIN 300
424          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
425          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .998
426          KM     L =  .78  Kb = .049  Adj. Slope =  103.0
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427          BA    .289
428          LG    .320    .290   4.200    .480  11.000
429          UC    .325    .177
430          UA       0       5      16      30      65      77      84      90      94      97
431          UA     100
             * DDM   ***** Preserved *****

432          KK    C300
433          KM   HYDROGRAPH COMBINATION OF SUB-BASIN 280 & 300
434          HC       2
             * DDM   ***** Preserved *****

435          KK    R300
436          KM   Routing length updated using Signal Butte Floodway plans dated March 1983
437          KM   Routing length increased 300' from 2200' to 2500'    12/12/00
438          KM   CHANNEL GEOMETRY FOR SIGNAL BUTTE FRS OBTAINED FROM AS-BUILT PLANS.
439          KM   ROUTE FLOW FROM SUB-BASIN 300 TO START OF FLOODWAY CONCRETE CHANNEL
440          RS       2    FLOW      -1
441          RC    .035    .025    .035    2500    .003
442          RX       0       1       2    23.4    55.4    76.8      77      78
443          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 *****

444          KK     305
445          KM   SUB-BASIN 305
446          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
447          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .996
448          KM     L = 2.50  Kb = .044  Adj. Slope =  116.0
449          BA    .702
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LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

450          LG    .340    .340   4.550    .350   6.000
451          UC    .642    .576
452          UA       0       5      16      30      65      77      84      90      94      97
453          UA     100
             * DDM   ***** Preserved *****

454          KK    C305
455          KM   HYDROGRAPH COMBINATION OF SUB-BASIN 300 AND 305
456          HC       2
             * DDM   ***** Preserved *****

457          KK    R305
458          KM   Routing length updated using Signal Butte Floodway plans dated March 1983
459          KM   Routing length decreased 50' from 6050' to 6000'     12/12/00
460          KM   CHANNEL GEOMETRY FOR SPOOK HILL FRS OBTAINED FROM AS-BUILTS PLANS.
461          KM   CONTINUE TO ROUTE FLOW WITHIN CONCRETE CHANNEL TO SPOOK HILL FRS
462          RS       3    FLOW      -1
463          RC    .016    .016    .016    6000   .0146
464          RX       0       1       2     2.1    16.1    16.2      17      18
465          RY     7.5     7.5     7.5       0       0     7.5     7.5     7.5
             *      1       2
             * DDM   ***** Updated *****

466          KK     350
467          KM   SUB-BASIN 350
468          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
469          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .994
470          KM     L = 2.22  Kb = .042  Adj. Slope =  315.0
471          BA    .970
472          LG    .350    .350   4.550    .340   4.000
473          UC    .367    .234
474          UA       0       3       5       8      12      20      43      75      90      96
475          UA     100
             * DDM   ***** Preserved *****

476          KK    D350
477          KM   DIVERT FLOW FROM SUB-BASIN 350. FOR MODELING PURPOSES THE SPLIT FLOW WILL
478          KM   BE ROUTED BETWEEN SUB-BASINS 355 & 310. THE MAIN FLOW WILL ROUTED TO 310
479          DT   SF350
480          DI       0    5000
481          DQ       0    2500
             * DDM   ***** Preserved *****

482          KK    R350
483          KM   CHANNEL GEOMETRY OBTAINED FROM 2' CONTOUR MAPPING
484          KM   ROUTING OF MAIN FLOW FROM DIVERSION OF SUB-BASIN 350 TO SUB-BASIN 310
485          RS       6    FLOW      -1
486          RC    .045    .035    .045    5150    .025
487          RX       0       1      40      46      56      62     102     103
488          RY       3       2       2       0       0       2       2       3
             * DDM   ***** Updated *****
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LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10
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489          KK     310
490          KM   SUB-BASIN 310
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 = 2.70  Kb = .045  Adj. Slope =  283.5
494          BA    .555
495          LG    .350    .350   3.910    .480    .000
496          UC    .483    .511
497          UA       0       3       5       8      12      20      43      75      90      96
498          UA     100
             * DDM   ***** Preserved *****

499          KK    C310
500          KM   HYDROGRAPH COMBINATION OF SUB-BASINS 350 & 310
501          HC       2    1.04
             * DDM   ***** Preserved *****

502          KK    R310
503          KM   CHANNEL GEOMETRY OBTAINED FROM 2' CONTOUR MAPPING.
504          KM   ROUTING OF FLOW FROM SUB-BASIN 310 TO 320
505          RS      10    FLOW      -1
506          RC    .045    .035    .045   10050    .022
507          RX       0       1      40      46      56      62     102     103
508          RY       3       2       2       0       0       2       2       3
             *
             * The sub-basin area and soil make-up have been updated from CAD file 12/07/00
             * DDM   ***** Updated *****

509          KK     320
510          KM   SUB-BASIN 320
511          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
512          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .994
513          KM     L = 2.20  Kb = .042  Adj. Slope =  132.0
514          BA    .950
515          LG    .310    .300   4.600    .350  14.000
516          UC    .508    .338
517          UA       0       5      16      30      65      77      84      90      94      97
518          UA     100
             * DDM   ***** Preserved *****

519          KK    D320
520          KM        DIVERT FLOW INTO ONLINE  DETENTION BASIN
521          KM   DETENTION/RETENTION BASINS LOCATED WITHIN THREE SUBDIVISIONS
522          KM   SIERRA HEIGHTS       FALCON RIDGE    & MARBLE CREEK
523          KM        MAXIMUM VOLUME DIVERSION = 12.27acre-feet
             *      1
524          DT   BS320   12.27
525          DI       0   10000
526          DQ       0   10000
             * DDM   ***** Preserved *****
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LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

527          KK   RT320
528          KM   RETRIEVE FLOW FROM DIVERSION INTO ONLINE BASIN
529          DR   BS320
             * DDM   ***** Preserved *****

530          KK    S320
531          KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
532          KM   12.27 ACRE-FEETx43560/36x3600=4.1cfs
             *      1
533          RS       1    STOR       0
534          SV       0     .01    12.3
535          SQ       0     3.0     4.2
             * DDM   ***** Preserved *****

536          KK    C320
537          KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
538          HC       4
             * ADD ROUTING ALONG SPOOK HILL FRS
             * DDM   ***** Preserved *****

539          KK    R320
540          KM   ROUTE FLOW THROUGH SPOOK HILL FRS FROM JUNCTION OF BROWN & ELLSWORTH ROAD
541          KM   TO JUST NORTH OF JUNCTION OF MCDOWELL & POWER RD.
542          RS       9    FLOW      -1
543          RC    .035    .035    .035    4500   .0007
544          RX       0       9      50      68     198     206     267     275
545          RY     100      97      97      91      91      97      97     100
             *
             * DDM   ***** Updated *****

546          KK     340
547          KM   SUB-BASIN 340
548          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
549          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .991
550          KM     L = 2.40  Kb = .042  Adj. Slope =  160.0
551          BA   1.440
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552          LG    .280    .280   4.150    .520  21.000
553          UC    .512    .288
554          UA       0       5      16      30      65      77      84      90      94      97
555          UA     100
             * DDM   ***** Preserved *****

556          KK    D340
557          KM        DIVERT FLOW INTO ONLINE  DETENTION BASIN
558          KM   DETENTION/RETENTION BASINS LOCATED WITHIN THREE SUBDIVISIONS
559          KM   GRANDVIEW ESTATES    BOULDER MOUNTAIN & 33% OF MESA HIGHLANDS
560          KM        MAXIMUM VOLUME DIVERSION = 56.0 acre-feet
             *      1
561          DT   BS340      56
562          DI       0   10000
563          DQ       0   10000
             * DDM   ***** Preserved *****
1                                        HEC-1 INPUT                                                    PAGE 15

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

564          KK   RT340
565          KM   RETRIEVE FLOW FROM DIVERSION INTO ONLINE BASIN
566          DR   BS340
             * DDM   ***** Preserved *****

567          KK    S340
568          KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
569          KM    56.0 ACRE-FEETx43560/36x3600=18.8cfs
             *      1
570          RS       1    STOR       0
571          SV       0     .01      56
572          SQ       0     3.0    18.9
             * DDM   ***** Preserved *****

573          KK    C340
574          KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
575          HC       3
             * ADD ROUTING ALONG SPOOK HILL FRS
             * DDM   ***** Preserved *****

576          KK    R340
577          KM   ROUTE FLOW THROUGH SPOOK HILL FRS FROM JUNCTION OF BROWN & ELLSWORTH ROAD
578          KM   TO JUST NORTH OF JUNCTION OF MCDOWELL & POWER RD.
579          RS       6    FLOW      -1
580          RC    .035    .035    .035    2300    .0007
581          RX       0       9      50      68     233     241     307     315
582          RY     100      97      97      91      91      97      97     100
             * DDM   ***** Preserved *****

583          KK   RT350
584          KM   RETRIEVE SPLIT FLOW FROM DIVERSION OF SUB-BASIN 350
585          DR   SF350
             * DDM   ***** Preserved *****

586          KK   RR350
587          KM   CHANNEL GEOMETRY OBTAINED FROM 2' CONTOUR MAPPING.
588          KM   ROUTING OF FLOW FROM SPLIT OF SUB-BASIN 350 TO 355
589          RS       7    FLOW      -1
590          RC    .045    .035    .045    6050    .025
591          RX       0       1      40      46      56      62     102     103
592          RY       3       2       2       0       0       2       2       3
             *
             * The sub-basin area and soil make-up have been updated from CAD file 12/07/00
             * DDM   ***** Updated *****

593          KK     355
594          KM   SUB-BASIN 355
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  .996
597          KM     L = 3.00  Kb = .044  Adj. Slope =  284.0
598          BA    .676
599          LG    .340    .340   4.450    .370   4.000
600          UC    .488    .502
601          UA       0       3       5       8      12      20      43      75      90      96
1                                        HEC-1 INPUT                                                    PAGE 16

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

602          UA     100
             * DDM   ***** Preserved *****

603          KK    C355
604          KM   HYDROGRAPH COMBINATION OF SUB-BASIN 355 AND THE SPLIT FLOW FROM SUB-BASIN 350
605          HC       2   1.161
             * DDM   ***** Preserved *****

606          KK    R355
607          KM   CHANNEL GEOMETRY OBTAINED FROM 2' CONTOUR MAPPING.
608          KM   ROUTING OF FLOW FROM SUB-BASIN 355 TO SUB-BASIN 360
609          RS       9    FLOW      -1
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610          RC    .045    .035    .045   10100    .026
611          RX       0       1      40      46      56      62     102     103
612          RY       3       2       2       0       0       2       2       3
             * DDM   ***** Updated *****

613          KK     360
614          KM   SUB-BASIN 360
615          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
616          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .995
617          KM     L = 2.10  Kb = .047  Adj. Slope =  124.0
618          BA    .880
619          LG    .260    .270   4.100    .560  20.000
620          UC    .575    .390
621          UA       0       5      16      30      65      77      84      90      94      97
622          UA     100
             * DDM   ***** Preserved *****

623          KK    D360
624          KM        DIVERT FLOW INTO ONLINE  DETENTION BASIN
625          KM   DETENTION/RETENTION BASINS LOCATED WITHIN 33% OF MESA HIGHLANDS
626          KM        MAXIMUM VOLUME DIVERSION = 28.6 acre-feet
             *      1
627          DT   BS360    28.6
628          DI       0   10000
629          DQ       0   10000
             * DDM   ***** Preserved *****

630          KK   RT360
631          KM   RETRIEVE FLOW FROM DIVERSION INTO ONLINE BASIN
632          DR   BS360
             * DDM   ***** Preserved *****

633          KK    S360
634          KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
635          KM    28.6 ACRE-FEETx43560/36x3600=9.6cfs
636          RS       1    STOR       0
637          SV       0     .01    28.6
638          SQ       0     3.0     9.6
             * DDM   ***** Preserved *****
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LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

639          KK    C360
640          KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
641          HC       4
             *
             * ADD ROUTING ALONG SPOOK HILL FRS
             * DDM   ***** Preserved *****

642          KK    R360
643          KM   ROUTE FLOW THROUGH SPOOK HILL FRS FROM JUNCTION OF BROWN & ELLSWORTH ROAD
644          KM   TO JUST NORTH OF JUNCTION OF MCDOWELL & POWER RD.
645          RS       6    FLOW      -1
646          RC    .035    .035    .035    2600   .0007
647          RX       0       9      50      68     268     286     337     345
648          RY     100      97      97      91      91      97      97     100
             *
             * The sub-basin area and soil make-up have been updated from CAD file 12/07/00
             * DDM   ***** Updated *****

649          KK     370
650          KM   SUB-BASIN 370
651          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
652          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .996
653          KM     L = 1.90  Kb = .044  Adj. Slope =  203.5
654          BA    .672
655          LG    .340    .320   4.650    .330   8.000
656          UC    .404    .284
657          UA       0       3       5       8      12      20      43      75      90      96
658          UA     100
             *
             * The sub-basin area and soil make-up have been updated from CAD file 12/07/00
             * DDM   ***** Updated *****

659          KK     395
660          KM   SUB-BASIN 395
661          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
662          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .999
663          KM     L = 1.30  Kb = .051  Adj. Slope =  219.2
664          BA    .199
665          LG    .330    .320   4.900    .300  10.000
666          UC    .333    .338
667          UA       0       3       5       8      12      20      43      75      90      96
668          UA     100
             * DDM   ***** Preserved *****

669          KK    C370
670          KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
671          HC       2
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                * DDM   ***** Preserved *****
                                        HEC-1 INPUT                                                    PAGE 18
LINE            ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 672            KK    R370
 673            KM   CHANNEL GEOMETRY OBTAINED FROM 2' CONTOUR MAPPING.
 674            KM   ROUTING OF FLOW FROM SUB-BASINS 370 AND 395 TO SUB-BASIN 380.
 675            RS      12    FLOW      -1
 676            RC    .045    .035    .045   10250    .023
 677            RX       0       1      40      46      56      62     102     103
 678            RY       3       2       2       0       0       2       2       3
                * DDM   ***** Updated *****

 679            KK     380
 680            KM   SUB-BASIN 380
 681            KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
 682            KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .995
 683            KM     L = 2.20  Kb = .049  Adj. Slope =  114.0
 684            BA    .898
 685            LG    .300    .310   4.150    .500   7.000
 686            UC    .671    .475
 687            UA       0       5      16      30      65      77      84      90      94      97
 688            UA     100
                * DDM   ***** Preserved *****

 689            KK    D380
 690            KM        DIVERT FLOW INTO ONLINE  DETENTION BASIN
 691            KM   DETENTION/RETENTION BASINS LOCATED WITHIN 33% OF MESA HIGHLANDS
 692            KM        MAXIMUM VOLUME DIVERSION = 28.6 acre-feet
                *      1
 693            DT   BS380    28.6
 694            DI       0   10000
 695            DQ       0   10000
                * DDM   ***** Preserved *****

 696            KK   RT380
 697            KM   RETRIEVE FLOW FROM DIVERSION INTO ONLINE BASIN
 698            DR   BS380
                * DDM   ***** Preserved *****

 699            KK    S380
 700            KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
 701            KM    28.6 ACRE-FEETx43560/36x3600=9.6cfs
 702            RS       1    STOR       0
 703            SV       0     .01    28.6
 704            SQ       0     3.0     9.6
                * DDM   ***** Preserved *****

 705            KK    C380
 706            KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
 707            HC       4
                * OFFLINE DETENTION BASIN ADDED THIS ALTERNATIVE
                * DDM   ***** Preserved *****
1                                       HEC-1 INPUT                                                    PAGE 19
LINE            ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 708            KK   DD380
 709            KM        DIVERT FLOW INTO OFFLINE  DETENTION BASIN
 710            KM        IN RED MOUNTAIN REGIONAL PARK
 711            KM
 712            DT    380S
 713            DI       0    1960   10000
 714            DQ       0       0    8040
                * DDM   ***** Preserved *****

 715            KK  RT380S
 716            KM   RETRIEVE FLOW FROM DIVERSION INTO OFFLINE BASIN
 717            DR    380S
                * DDM   ***** Preserved *****

 718            KK   SS380
 719            KM   OFFLINE BASIN IN PARK AREA
                *  Total Volume = 90 A-F, Maximum Inflow = 2660 cfs
                *  Bleed-off Pipe Diameter = 2.5', and Weir Flow Start at 3' of Ponding. 3/26/01
                * KO      1       2
 720            RS       1    STOR       0
 721            SV     0.0    10.0    25.0    60.0   100.0   150.0
 722            SE       0      .5       1     2.0     3.0     4.0
 723            SL     0.5    4.91     0.6     0.5
 724            SS       3      50     3.0     1.5
                * DDM   ***** Preserved *****

 725            KK   CC380
 726            KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
 727            HC       2
                * ADD ROUTING ALONG SPOOK HILL FRS
                * DDM   ***** Preserved *****
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 728          KK    R380
 729          KM   ROUTE FLOW THROUGH SPOOK HILL FRS FROM JUNCTION OF BROWN & ELLSWORTH ROAD
 730          KM   TO JUST NORTH OF JUNCTION OF MCDOWELL & POWER RD.
 731          RS       8    FLOW      -1
 732          RC    .035    .035    .035    4000    .0007
 733          RX       0       9      50      68     163     181     257     265
 734          RY     100      97      97      91      91      97      97     100
              *
              * DDM   ***** Updated *****

 735          KK     390
 736          KM   SUB-BASIN 390
 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  .999
 739          KM     L =  .70  Kb = .050  Adj. Slope =  299.4
 740          BA    .244
 741          LG    .300    .250   4.700    .380  18.000
 742          UC    .204    .107
 743          UA       0       5      16      30      65      77      84      90      94      97
 744          UA     100
              * DDM   ***** Preserved *****
1                                          HEC-1 INPUT                                          PAGE 20

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

 745          KK    D390
 746          KM        DIVERT FLOW INTO ONLINE  DETENTION BASIN
 747          KM   DETENTION/RETENTION BASINS LOCATED WITHIN THUNDER MOUNTAIN ESTATES
 748          KM        MAXIMUM VOLUME DIVERSION  = 3.5 acre-feet
              *      1
 749          DT   BS390     3.5
 750          DI       0   10000
 751          DQ       0   10000
              * DDM   ***** Preserved *****

 752          KK   RT390
 753          KM   RETRIEVE FLOW FROM DIVERSION INTO ONLINE BASIN
 754          DR   BS390
              * DDM   ***** Preserved *****

 755          KK    S390
 756          KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
 757          KM     3.5 ACRE-FEETx43560/36x3600=1.2cfs
 758          RS       1    STOR       0
 759          SV       0     .01     3.5
 760          SQ       0     0.2     1.2
              * DDM   ***** Preserved *****

 761          KK    C390
 762          KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
 763          HC       2
              * DDM   ***** Preserved *****

 764          KK    R390
 765          KM   CHANNEL GEOMETRY OBTAINED FROM 2' CONTOUR MAPPING.
 766          KM   FROM SUB-BASIN 390 TO SUB-BASIN 400
 767          RS      15    FLOW      -1
 768          RC    .045    .045    .045    8800    .020
 769          RX       0       1      40      46      56      62     102     103
 770          RY       3       2       2       0       0       2       2       3
              * DDM   ***** Updated *****

 771          KK     400
 772          KM   SUB-BASIN 400
 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  .996
 775          KM     L = 1.64  Kb = .046  Adj. Slope =  110.0
 776          BA    .616
 777          LG    .320    .300   4.150    .490   6.000
 778          UC    .508    .342
 779          UA       0       5      16      30      65      77      84      90      94      97
 780          UA     100
              * DDM   ***** Preserved *****
1                                          HEC-1 INPUT                                          PAGE 21

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

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

 788          KK   RT400
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789          KM   RETRIEVE FLOW FROM DIVERSION INTO ONLINE BASIN
790          DR   BS400
             * DDM   ***** Preserved *****

791          KK    S400
792          KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
793          KM     5.6 ACRE-FEETx43560/36x3600 = 2 cfs
794          RS       1    STOR       0
795          SV       0     .01     5.6
796          SQ       0     1.0       2
             * DDM   ***** Preserved *****

797          KK    C400
798          KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
799          HC       2
             * DDM   ***** Preserved *****

800          KK   CC400
801          KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
802          HC       3
             * ADD ROUTING ALONG SPOOK HILL FRS
             * DDM   ***** Preserved *****

803          KK    R400
804          KM   ROUTE FLOW THROUGH SPOOK HILL FRS FROM JUNCTION OF BROWN & ELLSWORTH ROAD
805          KM   TO JUST NORTH OF JUNCTION OF MCDOWELL & POWER RD.
806          RS       9    FLOW      -1
807          RC    .035    .035    .035    3800   .0007
808          RX       0       9      50      68     163     181     257     265
809          RY     100      97      97      91      91      97      97     100
             *
             * DDM   ***** Updated *****

810          KK     385
811          KM   SUB-BASIN 385
812          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
813          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .997
814          KM     L = 2.30  Kb = .045  Adj. Slope =  303.0
815          BA    .527
816          LG    .340    .360   5.600    .220  13.000
817          UC    .383    .358
818          UA       0       3       5       8      12      20      43      75      90      96
819          UA     100
             * DDM   ***** Preserved *****
                                    HEC-1 INPUT                                          PAGE 22

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

820          KK    D385
821          KM   DIVERT FLOW INTO SUB-BASINS 415 & 420
822          DT   SF385
823          DI       0    5000
824          DQ       0    3000
             * DDM   ***** Preserved *****

825          KK    R385
826          KM   CHANNEL GEOMETRY OBTAINED FROM 2' CONTOUR MAPPING.
827          KM   ROUTING OF FLOW DIVERSION FROM SUB-BASIN 385 INTO SUB-BASIN 420
828          RS      13    FLOW      -1
829          RC    .045     .04    .045   10250    .022
830          RX       0       1      40      46      56      62     102     103
831          RY       3       2       2       0       0       2       2       3
             * DDM   ***** Updated *****

832          KK     420
833          KM   SUB-BASIN 420
834          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
835          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .995
836          KM     L = 1.91  Kb = .042  Adj. Slope =  120.0
837          BA    .849
838          LG    .310    .270   3.880    .580  12.000
839          UC    .512    .325
840          UA       0       5      16      30      65      77      84      90      94      97
841          UA     100
             * DDM   ***** Preserved *****

842          KK    D420
843          KM        DIVERT FLOW INTO ONLINE  DETENTION BASIN
844          KM   DETENTION/RETENTION BASINS LOCATED WITHIN GRAY FOX SUBDIVISION
845          KM        MAXIMUM VOLUME DIVERSION = 8.65 acre-feet
             *      1
846          DT   BS420    8.65
847          DI       0   10000
848          DQ       0   10000
             * DDM   ***** Preserved *****

849          KK   RT420
850          KM   RETRIEVE FLOW FROM DIVERSION INTO ONLINE BASIN
851          DR   BS420
             * DDM   ***** Preserved *****
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852          KK    S420
853          KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
854          KM    8.65 ACRE-FEETx43560/36x3600=2.9cfs
855          RS       1    STOR       0
856          SV       0     .01    8.65
857          SQ       0     1.0     2.9
             * DDM   ***** Preserved *****
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LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

858          KK    C420
859          KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
860          HC       3  1.0598
             * DDM   ***** Preserved *****

861          KK   CC420
862          KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
863          HC       2
             * ADD ROUTING ALONG SPOOK HILL FRS
             * DDM   ***** Preserved *****

864          KK    R420
865          KM   ROUTE FLOW THROUGH SPOOK HILL FRS FROM JUNCTION OF BROWN & ELLSWORTH ROAD
866          KM   TO JUST NORTH OF JUNCTION OF MCDOWELL & POWER RD.
867          RS       6    FLOW      -1
868          RC    .035    .035    .035    2900   .0007
869          RX       0       9      50      68     163     181     257     265
870          RY     100      97      97      91      91      97      97     100
             *
             * DDM   ***** Updated *****

871          KK     440
872          KM   SUB-BASIN 440
873          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
874          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF 1.000
875          KM     L =  .40  Kb = .039  Adj. Slope =  315.0
876          BA    .080
877          LG    .190    .380   6.400    .140  13.000
878          UC    .129    .077
879          UA       0       3       5       8      12      20      43      75      90      96
880          UA     100
             * DDM   ***** Preserved *****

881          KK     R70
882          KM   ROUTE FLOW FROM SUB-BASIN 440 TO C108
883          RS       2    FLOW      -1
884          RC     .05    .035     .05    2250     .08
885          RX    1000    1025    1050    1070    1075    1095    1120    1145
886          RY      30    22.9    15.7      10      10    15.7    22.9      30
             * DDM   ***** Updated *****

887          KK     441
888          KM   SUB-BASIN 441
889          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
890          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF 1.000
891          KM     L =  .28  Kb = .069  Adj. Slope =  315.0
892          BA    .010
893          LG    .300    .250   5.600    .220   5.000
894          UC    .150    .225
895          UA       0       5      16      30      65      77      84      90      94      97
896          UA     100
             * DDM   ***** Preserved *****
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LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

897          KK    C108
898          KM   COMBINE HYDROGRAPHS FROM SUB-BASINS 440 & 441
899          HC       2
             * DDM   ***** Preserved *****

900          KK      D4
901          KM        SPLIT FLOW WITH TWO 42 INCH PIPES TO WEST AND SOUTH
             *      1
902          DT   SPLIT
903          DI       0      14      40      82     120     154     180
904          DQ       0       7      20      41      60      77      90
             * DDM   ***** Preserved *****

905          KK    R108
906          KM        ROUTE FLOW FROM SUB-BASIN C108 TO C67
907          RS       2    FLOW      -1
908          RC     .05    .035     .05    3200      .1
909          RX    1000    1025    1050    1070    1075    1095    1120    1145
910          RY      30    22.9    15.7      10      10    15.7    22.9      30
             * DDM   ***** Updated *****
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911          KK     442
912          KM   SUB-BASIN 442
913          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
914          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .999
915          KM     L =  .83  Kb = .055  Adj. Slope =  274.2
916          BA    .100
917          LG    .300    .270   3.290    .770   5.000
918          UC    .258    .264
919          UA       0       5      16      30      65      77      84      90      94      97
920          UA     100
             * DDM   ***** Preserved *****

921          KK     C67
922          KM   COMBINE FLOW FROM SUB-BASIN 442 & DIV4
923          HC       2
             * DDM   ***** Preserved *****

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

930          KK    RTD6
931          KM   RETRIEVE FLOW FROM DIVERSION INTO OFFLINE BASIN
932          DR  BASIN4
             * DDM   ***** Preserved *****
1                                    HEC-1 INPUT                                          PAGE 25

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


933          KK     SD6
934          KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
935          KM     3.3 ACRE-FEETx43560/36x3600=1.1cfs
             *      1
936          RS       1    STOR       0
937          SV       0     .01     3.3
938          SQ       0     0.2     1.1
             * DDM   ***** Preserved *****

939          KK     CD6
940          KM   HYDROGRAPH COMBINATION FOR OFFLINE BASIN BLEEDOFF
941          HC       2
             * DDM   ***** Updated *****

942          KK     443
943          KM   SUB-BASIN 443
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 1.000
946          KM     L =  .71  Kb = .050  Adj. Slope =  315.0
947          BA    .080
948          LG    .250    .190   8.000    .080  10.000
949          UC    .196    .194
950          UA       0       5      16      30      65      77      84      90      94      97
951          UA     100
             * DDM   ***** Preserved *****

952          KK     D66
953          KM        DIVERT FLOW INTO 3 NATURAL WASHES WITH ONE 24" PIPE IN EACH WASH.
954          KM        EACH PIPE CAPACITY BASED ON 4 FEET OF HEAD
955          DT   WSH66
956          DI       0      78     100     200
957          DQ       0      78      78      78
             * DDM   ***** Preserved *****

958          KK    R113
959          KM        ROUTE FLOW FROM C113 TO C114
960          RS       1    FLOW      -1
961          RC    .019    .019    .019    1300    .029
962          RX    1000    1004    1008    1012    1018    1022    1026    1030
963          RY      17   15.33   12.67      10      10   12.67   15.33      17
             * DDM   ***** Preserved *****

964          KK    C114
965          KM        COMBINE HYDROGRAPHS FROM SUB-BASIN 67 AND C113
966          HC       2
             * DDM   ***** Updated *****

967          KK     444
968          KM   SUB-BASIN 444
969          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
970          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF 1.000
971          KM     L =  .33  Kb = .034  Adj. Slope =  315.0
972          BA    .040
973          LG    .130    .350   4.450    .320   1.000
                                     HEC-1 INPUT                                          PAGE 26
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 974          UC     .112     .084
 975          UA        0        3        5        8       12       20       43       75       90       96
 976          UA      100
              * DDM    ***** Preserved *****

 977          KK      R58
 978          KM    ROUTE FLOW FROM SUB-BASIN 444 TO C107
 979          RS        2     FLOW       -1
 980          RC      .05     .035      .05     2370    .0516
 981          RX     1000     1010     1020     1050     1055     1085     1095     1105
 982          RY       19       18       17       10       10       17       18       19
              * DDM    ***** Updated *****

 983          KK      445
 984          KM    SUB-BASIN 445
 985          KM    24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
 986          KM    THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .999
 987          KM      L =  .82  Kb = .036  Adj. Slope =  315.0
 988          BA     .190
 989          LG     .170     .320    3.470     .590    3.000
 990          UC     .192     .130
 991          UA        0        5       16       30       65       77       84       90       94       97
 992          UA      100
              * DDM    ***** Preserved *****

 993          KK     C107
 994          KM    COMBINE HYDROGRAPHS FROM SUB-BASINS 444 & 445
 995          HC        2
              * DDM    ***** Preserved *****

 996          KK     R107
 997          KM         ROUTE FLOW FROM C107 TO C109
 998          RS        2     FLOW       -1
 999          RC      .05     .035      .05      700    .0516
1000          RX     1000     1010     1020     1050     1055     1085     1095     1105
1001          RY       19       18       17       10       10       17       18       19
              * DDM    ***** Preserved *****

1002          KK     RTB2
1003          KM         RETRIEVE DIVERTED FLOW FROM BASIN 1
              *       1
1004          DR    SPLIT
              * DDM    ***** Preserved *****

1005          KK   RSPLIT
1006          KM         ROUTE FLOW FROM SPLIT TO C109
1007          RS        1     FLOW       -1
1008          RC      .05     .035      .05      800      .05
1009          RX     1000     1025     1050     1070     1075     1095     1120     1145
1010          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

1011          KK      446
1012          KM    SUB-BASIN 446
1013          KM    24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1014          KM    THIS BASIN USED RAINFALL REDUCTION FACTOR OF 1.000
1015          KM      L =  .46  Kb = .061  Adj. Slope =  303.9
1016          BA     .040
1017          LG     .270     .250    4.500     .400   19.000
1018          UC     .183     .189
1019          UA        0        5       16       30       65       77       84       90       94       97
1020          UA      100
              * DDM    ***** Preserved *****

1021          KK     C109
1022          KM         COMBINE HYDROGRAPHS FROM COMBINES C107 AND C108
1023          HC        3
              * DDM    ***** Preserved *****

1024          KK       D5
1025          KM         DIVERT FLOW INTO WASHES TOWARDS WEST
1026          KM         DIVERSION THROUGH 36" PIPE WITH 3 FEET OF HEAD
              *       1
1027          DT   WSH404
1028          DI        0     40.7     71.2    121.6      190      276    379.4    500.6
1029          DQ        0       35       35       35       35       35       35       35
              * DDM    ***** Preserved *****

1030          KK     R109
1031          KM         ROUTE FLOW FROM C109 TO C110
1032          RS        1     FLOW       -1
1033          RC     .019     .019     .019     3080      .05
1034          RX     1000     1005     1010     1015     1025     1030     1035     1040
1035          RY    13.75     12.5    11.25       10       10    11.25     12.5    13.75
              * DDM    ***** Updated *****
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1036          KK     447
1037          KM   SUB-BASIN 447
1038          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1039          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .999
1040          KM     L =  .49  Kb = .056  Adj. Slope =  221.0
1041          BA    .090
1042          LG    .250    .270   3.350    .870  30.000
1043          UC    .208    .145
1044          UA       0       5      16      30      65      77      84      90      94      97
1045          UA     100
              * DDM   ***** Preserved *****

1046          KK   RT404
1047          KM        RETRIEVE DIVERTED FLOW FOR WASH 109
1048          DR  WSH404
              * DDM   ***** Preserved *****
1                                        HEC-1 INPUT                                          PAGE 28

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

1049          KK    R404
1050          KM        ROUTE FLOW FROM C110 TO C110
1051          RS       6    FLOW      -1
1052          RC    .019    .019    .019    3540     .03
1053          RX    1000    1012    1016    1020    1025    1029    1033    1045
1054          RY      15      12      11      10      10      11      12      15
              * DDM   ***** Preserved *****

1055          KK    C110
1056          KM   COMBINE HYDROGRAPHS FROM SUB-BASIN 447 AND R404
1057          HC       3
              * DDM   ***** Preserved *****

1058          KK    R110
1059          KM        ROUTE FLOW FROM C110 TO C115
1060          RS       1    FLOW      -1
1061          RC    .019    .019    .019     580   .0291
1062          RX    1000    1012    1016    1020    1035    1039    1043    1055
1063          RY      15      12      11      10      10      11      12      15
              * DDM   ***** Preserved *****

1064          KK    C115
1065          KM        COMBINE HYDROGRAPHS FROM C114 AND C110
1066          HC       2
              * DDM   ***** Preserved *****

1067          KK    R115
              * ******OUTFLOW FROM THIS ROUTING IS GREATER THAN INFLOW TO THE
              * ******ROUTING BY 2cfs.  THIS IS NOTED BUT LEFT UNCHANGED WITHIN THE MODEL
1068          KM        ROUTE FLOW FROM C115 TO Sub 453
1069          RS       1    FLOW      -1
1070          RC    .019    .019    .019    2125    .029
1071          RX    1000    1012    1016    1020    1035    1039    1043    1055
1072          RY      15      12      11      10      10      11      12      15
              * DDM   ***** Updated *****

1073          KK     448
1074          KM   SUB-BASIN 448
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 1.000
1077          KM     L =  .36  Kb = .042  Adj. Slope =  315.0
1078          BA    .045
1079          LG    .170    .310   4.200    .390  11.000
1080          UC    .133    .102
1081          UA       0       5      16      30      65      77      84      90      94      97
1082          UA     100
              * DDM   ***** Updated *****

1083          KK     449
1084          KM   SUB-BASIN 449
1085          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1086          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF 1.000
1087          KM     L =  .40  Kb = .054  Adj. Slope =  315.0
1088          BA    .050
1                                        HEC-1 INPUT                                          PAGE 29

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

1089          LG    .260    .280   3.500    .640   6.000
1090          UC    .167    .134
1091          UA       0       5      16      30      65      77      84      90      94      97
1092          UA     100
              * DDM   ***** Preserved *****

1093          KK   C6364
1094          KM   COMBINE HYDROGRAPHS FROM SUB-BASINS 448 & 449
1095          HC       2
              * DDM   ***** Preserved *****
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1096        KK   R6364
1097        KM   ROUTE FLOW FROM C116 AND SUB-BASINS 448 AND 449
1098        RS       5    FLOW      -1
1099        RC     .05    .035     .05    4375   .0333
1100        RX    1000    1027    1053    1080    1090    1117    1143    1170
1101        RY      15   13.33   11.67      10      10   11.67   13.33      15
            * DDM   ***** Updated *****

1102        KK     450
1103        KM   SUB-BASIN 450
1104        KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1105        KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF 1.000
1106        KM     L =  .85  Kb = .057  Adj. Slope =  210.5
1107        BA    .070
1108        LG    .340    .350   3.630    .570   4.000
1109        UC    .296    .383
1110        UA       0       3       5       8      12      20      43      75      90      96
1111        UA     100
            * DDM   ***** Updated *****

1112        KK     451
1113        KM   SUB-BASIN 451
1114        KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1115        KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF 1.000
1116        KM     L =  .57  Kb = .063  Adj. Slope =  175.0
1117        BA    .025
1118        LG    .340    .340   3.290    .750   3.000
1119        UC    .271    .453
1120        UA       0       3       5       8      12      20      43      75      90      96
1121        UA     100
            * DDM   ***** Preserved *****

1122        KK    C451
1123        KM   COMBINE HYDROGRAPHS FROM SUB-BASINS 450 & 451
1124        HC       2
            * DDM   ***** Preserved *****

1125        KK    RT66
1126        KM        RETRIEVE DIVERTED FLOW FROM SUB-BASIN 66
1127        DR   WSH66
            * DDM   ***** Updated *****
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LINE        ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1128        KK     452
1129        KM   SUB-BASIN 452
1130        KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1131        KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF 1.000
1132        KM     L =  .43  Kb = .055  Adj. Slope =  315.0
1133        BA    .040
1134        LG    .260    .280   3.700    .550   9.000
1135        UC    .171    .166
1136        UA       0       5      16      30      65      77      84      90      94      97
1137        UA     100
            * DDM   ***** Preserved *****

1138        KK   C6465
1139        KM   COMBINE HYDROGRAPHS FROM SUB-BASINS 443 AND 452
1140        HC       2
            * DDM   ***** Preserved *****

1141        KK   R6566
1142        KM        ROUTE FLOW FROM DIVERSIONS 65 AND 66 TO C116
1143        RS       3    FLOW      -1
1144        RC     .05    .035     .05    2435   .0282
1145        RX    1000    1045    1090    1150    1160    1220    1265    1310
1146        RY      25      23      20      10      10      20      23      25
            * DDM   ***** Preserved *****

1147        KK    C116
1148        KM   COMBINE HYDROGRAPHS FROM SUB-BASINS 450 & 451 AND R6364 & R6465
1149        HC       3
            * DDM   ***** Preserved *****

1150        KK  BASIN5
1151        KM        RESERVOIR WITHIN PARCEL 31      2-48 INCH PIPES AT OUTFALL
1152        KM        BASIN 5 FEET DEEP
1153        RS       1    ELEV       0
1154        SV       0     4.5     9.9
1155        SQ       0      69     190
1156        SE       0     2.5       5
            * DDM   ***** Preserved *****

1157        KK    R116
1158        KM   ROUTE FLOW FROM C116 TO C117
1159        RS       2    FLOW      -1
1160        RC     .05    .035     .05    1300   .0333
1161        RX    1000    1100    1200    1300    1320    1420    1520    1620
1162        RY      13      12      11      10      10      11      12      13
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                * DDM   ***** Updated *****

1163            KK     453
1164            KM   SUB-BASIN 453
1165            KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1166            KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF 1.000
1167            KM     L =  .58  Kb = .058  Adj. Slope =  138.0
1168            BA    .060
1169            LG    .290    .300   3.290    .820  18.000
1                                          HEC-1 INPUT                                                    PAGE 31

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

1170            UC    .275    .284
1171            UA       0       5      16      30      65      77      84      90      94      97
1172            UA     100
                * DDM   ***** Preserved *****

1173            KK    C117
1174            KM   COMBINE HYDROGRAPHS FROM SUB-BASIN 453 AND R116
1175            HC       2
                * DDM   ***** Preserved *****

1176            KK    C118
1177            KM   COMBINE HYDROGRAPHS FROM R115 AND C117
1178            HC       2
                * DDM   ***** Preserved *****

1179            KK    R118
1180            KM        ROUTE FLOW FROM C118 TO  DIV7
1181            RS       1    FLOW      -1
1182            RC    .019    .019    .019    1500    .024
1183            RX    1000    1012    1016    1020    1035    1039    1043    1055
1184            RY      15      12      11      10      10      11      12      15
                * DDM   ***** Preserved *****

1185            KK      D7
1186            KM        OFFLINE BASIN AT NORTH MOUNTAIN RIDGE   FLOWS ENTER BASIN OVER
1187            KM        30' WEIR SET AT 5.3' ABOVE THE CHANNEL BOTTOM
                *      1
1188            DT  BASIN6     3.6
1189            DI       0     363     487     563     645     844
1190            DQ       0       3      47      83     125     244
                * DDM   ***** Preserved *****

1191            KK    RTD7
1192            KM   RETRIEVE FLOW FROM DIVERSION INTO OFFLINE BASIN
1193            DR  BASIN6
                * DDM   ***** Preserved *****

1194            KK     SD7
1195            KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
1196            KM     3.6 ACRE-FEETx43560/36x3600=1.2cfs
1197            RS       1    STOR       0
1198            SV       0     .01     3.6
1199            SQ       0     0.2     1.2
                * DDM   ***** Preserved *****

1200            KK     CD7
1201            KM   HYDROGRAPH COMBINATION FOR OFFLINE BASIN BLEEDOFF
1202            HC       2
                * DDM   ***** Updated *****
1                                          HEC-1 INPUT                                                    PAGE 32

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

1203            KK     454
1204            KM   SUB-BASIN 454
1205            KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1206            KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .999
1207            KM     L = 1.23  Kb = .051  Adj. Slope =  163.0
1208            BA    .180
1209            LG    .300    .310   3.780    .560  14.000
1210            UC    .379    .395
1211            UA       0       5      16      30      65      77      84      90      94      97
1212            UA     100
                * DDM   ***** Preserved *****

1213            KK    C119
1214            KM        COMBINE HYDROGRAPHS FROM SUB-BASIN 454 AND C119
                *      1       2
1215            HC       2
                * DDM   ***** Preserved *****

1216            KK    R454
1217            KM   CHANNEL GEOMETRY OBTAINED FROM 2' CONTOUR MAPPING.
1218            KM   ROUTE FLOW FROM C119 TO 415C
1219            RS       3    FLOW      -1
1220            RC    .045    .035    .045    2200    .009
1221            RX       0      .5       1      33      42      67    67.5      68
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1222        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 *****

1223        KK     415
1224        KM   SUB-BASIN 415
1225        KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1226        KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .996
1227        KM     L = 2.58  Kb = .044  Adj. Slope =  298.5
1228        BA    .609
1229        LG    .320    .290   4.500    .400  15.000
1230        UC    .421    .401
1231        UA       0       5      16      30      65      77      84      90      94      97
1232        UA     100
            * DDM   ***** Preserved *****

1233        KK   RT385
1234        KM   RETRIEVE FLOW FROM DIVERSION OF SUB-BASIN 385 INTO SUB-BASIN 415
1235        DR   SF385
            * DDM   ***** Preserved *****

1236        KK   RR385
1237        KM   CHANNEL GEOMETRY OBTAINED FROM 2' CONTOUR MAPPING.
1238        KM   ROUTING OF SPLIT FLOW FROM SUB-BASIN 385 TO SUB-BASIN 415
1239        RS      11    FLOW      -1
1240        RC    .045     .04    .045    5878    .024
1241        RX       0       1      40      46      56      62     102     103
1242        RY       3       2       2       0       0       2       2       3
            * DDM   ***** Preserved *****
1                                   HEC-1 INPUT                                          PAGE 33

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

1243        KK    C415
1244        KM   HYDROGRAPH COMBINATION OF SUB-BASINS 415, R454 & SPLIT FLOW FROM 385
1245        HC       2  0.9252
            * DDM   ***** Preserved *****

1246        KK   CC415
1247        KM   HYDROGRAPH COMBINATION OF SUB-BASINS 415, R454 & SPLIT FLOW FROM 385
1248        HC       2
            * DDM   ***** Preserved *****

1249        KK    R415
1250        KM   CHANNEL GEOMETRY OBTAINED FROM 2' CONTOUR MAPPING.
1251        KM   ROUTING OF FLOW FROM 415C TO 455C
1252        RS       3    FLOW      -1
1253        RC    .045     .03    .045    4100    .024
1254        RX       0      .5       1       8      16      23    23.5      24
1255        RY       8       8       8       0       0       8       8       8
            * DDM   ***** Updated *****

1256        KK     455
1257        KM   SUB-BASIN 455
1258        KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1259        KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .993
1260        KM     L = 1.70  Kb = .041  Adj. Slope =  146.0
1261        BA   1.111
1262        LG    .270    .280   3.700    .640  24.000
1263        UC    .421    .204
1264        UA       0       5      16      30      65      77      84      90      94      97
1265        UA     100
            * DDM   ***** Preserved *****

1266        KK    D455
1267        KM        DIVERT FLOW INTO ONLINE  DETENTION BASIN
1268        KM   DETENTION/RETENTION BASINS LOCATED WITHIN LAS SENDAS ADDENDUM III
1269        KM   FOR BASIN #: 30      34      43      47&58
1270        KM        MAXIMUM VOLUME DIVERSION = 74.1 acre-feet
            *      1
1271        DT   BS455    74.1
1272        DI       0   10000
1273        DQ       0   10000
            * DDM   ***** Preserved *****

1274        KK   RT455
1275        KM   RETRIEVE FLOW FROM DIVERSION INTO ONLINE BASIN
1276        DR   BS455
            * DDM   ***** Preserved *****

1277        KK    S455
1278        KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
1279        KM    74.1 ACRE-FEETx43560/36x3600=25cfs
1280        RS       1    STOR       0
1281        SV       0     .01    74.1
1282        SQ       0     3.0      25
            * DDM   ***** Preserved *****
                                    HEC-1 INPUT                                          PAGE 34
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1283          KK    C455
1284          KM   HYDROGRAPH COMBINATION FOR SUB-BASIN 455 AND DIVERTED BASIN STORAGE OF 455
1285          HC        2
              * DDM   ***** Preserved *****

1286          KK   CC455
1287          KM  HYDROGRAPH COMBINATION OF 420C, R415 AND C455
              *      1       2
1288          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 *****

1289          KK    R455
1290          KM   ROUTE FLOW FROM SPOOK HILL FRS TO SUB-BASIN 480
1291          RS      15    FLOW      -1
1292          RC    .035    .025    .035    7000   .0002
1293          RX       0       1       2      28     158     184     185     186
1294          RY    13.5    13.5    13.5       0       0    13.5    13.5    13.5
              * DDM   ***** Updated *****

1295          KK     480
1296          KM   SUB-BASIN 480
1297          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1298          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .996
1299          KM     L = 1.21  Kb = .042  Adj. Slope =  165.0
1300          BA    .731
1301          LG    .270    .270   3.580    .730  27.000
1302          UC    .325    .148
1303          UA       0       5      16      30      65      77      84      90      94      97
1304          UA     100
              * DDM   ***** Preserved *****

1305          KK    D480
1306          KM        DIVERT FLOW INTO ONLINE  DETENTION BASIN
1307          KM   DETENTION/RETENTION BASINS LOCATED WITHIN LAS SENDAS ADDENDUM III
1308          KM   FOR BASIN #: 18 & 26
1309          KM        MAXIMUM VOLUME DIVERSION = 16.5 acre-feet
              *      1
1310          DT   BS480    16.5
1311          DI       0   10000
1312          DQ       0   10000
              * DDM   ***** Preserved *****
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1313          KK   RT480
1314          KM   RETRIEVE FLOW FROM DIVERSION INTO ONLINE BASIN
1315          DR   BS480
              * DDM   ***** Preserved *****

1316          KK    S480
1317          KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
1318          KM    16.5 ACRE-FEETx43560/36x3600=5.5cfs
1319          RS       1    STOR       0
1320          SV       0     .01    16.5
1321          SQ       0     3.0     5.6
              * DDM   ***** Preserved *****

1322          KK    C480
1323          KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
1324          HC        2
              * DDM   ***** Preserved *****

1325          KK   CC480
1326          KM   HYDROGRAPH COMBINATION AT SUBBASIN 480
1327          HC        2
              * DDM   ***** Preserved *****

1328          KK    R480
1329          KM   ROUTE FLOW FROM SUB-BASIN 480 TO SUBBASIN 462
1330          RS       6    FLOW      -1
1331          RC    .035    .025    .035    2800   .0002
1332          RX       0       1       2      28     158     184     185     186
1333          RY    13.5    13.5    13.5       0       0    13.5    13.5    13.5
              * DDM   ***** Preserved *****
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1334          KK     456
1335          KM   SUB-BASIN 456
1336          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1337          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .998
1338          KM     L =  .94  Kb = .045  Adj. Slope =  315.0
1339          BA    .260
1340          LG    .300    .380   5.600    .200  12.000
1341          UC    .217    .139
1342          UA       0       5      16      30      65      77      84      90      94      97
1343          UA     100
              * DDM   ***** Preserved *****

1344          KK      D1
1345          KM        DIVERT FLOW INTO OFFLINE DETENTION BASIN
1346          KM        WEIR FOR BASIN SET AT 4 FEET ABOVE CHANNEL BOTTOM
              *      1
1347          DT  BASIN1     4.0
1348          DI       0    11.1   127.9   234.4   577.7   789.9  1025.5  1280.9  1555.7
1349          DQ       0       0       0    47.7     248   381.8   533.6   701.5     884
              * DDM   ***** Preserved *****
1                                          HEC-1 INPUT                                          PAGE 36

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


1350          KK      D2
1351          KM        SPLIT OUT FLOW FOR WASHES THAT FLOW TO THE SOUTH FROM
1352          KM        WASHES THAT DRAIN TO THE WES, SOUTHERN WASHES FED BY 30" & 24" PIPE
1353          DT    WA30
1354          DI       0    11.1   127.9   189.6   329.7     408   491.9   579.4   671.7
1355          DQ       0    11.1    38.4    48.2      63    69.5      76      81      86
              * DDM   ***** Preserved *****

1356          KK    R456
1357          KM        ROUTE FLOW FROM SUB-BASIN 51 TO C101
1358          RS       2    FLOW      -1
1359          RC     .05    .035     .05    3800    .044
1360          RX    1000    1010    1020    1036    1041    1057    1067    1077
1361          RY   14.88   14.44      14      10      10      14   14.44   14.88
              * DDM   ***** Updated *****

1362          KK     457
1363          KM   SUB-BASIN 457
1364          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1365          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .999
1366          KM     L = 1.01  Kb = .045  Adj. Slope =  308.8
1367          BA    .190
1368          LG    .270    .330   3.950    .460   6.000
1369          UC    .237    .195
1370          UA       0       5      16      30      65      77      84      90      94      97
1371          UA     100
              * DDM   ***** Preserved *****

1372          KK    C101
1373          KM        COMBINE HYDROGRAPHS FROM SUB-BASINS 50 AND 51
1374          HC       2
              * DDM   ***** Preserved *****

1375          KK      D3
1376          KM        RESERVOIR AT THE EDGE OF THE PROPERTY   FLOW FROM CHANNEL
1377          KM        DIVERTED  INTO OFFLINE BASIN A 25' WEIR SET AT ELEVATION 1808 FT
              *      1
1378          DT  BASIN2     5.0
1379          DI       0      36      70     110     180   313.5     402   500.9
1380          DQ       0       0       0       0       0    67.5     124   190.9
              * DDM   ***** Preserved *****

1381          KK    RTD3
1382          KM   RETRIEVE FLOW FROM DIVERSION INTO OFFLINE BASIN
1383          DR  BASIN2
              * DDM   ***** Preserved *****

1384          KK     SD3
1385          KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
1386          KM     5.0 ACRE-FEETx43560/36x3600=1.7cfs
1387          RS       1    STOR       0
1388          SV       0     .01       5
1389          SQ       0     0.7     1.7
              * DDM   ***** Preserved *****
1                                          HEC-1 INPUT                                          PAGE 37

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


1390          KK     CD3
1391          KM   HYDROGRAPH COMBINATION FOR OFFLINE BASIN BLEEDOFF
1392          HC       2
              * DDM   ***** Preserved *****

1393          KK    R101
1394          KM        ROUTE FLOW FROM SUBBASIN C101 TO C103
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1395          RS       1    FLOW      -1
1396          RC     .05    .035     .05    1450     .05
1397          RX    1000    1010    1020    1036    1041    1057    1067    1077
1398          RY      15    14.5      14      10      10      14    14.5      15
              * DDM   ***** Updated *****

1399          KK     458
1400          KM   SUB-BASIN 458
1401          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1402          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .999
1403          KM     L =  .76  Kb = .048  Adj. Slope =  299.0
1404          BA    .190
1405          LG    .290    .330   5.800    .190   6.000
1406          UC    .204    .131
1407          UA       0       5      16      30      65      77      84      90      94      97
1408          UA     100
              * DDM   ***** Preserved *****

1409          KK    C103
1410          KM        COMBINE HYDROGRAPHS FROM SUB-BASIN 55 AND C101
1411          HC       2
              * DDM   ***** Preserved *****

1412          KK    R103
1413          KM        ROUTE FLOW FROM SUBBASIN C103 TO C106
1414          RS       1    FLOW      -1                                  /
1415          RC     .05    .035     .05     900     .03
1416          RX    1000    1010    1020    1030    1050    1060    1070    1080
1417          RY   13.16   12.83    12.5      10      10    12.5   12.83   13.16
              * DDM   ***** Preserved *****

1418          KK    RT30
1419          KM        RETRIEVE DIVERTED FLOW FOR WASH BELOW 30 INCH PIPE
1420          DR    WA30
              * DDM   ***** Preserved *****

1421          KK     R30
1422          KM        ROUTE FLOW FROM WASH DIVERSION TO COMBINE C52
1423          RS       1    FLOW      -1
1424          RC     .05    .035     .05    1630     .05
1425          RX    1000    1010    1020    1036    1041    1057    1067    1077
1426          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

1427          KK    RTB1
1428          KM        RETRIEVE DIVERTED FLOW FROM BASIN 1
              *      1       2
1429          DR  BASIN1
              * DDM   ***** Preserved *****

1430          KK      B1
1431          KM        ROUTE FLOW THROUGH OFFLINE DETENTION BASIN
1432          KM        FLOW OUTLETS THROUGH A 30 INCH OUTLET PIPE
              *      1       2
1433          RS       1    ELEV       0
1434          SV              .7     1.4     2.3     2.7     4.0
1435          SQ       0       5      16      28    32.5      37
1436          SE       0       1       2       3     3.5       4
              * DDM   ***** Preserved *****

1437          KK     RB1
1438          KM        ROUTE FLOW FROM BASIN DIVERSION TO COMBINE C52
1439          RS       3    FLOW      -1
1440          RC     .05    .035     .05    1720     .05
1441          RX    1000    1010    1020    1036    1041    1057    1067    1077
1442          RY      15    14.5      14      10      10      14    14.5      15
              * DDM   ***** Preserved *****

1443          KK    CDIV
1444          KM        COMBINE FLOWS FROM WA30 AND BASIN 1
1445          HC       2     .12
              * DDM   ***** Updated *****

1446          KK     459
1447          KM   SUB-BASIN 459
1448          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1449          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF 1.000
1450          KM     L =  .35  Kb = .052  Adj. Slope =  251.6
1451          BA    .030
1452          LG    .220    .300   3.330    .710   8.000
1453          UC    .162    .157
1454          UA       0       5      16      30      65      77      84      90      94      97
1455          UA     100
              * DDM   ***** Preserved *****

1456          KK     C52
1457          KM        COMBINE FLOWS FROM SUB-BASIN 52 WA30 AND BASIN 1
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```
1458          HC       2
              * DDM   ***** Preserved *****

1459          KK     R52
1460          KM        ROUTE FLOW FROM SUBBASIN 52 TO C102
1461          RS       3    FLOW      -1
1462          RC     .05    .035     .05    2000     .05
1463          RX    1000    1010    1020    1036    1041    1057    1067    1077
1464          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

1465          KK     460
1466          KM   SUB-BASIN 460
1467          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1468          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .999
1469          KM     L =  .62  Kb = .058  Adj. Slope =  194.0
1470          BA    .140
1471          LG    .250    .260   3.740    .690  27.000
1472          UC    .242    .160
1473          UA       0       5      16      30      65      77      84      90      94      97
1474          UA     100
              * DDM   ***** Preserved *****

1475          KK    C102
1476          KM        COMBINE HYDROGRAPHS FROM SUB-BASINS 52 AND 53
1477          HC       2
              * DDM   ***** Preserved *****

1478          KK  BASIN3
1479          KM        RESERVOIR AT CLUBHOUSE LOCATION 1-30 INCH PIPE AT OUTFALL
1480          KM        BOTTOM OF BASIN AT 6 FEET ABOVE 1795 ELEVATION
1481          RS       1    ELEV       0
1482          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
1483          SQ       0      22      45    47.4      48      51      57      62      67      73
1484          SE    1795  1797.5    1800  1800.4  1800.5    1801    1802    1803    1804  1805.5
              * DDM   ***** Preserved *****

1485          KK      R3
1486          KM        ROUTE FLOW FROM C102 to C106
1487          RS       5    FLOW      -1
1488          RC     .05     .03     .05    2750   .0375
1489          RX    1000    1010    1020    1052    1086    1118    1128    1138
1490          RY    19.2    18.4      18      10      10      18    18.4    19.2
              * DDM   ***** Updated *****

1491          KK     461
1492          KM   SUB-BASIN 461
1493          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1494          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .999
1495          KM     L =  .83  Kb = .052  Adj. Slope =  181.0
1496          BA    .120
1497          LG    .270    .250   4.250    .450  21.000
1498          UC    .271    .250
1499          UA       0       5      16      30      65      77      84      90      94      97
1500          UA     100
              * DDM   ***** Preserved *****

1501          KK    C104
1502          KM        COMBINE HYDROGRAPHS FROM SUB-BASIN 54 AND R102
1503          HC       2
              * DDM   ***** Preserved *****
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1504          KK    C106
1505          KM        COMBINE HYDROGRAPHS FROM SUB-BASIN C103 AND C104
1506          HC       2
              * DDM   ***** Preserved *****

1507          KK    R106
1508          KM        ROUTE FLOW FROM C106 TO C49
1509          RS       2    FLOW      -1
1510          RC     .05    .035     .05    3950    .033
1511          RX    1000    1010    1020    1030    1050    1060    1070    1080
1512          RY   13.16   12.83    12.5      10      10    12.5   12.83   13.16
              * DDM   ***** Updated *****

1513          KK     462
1514          KM   SUB-BASIN 462
1515          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1516          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .998
1517          KM     L =  .97  Kb = .045  Adj. Slope =  297.7
1518          BA    .301
1519          LG    .300    .330   5.300    .240  12.000
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1520          UC    .225    .137
1521          UA       0       5      16      30      65      77      84      90      94      97
1522          UA     100
              * DDM   ***** Preserved *****

1523          KK     C56
1524          KM        COMBINE HYDROGRAPHS FROM SUB-BASIN 56 AND C106
              *      1       2
1525          HC       2

1526          KK    C462
1527          KM        COMBINE HYDROGRAPHS AT SUBBASIN 462
              *      1
1528          HC       2    2.09
              * DDM   ***** Preserved *****

1529          KK    R462
1530          KM   ROUTE FLOW FROM SUB-BASIN 462 TO SUB-BASIN 500 (First Channel Reach)
1531          RS       1    FLOW      -1
1532          RC    .025    .025    .025    1800    .005
1533          RX       0       1      20      32      62      74      93      94
1534          RY      13      12      12       0       0      12      12      13
              * DDM   ***** Preserved *****

1535          KK   RR462
1536          KM   ROUTE FLOW FROM SUB-BASIN 462 TO SUB-BASIN 500 (Second Natural Wash Reach)
1537          RS       3    FLOW      -1
1538          RC    .055     .05    .055    4700     .05
1539          RX       0       1       2      28      58      84      85      86
1540          RY    13.5    13.5    13.5       0       0    13.5    13.5    13.5
              * DDM   ***** Updated *****
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1541          KK     500
1542          KM   SUB-BASIN 500
1543          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1544          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .994
1545          KM     L = 2.77  Kb = .042  Adj. Slope =  286.8
1546          BA    .930
1547          LG    .350    .400   6.000    .170   9.000
1548          UC    .421    .333
1549          UA       0       3       5       8      12      20      43      75      90      96
1550          UA     100
              * DDM   ***** Preserved *****

1551          KK    C500
1552          KM   HYDROGRAPH COMBINATION FOR THE ENTIRE WATERSHED AT THE SALT RIVER
1553          HC       2    3.02
1554          ZZ
```

1

SCHEMATIC DIAGRAM OF STREAM NETWORK

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

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

   29          10
                V
                V
   39         R10
                V
                V
   45         R12
                .
                .
   51           .          20
                .           .
                .           .
   61         C20............
                V
                V
   64         R20
                .
                .
   70           .          40
                .           .
                .           .
   80           .           .          60
                .           .           .
                .           .           .
   90         C60........................
                V
                V
   93         S60
                V
                V
  102         R60
                V
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                V
108          RR60
                .
                .
114             .          80
                .           .
                .           .
124           C80............
                V
                V
127           R80
                .
                .
133             .         100
                .           .
                .           .
143         C100............
                V
                V
146         R100
                .
                .
152             .         120
                .           .
                .           .
162         C120............
                V
                V
165         R120
                .
                .
171             .         140
                .           .
                .           .
181             .           .         150
                .           .           V
                .           .           V
191             .           .        R150
                .           .           V
                .           .           V
197             .           .        R152
                .           .           .
                .           .           .
203             .           .           .         160
                .           .           .           .
                .           .           .           .
213             .           .           .           .         180
                .           .           .           .           .
                .           .           .           .           .
223         C180.............................................
                .
                .
226             .         210
                .           V
                .           V
236             .        R210
                .           .
                .           .
242             .           .         240
                .           .           .
                .           .           .
252             .        C240............
                .           V
                .           V
255             .        S240
                .           V
                .           V
262             .        R240
                .           .
                .           .
269             .           .         220
                .           .           .
                .           .           .
279             .        C220............
                .           V
                .           V
282             .        S220
                .           V
                .           V
289             .        R220
                .           .
                .           .
296             .           .         190
                .           .           V
                .           .           V
306             .           .        R190
                .           .           V
                .           .           V
312             .           .        R192
                .           .           .
                .           .           .
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318          .           .           .         200
             .           .           .           .
             .           .           .           .
328          .        C200.......................
             .           V
             .           V
331          .        S200
             .           V
             .           V
338          .        R200
             .           V
             .           V
344          .       SS200
             .           V
             .           V
351          .       RR200
             .           .
             .           .
357       CC180............
             V
             V
360       S180
             V
             V
369       R180
             .
             .
378          .         260
             .           .
             .           .
388       C260............
             V
             V
391       R260
             .
             .
400          .         280
             .           .
             .           .
410       C280............
             V
             V
413       R280
             .
             .
422          .         300
             .           .
             .           .
432       C300............
             V
             V
435       R300
             .
             .
444          .         305
             .           .
             .           .
454       C305............
             V
             V
457       R305
             .
             .
466          .         350
             .           .
             .           .
479          .           .-------->   SF350
476          .        D350
             .           V
             .           V
482          .        R350
             .           .
             .           .
489          .           .         310
             .           .           .
             .           .           .
499          .        C310............
             .           V
             .           V
502          .        R310
             .           .
             .           .
509          .           .         320
             .           .           .
             .           .           .
524          .           .           .-------->   BS320
519          .           .       D320
             .           .           .
             .           .           .
529          .           .           .          .<-------   BS320
527          .           .           .      RT320
```

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                .           .           .           V
                .           .           .           V
530             .           .           .        S320
                .           .           .           .
                .           .           .           .
536          C320.................................
                V
                V
539          R320
                .
                .
546             .         340
                .           .
                .           .
561             .           .-------->   BS340
556             .        D340
                .           .
                .           .
566             .           .           .<-------   BS340
564             .           .       RT340
                .           .           V
                .           .           V
567             .           .        S340
                .           .           .
                .           .           .
573          C340......................
                V
                V
576          R340
                .
                .
585             .           .<-------   SF350
583             .       RT350
                .           V
                .           V
586             .       RR350
                .           .
                .           .
593             .           .         355
                .           .           .
                .           .           .
603             .        C355............
                .           V
                .           V
606             .        R355
                .           .
                .           .
613             .           .         360
                .           .           .
                .           .           .
627             .           .           .-------->   BS360
623             .           .        D360
                .           .           .
                .           .           .
632             .           .           .           .<-------   BS360
630             .           .           .       RT360
                .           .           .           V
                .           .           .           V
633             .           .           .        S360
                .           .           .           .
                .           .           .           .
639          C360.................................
                V
                V
642          R360
                .
                .
649             .         370
                .           .
                .           .
659             .           .         395
                .           .           .
                .           .           .
669             .        C370............
                .           V
                .           V
672             .        R370
                .           .
                .           .
679             .           .         380
                .           .           .
                .           .           .
693             .           .           .-------->   BS380
689             .           .        D380
                .           .           .
                .           .           .
698             .           .           .           .<-------   BS380
696             .           .           .       RT380
                .           .           .           V
                .           .           .           V
699             .           .           .        S380
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                .           .           .           .
                .           .           .           .
705          C380.................................
                .
                .
712             .------->    380S
708         DD380
                .
                .
717             .           .<-------    380S
715             .       RT380S
                .           V
                .           V
718             .        SS380
                .           .
                .           .
725         CC380............
                V
                V
728          R380
                .
                .
735             .         390
                .           .
                .           .
749             .           .------->   BS390
745             .        D390
                .           .
                .           .
754             .           .           .<-------   BS390
752             .           .       RT390
                .           .           V
                .           .           V
755             .           .        S390
                .           .           .
                .           .           .
761             .        C390............
                .           V
                .           V
764             .        R390
                .           .
                .           .
771             .           .         400
                .           .           .
                .           .           .
785             .           .           .------->   BS400
781             .           .        D400
                .           .           .
                .           .           .
790             .           .           .           .<-------   BS400
788             .           .           .       RT400
                .           .           .           V
                .           .           .           V
791             .           .           .        S400
                .           .           .           .
                .           .           .           .
797             .           .        C400............
                .           .           .
                .           .           .
800         CC400........................
                V
                V
803          R400
                .
                .
810             .         385
                .           .
                .           .
822             .           .------->   SF385
820             .        D385
                .           V
                .           V
825             .        R385
                .           .
                .           .
832             .           .         420
                .           .           .
                .           .           .
846             .           .           .------->   BS420
842             .           .        D420
                .           .           .
                .           .           .
851             .           .           .           .<-------   BS420
849             .           .           .       RT420
                .           .           .           V
                .           .           .           V
852             .           .           .        S420
                .           .           .           .
                .           .           .           .
858             .        C420........................
                .           .
```

```
861      CC420............
             V
             V
864       R420
             .
             .
871          .        440
             .          V
             .          V
881          .        R70
             .          .
             .          .
887          .          .        441
             .          .          .
             .          .          .
897          .      C108............
             .          .
             .          .
902          .          .------->   SPLIT
900          .        D4
             .          V
             .          V
905          .      R108
             .          .
             .          .
911          .          .        442
             .          .          .
             .          .          .
921          .       C67............
             .          .
             .          .
927          .          .-------> BASIN4
924          .        D6
             .          .
             .          .
932          .          .          .<-------  BASIN4
930          .          .      RTD6
             .          .        V
             .          .        V
933          .          .       SD6
             .          .        .
             .          .        .
939          .       CD6............
             .          .
             .          .
942          .          .        443
             .          .          .
             .          .          .
955          .          .          .------->   WSH66
952          .          .       D66
             .          .        V
             .          .        V
958          .          .      R113
             .          .        .
             .          .        .
964          .      C114............
             .          .
             .          .
967          .          .        444
             .          .        V
             .          .        V
977          .          .       R58
             .          .        .
             .          .        .
983          .          .        .        445
             .          .        .          .
             .          .        .          .
993          .          .      C107............
             .          .        V
             .          .        V
996          .          .      R107
             .          .        .
             .          .        .
1004         .          .        .          .<-------   SPLIT
1002         .          .        .       RTB2
             .          .        .         V
             .          .        .         V
1005         .          .        .     RSPLIT
             .          .        .          .
             .          .        .          .
1011         .          .        .          .         446
             .          .        .          .           .
             .          .        .          .           .
1021         .          .      C109........................
             .          .        .
             .          .        .
1027         .          .        .-------> WSH404
1024         .          .       D5
             .          .        V
             .          .        V
```

```
1030          .          .        R109
              .          .          .
              .          .          .
1036          .          .          .        447
              .          .          .          .
              .          .          .          .
1048          .          .          .          .          .<-------  WSH404
1046          .          .          .          .       RT404
              .          .          .          .          V
              .          .          .          .          V
1049          .          .          .          .       R404
              .          .          .          .          .
              .          .          .          .          .
1055          .          .        C110.......................
              .          .          V
              .          .          V
1058          .          .        R110
              .          .          .
              .          .          .
1064          .       C115............
              .          V
              .          V
1067          .       R115
              .          .
              .          .
1073          .          .         448
              .          .          .
              .          .          .
1083          .          .          .        449
              .          .          .          .
              .          .          .          .
1093          .          .       C6364............
              .          .          V
              .          .          V
1096          .          .       R6364
              .          .          .
              .          .          .
1102          .          .          .        450
              .          .          .          .
              .          .          .          .
1112          .          .          .          .        451
              .          .          .          .          .
              .          .          .          .          .
1122          .          .          .       C451............
              .          .          .          .
              .          .          .          .
1127          .          .          .          .          .<-------   WSH66
1125          .          .          .          .       RT66
              .          .          .          .          .
              .          .          .          .          .
1128          .          .          .          .          .         452
              .          .          .          .          .           .
              .          .          .          .          .           .
1138          .          .          .          .       C6465............
              .          .          .          .          V
              .          .          .          .          V
1141          .          .          .          .       R6566
              .          .          .          .          .
              .          .          .          .          .
1147          .          .        C116.......................
              .          .          V
              .          .          V
1150          .          .      BASIN5
              .          .          V
              .          .          V
1157          .          .        R116
              .          .          .
              .          .          .
1163          .          .          .        453
              .          .          .          .
              .          .          .          .
1173          .          .        C117............
              .          .          .
              .          .          .
1176          .       C118............
              .          V
              .          V
1179          .       R118
              .          .
              .          .
1188          .          .-------->  BASIN6
1185          .         D7
              .          .
              .          .
1193          .          .          .<-------  BASIN6
1191          .          .        RTD7
              .          .          V
              .          .          V
1194          .          .         SD7
              .          .          .
              .          .          .
```

```
1200          .         CD7............
              .           .
              .           .
1203          .           .        454
              .           .          .
              .           .          .
1213          .       C119............
              .          V
              .          V
1216          .       R454
              .           .
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1223          .           .        415
              .           .          .
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1235          .           .          .          .<-------   SF385
1233          .           .          .      RT385
              .           .          .          V
              .           .          .          V
1236          .           .          .      RR385
              .           .          .          .
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1243          .           .      C415............
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1246          .      CC415............
              .          V
              .          V
1249          .       R415
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1256          .           .        455
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              .           .          .
1271          .           .          .------->   BS455
1266          .           .      D455
              .           .          .
              .           .          .
1276          .           .          .          .<-------   BS455
1274          .           .          .      RT455
              .           .          .          V
              .           .          .          V
1277          .           .          .       S455
              .           .          .          .
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1283          .           .      C455............
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1286      CC455........................
             V
             V
1289       R455
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1295          .         480
              .           .
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1310          .           .------->   BS480
1305          .       D480
              .           .
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1315          .           .          .<-------   BS480
1313          .           .      RT480
              .           .          V
              .           .          V
1316          .           .      S480
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1322          .       C480............
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1325      CC480............
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             V
1328       R480
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1334          .         456
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1347          .           .------->  BASIN1
1344          .         D1
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1353          .           .------->    WA30
1350          .         D2
              .          V
              .          V
1356          .       R456
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1362          .          .         457
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1372          .      C101............
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1378          .          .-------> BASIN2
1375          .        D3
              .          .
              .          .
1383          .          .           .<-------  BASIN2
1381          .          .       RTD3
              .          .          V
              .          .          V
1384          .          .        SD3
              .          .           .
              .          .           .
1390          .       CD3............
              .         V
              .         V
1393          .      R101
              .          .
              .          .
1399          .          .         458
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              .          .           .
1409          .      C103............
              .         V
              .         V
1412          .      R103
              .          .
              .          .
1420          .          .           .<-------    WA30
1418          .          .       RT30
              .          .          V
              .          .          V
1421          .          .        R30
              .          .           .
              .          .           .
1429          .          .           .           .<-------  BASIN1
1427          .          .           .       RTB1
              .          .           .          V
              .          .           .          V
1430          .          .           .         B1
              .          .           .          V
              .          .           .          V
1437          .          .           .        RB1
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1443          .          .       CDIV............
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1446          .          .           .        459
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1456          .          .        C52............
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1459          .          .        R52
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1465          .          .           .        460
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1475          .          .       C102............
              .          .          V
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1478          .          .     BASIN3
              .          .          V
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1485          .          .         R3
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              .          .           .
1491          .          .           .        461
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1501          .          .       C104............
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1504          .      C106............
              .         V
              .         V
1507          .      R106
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1513          .          .         462
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1523          .       C56............
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 1526        C462............
                V
                V
 1529        R462
                V
                V
 1535       RR462
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 1541           .         500
                .           .
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 1551        C500............

(***) RUNOFF ALSO COMPUTED AT THIS LOCATION
1****************************************
 *                                      *
 *   FLOOD HYDROGRAPH PACKAGE  (HEC-1)  *
 *              JUN   1998              *
 *            VERSION 4.1               *
 *                                      *
 *  RUN DATE   01MAY01  TIME  11:15:45  *
 *                                      *
 ****************************************
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*                                      *
*    U.S. ARMY CORPS OF ENGINEERS      *
*    HYDROLOGIC ENGINEERING CENTER     *
*          609 SECOND STREET           *
*       DAVIS, CALIFORNIA 95616        *
*           (916) 756-1104             *
*                                      *
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                    DDM MCUHP1 SPOOK HILL AMDP - EXISTING CONDITIONS MODEL - 100YR, 24HR STORM
                    Non-Jurisdictional Alternatives - Option NJ4
                    Spook Hill Channel w/Off-Line Basin
                    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

 10 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

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

 13 PI            PRECIPITATION PATTERN
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23 JD INDEX STORM NO. 2

STRM 3.79 PRECIPITATION DEPTH

TRDA 1.00 TRANSPOSITION DRAINAGE AREA

0 PI PRECIPITATION PATTERN

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 24 JD         INDEX STORM NO. 3
                    STRM       3.68  PRECIPITATION DEPTH
                    TRDA       5.80  TRANSPOSITION DRAINAGE AREA

  0 PI           PRECIPITATION PATTERN
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25 JD INDEX STORM NO. 4

STRM 3.57 PRECIPITATION DEPTH

TRDA 10.66 TRANSPOSITION DRAINAGE AREA

0 PI PRECIPITATION PATTERN

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26 JD INDEX STORM NO. 5

STRM 3.54 PRECIPITATION DEPTH
TRDA 13.70 TRANSPOSITION DRAINAGE AREA

0 PI PRECIPITATION PATTERN

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.01	.01	.03	.04	.04	.04	.04	.04	.04	.04
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27 JD INDEX STORM NO. 6

STRM 3.47 PRECIPITATION DEPTH
TRDA 20.00 TRANSPOSITION DRAINAGE AREA

0 PI PRECIPITATION PATTERN

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28 JD INDEX STORM NO. 7
STRM 3.32 PRECIPITATION DEPTH
TRDA 50.00 TRANSPOSITION DRAINAGE AREA

0 PI PRECIPITATION PATTERN

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WARNING EXCESS AT PONDING LESS THAN ZERO FOR PERIOD. EXCESS SET TO ZERO
WARNING EXCESS AT PONDING LESS THAN ZERO FOR PERIOD. EXCESS SET TO ZERO

WARNING --- ROUTED OUTFLOW (1029.) IS GREATER THAN MAXIMUM OUTFLOW (1018.) IN STORAGE-OUTFLOW TABLE

WARNING --- ROUTED OUTFLOW (1042.) IS GREATER THAN MAXIMUM OUTFLOW (1018.) IN STORAGE-OUTFLOW TABLE

WARNING --- ROUTED OUTFLOW (1027.) IS GREATER THAN MAXIMUM OUTFLOW (1018.) IN STORAGE-OUTFLOW TABLE

WARNING --- ROUTED OUTFLOW (1027.) IS GREATER THAN MAXIMUM OUTFLOW (1018.) IN STORAGE-OUTFLOW TABLE

WARNING --- ROUTED OUTFLOW (1021.) IS GREATER THAN MAXIMUM OUTFLOW (1018.) IN STORAGE-OUTFLOW TABLE

WARNING --- ROUTED OUTFLOW (1020.) IS GREATER THAN MAXIMUM OUTFLOW (1018.) IN STORAGE-OUTFLOW TABLE

WARNING --- ROUTED OUTFLOW (1033.) IS GREATER THAN MAXIMUM OUTFLOW (1018.) IN STORAGE-OUTFLOW TABLE

WARNING --- ROUTED OUTFLOW (1018.) IS GREATER THAN MAXIMUM OUTFLOW (1018.) IN STORAGE-OUTFLOW TABLE
WARNING EXCESS AT PONDING LESS THAN ZERO FOR PERIOD. EXCESS SET TO ZERO

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

OPERATION	STATION	PEAK FLOW	TIME OF PEAK	AVERAGE FLOW FOR MAXIMUM PERIOD 6-HOUR	24-HOUR	72-HOUR	BASIN AREA	MAXIMUM STAGE	TIME OF MAX STAGE

	HYDROGRAPH AT	10	989.	12.27	119.	33.	12.	.70
+	ROUTED TO	R10	920.	12.40	119.	33.	12.	.70
+	ROUTED TO	R12	853.	12.60	119.	33.	12.	.70
+	HYDROGRAPH AT	20	1011.	12.43	136.	34.	12.	1.12
+	2 COMBINED AT	C20	1684.	12.53	252.	66.	24.	1.82
+	ROUTED TO	R20	1683.	12.57	252.	66.	24.	1.82
+	HYDROGRAPH AT	40	2695.	12.30	264.	69.	25.	2.23
+	HYDROGRAPH AT	60	1623.	12.40	239.	64.	23.	1.75
+	3 COMBINED AT	C60	5371.	12.37	733.	194.	70.	5.80
+	ROUTED TO	S60	118.	14.27	118.	114.	70.	5.80
+	ROUTED TO	R60	118.	14.37	118.	114.	70.	5.80
+	ROUTED TO	RR60	118.	14.40	118.	114.	70.	5.80
+	HYDROGRAPH AT	80	1956.	12.27	189.	49.	18.	1.48
+	2 COMBINED AT	C80	2009.	12.27	295.	160.	90.	1.48
+	ROUTED TO	R80	1981.	12.30	295.	160.	90.	1.48
	HYDROGRAPH AT	100	423.	12.20	60.	16.	6.	.48
+	2 COMBINED AT	C100	2373.	12.27	351.	174.	95.	1.96
+	ROUTED TO	R100	2370.	12.30	351.	174.	95.	1.96
+	HYDROGRAPH AT	120	3352.	12.27	340.	92.	33.	2.20
+	2 COMBINED AT	C120	5618.	12.27	673.	256.	126.	4.16
+	ROUTED TO	R120	5546.	12.30	673.	256.	126.	4.16
+	HYDROGRAPH AT	140	665.	12.13	67.	18.	6.	.60
+	HYDROGRAPH AT	150	595.	12.17	51.	14.	5.	.41
+	ROUTED TO	R150	568.	12.23	51.	14.	5.	.41
+	ROUTED TO	R152	514.	12.33	51.	14.	5.	.41
+	HYDROGRAPH AT	160	228.	12.40	37.	9.	3.	.37
+	HYDROGRAPH AT	180	836.	12.37	97.	24.	9.	1.00
+	5 COMBINED AT	C180	7306.	12.30	898.	313.	146.	6.54
+	HYDROGRAPH AT	210	1322.	12.17	111.	29.	10.	.79
	ROUTED TO	R210	1246.	12.23	111.	29.	10.	.79
	HYDROGRAPH AT							

+	240	1513.	12.30	167.	42.	15.	1.41
2 COMBINED AT	C240	2684.	12.27	273.	70.	25.	2.20
ROUTED TO +	S240	799.	12.70	226.	59.	21.	2.20
ROUTED TO +	R240	798.	12.77	225.	59.	21.	2.20
HYDROGRAPH AT +	220	676.	12.20	68.	18.	6.	.47
2 COMBINED AT +	C220	962.	12.60	288.	75.	27.	2.67
ROUTED TO +	S220	900.	12.80	280.	73.	26.	2.67
ROUTED TO +	R220	897.	12.83	280.	73.	26.	2.67
HYDROGRAPH AT +	190	1471.	12.17	123.	33.	12.	.92
ROUTED TO +	R190	1415.	12.23	123.	33.	12.	.92
ROUTED TO +	R192	1359.	12.30	123.	33.	12.	.92
HYDROGRAPH AT +	200	831.	12.17	72.	20.	7.	.53
3 COMBINED AT +	C200	2254.	12.30	459.	122.	44.	4.12
ROUTED TO +	S200	2135.	12.37	454.	119.	43.	4.12
ROUTED TO +	R200	2127.	12.37	454.	119.	43.	4.12
ROUTED TO	SS200	1365.	12.73	333.	88.	32.	4.12
ROUTED TO +	RR200	1330.	12.83	330.	88.	32.	4.12
2 COMBINED AT +	CC180	7306.	12.30	1212.	399.	177.	10.66
ROUTED TO +	S180	113.	29.07	113.	113.	88.	10.66
ROUTED TO +	R180	113.	28.93	113.	113.	88.	10.66
HYDROGRAPH AT +	260	416.	12.10	43.	12.	4.	.26
2 COMBINED AT +	C260	421.	12.10	135.	124.	99.	.26
ROUTED TO +	R260	407.	12.20	135.	124.	98.	.26
HYDROGRAPH AT +	280	527.	12.10	46.	13.	5.	.32
2 COMBINED AT +	C280	884.	12.13	176.	135.	103.	.58
ROUTED TO +	R280	862.	12.20	176.	134.	103.	.58
HYDROGRAPH AT +	300	415.	12.10	34.	10.	3.	.29
2 COMBINED AT +	C300	1217.	12.17	207.	143.	106.	.87
ROUTED TO +	R300	1172.	12.23	207.	142.	106.	.87
HYDROGRAPH AT +	305	476.	12.27	81.	22.	8.	.70
2 COMBINED AT +	C305	1624.	12.23	283.	161.	112.	1.57

	ROUTED TO						
	R305	1603.	12.30	282.	161.	112.	1.57
	HYDROGRAPH AT						
+	350	1258.	12.20	109.	28.	10.	.97
	DIVERSION TO						
+	SF350	629.	12.20	55.	14.	5.	.97
	HYDROGRAPH AT						
+	D350	629.	12.20	55.	14.	5.	.97
	ROUTED TO						
+	R350	557.	12.40	55.	14.	5.	.97
	HYDROGRAPH AT						
+	310	398.	12.33	52.	13.	5.	.56
	2 COMBINED AT						
+	C310	928.	12.40	106.	27.	10.	1.04
	ROUTED TO						
+	R310	820.	12.73	106.	27.	10.	1.04
	HYDROGRAPH AT						
+	320	991.	12.20	127.	36.	13.	.95
	DIVERSION TO						
+	BS320	386.	11.93	21.	6.	2.	.95
	HYDROGRAPH AT						
+	D320	991.	12.20	113.	29.	11.	.95
	HYDROGRAPH AT						
+	RT320	386.	11.93	21.	6.	2.	.95
	ROUTED TO						
+	S320	4.	12.00	4.	4.	2.	.95
	4 COMBINED AT						
+	C320	2546.	12.30	491.	216.	132.	3.56
	ROUTED TO						
+	R320	2374.	12.57	480.	214.	130.	3.56
	HYDROGRAPH AT						
	340	1534.	12.17	194.	57.	21.	1.44
	DIVERSION TO						
+	BS340	1534.	12.17	103.	28.	10.	1.44
	HYDROGRAPH AT						
+	D340	1285.	12.30	106.	29.	10.	1.44
	HYDROGRAPH AT						
+	RT340	1534.	12.17	103.	28.	10.	1.44
	ROUTED TO						
+	S340	18.	12.33	17.	14.	9.	1.44
	3 COMBINED AT						
+	C340	3025.	12.53	591.	253.	148.	5.00
	ROUTED TO						
+	R340	2930.	12.70	583.	251.	147.	5.00
	HYDROGRAPH AT						
+	RT350	629.	12.20	55.	14.	5.	.97
	ROUTED TO						
+	RR350	544.	12.43	55.	14.	5.	.97
	HYDROGRAPH AT						
+	355	546.	12.33	75.	19.	7.	.68
	2 COMBINED AT						
+	C355	1028.	12.40	129.	34.	12.	1.16
	ROUTED TO						
+	R355	941.	12.70	129.	34.	12.	1.16
	HYDROGRAPH AT						
+	360	773.	12.23	116.	34.	12.	.88
	DIVERSION TO						
+	BS360	773.	12.23	52.	14.	5.	.88
	HYDROGRAPH AT						
	D360	709.	12.33	73.	20.	7.	.88
	HYDROGRAPH AT						

+	RT360	773.	12.23	52.	14.	5.	.88
ROUTED TO							
+	S360	9.	12.33	8.	7.	5.	.88
4 COMBINED AT							
+	C360	4079.	12.70	759.	301.	168.	7.04
ROUTED TO							
+	R360	3915.	12.87	752.	300.	166.	7.04
HYDROGRAPH AT							
+	370	817.	12.23	83.	22.	8.	.67
HYDROGRAPH AT							
+	395	234.	12.20	26.	7.	3.	.20
2 COMBINED AT							
+	C370	1046.	12.23	108.	29.	11.	.87
ROUTED TO							
+	R370	913.	12.57	108.	29.	11.	.87
HYDROGRAPH AT							
+	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	4597.	12.87	868.	335.	182.	8.81
DIVERSION TO							
+	380S	2637.	12.87	196.	49.	18.	8.81
HYDROGRAPH AT							
DD380	1960.	12.70	672.	286.	164.	8.81	
HYDROGRAPH AT							
+	RT380S	2637.	12.87	196.	49.	18.	8.81
ROUTED TO							
+	SS380	38.	13.53	35.	30.	15.	8.81
2 COMBINED AT							
+	CC380	1998.	13.50	703.	315.	180.	8.81
ROUTED TO							
+	R380	1996.	13.60	700.	314.	178.	8.81
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	2047.	13.13	759.	332.	186.	9.67
+	ROUTED TO	R400	2041.	13.43	752.	331.	184.	9.67
+	HYDROGRAPH AT	385	613.	12.23	74.	20.	7.	.53
+	DIVERSION TO	SF385	368.	12.23	44.	12.	4.	.53
+	HYDROGRAPH AT	D385	245.	12.23	29.	8.	3.	.53
+	ROUTED TO	R385	208.	12.67	29.	8.	3.	.53
+	HYDROGRAPH AT	420	796.	12.20	98.	27.	10.	.85
+	DIVERSION TO	BS420	266.	11.93	14.	4.	2.	.85
+	HYDROGRAPH AT	D420	796.	12.20	89.	23.	8.	.85
+	HYDROGRAPH AT	RT420	266.	11.93	14.	4.	2.	.85
+	ROUTED TO	S420	3.	12.00	2.	2.	2.	.85
+	3 COMBINED AT	C420	805.	12.20	120.	33.	13.	1.06
+	2 COMBINED AT	CC420	2125.	13.40	840.	356.	195.	10.73
	ROUTED TO	R420	2111.	13.63	834.	355.	194.	10.73
+	HYDROGRAPH AT	440	184.	12.03	12.	3.	1.	.08
+	ROUTED TO	R70	181.	12.07	12.	3.	1.	.08
+	HYDROGRAPH AT	441	16.	12.03	1.	0.	0.	.01
+	2 COMBINED AT	C108	197.	12.07	14.	4.	1.	.09
+	DIVERSION TO	SPLIT	98.	12.07	7.	2.	1.	.09
+	HYDROGRAPH AT	D4	98.	12.07	7.	2.	1.	.09
+	ROUTED TO	R108	92.	12.13	7.	2.	1.	.09
+	HYDROGRAPH AT	442	105.	12.10	9.	2.	1.	.10
+	2 COMBINED AT	C67	195.	12.10	16.	4.	2.	.19
+	DIVERSION TO	BASIN4	121.	12.10	6.	2.	1.	.19
+	HYDROGRAPH AT	D6	74.	12.10	10.	3.	1.	.19
+	HYDROGRAPH AT	RTD6	121.	12.10	6.	2.	1.	.19
+	ROUTED TO	SD6	1.	12.47	1.	1.	0.	.19
	2 COMBINED AT	CD6	74.	12.10	10.	3.	1.	.19
	HYDROGRAPH AT							

+	443	151.	12.07	15.	4.	1.	.08
DIVERSION TO	WSH66	78.	11.87	12.	3.	1.	.08
HYDROGRAPH AT							
+	D66	73.	12.07	3.	1.	0.	.08
ROUTED TO							
+	R113	71.	12.07	3.	1.	0.	.08
2 COMBINED AT							
+	C114	144.	12.07	13.	4.	2.	.27
HYDROGRAPH AT							
+	444	83.	12.03	5.	1.	0.	.04
ROUTED TO							
+	R58	79.	12.07	5.	1.	0.	.04
HYDROGRAPH AT							
+	445	307.	12.03	19.	5.	2.	.19
2 COMBINED AT							
+	C107	382.	12.03	23.	6.	2.	.23
ROUTED TO							
+	R107	382.	12.07	23.	6.	2.	.23
HYDROGRAPH AT							
+	RTB2	98.	12.07	7.	2.	1.	.09
ROUTED TO							
+	RSPLIT	98.	12.07	7.	2.	1.	.09
HYDROGRAPH AT							
+	446	66.	12.03	6.	2.	1.	.04
3 COMBINED AT							
+	C109	545.	12.07	36.	10.	3.	.27
DIVERSION TO							
+	WSH404	35.	11.70	8.	2.	1.	.27
HYDROGRAPH AT							
	D5	510.	12.07	28.	7.	3.	.27
ROUTED TO							
+	R109	493.	12.10	28.	7.	3.	.27
HYDROGRAPH AT							
+	447	141.	12.07	12.	4.	1.	.09
HYDROGRAPH AT							
+	RT404	35.	11.70	8.	2.	1.	.27
ROUTED TO							
+	R404	35.	11.83	8.	2.	1.	.27
3 COMBINED AT							
+	C110	666.	12.07	48.	13.	5.	.36
ROUTED TO							
+	R110	663.	12.10	48.	13.	5.	.36
2 COMBINED AT							
+	C115	805.	12.07	61.	17.	7.	.63
ROUTED TO							
+	R115	799.	12.10	61.	17.	7.	.63
HYDROGRAPH AT							
+	448	89.	12.03	6.	2.	1.	.05
HYDROGRAPH AT							
+	449	81.	12.03	5.	1.	0.	.05
2 COMBINED AT							
+	C6364	170.	12.03	11.	3.	1.	.09
ROUTED TO							
+	R6364	145.	12.17	11.	3.	1.	.09
HYDROGRAPH AT							
+	450	63.	12.20	7.	2.	1.	.07
HYDROGRAPH AT							
+	451	18.	12.17	2.	1.	0.	.03
2 COMBINED AT							
+	C451	80.	12.20	9.	2.	1.	.09

HYDROGRAPH AT	RT66	78.	11.87	12.	3.	1.	.08
+ HYDROGRAPH AT	452	63.	12.03	5.	1.	0.	.04
+ 2 COMBINED AT	C6465	141.	12.03	17.	4.	2.	.04
+ ROUTED TO	R6566	137.	12.10	17.	4.	2.	.04
+ 3 COMBINED AT	C116	357.	12.17	36.	10.	3.	.23
+ ROUTED TO	BASIN5	159.	12.47	36.	10.	3.	.23
+ ROUTED TO	R116	157.	12.53	36.	10.	3.	.23
+ HYDROGRAPH AT	453	63.	12.10	7.	2.	1.	.06
+ 2 COMBINED AT	C117	177.	12.47	43.	12.	4.	.29
+ 2 COMBINED AT	C118	892.	12.10	104.	29.	11.	.92
+ ROUTED TO	R118	887.	12.13	104.	29.	11.	.92
+ DIVERSION TO	BASIN6	270.	12.13	7.	2.	1.	.92
+ HYDROGRAPH AT	D7	737.	12.20	97.	27.	10.	.92
+ HYDROGRAPH AT	RTD7	270.	12.13	7.	2.	1.	.92
+ ROUTED TO	SD7	1.	12.23	1.	1.	1.	.92
2 COMBINED AT	CD7	739.	12.20	97.	28.	11.	.92
+ HYDROGRAPH AT	454	162.	12.13	21.	6.	2.	.18
+ 2 COMBINED AT	C119	885.	12.20	118.	34.	13.	1.10
+ ROUTED TO	R454	833.	12.27	118.	34.	13.	1.10
+ HYDROGRAPH AT	415	589.	12.17	80.	23.	8.	.61
+ HYDROGRAPH AT	RT385	368.	12.23	44.	12.	4.	.53
+ ROUTED TO	RR385	322.	12.57	44.	12.	4.	.53
+ 2 COMBINED AT	C415	757.	12.23	124.	35.	13.	.93
+ 2 COMBINED AT	CC415	1540.	12.27	238.	67.	25.	2.03
+ ROUTED TO	R415	1527.	12.30	238.	67.	25.	2.03
+ HYDROGRAPH AT	455	1418.	12.13	150.	45.	16.	1.11
+ DIVERSION TO	BS455	1418.	12.13	139.	37.	13.	1.11
+ HYDROGRAPH AT	D455	145.	12.80	24.	8.	3.	1.11
+ HYDROGRAPH AT	RT455	1418.	12.13	139.	37.	13.	1.11
ROUTED TO	S455	23.	12.80	22.	18.	11.	1.11
2 COMBINED AT							

+	C455	169.	12.80	46.	26.	14.	1.11
3 COMBINED AT	CC455	2282.	13.60	1050.	427.	227.	13.87
ROUTED TO +	R455	2245.	14.17	1032.	423.	223.	13.87
HYDROGRAPH AT +	480	1102.	12.10	100.	31.	11.	.73
DIVERSION TO +	BS480	487.	11.90	27.	8.	3.	.73
HYDROGRAPH AT +	D480	1102.	12.10	83.	23.	8.	.73
HYDROGRAPH AT +	RT480	487.	11.90	27.	8.	3.	.73
ROUTED TO +	S480	5.	11.97	5.	4.	3.	.73
2 COMBINED AT +	C480	1107.	12.10	88.	27.	11.	.73
2 COMBINED AT +	CC480	2264.	14.17	1066.	441.	232.	14.60
ROUTED TO +	R480	2251.	14.40	1054.	439.	230.	14.60
HYDROGRAPH AT +	456	483.	12.07	37.	10.	4.	.26
DIVERSION TO +	BASIN1	193.	12.07	8.	2.	1.	.26
HYDROGRAPH AT +	D1	290.	12.07	29.	8.	3.	.26
DIVERSION TO +	WA30	59.	12.07	10.	3.	1.	.26
HYDROGRAPH AT	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	2430.	14.27	1290.	516.	267.	2.09
+	ROUTED TO	R462	2428.	14.30	1289.	516.	267.	2.09
+	ROUTED TO	RR462	2426.	14.37	1288.	515.	266.	2.09
+	HYDROGRAPH AT	500	1126.	12.27	128.	35.	12.	.93
+	2 COMBINED AT	C500	2424.	14.40	1390.	541.	276.	3.02

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

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1****************************************
*                                      *
*   FLOOD HYDROGRAPH PACKAGE  (HEC-1)  *
*              JUN   1998              *
*            VERSION 4.1               *
*                                      *
*  RUN DATE   10MAY01  TIME  08:26:10  *
*                                      *
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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

1 HEC-1 INPUT PAGE 1

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

  1           ID   DDM MCUHP1 SPOOK HILL AMDP - EXISTING CONDITIONS MODEL - 100YR, 24HR STORM
  2           ID   Non-Jurisdictional Alternatives - Option NJ4
  3           ID   Spook Hill Channel w/Off-Line Basin
              *
              *
              *  Original File Name: EC24_NJ4.DAT, 3/27/01
              *  Modified File Name: EC24NJ4Q.DAT, 5/9/01  Wood/Patel, SZ
              *
              *  Major Changes: 1) Outflow of SB FRS is quadrupled
              *                 2) Divert flow into offline basin "SS380" before combining
              *                    with flow of "380" and increase the offline basin volume
              *
              *  Original File Name: EC24B_R.DAT, 3/27/01
              *  This File Name: EC24_NJ4.DAT, 3/27/01  Wood/Patel, SZ
              *
  4           ID   A CONSERVATIVE ESTIMATE WAS USED FOR THE LOCATION OF THE CENTROID FOR
  5           ID   PRECIPITATION VALUES
  6           ID   CHANNEL ROUTING INFORMATION FOR MCFCD FLOODWAYS WERE OBTAINED
  7           ID   FROM MCFCD SPOOK HILL, SIGNAL BUTTE AND BULLDOG FLOODWAY PLANS
  8           ID
              *
              *
              *DIAGRAM
  9           IT       2                    2000
 10           IO       5
 11           IN      15
 12           JD    3.81    0.01
 13           PC    .000    .002    .005    .008    .011    .014    .017    .020    .023    .026
 14           PC    .029    .032    .035    .038    .041    .044    .048    .052    .056    .060
 15           PC    .064    .068    .072    .076    .080    .085    .090    .095    .100    .105
 16           PC    .110    .115    .120    .126    .133    .140    .147    .155    .163    .172
 17           PC    .181    .191    .203    .218    .236    .257    .283    .387    .663    .707
 18           PC    .735    .758    .776    .791    .804    .815    .825    .834    .842    .849
 19           PC    .856    .863    .869    .875    .881    .887    .893    .898    .903    .908
 20           PC    .913    .918    .922    .926    .930    .934    .938    .942    .946    .950
 21           PC    .953    .956    .959    .962    .965    .968    .971    .974    .977    .980
 22           PC    .983    .986    .989    .992    .995    .998   1.000
 23           JD   3.787    1.00
 24           JD   3.677    5.80
 25           JD   3.574   10.66
 26           JD   3.539   13.70
 27           JD   3.467   20.00
 28           JD   3.315   50.00
              * DDM   ***** Updated *****

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

122          UA       0       3       5       8      12      20      43      75      90      96
123          UA     100
             * DDM   ***** Preserved *****

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

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

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

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

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

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

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

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

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

171          KK     140
172          KM   SUB-BASIN 140
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  .996
175          KM     L = 1.61  Kb = .044  Adj. Slope =  149.0
176          BA    .598
177          LG    .310    .280   4.200    .440   5.000
178          UC    .421    .278
179          UA       0       5      16      30      65      77      84      90      94      97
180          UA     100
             * DDM   ***** Updated *****

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

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

197          KK    R152
198          KM   ROUTING OF FLOW FROM R152 TO SUB-BASIN 160
199          RS       3    FLOW      -1
200          RC    .045     .03    .045    5900    .019
201          RX       0       1       2       8      33      39      40      41
202          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

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

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

223          KK    C180
224          KM   HYDROGRAPH COMBINATION FOR SIGNAL BUTTE FRS
225          HC       5
             *
             * The sub-basin area and soil make-up have been updated from CAD file 12/07/00
             * DDM   ***** Updated *****

226          KK     210
227          KM   SUB-BASIN 210
228          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
229          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .995
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 230          KM     L = 1.84  Kb = .043  Adj. Slope =  315.0
 231          BA    .792
 232          LG    .350    .360   6.800    .130   4.000
 233          UC    .313    .189
 234          UA       0       3       5       8      12      20      43      75      90      96
 235          UA     100
              * DDM   ***** Preserved *****

 236          KK    R210
 237          KM   ROUTING OF FLOW FROM SUB-BASIN 210 TO SUB-BASIN 220
 238          RS       2    FLOW      -1
 239          RC    .045     .03    .045    5100    .022
 240          RX       0       1       2      14      34      46      47      48
 241          RY       4       4       4       0       0       4       4       4
              *
              * The sub-basin area and soil make-up have been updated from CAD file 12/07/00
              * DDM   ***** Updated *****
1                                          HEC-1 INPUT                                          PAGE  7

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

 242          KK     240
 243          KM   SUB-BASIN 240
 244          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
 245          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .992
 246          KM     L = 3.50  Kb = .039  Adj. Slope =  298.6
 247          BA   1.408
 248          LG    .350    .370   5.300    .230   2.000
 249          UC    .467    .356
 250          UA       0       3       5       8      12      20      43      75      90      96
 251          UA     100
              * DDM   ***** Preserved *****

 252          KK    C240
 253          KM   HYDROGRAPH COMBINATION FOR SUB-BASIN 240 & 220
 254          HC       2
              * DDM   ***** Preserved *****

 255          KK    S240
 256          KM    WEIR GEOMETRY OBTAINED FROM AS-BUILT PLANS @ PASS MTN. DIVERSION.
 257          KM   WEIR STORAGE DATA OBTAINED FROM 2' CONTOUR MAPPING.
 258          RS       1    STOR       0
 259          SA    1.38    14.2    36.5
 260          SE     1.7       5      11
 261          SS       5      42       3     1.5
              * DDM   ***** Preserved *****

 262          KK    R240
 263          KM   ROUTE FLOW FROM SUB-BASIN 240 TO SUB-BASIN 220
 264          KM   PASS MOUNTAIN DIVERSION
 265          RS       3    FLOW      -1
 266          RC    .035    .025    .035    1800    .005
 267          RX       0      15      30      39      69      81      96     111
 268          RY     3.6     3.3       3       0       0       3       3       4
              *
              * The sub-basin area and soil make-up have been updated from CAD file 12/07/00
              * DDM   ***** Updated *****

 269          KK     220
 270          KM   SUB-BASIN 220
 271          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
 272          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .997
 273          KM     L = 1.92  Kb = .046  Adj. Slope =  315.0
 274          BA    .473
 275          LG    .350    .350   7.000    .120   5.000
 276          UC    .333    .282
 277          UA       0       3       5       8      12      20      43      75      90      96
 278          UA     100
              * DDM   ***** Preserved *****
1                                          HEC-1 INPUT                                          PAGE  8

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

 279          KK    C220
 280          KM   HYDROGRAPH COMBINATION FOR SUB-BASIN 240 & 220
 281          HC       2
              * DDM   ***** Preserved *****

 282          KK    S220
 283          KM    WEIR GEOMETRY OBTAINED FROM AS-BUILT PLANS @ PASS MTN. DIVERSION.
 284          KM   WEIR STORAGE DATA OBTAINED FROM 2' CONTOUR MAPPING.
 285          RS       1    STOR       0
 286          SA     .78     4.1    13.7
 287          SE       1       3      10
 288          SS       3      65       3     1.5
              * DDM   ***** Preserved *****

 289          KK    R220
 290          KM   ROUTE FLOW FROM SUB-BASIN 220 TO SUB-BASIN 200
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291          KM   PASS MOUNTAIN DIVERSION
292          RS       1    FLOW      -1
293          RC    .035    .025    .035    1250    .005
294          RX       0      50     100     109     139     148     178     184
295          RY       5       4       3       0       0       3       3       5
             * DDM   ***** Updated *****

296          KK     190
297          KM   SUB-BASIN 190
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  .994
300          KM     L = 1.91  Kb = .042  Adj. Slope =  315.0
301          BA    .918
302          LG    .350    .390   5.800    .190   8.000
303          UC    .321    .185
304          UA       0       3       5       8      12      20      43      75      90      96
305          UA     100
             * DDM   ***** Preserved *****

306          KK    R190
307          KM   ROUTING OF FLOW FROM SUB-BASIN 190 TO SUB-BASIN 200
308          RS       2    FLOW      -1
309          RC    .045     .03    .045    4740     .03
310          RX       0       1       2      17      37      52      53      54
311          RY       5       5       5       0       0       5       5       5
             * DDM   ***** Preserved *****

312          KK    R192
313          KM   ROUTING OF FLOW FROM SUB-BASIN 190 TO SUB-BASIN 200
314          RS       3    FLOW      -1
315          RC    .045    .035    .045    2200    .018
316          RX       0       1      50      59      79      88     137     138
317          RY     4.5       3       3       0       0       3       3     4.5
             * DDM   ***** Updated *****
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LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

318          KK     200
319          KM   SUB-BASIN 200
320          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
321          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .997
322          KM     L = 1.58  Kb = .045  Adj. Slope =  305.6
323          BA    .530
324          LG    .350    .390   5.700    .200  10.000
325          UC    .300    .201
326          UA       0       3       5       8      12      20      43      75      90      96
327          UA     100
             * DDM   ***** Preserved *****

328          KK    C200
329          KM   HYDROGRAPH COMBINATION FOR SUB-BASIN 220 & 200
330          HC       3
             * DDM   ***** Preserved *****

331          KK    S200
332          KM    WEIR GEOMETRY OBTAINED FROM AS-BUILT PLANS @ PASS MTN. DIVERSION.
333          KM   WEIR STORAGE DATA OBTAINED FROM 2' CONTOUR MAPPING.
334          RS       1    STOR       0
335          SA    2.56     3.1     9.4
336          SE       0       3      10
337          SS       3     112       3     1.5
             * DDM   ***** Preserved *****

338          KK    R200
339          KM   ROUTE FLOW FROM SUB-BASIN 200 TO SIGNAL BUTTE FRS through storage
340          RS       1    FLOW      -1
341          RC    .035    .025    .035     650    .005
342          RX       0       1       2      17     117     132     133     134
343          RY       5       5       5       0       0       5       5       5
             * DDM   ***** Preserved *****

344          KK   SS200
345          KM    WEIR GEOMETRY OBTAINED FROM AS-BUILT PLANS @ PASS MTN. DIVERSION.
346          KM   WEIR STORAGE DATA OBTAINED FROM 2' CONTOUR MAPPING.
347          RS       1    STOR       0
348          SA       8     9.2     9.2
349          SE       0       7      10
350          SS       7     251       3     1.5
             * DDM   ***** Preserved *****

351          KK   RR200
352          KM   ROUTE FLOW FROM SUB-BASIN 200 TO SIGNAL BUTTE FRS
353          RS       3    FLOW      -1
354          RC    .035    .025    .035    3150    .005
355          RX       0       1       2      17     117     132     133     134
356          RY       5       5       5       0       0       5       5       5
             * DDM   ***** Preserved *****
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LINE        ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 357        KK   CC180
 358        KM   HYDROGRAPH COMBINATION FOR SIGNAL BUTTE FRS
            *      1       2
 359        HC       2
            * DDM   ***** Preserved *****

 360        KK    S180
            *  Outflow is quadrupled - 5/9/01
 361        KM   SIGNAL BUTTE FRS DATED 1/28/85
 362        KM   OUTLET PIPE=36"RCP; L= 147';  INLET INV.=1690; OUTLET INV.=1687
 363        KM   EMERGENCY SPILLWAY ELEV.=1712.4; PRINCIPLE SPILLWAY ELEV.=1701
 364        KM   STORAGE VOLUME BELOW PRINCIPLE SPILLWAY FOR SEDIMENT = 250 ACRE-FEET
 365        RS       1    STOR       0
 366        SV       0      92     226     462     742    1197    1418    1776    1941    3114
 367        SQ       0      40      42     392     532     596     620    1949    3032    6465
 368        SE      99     101     103     106     109     113   114.6     117     118     120
            * DDM   ***** Preserved *****

 369        KK    R180
 370        KM   Routing length updated using Signal Butte Floodway plans dated March 1983
 371        KM   Routing length increased 100' from 1500' to 1600'    12/12/00
 372        KM   CHANNEL GEOMETRY FOR SIGNAL BUTTE FRS OBTAINED FROM AS-BUILT PLANS.
 373        KM   ROUTE FLOW FROM SIGNAL BUTTE FRS TO SUB-BASIN 260
 374        RS       2    FLOW      -1
 375        RC    .035    .025    .035    1600    .003
 376        RX       0       1       2    22.6    38.6    59.2      60      61
 377        RY     9.3     9.3     9.3       0       0     9.3     9.3     9.3
            * DDM   ***** Updated *****

 378        KK     260
 379        KM   SUB-BASIN 260
 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 =  .81  Kb = .049  Adj. Slope =   68.0
 383        BA    .262
 384        LG    .300    .190   6.600    .170  15.000
 385        UC    .363    .217
 386        UA       0       5      16      30      65      77      84      90      94      97
 387        UA     100
            * DDM   ***** Preserved *****

 388        KK    C260
 389        KM   HYDROGRAPH COMBINATION FOR OUTFLOW OF SIGNAL BUTTE FRS & SUB-BASIN 260
 390        HC       2    .262
            * DDM   ***** Preserved *****

 391        KK    R260
 392        KM   Routing length updated using Signal Butte Floodway plans dated March 1983
 393        KM   Routing length unchanged     12/12/00
 394        KM   CHANNEL GEOMETRY FOR SIGNAL BUTTE FRS OBTAINED FROM AS-BUILT PLANS.
 395        KM   ROUTE FLOW FROM SUB-BASIN 260 TO SUB-BASIN 280
 396        RS       3    FLOW      -1
 397        RC    .035    .025    .035    2300    .003
 398        RX       0       1       2    23.4    43.4    64.8      65      66
1                                         HEC-1 INPUT                                          PAGE 11

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

 399        RY     9.7     9.7     9.7       0       0     9.7     9.7     9.7
            * DDM   ***** Updated *****

 400        KK     280
 401        KM   SUB-BASIN 280
 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  .998
 404        KM     L =  .77  Kb = .048  Adj. Slope =   84.0
 405        BA    .319
 406        LG    .300    .250   5.300    .290  15.000
 407        UC    .329    .168
 408        UA       0       5      16      30      65      77      84      90      94      97
 409        UA     100
            * DDM   ***** Preserved *****

 410        KK    C280
 411        KM   HYDROGRAPH COMBINATION FOR SUB-BASIN 260 & SUB-BASIN 280
 412        HC       2
            * DDM   ***** Preserved *****

 413        KK    R280
 414        KM   Routing length updated using Signal Butte Floodway plans dated March 1983
 415        KM   Routing length decreased 400' from 2500' to 2100'    12/12/00
 416        KM   CHANNEL GEOMETRY FOR SIGNAL BUTTE FRS OBTAINED FROM AS-BUILT PLANS.
 417        KM   ROUTE FLOW FROM SUB-BASIN 280 TO SUB-BASIN 300
 418        RS       3    FLOW      -1
 419        RC    .035    .025    .035    2100    .003
 420        RX       0       1       2    23.4    43.4    64.8      65      66
 421        RY     9.7     9.7     9.7       0       0     9.7     9.7     9.7
            *
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                * The sub-basin area and soil make-up have been updated from CAD file 12/07/00
                * DDM   ***** Updated *****

 422            KK     300
 423            KM   SUB-BASIN 300
 424            KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
 425            KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .998
 426            KM     L =  .78  Kb = .049  Adj. Slope =  103.0
 427            BA    .289
 428            LG    .320    .290   4.200    .480  11.000
 429            UC    .325    .177
 430            UA       0       5      16      30      65      77      84      90      94      97
 431            UA     100
                * DDM   ***** Preserved *****

 432            KK    C300
 433            KM   HYDROGRAPH COMBINATION OF SUB-BASIN 280 & 300
 434            HC       2
                * DDM   ***** Preserved *****
1                                          HEC-1 INPUT                                          PAGE 12

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

 435            KK    R300
 436            KM   Routing length updated using Signal Butte Floodway plans dated March 1983
 437            KM   Routing length increased 300' from 2200' to 2500'    12/12/00
 438            KM   CHANNEL GEOMETRY FOR SIGNAL BUTTE FRS OBTAINED FROM AS-BUILT PLANS.
 439            KM   ROUTE FLOW FROM SUB-BASIN 300 TO START OF FLOODWAY CONCRETE CHANNEL
 440            RS       2    FLOW      -1
 441            RC    .035    .025    .035    2500    .003
 442            RX       0       1       2    23.4    55.4    76.8      77      78
 443            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 *****

 444            KK     305
 445            KM   SUB-BASIN 305
 446            KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
 447            KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .996
 448            KM     L = 2.50  Kb = .044  Adj. Slope =  116.0
 449            BA    .702
 450            LG    .340    .340   4.550    .350   6.000
 451            UC    .642    .576
 452            UA       0       5      16      30      65      77      84      90      94      97
 453            UA     100
                * DDM   ***** Preserved *****

 454            KK    C305
 455            KM   HYDROGRAPH COMBINATION OF SUB-BASIN 300 AND 305
 456            HC       2
                * DDM   ***** Preserved *****

 457            KK    R305
 458            KM   Routing length updated using Signal Butte Floodway plans dated March 1983
 459            KM   Routing length decreased 50' from 6050' to 6000'     12/12/00
 460            KM   CHANNEL GEOMETRY FOR SPOOK HILL FRS OBTAINED FROM AS-BUILTS PLANS.
 461            KM   CONTINUE TO ROUTE FLOW WITHIN CONCRETE CHANNEL TO SPOOK HILL FRS
 462            RS       3    FLOW      -1
 463            RC    .016    .016    .016    6000   .0146
 464            RX       0       1       2     2.1    16.1    16.2      17      18
 465            RY     7.5     7.5     7.5       0       0     7.5     7.5     7.5
                *      1       2
                * DDM   ***** Updated *****

 466            KK     350
 467            KM   SUB-BASIN 350
 468            KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
 469            KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .994
 470            KM     L = 2.22  Kb = .042  Adj. Slope =  315.0
 471            BA    .970
 472            LG    .350    .350   4.550    .340   4.000
 473            UC    .367    .234
 474            UA       0       3       5       8      12      20      43      75      90      96
 475            UA     100
                * DDM   ***** Preserved *****
1                                          HEC-1 INPUT                                          PAGE 13

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

 476            KK    D350
 477            KM   DIVERT FLOW FROM SUB-BASIN 350. FOR MODELING PURPOSES THE SPLIT FLOW WILL
 478            KM   BE ROUTED BETWEEN SUB-BASINS 355 & 310. THE MAIN FLOW WILL ROUTED TO 310
 479            DT   SF350
 480            DI       0    5000
 481            DQ       0    2500
                * DDM   ***** Preserved *****

 482            KK    R350
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483          KM   CHANNEL GEOMETRY OBTAINED FROM 2' CONTOUR MAPPING
484          KM   ROUTING OF MAIN FLOW FROM DIVERSION OF SUB-BASIN 350 TO SUB-BASIN 310
485          RS       6    FLOW      -1
486          RC    .045    .035    .045    5150    .025
487          RX       0       1      40      46      56      62     102     103
488          RY       3       2       2       0       0       2       2       3
             * DDM   ***** Updated *****

489          KK     310
490          KM   SUB-BASIN 310
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 = 2.70  Kb = .045  Adj. Slope =  283.5
494          BA    .555
495          LG    .350    .350   3.910    .480    .000
496          UC    .483    .511
497          UA       0       3       5       8      12      20      43      75      90      96
498          UA     100
             * DDM   ***** Preserved *****

499          KK    C310
500          KM   HYDROGRAPH COMBINATION OF SUB-BASINS 350 & 310
501          HC       2    1.04
             * DDM   ***** Preserved *****

502          KK    R310
503          KM   CHANNEL GEOMETRY OBTAINED FROM 2' CONTOUR MAPPING.
504          KM   ROUTING OF FLOW FROM SUB-BASIN 310 TO 320
505          RS      10    FLOW      -1
506          RC    .045    .035    .045   10050    .022
507          RX       0       1      40      46      56      62     102     103
508          RY       3       2       2       0       0       2       2       3
             *
             * The sub-basin area and soil make-up have been updated from CAD file 12/07/00
             * DDM   ***** Updated *****

509          KK     320
510          KM   SUB-BASIN 320
511          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
512          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .994
513          KM     L = 2.20  Kb = .042  Adj. Slope =  132.0
514          BA    .950
515          LG    .310    .300   4.600    .350  14.000
516          UC    .508    .338
517          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

518          UA     100
             * DDM   ***** Preserved *****

519          KK    D320
520          KM        DIVERT FLOW INTO ONLINE  DETENTION BASIN
521          KM   DETENTION/RETENTION BASINS LOCATED WITHIN THREE SUBDIVISIONS
522          KM   SIERRA HEIGHTS       FALCON RIDGE    & MARBLE CREEK
523          KM        MAXIMUM VOLUME DIVERSION = 12.27acre-feet
             *      1
524          DT   BS320   12.27
525          DI       0   10000
526          DQ       0   10000
             * DDM   ***** Preserved *****

527          KK   RT320
528          KM   RETRIEVE FLOW FROM DIVERSION INTO ONLINE BASIN
529          DR   BS320
             * DDM   ***** Preserved *****

530          KK    S320
531          KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
532          KM   12.27 ACRE-FEETx43560/36x3600=4.1cfs
             *      1
533          RS       1    STOR       0
534          SV       0     .01    12.3
535          SQ       0     3.0     4.2
             * DDM   ***** Preserved *****

536          KK    C320
537          KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
538          HC       4
             * ADD ROUTING ALONG SPOOK HILL FRS
             * DDM   ***** Preserved *****

539          KK    R320
540          KM   ROUTE FLOW THROUGH SPOOK HILL FRS FROM JUNCTION OF BROWN & ELLSWORTH ROAD
541          KM   TO JUST NORTH OF JUNCTION OF MCDOWELL & POWER RD.
542          RS       9    FLOW      -1
543          RC    .035    .035    .035    4500   .0007
544          RX       0       9      50      68     198     206     267     275
545          RY     100      97      97      91      91      97      97     100
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            * DDM   ***** Updated *****

546         KK     340
547         KM   SUB-BASIN 340
548         KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
549         KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .991
550         KM     L = 2.40  Kb = .042  Adj. Slope =  160.0
551         BA   1.440
552         LG    .280    .280   4.150    .520  21.000
553         UC    .512    .288
554         UA       0       5      16      30      65      77      84      90      94      97
555         UA     100
            * DDM   ***** Preserved *****
1                                        HEC-1 INPUT                                          PAGE 15

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

556         KK    D340
557         KM        DIVERT FLOW INTO ONLINE  DETENTION BASIN
558         KM   DETENTION/RETENTION BASINS LOCATED WITHIN THREE SUBDIVISIONS
559         KM   GRANDVIEW ESTATES    BOULDER MOUNTAIN & 33% OF MESA HIGHLANDS
560         KM        MAXIMUM VOLUME DIVERSION = 56.0 acre-feet
            *      1
561         DT   BS340      56
562         DI       0   10000
563         DQ       0   10000
            * DDM   ***** Preserved *****

564         KK   RT340
565         KM   RETRIEVE FLOW FROM DIVERSION INTO ONLINE BASIN
566         DR   BS340
            * DDM   ***** Preserved *****

567         KK    S340
568         KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
569         KM    56.0 ACRE-FEETx43560/36x3600=18.8cfs
            *      1
570         RS       1    STOR       0
571         SV       0     .01      56
572         SQ       0     3.0    18.9
            * DDM   ***** Preserved *****

573         KK    C340
574         KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
575         HC       3
            * ADD ROUTING ALONG SPOOK HILL FRS
            * DDM   ***** Preserved *****

576         KK    R340
577         KM   ROUTE FLOW THROUGH SPOOK HILL FRS FROM JUNCTION OF BROWN & ELLSWORTH ROAD
578         KM   TO JUST NORTH OF JUNCTION OF MCDOWELL & POWER RD.
579         RS       6    FLOW      -1
580         RC    .035    .035    .035    2300    .0007
581         RX       0       9      50      68     233     241     307     315
582         RY     100      97      97      91      91      97      97     100
            * DDM   ***** Preserved *****

583         KK   RT350
584         KM   RETRIEVE SPLIT FLOW FROM DIVERSION OF SUB-BASIN 350
585         DR   SF350
            * DDM   ***** Preserved *****

586         KK   RR350
587         KM   CHANNEL GEOMETRY OBTAINED FROM 2' CONTOUR MAPPING.
588         KM   ROUTING OF FLOW FROM SPLIT OF SUB-BASIN 350 TO 355
589         RS       7    FLOW      -1
590         RC    .045    .035    .045    6050    .025
591         RX       0       1      40      46      56      62     102     103
592         RY       3       2       2       0       0       2       2       3
            *
            * The sub-basin area and soil make-up have been updated from CAD file 12/07/00
            * DDM   ***** Updated *****
1                                        HEC-1 INPUT                                          PAGE 16

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

593         KK     355
594         KM   SUB-BASIN 355
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  .996
597         KM     L = 3.00  Kb = .044  Adj. Slope =  284.0
598         BA    .676
599         LG    .340    .340   4.450    .370   4.000
600         UC    .488    .502
601         UA       0       3       5       8      12      20      43      75      90      96
602         UA     100
            * DDM   ***** Preserved *****

603         KK    C355
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604          KM   HYDROGRAPH COMBINATION OF SUB-BASIN 355 AND THE SPLIT FLOW FROM SUB-BASIN 350
605          HC       2   1.161
             * DDM   ***** Preserved *****

606          KK    R355
607          KM   CHANNEL GEOMETRY OBTAINED FROM 2' CONTOUR MAPPING.
608          KM   ROUTING OF FLOW FROM SUB-BASIN 355 TO SUB-BASIN 360
609          RS       9    FLOW      -1
610          RC    .045    .035    .045   10100    .026
611          RX       0       1      40      46      56      62     102     103
612          RY       3       2       2       0       0       2       2       3
             * DDM   ***** Updated *****

613          KK     360
614          KM   SUB-BASIN 360
615          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
616          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .995
617          KM     L = 2.10  Kb = .047  Adj. Slope =  124.0
618          BA    .880
619          LG    .260    .270   4.100    .560  20.000
620          UC    .575    .390
621          UA       0       5      16      30      65      77      84      90      94      97
622          UA     100
             * DDM   ***** Preserved *****

623          KK    D360
624          KM        DIVERT FLOW INTO ONLINE  DETENTION BASIN
625          KM   DETENTION/RETENTION BASINS LOCATED WITHIN 33% OF MESA HIGHLANDS
626          KM        MAXIMUM VOLUME DIVERSION = 28.6 acre-feet
             *      1
627          DT   BS360    28.6
628          DI       0   10000
629          DQ       0   10000
             * DDM   ***** Preserved *****

630          KK   RT360
631          KM   RETRIEVE FLOW FROM DIVERSION INTO ONLINE BASIN
632          DR   BS360
             * DDM   ***** Preserved *****
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LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

633          KK    S360
634          KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
635          KM    28.6 ACRE-FEETx43560/36x3600=9.6cfs
636          RS       1    STOR       0
637          SV       0     .01    28.6
638          SQ       0     3.0     9.6
             * DDM   ***** Preserved *****

639          KK    C360
640          KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
641          HC       4
             *
             * OFFLINE DETENTION BASIN ADDED THIS ALTERNATIVE
             * DDM   ***** Preserved *****

642          KK   DD380
643          KM        DIVERT FLOW INTO OFFLINE  DETENTION BASIN
644          KM        IN RED MOUNTAIN REGIONAL PARK
645          KM
646          DT    380S
647          DI       0    1960   10000
648          DQ       0       0    8040
             * DDM   ***** Preserved *****

649          KK  RT380S
650          KM   RETRIEVE FLOW FROM DIVERSION INTO OFFLINE BASIN
651          DR    380S
             * DDM   ***** Preserved *****

652          KK   SS380
653          KM   OFFLINE BASIN IN PARK AREA
             *  Total Volume = 90 A-F, Maximum Inflow = 2660 cfs
             *  Bleed-off Pipe Diameter = 2.5', and Weir Flow Start at 3' of Ponding. 3/26/01
             * KO       1       2
654          RS       1    STOR       0
655          SV     0.0    10.0    25.0    60.0   100.0   150.0
656          SE       0      .5       1     2.0     3.0     4.0
657          SL     0.5    4.91     0.6     0.5
658          SS       3     50     3.0     1.5
             * DDM   ***** Preserved *****

659          KK   CC360
660          KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
661          HC       2
             *
             * ADD ROUTING ALONG SPOOK HILL FRS
             * DDM   ***** Preserved *****
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662          KK    R360
663          KM   ROUTE FLOW THROUGH SPOOK HILL FRS FROM JUNCTION OF BROWN & ELLSWORTH ROAD
664          KM   TO JUST NORTH OF JUNCTION OF MCDOWELL & POWER RD.
665          RS       6    FLOW      -1
666          RC    .035    .035    .035    2600    .0007
667          RX       0       9      50      68     268     286     337     345
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LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

668          RY     100      97      97      91      91      97      97     100
             *
             * The sub-basin area and soil make-up have been updated from CAD file 12/07/00
             * DDM   ***** Updated *****

669          KK     370
670          KM   SUB-BASIN 370
671          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
672          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .996
673          KM     L = 1.90  Kb = .044  Adj. Slope =  203.5
674          BA    .672
675          LG    .340    .320   4.650    .330   8.000
676          UC    .404    .284
677          UA       0       3       5       8      12      20      43      75      90      96
678          UA     100
             *
             * The sub-basin area and soil make-up have been updated from CAD file 12/07/00
             * DDM   ***** Updated *****

679          KK     395
680          KM   SUB-BASIN 395
681          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
682          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .999
683          KM     L = 1.30  Kb = .051  Adj. Slope =  219.2
684          BA    .199
685          LG    .330    .320   4.900    .300  10.000
686          UC    .333    .338
687          UA       0       3       5       8      12      20      43      75      90      96
688          UA     100
             * DDM   ***** Preserved *****

689          KK    C370
690          KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
691          HC       2
             * DDM   ***** Preserved *****

692          KK    R370
693          KM   CHANNEL GEOMETRY OBTAINED FROM 2' CONTOUR MAPPING.
694          KM   ROUTING OF FLOW FROM SUB-BASINS 370 AND 395 TO SUB-BASIN 380.
695          RS      12    FLOW      -1
696          RC    .045    .035    .045   10250    .023
697          RX       0       1      40      46      56      62     102     103
698          RY       3       2       2       0       0       2       2       3
             * DDM   ***** Updated *****

699          KK     380
700          KM   SUB-BASIN 380
701          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
702          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .995
703          KM     L = 2.20  Kb = .049  Adj. Slope =  114.0
704          BA    .898
705          LG    .300    .310   4.150    .500   7.000
706          UC    .671    .475
707          UA       0       5      16      30      65      77      84      90      94      97
708          UA     100
             * DDM   ***** Preserved *****
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LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

709          KK    D380
710          KM        DIVERT FLOW INTO ONLINE  DETENTION BASIN
711          KM   DETENTION/RETENTION BASINS LOCATED WITHIN 33% OF MESA HIGHLANDS
712          KM        MAXIMUM VOLUME DIVERSION = 28.6 acre-feet
             *      1
713          DT   BS380    28.6
714          DI       0   10000
715          DQ       0   10000
             * DDM   ***** Preserved *****

716          KK   RT380
717          KM   RETRIEVE FLOW FROM DIVERSION INTO ONLINE BASIN
718          DR   BS380
             * DDM   ***** Preserved *****

719          KK    S380
720          KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
721          KM    28.6 ACRE-FEETx43560/36x3600=9.6cfs
722          RS       1    STOR       0
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723          SV       0      .01    28.6
724          SQ       0      3.0     9.6
             * DDM   ***** Preserved *****

725          KK    C380
726          KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
727          HC       3
             *
             * DDM   ***** Preserved *****

728          KK   CC380
729          KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
730          HC       2
             * ADD ROUTING ALONG SPOOK HILL FRS
             * DDM   ***** Preserved *****

731          KK    R380
732          KM   ROUTE FLOW THROUGH SPOOK HILL FRS FROM JUNCTION OF BROWN & ELLSWORTH ROAD
733          KM   TO JUST NORTH OF JUNCTION OF MCDOWELL & POWER RD.
734          RS       8    FLOW      -1
735          RC    .035    .035    .035    4000   .0007
736          RX       0       9      50      68     163     181     257     265
737          RY     100      97      97      91      91      97      97     100
             *
             * DDM   ***** Updated *****

738          KK     390
739          KM   SUB-BASIN 390
740          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
741          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .999
742          KM     L =  .70  Kb = .050  Adj. Slope =  299.4
743          BA    .244
744          LG    .300    .250   4.700    .380  18.000
745          UC    .204    .107
746          UA       0       5      16      30      65      77      84      90      94      97
1                                          HEC-1 INPUT                                          PAGE 20

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

747          UA     100
             * DDM   ***** Preserved *****

748          KK    D390
749          KM        DIVERT FLOW INTO ONLINE  DETENTION BASIN
750          KM   DETENTION/RETENTION BASINS LOCATED WITHIN THUNDER MOUNTAIN ESTATES
751          KM        MAXIMUM VOLUME DIVERSION  = 3.5 acre-feet
             *      1
752          DT   BS390     3.5
753          DI       0   10000
754          DQ       0   10000
             * DDM   ***** Preserved *****

755          KK   RT390
756          KM   RETRIEVE FLOW FROM DIVERSION INTO ONLINE BASIN
757          DR   BS390
             * DDM   ***** Preserved *****

758          KK    S390
759          KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
760          KM     3.5 ACRE-FEETx43560/36x3600=1.2cfs
761          RS       1    STOR       0
762          SV       0     .01     3.5
763          SQ       0     0.2     1.2
             * DDM   ***** Preserved *****

764          KK    C390
765          KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
766          HC       2
             * DDM   ***** Preserved *****

767          KK    R390
768          KM   CHANNEL GEOMETRY OBTAINED FROM 2' CONTOUR MAPPING.
769          KM   FROM SUB-BASIN 390 TO SUB-BASIN 400
770          RS      15    FLOW      -1
771          RC    .045    .045    .045    8800    .020
772          RX       0       1      40      46      56      62     102     103
773          RY       3       2       2       0       0       2       2       3
             * DDM   ***** Updated *****

774          KK     400
775          KM   SUB-BASIN 400
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  .996
778          KM     L = 1.64  Kb = .046  Adj. Slope =  110.0
779          BA    .616
780          LG    .320    .300   4.150    .490   6.000
781          UC    .508    .342
782          UA       0       5      16      30      65      77      84      90      94      97
783          UA     100
             * DDM   ***** Preserved *****
1                                          HEC-1 INPUT                                          PAGE 21
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 784          KK    D400
 785          KM        DIVERT FLOW INTO ONLINE  DETENTION BASIN
 786          KM   DETENTION/RETENTION BASIN LOCATED WITHIN SAGUARO VISTA SUBDIVISION
 787          KM        MAXIMUM VOLUME DIVERSION = 5.6 ACRE-FEET
              *      1
 788          DT   BS400     5.6
 789          DI       0   10000
 790          DQ       0   10000
              * DDM   ***** Preserved *****

 791          KK   RT400
 792          KM   RETRIEVE FLOW FROM DIVERSION INTO ONLINE BASIN
 793          DR   BS400
              * DDM   ***** Preserved *****

 794          KK    S400
 795          KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
 796          KM     5.6 ACRE-FEETx43560/36x3600 = 2 cfs
 797          RS       1    STOR       0
 798          SV       0     .01     5.6
 799          SQ       0     1.0       2
              * DDM   ***** Preserved *****

 800          KK    C400
 801          KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
 802          HC       2
              * DDM   ***** Preserved *****

 803          KK   CC400
 804          KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
 805          HC       3
              * ADD ROUTING ALONG SPOOK HILL FRS
              * DDM   ***** Preserved *****

 806          KK    R400
 807          KM   ROUTE FLOW THROUGH SPOOK HILL FRS FROM JUNCTION OF BROWN & ELLSWORTH ROAD
 808          KM   TO JUST NORTH OF JUNCTION OF MCDOWELL & POWER RD.
 809          RS       9    FLOW      -1
 810          RC    .035    .035    .035    3800   .0007
 811          RX       0       9      50      68     163     181     257     265
 812          RY     100      97      97      91      91      97      97     100
              *
              * DDM   ***** Updated *****

 813          KK     385
 814          KM   SUB-BASIN 385
 815          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
 816          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .997
 817          KM     L = 2.30  Kb = .045  Adj. Slope =  303.0
 818          BA    .527
 819          LG    .340    .360   5.600    .220  13.000
 820          UC    .383    .358
 821          UA       0       3       5       8      12      20      43      75      90      96
 822          UA     100
              * DDM   ***** Preserved *****
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 823          KK    D385
 824          KM   DIVERT FLOW INTO SUB-BASINS 415 & 420
 825          DT   SF385
 826          DI       0    5000
 827          DQ       0    3000
              * DDM   ***** Preserved *****

 828          KK    R385
 829          KM   CHANNEL GEOMETRY OBTAINED FROM 2' CONTOUR MAPPING.
 830          KM   ROUTING OF FLOW DIVERSION FROM SUB-BASIN 385 INTO SUB-BASIN 420
 831          RS      13    FLOW      -1
 832          RC    .045     .04    .045   10250    .022
 833          RX       0       1      40      46      56      62     102     103
 834          RY       3       2       2       0       0       2       2       3
              * DDM   ***** Updated *****

 835          KK     420
 836          KM   SUB-BASIN 420
 837          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
 838          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .995
 839          KM     L = 1.91  Kb = .042  Adj. Slope =  120.0
 840          BA    .849
 841          LG    .310    .270   3.880    .580  12.000
 842          UC    .512    .325
 843          UA       0       5      16      30      65      77      84      90      94      97
 844          UA     100
              * DDM   ***** Preserved *****
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845          KK    D420
846          KM        DIVERT FLOW INTO ONLINE  DETENTION BASIN
847          KM   DETENTION/RETENTION BASINS LOCATED WITHIN GRAY FOX SUBDIVISION
848          KM        MAXIMUM VOLUME DIVERSION = 8.65 acre-feet
             *      1
849          DT   BS420    8.65
850          DI       0   10000
851          DQ       0   10000
             * DDM   ***** Preserved *****

852          KK   RT420
853          KM   RETRIEVE FLOW FROM DIVERSION INTO ONLINE BASIN
854          DR   BS420
             * DDM   ***** Preserved *****

855          KK    S420
856          KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
857          KM    8.65 ACRE-FEETx43560/36x3600=2.9cfs
858          RS       1    STOR      0
859          SV       0     .01    8.65
860          SQ       0     1.0     2.9
             * DDM   ***** Preserved *****
1                                        HEC-1 INPUT                                          PAGE 23

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


861          KK    C420
862          KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
863          HC       3  1.0598
             * DDM   ***** Preserved *****

864          KK   CC420
865          KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
866          HC       2
             * ADD ROUTING ALONG SPOOK HILL FRS
             * DDM   ***** Preserved *****

867          KK    R420
868          KM   ROUTE FLOW THROUGH SPOOK HILL FRS FROM JUNCTION OF BROWN & ELLSWORTH ROAD
869          KM   TO JUST NORTH OF JUNCTION OF MCDOWELL & POWER RD.
870          RS       6    FLOW      -1
871          RC    .035    .035    .035    2900    .0007
872          RX       0       9      50      68     163     181     257     265
873          RY     100      97      97      91      91      97      97     100
             *
             * DDM   ***** Updated *****

874          KK     440
875          KM   SUB-BASIN 440
876          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
877          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF 1.000
878          KM     L =  .40  Kb = .039  Adj. Slope =  315.0
879          BA    .080
880          LG    .190    .380   6.400    .140  13.000
881          UC    .129    .077
882          UA       0       3       5       8      12      20      43      75      90      96
883          UA     100
             * DDM   ***** Preserved *****

884          KK     R70
885          KM   ROUTE FLOW FROM SUB-BASIN 440 TO C108
886          RS       2    FLOW      -1
887          RC     .05    .035     .05    2250     .08
888          RX    1000    1025    1050    1070    1075    1095    1120    1145
889          RY      30    22.9    15.7      10      10    15.7    22.9      30
             * DDM   ***** Updated *****

890          KK     441
891          KM   SUB-BASIN 441
892          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
893          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF 1.000
894          KM     L =  .28  Kb = .069  Adj. Slope =  315.0
895          BA    .010
896          LG    .300    .250   5.600    .220   5.000
897          UC    .150    .225
898          UA       0       5      16      30      65      77      84      90      94      97
899          UA     100
             * DDM   ***** Preserved *****
1                                        HEC-1 INPUT                                          PAGE 24

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


900          KK    C108
901          KM   COMBINE HYDROGRAPHS FROM SUB-BASINS 440 & 441
902          HC       2
             * DDM   ***** Preserved *****

903          KK      D4
904          KM        SPLIT FLOW WITH TWO 42 INCH PIPES TO WEST AND SOUTH
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```
                *      1
905             DT   SPLIT
906             DI       0      14      40      82     120     154     180
907             DQ       0       7      20      41      60      77      90
                * DDM   ***** Preserved *****

908             KK    R108
909             KM        ROUTE FLOW FROM SUB-BASIN C108 TO C67
910             RS       2    FLOW      -1
911             RC     .05    .035     .05    3200      .1
912             RX    1000    1025    1050    1070    1075    1095    1120    1145
913             RY      30    22.9    15.7      10      10    15.7    22.9      30
                * DDM   ***** Updated *****

914             KK     442
915             KM   SUB-BASIN 442
916             KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
917             KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .999
918             KM     L =  .83  Kb = .055  Adj. Slope =  274.2
919             BA    .100
920             LG    .300    .270   3.290    .770   5.000
921             UC    .258    .264
922             UA       0       5      16      30      65      77      84      90      94      97
923             UA     100
                * DDM   ***** Preserved *****

924             KK     C67
925             KM   COMBINE FLOW FROM SUB-BASIN 442 & DIV4
926             HC       2
                * DDM   ***** Preserved *****

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

933             KK    RTD6
934             KM   RETRIEVE FLOW FROM DIVERSION INTO OFFLINE BASIN
935             DR  BASIN4
                * DDM   ***** Preserved *****
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LINE            ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

936             KK     SD6
937             KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
938             KM     3.3 ACRE-FEETx43560/36x3600=1.1cfs
                *      1
939             RS       1    STOR       0
940             SV       0     .01     3.3
941             SQ       0     0.2     1.1
                * DDM   ***** Preserved *****

942             KK     CD6
943             KM   HYDROGRAPH COMBINATION FOR OFFLINE BASIN BLEEDOFF
944             HC       2
                * DDM   ***** Updated *****

945             KK     443
946             KM   SUB-BASIN 443
947             KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
948             KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF 1.000
949             KM     L =  .71  Kb = .050  Adj. Slope =  315.0
950             BA    .080
951             LG    .250    .190   8.000    .080  10.000
952             UC    .196    .194
953             UA       0       5      16      30      65      77      84      90      94      97
954             UA     100
                * DDM   ***** Preserved *****

955             KK     D66
956             KM        DIVERT FLOW INTO 3 NATURAL WASHES WITH ONE 24" PIPE IN EACH WASH.
957             KM        EACH PIPE CAPACITY BASED ON 4 FEET OF HEAD
958             DT   WSH66
959             DI       0      78     100     200
960             DQ       0      78      78      78
                * DDM   ***** Preserved *****

961             KK    R113
962             KM        ROUTE FLOW FROM C113 TO C114
963             RS       1    FLOW      -1
964             RC    .019    .019    .019    1300    .029
965             RX    1000    1004    1008    1012    1018    1022    1026    1030
966             RY      17   15.33   12.67      10      10   12.67   15.33      17
                * DDM   ***** Preserved *****
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 967          KK    C114
 968          KM        COMBINE HYDROGRAPHS FROM SUB-BASIN 67 AND C113
 969          HC       2
              * DDM   ***** Updated *****

 970          KK     444
 971          KM   SUB-BASIN 444
 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 1.000
 974          KM     L =  .33  Kb = .034  Adj. Slope =  315.0
 975          BA    .040
 976          LG    .130    .350   4.450    .320   1.000
1                                          HEC-1 INPUT                                                    PAGE 26

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

 977          UC    .112    .084
 978          UA       0       3       5       8      12      20      43      75      90      96
 979          UA     100
              * DDM   ***** Preserved *****

 980          KK     R58
 981          KM   ROUTE FLOW FROM SUB-BASIN 444 TO C107
 982          RS       2    FLOW      -1
 983          RC     .05    .035     .05    2370   .0516
 984          RX    1000    1010    1020    1050    1055    1085    1095    1105
 985          RY      19      18      17      10      10      17      18      19
              * DDM   ***** Updated *****

 986          KK     445
 987          KM   SUB-BASIN 445
 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  .999
 990          KM     L =  .82  Kb = .036  Adj. Slope =  315.0
 991          BA    .190
 992          LG    .170    .320   3.470    .590   3.000
 993          UC    .192    .130
 994          UA       0       5      16      30      65      77      84      90      94      97
 995          UA     100
              * DDM   ***** Preserved *****

 996          KK    C107
 997          KM   COMBINE HYDROGRAPHS FROM SUB-BASINS 444 & 445
 998          HC       2
              * DDM   ***** Preserved *****

 999          KK    R107
1000          KM        ROUTE FLOW FROM C107 TO C109
1001          RS       2    FLOW      -1
1002          RC     .05    .035     .05     700   .0516
1003          RX    1000    1010    1020    1050    1055    1085    1095    1105
1004          RY      19      18      17      10      10      17      18      19
              * DDM   ***** Preserved *****

1005          KK    RTB2
1006          KM        RETRIEVE DIVERTED FLOW FROM BASIN 1
              *      1
1007          DR   SPLIT
              * DDM   ***** Preserved *****

1008          KK  RSPLIT
1009          KM        ROUTE FLOW FROM SPLIT TO C109
1010          RS       1    FLOW      -1
1011          RC     .05    .035     .05     800     .05
1012          RX    1000    1025    1050    1070    1075    1095    1120    1145
1013          RY      30    22.9    15.7      10      10    15.7    22.9      30
              * DDM   ***** Updated *****
1                                          HEC-1 INPUT                                                    PAGE 27

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

1014          KK     446
1015          KM   SUB-BASIN 446
1016          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1017          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF 1.000
1018          KM     L =  .46  Kb = .061  Adj. Slope =  303.9
1019          BA    .040
1020          LG    .270    .250   4.500    .400  19.000
1021          UC    .183    .189
1022          UA       0       5      16      30      65      77      84      90      94      97
1023          UA     100
              * DDM   ***** Preserved *****

1024          KK    C109
1025          KM        COMBINE HYDROGRAPHS FROM COMBINES C107 AND C108
1026          HC       3
              * DDM   ***** Preserved *****

1027          KK      D5
1028          KM        DIVERT FLOW INTO WASHES TOWARDS WEST
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1029          KM        DIVERSION THROUGH 36" PIPE WITH 3 FEET OF HEAD
              *      1
1030          DT  WSH404
1031          DI       0     40.7    71.2   121.6     190     276   379.4   500.6
1032          DQ       0       35      35      35      35      35      35      35
              * DDM   ***** Preserved *****

1033          KK    R109
1034          KM        ROUTE FLOW FROM C109 TO C110
1035          RS       1    FLOW      -1
1036          RC    .019    .019    .019    3080     .05
1037          RX    1000    1005    1010    1015    1025    1030    1035    1040
1038          RY   13.75    12.5   11.25      10      10   11.25    12.5   13.75
              * DDM   ***** Updated *****

1039          KK     447
1040          KM   SUB-BASIN 447
1041          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1042          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .999
1043          KM     L =  .49  Kb = .056  Adj. Slope =  221.0
1044          BA    .090
1045          LG    .250    .270   3.350    .870  30.000
1046          UC    .208    .145
1047          UA       0       5      16      30      65      77      84      90      94      97
1048          UA     100
              * DDM   ***** Preserved *****

1049          KK   RT404
1050          KM        RETRIEVE DIVERTED FLOW FOR WASH 109
1051          DR  WSH404
              * DDM   ***** Preserved *****
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1052          KK    R404
1053          KM        ROUTE FLOW FROM C110 TO C110
1054          RS       6    FLOW      -1
1055          RC    .019    .019    .019    3540     .03
1056          RX    1000    1012    1016    1020    1025    1029    1033    1045
1057          RY      15      12      11      10      10      11      12      15
              * DDM   ***** Preserved *****

1058          KK    C110
1059          KM   COMBINE HYDROGRAPHS FROM SUB-BASIN 447 AND R404
1060          HC       3
              * DDM   ***** Preserved *****

1061          KK    R110
1062          KM        ROUTE FLOW FROM C110 TO C115
1063          RS       1    FLOW      -1
1064          RC    .019    .019    .019     580   .0291
1065          RX    1000    1012    1016    1020    1035    1039    1043    1055
1066          RY      15      12      11      10      10      11      12      15
              * DDM   ***** Preserved *****

1067          KK    C115
1068          KM        COMBINE HYDROGRAPHS FROM C114 AND C110
1069          HC       2
              * DDM   ***** Preserved *****

1070          KK    R115
              * ******OUTFLOW FROM THIS ROUTING IS GREATER THAN INFLOW TO THE
              * ******ROUTING BY 2cfs.  THIS IS NOTED BUT LEFT UNCHANGED WITHIN THE MODEL
1071          KM        ROUTE FLOW FROM C115 TO Sub 453
1072          RS       1    FLOW      -1
1073          RC    .019    .019    .019    2125    .029
1074          RX    1000    1012    1016    1020    1035    1039    1043    1055
1075          RY      15      12      11      10      10      11      12      15
              * DDM   ***** Updated *****

1076          KK     448
1077          KM   SUB-BASIN 448
1078          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1079          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF 1.000
1080          KM     L =  .36  Kb = .042  Adj. Slope =  315.0
1081          BA    .045
1082          LG    .170    .310   4.200    .390  11.000
1083          UC    .133    .102
1084          UA       0       5      16      30      65      77      84      90      94      97
1085          UA     100
              * DDM   ***** Updated *****

1086          KK     449
1087          KM   SUB-BASIN 449
1088          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1089          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF 1.000
1090          KM     L =  .40  Kb = .054  Adj. Slope =  315.0
1091          BA    .050
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LINE        ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1092        LG    .260    .280   3.500    .640   6.000
1093        UC    .167    .134
1094        UA       0       5      16      30      65      77      84      90      94      97
1095        UA     100
            * DDM   ***** Preserved *****

1096        KK   C6364
1097        KM   COMBINE HYDROGRAPHS FROM SUB-BASINS 448 & 449
1098        HC       2
            * DDM   ***** Preserved *****

1099        KK   R6364
1100        KM   ROUTE FLOW FROM C116 AND SUB-BASINS 448 AND 449
1101        RS       5    FLOW      -1
1102        RC     .05    .035     .05    4375   .0333
1103        RX    1000    1027    1053    1080    1090    1117    1143    1170
1104        RY      15   13.33   11.67      10      10   11.67   13.33      15
            * DDM   ***** Updated *****

1105        KK     450
1106        KM   SUB-BASIN 450
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 1.000
1109        KM     L =  .85  Kb = .057  Adj. Slope =  210.5
1110        BA    .070
1111        LG    .340    .350   3.630    .570   4.000
1112        UC    .296    .383
1113        UA       0       3       5       8      12      20      43      75      90      96
1114        UA     100
            * DDM   ***** Updated *****

1115        KK     451
1116        KM   SUB-BASIN 451
1117        KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1118        KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF 1.000
1119        KM     L =  .57  Kb = .063  Adj. Slope =  175.0
1120        BA    .025
1121        LG    .340    .340   3.290    .750   3.000
1122        UC    .271    .453
1123        UA       0       3       5       8      12      20      43      75      90      96
1124        UA     100
            * DDM   ***** Preserved *****

1125        KK    C451
1126        KM   COMBINE HYDROGRAPHS FROM SUB-BASINS 450 & 451
1127        HC       2
            * DDM   ***** Preserved *****

1128        KK    RT66
1129        KM       RETRIEVE DIVERTED FLOW FROM SUB-BASIN 66
1130        DR   WSH66
            * DDM   ***** Updated *****
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LINE        ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1131        KK     452
1132        KM   SUB-BASIN 452
1133        KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1134        KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF 1.000
1135        KM     L =  .43  Kb = .055  Adj. Slope =  315.0
1136        BA    .040
1137        LG    .260    .280   3.700    .550   9.000
1138        UC    .171    .166
1139        UA       0       5      16      30      65      77      84      90      94      97
1140        UA     100
            * DDM   ***** Preserved *****

1141        KK   C6465
1142        KM   COMBINE HYDROGRAPHS FROM SUB-BASINS 443 AND 452
1143        HC       2
            * DDM   ***** Preserved *****

1144        KK   R6566
1145        KM       ROUTE FLOW FROM DIVERSIONS 65 AND 66 TO C116
1146        RS       3    FLOW      -1
1147        RC     .05    .035     .05    2435   .0282
1148        RX    1000    1045    1090    1150    1160    1220    1265    1310
1149        RY      25      23      20      10      10      20      23      25
            * DDM   ***** Preserved *****

1150        KK    C116
1151        KM   COMBINE HYDROGRAPHS FROM SUB-BASINS 450 & 451 AND R6364 & R6465
1152        HC       3
            * DDM   ***** Preserved *****

1153        KK  BASIN5
1154        KM       RESERVOIR WITHIN PARCEL 31      2-48 INCH PIPES AT OUTFALL
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1155          KM        BASIN 5 FEET DEEP
1156          RS       1    ELEV       0
1157          SV       0     4.5     9.9
1158          SQ       0      69     190
1159          SE       0     2.5       5
              * DDM   ***** Preserved *****

1160          KK    R116
1161          KM   ROUTE FLOW FROM C116 TO C117
1162          RS       2    FLOW      -1
1163          RC     .05    .035     .05    1300   .0333
1164          RX    1000    1100    1200    1300    1320    1420    1520    1620
1165          RY      13      12      11      10      10      11      12      13
              * DDM   ***** Updated *****

1166          KK     453
1167          KM   SUB-BASIN 453
1168          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1169          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF 1.000
1170          KM     L =  .58  Kb = .058  Adj. Slope =  138.0
1171          BA    .060
1172          LG    .290    .300   3.290    .820  18.000
1                                        HEC-1 INPUT                                                    PAGE 31

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

1173          UC    .275    .284
1174          UA       0       5      16      30      65      77      84      90      94      97
1175          UA     100
              * DDM   ***** Preserved *****

1176          KK    C117
1177          KM   COMBINE HYDROGRAPHS FROM SUB-BASIN 453 AND R116
1178          HC       2
              * DDM   ***** Preserved *****

1179          KK    C118
1180          KM   COMBINE HYDROGRAPHS FROM R115 AND C117
1181          HC       2
              * DDM   ***** Preserved *****

1182          KK    R118
1183          KM        ROUTE FLOW FROM C118 TO  DIV7
1184          RS       1    FLOW      -1
1185          RC    .019    .019    .019    1500    .024
1186          RX    1000    1012    1016    1020    1035    1039    1043    1055
1187          RY      15      12      11      10      10      11      12      15
              * DDM   ***** Preserved *****

1188          KK      D7
1189          KM        OFFLINE BASIN AT NORTH MOUNTAIN RIDGE   FLOWS ENTER BASIN OVER
1190          KM        30' WEIR SET AT 5.3' ABOVE THE CHANNEL BOTTOM
              *      1
1191          DT  BASIN6     3.6
1192          DI       0     363     487     563     645     844
1193          DQ       0       3      47      83     125     244
              * DDM   ***** Preserved *****

1194          KK    RTD7
1195          KM   RETRIEVE FLOW FROM DIVERSION INTO OFFLINE BASIN
1196          DR  BASIN6
              * DDM   ***** Preserved *****

1197          KK     SD7
1198          KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
1199          KM     3.6 ACRE-FEETx43560/36x3600=1.2cfs
1200          RS       1    STOR       0
1201          SV       0     .01     3.6
1202          SQ       0     0.2     1.2
              * DDM   ***** Preserved *****

1203          KK     CD7
1204          KM   HYDROGRAPH COMBINATION FOR OFFLINE BASIN BLEEDOFF
1205          HC       2
              * DDM   ***** Updated *****
1                                        HEC-1 INPUT                                                    PAGE 32

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

1206          KK     454
1207          KM   SUB-BASIN 454
1208          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1209          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .999
1210          KM     L = 1.23  Kb = .051  Adj. Slope =  163.0
1211          BA    .180
1212          LG    .300    .310   3.780    .560  14.000
1213          UC    .379    .395
1214          UA       0       5      16      30      65      77      84      90      94      97
1215          UA     100
              * DDM   ***** Preserved *****
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1216        KK    C119
1217        KM        COMBINE HYDROGRAPHS FROM SUB-BASIN 454 AND C119
            *      1       2
1218        HC       2
            * DDM   ***** Preserved *****

1219        KK    R454
1220        KM   CHANNEL GEOMETRY OBTAINED FROM 2' CONTOUR MAPPING.
1221        KM   ROUTE FLOW FROM C119 TO 415C
1222        RS       3    FLOW      -1
1223        RC    .045    .035    .045    2200    .009
1224        RX       0      .5       1      33      42      67    67.5      68
1225        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 *****

1226        KK     415
1227        KM   SUB-BASIN 415
1228        KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1229        KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .996
1230        KM     L = 2.58  Kb = .044  Adj. Slope =  298.5
1231        BA    .609
1232        LG    .320    .290   4.500    .400  15.000
1233        UC    .421    .401
1234        UA       0       5      16      30      65      77      84      90      94      97
1235        UA     100
            * DDM   ***** Preserved *****

1236        KK   RT385
1237        KM   RETRIEVE FLOW FROM DIVERSION OF SUB-BASIN 385 INTO SUB-BASIN 415
1238        DR   SF385
            * DDM   ***** Preserved *****

1239        KK   RR385
1240        KM   CHANNEL GEOMETRY OBTAINED FROM 2' CONTOUR MAPPING.
1241        KM   ROUTING OF SPLIT FLOW FROM SUB-BASIN 385 TO SUB-BASIN 415
1242        RS      11    FLOW      -1
1243        RC    .045     .04    .045    5878    .024
1244        RX       0       1      40      46      56      62     102     103
1245        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

1246        KK    C415
1247        KM   HYDROGRAPH COMBINATION OF SUB-BASINS 415, R454 & SPLIT FLOW FROM 385
1248        HC       2  0.9252
            * DDM   ***** Preserved *****

1249        KK   CC415
1250        KM   HYDROGRAPH COMBINATION OF SUB-BASINS 415, R454 & SPLIT FLOW FROM 385
1251        HC       2
            * DDM   ***** Preserved *****

1252        KK    R415
1253        KM   CHANNEL GEOMETRY OBTAINED FROM 2' CONTOUR MAPPING.
1254        KM   ROUTING OF FLOW FROM 415C TO 455C
1255        RS       3    FLOW      -1
1256        RC    .045     .03    .045    4100    .024
1257        RX       0      .5       1       8      16      23    23.5      24
1258        RY       8       8       8       0       0       8       8       8
            * DDM   ***** Updated *****

1259        KK     455
1260        KM   SUB-BASIN 455
1261        KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1262        KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .993
1263        KM     L = 1.70  Kb = .041  Adj. Slope =  146.0
1264        BA   1.111
1265        LG    .270    .280   3.700    .640  24.000
1266        UC    .421    .204
1267        UA       0       5      16      30      65      77      84      90      94      97
1268        UA     100
            * DDM   ***** Preserved *****

1269        KK    D455
1270        KM        DIVERT FLOW INTO ONLINE  DETENTION BASIN
1271        KM   DETENTION/RETENTION BASINS LOCATED WITHIN LAS SENDAS ADDENDUM III
1272        KM   FOR BASIN #: 30      34      43      47&58
1273        KM        MAXIMUM VOLUME DIVERSION = 74.1 acre-feet
            *      1
1274        DT   BS455    74.1
1275        DI       0   10000
1276        DQ       0   10000
            * DDM   ***** Preserved *****

1277        KK   RT455
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1278          KM   RETRIEVE FLOW FROM DIVERSION INTO ONLINE BASIN
1279          DR   BS455
              * DDM   ***** Preserved *****

1280          KK    S455
1281          KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
1282          KM    74.1 ACRE-FEETx43560/36x3600=25cfs
1283          RS       1    STOR       0
1284          SV       0     .01    74.1
1285          SQ       0     3.0      25
              * DDM   ***** Preserved *****
1                                        HEC-1 INPUT                                                    PAGE 34

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


1286          KK    C455
1287          KM   HYDROGRAPH COMBINATION FOR SUB-BASIN 455 AND DIVERTED BASIN STORAGE OF 455
1288          HC       2
              * DDM   ***** Preserved *****

1289          KK   CC455
1290          KM  HYDROGRAPH COMBINATION OF 420C, R415 AND C455
              *      1       2
1291          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 *****

1292          KK    R455
1293          KM   ROUTE FLOW FROM SPOOK HILL FRS TO SUB-BASIN 480
1294          RS      15    FLOW      -1
1295          RC    .035    .025    .035    7000   .0002
1296          RX       0       1       2      28     158     184     185     186
1297          RY    13.5    13.5    13.5       0       0    13.5    13.5    13.5
              * DDM   ***** Updated *****

1298          KK     480
1299          KM   SUB-BASIN 480
1300          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1301          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .996
1302          KM     L = 1.21  Kb = .042  Adj. Slope =  165.0
1303          BA    .731
1304          LG    .270    .270   3.580    .730  27.000
1305          UC    .325    .148
1306          UA       0       5      16      30      65      77      84      90      94      97
1307          UA     100
              * DDM   ***** Preserved *****

1308          KK    D480
1309          KM        DIVERT FLOW INTO ONLINE  DETENTION BASIN
1310          KM   DETENTION/RETENTION BASINS LOCATED WITHIN LAS SENDAS ADDENDUM III
1311          KM   FOR BASIN #: 18 & 26
1312          KM        MAXIMUM VOLUME DIVERSION = 16.5 acre-feet
              *      1
1313          DT   BS480    16.5
1314          DI       0   10000
1315          DQ       0   10000
              * DDM   ***** Preserved *****
1                                        HEC-1 INPUT                                                    PAGE 35

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


1316          KK   RT480
1317          KM   RETRIEVE FLOW FROM DIVERSION INTO ONLINE BASIN
1318          DR   BS480
              * DDM   ***** Preserved *****

1319          KK    S480
1320          KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
1321          KM    16.5 ACRE-FEETx43560/36x3600=5.5cfs
1322          RS       1    STOR       0
1323          SV       0     .01    16.5
1324          SQ       0     3.0     5.6
              * DDM   ***** Preserved *****

1325          KK    C480
1326          KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
1327          HC       2
              * DDM   ***** Preserved *****
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1328          KK   CC480
1329          KM   HYDROGRAPH COMBINATION AT SUBBASIN 480
1330          HC       2
              * DDM   ***** Preserved *****

1331          KK    R480
1332          KM   ROUTE FLOW FROM SUB-BASIN 480 TO SUBBASIN 462
1333          RS       6    FLOW      -1
1334          RC    .035    .025    .035    2800    .0002
1335          RX       0       1       2      28     158     184     185     186
1336          RY    13.5    13.5    13.5       0       0    13.5    13.5    13.5
              * DDM   ***** Preserved *****

1337          KK     456
1338          KM   SUB-BASIN 456
1339          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1340          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .998
1341          KM     L =  .94  Kb = .045  Adj. Slope =  315.0
1342          BA    .260
1343          LG    .300    .380   5.600    .200  12.000
1344          UC    .217    .139
1345          UA       0       5      16      30      65      77      84      90      94      97
1346          UA     100
              * DDM   ***** Preserved *****

1347          KK      D1
1348          KM        DIVERT FLOW INTO OFFLINE DETENTION BASIN
1349          KM        WEIR FOR BASIN SET AT 4 FEET ABOVE CHANNEL BOTTOM
              *      1
1350          DT  BASIN1     4.0
1351          DI       0    11.1   127.9   234.4   577.7   789.9  1025.5  1280.9  1555.7
1352          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

1353          KK      D2
1354          KM        SPLIT OUT FLOW FOR WASHES THAT FLOW TO THE SOUTH FROM
1355          KM        WASHES THAT DRAIN TO THE WES, SOUTHERN WASHES FED BY 30" & 24" PIPE
1356          DT    WA30
1357          DI       0    11.1   127.9   189.6   329.7     408   491.9   579.4   671.7
1358          DQ       0    11.1    38.4    48.2      63    69.5      76      81      86
              * DDM   ***** Preserved *****

1359          KK    R456
1360          KM        ROUTE FLOW FROM SUB-BASIN 51 TO C101
1361          RS       2    FLOW      -1
1362          RC     .05    .035     .05    3800    .044
1363          RX    1000    1010    1020    1036    1041    1057    1067    1077
1364          RY   14.88   14.44      14      10      10      14   14.44   14.88
              * DDM   ***** Updated *****

1365          KK     457
1366          KM   SUB-BASIN 457
1367          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1368          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .999
1369          KM     L = 1.01  Kb = .045  Adj. Slope =  308.8
1370          BA    .190
1371          LG    .270    .330   3.950    .460   6.000
1372          UC    .237    .195
1373          UA       0       5      16      30      65      77      84      90      94      97
1374          UA     100
              * DDM   ***** Preserved *****

1375          KK    C101
1376          KM        COMBINE HYDROGRAPHS FROM SUB-BASINS 50 AND 51
1377          HC       2
              * DDM   ***** Preserved *****

1378          KK      D3
1379          KM        RESERVOIR AT THE EDGE OF THE PROPERTY   FLOW FROM CHANNEL
1380          KM        DIVERTED  INTO OFFLINE BASIN A 25' WEIR SET AT ELEVATION 1808 FT
              *      1
1381          DT  BASIN2     5.0
1382          DI       0      36      70     110     180   313.5     402   500.9
1383          DQ       0       0       0       0       0    67.5     124   190.9
              * DDM   ***** Preserved *****

1384          KK    RTD3
1385          KM   RETRIEVE FLOW FROM DIVERSION INTO OFFLINE BASIN
1386          DR  BASIN2
              * DDM   ***** Preserved *****

1387          KK     SD3
1388          KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
1389          KM     5.0 ACRE-FEETx43560/36x3600=1.7cfs
1390          RS       1    STOR       0
1391          SV       0     .01       5
1392          SQ       0     0.7     1.7
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                * DDM   ***** Preserved *****
                                        HEC-1 INPUT                                                    PAGE 37
LINE            ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1393            KK     CD3
1394            KM   HYDROGRAPH COMBINATION FOR OFFLINE BASIN BLEEDOFF
1395            HC       2
                * DDM   ***** Preserved *****

1396            KK    R101
1397            KM        ROUTE FLOW FROM SUBBASIN C101 TO C103
1398            RS       1    FLOW      -1
1399            RC     .05    .035     .05    1450     .05
1400            RX    1000    1010    1020    1036    1041    1057    1067    1077
1401            RY      15    14.5      14      10      10      14    14.5      15
                * DDM   ***** Updated *****

1402            KK     458
1403            KM   SUB-BASIN 458
1404            KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1405            KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .999
1406            KM     L =  .76  Kb = .048  Adj. Slope =  299.0
1407            BA    .190
1408            LG    .290    .330   5.800    .190   6.000
1409            UC    .204    .131
1410            UA       0       5      16      30      65      77      84      90      94      97
1411            UA     100
                * DDM   ***** Preserved *****

1412            KK    C103
1413            KM        COMBINE HYDROGRAPHS FROM SUB-BASIN 55 AND C101
1414            HC       2
                * DDM   ***** Preserved *****

1415            KK    R103
1416            KM        ROUTE FLOW FROM SUBBASIN C103 TO C106
1417            RS       1    FLOW      -1
1418            RC     .05    .035     .05     900     .03
1419            RX    1000    1010    1020    1030    1050    1060    1070    1080
1420            RY   13.16   12.83    12.5      10      10    12.5   12.83   13.16
                * DDM   ***** Preserved *****

1421            KK    RT30
1422            KM        RETRIEVE DIVERTED FLOW FOR WASH BELOW 30 INCH PIPE
1423            DR    WA30
                * DDM   ***** Preserved *****

1424            KK     R30
1425            KM        ROUTE FLOW FROM WASH DIVERSION TO COMBINE C52
1426            RS       1    FLOW      -1
1427            RC     .05    .035     .05    1630     .05
1428            RX    1000    1010    1020    1036    1041    1057    1067    1077
1429            RY      15    14.5      14      10      10      14    14.5      15
                * DDM   ***** Preserved *****
1
                                        HEC-1 INPUT                                                    PAGE 38
LINE            ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1430            KK    RTB1
1431            KM        RETRIEVE DIVERTED FLOW FROM BASIN 1
                *      1       2
1432            DR  BASIN1
                * DDM   ***** Preserved *****

1433            KK      B1
1434            KM        ROUTE FLOW THROUGH OFFLINE DETENTION BASIN
1435            KM        FLOW OUTLETS THROUGH A 30 INCH OUTLET PIPE
                *      1       2
1436            RS       1    ELEV       0
1437            SV              .7     1.4     2.3     2.7     4.0
1438            SQ       0       5      16      28    32.5      37
1439            SE       0       1       2       3     3.5       4
                * DDM   ***** Preserved *****

1440            KK     RB1
1441            KM        ROUTE FLOW FROM BASIN DIVERSION TO COMBINE C52
1442            RS       3    FLOW      -1
1443            RC     .05    .035     .05    1720     .05
1444            RX    1000    1010    1020    1036    1041    1057    1067    1077
1445            RY      15    14.5      14      10      10      14    14.5      15
                * DDM   ***** Preserved *****

1446            KK    CDIV
1447            KM        COMBINE FLOWS FROM WA30 AND BASIN 1
1448            HC       2     .12
                * DDM   ***** Updated *****

1449            KK     459
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1450          KM   SUB-BASIN 459
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 1.000
1453          KM     L =  .35  Kb = .052  Adj. Slope =  251.6
1454          BA    .030
1455          LG    .220     .300   3.330     .710   8.000
1456          UC    .162     .157
1457          UA       0        5      16       30      65      77      84      90      94      97
1458          UA     100
              * DDM   ***** Preserved *****

1459          KK     C52
1460          KM        COMBINE FLOWS FROM SUB-BASIN 52 WA30 AND BASIN 1
1461          HC       2
              * DDM   ***** Preserved *****

1462          KK     R52
1463          KM        ROUTE FLOW FROM SUBBASIN 52 TO C102
1464          RS       3    FLOW      -1
1465          RC     .05     .035     .05    2000     .05
1466          RX    1000     1010    1020    1036    1041    1057    1067    1077
1467          RY      15     14.5      14      10      10      14    14.5      15
              * DDM   ***** Updated *****
1                                        HEC-1 INPUT                                                    PAGE 39

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

1468          KK     460
1469          KM   SUB-BASIN 460
1470          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1471          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .999
1472          KM     L =  .62  Kb = .058  Adj. Slope =  194.0
1473          BA    .140
1474          LG    .250     .260   3.740     .690  27.000
1475          UC    .242     .160
1476          UA       0        5      16       30      65      77      84      90      94      97
1477          UA     100
              * DDM   ***** Preserved *****

1478          KK    C102
1479          KM        COMBINE HYDROGRAPHS FROM SUB-BASINS 52 AND 53
1480          HC       2
              * DDM   ***** Preserved *****

1481          KK  BASIN3
1482          KM        RESERVOIR AT CLUBHOUSE LOCATION 1-30 INCH PIPE AT OUTFALL
1483          KM        BOTTOM OF BASIN AT 6 FEET ABOVE 1795 ELEVATION
1484          RS       1    ELEV       0
1485          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
1486          SQ       0      22      45    47.4      48      51      57      62      67      73
1487          SE    1795  1797.5    1800  1800.4  1800.5    1801    1802    1803    1804  1805.5
              * DDM   ***** Preserved *****

1488          KK      R3
1489          KM        ROUTE FLOW FROM C102 to C106
1490          RS       5    FLOW      -1
1491          RC     .05     .03     .05    2750   .0375
1492          RX    1000     1010    1020    1052    1086    1118    1128    1138
1493          RY    19.2     18.4      18      10      10      18    18.4    19.2
              * DDM   ***** Updated *****

1494          KK     461
1495          KM   SUB-BASIN 461
1496          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1497          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .999
1498          KM     L =  .83  Kb = .052  Adj. Slope =  181.0
1499          BA    .120
1500          LG    .270     .250   4.250     .450  21.000
1501          UC    .271     .250
1502          UA       0        5      16       30      65      77      84      90      94      97
1503          UA     100
              * DDM   ***** Preserved *****

1504          KK    C104
1505          KM        COMBINE HYDROGRAPHS FROM SUB-BASIN 54 AND R102
1506          HC       2
              * DDM   ***** Preserved *****
1                                        HEC-1 INPUT                                                    PAGE 40

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

1507          KK    C106
1508          KM        COMBINE HYDROGRAPHS FROM SUB-BASIN C103 AND C104
1509          HC       2
              * DDM   ***** Preserved *****

1510          KK    R106
1511          KM        ROUTE FLOW FROM C106 TO C49
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1512          RS       2    FLOW      -1
1513          RC     .05    .035     .05    3950    .033
1514          RX    1000    1010    1020    1030    1050    1060    1070    1080
1515          RY   13.16   12.83    12.5      10      10    12.5   12.83   13.16
              * DDM   ***** Updated *****

1516          KK     462
1517          KM   SUB-BASIN 462
1518          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1519          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .998
1520          KM     L =  .97  Kb = .045  Adj. Slope =  297.7
1521          BA    .301
1522          LG    .300    .330   5.300    .240  12.000
1523          UC    .225    .137
1524          UA       0       5      16      30      65      77      84      90      94      97
1525          UA     100
              * DDM   ***** Preserved *****

1526          KK     C56
1527          KM        COMBINE HYDROGRAPHS FROM SUB-BASIN 56 AND C106
              *      1       2
1528          HC       2

1529          KK    C462
1530          KM        COMBINE HYDROGRAPHS AT SUBBASIN 462
              *      1
1531          HC       2    2.09
              * DDM   ***** Preserved *****

1532          KK    R462
1533          KM   ROUTE FLOW FROM SUB-BASIN 462 TO SUB-BASIN 500 (First Channel Reach)
1534          RS       1    FLOW      -1
1535          RC    .025    .025    .025    1800    .005
1536          RX       0       1      20      32      62      74      93      94
1537          RY      13      12      12       0       0      12      12      13
              * DDM   ***** Preserved *****

1538          KK   RR462
1539          KM   ROUTE FLOW FROM SUB-BASIN 462 TO SUB-BASIN 500 (Second Natural Wash Reach)
1540          RS       3    FLOW      -1
1541          RC    .055     .05    .055    4700     .05
1542          RX       0       1       2      28      58      84      85      86
1543          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

1544          KK     500
1545          KM   SUB-BASIN 500
1546          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1547          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .994
1548          KM     L = 2.77  Kb = .042  Adj. Slope =  286.8
1549          BA    .930
1550          LG    .350    .400   6.000    .170   9.000
1551          UC    .421    .333
1552          UA       0       3       5       8      12      20      43      75      90      96
1553          UA     100
              * DDM   ***** Preserved *****

1554          KK    C500
1555          KM   HYDROGRAPH COMBINATION FOR THE ENTIRE WATERSHED AT THE SALT RIVER
1556          HC       2    3.02
1557          ZZ
```

1

SCHEMATIC DIAGRAM OF STREAM NETWORK

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

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

   29          10
                V
                V
   39         R10
                V
                V
   45         R12
                .
                .
   51           .          20
                .            .
                .            .
   61         C20............
                V
                V
   64         R20
                .
                .
   70           .          40
```

```
                .          .
                .          .
 80             .          .          60
                .          .           .
                .          .           .
 90          C60.......................
               V
               V
 93          S60
               V
               V
102          R60
               V
               V
108         RR60
                .
                .
114             .          80
                .           .
                .           .
124          C80............
               V
               V
127          R80
                .
                .
133             .         100
                .           .
                .           .
143         C100............
               V
               V
146         R100
                .
                .
152             .         120
                .           .
                .           .
162         C120............
               V
               V
165         R120
                .
                .
171             .         140
                .           .
                .           .
181             .           .         150
                .           .           V
                .           .           V
191             .           .        R150
                .           .           V
                .           .           V
197             .           .        R152
                .           .           .
                .           .           .
203             .           .           .         160
                .           .           .           .
                .           .           .           .
213             .           .           .           .         180
                .           .           .           .           .
                .           .           .           .           .
223         C180.......................................................
                .
                .
226             .         210
                .           V
                .           V
236             .        R210
                .           .
                .           .
242             .           .         240
                .           .           .
                .           .           .
252             .        C240............
                .           V
                .           V
255             .        S240
                .           V
                .           V
262             .        R240
                .           .
                .           .
269             .           .         220
                .           .           .
                .           .           .
279             .        C220............
                .           V
                .           V
282             .        S220
                .           V
```

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                .          V
289             .       R220
                .          .
                .          .
296             .          .        190
                .          .          V
                .          .          V
306             .          .       R190
                .          .          V
                .          .          V
312             .          .       R192
                .          .          .
                .          .          .
318             .          .          .        200
                .          .          .          .
                .          .          .          .
328             .       C200.......................
                .          V
                .          V
331             .       S200
                .          V
                .          V
338             .       R200
                .          V
                .          V
344             .      SS200
                .          V
                .          V
351             .      RR200
                .          .
                .          .
357         CC180............
               V
               V
360          S180
               V
               V
369          R180
                .
                .
378             .        260
                .          .
                .          .
388          C260............
               V
               V
391          R260
                .
                .
400             .        280
                .          .
                .          .
410          C280............
               V
               V
413          R280
                .
                .
422             .        300
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432          C300............
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               V
435          R300
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444             .        305
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454          C305............
               V
               V
457          R305
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466             .        350
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479             .          .-------->   SF350
476             .       D350
                .          V
                .          V
482             .       R350
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489             .          .        310
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499             .       C310............
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502         .        R310
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509         .           .         320
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524         .           .           .-------->   BS320
519         .           .        D320
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529         .           .           .           .<-------   BS320
527         .           .           .       RT320
            .           .           .           V
            .           .           .           V
530         .           .           .        S320
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536      C320.................................
            V
            V
539      R320
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546         .         340
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561         .           .-------->   BS340
556         .        D340
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566         .           .           .<-------   BS340
564         .           .       RT340
            .           .           V
            .           .           V
567         .           .        S340
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573      C340......................
            V
            V
576      R340
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585         .           .<-------   SF350
583         .       RT350
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586         .       RR350
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593         .           .         355
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603         .        C355............
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            .           V
606         .        R355
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613         .           .         360
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627         .           .           .-------->   BS360
623         .           .        D360
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632         .           .           .           .<-------   BS360
630         .           .           .       RT360
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633         .           .           .        S360
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639      C360.................................
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646         .-------->    380S
642     DD380
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651         .           .<-------    380S
649         .      RT380S
            .           V
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652         .       SS380
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659     CC360............
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            V
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662        R360
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669            .         370
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679            .           .         395
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689            .        C370............
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692            .        R370
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699            .           .         380
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713            .           .           .-------->   BS380
709            .           .        D380
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718            .           .           .           .<-------   BS380
716            .           .           .       RT380
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719            .           .           .        S380
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725            .        C380........................
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728        CC380............
               V
               V
731        R380
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738            .         390
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752            .           .-------->   BS390
748            .        D390
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757            .           .           .<--------   BS390
755            .           .       RT390
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758            .           .        S390
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764            .        C390............
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767            .        R390
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774            .           .         400
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788            .           .           .-------->   BS400
784            .           .        D400
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793            .           .           .           .<-------   BS400
791            .           .           .       RT400
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794            .           .           .        S400
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800            .           .        C400............
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803        CC400........................
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               V
806        R400
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813            .         385
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825            .           .-------->   SF385
823            .        D385
               .           V
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828            .        R385
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835          .           .         420
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849          .           .           .-------->   BS420
845          .           .       D420
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854          .           .           .           .<-------   BS420
852          .           .           .       RT420
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855          .           .           .        S420
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861          .       C420.......................
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864     CC420............
            V
            V
867      R420
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874          .        440
             .          V
             .          V
884          .        R70
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890          .           .         441
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900          .       C108............
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905          .           .-------->   SPLIT
903          .         D4
             .          V
             .          V
908          .       R108
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914          .           .         442
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924          .        C67............
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930          .           .-------->  BASIN4
927          .         D6
             .           .
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935          .           .           .<-------  BASIN4
933          .           .       RTD6
             .           .          V
             .           .          V
936          .           .        SD6
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942          .        CD6............
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945          .           .         443
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958          .           .           .-------->   WSH66
955          .           .        D66
             .           .          V
             .           .          V
961          .           .       R113
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967          .       C114............
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970          .           .         444
             .           .          V
             .           .          V
980          .           .        R58
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986          .           .           .         445
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996          .           .       C107............
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999          .           .       R107
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1007         .           .           .           .<-------   SPLIT
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1005                                  RTB2
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1008                                RSPLIT
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1014                                    .          446
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1024                          C109.......................
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1030                                    .-------> WSH404
1027                                D5
                                     V
                                     V
1033                          R109
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1039                                    .        447
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1051                                    .          .          .<-------  WSH404
1049                                    .          .      RT404
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1052                                    .          .       R404
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1058                          C110.......................
                                     V
                                     V
1061                          R110
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1067                     C115............
                            V
                            V
1070                     R115
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1076                             .        448
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1086                             .        449
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1096                        C6364............
                                 V
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1099                        R6364
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1105                             .        450
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1115                             .          .        451
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1125                             .      C451............
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1130                             .          .          .<-------   WSH66
1128                             .          .      RT66
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1131                             .          .          .         452
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1141                             .          .      C6465............
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1144                             .          .      R6566
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1150                        C116.......................
                                 V
                                 V
1153                       BASIN5
                                 V
                                 V
1160                        R116
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1166                             .        453
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1176                        C117............
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1179                     C118............
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                .          V
1182            .       R118
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1191            .          .-------> BASIN6
1188            .         D7
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1196            .          .          .<-------  BASIN6
1194            .          .       RTD7
                .          .          V
                .          .          V
1197            .          .        SD7
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1203            .        CD7...........
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1206            .          .        454
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1216            .       C119...........
                .          V
                .          V
1219            .       R454
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1226            .          .        415
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                .          .          .
1238            .          .          .          .<-------   SF385
1236            .          .          .      RT385
                .          .          .          V
                .          .          .          V
1239            .          .          .      RR385
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1246            .          .       C415...........
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1249            .      CC415...........
                .          V
                .          V
1252            .       R415
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1259            .          .        455
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1274            .          .          .------->   BS455
1269            .          .       D455
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1279            .          .          .          .<-------   BS455
1277            .          .          .      RT455
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1280            .          .          .       S455
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1286            .          .       C455...........
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1289       CC455........................
               V
               V
1292        R455
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1298            .        480
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1313            .          .------->   BS480
1308            .       D480
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1318            .          .          .<-------   BS480
1316            .          .      RT480
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1319            .          .       S480
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1325            .       C480...........
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1328       CC480............
               V
               V
1331        R480
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1337          456
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1350            .-------> BASIN1
1347          D1
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1356            .------->   WA30
1353          D2
               V
               V
1359        R456
                .
1365            .         457
                .           .
1375        C101............
                .
1381            .-------> BASIN2
1378          D3
                .
1386            .           .<-------  BASIN2
1384            .        RTD3
                .           V
                .           V
1387            .         SD3
                .           .
1393        CD3............
               V
               V
1396        R101
                .
1402            .         458
                .           .
1412        C103............
               V
               V
1415        R103
                .
1423            .           .<-------    WA30
1421            .        RT30
                .           V
                .           V
1424            .         R30
                .           .
1432            .           .           .<-------  BASIN1
1430            .           .        RTB1
                .           .           V
                .           .           V
1433            .           .          B1
                .           .           V
                .           .           V
1440            .           .         RB1
                .           .           .
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1446            .        CDIV............
                .           .
                .           .
1449            .           .         459
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1459            .         C52............
                .           V
                .           V
1462            .         R52
                .           .
                .           .
1468            .           .         460
                .           .           .
                .           .           .
1478            .        C102............
                .           V
                .           V
1481            .      BASIN3
                .           V
                .           V
1488            .          R3
                .           .
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1494            .           .         461
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1504          .          .          .
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1507          .       C106...........
              .          V
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1510          .       R106
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1516          .          .        462
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1526          .        C56...........
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1529       C462...........
              V
              V
1532       R462
              V
              V
1538      RR462
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1544          .        500
              .          .
              .          .
1554       C500...........
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(***) RUNOFF ALSO COMPUTED AT THIS LOCATION

```
1****************************************
 *                                      *
 *   FLOOD HYDROGRAPH PACKAGE  (HEC-1)  *
 *             JUN   1998               *
 *           VERSION 4.1                *
 *                                      *
 *  RUN DATE   10MAY01  TIME  08:26:10  *
 *                                      *
 ****************************************
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```
****************************************
*                                      *
*    U.S. ARMY CORPS OF ENGINEERS      *
*    HYDROLOGIC ENGINEERING CENTER     *
*          609 SECOND STREET           *
*       DAVIS, CALIFORNIA 95616        *
*           (916) 756-1104             *
*                                      *
****************************************
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                    DDM MCUHP1 SPOOK HILL AMDP - EXISTING CONDITIONS MODEL - 100YR, 24HR STORM
                    Non-Jurisdictional Alternatives - Option NJ4
                    Spook Hill Channel w/Off-Line Basin
                    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

 10 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

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

 13 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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23 JD INDEX STORM NO. 2

STRM 3.79 PRECIPITATION DEPTH

TRDA 1.00 TRANSPOSITION DRAINAGE AREA

0 PI PRECIPITATION PATTERN

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24 JD INDEX STORM NO. 3

STRM 3.68 PRECIPITATION DEPTH

TRDA 5.80 TRANSPOSITION DRAINAGE AREA

0 PI PRECIPITATION PATTERN

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25 JD INDEX STORM NO. 4

STRM 3.57 PRECIPITATION DEPTH

TRDA 10.66 TRANSPOSITION DRAINAGE AREA

0 PI PRECIPITATION PATTERN

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26 JD INDEX STORM NO. 5

STRM 3.54 PRECIPITATION DEPTH
TRDA 13.70 TRANSPOSITION DRAINAGE AREA

0 PI PRECIPITATION PATTERN

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27 JD          INDEX STORM NO. 6
                  STRM       3.47  PRECIPITATION DEPTH
                  TRDA      20.00  TRANSPOSITION DRAINAGE AREA
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0 PI PRECIPITATION PATTERN

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28 JD INDEX STORM NO. 7
STRM 3.32 PRECIPITATION DEPTH
TRDA 50.00 TRANSPOSITION DRAINAGE AREA

0 PI PRECIPITATION PATTERN

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WARNING EXCESS AT PONDING LESS THAN ZERO FOR PERIOD. EXCESS SET TO ZERO
WARNING EXCESS AT PONDING LESS THAN ZERO FOR PERIOD. EXCESS SET TO ZERO

WARNING --- ROUTED OUTFLOW (1029.) IS GREATER THAN MAXIMUM OUTFLOW (1018.) IN STORAGE-OUTFLOW TABLE

WARNING --- ROUTED OUTFLOW (1042.) IS GREATER THAN MAXIMUM OUTFLOW (1018.) IN STORAGE-OUTFLOW TABLE

WARNING --- ROUTED OUTFLOW (1027.) IS GREATER THAN MAXIMUM OUTFLOW (1018.) IN STORAGE-OUTFLOW TABLE

WARNING --- ROUTED OUTFLOW (1027.) IS GREATER THAN MAXIMUM OUTFLOW (1018.) IN STORAGE-OUTFLOW TABLE

WARNING --- ROUTED OUTFLOW (1021.) IS GREATER THAN MAXIMUM OUTFLOW (1018.) IN STORAGE-OUTFLOW TABLE

WARNING --- ROUTED OUTFLOW (1020.) IS GREATER THAN MAXIMUM OUTFLOW (1018.) IN STORAGE-OUTFLOW TABLE

WARNING --- ROUTED OUTFLOW (1033.) IS GREATER THAN MAXIMUM OUTFLOW (1018.) IN STORAGE-OUTFLOW TABLE

WARNING --- ROUTED OUTFLOW (1018.) IS GREATER THAN MAXIMUM OUTFLOW (1018.) IN STORAGE-OUTFLOW TABLE
WARNING EXCESS AT PONDING LESS THAN ZERO FOR PERIOD. EXCESS SET TO ZERO

1

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

	OPERATION	STATION	PEAK FLOW	TIME OF PEAK	AVERAGE FLOW FOR MAXIMUM PERIOD 6-HOUR	24-HOUR	72-HOUR	BASIN AREA	MAXIMUM STAGE	TIME OF MAX STAGE
+	HYDROGRAPH AT	10	989.	12.27	119.	33.	12.	.70		
+	ROUTED TO	R10	920.	12.40	119.	33.	12.	.70		
+	ROUTED TO	R12	853.	12.60	119.	33.	12.	.70		
+	HYDROGRAPH AT	20	1011.	12.43	136.	34.	12.	1.12		
+	2 COMBINED AT	C20	1684.	12.53	252.	66.	24.	1.82		
+	ROUTED TO	R20	1683.	12.57	252.	66.	24.	1.82		
+	HYDROGRAPH AT	40	2695.	12.30	264.	69.	25.	2.23		
+	HYDROGRAPH AT	60	1623.	12.40	239.	64.	23.	1.75		
+	3 COMBINED AT	C60	5371.	12.37	733.	194.	70.	5.80		
+	ROUTED TO	S60	118.	14.27	118.	114.	70.	5.80		
	ROUTED TO	R60	118.	14.37	118.	114.	70.	5.80		
+	ROUTED TO	RR60	118.	14.40	118.	114.	70.	5.80		
+	HYDROGRAPH AT	80	1956.	12.27	189.	49.	18.	1.48		
+	2 COMBINED AT	C80	2009.	12.27	295.	160.	90.	1.48		
+	ROUTED TO	R80	1981.	12.30	295.	160.	90.	1.48		
+	HYDROGRAPH AT	100	423.	12.20	60.	16.	6.	.48		
+	2 COMBINED AT	C100	2373.	12.27	351.	174.	95.	1.96		
+	ROUTED TO	R100	2370.	12.30	351.	174.	95.	1.96		
+	HYDROGRAPH AT	120	3352.	12.27	340.	92.	33.	2.20		
+	2 COMBINED AT	C120	5618.	12.27	673.	256.	126.	4.16		
+	ROUTED TO	R120	5546.	12.30	673.	256.	126.	4.16		
+	HYDROGRAPH AT	140	665.	12.13	67.	18.	6.	.60		
+	HYDROGRAPH AT	150	595.	12.17	51.	14.	5.	.41		
+	ROUTED TO	R150	568.	12.23	51.	14.	5.	.41		
	ROUTED TO	R152	514.	12.33	51.	14.	5.	.41		
	HYDROGRAPH AT									

+	160	228.	12.40	37.	9.	3.	.37
HYDROGRAPH AT +	180	836.	12.37	97.	24.	9.	1.00
5 COMBINED AT +	C180	7306.	12.30	898.	313.	146.	6.54
HYDROGRAPH AT +	210	1322.	12.17	111.	29.	10.	.79
ROUTED TO +	R210	1246.	12.23	111.	29.	10.	.79
HYDROGRAPH AT +	240	1513.	12.30	167.	42.	15.	1.41
2 COMBINED AT +	C240	2684.	12.27	273.	70.	25.	2.20
ROUTED TO +	S240	799.	12.70	226.	59.	21.	2.20
ROUTED TO +	R240	798.	12.77	225.	59.	21.	2.20
HYDROGRAPH AT +	220	676.	12.20	68.	18.	6.	.47
2 COMBINED AT +	C220	962.	12.60	288.	75.	27.	2.67
ROUTED TO +	S220	900.	12.80	280.	73.	26.	2.67
ROUTED TO +	R220	897.	12.83	280.	73.	26.	2.67
HYDROGRAPH AT +	190	1471.	12.17	123.	33.	12.	.92
ROUTED TO +	R190	1415.	12.23	123.	33.	12.	.92
ROUTED TO	R192	1359.	12.30	123.	33.	12.	.92
HYDROGRAPH AT +	200	831.	12.17	72.	20.	7.	.53
3 COMBINED AT +	C200	2254.	12.30	459.	122.	44.	4.12
ROUTED TO +	S200	2135.	12.37	454.	119.	43.	4.12
ROUTED TO +	R200	2127.	12.37	454.	119.	43.	4.12
ROUTED TO +	SS200	1365.	12.73	333.	88.	32.	4.12
ROUTED TO +	RR200	1330.	12.83	330.	88.	32.	4.12
2 COMBINED AT +	CC180	7306.	12.30	1212.	399.	177.	10.66
ROUTED TO +	S180	398.	14.97	375.	253.	131.	10.66
ROUTED TO +	R180	398.	15.00	375.	253.	131.	10.66
HYDROGRAPH AT +	260	416.	12.10	43.	12.	4.	.26
2 COMBINED AT +	C260	439.	12.13	416.	291.	151.	.26
ROUTED TO +	R260	428.	15.00	416.	291.	151.	.26
HYDROGRAPH AT +	280	527.	12.10	46.	13.	5.	.32
2 COMBINED AT +	C280	896.	12.13	432.	301.	155.	.58
ROUTED TO	R280	875.	12.20	431.	301.	155.	.58

	HYDROGRAPH AT	300	415.	12.10	34.	10.	3.	.29
+	2 COMBINED AT	C300	1229.	12.17	460.	309.	159.	.87
+	ROUTED TO	R300	1184.	12.23	458.	309.	158.	.87
+	HYDROGRAPH AT	305	476.	12.27	81.	22.	8.	.70
+	2 COMBINED AT	C305	1637.	12.23	530.	324.	164.	1.57
+	ROUTED TO	R305	1616.	12.30	529.	324.	164.	1.57
+	HYDROGRAPH AT	350	1258.	12.20	109.	28.	10.	.97
+	DIVERSION TO	SF350	629.	12.20	55.	14.	5.	.97
+	HYDROGRAPH AT	D350	629.	12.20	55.	14.	5.	.97
+	ROUTED TO	R350	557.	12.40	55.	14.	5.	.97
+	HYDROGRAPH AT	310	398.	12.33	52.	13.	5.	.56
+	2 COMBINED AT	C310	928.	12.40	106.	27.	10.	1.04
+	ROUTED TO	R310	820.	12.73	106.	27.	10.	1.04
+	HYDROGRAPH AT	320	991.	12.20	127.	36.	13.	.95
+	DIVERSION TO	BS320	386.	11.93	21.	6.	2.	.95
	HYDROGRAPH AT	D320	991.	12.20	113.	29.	11.	.95
+	HYDROGRAPH AT	RT320	386.	11.93	21.	6.	2.	.95
+	ROUTED TO	S320	4.	12.00	4.	4.	2.	.95
+	4 COMBINED AT	C320	2559.	12.30	732.	373.	181.	3.56
+	ROUTED TO	R320	2394.	12.57	714.	371.	180.	3.56
+	HYDROGRAPH AT	340	1534.	12.17	194.	57.	21.	1.44
+	DIVERSION TO	BS340	1534.	12.17	103.	28.	10.	1.44
+	HYDROGRAPH AT	D340	1285.	12.30	106.	29.	10.	1.44
+	HYDROGRAPH AT	RT340	1534.	12.17	103.	28.	10.	1.44
+	ROUTED TO	S340	18.	12.33	17.	14.	9.	1.44
+	3 COMBINED AT	C340	3051.	12.53	819.	407.	197.	5.00
+	ROUTED TO	R340	2955.	12.70	808.	405.	196.	5.00
+	HYDROGRAPH AT	RT350	629.	12.20	55.	14.	5.	.97
+	ROUTED TO	RR350	544.	12.43	55.	14.	5.	.97
	HYDROGRAPH AT	355	546.	12.33	75.	19.	7.	.68
	2 COMBINED AT							

+	C355	1028.	12.40	129.	34.	12.	1.16
ROUTED TO	R355	941.	12.70	129.	34.	12.	1.16
+ HYDROGRAPH AT	360	773.	12.23	116.	34.	12.	.88
+ DIVERSION TO	BS360	773.	12.23	52.	14.	5.	.88
+ HYDROGRAPH AT	D360	709.	12.33	73.	20.	7.	.88
+ HYDROGRAPH AT	RT360	773.	12.23	52.	14.	5.	.88
+ ROUTED TO	S360	9.	12.33	8.	7.	5.	.88
+ 4 COMBINED AT	C360	4106.	12.70	971.	451.	215.	7.04
+ DIVERSION TO	380S	2146.	12.70	152.	38.	14.	7.04
+ HYDROGRAPH AT	DD380	1960.	12.57	819.	413.	201.	7.04
+ HYDROGRAPH AT	RT380S	2146.	12.70	152.	38.	14.	7.04
+ ROUTED TO	SS380	32.	13.33	30.	25.	12.	7.04
+ 2 COMBINED AT	CC360	1992.	13.30	848.	437.	213.	7.04
+ ROUTED TO	R360	1991.	13.33	838.	435.	212.	7.04
+ HYDROGRAPH AT	370	817.	12.23	83.	22.	8.	.67
HYDROGRAPH AT	395	234.	12.20	26.	7.	3.	.20
+ 2 COMBINED AT	C370	1046.	12.23	108.	29.	11.	.87
+ ROUTED TO	R370	913.	12.57	108.	29.	11.	.87
+ HYDROGRAPH AT	380	627.	12.27	97.	26.	9.	.90
+ DIVERSION TO	BS380	627.	12.27	56.	14.	5.	.90
+ HYDROGRAPH AT	D380	461.	12.57	44.	12.	4.	.90
+ HYDROGRAPH AT	RT380	627.	12.27	56.	14.	5.	.90
+ ROUTED TO	S380	9.	12.57	9.	7.	5.	.90
+ 3 COMBINED AT	C380	1313.	12.60	156.	46.	19.	1.77
+ 2 COMBINED AT	CC380	2715.	12.83	946.	467.	226.	8.81
+ ROUTED TO	R380	2601.	13.23	941.	466.	225.	8.81
+ 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	2652.	13.20	969.	482.	232.	9.67
+ ROUTED TO	R400	2602.	13.53	965.	480.	231.	9.67
+ HYDROGRAPH AT	385	613.	12.23	74.	20.	7.	.53
+ DIVERSION TO	SF385	368.	12.23	44.	12.	4.	.53
+ HYDROGRAPH AT	D385	245.	12.23	29.	8.	3.	.53
+ ROUTED TO	R385	208.	12.67	29.	8.	3.	.53
+ HYDROGRAPH AT	420	796.	12.20	98.	27.	10.	.85
DIVERSION TO	BS420	266.	11.93	14.	4.	2.	.85
+ HYDROGRAPH AT	D420	796.	12.20	89.	23.	8.	.85
+ HYDROGRAPH AT	RT420	266.	11.93	14.	4.	2.	.85
+ ROUTED TO	S420	3.	12.00	2.	2.	2.	.85
+ 3 COMBINED AT	C420	805.	12.20	120.	33.	13.	1.06
+ 2 COMBINED AT	CC420	2660.	13.53	1028.	503.	241.	10.73
+ ROUTED TO	R420	2623.	13.77	1023.	501.	240.	10.73
+ HYDROGRAPH AT	440	184.	12.03	12.	3.	1.	.08
+ ROUTED TO	R70	181.	12.07	12.	3.	1.	.08
+ HYDROGRAPH AT	441	16.	12.03	1.	0.	0.	.01
+ 2 COMBINED AT	C108	197.	12.07	14.	4.	1.	.09
+ DIVERSION TO	SPLIT	98.	12.07	7.	2.	1.	.09
+ HYDROGRAPH AT	D4	98.	12.07	7.	2.	1.	.09
+ ROUTED TO	R108	92.	12.13	7.	2.	1.	.09
+ HYDROGRAPH AT	442	105.	12.10	9.	2.	1.	.10
2 COMBINED AT							

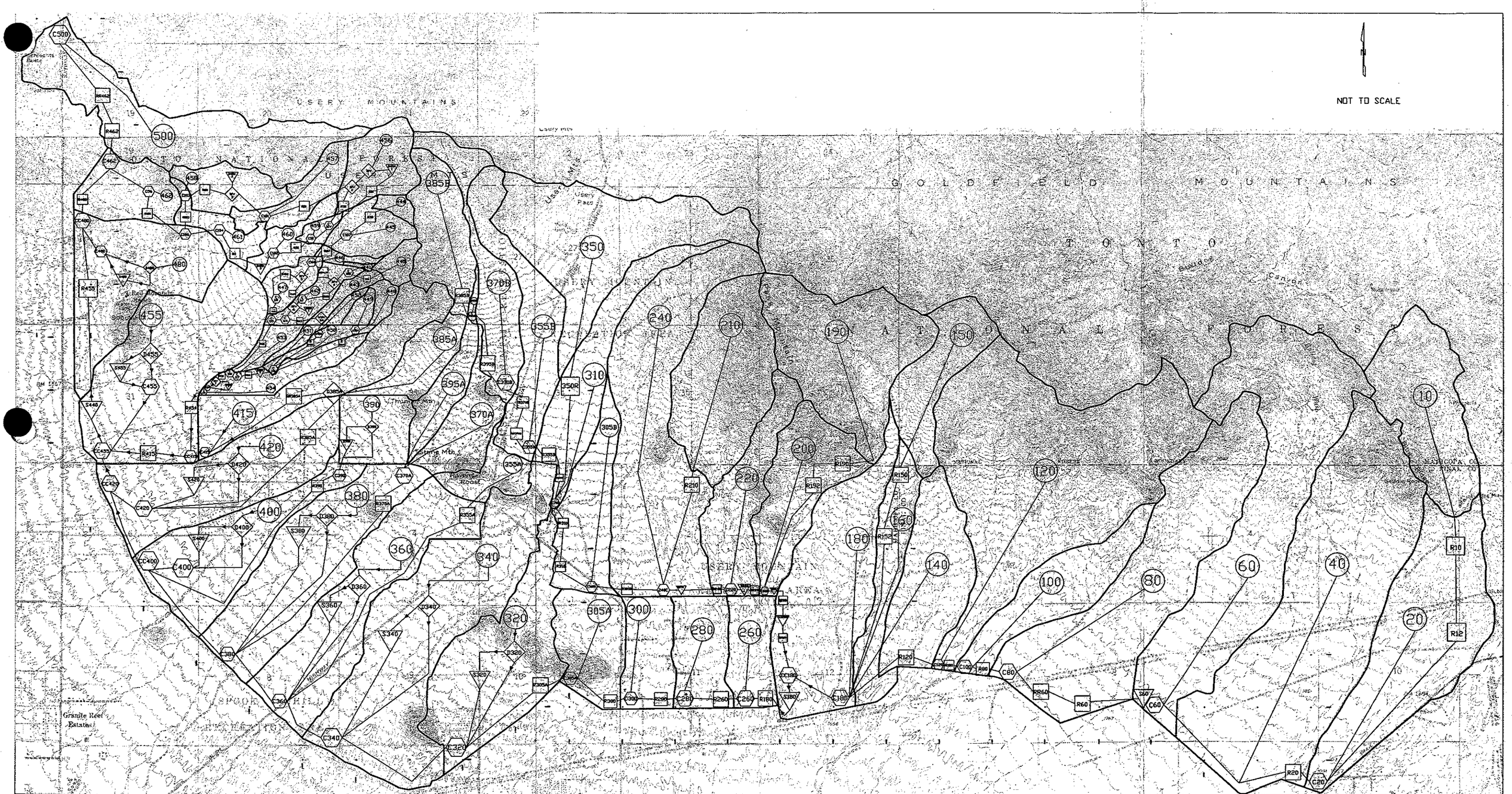
+	C67	195.	12.10	16.	4.	2.	.19
+ DIVERSION TO	BASIN4	121.	12.10	6.	2.	1.	.19
+ HYDROGRAPH AT	D6	74.	12.10	10.	3.	1.	.19
+ HYDROGRAPH AT	RTD6	121.	12.10	6.	2.	1.	.19
+ ROUTED TO	SD6	1.	12.47	1.	1.	0.	.19
+ 2 COMBINED AT	CD6	74.	12.10	10.	3.	1.	.19
+ HYDROGRAPH AT	443	151.	12.07	15.	4.	1.	.08
+ DIVERSION TO	WSH66	78.	11.87	12.	3.	1.	.08
+ HYDROGRAPH AT	D66	73.	12.07	3.	1.	0.	.08
+ ROUTED TO	R113	71.	12.07	3.	1.	0.	.08
+ 2 COMBINED AT	C114	144.	12.07	13.	4.	2.	.27
+ HYDROGRAPH AT	444	83.	12.03	5.	1.	0.	.04
+ ROUTED TO	R58	79.	12.07	5.	1.	0.	.04
+ HYDROGRAPH AT	445	307.	12.03	19.	5.	2.	.19
+ 2 COMBINED AT	C107	382.	12.03	23.	6.	2.	.23
ROUTED TO	R107	382.	12.07	23.	6.	2.	.23
+ HYDROGRAPH AT	RTB2	98.	12.07	7.	2.	1.	.09
+ ROUTED TO	RSPLIT	98.	12.07	7.	2.	1.	.09
+ HYDROGRAPH AT	446	66.	12.03	6.	2.	1.	.04
+ 3 COMBINED AT	C109	545.	12.07	36.	10.	3.	.27
+ DIVERSION TO	WSH404	35.	11.70	8.	2.	1.	.27
+ HYDROGRAPH AT	D5	510.	12.07	28.	7.	3.	.27
+ ROUTED TO	R109	493.	12.10	28.	7.	3.	.27
+ HYDROGRAPH AT	447	141.	12.07	12.	4.	1.	.09
+ HYDROGRAPH AT	RT404	35.	11.70	8.	2.	1.	.27
+ ROUTED TO	R404	35.	11.83	8.	2.	1.	.27
+ 3 COMBINED AT	C110	666.	12.07	48.	13.	5.	.36
+ ROUTED TO	R110	663.	12.10	48.	13.	5.	.36
+ 2 COMBINED AT	C115	805.	12.07	61.	17.	7.	.63
+ ROUTED TO	R115	799.	12.10	61.	17.	7.	.63
+ HYDROGRAPH AT	448	89.	12.03	6.	2.	1.	.05

HYDROGRAPH AT	449	81.	12.03	5.	1.	0.	.05
+ 2 COMBINED AT	C6364	170.	12.03	11.	3.	1.	.09
+ ROUTED TO	R6364	145.	12.17	11.	3.	1.	.09
+ HYDROGRAPH AT	450	63.	12.20	7.	2.	1.	.07
+ HYDROGRAPH AT	451	18.	12.17	2.	1.	0.	.03
+ 2 COMBINED AT	C451	80.	12.20	9.	2.	1.	.09
+ HYDROGRAPH AT	RT66	78.	11.87	12.	3.	1.	.08
+ HYDROGRAPH AT	452	63.	12.03	5.	1.	0.	.04
+ 2 COMBINED AT	C6465	141.	12.03	17.	4.	2.	.04
+ ROUTED TO	R6566	137.	12.10	17.	4.	2.	.04
+ 3 COMBINED AT	C116	357.	12.17	36.	10.	3.	.23
+ ROUTED TO	BASIN5	159.	12.47	36.	10.	3.	.23
+ ROUTED TO	R116	157.	12.53	36.	10.	3.	.23
+ HYDROGRAPH AT	453	63.	12.10	7.	2.	1.	.06
+ 2 COMBINED AT	C117	177.	12.47	43.	12.	4.	.29
2 COMBINED AT	C118	892.	12.10	104.	29.	11.	.92
+ ROUTED TO	R118	887.	12.13	104.	29.	11.	.92
+ DIVERSION TO	BASIN6	270.	12.13	7.	2.	1.	.92
+ HYDROGRAPH AT	D7	737.	12.20	97.	27.	10.	.92
+ HYDROGRAPH AT	RTD7	270.	12.13	7.	2.	1.	.92
+ ROUTED TO	SD7	1.	12.23	1.	1.	1.	.92
+ 2 COMBINED AT	CD7	739.	12.20	97.	28.	11.	.92
+ HYDROGRAPH AT	454	162.	12.13	21.	6.	2.	.18
+ 2 COMBINED AT	C119	885.	12.20	118.	34.	13.	1.10
+ ROUTED TO	R454	833.	12.27	118.	34.	13.	1.10
+ HYDROGRAPH AT	415	589.	12.17	80.	23.	8.	.61
+ HYDROGRAPH AT	RT385	368.	12.23	44.	12.	4.	.53
+ ROUTED TO	RR385	322.	12.57	44.	12.	4.	.53
+ 2 COMBINED AT	C415	757.	12.23	124.	35.	13.	.93
2 COMBINED AT	CC415	1540.	12.27	238.	67.	25.	2.03
ROUTED TO							

+	R415	1527.	12.30	238.	67.	25.	2.03
HYDROGRAPH AT	455	1418.	12.13	150.	45.	16.	1.11
+ DIVERSION TO	BS455	1418.	12.13	139.	37.	13.	1.11
+ HYDROGRAPH AT	D455	145.	12.80	24.	8.	3.	1.11
+ HYDROGRAPH AT	RT455	1418.	12.13	139.	37.	13.	1.11
+ ROUTED TO	S455	23.	12.80	22.	18.	11.	1.11
+ 2 COMBINED AT	C455	169.	12.80	46.	26.	14.	1.11
+ 3 COMBINED AT	CC455	2754.	13.73	1218.	568.	271.	13.87
+ ROUTED TO	R455	2702.	14.20	1196.	564.	268.	13.87
+ HYDROGRAPH AT	480	1102.	12.10	100.	31.	11.	.73
+ DIVERSION TO	BS480	487.	11.90	27.	8.	3.	.73
+ HYDROGRAPH AT	D480	1102.	12.10	83.	23.	8.	.73
+ HYDROGRAPH AT	RT480	487.	11.90	27.	8.	3.	.73
+ ROUTED TO	S480	5.	11.97	5.	4.	3.	.73
+ 2 COMBINED AT	C480	1107.	12.10	88.	27.	11.	.73
2 COMBINED AT	CC480	2717.	14.20	1209.	579.	277.	14.60
+ ROUTED TO	R480	2693.	14.37	1201.	577.	276.	14.60
+ HYDROGRAPH AT	456	483.	12.07	37.	10.	4.	.26
+ DIVERSION TO	BASIN1	193.	12.07	8.	2.	1.	.26
+ HYDROGRAPH AT	D1	290.	12.07	29.	8.	3.	.26
+ DIVERSION TO	WA30	59.	12.07	10.	3.	1.	.26
+ HYDROGRAPH AT	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	2971.	14.30	1428.	678.	323.	2.09
+	ROUTED TO	R462	2968.	14.33	1427.	677.	323.	2.09
+	ROUTED TO	RR462	2964.	14.40	1426.	677.	323.	2.09
+	HYDROGRAPH AT	500	1126.	12.27	128.	35.	12.	.93
+	2 COMBINED AT	C500	2964.	14.40	1533.	705.	333.	3.02

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



FLOOD CONTROL DISTRICT
OF MARICOPA COUNTY
ENGINEERING DIVISION

PASS MOUNTAIN ALTERNATIVE PM4R

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

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

DRAWING NO. EC24PM4R.DWG SHEET OF

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1****************************************
*                                      *
*   FLOOD HYDROGRAPH PACKAGE  (HEC-1)  *
*              JUN   1998              *
*            VERSION 4.1               *
*                                      *
*  RUN DATE   08MAY01  TIME  14:28:55  *
*                                      *
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*                                      *
*   U.S. ARMY CORPS OF ENGINEERS       *
*   HYDROLOGIC ENGINEERING CENTER      *
*         609 SECOND STREET            *
*      DAVIS, CALIFORNIA 95616         *
*          (916) 756-1104              *
*                                      *
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X     X  XXXXXXX   XXXXX          X
X     X  X        X     X        XX
X     X  X        X               X
XXXXXXX  XXXX     X        XXXXX  X
X     X  X        X               X
X     X  X        X     X         X
X     X  XXXXXXX   XXXXX         XXX
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THIS PROGRAM REPLACES ALL PREVIOUS VERSIONS OF HEC-1 KNOWN AS HEC1 (JAN 73), HEC1GS, HEC1DB, AND HEC1KW.

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


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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   FULL PASS MOUNTAIN DIVERSION WITH SPOOK HILL FRS STORAGE ROUTING;
   3          ID   OUTFLOW OF SIGNAL BUTTE IS QUADRUPLED, PASS MOUNTAIN DIVERSION ALTERNATIVE
   4          ID   PM4R, THIS MODEL CAN ALSO BE USED FOR OPTION PM4E
              *
              *  Original Model: EC24PM_S.DAT, 3/27/01
              *  This New Model: EC24PM4R.DAT, 3/27/01, Wood/Patel, Modified By 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    3.81    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   3.787    1.00
  26          JD   3.677    5.80
  27          JD   3.574   10.66
  28          JD   3.539   13.70
  29          JD   3.467   20.00
  30          JD   3.315   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 *****
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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
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 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
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
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 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
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
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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 *****
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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
             * KO     1
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
 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       1    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
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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 *****
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
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            * 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 *****

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
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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

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
             * KO     1
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
             * KO     1
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.
             * KO     1
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.
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            * KO      1
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
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
            *
            * 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 *****

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

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 *****
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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 *****

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

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
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 *****
1                                        HEC-1 INPUT                                                    PAGE 17

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


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

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

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

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


685          KK   RT340
686          KM   RETRIEVE FLOW FROM DIVERSION INTO ONLINE BASIN
687          DR   BS340
             * DDM   ***** Preserved *****

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

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

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

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

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

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

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

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

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

KK    370A
KM   SUB-BASIN 370A
KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .998
KM     L = 1.04  Kb = .047  Adj. Slope =  163.0
BA    .408
LG    .330    .300   4.650    .350  11.000
UC    .308    .172
UA       0       5      16      30      65      77      84      90      94      97
UA     100
* DDM   ***** Updated *****
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753          KK    395A
754          KM   SUB-BASIN 395A
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  .999
757          KM     L = 1.14  Kb = .052  Adj. Slope =  165.0
758          BA    .182
759          LG    .330    .320   5.000    .290  10.000
760          UC    .346    .334
761          UA       0       5      16      30      65      77      84      90      94      97
762          UA     100
             * DDM   ***** Preserved *****

763          KK   C370A
764          KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
765          HC       2
             * DDM   ***** Preserved *****

766          KK   R370A
767          KM   CHANNEL GEOMETRY OBTAINED FROM 2' CONTOUR MAPPING.
768          KM   ROUTING OF FLOW FROM SUB-BASINS 370 AND 395 TO SUB-BASIN 380.
769          RS      10    FLOW      -1
770          RC    .045    .035    .045   10250    .023
771          RX       0       1      40      46      56      62     102     103
772          RY     3.5       2       2       0       0       2       2     3.5
             * DDM   ***** Updated *****

773          KK     380
774          KM   SUB-BASIN 380
775          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
776          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .995
777          KM     L = 2.20  Kb = .049  Adj. Slope =  114.0
778          BA    .898
779          LG    .300    .310   4.150    .500   7.000
780          UC    .671    .475
781          UA       0       5      16      30      65      77      84      90      94      97
782          UA     100
             * DDM   ***** Preserved *****
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LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

783          KK    D380
784          KM        DIVERT FLOW INTO ONLINE  DETENTION BASIN
785          KM   DETENTION/RETENTION BASINS LOCATED WITHIN 33% OF MESA HIGHLANDS
786          KM        MAXIMUM VOLUME DIVERSION = 28.6 acre-feet
             *      1
787          DT   BS380    28.6
788          DI       0   10000
789          DQ       0   10000
             * DDM   ***** Preserved *****

790          KK   RT380
791          KM   RETRIEVE FLOW FROM DIVERSION INTO ONLINE BASIN
792          DR   BS380
             * DDM   ***** Preserved *****

793          KK    S380
794          KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
795          KM    28.6 ACRE-FEETx43560/36x3600=9.6cfs
796          RS       1    STOR       0
797          SV       0     .01    28.6
798          SQ       0     3.0     9.6
             * DDM   ***** Preserved *****

799          KK    C380
             * KO     1       2
800          KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
801          HC       4
             * OFFLINE DETENTION BASIN ADDED THIS ALTERNATIVE
             * DDM   ***** Preserved *****
             * KK DD380
             * KM       DIVERT FLOW INTO OFFLINE  DETENTION BASIN
             * KM       IN RED MOUNTAIN REGIONAL PARK
             * KM
             * DT  380S
             * DI     0    1975   10000
             * DQ     0       0    8025
             * DDM   ***** Preserved *****
             * KK RT380
             * KM RETRIEVE FLOW FROM DIVERSION INTO OFFLINE BASIN
             * DR  380S
             * DDM   ***** Preserved *****
             * KK SS380
             * 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
             * RS     1    STOR       0
             * SV   0.0     1.0     8.0    19.0    32.0    50.0
             * SE     0      .5       1     2.0     3.0     4.0
             * SL   0.5    3.14     0.6     0.5
             * SS     3      50     3.0     1.5
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* DDM   ***** Preserved *****
* KK CC380
* KM HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
* HC      2
* ADD ROUTING ALONG SPOOK HILL FRS
* DDM   ***** Preserved *****
* KK  R380
* KM ROUTE FLOW THROUGH SPOOK HILL FRS FROM JUNCTION OF BROWN & ELLSWORTH ROAD
* KM TO JUST NORTH OF JUNCTION OF MCDOWELL & POWER RD.
* RS     3    FLOW      -1
* RC  .035    .035    .035    4000   .0007
* RX     0       9      50      68     163     181     257     265
* RY   100      97      97      91      91      97      97     100
*      0       9      50      68     308     326     367     376
*    100      97      97      91      91      97      97     100
* DDM   ***** Updated *****
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 802          KK     390
 803          KM   SUB-BASIN 390
 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 =  .70  Kb = .050  Adj. Slope =  299.4
 807          BA    .244
 808          LG    .300    .250   4.700    .380  18.000
 809          UC    .204    .107
 810          UA       0       5      16      30      65      77      84      90      94      97
 811          UA     100
              * DDM   ***** Preserved *****

 812          KK    D390
 813          KM        DIVERT FLOW INTO ONLINE  DETENTION BASIN
 814          KM   DETENTION/RETENTION BASINS LOCATED WITHIN THUNDER MOUNTAIN ESTATES
 815          KM        MAXIMUM VOLUME DIVERSION  = 3.5 acre-feet
              *      1
 816          DT   BS390     3.5
 817          DI       0   10000
 818          DQ       0   10000
              * DDM   ***** Preserved *****

 819          KK   RT390
 820          KM   RETRIEVE FLOW FROM DIVERSION INTO ONLINE BASIN
 821          DR   BS390
              * DDM   ***** Preserved *****

 822          KK    S390
 823          KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
 824          KM     3.5 ACRE-FEETx43560/36x3600=1.2cfs
 825          RS       1    STOR       0
 826          SV       0     .01     3.5
 827          SQ       0     0.2     1.2
              * DDM   ***** Preserved *****

 828          KK    C390
 829          KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
 830          HC       2
              * DDM   ***** Preserved *****

 831          KK    R390
 832          KM   CHANNEL GEOMETRY OBTAINED FROM 2' CONTOUR MAPPING.
 833          KM   FROM SUB-BASIN 390 TO SUB-BASIN 400
 834          RS      15    FLOW      -1
 835          RC    .045    .045    .045    8800    .020
 836          RX       0       1      40      46      56      62     102     103
 837          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

 838          KK     400
 839          KM   SUB-BASIN 400
 840          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
 841          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .996
 842          KM     L = 1.64  Kb = .046  Adj. Slope =  110.0
 843          BA    .616
 844          LG    .320    .300   4.150    .490   6.000
 845          UC    .508    .342
 846          UA       0       5      16      30      65      77      84      90      94      97
 847          UA     100
              * DDM   ***** Preserved *****

 848          KK    D400
 849          KM        DIVERT FLOW INTO ONLINE  DETENTION BASIN
 850          KM   DETENTION/RETENTION BASIN LOCATED WITHIN SAGUARO VISTA SUBDIVISION
 851          KM        MAXIMUM VOLUME DIVERSION = 5.6 ACRE-FEET
              *      1
 852          DT   BS400     5.6
 853          DI       0   10000
 854          DQ       0   10000
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                * DDM   ***** Preserved *****

 855            KK   RT400
 856            KM   RETRIEVE FLOW FROM DIVERSION INTO ONLINE BASIN
 857            DR   BS400
                * DDM   ***** Preserved *****

 858            KK    S400
 859            KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
 860            KM     5.6 ACRE-FEETx43560/36x3600 = 2 cfs
 861            RS       1    STOR       0
 862            SV       0     .01     5.6
 863            SQ       0     1.0       2
                * DDM   ***** Preserved *****

 864            KK    C400
 865            KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
 866            HC       2
                * DDM   ***** Preserved *****

 867            KK   CC400
                * KO     1       2
 868            KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
 869            HC       3
                * ADD ROUTING ALONG SPOOK HILL FRS
                * DDM   ***** Preserved *****
                * KK  R400
                * KM ROUTE FLOW THROUGH SPOOK HILL FRS FROM JUNCTION OF BROWN & ELLSWORTH ROAD
                * KM TO JUST NORTH OF JUNCTION OF MCDOWELL & POWER RD.
                * RS     9    FLOW      -1
                * RC  .035    .035    .035    3800   .0007
                * RX     0       9      50      68     163     181     257     265
                * RY   100      97      97      91      91      97      97     100
                *      0       9      50      68     308     326     367     376
                *    100      97      97      91      91      97      97     100
                * DDM   ***** Updated *****
1                                   HEC-1 INPUT                                          PAGE 24

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

 870            KK    385A
 871            KM   SUB-BASIN 385A
 872            KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
 873            KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .999
 874            KM     L =  .90  Kb = .051  Adj. Slope =  309.5
 875            BA    .213
 876            LG    .340    .320   4.900    .300   9.000
 877            UC    .233    .163
 878            UA       0       5      16      30      65      77      84      90      94      97
 879            UA     100
                * DDM   ***** Preserved *****

 880            KK   D385A
 881            KM   DIVERT FLOW INTO SUB-BASINS 415 & 420
 882            DT  SF385A
 883            DI       0    5000
 884            DQ       0    3000
                * DDM   ***** Preserved *****

 885            KK   R385A
 886            KM   CHANNEL GEOMETRY OBTAINED FROM 2' CONTOUR MAPPING.
 887            KM   ROUTING OF FLOW DIVERSION FROM SUB-BASIN 385A TO 420
 888            RS      11    FLOW      -1
 889            RC    .045     .04    .045   10250    .022
 890            RX       0       1      40      46      56      62     102     103
 891            RY       3       2       2       0       0       2       2       3
                * DDM   ***** Updated *****

 892            KK     420
 893            KM   SUB-BASIN 420
 894            KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
 895            KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .995
 896            KM     L = 1.91  Kb = .042  Adj. Slope =  120.0
 897            BA    .849
 898            LG    .310    .270   3.880    .580  12.000
 899            UC    .512    .325
 900            UA       0       5      16      30      65      77      84      90      94      97
 901            UA     100
                * DDM   ***** Preserved *****

 902            KK    D420
 903            KM        DIVERT FLOW INTO ONLINE  DETENTION BASIN
 904            KM   DETENTION/RETENTION BASINS LOCATED WITHIN GRAY FOX SUBDIVISION
 905            KM        MAXIMUM VOLUME DIVERSION = 8.65 acre-feet
                *      1
 906            DT   BS420    8.65
 907            DI       0   10000
 908            DQ       0   10000
                * DDM   ***** Preserved *****
                                    HEC-1 INPUT                                          PAGE 25

LINE            ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10
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909          KK   RT420
910          KM   RETRIEVE FLOW FROM DIVERSION INTO ONLINE BASIN
911          DR   BS420
             * DDM   ***** Preserved *****

912          KK    S420
913          KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
914          KM    8.65 ACRE-FEETx43560/36x3600=2.9cfs
915          RS       1    STOR       0
916          SV       0     .01    8.65
917          SQ       0     1.0     2.9
             * DDM   ***** Preserved *****

918          KK    C420
919          KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
920          HC       3  0.9342
             * DDM   ***** Preserved *****

921          KK   CC420
922          KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
923          HC       2
             * DDM   ***** Updated *****

924          KK     440
925          KM   SUB-BASIN 440
926          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
927          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF 1.000
928          KM     L =  .40  Kb = .039  Adj. Slope =  315.0
929          BA    .080
930          LG    .190    .380   6.400    .140  13.000
931          UC    .129    .077
932          UA       0       3       5       8      12      20      43      75      90      96
933          UA     100
             * DDM   ***** Preserved *****

934          KK     R70
935          KM   ROUTE FLOW FROM SUB-BASIN 440 TO C108
936          RS       2    FLOW      -1
937          RC     .05    .035     .05    2250     .08
938          RX    1000    1025    1050    1070    1075    1095    1120    1145
939          RY      30    22.9    15.7      10      10    15.7    22.9      30
             * DDM   ***** Updated *****

940          KK     441
941          KM   SUB-BASIN 441
942          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
943          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF 1.000
944          KM     L =  .28  Kb = .069  Adj. Slope =  315.0
945          BA    .010
946          LG    .300    .250   5.600    .220   5.000
947          UC    .150    .225
948          UA       0       5      16      30      65      77      84      90      94      97
949          UA     100
             * DDM   ***** Preserved *****
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LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

950          KK    C108
951          KM   COMBINE HYDROGRAPHS FROM SUB-BASINS 440 & 441
952          HC       2
             * DDM   ***** Preserved *****

953          KK      D4
954          KM        SPLIT FLOW WITH TWO 42 INCH PIPES TO WEST AND SOUTH
             *      1
955          DT   SPLIT
956          DI       0      14      40      82     120     154     180
957          DQ       0       7      20      41      60      77      90
             * DDM   ***** Preserved *****

958          KK    R108
959          KM        ROUTE FLOW FROM SUB-BASIN C108 TO C67
960          RS       2    FLOW      -1
961          RC     .05    .035     .05    3200      .1
962          RX    1000    1025    1050    1070    1075    1095    1120    1145
963          RY      30    22.9    15.7      10      10    15.7    22.9      30
             * DDM   ***** Updated *****

964          KK     442
965          KM   SUB-BASIN 442
966          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
967          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .999
968          KM     L =  .83  Kb = .055  Adj. Slope =  274.2
969          BA    .100
970          LG    .300    .270   3.290    .770   5.000
971          UC    .258    .264
972          UA       0       5      16      30      65      77      84      90      94      97
973          UA     100
             * DDM   ***** Preserved *****

974          KK     C67
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 975          KM   COMBINE FLOW FROM SUB-BASIN 442 & D4
 976          HC       2
              * DDM   ***** Preserved *****

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

 983          KK    RTD6
 984          KM   RETRIEVE FLOW FROM DIVERSION INTO OFFLINE BASIN
 985          DR  BASIN4
              * DDM   ***** Preserved *****
1                                        HEC-1 INPUT                                          PAGE 27

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

 986          KK     SD6
 987          KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
 988          KM     3.3 ACRE-FEETx43560/36x3600=1.1cfs
              *      1
 989          RS       1    STOR       0
 990          SV       0     .01     3.3
 991          SQ       0     0.2     1.1
              * DDM   ***** Preserved *****

 992          KK     CD6
 993          KM   HYDROGRAPH COMBINATION FOR OFFLINE BASIN BLEEDOFF
 994          HC       2
              * DDM   ***** Updated *****

 995          KK     443
 996          KM   SUB-BASIN 443
 997          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
 998          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF 1.000
 999          KM     L =  .71  Kb = .050  Adj. Slope =  315.0
1000          BA    .080
1001          LG    .250    .190   8.000    .080  10.000
1002          UC    .196    .194
1003          UA       0       5      16      30      65      77      84      90      94      97
1004          UA     100
              * DDM   ***** Preserved *****

1005          KK     D66
1006          KM        DIVERT FLOW INTO 3 NATURAL WASHES WITH ONE 24" PIPE IN EACH WASH.
1007          KM        EACH PIPE CAPACITY BASED ON 4 FEET OF HEAD
1008          DT   WSH66
1009          DI       0      78     100     200
1010          DQ       0      78      78      78
              * DDM   ***** Preserved *****

1011          KK    R113
1012          KM        ROUTE FLOW FROM C113 TO C114
1013          RS       1    FLOW      -1
1014          RC    .019    .019    .019    1300    .029
1015          RX    1000    1004    1008    1012    1018    1022    1026    1030
1016          RY      17   15.33   12.67      10      10   12.67   15.33      17
              * DDM   ***** Preserved *****

1017          KK    C114
1018          KM        COMBINE HYDROGRAPHS FROM SUB-BASIN 67 AND C113
1019          HC       2
              * DDM   ***** Updated *****

1020          KK     444
1021          KM   SUB-BASIN 444
1022          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1023          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF 1.000
1024          KM     L =  .33  Kb = .034  Adj. Slope =  315.0
1025          BA    .040
1026          LG    .130    .350   4.450    .320   1.000
1                                        HEC-1 INPUT                                          PAGE 28

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

1027          UC    .112    .084
1028          UA       0       3       5       8      12      20      43      75      90      96
1029          UA     100
              * DDM   ***** Preserved *****

1030          KK     R58
1031          KM   ROUTE FLOW FROM SUB-BASIN 444 TO C107
1032          RS       2    FLOW      -1
1033          RC     .05    .035     .05    2370   .0516
1034          RX    1000    1010    1020    1050    1055    1085    1095    1105
1035          RY      19      18      17      10      10      17      18      19
              * DDM   ***** Updated *****

1036          KK     445
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1037          KM   SUB-BASIN 445
1038          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1039          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .999
1040          KM     L =  .82  Kb = .036  Adj. Slope =  315.0
1041          BA    .190
1042          LG    .170    .320   3.470    .590   3.000
1043          UC    .192    .130
1044          UA       0       5      16      30      65      77      84      90      94      97
1045          UA     100
              * DDM   ***** Preserved *****

1046          KK    C107
1047          KM   COMBINE HYDROGRAPHS FROM SUB-BASINS 444 & 445
1048          HC       2
              * DDM   ***** Preserved *****

1049          KK    R107
1050          KM        ROUTE FLOW FROM C107 TO C109
1051          RS       2    FLOW      -1
1052          RC     .05    .035     .05     700   .0516
1053          RX    1000    1010    1020    1050    1055    1085    1095    1105
1054          RY      19      18      17      10      10      17      18      19
              * DDM   ***** Preserved *****

1055          KK    RTB2
1056          KM        RETRIEVE DIVERTED FLOW FROM BASIN 1
              *      1
1057          DR   SPLIT
              * DDM   ***** Preserved *****

1058          KK  RSPLIT
1059          KM        ROUTE FLOW FROM SPLIT TO C109
1060          RS       1    FLOW      -1
1061          RC     .05    .035     .05     800     .05
1062          RX    1000    1025    1050    1070    1075    1095    1120    1145
1063          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

1064          KK     446
1065          KM   SUB-BASIN 446
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 =  .46  Kb = .061  Adj. Slope =  303.9
1069          BA    .040
1070          LG    .270    .250   4.500    .400  19.000
1071          UC    .183    .189
1072          UA       0       5      16      30      65      77      84      90      94      97
1073          UA     100
              * DDM   ***** Preserved *****

1074          KK    C109
1075          KM        COMBINE HYDROGRAPHS FROM COMBINES C107 AND C108
1076          HC       3
              * DDM   ***** Preserved *****

1077          KK      D5
1078          KM        DIVERT FLOW INTO WASHES TOWARDS WEST
1079          KM        DIVERSION THROUGH 36" PIPE WITH 3 FEET OF HEAD
              *      1
1080          DT  WSH404
1081          DI       0    40.7    71.2   121.6     190     276   379.4   500.6
1082          DQ       0      35      35      35      35      35      35      35
              * DDM   ***** Preserved *****

1083          KK    R109
1084          KM        ROUTE FLOW FROM C109 TO C110
1085          RS       1    FLOW      -1
1086          RC    .019    .019    .019    3080     .05
1087          RX    1000    1005    1010    1015    1025    1030    1035    1040
1088          RY   13.75    12.5   11.25      10      10   11.25    12.5   13.75
              * DDM   ***** Updated *****

1089          KK     447
1090          KM   SUB-BASIN 447
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  .999
1093          KM     L =  .49  Kb = .056  Adj. Slope =  221.0
1094          BA    .090
1095          LG    .250    .270   3.350    .870  30.000
1096          UC    .208    .145
1097          UA       0       5      16      30      65      77      84      90      94      97
1098          UA     100
              * DDM   ***** Preserved *****

1099          KK   RT404
1100          KM        RETRIEVE DIVERTED FLOW FOR WASH 109
1101          DR  WSH404
              * DDM   ***** Preserved *****
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1102          KK    R404
1103          KM        ROUTE FLOW FROM C110 TO C110
1104          RS       6    FLOW      -1
1105          RC    .019    .019    .019    3540     .03
1106          RX    1000    1012    1016    1020    1025    1029    1033    1045
1107          RY      15      12      11      10      10      11      12      15
              * DDM   ***** Preserved *****

1108          KK    C110
1109          KM   COMBINE HYDROGRAPHS FROM SUB-BASIN 447 AND R404
1110          HC       3
              * DDM   ***** Preserved *****

1111          KK    R110
1112          KM        ROUTE FLOW FROM C110 TO C115
1113          RS       1    FLOW      -1
1114          RC    .019    .019    .019     580   .0291
1115          RX    1000    1012    1016    1020    1035    1039    1043    1055
1116          RY      15      12      11      10      10      11      12      15
              * DDM   ***** Preserved *****

1117          KK    C115
1118          KM        COMBINE HYDROGRAPHS FROM C114 AND C110
1119          HC       2
              * DDM   ***** Preserved *****

1120          KK    R115
              * ******OUTFLOW FROM THIS ROUTING IS GREATER THAN INFLOW TO THE
              * ******ROUTING BY 2cfs.  THIS IS NOTED BUT LEFT UNCHANGED WITHIN THE MODEL
1121          KM        ROUTE FLOW FROM C115 TO Sub 453
1122          RS       1    FLOW      -1
1123          RC    .019    .019    .019    2125    .029
1124          RX    1000    1012    1016    1020    1035    1039    1043    1055
1125          RY      15      12      11      10      10      11      12      15
              * DDM   ***** Updated *****

1126          KK     448
1127          KM   SUB-BASIN 448
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 =  .36  Kb = .042  Adj. Slope =  315.0
1131          BA    .045
1132          LG    .170    .310   4.200    .390  11.000
1133          UC    .133    .102
1134          UA       0       5      16      30      65      77      84      90      94      97
1135          UA     100
              * DDM   ***** Updated *****

1136          KK     449
1137          KM   SUB-BASIN 449
1138          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1139          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF 1.000
1140          KM     L =  .40  Kb = .054  Adj. Slope =  315.0
1141          BA    .050
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1142          LG    .260    .280   3.500    .640   6.000
1143          UC    .167    .134
1144          UA       0       5      16      30      65      77      84      90      94      97
1145          UA     100
              * DDM   ***** Preserved *****

1146          KK   C6364
1147          KM   COMBINE HYDROGRAPHS FROM SUB-BASINS 448 & 449
1148          HC       2
              * DDM   ***** Preserved *****

1149          KK   R6364
1150          KM   ROUTE FLOW FROM C116 AND SUB-BASINS 448 AND 449
1151          RS       5    FLOW      -1
1152          RC     .05    .035     .05    4375   .0333
1153          RX    1000    1027    1053    1080    1090    1117    1143    1170
1154          RY      15   13.33   11.67      10      10   11.67   13.33      15
              * DDM   ***** Updated *****

1155          KK     450
1156          KM   SUB-BASIN 450
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 1.000
1159          KM     L =  .85  Kb = .057  Adj. Slope =  210.5
1160          BA    .070
1161          LG    .340    .350   3.630    .570   4.000
1162          UC    .296    .383
1163          UA       0       3       5       8      12      20      43      75      90      96
1164          UA     100
              * DDM   ***** Updated *****

1165          KK     451
1166          KM   SUB-BASIN 451
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1167          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1168          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF 1.000
1169          KM     L =  .57  Kb = .063  Adj. Slope =  175.0
1170          BA    .025
1171          LG    .340    .340   3.290    .750   3.000
1172          UC    .271    .453
1173          UA       0       3       5       8      12      20      43      75      90      96
1174          UA     100
              * DDM   ***** Preserved *****

1175          KK    C451
1176          KM   COMBINE HYDROGRAPHS FROM SUB-BASINS 450 & 451
1177          HC       2
              * DDM   ***** Preserved *****

1178          KK    RT66
1179          KM        RETRIEVE DIVERTED FLOW FROM SUB-BASIN 66
1180          DR   WSH66
              * DDM   ***** Updated *****
1                                        HEC-1 INPUT                                          PAGE 32

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


1181          KK     452
1182          KM   SUB-BASIN 452
1183          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1184          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF 1.000
1185          KM     L =  .43  Kb = .055  Adj. Slope =  315.0
1186          BA    .040
1187          LG    .260    .280   3.700    .550   9.000
1188          UC    .171    .166
1189          UA       0       5      16      30      65      77      84      90      94      97
1190          UA     100
              * DDM   ***** Preserved *****

1191          KK   C6465
1192          KM   COMBINE HYDROGRAPHS FROM SUB-BASINS 443 AND 452
1193          HC       2
              * DDM   ***** Preserved *****

1194          KK   R6566
1195          KM        ROUTE FLOW FROM DIVERSIONS 65 AND 66 TO C116
1196          RS       3    FLOW      -1
1197          RC     .05    .035     .05    2435   .0282
1198          RX    1000    1045    1090    1150    1160    1220    1265    1310
1199          RY      25      23      20      10      10      20      23      25
              * DDM   ***** Preserved *****

1200          KK    C116
1201          KM   COMBINE HYDROGRAPHS FROM SUB-BASINS 450 & 451 AND R6364 & R6465
1202          HC       3
              * DDM   ***** Preserved *****

1203          KK  BASIN5
1204          KM        RESERVOIR WITHIN PARCEL 31      2-48 INCH PIPES AT OUTFALL
1205          KM        BASIN 5 FEET DEEP
1206          RS       1    ELEV       0
1207          SV       0     4.5     9.9
1208          SQ       0      69     190
1209          SE       0     2.5       5
              * DDM   ***** Preserved *****

1210          KK    R116
1211          KM   ROUTE FLOW FROM C116 TO C117
1212          RS       2    FLOW      -1
1213          RC     .05    .035     .05    1300   .0333
1214          RX    1000    1100    1200    1300    1320    1420    1520    1620
1215          RY      13      12      11      10      10      11      12      13
              * DDM   ***** Updated *****

1216          KK     453
1217          KM   SUB-BASIN 453
1218          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1219          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF 1.000
1220          KM     L =  .58  Kb = .058  Adj. Slope =  138.0
1221          BA    .060
1222          LG    .290    .300   3.290    .820  18.000
1                                        HEC-1 INPUT                                          PAGE 33

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

1223          UC    .275    .284
1224          UA       0       5      16      30      65      77      84      90      94      97
1225          UA     100
              * DDM   ***** Preserved *****

1226          KK    C117
1227          KM   COMBINE HYDROGRAPHS FROM SUB-BASIN 453 AND R116
1228          HC       2
              * DDM   ***** Preserved *****

1229          KK    C118
1230          KM   COMBINE HYDROGRAPHS FROM R115 AND C117
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1231          HC       2
              * DDM   ***** Preserved *****

1232          KK    R118
1233          KM        ROUTE FLOW FROM C118 TO  DIV7
1234          RS       1    FLOW      -1
1235          RC    .019    .019    .019    1500    .024
1236          RX    1000    1012    1016    1020    1035    1039    1043    1055
1237          RY      15      12      11      10      10      11      12      15
              * DDM   ***** Preserved *****

1238          KK      D7
1239          KM        OFFLINE BASIN AT NORTH MOUNTAIN RIDGE   FLOWS ENTER BASIN OVER
1240          KM        30' WEIR SET AT 5.3' ABOVE THE CHANNEL BOTTOM
              *      1
1241          DT  BASIN6     3.6
1242          DI       0     363     487     563     645     844
1243          DQ       0       3      47      83     125     244
              * DDM   ***** Preserved *****

1244          KK    RTD7
1245          KM   RETRIEVE FLOW FROM DIVERSION INTO OFFLINE BASIN
1246          DR  BASIN6
              * DDM   ***** Preserved *****

1247          KK     SD7
1248          KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
1249          KM     3.6 ACRE-FEETx43560/36x3600=1.2cfs
1250          RS       1    STOR       0
1251          SV       0     .01     3.6
1252          SQ       0     0.2     1.2
              * DDM   ***** Preserved *****

1253          KK     CD7
1254          KM   HYDROGRAPH COMBINATION FOR OFFLINE BASIN BLEEDOFF
1255          HC       2
              * DDM   ***** Updated *****
1                                        HEC-1 INPUT                                          PAGE 34

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


1256          KK     454
1257          KM   SUB-BASIN 454
1258          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1259          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .999
1260          KM     L = 1.23  Kb = .051  Adj. Slope =  163.0
1261          BA    .180
1262          LG    .300    .310   3.780    .560  14.000
1263          UC    .379    .395
1264          UA       0       5      16      30      65      77      84      90      94      97
1265          UA     100
              * DDM   ***** Preserved *****

1266          KK    C119
1267          KM        COMBINE HYDROGRAPHS FROM SUB-BASIN 454 AND C119
              *      1       2
1268          HC       2
              * DDM   ***** Preserved *****

1269          KK    R454
1270          KM   CHANNEL GEOMETRY OBTAINED FROM 2' CONTOUR MAPPING.
1271          KM   ROUTE FLOW FROM C119 TO 415C
1272          RS       3    FLOW      -1
1273          RC    .045    .035    .045    2200    .009
1274          RX       0      .5       1      33      42      67    67.5      68
1275          RY       5       4       4       0       0       6       6       6
              * DDM   ***** Updated *****

1276          KK     415
1277          KM   SUB-BASIN 415
1278          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1279          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .997
1280          KM     L = 2.58  Kb = .045  Adj. Slope =  298.5
1281          BA    .547
1282          LG    .320    .280   4.350    .440  14.000
1283          UC    .433    .440
1284          UA       0       5      16      30      65      77      84      90      94      97
1285          UA     100
              * DDM   ***** Preserved *****

1286          KK  RT385A
1287          KM   RETRIEVE FLOW FROM DIVERSION OF SUB-BASIN 385A INTO 415
1288          DR  SF385A
              * DDM   ***** Preserved *****

1289          KK  RR385A
1290          KM   CHANNEL GEOMETRY OBTAINED FROM 2' CONTOUR MAPPING.
1291          KM   ROUTING OF SPLIT FLOW FROM SUB-BASIN 385A TO 415
1292          RS       5    FLOW      -1
1293          RC    .045     .04    .045    5878    .024
1294          RX       0       1      40      46      56      62     102     103
1295          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

1296          KK    C415
1297          KM   HYDROGRAPH COMBINATION OF SUB-BASINS 415 & SPLIT FLOW FROM 385A
1298          HC       2  0.6748
              * DDM   ***** Preserved *****

1299          KK   CC415
1300          KM   HYDROGRAPH COMBINATION OF SUB-BASINS 415, R454 & SPLIT FLOW FROM 385A
1301          HC       2
              * DDM   ***** Preserved *****

1302          KK    R415
1303          KM   CHANNEL GEOMETRY OBTAINED FROM 2' CONTOUR MAPPING.
1304          KM   ROUTING OF FLOW FROM 415C TO 455C
1305          RS       2    FLOW      -1
1306          RC    .045     .03    .045    4100    .024
1307          RX       0      .5       1       8      16      23    23.5      24
1308          RY       8       8       8       0       0       8       8       8
              * DDM   ***** Updated *****

1309          KK     455
1310          KM   SUB-BASIN 455
1311          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1312          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .993
1313          KM     L = 1.70  Kb = .041  Adj. Slope =  146.0
1314          BA   1.111
1315          LG    .270    .280   3.700    .640  24.000
1316          UC    .421    .204
1317          UA       0       5      16      30      65      77      84      90      94      97
1318          UA     100
              * DDM   ***** Preserved *****

1319          KK    D455
1320          KM        DIVERT FLOW INTO ONLINE  DETENTION BASIN
1321          KM   DETENTION/RETENTION BASINS LOCATED WITHIN LAS SENDAS ADDENDUM III
1322          KM   FOR BASIN #: 30      34      43      47&58
1323          KM        MAXIMUM VOLUME DIVERSION = 74.1 acre-feet
              *      1
1324          DT   BS455    74.1
1325          DI       0   10000
1326          DQ       0   10000
              * DDM   ***** Preserved *****

1327          KK   RT455
1328          KM   RETRIEVE FLOW FROM DIVERSION INTO ONLINE BASIN
1329          DR   BS455
              * DDM   ***** Preserved *****

1330          KK    S455
1331          KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
1332          KM    74.1 ACRE-FEETx43560/36x3600=25cfs
1333          RS       1    STOR       0
1334          SV       0     .01    74.1
1335          SQ       0     3.0      25
              * DDM   ***** Preserved *****
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1336          KK    C455
1337          KM   HYDROGRAPH COMBINATION FOR SUB-BASIN 455 AND DIVERTED BASIN STORAGE OF 455
1338          HC       2
              * DDM   ***** Preserved *****

1339          KK   CC455
1340          KM  HYDROGRAPH COMBINATION OF 420C, R415 AND C455
              * KO     1       2
1341          HC       3
              *

1342          KK    S440
1343          KM   SPOOK HILL FRS PLANS DATED 6/15/77
1344          KM   OUTLET PIPE=7'x7.5'RCBC; L=70 INLET INV.=1566; OUTLET INV.=1566
1345          KM   EMERGENCY SPILLWAY ELEV.=1582; PRINCIPLE SPILLWAY ELEV.=1577.5
1346          KM   STORAGE VOLUME BELOW PRINCIPLE SPILLWAY FOR SEDIMENT = 200 ACRE-FEET
              *  ESE = 1583.86 ft; PSE = 1579.36 ft; Sediment Vol. = 271 Ac-Ft.
1347          RS       1    STOR       0
1348          SV       0      81     363     533     719     925    1120    1399    1668  4051
1349          SQ       0       0      10     180     367     595     800    1231    2625 24500
1350          SE      76      78      80      81      82      83    83.9      85      86    92
              * DDM   ***** Preserved *****

1351          KK    R455
1352          KM   ROUTE FLOW FROM SPOOK HILL FRS TO SUB-BASIN 480
1353          RS      15    FLOW      -1
1354          RC    .035    .025    .035    7000   .0002
1355          RX       0       1       2      28      58      84      85      86
1356          RY    13.5    13.5    13.5       0       0    13.5    13.5    13.5
              * DDM   ***** Updated *****
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1357          KK     480
1358          KM   SUB-BASIN 480
1359          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1360          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .996
1361          KM     L = 1.21  Kb = .042  Adj. Slope =  165.0
1362          BA    .731
1363          LG    .270    .270   3.580    .730  27.000
1364          UC    .325    .148
1365          UA       0       5      16      30      65      77      84      90      94      97
1366          UA     100
              * DDM   ***** Preserved *****

1367          KK    D480
1368          KM        DIVERT FLOW INTO ONLINE  DETENTION BASIN
1369          KM   DETENTION/RETENTION BASINS LOCATED WITHIN LAS SENDAS ADDENDUM III
1370          KM   FOR BASIN #: 18 & 26
1371          KM        MAXIMUM VOLUME DIVERSION = 16.5 acre-feet
              *      1
1372          DT   BS480    16.5
1373          DI       0   10000
1374          DQ       0   10000
              * DDM   ***** Preserved *****
1                                          HEC-1 INPUT                                                    PAGE 37

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


1375          KK   RT480
1376          KM   RETRIEVE FLOW FROM DIVERSION INTO ONLINE BASIN
1377          DR   BS480
              * DDM   ***** Preserved *****

1378          KK    S480
1379          KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
1380          KM    16.5 ACRE-FEETx43560/36x3600=5.5cfs
1381          RS       1    STOR       0
1382          SV       0     .01    16.5
1383          SQ       0     3.0     5.6
              * DDM   ***** Preserved *****

1384          KK    C480
1385          KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
1386          HC       2
              * DDM   ***** Preserved *****

1387          KK   CC480
1388          KM   HYDROGRAPH COMBINATION AT SUBBASIN 480
1389          HC       2   0.731
              * DDM   ***** Preserved *****

1390          KK    R480
1391          KM   ROUTE FLOW FROM SUB-BASIN 480 TO SUBBASIN 462
1392          RS       6    FLOW      -1
1393          RC    .035    .025    .035    2800   .0002
1394          RX       0       1       2      28      58      84      85      86
1395          RY    13.5    13.5    13.5       0       0    13.5    13.5    13.5
              * DDM   ***** Updated *****

1396          KK     456
1397          KM   SUB-BASIN 456
1398          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1399          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .998
1400          KM     L =  .94  Kb = .045  Adj. Slope =  315.0
1401          BA    .260
1402          LG    .300    .380   5.600    .200  12.000
1403          UC    .217    .139
1404          UA       0       5      16      30      65      77      84      90      94      97
1405          UA     100
              * DDM   ***** Preserved *****

1406          KK      D1
1407          KM        DIVERT FLOW INTO OFFLINE DETENTION BASIN
1408          KM        WEIR FOR BASIN SET AT 4 FEET ABOVE CHANNEL BOTTOM
              *      1
1409          DT  BASIN1     4.0
1410          DI       0    11.1   127.9   234.4   577.7   789.9  1025.5  1280.9  1555.7
1411          DQ       0       0       0    47.7     248   381.8   533.6   701.5     884
              * DDM   ***** Preserved *****
1                                          HEC-1 INPUT                                                    PAGE 38

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


1412          KK      D2
1413          KM        SPLIT OUT FLOW FOR WASHES THAT FLOW TO THE SOUTH FROM
1414          KM        WASHES THAT DRAIN TO THE WES, SOUTHERN WASHES FED BY 30" & 24" PIPE
1415          DT    WA30
1416          DI       0    11.1   127.9   189.6   329.7     408   491.9   579.4   671.7
1417          DQ       0    11.1    38.4    48.2      63    69.5      76      81      86
              * DDM   ***** Preserved *****

1418          KK    R456
1419          KM        ROUTE FLOW FROM SUB-BASIN 51 TO C101
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1420          RS       2    FLOW      -1
1421          RC     .05    .035     .05    3800    .044
1422          RX    1000    1010    1020    1036    1041    1057    1067    1077
1423          RY   14.88   14.44      14      10      10      14   14.44   14.88
              * DDM   ***** Updated *****

1424          KK     457
1425          KM   SUB-BASIN 457
1426          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1427          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .999
1428          KM     L = 1.01  Kb = .045  Adj. Slope =  308.8
1429          BA    .190
1430          LG    .270    .330   3.950    .460   6.000
1431          UC    .237    .195
1432          UA       0       5      16      30      65      77      84      90      94      97
1433          UA     100
              * DDM   ***** Preserved *****

1434          KK    C101
1435          KM        COMBINE HYDROGRAPHS FROM SUB-BASINS 50 AND 51
1436          HC       2
              * DDM   ***** Preserved *****

1437          KK      D3
1438          KM        RESERVOIR AT THE EDGE OF THE PROPERTY   FLOW FROM CHANNEL
1439          KM        DIVERTED  INTO OFFLINE BASIN A 25' WEIR SET AT ELEVATION 1808 FT
              *      1
1440          DT  BASIN2     5.0
1441          DI       0      36      70     110     180   313.5     402   500.9
1442          DQ       0       0       0       0       0    67.5     124   190.9
              * DDM   ***** Preserved *****

1443          KK    RTD3
1444          KM   RETRIEVE FLOW FROM DIVERSION INTO OFFLINE BASIN
1445          DR  BASIN2
              * DDM   ***** Preserved *****

1446          KK     SD3
1447          KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
1448          KM     5.0 ACRE-FEETx43560/36x3600=1.7cfs
1449          RS       1    STOR       0
1450          SV       0     .01       5
1451          SQ       0     0.7     1.7
              * DDM   ***** Preserved *****
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1452          KK     CD3
1453          KM   HYDROGRAPH COMBINATION FOR OFFLINE BASIN BLEEDOFF
1454          HC       2
              * DDM   ***** Preserved *****

1455          KK    R101
1456          KM        ROUTE FLOW FROM SUBBASIN C101 TO C103
1457          RS       1    FLOW      -1
1458          RC     .05    .035     .05    1450     .05
1459          RX    1000    1010    1020    1036    1041    1057    1067    1077
1460          RY      15    14.5      14      10      10      14    14.5      15
              * DDM   ***** Updated *****

1461          KK     458
1462          KM   SUB-BASIN 458
1463          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1464          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .999
1465          KM     L =  .76  Kb = .048  Adj. Slope =  299.0
1466          BA    .190
1467          LG    .290    .330   5.800    .190   6.000
1468          UC    .204    .131
1469          UA       0       5      16      30      65      77      84      90      94      97
1470          UA     100
              * DDM   ***** Preserved *****

1471          KK    C103
1472          KM        COMBINE HYDROGRAPHS FROM SUB-BASIN 55 AND C101
1473          HC       2
              * DDM   ***** Preserved *****

1474          KK    R103
1475          KM        ROUTE FLOW FROM SUBBASIN C103 TO C106
1476          RS       1    FLOW      -1
1477          RC     .05    .035     .05     900     .03
1478          RX    1000    1010    1020    1030    1050    1060    1070    1080
1479          RY   13.16   12.83    12.5      10      10    12.5   12.83   13.16
              * DDM   ***** Preserved *****

1480          KK    RT30
1481          KM        RETRIEVE DIVERTED FLOW FOR WASH BELOW 30 INCH PIPE
1482          DR    WA30
              * DDM   ***** Preserved *****

1483          KK     R30
1484          KM        ROUTE FLOW FROM WASH DIVERSION TO COMBINE C52
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1485          RS       1    FLOW      -1
1486          RC     .05    .035     .05    1630     .05
1487          RX    1000    1010    1020    1036    1041    1057    1067    1077
1488          RY      15    14.5      14      10      10      14    14.5      15
              * DDM   ***** Preserved *****
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1489          KK    RTB1
1490          KM        RETRIEVE DIVERTED FLOW FROM BASIN 1
              *      1       2
1491          DR  BASIN1
              * DDM   ***** Preserved *****

1492          KK      B1
1493          KM        ROUTE FLOW THROUGH OFFLINE DETENTION BASIN
1494          KM        FLOW OUTLETS THROUGH A 30 INCH OUTLET PIPE
              *      1       2
1495          RS       1    ELEV       0
1496          SV              .7     1.4     2.3     2.7     4.0
1497          SQ       0       5      16      28    32.5      37
1498          SE       0       1       2       3     3.5       4
              * DDM   ***** Preserved *****

1499          KK     RB1
1500          KM        ROUTE FLOW FROM BASIN DIVERSION TO COMBINE C52
1501          RS       3    FLOW      -1
1502          RC     .05    .035     .05    1720     .05
1503          RX    1000    1010    1020    1036    1041    1057    1067    1077
1504          RY      15    14.5      14      10      10      14    14.5      15
              * DDM   ***** Preserved *****

1505          KK    CDIV
1506          KM        COMBINE FLOWS FROM WA30 AND BASIN 1
1507          HC       2     .12
              * DDM   ***** Updated *****

1508          KK     459
1509          KM   SUB-BASIN 459
1510          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1511          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF 1.000
1512          KM     L =  .35  Kb = .052  Adj. Slope =  251.6
1513          BA    .030
1514          LG    .220    .300   3.330    .710   8.000
1515          UC    .162    .157
1516          UA       0       5      16      30      65      77      84      90      94      97
1517          UA     100
              * DDM   ***** Preserved *****

1518          KK     C52
1519          KM        COMBINE FLOWS FROM SUB-BASIN 52 WA30 AND BASIN 1
1520          HC       2
              * DDM   ***** Preserved *****

1521          KK     R52
1522          KM        ROUTE FLOW FROM SUBBASIN 52 TO C102
1523          RS       3    FLOW      -1
1524          RC     .05    .035     .05    2000     .05
1525          RX    1000    1010    1020    1036    1041    1057    1067    1077
1526          RY      15    14.5      14      10      10      14    14.5      15
              * DDM   ***** Updated *****
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1527          KK     460
1528          KM   SUB-BASIN 460
1529          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1530          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .999
1531          KM     L =  .62  Kb = .058  Adj. Slope =  194.0
1532          BA    .140
1533          LG    .250    .260   3.740    .690  27.000
1534          UC    .242    .160
1535          UA       0       5      16      30      65      77      84      90      94      97
1536          UA     100
              * DDM   ***** Preserved *****

1537          KK    C102
1538          KM        COMBINE HYDROGRAPHS FROM SUB-BASINS 52 AND 53
1539          HC       2
              * DDM   ***** Preserved *****

1540          KK  BASIN3
1541          KM        RESERVOIR AT CLUBHOUSE LOCATION 1-30 INCH PIPE AT OUTFALL
1542          KM        BOTTOM OF BASIN AT 6 FEET ABOVE 1795 ELEVATION
1543          RS       1    ELEV       0
1544          SA       0       0       0       0     .34    1.59    1.81    1.96    2.13     2.3
              *      0       0       0       0    1.14    3.25    5.52    9.23
1545          SQ       0      22      45    47.4      48      51      57      62      67      73
1546          SE    1795  1797.5    1800  1800.4  1800.5    1801    1802    1803    1804  1805.5
              * DDM   ***** Preserved *****
```

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1547        KK      R3
1548        KM        ROUTE FLOW FROM C102 to C106
1549        RS       5    FLOW      -1
1550        RC     .05     .03     .05    2750   .0375
1551        RX    1000    1010    1020    1052    1086    1118    1128    1138
1552        RY    19.2    18.4      18      10      10      18    18.4    19.2
            * DDM   ***** Updated *****

1553        KK     461
1554        KM   SUB-BASIN 461
1555        KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1556        KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .999
1557        KM     L =  .83  Kb = .052  Adj. Slope =  181.0
1558        BA    .120
1559        LG    .270    .250   4.250    .450  21.000
1560        UC    .271    .250
1561        UA       0       5      16      30      65      77      84      90      94      97
1562        UA     100
            * DDM   ***** Preserved *****

1563        KK    C104
1564        KM        COMBINE HYDROGRAPHS FROM SUB-BASIN 54 AND R102
1565        HC       2
            * DDM   ***** Preserved *****
1                                   HEC-1 INPUT                                          PAGE 42

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

1566        KK    C106
1567        KM        COMBINE HYDROGRAPHS FROM SUB-BASIN C103 AND C104
1568        HC       2
            * DDM   ***** Preserved *****

1569        KK    R106
1570        KM        ROUTE FLOW FROM C106 TO C49
1571        RS       2    FLOW      -1
1572        RC     .05    .035     .05    3950    .033
1573        RX    1000    1010    1020    1030    1050    1060    1070    1080
1574        RY   13.16   12.83    12.5      10      10    12.5   12.83   13.16
            * DDM   ***** Updated *****

1575        KK     462
1576        KM   SUB-BASIN 462
1577        KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1578        KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .998
1579        KM     L =  .97  Kb = .045  Adj. Slope =  297.7
1580        BA    .301
1581        LG    .300    .330   5.300    .240  12.000
1582        UC    .225    .137
1583        UA       0       5      16      30      65      77      84      90      94      97
1584        UA     100
            * DDM   ***** Preserved *****

1585        KK     C56
1586        KM        COMBINE HYDROGRAPHS FROM SUB-BASIN 56 AND C106
            *      1       2
1587        HC       2
            * DDM   ***** Preserved *****

1588        KK    C462
1589        KM        COMBINE HYDROGRAPHS AT SUBBASIN 462
            *      1
1590        HC       2    2.09
            * DDM   ***** Preserved *****

1591        KK    R462
1592        KM   ROUTE FLOW FROM SUB-BASIN 462 TO SUB-BASIN 500 (First Channel Reach)
1593        RS       1    FLOW      -1
1594        RC    .025    .025    .025    1800    .005
1595        RX       0       1      20      32      62      74      93      94
1596        RY      13      12      12       0       0      12      12      13
            *

1597        KK   RR462
1598        KM   ROUTE FLOW FROM SUB-BASIN 462 TO SUB-BASIN 500 (Second Natural Wash Reach)
1599        RS       3    FLOW      -1
1600        RC    .055     .05    .055    4700     .05
1601        RX       0       1       2      28      58      84      85      86
1602        RY    13.5    13.5    13.5       0       0    13.5    13.5    13.5
            * DDM   ***** Updated *****
1                                   HEC-1 INPUT                                          PAGE 43

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

1603        KK     500
1604        KM   SUB-BASIN 500
1605        KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1606        KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .994
1607        KM     L = 2.77  Kb = .042  Adj. Slope =  286.8
1608        BA    .930
1609        LG    .350    .400   6.000    .170   9.000
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1610          UC     .421     .333
1611          UA        0        3        5        8       12       20       43       75       90       96
1612          UA      100
              * DDM    ***** Preserved *****

1613          KK     C500
1614          KM    HYDROGRAPH COMBINATION FOR THE ENTIRE WATERSHED AT THE SALT RIVER
1615          HC        2     3.02
1616          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
             .          .         .
             .          .         .
448          .      C220............
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                .          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
                .          .          .
                .          .          .
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664     C320.......................
           .
           .
667        .         340
           .           .
           .           .
682        .           .-------->   BS340
677        .        D340
           .           .
           .           .
687        .           .           .<-------   BS340
685        .           .       RT340
           .           .           V
           .           .           V
688        .           .        S340
           .           .           .
           .           .           .
694     C340.......................
           .
           .
697        .        355A
           .           V
           .           V
707        .       R355A
           .           .
           .           .
714        .           .         360
           .           .           .
           .           .           .
728        .           .           .-------->   BS360
724        .           .        D360
           .           .           .
           .           .           .
733        .           .           .           .<-------   BS360
731        .           .           .       RT360
           .           .           .           V
           .           .           .           V
734        .           .           .        S360
           .           .           .           .
           .           .           .           .
740     C360.....................................
           .
           .
743        .        370A
           .           .
           .           .
753        .           .        395A
           .           .           .
           .           .           .
763        .       C370A............
           .           V
           .           V
766        .       R370A
           .           .
           .           .
773        .           .         380
           .           .           .
           .           .           .
787        .           .           .-------->   BS380
783        .           .        D380
           .           .           .
           .           .           .
792        .           .           .           .<-------   BS380
790        .           .           .       RT380
           .           .           .           V
           .           .           .           V
793        .           .           .        S380
           .           .           .           .
           .           .           .           .
799     C380.....................................
           .
           .
802        .         390
           .           .
           .           .
816        .           .-------->   BS390
812        .        D390
           .           .
           .           .
821        .           .           .<-------   BS390
819        .           .       RT390
           .           .           V
           .           .           V
822        .           .        S390
           .           .           .
           .           .           .
828        .       C390............
           .           V
           .           V
831        .        R390
           .           .
           .           .
838        .           .         400
           .           .           .
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852                                  .------->   BS400
848                            D400
                                  .
                                  .
857                                  .<-------   BS400
855                                  .       RT400
                                  .           V
                                  .           V
858                                  .        S400
                                  .           .
                                  .           .
864                            C400............
                                  .
                                  .
867          CC400......................
                 .
                 .
870                 385A
                    .
                    .
882                 .------->  SF385A
880                D385A
                    V
                    V
885                R385A
                    .
                    .
892                    .         420
                    .           .
                    .           .
906                    .           .------->   BS420
902                    .       D420
                    .           .
                    .           .
911                    .           .<-------   BS420
909                    .           .       RT420
                    .           .           V
                    .           .           V
912                    .           .        S420
                    .           .           .
                    .           .           .
918                 C420......................
                    .
                    .
921          CC420............
                 .
                 .
924                 440
                    V
                    V
934                 R70
                    .
                    .
940                    .         441
                    .           .
                    .           .
950                 C108............
                    .
                    .
955                 .------->   SPLIT
953                  D4
                    V
                    V
958                R108
                    .
                    .
964                    .         442
                    .           .
                    .           .
974                 C67............
                    .
                    .
980                 .------->  BASIN4
977                  D6
                    .
                    .
985                    .           .<-------  BASIN4
983                    .       RTD6
                    .           V
                    .           V
986                    .         SD6
                    .           .
                    .           .
992                 CD6............
                    .
                    .
995                    .         443
                    .           .
                    .           .
1008                   .           .------->   WSH66
1005                   .         D66
                    .           V
                    .           V
```

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1011          .           .        R113
              .           .          .
              .           .          .
1017          .      C114.............
              .           .
              .           .
1020          .           .         444
              .           .          V
              .           .          V
1030          .           .        R58
              .           .          .
              .           .          .
1036          .           .          .         445
              .           .          .          .
              .           .          .          .
1046          .           .      C107............
              .           .          V
              .           .          V
1049          .           .      R107
              .           .          .
              .           .          .
1057          .           .          .          .<-------   SPLIT
1055          .           .          .      RTB2
              .           .          .        V
              .           .          .        V
1058          .           .          .    RSPLIT
              .           .          .          .
              .           .          .          .
1064          .           .          .          .         446
              .           .          .          .          .
              .           .          .          .          .
1074          .           .      C109........................
              .           .          .
              .           .          .
1080          .           .          .-------> WSH404
1077          .           .         D5
              .           .          V
              .           .          V
1083          .           .      R109
              .           .          .
              .           .          .
1089          .           .          .         447
              .           .          .          .
              .           .          .          .
1101          .           .          .          .           .<--------  WSH404
1099          .           .          .          .       RT404
              .           .          .          .          V
              .           .          .          .          V
1102          .           .          .          .        R404
              .           .          .          .          .
              .           .          .          .          .
1108          .           .      C110........................
              .           .          V
              .           .          V
1111          .           .      R110
              .           .          .
              .           .          .
1117          .      C115............
              .         V
              .         V
1120          .      R115
              .           .
              .           .
1126          .           .         448
              .           .          .
              .           .          .
1136          .           .          .         449
              .           .          .          .
              .           .          .          .
1146          .           .     C6364............
              .           .          V
              .           .          V
1149          .           .     R6364
              .           .          .
              .           .          .
1155          .           .          .         450
              .           .          .          .
              .           .          .          .
1165          .           .          .          .         451
              .           .          .          .          .
              .           .          .          .          .
1175          .           .          .      C451............
              .           .          .          .
              .           .          .          .
1180          .           .          .          .           .<-------   WSH66
1178          .           .          .          .        RT66
              .           .          .          .          .
              .           .          .          .          .
1181          .           .          .          .          .         452
              .           .          .          .          .          .
              .           .          .          .          .          .
1191          .           .          .          .       C6465............
              .           .          .          .          V
              .           .          .          .          V
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1194          .           .           .           .       R6566
              .           .           .           .           .
              .           .           .           .           .
1200          .           .       C116.......................
              .           .          V
              .           .          V
1203          .           .      BASIN5
              .           .          V
              .           .          V
1210          .           .       R116
              .           .          .
              .           .          .
1216          .           .          .         453
              .           .          .           .
              .           .          .           .
1226          .           .       C117............
              .           .          .
              .           .          .
1229          .       C118............
              .          V
              .          V
1232          .       R118
              .           .
              .           .
1241          .           .-------> BASIN6
1238          .         D7
              .           .
              .           .
1246          .           .          .<-------  BASIN6
1244          .           .       RTD7
              .           .          V
              .           .          V
1247          .           .        SD7
              .           .          .
              .           .          .
1253          .        CD7............
              .           .
              .           .
1256          .           .        454
              .           .          .
              .           .          .
1266          .       C119............
              .          V
              .          V
1269          .       R454
              .           .
              .           .
1276          .           .        415
              .           .          .
              .           .          .
1288          .           .          .           .<-------  SF385A
1286          .           .          .     RT385A
              .           .          .          V
              .           .          .          V
1289          .           .          .     RR385A
              .           .          .           .
              .           .          .           .
1296          .           .       C415............
              .           .          .
              .           .          .
1299          .      CC415............
              .          V
              .          V
1302          .       R415
              .           .
              .           .
1309          .           .        455
              .           .          .
              .           .          .
1324          .           .          .-------> BS455
1319          .           .       D455
              .           .          .
              .           .          .
1329          .           .          .           .<-------  BS455
1327          .           .          .      RT455
              .           .          .          V
              .           .          .          V
1330          .           .          .       S455
              .           .          .           .
              .           .          .           .
1336          .           .       C455............
              .           .          .
              .           .          .
1339      CC455........................
            V
            V
1342      S440
            V
            V
1351      R455
              .
              .
1357          .        480
              .           .
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```
1372          .          .
              .          .-------->   BS480
1367          .       D480
              .          .
              .          .
1377          .          .           .<-------   BS480
1375          .          .       RT480
              .          .          V
              .          .          V
1378          .          .       S480
              .          .          .
              .          .          .
1384          .       C480............
              .          .
              .          .
1387       CC480............
              V
              V
1390       R480
              .
              .
1396          .        456
              .          .
              .          .
1409          .          .-------->  BASIN1
1406          .         D1
              .          .
              .          .
1415          .          .-------->    WA30
1412          .         D2
              .          V
              .          V
1418          .       R456
              .          .
              .          .
1424          .          .        457
              .          .          .
              .          .          .
1434          .       C101............
              .          .
              .          .
1440          .          .-------->  BASIN2
1437          .         D3
              .          .
              .          .
1445          .          .           .<-------  BASIN2
1443          .          .       RTD3
              .          .          V
              .          .          V
1446          .          .        SD3
              .          .          .
              .          .          .
1452          .        CD3............
              .          V
              .          V
1455          .       R101
              .          .
              .          .
1461          .          .        458
              .          .          .
              .          .          .
1471          .       C103............
              .          V
              .          V
1474          .       R103
              .          .
              .          .
1482          .          .           .<-------    WA30
1480          .          .       RT30
              .          .          V
              .          .          V
1483          .          .        R30
              .          .          .
              .          .          .
1491          .          .          .           .<-------  BASIN1
1489          .          .          .        RTB1
              .          .          .          V
              .          .          .          V
1492          .          .          .         B1
              .          .          .          V
              .          .          .          V
1499          .          .          .        RB1
              .          .          .          .
              .          .          .          .
1505          .          .       CDIV............
              .          .          .
              .          .          .
1508          .          .          .        459
              .          .          .          .
              .          .          .          .
1518          .          .        C52............
              .          .          V
              .          .          V
1521          .          .        R52
```

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                .          .          .
                .          .          .
1527            .          .          .          460
                .          .          .            .
                .          .          .            .
1537            .          .       C102............
                .          .          V
                .          .          V
1540            .          .     BASIN3
                .          .          V
                .          .          V
1547            .          .         R3
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1566            .       C106............
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1569            .       R106
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1575            .          .        462
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1585            .        C56............
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1588       C462............
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1591       R462
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1597      RR462
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1603            .        500
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1613       C500............
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(***) RUNOFF ALSO COMPUTED AT THIS LOCATION

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*                                      *
*   FLOOD HYDROGRAPH PACKAGE  (HEC-1)  *
*              JUN   1998              *
*           VERSION 4.1                *
*                                      *
*  RUN DATE   08MAY01  TIME  14:28:55  *
*                                      *
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*                                      *
*    U.S. ARMY CORPS OF ENGINEERS      *
*    HYDROLOGIC ENGINEERING CENTER     *
*          609 SECOND STREET           *
*       DAVIS, CALIFORNIA 95616        *
*           (916) 756-1104             *
*                                      *
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DDM MCUHP1 SPOOK HILL AMDP - EXISTING CONDITIONS MODEL - 100YR, 24HR STORM
FULL PASS MOUNTAIN DIVERSION WITH SPOOK HILL FRS STORAGE ROUTING;
OUTFLOW OF SIGNAL BUTTE IS QUADRUPLED, PASS MOUNTAIN DIVERSION ALTERNATIVE
PM4R, THIS MODEL CAN ALSO BE USED FOR OPTION PM4E
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

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 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
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STORAGE VOLUME ACRE-FEET
SURFACE AREA ACRES
TEMPERATURE DEGREES FAHRENHEIT

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

15 PI PRECIPITATION PATTERN

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25 JD INDEX STORM NO. 2
STRM 3.79 PRECIPITATION DEPTH
TRDA 1.00 TRANSPOSITION DRAINAGE AREA

0 PI PRECIPITATION PATTERN

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26 JD INDEX STORM NO. 3

STRM 3.68 PRECIPITATION DEPTH

TRDA 5.80 TRANSPOSITION DRAINAGE AREA

0 PI PRECIPITATION PATTERN

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27 JD INDEX STORM NO. 4

STRM 3.57 PRECIPITATION DEPTH

TRDA 10.66 TRANSPOSITION DRAINAGE AREA

0 PI PRECIPITATION PATTERN

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28 JD INDEX STORM NO. 5

STRM 3.54 PRECIPITATION DEPTH

TRDA 13.70 TRANSPOSITION DRAINAGE AREA

0 PI PRECIPITATION PATTERN

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29 JD INDEX STORM NO. 6

STRM 3.47 PRECIPITATION DEPTH

TRDA 20.00 TRANSPOSITION DRAINAGE AREA

0 PI PRECIPITATION PATTERN

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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	715.	12.33	90.	25.	9.	.66
HYDROGRAPH AT +	355B	465.	12.27	54.	14.	5.	.51
2 COMBINED AT +	C355B	1153.	12.30	143.	38.	14.	1.17
ROUTED TO +	R355B	1138.	12.37	143.	38.	14.	1.17
ROUTED TO +	RR355B	1121.	12.40	143.	38.	14.	1.17
HYDROGRAPH AT +	350	1258.	12.20	109.	28.	10.	.97
ROUTED TO +	R350	1109.	12.47	109.	28.	10.	.97
HYDROGRAPH AT +	310	342.	12.33	46.	12.	4.	.49
3 COMBINED AT +	C310	2448.	12.43	290.	76.	27.	2.63
ROUTED TO +	R310	2395.	12.53	290.	76.	27.	2.63
ROUTED TO +	R312	2301.	12.63	290.	76.	27.	2.63
HYDROGRAPH AT +	305B	405.	12.30	45.	11.	4.	.41
2 COMBINED AT +	C305B	2484.	12.63	333.	87.	31.	3.05
ROUTED TO +	R305B	2464.	12.67	333.	87.	31.	3.05
HYDROGRAPH AT +	210	1322.	12.17	111.	29.	10.	.79
ROUTED TO +	R210	1246.	12.23	111.	29.	10.	.79
HYDROGRAPH AT +	240	1754.	12.27	167.	42.	15.	1.41
3 COMBINED AT +	C240	3752.	12.27	593.	153.	55.	5.25
ROUTED TO +	S240	1819.	12.93	528.	137.	49.	5.25
ROUTED TO +	R240	1817.	13.00	527.	137.	49.	5.25
HYDROGRAPH AT +	220	694.	12.20	68.	18.	6.	.47
2 COMBINED AT +	C220	1864.	12.97	587.	153.	55.	5.72
ROUTED TO +	S220	1775.	13.13	575.	150.	54.	5.72
ROUTED TO +	R220	1774.	13.20	575.	150.	54.	5.72
HYDROGRAPH AT +	190	1471.	12.17	123.	33.	12.	.92
ROUTED TO +	R190	1415.	12.23	123.	33.	12.	.92
ROUTED TO	R192	1359.	12.30	123.	33.	12.	.92
HYDROGRAPH AT +	200	843.	12.17	72.	20.	7.	.53

+	3 COMBINED AT	C200	2171.	12.30	741.	195.	71.	7.17
	ROUTED TO	S200	2057.	12.37	736.	192.	69.	7.17
+	ROUTED TO	R200	2055.	12.40	735.	192.	69.	7.17
+	ROUTED TO	SS200	1788.	13.30	615.	162.	58.	7.17
+	ROUTED TO	RR200	1784.	13.37	612.	162.	58.	7.17
+	2 COMBINED AT	CC180	7306.	12.30	1505.	476.	204.	13.70
+	ROUTED TO	S180	449.	15.63	436.	313.	154.	13.70
+	ROUTED TO	R180	449.	15.70	436.	313.	154.	13.70
+	HYDROGRAPH AT	260	399.	12.13	43.	12.	4.	.26
+	2 COMBINED AT	C260	491.	15.63	477.	362.	181.	.26
+	ROUTED TO	R260	491.	15.70	477.	362.	181.	.26
+	HYDROGRAPH AT	280	498.	12.10	46.	13.	5.	.32
+	2 COMBINED AT	C280	854.	12.13	479.	372.	185.	.58
+	ROUTED TO	R280	837.	12.20	479.	372.	185.	.58
+	HYDROGRAPH AT	300	392.	12.10	34.	9.	3.	.29
	2 COMBINED AT	C300	1173.	12.17	503.	379.	188.	.87
+	ROUTED TO	R300	1131.	12.23	502.	379.	188.	.87
+	HYDROGRAPH AT	305A	413.	12.17	46.	13.	5.	.37
+	2 COMBINED AT	C305A	1501.	12.23	539.	388.	191.	1.24
+	ROUTED TO	R305A	1470.	12.30	538.	387.	191.	1.24
+	HYDROGRAPH AT	320	899.	12.20	116.	33.	12.	.87
+	DIVERSION TO	BS320	439.	11.97	21.	6.	2.	.87
+	HYDROGRAPH AT	D320	899.	12.20	102.	27.	10.	.87
+	HYDROGRAPH AT	RT320	439.	11.97	21.	6.	2.	.87
+	ROUTED TO	S320	4.	12.03	4.	4.	2.	.87
+	3 COMBINED AT	C320	2277.	12.27	633.	411.	200.	2.11
+	HYDROGRAPH AT	340	1581.	12.17	196.	58.	21.	1.48
+	DIVERSION TO	BS340	1581.	12.17	104.	28.	10.	1.48
+	HYDROGRAPH AT	D340	1367.	12.30	108.	30.	11.	1.48
+	HYDROGRAPH AT	RT340	1581.	12.17	104.	28.	10.	1.48
	ROUTED TO	S340	18.	12.30	17.	14.	9.	1.48
	3 COMBINED AT							

+	C340	3564.	12.30	744.	446.	215.	3.59
HYDROGRAPH AT	355A	226.	12.10	22.	6.	2.	.16
ROUTED TO +	R355A	197.	12.37	22.	6.	2.	.16
+ HYDROGRAPH AT	360	761.	12.20	109.	31.	11.	.88
+ DIVERSION TO	BS360	761.	12.20	54.	14.	5.	.88
+ HYDROGRAPH AT	D360	665.	12.37	62.	17.	6.	.88
+ HYDROGRAPH AT	RT360	761.	12.20	54.	14.	5.	.88
+ ROUTED TO	S360	9.	12.37	8.	7.	5.	.88
+ 4 COMBINED AT	C360	3921.	12.37	825.	471.	226.	4.63
+ HYDROGRAPH AT	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	4306.	12.40	933.	501.	240.	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	4902.	12.40	1007.	519.	246.	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	5497.	12.40	1089.	540.	254.	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							

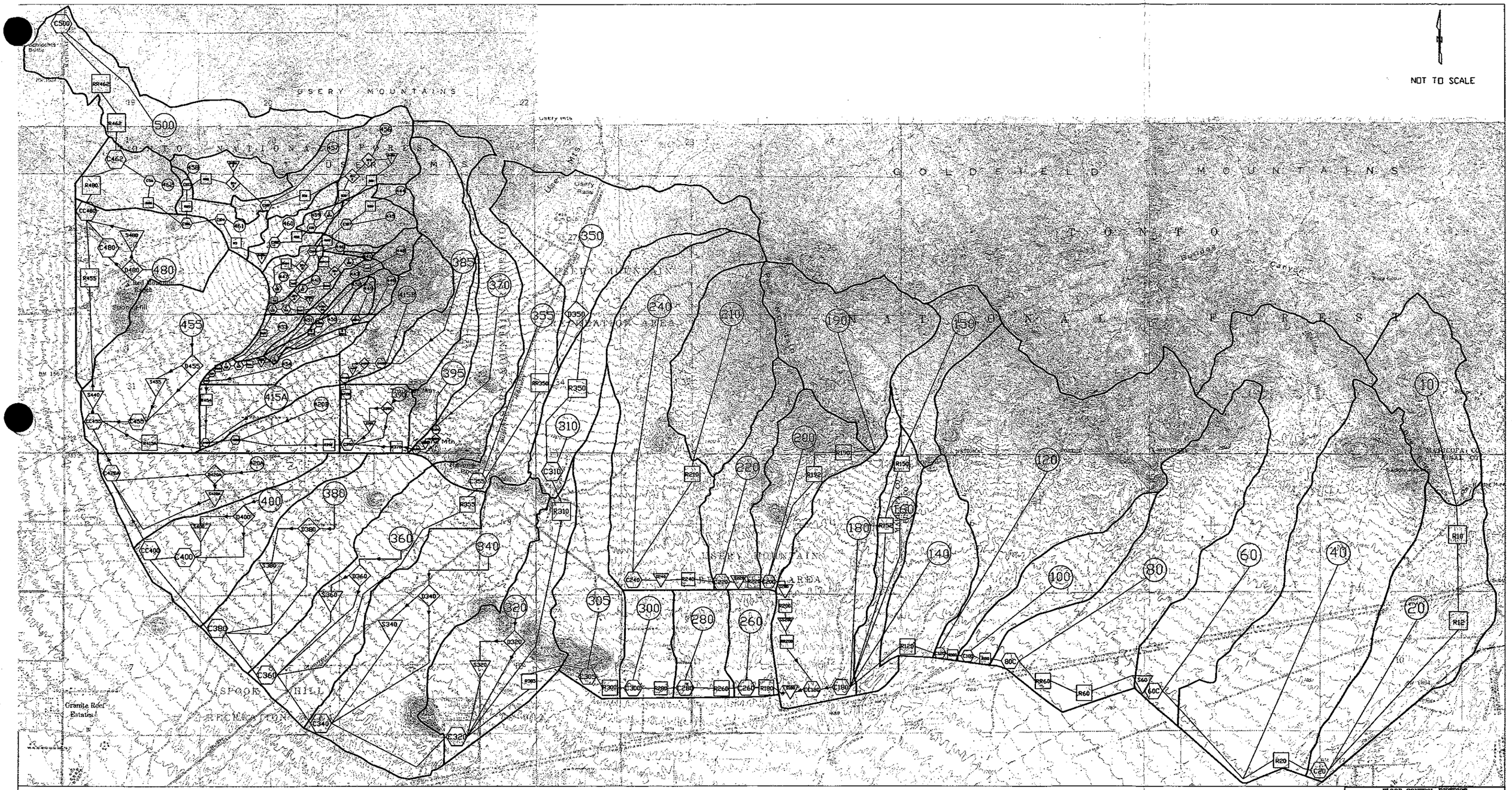
+		444	83.	12.03	5.	1.	0.	.04
	ROUTED TO	R58	79.	12.07	5.	1.	0.	.04
+	HYDROGRAPH AT	445	307.	12.03	19.	5.	2.	.19
+	2 COMBINED AT	C107	382.	12.03	23.	6.	2.	.23
+	ROUTED TO	R107	382.	12.07	23.	6.	2.	.23
+	HYDROGRAPH AT	RTB2	98.	12.07	7.	2.	1.	.09
+	ROUTED TO	RSPLIT	98.	12.07	7.	2.	1.	.09
+	HYDROGRAPH AT	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	6518.	12.40	1270.	596.	280.	10.80
+	ROUTED TO	S440	362.	26.10	358.	321.	195.	10.80
+	ROUTED TO	R455	362.	26.80	358.	321.	193.	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	1107.	12.10	415.	373.	233.	.73
ROUTED TO +	R480	878.	12.33	415.	373.	231.	.73
HYDROGRAPH AT +	456	483.	12.07	37.	10.	4.	.26
DIVERSION TO +	BASIN1	193.	12.07	8.	2.	1.	.26
HYDROGRAPH AT +	D1	290.	12.07	29.	8.	3.	.26
DIVERSION TO +	WA30	59.	12.07	10.	3.	1.	.26
HYDROGRAPH AT +	D2	231.	12.07	19.	5.	2.	.26
ROUTED TO +	R456	218.	12.13	19.	5.	2.	.26
HYDROGRAPH AT +	457	273.	12.07	21.	6.	2.	.19
2 COMBINED AT +	C101	480.	12.10	40.	10.	4.	.45
DIVERSION TO +	BASIN2	177.	12.10	8.	2.	1.	.45
HYDROGRAPH AT +	D3	303.	12.10	32.	8.	3.	.45
HYDROGRAPH AT +	RTD3	177.	12.10	8.	2.	1.	.45
ROUTED TO +	SD3	1.	12.40	1.	1.	1.	.45
2 COMBINED AT +	CD3	304.	12.10	33.	9.	4.	.45
ROUTED TO +	R101	302.	12.10	33.	9.	4.	.45
HYDROGRAPH AT +	458	366.	12.03	26.	7.	2.	.19
2 COMBINED AT +	C103	655.	12.07	59.	16.	6.	.64
ROUTED TO +	R103	651.	12.07	59.	16.	6.	.64
HYDROGRAPH AT +	RT30	59.	12.07	10.	3.	1.	.26
ROUTED TO +	R30	58.	12.10	10.	3.	1.	.26
HYDROGRAPH AT +	RTB1	193.	12.07	8.	2.	1.	.26
ROUTED TO +	B1	35.	12.20	8.	2.	1.	.26
ROUTED TO +	RB1	35.	12.27	8.	2.	1.	.26
2 COMBINED AT +	CDIV	87.	12.20	18.	5.	2.	.12
HYDROGRAPH AT +	459	45.	12.03	3.	1.	0.	.03
2 COMBINED AT +	C52	117.	12.10	21.	6.	2.	.15
ROUTED TO	R52	116.	12.17	21.	6.	2.	.15
HYDROGRAPH AT +	460	221.	12.07	20.	6.	2.	.14

	2 COMBINED AT							
+		C102	323.	12.07	40.	12.	4.	.29
	ROUTED TO							
		BASIN3	71.	12.63	40.	12.	4.	.29
	ROUTED TO							
+		R3	71.	12.77	40.	12.	4.	.29
	HYDROGRAPH AT							
+		461	165.	12.10	17.	5.	2.	.12
	2 COMBINED AT							
+		C104	220.	12.10	57.	17.	6.	.41
	2 COMBINED AT							
+		C106	866.	12.07	115.	33.	12.	1.05
	ROUTED TO							
+		R106	828.	12.13	115.	33.	12.	1.05
	HYDROGRAPH AT							
+		462	557.	12.07	42.	12.	4.	.30
	2 COMBINED AT							
+		C56	1306.	12.10	156.	44.	16.	1.35
	2 COMBINED AT							
+		C462	1640.	12.30	415.	377.	247.	2.09
	ROUTED TO							
+		R462	1575.	12.33	405.	367.	241.	2.09
	ROUTED TO							
+		RR462	1543.	12.40	405.	367.	241.	2.09
	HYDROGRAPH AT							
+		500	1126.	12.27	128.	35.	12.	.93
	2 COMBINED AT							
+		C500	2475.	12.33	444.	391.	249.	3.02

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



FLOOD CONTROL DISTRICT
OF MARICOPA COUNTY
ENGINEERING DIVISION

McDOWELL ALTERNATIVE 2E

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

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

DRAWING NO. EC24MD2E.DWG SHEET OF

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1****************************************                    ****************************************
*                                      *                    *                                      *
*   FLOOD HYDROGRAPH PACKAGE  (HEC-1)  *                    *   U.S. ARMY CORPS OF ENGINEERS       *
*              JUN   1998              *                    *   HYDROLOGIC ENGINEERING CENTER      *
*            VERSION 4.1               *                    *         609 SECOND STREET            *
*                                      *                    *      DAVIS, CALIFORNIA 95616         *
*  RUN DATE   02MAY01  TIME  08:24:07  *                    *          (916) 756-1104              *
*                                      *                    *                                      *
****************************************                    ****************************************

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

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

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

1                                          HEC-1 INPUT                                                    PAGE  1

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

  1           ID   DDMS MCUHP1 SPOOK HILL ADMP-EXISTING CONDITIONS MODEL-100YR, 24-HR STORM
  2           ID   McDowell Road Alternative - Option MD2E
  3           ID   Spook Hill FRS without Off-Line Basin
              *
              *  Original File Names: EC24MD3E.DAT & EC24BASE.DAT, 4/10/01
              *  Modified File Name: EC24MD2E.DAT, 4/10/01, WOOD/PATEL, MW, SZ
              *
              *  MAJOR ASSUMPTIONS / CRITERIA / CHANGES FROM PREVIOUS MODELS:
              *
              *    1. Refinement of areas for sub-basins 415 and 420 into  sub-basins
              *       415A & 415B, 420A & 420B.
              *          Area of 415A is  .280 sq. miles
              *          Area of 415B is  .329 sq. miles
              *          Area of 420A is  .570 sq. miles
              *          Area of 420B is  .279 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.
              *
              *    3. Operations for option MD2E are added to the HEC-1 Model.
              *
              *
              *DIAGRAM
  4           IT       2                    2000
  5           IO       5
  6           IN      15
  7           JD    3.81    0.01
  8           PC    .000    .002    .005    .008    .011    .014    .017    .020    .023    .026
  9           PC    .029    .032    .035    .038    .041    .044    .048    .052    .056    .060
 10           PC    .064    .068    .072    .076    .080    .085    .090    .095    .100    .105
 11           PC    .110    .115    .120    .126    .133    .140    .147    .155    .163    .172
 12           PC    .181    .191    .203    .218    .236    .257    .283    .387    .663    .707
 13           PC    .735    .758    .776    .791    .804    .815    .825    .834    .842    .849
 14           PC    .856    .863    .869    .875    .881    .887    .893    .898    .903    .908
 15           PC    .913    .918    .922    .926    .930    .934    .938    .942    .946    .950
 16           PC    .953    .956    .959    .962    .965    .968    .971    .974    .977    .980
 17           PC    .983    .986    .989    .992    .995    .998   1.000
 18           JD   3.787    1.00
 19           JD   3.677    5.80
 20           JD   3.574   10.66
 21           JD   3.539   13.70
 22           JD   3.467   20.00
 23           JD   3.315   50.00
              * DDM   ***** Updated *****

 24           KK      10
 25           KM   SUB-BASIN 10
 26           KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
 27           KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .996
 28           KM     L = 2.00  Kb = .044  Adj. Slope =  165.0
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 29          BA    .702
 30          LG    .350     .320   7.600     .090  15.000
                                            HEC-1 INPUT                                                          PAGE  2

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

 31          UC    .421     .302
 32          UA       0        3        5        8       12       20       43       75       90       96
 33          UA     100
             * DDM   ***** Preserved *****

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

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

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

 56          KK     C20
 57          KM   HYDROGRAPH COMBINATION OF SUB-BASINS 10 AND 20
 58          HC       2
             * DDM   ***** Preserved *****

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

 65          KK      40
 66          KM   SUB-BASIN 40
 67          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
 68          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .987
 69          KM     L = 3.08  Kb = .036  Adj. Slope =  189.0
 70          BA   2.233
 71          LG    .340     .340   4.900     .280   5.000
 72          UC    .496     .264
 73          UA       0        3        5        8       12       20       43       75       90       96
1                                           HEC-1 INPUT                                                          PAGE  3

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

 74          UA     100
             * DDM   ***** Updated *****

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

 85          KK     C60
 86          KM     C60GRAPH COMBINATION FOR APACHE JUNCTION FRS
             *      1        2
 87          HC       3
             * DDM   ***** Preserved *****

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

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

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

 109             KK      80
 110             KM   SUB-BASIN 80
 111             KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
 112             KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .991
 113             KM     L = 2.69  Kb = .039  Adj. Slope =  229.8
 114             BA   1.475
1                                          HEC-1 INPUT                                          PAGE  4

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

 115             LG    .330    .330   5.600    .210   4.000
 116             UC    .433    .259
 117             UA       0       3       5       8      12      20      43      75      90      96
 118             UA     100
                 * DDM   ***** Preserved *****

 119             KK     C80
 120             KM   HYDROGRAPH COMBINATION FOR FLOW FROM APACHE JUNCTION FRS & SUB-BASIN 80
 121             HC       2   1.475
                 * DDM   ***** Preserved *****

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

 128             KK     100
 129             KM   SUB-BASIN 100
 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  .997
 132             KM     L = 1.94  Kb = .046  Adj. Slope =  108.0
 133             BA    .484
 134             LG    .320    .290   5.100    .260   3.000
 135             UC    .533    .473
 136             UA       0       5      16      30      65      77      84      90      94      97
 137             UA     100
                 * DDM   ***** Preserved *****

 138             KK    C100
 139             KM   HYDROGRAPH COMBINATION FOR FLOW FROM SUB-BASIN 80 & 100
 140             HC       2
                 * DDM   ***** Preserved *****

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

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

LINE             ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10
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157          KK    C120
158          KM   HYDROGRAPH COMBINATION FOR FLOW FROM SUB-BASIN 100 & 120
159          HC       2
             * DDM   ***** Preserved *****

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

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

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

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

192          KK    R152
193          KM   ROUTING OF FLOW FROM R152 TO SUB-BASIN 160
194          RS       3    FLOW      -1
195          RC    .045     .03    .045    5900    .019
196          RX       0       1       2       8      33      39      40      41
197          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

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

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

218          KK    C180
219          KM   HYDROGRAPH COMBINATION FOR SIGNAL BUTTE FRS
220          HC       5
             *
             * The sub-basin area and soil make-up have been updated from CAD file 12/07/00
             * DDM   ***** Updated *****

221          KK     210
222          KM   SUB-BASIN 210
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223          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
224          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .995
225          KM     L = 1.84  Kb = .043  Adj. Slope =  315.0
226          BA    .792
227          LG    .350     .360   6.800     .130   4.000
228          UC    .313     .189
229          UA       0        3       5        8      12      20      43      75      90      96
230          UA     100
             * DDM   ***** Preserved *****

231          KK    R210
232          KM   ROUTING OF FLOW FROM SUB-BASIN 210 TO SUB-BASIN 220
233          RS       2    FLOW      -1
234          RC    .045      .03    .045    5100    .022
235          RX       0        1       2      14      34      46      47      48
236          RY       4        4       4       0       0       4       4       4
             *
             * The sub-basin area and soil make-up have been updated from CAD file 12/07/00
             * DDM   ***** Updated *****
1                                          HEC-1 INPUT                                          PAGE  7

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

237          KK     240
238          KM   SUB-BASIN 240
239          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
240          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .992
241          KM     L = 3.50  Kb = .039  Adj. Slope =  298.6
242          BA   1.408
243          LG    .350     .370   5.300     .230   2.000
244          UC    .467     .356
245          UA       0        3       5        8      12      20      43      75      90      96
246          UA     100
             * DDM   ***** Preserved *****

247          KK    C240
248          KM   HYDROGRAPH COMBINATION FOR SUB-BASIN 240 & 220
249          HC       2
             * DDM   ***** Preserved *****

250          KK    S240
251          KM    WEIR GEOMETRY OBTAINED FROM AS-BUILT PLANS @ PASS MTN. DIVERSION.
252          KM   WEIR STORAGE DATA OBTAINED FROM 2' CONTOUR MAPPING.
253          RS       1    STOR       0
254          SA    1.38    14.2    36.5
255          SE     1.7       5      11
256          SS       5      42       3     1.5
             * DDM   ***** Preserved *****

257          KK    R240
258          KM   ROUTE FLOW FROM SUB-BASIN 240 TO SUB-BASIN 220
259          KM   PASS MOUNTAIN DIVERSION
260          RS       3    FLOW      -1
261          RC    .035     .025    .035    1800    .005
262          RX       0       15      30      39      69      81      96     111
263          RY     3.6      3.3       3       0       0       3       3       4
             *
             * The sub-basin area and soil make-up have been updated from CAD file 12/07/00
             * DDM   ***** Updated *****

264          KK     220
265          KM   SUB-BASIN 220
266          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
267          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .997
268          KM     L = 1.92  Kb = .046  Adj. Slope =  315.0
269          BA    .473
270          LG    .350     .350   7.000     .120   5.000
271          UC    .333     .282
272          UA       0        3       5        8      12      20      43      75      90      96
273          UA     100
             * DDM   ***** Preserved *****
1                                          HEC-1 INPUT                                          PAGE  8

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

274          KK    C220
275          KM   HYDROGRAPH COMBINATION FOR SUB-BASIN 240 & 220
276          HC       2
             * DDM   ***** Preserved *****

277          KK    S220
278          KM    WEIR GEOMETRY OBTAINED FROM AS-BUILT PLANS @ PASS MTN. DIVERSION.
279          KM   WEIR STORAGE DATA OBTAINED FROM 2' CONTOUR MAPPING.
280          RS       1    STOR       0
281          SA     .78     4.1    13.7
282          SE       1       3      10
283          SS       3      65       3     1.5
             * DDM   ***** Preserved *****
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 284          KK    R220
 285          KM   ROUTE FLOW FROM SUB-BASIN 220 TO SUB-BASIN 200
 286          KM   PASS MOUNTAIN DIVERSION
 287          RS       1    FLOW      -1
 288          RC    .035    .025    .035    1250    .005
 289          RX       0      50     100     109     139     148     178     184
 290          RY       5       4       3       0       0       3       3       5
              * DDM   ***** Updated *****

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

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

 307          KK    R192
 308          KM   ROUTING OF FLOW FROM SUB-BASIN 190 TO SUB-BASIN 200
 309          RS       3    FLOW      -1
 310          RC    .045    .035    .045    2200    .018
 311          RX       0       1      50      59      79      88     137     138
 312          RY     4.5       3       3       0       0       3       3     4.5
              * DDM   ***** Updated *****
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 313          KK     200
 314          KM   SUB-BASIN 200
 315          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
 316          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .997
 317          KM     L = 1.58  Kb = .045  Adj. Slope =  305.6
 318          BA    .530
 319          LG    .350    .390   5.700    .200  10.000
 320          UC    .300    .201
 321          UA       0       3       5       8      12      20      43      75      90      96
 322          UA     100
              * DDM   ***** Preserved *****

 323          KK    C200
 324          KM   HYDROGRAPH COMBINATION FOR SUB-BASIN 220 & 200
 325          HC       3
              * DDM   ***** Preserved *****

 326          KK    S200
 327          KM    WEIR GEOMETRY OBTAINED FROM AS-BUILT PLANS @ PASS MTN. DIVERSION.
 328          KM   WEIR STORAGE DATA OBTAINED FROM 2' CONTOUR MAPPING.
 329          RS       1    STOR       0
 330          SA    2.56     3.1     9.4
 331          SE       0       3      10
 332          SS       3     112       3     1.5
              * DDM   ***** Preserved *****

 333          KK    R200
 334          KM   ROUTE FLOW FROM SUB-BASIN 200 TO SIGNAL BUTTE FRS through storage
 335          RS       1    FLOW      -1
 336          RC    .035    .025    .035     650    .005
 337          RX       0       1       2      17     117     132     133     134
 338          RY       5       5       5       0       0       5       5       5
              * DDM   ***** Preserved *****

 339          KK   SS200
 340          KM    WEIR GEOMETRY OBTAINED FROM AS-BUILT PLANS @ PASS MTN. DIVERSION.
 341          KM   WEIR STORAGE DATA OBTAINED FROM 2' CONTOUR MAPPING.
 342          RS       1    STOR       0
 343          SA       8     9.2     9.2
 344          SE       0       7      10
 345          SS       7     251       3     1.5
              * DDM   ***** Preserved *****

 346          KK   RR200
 347          KM   ROUTE FLOW FROM SUB-BASIN 200 TO SIGNAL BUTTE FRS
 348          RS       3    FLOW      -1
 349          RC    .035    .025    .035    3150    .005
 350          RX       0       1       2      17     117     132     133     134
 351          RY       5       5       5       0       0       5       5       5
              * DDM   ***** Preserved *****
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 352          KK   CC180
 353          KM   HYDROGRAPH COMBINATION FOR SIGNAL BUTTE FRS
              *      1       2
 354          HC       2
              * DDM   ***** Preserved *****

 355          KK    S180
 356          KM   SIGNAL BUTTE FRS DATED 1/28/85
 357          KM   OUTLET PIPE=36"RCP; L= 147';  INLET INV.=1690; OUTLET INV.=1687
 358          KM   EMERGENCY SPILLWAY ELEV.=1712.4; PRINCIPLE SPILLWAY ELEV.=1701
 359          KM   STORAGE VOLUME BELOW PRINCIPLE SPILLWAY FOR SEDIMENT = 250 ACRE-FEET
              *  ESE = 1714.63 ft; PSE = 1703.23 ft; Sediment Vol. = 247 Ac-Ft.
 360          RS       1    STOR       0
 361          SV       0      92     226     462     742    1197    1418    1776    1941    3114
 362          SQ       0      10    10.5      98     133     149     155    1484    2567    6000
 363          SE      99     101   103.0     106     109   113.0   114.6     117     118     120
              * DDM   ***** Preserved *****

 364          KK    R180
 365          KM   Routing length updated using Signal Butte Floodway plans dated March 1983
 366          KM   Routing length increased 100' from 1500' to 1600'    12/12/00
 367          KM   CHANNEL GEOMETRY FOR SIGNAL BUTTE FRS OBTAINED FROM AS-BUILT PLANS.
 368          KM   ROUTE FLOW FROM SIGNAL BUTTE FRS TO SUB-BASIN 260
 369          RS       2    FLOW      -1
 370          RC    .035    .025    .035    1600    .003
 371          RX       0       1       2    22.6    38.6    59.2      60      61
 372          RY     9.3     9.3     9.3       0       0     9.3     9.3     9.3
              * DDM   ***** Updated *****

 373          KK     260
 374          KM   SUB-BASIN 260
 375          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
 376          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .998
 377          KM     L =  .81  Kb = .049  Adj. Slope =   68.0
 378          BA    .262
 379          LG    .300    .190   6.600    .170  15.000
 380          UC    .363    .217
 381          UA       0       5      16      30      65      77      84      90      94      97
 382          UA     100
              * DDM   ***** Preserved *****

 383          KK    C260
 384          KM   HYDROGRAPH COMBINATION FOR OUTFLOW OF SIGNAL BUTTE FRS & SUB-BASIN 260
 385          HC       2    .262
              * DDM   ***** Preserved *****

 386          KK    R260
 387          KM   Routing length updated using Signal Butte Floodway plans dated March 1983
 388          KM   Routing length unchanged     12/12/00
 389          KM   CHANNEL GEOMETRY FOR SIGNAL BUTTE FRS OBTAINED FROM AS-BUILT PLANS.
 390          KM   ROUTE FLOW FROM SUB-BASIN 260 TO SUB-BASIN 280
 391          RS       3    FLOW      -1
 392          RC    .035    .025    .035    2300    .003
 393          RX       0       1       2    23.4    43.4    64.8      65      66
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 394          RY     9.7     9.7     9.7       0       0     9.7     9.7     9.7
              * DDM   ***** Updated *****

 395          KK     280
 396          KM   SUB-BASIN 280
 397          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
 398          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .998
 399          KM     L =  .77  Kb = .048  Adj. Slope =   84.0
 400          BA    .319
 401          LG    .300    .250   5.300    .290  15.000
 402          UC    .329    .168
 403          UA       0       5      16      30      65      77      84      90      94      97
 404          UA     100
              * DDM   ***** Preserved *****

 405          KK    C280
 406          KM   HYDROGRAPH COMBINATION FOR SUB-BASIN 260 & SUB-BASIN 280
 407          HC       2
              * DDM   ***** Preserved *****

 408          KK    R280
 409          KM   Routing length updated using Signal Butte Floodway plans dated March 1983
 410          KM   Routing length decreased 400' from 2500' to 2100'    12/12/00
 411          KM   CHANNEL GEOMETRY FOR SIGNAL BUTTE FRS OBTAINED FROM AS-BUILT PLANS.
 412          KM   ROUTE FLOW FROM SUB-BASIN 280 TO SUB-BASIN 300
 413          RS       3    FLOW      -1
 414          RC    .035    .025    .035    2100    .003
 415          RX       0       1       2    23.4    43.4    64.8      65      66
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416          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 *****

417          KK     300
418          KM   SUB-BASIN 300
419          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
420          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .998
421          KM     L =  .78  Kb = .049  Adj. Slope =  103.0
422          BA    .289
423          LG    .320    .290   4.200    .480  11.000
424          UC    .325    .177
425          UA       0       5      16      30      65      77      84      90      94      97
426          UA     100
             * DDM   ***** Preserved *****

427          KK    C300
428          KM   HYDROGRAPH COMBINATION OF SUB-BASIN 280 & 300
429          HC       2
             * DDM   ***** Preserved *****
1                                        HEC-1 INPUT                                          PAGE 12

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

430          KK    R300
431          KM   Routing length updated using Signal Butte Floodway plans dated March 1983
432          KM   Routing length increased 300' from 2200' to 2500'    12/12/00
433          KM   CHANNEL GEOMETRY FOR SIGNAL BUTTE FRS OBTAINED FROM AS-BUILT PLANS.
434          KM   ROUTE FLOW FROM SUB-BASIN 300 TO START OF FLOODWAY CONCRETE CHANNEL
435          RS       2    FLOW      -1
436          RC    .035    .025    .035    2500    .003
437          RX       0       1       2    23.4    55.4    76.8      77      78
438          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 *****

439          KK     305
440          KM   SUB-BASIN 305
441          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
442          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .996
443          KM     L = 2.50  Kb = .044  Adj. Slope =  116.0
444          BA    .702
445          LG    .340    .340   4.550    .350   6.000
446          UC    .642    .576
447          UA       0       5      16      30      65      77      84      90      94      97
448          UA     100
             * DDM   ***** Preserved *****

449          KK    C305
450          KM   HYDROGRAPH COMBINATION OF SUB-BASIN 300 AND 305
451          HC       2
             * DDM   ***** Preserved *****

452          KK    R305
453          KM   Routing length updated using Signal Butte Floodway plans dated March 1983
454          KM   Routing length decreased 50' from 6050' to 6000'    12/12/00
455          KM   CHANNEL GEOMETRY FOR SPOOK HILL FRS OBTAINED FROM AS-BUILTS PLANS.
456          KM   CONTINUE TO ROUTE FLOW WITHIN CONCRETE CHANNEL TO SPOOK HILL FRS
457          RS       3    FLOW      -1
458          RC    .016    .016    .016    6000   .0146
459          RX       0       1       2     2.1    16.1    16.2      17      18
460          RY     7.5     7.5     7.5       0       0     7.5     7.5     7.5
             *      1       2
             * DDM   ***** Updated *****

461          KK     350
462          KM   SUB-BASIN 350
463          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
464          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .994
465          KM     L = 2.22  Kb = .042  Adj. Slope =  315.0
466          BA    .970
467          LG    .350    .350   4.550    .340   4.000
468          UC    .367    .234
469          UA       0       3       5       8      12      20      43      75      90      96
470          UA     100
             * DDM   ***** Preserved *****
1                                        HEC-1 INPUT                                          PAGE 13

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

471          KK    D350
472          KM   DIVERT FLOW FROM SUB-BASIN 350. FOR MODELING PURPOSES THE SPLIT FLOW WILL
473          KM   BE ROUTED BETWEEN SUB-BASINS 355 & 310. THE MAIN FLOW WILL ROUTED TO 310
474          DT   SF350
475          DI       0    5000
476          DQ       0    2500
             * DDM   ***** Preserved *****
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477          KK    R350
478          KM   CHANNEL GEOMETRY OBTAINED FROM 2' CONTOUR MAPPING
479          KM   ROUTING OF MAIN FLOW FROM DIVERSION OF SUB-BASIN 350 TO SUB-BASIN 310
480          RS       6    FLOW      -1
481          RC    .045    .035    .045    5150    .025
482          RX       0       1      40      46      56      62     102     103
483          RY       3       2       2       0       0       2       2       3
             * DDM   ***** Updated *****

484          KK     310
485          KM   SUB-BASIN 310
486          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
487          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .997
488          KM     L = 2.70  Kb = .045  Adj. Slope =  283.5
489          BA    .555
490          LG    .350    .350   3.910    .480    .000
491          UC    .483    .511
492          UA       0       3       5       8      12      20      43      75      90      96
493          UA     100
             * DDM   ***** Preserved *****

494          KK    C310
495          KM   HYDROGRAPH COMBINATION OF SUB-BASINS 350 & 310
496          HC       2    1.04
             * DDM   ***** Preserved *****

497          KK    R310
498          KM   CHANNEL GEOMETRY OBTAINED FROM 2' CONTOUR MAPPING.
499          KM   ROUTING OF FLOW FROM SUB-BASIN 310 TO 320
500          RS      10    FLOW      -1
501          RC    .045    .035    .045   10050    .022
502          RX       0       1      40      46      56      62     102     103
503          RY       3       2       2       0       0       2       2       3
             *
             * The sub-basin area and soil make-up have been updated from CAD file 12/07/00
             * DDM   ***** Updated *****

504          KK     320
505          KM   SUB-BASIN 320
506          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
507          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .994
508          KM     L = 2.20  Kb = .042  Adj. Slope =  132.0
509          BA    .950
510          LG    .310    .300   4.600    .350  14.000
511          UC    .508    .338
512          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

513          UA     100
             * DDM   ***** Preserved *****

514          KK    D320
515          KM        DIVERT FLOW INTO ONLINE  DETENTION BASIN
516          KM   DETENTION/RETENTION BASINS LOCATED WITHIN THREE SUBDIVISIONS
517          KM   SIERRA HEIGHTS       FALCON RIDGE    & MARBLE CREEK
518          KM        MAXIMUM VOLUME DIVERSION = 12.27acre-feet
             *      1
519          DT   BS320   12.27
520          DI       0   10000
521          DQ       0   10000
             * DDM   ***** Preserved *****

522          KK   RT320
523          KM   RETRIEVE FLOW FROM DIVERSION INTO ONLINE BASIN
524          DR   BS320
             * DDM   ***** Preserved *****

525          KK    S320
526          KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
527          KM   12.27 ACRE-FEETx43560/36x3600=4.1cfs
             *      1
528          RS       1    STOR       0
529          SV       0     .01    12.3
530          SQ       0     3.0     4.2
             * DDM   ***** Preserved *****

531          KK    C320
532          KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
533          HC       4
             * DDM   ***** Updated *****

534          KK     340
535          KM   SUB-BASIN 340
536          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
537          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .991
538          KM     L = 2.40  Kb = .042  Adj. Slope =  160.0
539          BA   1.440
540          LG    .280    .280   4.150    .520  21.000
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541          UC     .512     .288
542          UA        0        5       16       30       65       77       84       90       94       97
543          UA      100
             * DDM    ***** Preserved *****

544          KK     D340
545          KM         DIVERT FLOW INTO ONLINE  DETENTION BASIN
546          KM    DETENTION/RETENTION BASINS LOCATED WITHIN THREE SUBDIVISIONS
547          KM    GRANDVIEW ESTATES    BOULDER MOUNTAIN & 33% OF MESA HIGHLANDS
548          KM         MAXIMUM VOLUME DIVERSION = 56.0 acre-feet
             *       1
549          DT    BS340       56
550          DI        0    10000
551          DQ        0    10000
             * DDM    ***** Preserved *****
1                                          HEC-1 INPUT                                                PAGE 15

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

552          KK    RT340
553          KM    RETRIEVE FLOW FROM DIVERSION INTO ONLINE BASIN
554          DR    BS340
             * DDM    ***** Preserved *****

555          KK     S340
556          KM    RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
557          KM     56.0 ACRE-FEETx43560/36x3600=18.8cfs
             *       1
558          RS        1     STOR        0
559          SV        0      .01       56
560          SQ        0      3.0     18.9
             * DDM    ***** Preserved *****

561          KK     C340
562          KM    HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
563          HC        3
             * DDM    ***** Preserved *****

564          KK    RT350
565          KM    RETRIEVE SPLIT FLOW FROM DIVERSION OF SUB-BASIN 350
566          DR    SF350
             * DDM    ***** Preserved *****

567          KK    RR350
568          KM    CHANNEL GEOMETRY OBTAINED FROM 2' CONTOUR MAPPING.
569          KM    ROUTING OF FLOW FROM SPLIT OF SUB-BASIN 350 TO 355
570          RS        7     FLOW       -1
571          RC     .045     .035     .045     6050     .025
572          RX        0        1       40       46       56       62      102      103
573          RY        3        2        2        0        0        2        2        3
             *
             * The sub-basin area and soil make-up have been updated from CAD file 12/07/00
             * DDM    ***** Updated *****

574          KK      355
575          KM    SUB-BASIN 355
576          KM    24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
577          KM    THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .996
578          KM      L = 3.00  Kb = .044  Adj. Slope =  284.0
579          BA     .676
580          LG     .340     .340    4.450     .370    4.000
581          UC     .488     .502
582          UA        0        3        5        8       12       20       43       75       90       96
583          UA      100
             * DDM    ***** Preserved *****

584          KK     C355
585          KM    HYDROGRAPH COMBINATION OF SUB-BASIN 355 AND THE SPLIT FLOW FROM SUB-BASIN 350
586          HC        2    1.161
             * DDM    ***** Preserved *****
1                                          HEC-1 INPUT                                                PAGE 16

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

587          KK     R355
588          KM    CHANNEL GEOMETRY OBTAINED FROM 2' CONTOUR MAPPING.
589          KM    ROUTING OF FLOW FROM SUB-BASIN 355 TO SUB-BASIN 360
590          RS        9     FLOW       -1
591          RC     .045     .035     .045    10100     .026
592          RX        0        1       40       46       56       62      102      103
593          RY        3        2        2        0        0        2        2        3
             * DDM    ***** Updated *****

594          KK      360
595          KM    SUB-BASIN 360
596          KM    24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
597          KM    THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .995
598          KM      L = 2.10  Kb = .047  Adj. Slope =  124.0
599          BA     .880
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600          LG    .260    .270   4.100    .560  20.000
601          UC    .575    .390
602          UA       0       5      16      30      65      77      84      90      94      97
603          UA     100
             * DDM   ***** Preserved *****

604          KK    D360
605          KM        DIVERT FLOW INTO ONLINE  DETENTION BASIN
606          KM   DETENTION/RETENTION BASINS LOCATED WITHIN 33% OF MESA HIGHLANDS
607          KM        MAXIMUM VOLUME DIVERSION = 28.6 acre-feet
             *      1
608          DT   BS360    28.6
609          DI       0   10000
610          DQ       0   10000
             * DDM   ***** Preserved *****

611          KK   RT360
612          KM   RETRIEVE FLOW FROM DIVERSION INTO ONLINE BASIN
613          DR   BS360
             * DDM   ***** Preserved *****

614          KK    S360
615          KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
616          KM    28.6 ACRE-FEETx43560/36x3600=9.6cfs
617          RS       1    STOR       0
618          SV       0     .01    28.6
619          SQ       0     3.0     9.6
             * DDM   ***** Preserved *****

620          KK    C360
621          KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
622          HC       4
             *
             * DDM   ***** Updated *****
1                                    HEC-1 INPUT                                          PAGE 17

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

623          KK     380
624          KM   SUB-BASIN 380
625          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
626          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .995
627          KM     L = 2.20  Kb = .049  Adj. Slope =  114.0
628          BA    .898
629          LG    .300    .310   4.150    .500   7.000
630          UC    .671    .475
631          UA       0       5      16      30      65      77      84      90      94      97
632          UA     100
             * DDM   ***** Preserved *****

633          KK    D380
634          KM        DIVERT FLOW INTO ONLINE  DETENTION BASIN
635          KM   DETENTION/RETENTION BASINS LOCATED WITHIN 33% OF MESA HIGHLANDS
636          KM        MAXIMUM VOLUME DIVERSION = 28.6 acre-feet
             *      1
637          DT   BS380    28.6
638          DI       0   10000
639          DQ       0   10000
             * DDM   ***** Preserved *****

640          KK   RT380
641          KM   RETRIEVE FLOW FROM DIVERSION INTO ONLINE BASIN
642          DR   BS380
             * DDM   ***** Preserved *****

643          KK    S380
644          KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
645          KM    28.6 ACRE-FEETx43560/36x3600=9.6cfs
646          RS       1    STOR       0
647          SV       0     .01    28.6
648          SQ       0     3.0     9.6
             * DDM   ***** Preserved *****

649          KK    C380
650          KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
651          HC       3
             * DDM   ***** Updated *****

652          KK     400
653          KM   SUB-BASIN 400
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  .996
656          KM     L = 1.64  Kb = .046  Adj. Slope =  110.0
657          BA    .616
658          LG    .320    .300   4.150    .490   6.000
659          UC    .508    .342
660          UA       0       5      16      30      65      77      84      90      94      97
661          UA     100
             * DDM   ***** Preserved *****
1                                    HEC-1 INPUT                                          PAGE 18
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 662          KK    D400
 663          KM        DIVERT FLOW INTO ONLINE  DETENTION BASIN
 664          KM   DETENTION/RETENTION BASIN LOCATED WITHIN SAGUARO VISTA SUBDIVISION
 665          KM        MAXIMUM VOLUME DIVERSION = 5.6 ACRE-FEET
              *      1
 666          DT   BS400     5.6
 667          DI       0   10000
 668          DQ       0   10000
              * DDM   ***** Preserved *****

 669          KK   RT400
 670          KM   RETRIEVE FLOW FROM DIVERSION INTO ONLINE BASIN
 671          DR   BS400
              * DDM   ***** Preserved *****

 672          KK    S400
 673          KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
 674          KM     5.6 ACRE-FEETx43560/36x3600 = 2 cfs
 675          RS       1    STOR       0
 676          SV       0     .01     5.6
 677          SQ       0       1       2
              * DDM   ***** Preserved *****

 678          KK    C400
 679          KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
 680          HC       2
              * DDM   ***** Preserved *****

 681          KK   CC400
 682          KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
 683          HC       2
              *
              * DDM   ***** Updated *****

 684          KK    420A
 685          KM   SUB-BASIN 420A
 686          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
 687          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .995
 688          KM     L = 1.91  Kb = .045  Adj. Slope =  120.0
 689          BA    .570
 690          LG    .320    .280   4.350    .440  10.000
 691          UC    .521    .415
 692          UA       0       5      16      30      65      77      84      90      94      97
 693          UA     100
              * DDM   ***** Preserved *****

 694          KK   D420A
 695          KM        DIVERT FLOW INTO ONLINE  DETENTION BASIN
 696          KM   DETENTION/RETENTION BASINS LOCATED WITHIN GRAY FOX SUBDIVISION
 697          KM        MAXIMUM VOLUME DIVERSION = 8.65 acre-feet
              *      1
 698          DT  BS420A    8.65
 699          DI       0   10000
 700          DQ       0   10000
              * DDM   ***** Preserved *****
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 701          KK  RT420A
 702          KM   RETRIEVE FLOW FROM DIVERSION INTO ONLINE BASIN
 703          DR  BS420A
              * DDM   ***** Preserved *****

 704          KK   S420A
 705          KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
 706          KM   38.55 ACRE-FEETx43560/36x3600=13cfs
 707          RS       1    STOR       0
 708          SV       0     .01   38.55
 709          SQ       0      13      13
              * DDM   ***** Preserved *****

 710          KK   C420A
 711          KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
 712          HC       3
              *
              * The sub-basin area and soil make-up have been updated from CAD file 12/07/00
              * DDM   ***** Updated *****

 713          KK     370
 714          KM   SUB-BASIN 370
 715          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
 716          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .996
 717          KM     L = 1.90  Kb = .044  Adj. Slope =  203.5
 718          BA    .672
 719          LG    .340    .320   4.650    .330   8.000
 720          UC    .404    .284
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721          UA       0       3       5       8      12      20      43      75      90      96
722          UA     100
             *
             * The sub-basin area and soil make-up have been updated from CAD file 12/07/00
             * DDM   ***** Updated *****

723          KK     395
724          KM   SUB-BASIN 395
725          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
726          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .999
727          KM     L = 1.30  Kb = .051  Adj. Slope =  219.2
728          BA    .199
729          LG    .330    .320   4.900    .300  10.000
730          UC    .333    .338
731          UA       0       3       5       8      12      20      43      75      90      96
732          UA     100
             * DDM   ***** Preserved *****

733          KK    C370
734          KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
             * KO     1
735          HC       2
             * DDM   ***** Preserved *****
1                                        HEC-1 INPUT                                          PAGE 20

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

736          KK    D370
737          KM   DIVERT FLOW INTO OFFLINE DETENTION BASIN LOCATED WITHIN SUB-BASINS
738          KM   370 AND 395.
             * KO     1
739          DT   BS370
740          DI       0     140    5000
741          DQ       0       0    4860
             * DDM   ***** Preserved *****

742          KK   RT370
743          KM   RETRIEVE FLOW FROM DIVERSION
744          DR   BS370
             * DDM   ***** Preserved *****

745          KK    S370
746          KM   RETRIEVE FLOW INTO OFFLINE BASIN AND BLEED OFF WITHIN 36 HOURS.
747          KM      30 ACRE-FEETx43560/36x3600 = 10cfs
748          RS       1    STOR       0
749          SV       0     .01      34      40
750          SQ       0       4      10      12
             * DDM   ***** Preserved *****

751          KK   CC370
752          KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
753          HC       2
             * DDM   ***** Preserved *****

754          KK    R370
755          KM   CHANNEL GEOMETRY OBTAINED FROM 2' CONTOUR MAPPING.
756          KM   ROUTING OF FLOW FROM SUB-BASINS 370 AND 395 TO SUB-BASIN 380.
757          RS       4    FLOW      -1
758          RC    .045    .035    .045    2600    .023
759          RX       0       1      40      46      56      62     102     103
760          RY       3       2       2       0       0       2       2       3
             *
             * DDM   ***** Updated *****

761          KK     385
762          KM   SUB-BASIN 385
763          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
764          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .997
765          KM     L = 2.30  Kb = .045  Adj. Slope =  303.0
766          BA    .527
767          LG    .340    .360   5.600    .220  13.000
768          UC    .383    .358
769          UA       0       3       5       8      12      20      43      75      90      96
770          UA     100
             * DDM   ***** Updated *****
1                                        HEC-1 INPUT                                          PAGE 21

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

771          KK    415B
772          KM   SUB-BASIN 415B
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 = 1.59  Kb = .048  Adj. Slope =  315.0
776          BA    .329
777          LG    .340    .340   5.300    .240  14.000
778          UC    .308    .274
779          UA       0       5      16      30      65      77      84      90      94      97
780          UA     100
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            * DDM   ***** Preserved *****

781         KK   C415B
782         KM   HYDROGRAPH COMBINATION OF 415 DIVERSION.
783         HC       2
            * DDM   ***** Preserved *****

784         KK   D415B
785         KM   DIVERT FLOW INTO OFFLINE DETENTION BASIN
786         KM   MAXIMUM STORAGE VOLUME FOR DIVERSION = 32 AC-FT @ 5' DEPTH.
            *      1
787         DT  BS415B
788         DI       0     190    5000
789         DQ       0       0    4810
            * DDM   ***** Preserved *****

790         KK  RT415B
791         KM   RETRIEVE FLOW FROM DIVERSION INTO OFFLINE BASIN
792         DR  BS415B
            * DDM   ***** Preserved *****

793         KK   S415B
794         KM   RETRIEVE FLOW INTO OFFLINE BASIN AND BLEED OFF WITHIN 36 HOURS.
795         KM      32 ACRE-FEETx43560/36x3600 = 11cfs
796         RS       1    STOR       0
797         SV       0     .01      34      40
798         SQ       0       5      10      12
            * DDM   ***** Preserved *****

799         KK  CC415B
800         KM   HYDROGRAPH COMBINATION OF 415 DIVERSION.
801         HC       2
            * DDM   ***** Preserved *****

802         KK   R415B
803         KM   CHANNEL GEOMETRY OBTAINED FROM 2' CONTOUR MAPPING.
804         KM   ROUTING OF FLOW FROM 415C TO 415B
805         RS       4    FLOW      -1
806         RC    .045     .03    .045    2590    .024
807         RX       0       1      40      46      56      62     102     103
808         RY       3       2       2       0       0       2       2       3
            * DDM   ***** Updated *****
1                                   HEC-1 INPUT                                          PAGE 22

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

809         KK     390
810         KM   SUB-BASIN 390
811         KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
812         KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .999
813         KM     L =  .70  Kb = .050  Adj. Slope =  299.4
814         BA    .244
815         LG    .300    .250   4.700    .380  18.000
816         UC    .204    .107
817         UA       0       5      16      30      65      77      84      90      94      97
818         UA     100
            * DDM   ***** Preserved *****

819         KK    D390
820         KM        DIVERT FLOW INTO ONLINE  DETENTION BASIN
821         KM   DETENTION/RETENTION BASINS LOCATED WITHIN THUNDER MOUNTAIN ESTATES
822         KM        MAXIMUM VOLUME DIVERSION  = 3.5 acre-feet
            *      1
823         DT   BS390     3.5
824         DI       0   10000
825         DQ       0   10000
            * DDM   ***** Preserved *****

826         KK   RT390
827         KM   RETRIEVE FLOW FROM DIVERSION INTO ONLINE BASIN
828         DR   BS390
            * DDM   ***** Preserved *****

829         KK    S390
830         KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
831         KM     3.5 ACRE-FEETx43560/36x3600=1.2cfs
832         RS       1    STOR       0
833         SV       0     .01     3.5
834         SQ       0     0.5     1.2
            * DDM   ***** Preserved *****

835         KK    C390
836         KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
837         HC       4
            * DDM   ***** Preserved *****

838         KK    R390
839         KM   CHANNEL GEOMETRY OBTAINED FROM 2' CONTOUR MAPPING.
840         KM   FROM SUB-BASIN 390 TO SUB-BASIN 420B
841         RS       7    FLOW      -1
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842          RC    .045    .045    .045    5500    .020
843          RX       0       1      40      46      56      62     102     103
844          RY       3       2       2       0       0       2       2       3
             * DDM   ***** Updated *****
1                                          HEC-1 INPUT                                                    PAGE 23

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

845          KK    420B
846          KM   SUB-BASIN 420B
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  .998
849          KM     L = 1.00  Kb = .049  Adj. Slope =  150.0
850          BA    .279
851          LG    .300    .250   3.910    .590  15.000
852          UC    .333    .226
853          UA       0       5      16      30      65      77      84      90      94      97
854          UA     100
             * DDM   ***** Preserved *****

855          KK   C420B
856          KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
857          HC       2
             *
             * DDM   ***** Updated *****

858          KK     440
859          KM   SUB-BASIN 440
860          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
861          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF 1.000
862          KM     L =  .40  Kb = .039  Adj. Slope =  315.0
863          BA    .080
864          LG    .190    .380   6.400    .140  13.000
865          UC    .129    .077
866          UA       0       3       5       8      12      20      43      75      90      96
867          UA     100
             * DDM   ***** Preserved *****

868          KK     R70
869          KM   ROUTE FLOW FROM SUB-BASIN 440 TO C108
870          RS       2    FLOW      -1
871          RC     .05    .035     .05    2250     .08
872          RX    1000    1025    1050    1070    1075    1095    1120    1145
873          RY      30    22.9    15.7      10      10    15.7    22.9      30
             * DDM   ***** Updated *****

874          KK     441
875          KM   SUB-BASIN 441
876          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
877          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF 1.000
878          KM     L =  .28  Kb = .069  Adj. Slope =  315.0
879          BA    .010
880          LG    .300    .250   5.600    .220   5.000
881          UC    .150    .225
882          UA       0       5      16      30      65      77      84      90      94      97
883          UA     100
             * DDM   ***** Preserved *****
1                                          HEC-1 INPUT                                                    PAGE 24

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

884          KK    C108
885          KM   COMBINE HYDROGRAPHS FROM SUB-BASINS 440 & 441
886          HC       2
             * DDM   ***** Preserved *****

887          KK      D4
888          KM        SPLIT FLOW WITH TWO 42 INCH PIPES TO WEST AND SOUTH
             *      1
889          DT   SPLIT
890          DI       0      14      40      82     120     154     180
891          DQ       0       7      20      41      60      77      90
             * DDM   ***** Preserved *****

892          KK    R108
893          KM        ROUTE FLOW FROM SUB-BASIN C108 TO C67
894          RS       2    FLOW      -1
895          RC     .05    .035     .05    3200      .1
896          RX    1000    1025    1050    1070    1075    1095    1120    1145
897          RY      30    22.9    15.7      10      10    15.7    22.9      30
             * DDM   ***** Updated *****

898          KK     442
899          KM   SUB-BASIN 442
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  .999
902          KM     L =  .83  Kb = .055  Adj. Slope =  274.2
903          BA    .100
904          LG    .300    .270   3.290    .770   5.000
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 905          UC    .258    .264
 906          UA       0       5      16      30      65      77      84      90      94      97
 907          UA     100
              * DDM   ***** Preserved *****

 908          KK     C67
 909          KM   COMBINE FLOW FROM SUB-BASIN 442 & DIV4
 910          HC       2
              * DDM   ***** Preserved *****

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

 917          KK    RTD6
 918          KM   RETRIEVE FLOW FROM DIVERSION INTO OFFLINE BASIN
 919          DR  BASIN4
              * DDM   ***** Preserved *****
1                                        HEC-1 INPUT                                          PAGE 25

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


 920          KK     SD6
 921          KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
 922          KM     3.3 ACRE-FEETx43560/36x3600=1.1cfs
              *      1
 923          RS       1    STOR       0
 924          SV       0     .01     3.3
 925          SQ       0     0.2     1.1
              * DDM   ***** Preserved *****

 926          KK     CD6
 927          KM   HYDROGRAPH COMBINATION FOR OFFLINE BASIN BLEEDOFF
 928          HC       2
              * DDM   ***** Updated *****

 929          KK     443
 930          KM   SUB-BASIN 443
 931          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
 932          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF 1.000
 933          KM     L =  .71  Kb = .050  Adj. Slope =  315.0
 934          BA    .080
 935          LG    .250    .190   8.000    .080  10.000
 936          UC    .196    .194
 937          UA       0       5      16      30      65      77      84      90      94      97
 938          UA     100
              * DDM   ***** Preserved *****

 939          KK     D66
 940          KM        DIVERT FLOW INTO 3 NATURAL WASHES WITH ONE 24" PIPE IN EACH WASH.
 941          KM        EACH PIPE CAPACITY BASED ON 4 FEET OF HEAD
 942          DT   WSH66
 943          DI       0      78     100     200
 944          DQ       0      78      78      78
              * DDM   ***** Preserved *****

 945          KK    R113
 946          KM        ROUTE FLOW FROM C113 TO C114
 947          RS       1    FLOW      -1
 948          RC    .019    .019    .019    1300    .029
 949          RX    1000    1004    1008    1012    1018    1022    1026    1030
 950          RY      17   15.33   12.67      10      10   12.67   15.33      17
              * DDM   ***** Preserved *****

 951          KK    C114
 952          KM        COMBINE HYDROGRAPHS FROM SUB-BASIN 67 AND C113
 953          HC       2
              * DDM   ***** Updated *****

 954          KK     444
 955          KM   SUB-BASIN 444
 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 1.000
 958          KM     L =  .33  Kb = .034  Adj. Slope =  315.0
 959          BA    .040
 960          LG    .130    .350   4.450    .320   1.000
1                                        HEC-1 INPUT                                          PAGE 26

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

 961          UC    .112    .084
 962          UA       0       3       5       8      12      20      43      75      90      96
 963          UA     100
              * DDM   ***** Preserved *****
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 964          KK     R58
 965          KM   ROUTE FLOW FROM SUB-BASIN 444 TO C107
 966          RS       2    FLOW      -1
 967          RC     .05    .035     .05    2370    .0516
 968          RX    1000    1010    1020    1050    1055    1085    1095    1105
 969          RY      19      18      17      10      10      17      18      19
              * DDM   ***** Updated *****

 970          KK     445
 971          KM   SUB-BASIN 445
 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 =  .82  Kb = .036  Adj. Slope =  315.0
 975          BA    .190
 976          LG    .170    .320   3.470    .590   3.000
 977          UC    .192    .130
 978          UA       0       5      16      30      65      77      84      90      94      97
 979          UA     100
              * DDM   ***** Preserved *****

 980          KK    C107
 981          KM   COMBINE HYDROGRAPHS FROM SUB-BASINS 444 & 445
 982          HC       2
              * DDM   ***** Preserved *****

 983          KK    R107
 984          KM        ROUTE FLOW FROM C107 TO C109
 985          RS       2    FLOW      -1
 986          RC     .05    .035     .05     700    .0516
 987          RX    1000    1010    1020    1050    1055    1085    1095    1105
 988          RY      19      18      17      10      10      17      18      19
              * DDM   ***** Preserved *****

 989          KK    RTB2
 990          KM        RETRIEVE DIVERTED FLOW FROM BASIN 1
              *      1
 991          DR   SPLIT
              * DDM   ***** Preserved *****

 992          KK  RSPLIT
 993          KM        ROUTE FLOW FROM SPLIT TO C109
 994          RS       1    FLOW      -1
 995          RC     .05    .035     .05     800     .05
 996          RX    1000    1025    1050    1070    1075    1095    1120    1145
 997          RY      30    22.9    15.7      10      10    15.7    22.9      30
              * DDM   ***** Updated *****
                                        HEC-1 INPUT                                          PAGE 27

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

 998          KK     446
 999          KM   SUB-BASIN 446
1000          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1001          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF 1.000
1002          KM     L =  .46  Kb = .061  Adj. Slope =  303.9
1003          BA    .040
1004          LG    .270    .250   4.500    .400  19.000
1005          UC    .183    .189
1006          UA       0       5      16      30      65      77      84      90      94      97
1007          UA     100
              * DDM   ***** Preserved *****

1008          KK    C109
1009          KM        COMBINE HYDROGRAPHS FROM COMBINES C107 AND C108
1010          HC       3
              * DDM   ***** Preserved *****

1011          KK      D5
1012          KM        DIVERT FLOW INTO WASHES TOWARDS WEST
1013          KM        DIVERSION THROUGH 36" PIPE WITH 3 FEET OF HEAD
              *      1
1014          DT  WSH404
1015          DI       0    40.7    71.2   121.6     190     276   379.4   500.6
1016          DQ       0      35      35      35      35      35      35      35
              * DDM   ***** Preserved *****

1017          KK    R109
1018          KM        ROUTE FLOW FROM C109 TO C110
1019          RS       1    FLOW      -1
1020          RC    .019    .019    .019    3080     .05
1021          RX    1000    1005    1010    1015    1025    1030    1035    1040
1022          RY   13.75    12.5   11.25      10      10   11.25    12.5   13.75
              * DDM   ***** Updated *****

1023          KK     447
1024          KM   SUB-BASIN 447
1025          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1026          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .999
1027          KM     L =  .49  Kb = .056  Adj. Slope =  221.0
1028          BA    .090
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1029          LG    .250    .270   3.350    .870  30.000
1030          UC    .208    .145
1031          UA       0       5      16      30      65      77      84      90      94      97
1032          UA     100
              * DDM   ***** Preserved *****

1033          KK   RT404
1034          KM        RETRIEVE DIVERTED FLOW FOR WASH 109
1035          DR  WSH404
              * DDM   ***** Preserved *****
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1036          KK    R404
1037          KM        ROUTE FLOW FROM C110 TO C110
1038          RS       6    FLOW      -1
1039          RC    .019    .019    .019    3540     .03
1040          RX    1000    1012    1016    1020    1025    1029    1033    1045
1041          RY      15      12      11      10      10      11      12      15
              * DDM   ***** Preserved *****

1042          KK    C110
1043          KM   COMBINE HYDROGRAPHS FROM SUB-BASIN 447 AND R404
1044          HC       3
              * DDM   ***** Preserved *****

1045          KK    R110
1046          KM        ROUTE FLOW FROM C110 TO C115
1047          RS       1    FLOW      -1
1048          RC    .019    .019    .019     580   .0291
1049          RX    1000    1012    1016    1020    1035    1039    1043    1055
1050          RY      15      12      11      10      10      11      12      15
              * DDM   ***** Preserved *****

1051          KK    C115
1052          KM        COMBINE HYDROGRAPHS FROM C114 AND C110
1053          HC       2
              * DDM   ***** Preserved *****

1054          KK    R115
              * ******OUTFLOW FROM THIS ROUTING IS GREATER THAN INFLOW TO THE
              * ******ROUTING BY 2cfs.  THIS IS NOTED BUT LEFT UNCHANGED WITHIN THE MODEL
1055          KM        ROUTE FLOW FROM C115 TO Sub 453
1056          RS       1    FLOW      -1
1057          RC    .019    .019    .019    2125    .029
1058          RX    1000    1012    1016    1020    1035    1039    1043    1055
1059          RY      15      12      11      10      10      11      12      15
              * DDM   ***** Updated *****

1060          KK     448
1061          KM   SUB-BASIN 448
1062          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1063          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF 1.000
1064          KM     L =  .36  Kb = .042  Adj. Slope =  315.0
1065          BA    .045
1066          LG    .170    .310   4.200    .390  11.000
1067          UC    .133    .102
1068          UA       0       5      16      30      65      77      84      90      94      97
1069          UA     100
              * DDM   ***** Updated *****

1070          KK     449
1071          KM   SUB-BASIN 449
1072          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1073          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF 1.000
1074          KM     L =  .40  Kb = .054  Adj. Slope =  315.0
1075          BA    .050
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1076          LG    .260    .280   3.500    .640   6.000
1077          UC    .167    .134
1078          UA       0       5      16      30      65      77      84      90      94      97
1079          UA     100
              * DDM   ***** Preserved *****

1080          KK   C6364
1081          KM   COMBINE HYDROGRAPHS FROM SUB-BASINS 448 & 449
1082          HC       2
              * DDM   ***** Preserved *****

1083          KK   R6364
1084          KM   ROUTE FLOW FROM C116 AND SUB-BASINS 448 AND 449
1085          RS       5    FLOW      -1
1086          RC     .05    .035     .05    4375   .0333
1087          RX    1000    1027    1053    1080    1090    1117    1143    1170
1088          RY      15   13.33   11.67      10      10   11.67   13.33      15
              * DDM   ***** Updated *****
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1089        KK     450
1090        KM   SUB-BASIN 450
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 =  .85  Kb = .057  Adj. Slope =  210.5
1094        BA    .070
1095        LG    .340    .350   3.630    .570   4.000
1096        UC    .296    .383
1097        UA       0       3       5       8      12      20      43      75      90      96
1098        UA     100
            * DDM   ***** Updated *****

1099        KK     451
1100        KM   SUB-BASIN 451
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 1.000
1103        KM     L =  .57  Kb = .063  Adj. Slope =  175.0
1104        BA    .025
1105        LG    .340    .340   3.290    .750   3.000
1106        UC    .271    .453
1107        UA       0       3       5       8      12      20      43      75      90      96
1108        UA     100
            * DDM   ***** Preserved *****

1109        KK    C451
1110        KM   COMBINE HYDROGRAPHS FROM SUB-BASINS 450 & 451
1111        HC       2
            * DDM   ***** Preserved *****

1112        KK    RT66
1113        KM        RETRIEVE DIVERTED FLOW FROM SUB-BASIN 66
1114        DR   WSH66
            * DDM   ***** Updated *****
1                                    HEC-1 INPUT                                    PAGE 30

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

1115        KK     452
1116        KM   SUB-BASIN 452
1117        KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1118        KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF 1.000
1119        KM     L =  .43  Kb = .055  Adj. Slope =  315.0
1120        BA    .040
1121        LG    .260    .280   3.700    .550   9.000
1122        UC    .171    .166
1123        UA       0       5      16      30      65      77      84      90      94      97
1124        UA     100
            * DDM   ***** Preserved *****

1125        KK   C6465
1126        KM   COMBINE HYDROGRAPHS FROM SUB-BASINS 443 AND 452
1127        HC       2
            * DDM   ***** Preserved *****

1128        KK   R6566
1129        KM        ROUTE FLOW FROM DIVERSIONS 65 AND 66 TO C116
1130        RS       3    FLOW      -1
1131        RC     .05    .035     .05    2435   .0282
1132        RX    1000    1045    1090    1150    1160    1220    1265    1310
1133        RY      25      23      20      10      10      20      23      25
            * DDM   ***** Preserved *****

1134        KK    C116
1135        KM   COMBINE HYDROGRAPHS FROM SUB-BASINS 450 & 451 AND R6364 & R6465
1136        HC       3
            * DDM   ***** Preserved *****

1137        KK  BASIN5
1138        KM        RESERVOIR WITHIN PARCEL 31      2-48 INCH PIPES AT OUTFALL
1139        KM        BASIN 5 FEET DEEP
1140        RS       1    ELEV       0
1141        SV       0     4.5     9.9
1142        SQ       0      69     190
1143        SE       0     2.5       5
            * DDM   ***** Preserved *****

1144        KK    R116
1145        KM   ROUTE FLOW FROM C116 TO C117
1146        RS       2    FLOW      -1
1147        RC     .05    .035     .05    1300   .0333
1148        RX    1000    1100    1200    1300    1320    1420    1520    1620
1149        RY      13      12      11      10      10      11      12      13
            * DDM   ***** Updated *****

1150        KK     453
1151        KM   SUB-BASIN 453
1152        KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1153        KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF 1.000
1154        KM     L =  .58  Kb = .058  Adj. Slope =  138.0
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1155          BA    .060
1156          LG    .290    .300   3.290    .820  18.000
                                          HEC-1 INPUT                                                          PAGE 31

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

1157          UC    .275    .284
1158          UA       0       5      16      30      65      77      84      90      94      97
1159          UA     100
              * DDM   ***** Preserved *****

1160          KK    C117
1161          KM   COMBINE HYDROGRAPHS FROM SUB-BASIN 453 AND R116
1162          HC       2
              * DDM   ***** Preserved *****

1163          KK    C118
1164          KM   COMBINE HYDROGRAPHS FROM R115 AND C117
1165          HC       2
              * DDM   ***** Preserved *****

1166          KK    R118
1167          KM        ROUTE FLOW FROM C118 TO  DIV7
              * KO     1
1168          RS       1    FLOW      -1
1169          RC    .019    .019    .019    1500    .024
1170          RX    1000    1012    1016    1020    1035    .1039    1043    1055
1171          RY      15      12      11      10      10      11      12      15
              * DDM   ***** Preserved *****

1172          KK      D7
1173          KM        OFFLINE BASIN AT NORTH MOUNTAIN RIDGE   FLOWS ENTER BASIN OVER
1174          KM        30' WEIR SET AT 5.3' ABOVE THE CHANNEL BOTTOM, Vol = 3.6 A-F
              * KO     1
1175          DT  BASIN6
1176          DI       0     363     487     563     645     900
1177          DQ       0       2      10      15      25     260
              * DDM   ***** Preserved *****

1178          KK    RTD7
1179          KM   RETRIEVE FLOW FROM DIVERSION INTO OFFLINE BASIN
1180          DR  BASIN6
              * DDM   ***** Preserved *****

1181          KK     SD7
1182          KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
1183          KM     3.6 ACRE-FEETx43560/36x3600=1.2cfs
1184          RS       1    STOR       0
1185          SV       0     .01     3.6     4.0
1186          SQ       0     0.2     1.2     1.5
              * DDM   ***** Preserved *****

1187          KK     CD7
1188          KM   HYDROGRAPH COMBINATION FOR OFFLINE BASIN BLEEDOFF
1189          HC       2
              * DDM   ***** Updated *****
1                                         HEC-1 INPUT                                                          PAGE 32

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


1190          KK     454
1191          KM   SUB-BASIN 454
1192          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1193          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .999
1194          KM     L = 1.23  Kb = .051  Adj. Slope =  163.0
1195          BA    .180
1196          LG    .300    .310   3.780    .560  14.000
1197          UC    .379    .395
1198          UA       0       5      16      30      65      77      84      90      94      97
1199          UA     100
              *
              * DDM   ***** Preserved *****

1200          KK    C454
1201          KM        COMBINE HYDROGRAPHS FROM SUB-BASIN 454 AND CDIV7
              *      1       2
1202          HC       2
              * DDM   ***** Preserved *****

1203          KK    R454
1204          KM   CHANNEL GEOMETRY OBTAINED FROM 2' CONTOUR MAPPING.
1205          KM   ROUTE FLOW FROM C454 TO 415C
1206          RS       3    FLOW      -1
1207          RC    .045    .035    .045    2200    .009
1208          RX       0      .5       1      33      42      67    67.5      68
1209          RY       5       4       4       0       0       6       6       6
              *
              * DDM   ***** Updated *****

1210          KK    415A
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1211        KM   SUB-BASIN 415A
1212        KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1213        KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .998
1214        KM     L = 1.21  Kb = .049  Adj. Slope =  140.0
1215        BA    .280
1216        LG    .300    .260   3.630    .710  15.000
1217        UC    .400    .322
1218        UA      0       5      16      30      65      77      84      90      94      97
1219        UA    100
            * DDM   ***** Preserved *****

1220        KK   C415A
1221        KM        COMBINE HYDROGRAPHS FROM R454, 415B, AND 420B
            * KO     1
1222        HC       3
            * DDM   ***** Preserved *****
            * KK D415A
            * KM DIVERT FLOW INTO OFFLINE DETENTION BASIN
            * KM MAXIMUM STORAGE VOLUME FOR DIVERSION = 15 AC-FT @ 5' DEPTH.
            * KO     1
            * DTBS415A
            * DI     0    1240    5000
            * DQ     0       0    3760
            * DDM   ***** Preserved *****
            * KKRT415A
            * KM RETRIEVE FLOW FROM DIVERSION INTO OFFLINE BASIN
            * DRBS415A
            * DDM   ***** Preserved *****
            * KK S415A
            * KM RETRIEVE FLOW INTO OFFLINE BASIN AND BLEED OFF WITHIN 36 HOURS.
            * KM    15 ACRE-FEETx43560/36x3600 = 5 cfs
            * RS     1    STOR       0
            * SV     0     .01      15      20
            * SQ     0       2       5       8
            * DDM   ***** Preserved *****
            * KKCC415A
            * KM HYDROGRAPH COMBINATION OF 415A DIVERSION.
            * HC     2
            * DDM   ***** Preserved *****
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LINE        ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1223        KK   R415A
1224        KM   CHANNEL GEOMETRY OBTAINED FROM 2' CONTOUR MAPPING.
1225        KM   ROUTING OF FLOW FROM C415A TO 455C
1226        RS       4    FLOW      -1
1227        RC    .045     .03    .045    4100    .024
1228        RX       0      .5       1       8      16      23    23.5      24
1229        RY       8       8       8       0       0       8       8       8
            *
            * DDM   ***** Updated *****

1230        KK     455
1231        KM   SUB-BASIN 455
1232        KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1233        KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .993
1234        KM     L = 1.70  Kb = .041  Adj. Slope =  146.0
1235        BA   1.111
1236        LG    .270    .280   3.700    .640  24.000
1237        UC    .421    .204
1238        UA      0       5      16      30      65      77      84      90      94      97
1239        UA    100
            * DDM   ***** Preserved *****

1240        KK    D455
1241        KM        DIVERT FLOW INTO ONLINE  DETENTION BASIN
1242        KM   DETENTION/RETENTION BASINS LOCATED WITHIN LAS SENDAS ADDENDUM III
1243        KM   FOR BASIN #: 30      34      43      47&58
1244        KM        MAXIMUM VOLUME DIVERSION = 74.1 acre-feet
            *      1
1245        DT   BS455    74.1
1246        DI       0   10000
1247        DQ       0   10000
            * DDM   ***** Preserved *****

1248        KK   RT455
1249        KM   RETRIEVE FLOW FROM DIVERSION INTO ONLINE BASIN
1250        DR   BS455
            * DDM   ***** Preserved *****

1251        KK    S455
1252        KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
1253        KM    74.1 ACRE-FEETx43560/36x3600=25cfs
1254        RS       1    STOR       0
1255        SV       0     .01    74.1
1256        SQ       0     3.0      25
            * DDM   ***** Preserved *****

1257        KK    C455
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1258          KM   HYDROGRAPH COMBINATION FOR SUB-BASIN 455 AND DIVERTED BASIN STORAGE OF 455
1259          HC       2
              * DDM   ***** Preserved *****
```



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

1260          KK   CC455
1261          KM  HYDROGRAPH COMBINATION OF 420C, R415 AND C455
              *      1       2
1262          HC       3
              * DDM   ***** Preserved *****

1263          KK    S440
1264          KM   SPOOK HILL FRS PLANS DATED 6/15/77
1265          KM   OUTLET PIPE=7'x7.5'RCBC; L=70 INLET INV.=1566; OUTLET INV.=1566
1266          KM   EMERGENCY SPILLWAY ELEV.=1582; PRINCIPLE SPILLWAY ELEV.=1577.5
1267          KM   STORAGE VOLUME BELOW PRINCIPLE SPILLWAY FOR SEDIMENT = 200 ACRE-FEET
              *   ESE = 1583.86 ft; PSE = 1579.36 ft; Sediment Vol. = 271 Ac-Ft.
1268          RS       1    STOR       0
1269          SV       0      81     363     533     719     925    1120    1399    1668    4051
1270          SQ       0       0      10     180     367     595     800    1231    2625   24500
1271          SE      76      78      80      81      82      83    83.9      85      86      92
              * DDM   ***** Preserved *****

1272          KK    R455
1273          KM   ROUTE FLOW FROM SPOOK HILL FRS TO SUB-BASIN 480
1274          RS      15    FLOW      -1
1275          RC    .035    .025    .035    7000   .0002
1276          RX       0       1       2      28      58      84      85      86
1277          RY    13.5    13.5    13.5       0       0    13.5    13.5    13.5
              * DDM   ***** Updated *****

1278          KK     480
1279          KM   SUB-BASIN 480
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  .996
1282          KM     L = 1.21  Kb = .042  Adj. Slope =  165.0
1283          BA    .731
1284          LG    .270    .270   3.580    .730  27.000
1285          UC    .325    .148
1286          UA       0       5      16      30      65      77      84      90      94      97
1287          UA     100
              * DDM   ***** Preserved *****

1288          KK    D480
1289          KM        DIVERT FLOW INTO ONLINE  DETENTION BASIN
1290          KM   DETENTION/RETENTION BASINS LOCATED WITHIN LAS SENDAS ADDENDUM III
1291          KM   FOR BASIN #: 18 & 26
1292          KM        MAXIMUM VOLUME DIVERSION = 16.5 acre-feet
              *      1
1293          DT   BS480    16.5
1294          DI       0   10000
1295          DQ       0   10000
              * DDM   ***** Preserved *****
```



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

1296          KK   RT480
1297          KM   RETRIEVE FLOW FROM DIVERSION INTO ONLINE BASIN
1298          DR   BS480
              * DDM   ***** Preserved *****

1299          KK    S480
1300          KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
1301          KM    16.5 ACRE-FEETx43560/36x3600=5.5cfs
1302          RS       1    STOR       0
1303          SV       0     .01    16.5
1304          SQ       0     3.0     5.6
              * DDM   ***** Preserved *****

1305          KK    C480
1306          KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
1307          HC       2
              * DDM   ***** Preserved *****

1308          KK   CC480
1309          KM   HYDROGRAPH COMBINATION AT SUBBASIN 480
1310          HC       2   0.731
              * DDM   ***** Preserved *****

1311          KK    R480
1312          KM   ROUTE FLOW FROM SUB-BASIN 480 TO SUBBASIN 462
1313          RS       6    FLOW      -1
1314          RC    .035    .025    .035    2800   .0002
1315          RX       0       1       2      28      58      84      85      86
1316          RY    13.5    13.5    13.5       0       0    13.5    13.5    13.5
              * DDM   ***** Updated *****
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```
1317        KK     456
1318        KM   SUB-BASIN 456
1319        KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1320        KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .998
1321        KM     L =  .94  Kb = .045  Adj. Slope =  315.0
1322        BA    .260
1323        LG    .300     .380   5.600     .200  12.000
1324        UC    .217     .139
1325        UA       0        5      16       30      65      77      84      90      94      97
1326        UA     100
            * DDM   ***** Preserved *****

1327        KK      D1
1328        KM        DIVERT FLOW INTO OFFLINE DETENTION BASIN
1329        KM        WEIR FOR BASIN SET AT 4 FEET ABOVE CHANNEL BOTTOM
            *      1
1330        DT  BASIN1     4.0
1331        DI       0    11.1   127.9   234.4   577.7   789.9  1025.5  1280.9  1555.7
1332        DQ       0       0       0    47.7     248   381.8   533.6   701.5     884
            * DDM   ***** Preserved *****
1                                          HEC-1 INPUT                                                    PAGE 36

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

1333        KK     CD2
1334        KM        SPLIT OUT FLOW FOR WASHES THAT FLOW TO THE SOUTH FROM
1335        KM        WASHES THAT DRAIN TO THE WES, SOUTHERN WASHES FED BY 30" & 24" PIPE
1336        DT    WA30
1337        DI       0    11.1   127.9   189.6   329.7     408   491.9   579.4   671.7
1338        DQ       0    11.1    38.4    48.2      63    69.5      76      81      86
            * DDM   ***** Preserved *****

1339        KK    R456
1340        KM        ROUTE FLOW FROM SUB-BASIN 51 TO C101
1341        RS       2    FLOW      -1
1342        RC     .05    .035     .05    3800    .044
1343        RX    1000    1010    1020    1036    1041    1057    1067    1077
1344        RY   14.88   14.44      14      10      10      14   14.44   14.88
            * DDM   ***** Updated *****

1345        KK     457
1346        KM   SUB-BASIN 457
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  .999
1349        KM     L = 1.01  Kb = .045  Adj. Slope =  308.8
1350        BA    .190
1351        LG    .270     .330   3.950     .460   6.000
1352        UC    .237     .195
1353        UA       0        5      16       30      65      77      84      90      94      97
1354        UA     100
            * DDM   ***** Preserved *****

1355        KK    C101
1356        KM        COMBINE HYDROGRAPHS FROM SUB-BASINS 50 AND 51
1357        HC       2
            * DDM   ***** Preserved *****

1358        KK      D3
1359        KM        RESERVOIR AT THE EDGE OF THE PROPERTY   FLOW FROM CHANNEL
1360        KM        DIVERTED  INTO OFFLINE BASIN A 25' WEIR SET AT ELEVATION 1808 FT
            *      1
1361        DT  BASIN2     5.0
1362        DI       0      36      70     110     180   313.5     402   500.9
1363        DQ       0       0       0       0       0    67.5     124   190.9
            * DDM   ***** Preserved *****

1364        KK    RTD3
1365        KM   RETRIEVE FLOW FROM DIVERSION INTO OFFLINE BASIN
1366        DR  BASIN2
            * DDM   ***** Preserved *****

1367        KK     SD3
1368        KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
1369        KM     5.0 ACRE-FEETx43560/36x3600=1.7cfs
1370        RS       1    STOR       0
1371        SV       0     .01       5
1372        SQ       0     0.7     1.7
            * DDM   ***** Preserved *****
1                                          HEC-1 INPUT                                                    PAGE 37

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

1373        KK     CD3
1374        KM   HYDROGRAPH COMBINATION FOR OFFLINE BASIN BLEEDOFF
1375        HC       2
            * DDM   ***** Preserved *****

1376        KK    R101
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1377        KM        ROUTE FLOW FROM SUBBASIN C101 TO C103
1378        RS       1    FLOW      -1
1379        RC     .05    .035     .05    1450     .05
1380        RX    1000    1010    1020    1036    1041    1057    1067    1077
1381        RY      15    14.5      14      10      10      14    14.5      15
            * DDM   ***** Updated *****

1382        KK     458
1383        KM   SUB-BASIN 458
1384        KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1385        KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .999
1386        KM     L =  .76  Kb = .048  Adj. Slope =  299.0
1387        BA    .190
1388        LG    .290    .330   5.800    .190   6.000
1389        UC    .204    .131
1390        UA       0       5      16      30      65      77      84      90      94      97
1391        UA     100
            * DDM   ***** Preserved *****

1392        KK    C103
1393        KM        COMBINE HYDROGRAPHS FROM SUB-BASIN 55 AND C101
1394        HC       2
            * DDM   ***** Preserved *****

1395        KK    R103
1396        KM        ROUTE FLOW FROM SUBBASIN C103 TO C106
1397        RS       1    FLOW      -1
1398        RC     .05    .035     .05     900     .03
1399        RX    1000    1010    1020    1030    1050    1060    1070    1080
1400        RY   13.16   12.83    12.5      10      10    12.5   12.83   13.16
            * DDM   ***** Preserved *****

1401        KK    RT30
1402        KM        RETRIEVE DIVERTED FLOW FOR WASH BELOW 30 INCH PIPE
1403        DR    WA30
            * DDM   ***** Preserved *****

1404        KK     R30
1405        KM        ROUTE FLOW FROM WASH DIVERSION TO COMBINE C52
1406        RS       1    FLOW      -1
1407        RC     .05    .035     .05    1630     .05
1408        RX    1000    1010    1020    1036    1041    1057    1067    1077
1409        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

1410        KK    RTB1
1411        KM        RETRIEVE DIVERTED FLOW FROM BASIN 1
            *      1       2
1412        DR  BASIN1
            * DDM   ***** Preserved *****

1413        KK      B1
1414        KM        ROUTE FLOW THROUGH OFFLINE DETENTION BASIN
1415        KM        FLOW OUTLETS THROUGH A 30 INCH OUTLET PIPE
            *      1       2
1416        RS       1    ELEV       0
1417        SV              .7     1.4     2.3     2.7     4.0
1418        SQ       0       5      16      28    32.5      37
1419        SE       0       1       2       3     3.5       4
            * DDM   ***** Preserved *****

1420        KK     RB1
1421        KM        ROUTE FLOW FROM BASIN DIVERSION TO COMBINE C52
1422        RS       3    FLOW      -1
1423        RC     .05    .035     .05    1720     .05
1424        RX    1000    1010    1020    1036    1041    1057    1067    1077
1425        RY      15    14.5      14      10      10      14    14.5      15
            * DDM   ***** Preserved *****

1426        KK    CDIV
1427        KM        COMBINE FLOWS FROM WA30 AND BASIN 1
1428        HC       2     .12
            * DDM   ***** Updated *****

1429        KK     459
1430        KM   SUB-BASIN 459
1431        KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1432        KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF 1.000
1433        KM     L =  .35  Kb = .052  Adj. Slope =  251.6
1434        BA    .030
1435        LG    .220    .300   3.330    .710   8.000
1436        UC    .162    .157
1437        UA       0       5      16      30      65      77      84      90      94      97
1438        UA     100
            * DDM   ***** Preserved *****

1439        KK     C52
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1440          KM        COMBINE FLOWS FROM SUB-BASIN 52 WA30 AND BASIN 1
1441          HC       2
              * DDM   ***** Preserved *****

1442          KK     R52
1443          KM        ROUTE FLOW FROM SUBBASIN 52 TO C102
1444          RS       3    FLOW      -1
1445          RC     .05    .035     .05    2000     .05
1446          RX    1000    1010    1020    1036    1041    1057    1067    1077
1447          RY      15    14.5      14      10      10      14    14.5      15
              * DDM   ***** Updated *****
1                                          HEC-1 INPUT                                                    PAGE 39

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


1448          KK     460
1449          KM   SUB-BASIN 460
1450          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1451          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .999
1452          KM     L =  .62  Kb = .058  Adj. Slope =  194.0
1453          BA    .140
1454          LG    .250    .260   3.740    .690  27.000
1455          UC    .242    .160
1456          UA       0       5      16      30      65      77      84      90      94      97
1457          UA     100
              * DDM   ***** Preserved *****

1458          KK    C102
1459          KM        COMBINE HYDROGRAPHS FROM SUB-BASINS 52 AND 53
1460          HC       2
              * DDM   ***** Preserved *****

1461          KK  BASIN3
1462          KM        RESERVOIR AT CLUBHOUSE LOCATION 1-30 INCH PIPE AT OUTFALL
1463          KM        BOTTOM OF BASIN AT 6 FEET ABOVE 1795 ELEVATION
1464          RS       1    ELEV       0
1465          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
1466          SQ       0      22      45    47.4      48      51      57      62      67      73
1467          SE    1795  1797.5    1800  1800.4  1800.5    1801    1802    1803    1804  1805.5
              * DDM   ***** Preserved *****

1468          KK      R3
1469          KM        ROUTE FLOW FROM C102 to C106
1470          RS       5    FLOW      -1
1471          RC     .05     .03     .05    2750   .0375
1472          RX    1000    1010    1020    1052    1086    1118    1128    1138
1473          RY    19.2    18.4      18      10      10      18    18.4    19.2
              * DDM   ***** Updated *****

1474          KK     461
1475          KM   SUB-BASIN 461
1476          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1477          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .999
1478          KM     L =  .83  Kb = .052  Adj. Slope =  181.0
1479          BA    .120
1480          LG    .270    .250   4.250    .450  21.000
1481          UC    .271    .250
1482          UA       0       5      16      30      65      77      84      90      94      97
1483          UA     100
              * DDM   ***** Preserved *****

1484          KK    C104
1485          KM        COMBINE HYDROGRAPHS FROM SUB-BASIN 54 AND R102
1486          HC       2
              * DDM   ***** Preserved *****
1                                          HEC-1 INPUT                                                    PAGE 40

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


1487          KK    C106
1488          KM        COMBINE HYDROGRAPHS FROM SUB-BASIN C103 AND C104
1489          HC       2
              * DDM   ***** Preserved *****

1490          KK    R106
1491          KM        ROUTE FLOW FROM C106 TO C49
1492          RS       2    FLOW      -1
1493          RC     .05    .035     .05    3950    .033
1494          RX    1000    1010    1020    1030    1050    1060    1070    1080
1495          RY   13.16   12.83    12.5      10      10    12.5   12.83   13.16
              * DDM   ***** Updated *****

1496          KK     462
1497          KM   SUB-BASIN 462
1498          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1499          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .998
1500          KM     L =  .97  Kb = .045  Adj. Slope =  297.7
1501          BA    .301
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1502          LG    .300    .330   5.300    .240  12.000
1503          UC    .225    .137
1504          UA       0       5      16      30      65      77      84      90      94      97
1505          UA     100
              * DDM   ***** Preserved *****

1506          KK     C56
1507          KM        COMBINE HYDROGRAPHS FROM SUB-BASIN 56 AND C106
              *      1       2
1508          HC       2
              * DDM   ***** Preserved *****

1509          KK    C462
1510          KM        COMBINE HYDROGRAPHS AT SUBBASIN 462
              *      1
1511          HC       2    2.09
              * DDM   ***** Preserved *****

1512          KK    R462
1513          KM   ROUTE FLOW FROM SUB-BASIN 462 TO SUB-BASIN 500 (First Channel Reach)
1514          RS       1    FLOW      -1
1515          RC    .025    .025    .025    1800    .005
1516          RX       0       1      20      32      62      74      93      94
1517          RY      13      12      12       0       0      12      12      13
              *

1518          KK   RR462
1519          KM   ROUTE FLOW FROM SUB-BASIN 462 TO SUB-BASIN 500 (Second Natural Wash Reach)
1520          RS       3    FLOW      -1
1521          RC    .055     .05    .055    4700     .05
1522          RX       0       1       2      28      58      84      85      86
1523          RY    13.5    13.5    13.5       0       0    13.5    13.5    13.5
              * DDM   ***** Updated *****
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1524          KK     500
1525          KM   SUB-BASIN 500
1526          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1527          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .994
1528          KM     L = 2.77  Kb = .042  Adj. Slope =  286.8
1529          BA    .930
1530          LG    .350    .400   6.000    .170   9.000
1531          UC    .421    .333
1532          UA       0       3       5       8      12      20      43      75      90      96
1533          UA     100
              * DDM   ***** Preserved *****

1534          KK    C500
1535          KM   HYDROGRAPH COMBINATION FOR THE ENTIRE WATERSHED AT THE SALT RIVER
1536          HC       2    3.02
1537          ZZ
```

1

SCHEMATIC DIAGRAM OF STREAM NETWORK

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

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

    24          10
                 V
                 V
    34         R10
                 V
                 V
    40         R12
                 .
                 .
    46           .          20
                 .           .
                 .           .
    56         C20............
                 V
                 V
    59         R20
                 .
                 .
    65           .          40
                 .           .
                 .           .
    75           .           .          60
                 .           .           .
                 .           .           .
    85         C60........................
                 V
                 V
    88         S60
                 V
                 V
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```
 97        R60
             V
             V
103       RR60
            .
            .
109         .          80
            .           .
            .           .
119       C80............
             V
             V
122       R80
            .
            .
128         .         100
            .           .
            .           .
138      C100............
             V
             V
141      R100
            .
            .
147         .         120
            .           .
            .           .
157      C120............
             V
             V
160      R120
            .
            .
166         .         140
            .           .
            .           .
176         .           .         150
            .           .           V
            .           .           V
186         .           .        R150
            .           .           V
            .           .           V
192         .           .        R152
            .           .           .
            .           .           .
198         .           .           .        160
            .           .           .          .
            .           .           .          .
208         .           .           .          .        180
            .           .           .          .          .
            .           .           .          .          .
218      C180.............................................
            .
            .
221         .         210
            .           V
            .           V
231         .        R210
            .           .
            .           .
237         .           .         240
            .           .           .
            .           .           .
247         .        C240............
            .           V
            .           V
250         .        S240
            .           V
            .           V
257         .        R240
            .           .
            .           .
264         .           .         220
            .           .           .
            .           .           .
274         .        C220............
            .           V
            .           V
277         .        S220
            .           V
            .           V
284         .        R220
            .           .
            .           .
291         .           .         190
            .           .           V
            .           .           V
301         .           .        R190
            .           .           V
            .           .           V
307         .           .        R192
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                .           .           .
                .           .           .
313             .           .           .         200
                .           .           .           .
                .           .           .           .
323             .        C200.......................
                .           V
                .           V
326             .        S200
                .           V
                .           V
333             .        R200
                .           V
                .           V
339             .       SS200
                .           V
                .           V
346             .       RR200
                .           .
                .           .
352         CC180............
                V
                V
355         S180
                V
                V
364         R180
                .
                .
373             .         260
                .           .
                .           .
383         C260............
                V
                V
386         R260
                .
                .
395             .         280
                .           .
                .           .
405         C280............
                V
                V
408         R280
                .
                .
417             .         300
                .           .
                .           .
427         C300............
                V
                V
430         R300
                .
                .
439             .         305
                .           .
                .           .
449         C305............
                V
                V
452         R305
                .
                .
461             .         350
                .           .
                .           .
474             .           .-------->   SF350
471             .        D350
                .           V
                .           V
477             .        R350
                .           .
                .           .
484             .           .         310
                .           .           .
                .           .           .
494             .        C310............
                .           V
                .           V
497             .        R310
                .           .
                .           .
504             .           .         320
                .           .           .
                .           .           .
519             .           .           .-------->   BS320
514             .           .        D320
                .           .           .
                .           .           .
```

```
524          .           .           .           .<-------   BS320
522          .           .           .       RT320
             .           .           .           V
             .           .           .           V
525          .           .           .       S320
             .           .           .           .
             .           .           .           .
531       C320.................................
             .
             .
534          .        340
             .           .
             .           .
549          .           .-------->  BS340
544          .       D340
             .           .
             .           .
554          .           .           .<-------   BS340
552          .           .      RT340
             .           .          V
             .           .          V
555          .           .      S340
             .           .           .
             .           .           .
561       C340......................
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566          .           .<-------   SF350
564          .      RT350
             .          V
             .          V
567          .      RR350
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574          .           .        355
             .           .           .
             .           .           .
584          .       C355............
             .          V
             .          V
587          .       R355
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594          .           .        360
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             .           .           .
608          .           .           .-------->  BS360
604          .           .      D360
             .           .           .
             .           .           .
613          .           .           .           .<-------   BS360
611          .           .           .       RT360
             .           .           .           V
             .           .           .           V
614          .           .           .       S360
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620       C360.................................
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623          .        380
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637          .           .-------->  BS380
633          .       D380
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642          .           .           .<-------   BS380
640          .           .      RT380
             .           .          V
             .           .          V
643          .           .      S380
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649       C380......................
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652          .        400
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             .           .
666          .           .-------->  BS400
662          .       D400
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671          .           .           .<-------   BS400
669          .           .      RT400
             .           .          V
             .           .          V
672          .           .      S400
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678          .        C400............
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681      CC400............
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684          .        420A
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698          .           .-------> BS420A
694          .       D420A
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703          .           .          .<-------  BS420A
701          .           .      RT420A
             .           .          V
             .           .          V
704          .           .       S420A
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710      C420A........................
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713          .         370
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723          .           .         395
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733          .        C370............
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739          .           .------->  BS370
736          .        D370
             .           .
             .           .
744          .           .          .<-------   BS370
742          .           .       RT370
             .           .          V
             .           .          V
745          .           .        S370
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751          .       CC370............
             .           V
             .           V
754          .        R370
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761          .           .         385
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771          .           .           .        415B
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781          .           .       C415B............
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787          .           .           .-------> BS415B
784          .           .       D415B
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             .           .           .
792          .           .           .          .<-------  BS415B
790          .           .           .      RT415B
             .           .           .          V
             .           .           .          V
793          .           .           .       S415B
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799          .           .      CC415B............
             .           .           V
             .           .           V
802          .           .       R415B
             .           .           .
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809          .           .           .         390
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823          .           .           .          .-------->  BS390
819          .           .           .        D390
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828          .           .           .          .          .<-------   BS390
826          .           .           .          .       RT390
             .           .           .          .          V
             .           .           .          .          V
829          .           .           .          .       S390
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835          .        C390.....................................
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838              .       R390
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845              .          .       420B
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855              .     C420B...........
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858              .          .        440
                 .          .          V
                 .          .          V
868              .          .       R70
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874              .          .          .         441
                 .          .          .           .
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884              .          .      C108...........
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889              .          .          .-------->   SPLIT
887              .          .        D4
                 .          .         V
                 .          .         V
892              .          .      R108
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898              .          .          .         442
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908              .          .       C67...........
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914              .          .          .-------->  BASIN4
911              .          .        D6
                 .          .          .
                 .          .          .
919              .          .          .           .<--------  BASIN4
917              .          .          .        RTD6
                 .          .          .           V
                 .          .          .           V
920              .          .          .         SD6
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926              .          .       CD6...........
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929              .          .          .         443
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                 .          .          .           .
942              .          .          .           .-------->   WSH66
939              .          .          .         D66
                 .          .          .           V
                 .          .          .           V
945              .          .          .        R113
                 .          .          .           .
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951              .          .      C114...........
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954              .          .          .         444
                 .          .          .           V
                 .          .          .           V
964              .          .          .         R58
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970              .          .          .           .         445
                 .          .          .           .           .
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980              .          .          .        C107...........
                 .          .          .           V
                 .          .          .           V
983              .          .          .        R107
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                 .          .          .           .
991              .          .          .           .           .<--------   SPLIT
989              .          .          .           .        RTB2
                 .          .          .           .           V
                 .          .          .           .           V
992              .          .          .           .      RSPLIT
                 .          .          .           .           .
                 .          .          .           .           .
998              .          .          .           .           .         446
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                 .          .          .           .           .           .
1008             .          .          .        C109.......................
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1014             .          .          .           .-------->  WSH404
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1011                    D5
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1017                  R109
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1023                     .          447
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1035                     .            .          .<-------  WSH404
1033                     .            .      RT404
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1036                     .            .       R404
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1042                  C110.......................
                         V
                         V
1045                  R110
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1051            C115............
                   V
                   V
1054            R115
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1060                   448
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1070                     .          449
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1080                C6364............
                         V
                         V
1083                R6364
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1089                     .          450
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1099                     .            .          451
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1109                     .        C451............
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1114                     .            .          .<-------   WSH66
1112                     .            .      RT66
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1115                     .            .            .          452
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1125                     .            .      C6465............
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1128                     .            .      R6566
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1134                  C116.......................
                         V
                         V
1137                BASIN5
                         V
                         V
1144                  R116
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1150                     .          453
                         .            .
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1160                  C117............
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1163            C118............
                   V
                   V
1166            R118
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1175              .-------> BASIN6
1172            D7
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1180                     .<-------  BASIN6
1178                  RTD7
                         V
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1181          .           .           .         SD7
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1187          .           .         CD7...........
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1190          .           .           .         454
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1200          .           .       C454...........
              .           .         V
              .           .         V
1203          .           .       R454
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1210          .           .           .       415A
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1220          .       C415A......................
              .           V
              .           V
1223          .       R415A
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1230          .           .         455
              .           .           .
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1245          .           .           .-------->   BS455
1240          .           .       D455
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1250          .           .           .           .<-------   BS455
1248          .           .           .       RT455
              .           .           .           V
              .           .           .           V
1251          .           .           .        S455
              .           .           .           .
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1257          .           .       C455...........
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              .           .           .
1260      CC455......................
              V
              V
1263       S440
              V
              V
1272       R455
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1278          .         480
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              .           .
1293          .           .-------->   BS480
1288          .        D480
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1298          .           .           .<-------   BS480
1296          .           .      RT480
              .           .         V
              .           .         V
1299          .           .       S480
              .           .           .
              .           .           .
1305          .        C480...........
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              .           .
1308      CC480...........
              V
              V
1311       R480
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1317          .         456
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              .           .
1330          .           .-------->  BASIN1
1327          .          D1
              .           .
              .           .
1336          .           .-------->    WA30
1333          .         CD2
              .           V
              .           V
1339          .        R456
              .           .
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1345          .           .         457
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1355          .        C101...........
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1361            .           .-------> BASIN2
1358            .         D3
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1366            .           .         .<-------  BASIN2
1364            .           .       RTD3
                .           .         V
                .           .         V
1367            .           .        SD3
                .           .         .
                .           .         .
1373            .        CD3............
                .          V
                .          V
1376            .       R101
                .           .
                .           .
1382            .           .        458
                .           .         .
                .           .         .
1392            .       C103............
                .          V
                .          V
1395            .       R103
                .           .
                .           .
1403            .           .         .<-------    WA30
1401            .           .       RT30
                .           .         V
                .           .         V
1404            .           .        R30
                .           .         .
                .           .         .
1412            .           .         .           .<-------  BASIN1
1410            .           .         .       RTB1
                .           .         .         V
                .           .         .         V
1413            .           .         .        B1
                .           .         .         V
                .           .         .         V
1420            .           .         .       RB1
                .           .         .         .
                .           .         .         .
1426            .           .       CDIV............
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1429            .           .         .       459
                .           .         .         .
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1439            .           .        C52............
                .           .         V
                .           .         V
1442            .           .        R52
                .           .         .
                .           .         .
1448            .           .         .       460
                .           .         .         .
                .           .         .         .
1458            .           .       C102............
                .           .         V
                .           .         V
1461            .           .     BASIN3
                .           .         V
                .           .         V
1468            .           .        R3
                .           .         .
                .           .         .
1474            .           .         .       461
                .           .         .         .
                .           .         .         .
1484            .           .       C104............
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                .           .         .
1487            .       C106............
                .          V
                .          V
1490            .       R106
                .           .
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1496            .           .        462
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1506            .        C56............
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1509        C462............
               V
               V
1512        R462
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                V
                V
 1518        RR462
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 1524           .          500
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                .            .
 1534        C500............
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(***) RUNOFF ALSO COMPUTED AT THIS LOCATION

```
1****************************************
 *                                      *
 *   FLOOD HYDROGRAPH PACKAGE  (HEC-1)  *
 *              JUN   1998              *
 *            VERSION 4.1               *
 *                                      *
 *  RUN DATE   02MAY01  TIME  08:24:07  *
 *                                      *
 ****************************************
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****************************************
*                                      *
*    U.S. ARMY CORPS OF ENGINEERS      *
*    HYDROLOGIC ENGINEERING CENTER     *
*          609 SECOND STREET           *
*       DAVIS, CALIFORNIA 95616        *
*           (916) 756-1104             *
*                                      *
****************************************
```

DDMS MCUHP1 SPOOK HILL ADMP-EXISTING CONDITIONS MODEL-100YR, 24-HR STORM
McDowell Road Alternative - Option MD2E
Spook Hill FRS without Off-Line Basin

```
 5 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

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

 8 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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18 JD INDEX STORM NO. 2

STRM 3.79 PRECIPITATION DEPTH

TRDA 1.00 TRANSPOSITION DRAINAGE AREA

0 PI PRECIPITATION PATTERN

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19 JD          INDEX STORM NO. 3
                  STRM       3.68  PRECIPITATION DEPTH
                  TRDA       5.80  TRANSPOSITION DRAINAGE AREA

 0 PI            PRECIPITATION PATTERN
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20 JD         INDEX STORM NO. 4
                 STRM        3.57   PRECIPITATION DEPTH
                 TRDA       10.66   TRANSPOSITION DRAINAGE AREA

 0 PI           PRECIPITATION PATTERN
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21 JD INDEX STORM NO. 5

STRM 3.54 *PRECIPITATION DEPTH*

TRDA 13.70 TRANSPOSITION DRAINAGE AREA

0 PI PRECIPITATION PATTERN

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22 JD INDEX STORM NO. 6

STRM 3.47 PRECIPITATION DEPTH

TRDA 20.00 TRANSPOSITION DRAINAGE AREA

0 PI PRECIPITATION PATTERN

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23 JD INDEX STORM NO. 7

STRM 3.32 PRECIPITATION DEPTH

TRDA 50.00 TRANSPOSITION DRAINAGE AREA

0 PI PRECIPITATION PATTERN

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

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

+	C60	5371.	12.37	733.	194.	70.	5.80
+ ROUTED TO	S60	118.	14.27	118.	114.	70.	5.80
+ ROUTED TO	R60	118.	14.37	118.	114.	70.	5.80
+ ROUTED TO	RR60	118.	14.40	118.	114.	70.	5.80
+ HYDROGRAPH AT	80	1956.	12.27	189.	49.	18.	1.48
+ 2 COMBINED AT	C80	2009.	12.27	295.	160.	90.	1.48
+ ROUTED TO	R80	1981.	12.30	295.	160.	90.	1.48
+ HYDROGRAPH AT	100	423.	12.20	60.	16.	6.	.48
+ 2 COMBINED AT	C100	2373.	12.27	351.	174.	95.	1.96
+ ROUTED TO	R100	2370.	12.30	351.	174.	95.	1.96
+ HYDROGRAPH AT	120	3352.	12.27	340.	92.	33.	2.20
+ 2 COMBINED AT	C120	5618.	12.27	673.	256.	126.	4.16
+ ROUTED TO	R120	5546.	12.30	673.	256.	126.	4.16
+ HYDROGRAPH AT	140	665.	12.13	67.	18.	6.	.60
+ HYDROGRAPH AT	150	595.	12.17	51.	14.	5.	.41
ROUTED TO	R150	568.	12.23	51.	14.	5.	.41
+ ROUTED TO	R152	514.	12.33	51.	14.	5.	.41
+ HYDROGRAPH AT	160	228.	12.40	37.	9.	3.	.37
+ HYDROGRAPH AT	180	836.	12.37	97.	24.	9.	1.00
+ 5 COMBINED AT	C180	7306.	12.30	898.	313.	146.	6.54
+ HYDROGRAPH AT	210	1322.	12.17	111.	29.	10.	.79
+ ROUTED TO	R210	1246.	12.23	111.	29.	10.	.79
+ HYDROGRAPH AT	240	1513.	12.30	167.	42.	15.	1.41
+ 2 COMBINED AT	C240	2684.	12.27	273.	70.	25.	2.20
+ ROUTED TO	S240	799.	12.70	226.	59.	21.	2.20
+ ROUTED TO	R240	798.	12.77	225.	59.	21.	2.20
+ HYDROGRAPH AT	220	676.	12.20	68.	18.	6.	.47
+ 2 COMBINED AT	C220	962.	12.60	288.	75.	27.	2.67
+ ROUTED TO	S220	900.	12.80	280.	73.	26.	2.67
+ ROUTED TO	R220	897.	12.83	280.	73.	26.	2.67
+ HYDROGRAPH AT	190	1471.	12.17	123.	33.	12.	.92

ROUTED TO	R190	1415.	12.23	123.	33.	12.	.92
+ ROUTED TO	R192	1359.	12.30	123.	33.	12.	.92
+ HYDROGRAPH AT	200	831.	12.17	72.	20.	7.	.53
+ 3 COMBINED AT	C200	2254.	12.30	459.	122.	44.	4.12
+ ROUTED TO	S200	2135.	12.37	454.	119.	43.	4.12
+ ROUTED TO	R200	2127.	12.37	454.	119.	43.	4.12
+ ROUTED TO	SS200	1365.	12.73	333.	88.	32.	4.12
+ ROUTED TO	RR200	1330.	12.83	330.	88.	32.	4.12
+ 2 COMBINED AT	CC180	7306.	12.30	1212.	399.	177.	10.66
+ ROUTED TO	S180	113.	29.07	113.	113.	88.	10.66
+ ROUTED TO	R180	113.	28.93	113.	113.	88.	10.66
+ HYDROGRAPH AT	260	416.	12.10	43.	12.	4.	.26
+ 2 COMBINED AT	C260	421.	12.10	135.	124.	99.	.26
+ ROUTED TO	R260	407.	12.20	135.	124.	98.	.26
+ HYDROGRAPH AT	280	527.	12.10	46.	13.	5.	.32
2 COMBINED AT	C280	884.	12.13	176.	135.	103.	.58
+ ROUTED TO	R280	862.	12.20	176.	134.	103.	.58
+ HYDROGRAPH AT	300	415.	12.10	34.	10.	3.	.29
+ 2 COMBINED AT	C300	1217.	12.17	207.	143.	106.	.87
+ ROUTED TO	R300	1172.	12.23	207.	142.	106.	.87
+ HYDROGRAPH AT	305	476.	12.27	81.	22.	8.	.70
+ 2 COMBINED AT	C305	1624.	12.23	283.	161.	112.	1.57
+ ROUTED TO	R305	1603.	12.30	282.	161.	112.	1.57
+ HYDROGRAPH AT	350	1258.	12.20	109.	28.	10.	.97
+ DIVERSION TO	SF350	629.	12.20	55.	14.	5.	.97
+ HYDROGRAPH AT	D350	629.	12.20	55.	14.	5.	.97
+ ROUTED TO	R350	557.	12.40	55.	14.	5.	.97
+ HYDROGRAPH AT	310	398.	12.33	52.	13.	5.	.56
+ 2 COMBINED AT	C310	928.	12.40	106.	27.	10.	1.04
ROUTED TO	R310	820.	12.73	106.	27.	10.	1.04
HYDROGRAPH AT							

+	320	991.	12.20	127.	36.	13.	.95
+ DIVERSION TO	BS320	386.	11.93	21.	6.	2.	.95
+ HYDROGRAPH AT	D320	991.	12.20	113.	29.	11.	.95
+ HYDROGRAPH AT	RT320	386.	11.93	21.	6.	2.	.95
+ ROUTED TO	S320	4.	12.00	4.	4.	2.	.95
+ 4 COMBINED AT	C320	2546.	12.30	491.	216.	132.	3.56
+ HYDROGRAPH AT	340	1534.	12.17	194.	57.	21.	1.44
+ DIVERSION TO	BS340	1534.	12.17	103.	28.	10.	1.44
+ HYDROGRAPH AT	D340	1285.	12.30	106.	29.	10.	1.44
+ HYDROGRAPH AT	RT340	1534.	12.17	103.	28.	10.	1.44
+ ROUTED TO	S340	18.	12.33	17.	14.	9.	1.44
+ 3 COMBINED AT	C340	3733.	12.33	602.	255.	150.	5.00
+ HYDROGRAPH AT	RT350	629.	12.20	55.	14.	5.	.97
+ ROUTED TO	RR350	544.	12.43	55.	14.	5.	.97
+ HYDROGRAPH AT	355	546.	12.33	75.	19.	7.	.68
2 COMBINED AT	C355	1028.	12.40	129.	34.	12.	1.16
+ ROUTED TO	R355	941.	12.70	129.	34.	12.	1.16
+ HYDROGRAPH AT	360	773.	12.23	116.	34.	12.	.88
+ DIVERSION TO	BS360	773.	12.23	52.	14.	5.	.88
+ HYDROGRAPH AT	D360	709.	12.33	73.	20.	7.	.88
+ HYDROGRAPH AT	RT360	773.	12.23	52.	14.	5.	.88
+ ROUTED TO	S360	9.	12.33	8.	7.	5.	.88
+ 4 COMBINED AT	C360	4484.	12.33	784.	307.	171.	7.04
+ HYDROGRAPH AT	380	627.	12.27	97.	26.	9.	.90
+ DIVERSION TO	BS380	627.	12.27	56.	14.	5.	.90
+ HYDROGRAPH AT	D380	461.	12.57	44.	12.	4.	.90
+ HYDROGRAPH AT	RT380	627.	12.27	56.	14.	5.	.90
+ ROUTED TO	S380	9.	12.57	9.	7.	5.	.90
+ 3 COMBINED AT	C380	4405.	12.33	821.	321.	178.	7.94
+ HYDROGRAPH AT	400	560.	12.20	66.	18.	6.	.62
+ DIVERSION TO	BS400	311.	12.00	10.	3.	1.	.62

HYDROGRAPH AT	D400	560.	12.20	58.	15.	5.	.62
+ HYDROGRAPH AT	RT400	311.	12.00	10.	3.	1.	.62
+ ROUTED TO	S400	2.	12.07	2.	2.	1.	.62
+ 2 COMBINED AT	C400	562.	12.20	60.	16.	6.	.62
+ 2 COMBINED AT	CC400	4788.	12.37	868.	334.	183.	8.56
+ HYDROGRAPH AT	420A	495.	12.20	68.	19.	7.	.57
+ DIVERSION TO	BS420A	377.	12.07	16.	4.	2.	.57
+ HYDROGRAPH AT	D420A	495.	12.20	56.	14.	5.	.57
+ HYDROGRAPH AT	RT420A	377.	12.07	16.	4.	2.	.57
+ ROUTED TO	S420A	13.	11.60	13.	4.	2.	.57
+ 3 COMBINED AT	C420A	5167.	12.37	924.	348.	188.	9.13
+ HYDROGRAPH AT	370	817.	12.23	83.	22.	8.	.67
+ HYDROGRAPH AT	395	234.	12.20	26.	7.	3.	.20
+ 2 COMBINED AT	C370	1046.	12.23	108.	29.	11.	.87
+ DIVERSION TO	BS370	906.	12.23	68.	17.	6.	.87
HYDROGRAPH AT	D370	140.	11.87	40.	12.	4.	.87
+ HYDROGRAPH AT	RT370	906.	12.23	68.	17.	6.	.87
+ ROUTED TO	S370	10.	12.90	9.	8.	6.	.87
+ 2 COMBINED AT	CC370	150.	12.90	47.	19.	10.	.87
+ ROUTED TO	R370	150.	12.90	47.	19.	10.	.87
+ HYDROGRAPH AT	385	613.	12.23	74.	20.	7.	.53
+ HYDROGRAPH AT	415B	443.	12.10	46.	13.	5.	.33
+ 2 COMBINED AT	C415B	973.	12.20	120.	33.	12.	.86
+ DIVERSION TO	BS415B	783.	12.20	64.	16.	6.	.86
+ HYDROGRAPH AT	D415B	190.	11.83	56.	17.	6.	.86
+ HYDROGRAPH AT	RT415B	783.	12.20	64.	16.	6.	.86
+ ROUTED TO	S415B	10.	12.83	9.	8.	6.	.86
+ 2 COMBINED AT	CC415B	200.	12.83	63.	23.	12.	.86
+ ROUTED TO	R415B	200.	12.83	63.	23.	12.	.86
HYDROGRAPH AT	390	477.	12.03	35.	10.	4.	.24
DIVERSION TO							

+	BS390	101.	11.73	6.	2.	1.	.24
HYDROGRAPH AT	D390	477.	12.03	31.	8.	3.	.24
HYDROGRAPH AT +	RT390	101.	11.73	6.	2.	1.	.24
ROUTED TO +	S390	1.	11.80	1.	1.	1.	.24
4 COMBINED AT +	C390	810.	12.03	141.	50.	25.	1.97
ROUTED TO +	R390	734.	12.23	141.	50.	25.	1.97
HYDROGRAPH AT +	420B	356.	12.10	34.	10.	4.	.28
2 COMBINED AT +	C420B	1013.	12.20	173.	59.	29.	2.25
HYDROGRAPH AT +	440	184.	12.03	12.	3.	1.	.08
ROUTED TO +	R70	181.	12.07	12.	3.	1.	.08
HYDROGRAPH AT +	441	16.	12.03	1.	0.	0.	.01
2 COMBINED AT +	C108	197.	12.07	14.	4.	1.	.09
DIVERSION TO +	SPLIT	98.	12.07	7.	2.	1.	.09
HYDROGRAPH AT +	D4	98.	12.07	7.	2.	1.	.09
ROUTED TO +	R108	92.	12.13	7.	2.	1.	.09
HYDROGRAPH AT	442	105.	12.10	9.	2.	1.	.10
2 COMBINED AT +	C67	195.	12.10	16.	4.	2.	.19
DIVERSION TO +	BASIN4	121.	12.10	6.	2.	1.	.19
HYDROGRAPH AT +	D6	74.	12.10	10.	3.	1.	.19
HYDROGRAPH AT +	RTD6	121.	12.10	6.	2.	1.	.19
ROUTED TO +	SD6	1.	12.47	1.	1.	0.	.19
2 COMBINED AT +	CD6	74.	12.10	10.	3.	1.	.19
HYDROGRAPH AT +	443	151.	12.07	15.	4.	1.	.08
DIVERSION TO +	WSH66	78.	11.87	12.	3.	1.	.08
HYDROGRAPH AT +	D66	73.	12.07	3.	1.	0.	.08
ROUTED TO +	R113	71.	12.07	3.	1.	0.	.08
2 COMBINED AT +	C114	144.	12.07	13.	4.	2.	.27
HYDROGRAPH AT +	444	83.	12.03	5.	1.	0.	.04
ROUTED TO +	R58	79.	12.07	5.	1.	0.	.04
HYDROGRAPH AT +	445	307.	12.03	19.	5.	2.	.19
2 COMBINED AT	C107	382.	12.03	23.	6.	2.	.23

ROUTED TO	R107	382.	12.07	23.	6.	2.	.23
+ HYDROGRAPH AT	RTB2	98.	12.07	7.	2.	1.	.09
+ ROUTED TO	RSPLIT	98.	12.07	7.	2.	1.	.09
+ HYDROGRAPH AT	446	66.	12.03	6.	2.	1.	.04
+ 3 COMBINED AT	C109	545.	12.07	36.	10.	3.	.27
+ DIVERSION TO	WSH404	35.	11.70	8.	2.	1.	.27
+ HYDROGRAPH AT	D5	510.	12.07	28.	7.	3.	.27
+ ROUTED TO	R109	493.	12.10	28.	7.	3.	.27
+ HYDROGRAPH AT	447	141.	12.07	12.	4.	1.	.09
+ HYDROGRAPH AT	RT404	35.	11.70	8.	2.	1.	.27
+ ROUTED TO	R404	35.	11.83	8.	2.	1.	.27
+ 3 COMBINED AT	C110	666.	12.07	48.	13.	5.	.36
+ ROUTED TO	R110	663.	12.10	48.	13.	5.	.36
+ 2 COMBINED AT	C115	805.	12.07	61.	17.	7.	.63
+ ROUTED TO	R115	799.	12.10	61.	17.	7.	.63
HYDROGRAPH AT	448	89.	12.03	6.	2.	1.	.05
+ HYDROGRAPH AT	449	81.	12.03	5.	1.	0.	.05
+ 2 COMBINED AT	C6364	170.	12.03	11.	3.	1.	.09
+ ROUTED TO	R6364	145.	12.17	11.	3.	1.	.09
+ HYDROGRAPH AT	450	63.	12.20	7.	2.	1.	.07
+ HYDROGRAPH AT	451	18.	12.17	2.	1.	0.	.03
+ 2 COMBINED AT	C451	80.	12.20	9.	2.	1.	.09
+ HYDROGRAPH AT	RT66	78.	11.87	12.	3.	1.	.08
+ HYDROGRAPH AT	452	63.	12.03	5.	1.	0.	.04
+ 2 COMBINED AT	C6465	141.	12.03	17.	4.	2.	.04
+ ROUTED TO	R6566	137.	12.10	17.	4.	2.	.04
+ 3 COMBINED AT	C116	357.	12.17	36.	10.	3.	.23
+ ROUTED TO	BASIN5	159.	12.47	36.	10.	3.	.23
+ ROUTED TO	R116	157.	12.53	36.	10.	3.	.23
HYDROGRAPH AT	453	63.	12.10	7.	2.	1.	.06
2 COMBINED AT							

+	C117	177.	12.47	43.	12.	4.	.29
2 COMBINED AT	C118	892.	12.10	104.	29.	11.	.92
ROUTED TO +	R118	887.	12.13	104.	29.	11.	.92
DIVERSION TO +	BASIN6	248.	12.13	7.	2.	1.	.92
HYDROGRAPH AT +	D7	639.	12.13	97.	27.	10.	.92
HYDROGRAPH AT +	RTD7	248.	12.13	7.	2.	1.	.92
ROUTED TO +	SD7	1.	12.63	1.	1.	1.	.92
2 COMBINED AT +	CD7	640.	12.13	97.	28.	11.	.92
HYDROGRAPH AT +	454	162.	12.13	21.	6.	2.	.18
2 COMBINED AT +	C454	801.	12.13	118.	34.	13.	1.10
ROUTED TO +	R454	793.	12.23	118.	34.	13.	1.10
HYDROGRAPH AT +	415A	267.	12.17	32.	9.	3.	.28
3 COMBINED AT +	C415A	2035.	12.20	316.	99.	44.	3.63
ROUTED TO +	R415A	2016.	12.27	316.	99.	44.	3.63
HYDROGRAPH AT +	455	1418.	12.13	150.	45.	16.	1.11
DIVERSION TO	BS455	1418.	12.13	139.	37.	13.	1.11
HYDROGRAPH AT +	D455	145.	12.80	24.	8.	3.	1.11
HYDROGRAPH AT +	RT455	1418.	12.13	139.	37.	13.	1.11
ROUTED TO +	S455	23.	12.80	22.	18.	11.	1.11
2 COMBINED AT +	C455	169.	12.80	46.	26.	14.	1.11
3 COMBINED AT +	CC455	6744.	12.37	1214.	451.	237.	13.87
ROUTED TO +	S440	225.	23.93	224.	210.	148.	13.87
ROUTED TO +	R455	225.	24.57	224.	210.	145.	13.87
HYDROGRAPH AT +	480	1102.	12.10	100.	31.	11.	.73
DIVERSION TO +	BS480	487.	11.90	27.	8.	3.	.73
HYDROGRAPH AT +	D480	1102.	12.10	83.	23.	8.	.73
HYDROGRAPH AT +	RT480	487.	11.90	27.	8.	3.	.73
ROUTED TO +	S480	5.	11.97	5.	4.	3.	.73
2 COMBINED AT +	C480	1107.	12.10	88.	27.	11.	.73
2 COMBINED AT +	CC480	1107.	12.10	289.	259.	178.	.73
ROUTED TO	R480	878.	12.33	289.	258.	177.	.73

	HYDROGRAPH AT						
	456	483.	12.07	37.	10.	4.	.26
+	DIVERSION TO						
	BASIN1	193.	12.07	8.	2.	1.	.26
+	HYDROGRAPH AT						
	D1	290.	12.07	29.	8.	3.	.26
+	DIVERSION TO						
	WA30	59.	12.07	10.	3.	1.	.26
+	HYDROGRAPH AT						
	CD2	231.	12.07	19.	5.	2.	.26
+	ROUTED TO						
	R456	218.	12.13	19.	5.	2.	.26
+	HYDROGRAPH AT						
	457	273.	12.07	21.	6.	2.	.19
+	2 COMBINED AT						
	C101	480.	12.10	40.	10.	4.	.45
+	DIVERSION TO						
	BASIN2	177.	12.10	8.	2.	1.	.45
+	HYDROGRAPH AT						
	D3	303.	12.10	32.	8.	3.	.45
+	HYDROGRAPH AT						
	RTD3	177.	12.10	8.	2.	1.	.45
+	ROUTED TO						
	SD3	1.	12.40	1.	1.	1.	.45
+	2 COMBINED AT						
	CD3	304.	12.10	33.	9.	4.	.45
+	ROUTED TO						
	R101	302.	12.10	33.	9.	4.	.45
+	HYDROGRAPH AT						
	458	366.	12.03	26.	7.	2.	.19
	2 COMBINED AT						
	C103	655.	12.07	59.	16.	6.	.64
+	ROUTED TO						
	R103	651.	12.07	59.	16.	6.	.64
+	HYDROGRAPH AT						
	RT30	59.	12.07	10.	3.	1.	.26
+	ROUTED TO						
	R30	58.	12.10	10.	3.	1.	.26
+	HYDROGRAPH AT						
	RTB1	193.	12.07	8.	2.	1.	.26
+	ROUTED TO						
	B1	35.	12.20	8.	2.	1.	.26
+	ROUTED TO						
	RB1	35.	12.27	8.	2.	1.	.26
+	2 COMBINED AT						
	CDIV	87.	12.20	18.	5.	2.	.12
+	HYDROGRAPH AT						
	459	45.	12.03	3.	1.	0.	.03
+	2 COMBINED AT						
	C52	117.	12.10	21.	6.	2.	.15
+	ROUTED TO						
	R52	116.	12.17	21.	6.	2.	.15
+	HYDROGRAPH AT						
	460	221.	12.07	20.	6.	2.	.14
+	2 COMBINED AT						
	C102	323.	12.07	40.	12.	4.	.29
+	ROUTED TO						
	BASIN3	71.	12.63	40.	12.	4.	.29
	ROUTED TO						
	R3	71.	12.77	40.	12.	4.	.29
	HYDROGRAPH AT						

+		461	165.	12.10	17.	5.	2.	.12
	2 COMBINED AT							
		C104	220.	12.10	57.	17.	6.	.41
	2 COMBINED AT							
+		C106	866.	12.07	115.	33.	12.	1.05
	ROUTED TO							
+		R106	828.	12.13	115.	33.	12.	1.05
	HYDROGRAPH AT							
+		462	557.	12.07	42.	12.	4.	.30
	2 COMBINED AT							
+		C56	1306.	12.10	156.	44.	16.	1.35
	2 COMBINED AT							
+		C462	1603.	12.30	368.	285.	189.	2.09
	ROUTED TO							
+		R462	1575.	12.33	368.	285.	189.	2.09
	ROUTED TO							
+		RR462	1543.	12.40	367.	284.	188.	2.09
	HYDROGRAPH AT							
+		500	1126.	12.27	128.	35.	12.	.93
	2 COMBINED AT							
+		C500	2475.	12.33	478.	310.	198.	3.02

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

FLOOD CONTROL DISTRICT
OF MARICOPA COUNTY
ENGINEERING DIVISION

McDOWELL ALTERNATIVE 3E

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

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

DRAWING NO. EC24MD3E.DWG SHEET OF

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1****************************************
*                                      *
*   FLOOD HYDROGRAPH PACKAGE  (HEC-1)  *
*              JUN   1998              *
*            VERSION 4.1               *
*                                      *
*  RUN DATE   02MAY01  TIME  08:25:43  *
*                                      *
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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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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

  1           ID   DDMS MCUHP1 SPOOK HILL ADMP-EXISTING CONDITIONS MODEL-100YR, 24-HR STORM
  2           ID   McDowell Road Alternative - Option MD3E
  3           ID   Spook Hill FRS without Off-Line Basin
              *
              *  Original File Name: EC24BASE.DAT, 4/4/01
              *  Modified File Name: EC24MD3E.DAT, 4/9/01, WOOD/PATEL, MW
              *
              *  MAJOR ASSUMPTIONS / CRITERIA / CHANGES FROM PREVIOUS MODELS:
              *
              *    1. Refinement of areas for sub-basins 415 and 420 into  sub-basins
              *       415A 415B & 415C, 420A & 420B
              *                Area of 415A is  .217 sq. miles
              *                Area of 415B is  .063 sq. miles
              *                Area of 415C is  .329 sq. miles
              *                Area of 420A is  .570 sq. miles
              *                Area of 420B is  .279 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.
              *
              *    3. Operations for option MD3E are added to the HEC-1 Model.
              *
              *
              *DIAGRAM
  4           IT      2                    2000
  5           IO      5
  6           IN     15
  7           JD   3.81    0.01
  8           PC    .000    .002    .005    .008    .011    .014    .017    .020    .023    .026
  9           PC    .029    .032    .035    .038    .041    .044    .048    .052    .056    .060
 10           PC    .064    .068    .072    .076    .080    .085    .090    .095    .100    .105
 11           PC    .110    .115    .120    .126    .133    .140    .147    .155    .163    .172
 12           PC    .181    .191    .203    .218    .236    .257    .283    .387    .663    .707
 13           PC    .735    .758    .776    .791    .804    .815    .825    .834    .842    .849
 14           PC    .856    .863    .869    .875    .881    .887    .893    .898    .903    .908
 15           PC    .913    .918    .922    .926    .930    .934    .938    .942    .946    .950
 16           PC    .953    .956    .959    .962    .965    .968    .971    .974    .977    .980
 17           PC    .983    .986    .989    .992    .995    .998   1.000
 18           JD   3.787    1.00
 19           JD   3.677    5.80
 20           JD   3.574   10.66
 21           JD   3.539   13.70
 22           JD   3.467   20.00
 23           JD   3.315   50.00
              * DDM    ***** Updated *****

 24           KK      10
 25           KM   SUB-BASIN 10
 26           KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
 27           KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .996
 28           KM     L = 2.00  Kb = .044  Adj. Slope =  165.0
 29           BA    .702
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

  30          LG    .350    .320   7.600    .090  15.000
  31          UC    .421    .302
  32          UA       0       3       5       8      12      20      43      75      90      96
  33          UA     100
              * DDM   ***** Preserved *****

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

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

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

  56          KK     C20
  57          KM   HYDROGRAPH COMBINATION OF SUB-BASINS 10 AND 20
  58          HC       2
              * DDM   ***** Preserved *****

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

  65          KK      40
  66          KM   SUB-BASIN 40
  67          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
  68          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .987
  69          KM     L = 3.08  Kb = .036  Adj. Slope =  189.0
  70          BA   2.233
  71          LG    .340    .340   4.900    .280   5.000
  72          UC    .496    .264
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

  73          UA       0       3       5       8      12      20      43      75      90      96
  74          UA     100
              * DDM   ***** Updated *****

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

  85          KK     C60
  86          KM     C60GRAPH COMBINATION FOR APACHE JUNCTION FRS
              *      1       2
  87          HC       3
              * DDM   ***** Preserved *****

  88          KK     S60
  89          KM   APACHE JUNCTION FRS AS-BUILT PLANS 12/19/88
  90          KM   OUTLET PIPE=30"RCP; L=136.6'; INLET INV.=1783.5; OUTLET INV.=1783
  91          KM   EMERGENCY SPILLWAY ELEV.=1799.77'; PRINCIPLE SPILLWAY ELEV.=1793.5'
  92          KM   STORAGE VOLUME BELOW PRINCIPLE SPILLWAY FOR SEDIMENT = 100 ACRE-FEET
              *  ESE = 1801.92 ft; PSE = 1795.65 ft; Sediment Vol. = 237 Ac-Ft.
  93          RS       1    STOR       0
  94          SV       0       0      77     242     371     439     563     687    2163
  95          SQ       0      12     103     114     120     362    1462    3101   30000
  96          SE    95.0    96.0    98.0   100.0   101.6   101.9   103.0   104.0   112.9
              * DDM   ***** Preserved *****
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 97          KK     R60
 98          KM        ROUTE FLOW THROUGH BULLDOG FLOODWAY FROM APACHE JUNCTION FRS
 99          RS       1    FLOW      -1
100          RC    .016    .016    .016    2850    .012
101          RX       0       1       2     2.1     5.6     5.7       6       7
102          RY     3.5     3.5     3.5       0       0     3.5     3.5     3.5
             * DDM   ***** Preserved *****

103          KK    RR60
104          KM   ROUTE FLOW FROM BULLDOG FLOODWAY TO SUB-BASIN 80
105          RS       3    FLOW      -1
106          RC    .016    .016    .016    3500    .005
107          RX       0       1       2     2.1     7.1     7.2       8       9
108          RY     3.5     3.5     3.5       0       0     3.5     3.5     3.5
             * DDM   ***** Updated *****
1                                        HEC-1 INPUT                                                    PAGE  4

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

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

119          KK     C80
120          KM   HYDROGRAPH COMBINATION FOR FLOW FROM APACHE JUNCTION FRS & SUB-BASIN 80
121          HC       2   1.475
             * DDM   ***** Preserved *****

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

128          KK     100
129          KM   SUB-BASIN 100
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  .997
132          KM     L = 1.94  Kb = .046  Adj. Slope =  108.0
133          BA    .484
134          LG    .320    .290   5.100    .260   3.000
135          UC    .533    .473
136          UA       0       5      16      30      65      77      84      90      94      97
137          UA     100
             * DDM   ***** Preserved *****

138          KK    C100
139          KM   HYDROGRAPH COMBINATION FOR FLOW FROM SUB-BASIN 80 & 100
140          HC       2
             * DDM   ***** Preserved *****

141          KK    R100
142          KM   ROUTE FLOW FROM SUB-BASIN 100 TO SUB-BASIN 120
143          RS       1    FLOW      -1
144          RC    .016    .016    .016     940    .005
145          RX       0       1       2     2.1    52.1    52.2      53      54
146          RY     4.5     4.5     4.5       0       0     4.5     4.5     4.5
             * DDM   ***** Updated *****
1                                        HEC-1 INPUT                                                    PAGE  5

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

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

157          KK    C120
158          KM   HYDROGRAPH COMBINATION FOR FLOW FROM SUB-BASIN 100 & 120
159          HC       2
             * DDM   ***** Preserved *****

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

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

176          KK     150
177          KM   SUB-BASIN 150
178          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
179          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .998
180          KM     L = 1.50  Kb = .047  Adj. Slope =  314.6
181          BA    .408
182          LG    .350    .360   5.100    .260   7.000
183          UC    .296    .221
184          UA       0       3       5       8      12      20      43      75      90      96
185          UA     100
             * DDM   ***** Preserved *****
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LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

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

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

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

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

218          KK    C180
219          KM   HYDROGRAPH COMBINATION FOR SIGNAL BUTTE FRS
220          HC       5
             *
             * The sub-basin area and soil make-up have been updated from CAD file 12/07/00
             * DDM   ***** Updated *****

221          KK     210
222          KM   SUB-BASIN 210
223          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
224          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .995
225          KM     L = 1.84  Kb = .043  Adj. Slope =  315.0
226          BA    .792
227          LG    .350    .360   6.800    .130   4.000
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LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

228          UC    .313    .189
229          UA       0       3       5       8      12      20      43      75      90      96
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 230          UA     100
              * DDM   ***** Preserved *****

 231          KK    R210
 232          KM   ROUTING OF FLOW FROM SUB-BASIN 210 TO SUB-BASIN 220
 233          RS       2    FLOW      -1
 234          RC    .045     .03    .045    5100    .022
 235          RX       0       1       2      14      34      46      47      48
 236          RY       4       4       4       0       0       4       4       4
              *
              * The sub-basin area and soil make-up have been updated from CAD file 12/07/00
              * DDM   ***** Updated *****

 237          KK     240
 238          KM   SUB-BASIN 240
 239          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
 240          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .992
 241          KM     L = 3.50  Kb = .039  Adj. Slope =  298.6
 242          BA   1.408
 243          LG    .350    .370   5.300    .230   2.000
 244          UC    .467    .356
 245          UA       0       3       5       8      12      20      43      75      90      96
 246          UA     100
              * DDM   ***** Preserved *****

 247          KK    C240
 248          KM   HYDROGRAPH COMBINATION FOR SUB-BASIN 240 & 220
 249          HC       2
              * DDM   ***** Preserved *****

 250          KK    S240
 251          KM    WEIR GEOMETRY OBTAINED FROM AS-BUILT PLANS @ PASS MTN. DIVERSION.
 252          KM   WEIR STORAGE DATA OBTAINED FROM 2' CONTOUR MAPPING.
 253          RS       1    STOR       0
 254          SA    1.38    14.2    36.5
 255          SE     1.7       5      11
 256          SS       5      42       3     1.5
              * DDM   ***** Preserved *****

 257          KK    R240
 258          KM   ROUTE FLOW FROM SUB-BASIN 240 TO SUB-BASIN 220
 259          KM   PASS MOUNTAIN DIVERSION
 260          RS       3    FLOW      -1
 261          RC    .035    .025    .035    1800    .005
 262          RX       0      15      30      39      69      81      96     111
 263          RY     3.6     3.3       3       0       0       3       3       4
              *
              * The sub-basin area and soil make-up have been updated from CAD file 12/07/00
              * DDM   ***** Updated *****
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 264          KK     220
 265          KM   SUB-BASIN 220
 266          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
 267          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .997
 268          KM     L = 1.92  Kb = .046  Adj. Slope =  315.0
 269          BA    .473
 270          LG    .350    .350   7.000    .120   5.000
 271          UC    .333    .282
 272          UA       0       3       5       8      12      20      43      75      90      96
 273          UA     100
              * DDM   ***** Preserved *****

 274          KK    C220
 275          KM   HYDROGRAPH COMBINATION FOR SUB-BASIN 240 & 220
 276          HC       2
              * DDM   ***** Preserved *****

 277          KK    S220
 278          KM    WEIR GEOMETRY OBTAINED FROM AS-BUILT PLANS @ PASS MTN. DIVERSION.
 279          KM   WEIR STORAGE DATA OBTAINED FROM 2' CONTOUR MAPPING.
 280          RS       1    STOR       0
 281          SA     .78     4.1    13.7
 282          SE       1       3      10
 283          SS       3      65       3     1.5
              * DDM   ***** Preserved *****

 284          KK    R220
 285          KM   ROUTE FLOW FROM SUB-BASIN 220 TO SUB-BASIN 200
 286          KM   PASS MOUNTAIN DIVERSION
 287          RS       1    FLOW      -1
 288          RC    .035    .025    .035    1250    .005
 289          RX       0      50     100     109     139     148     178     184
 290          RY       5       4       3       0       0       3       3       5
              * DDM   ***** Updated *****

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

 301          KK    R190
 302          KM   ROUTING OF FLOW FROM SUB-BASIN 190 TO SUB-BASIN 200
 303          RS       2    FLOW      -1
 304          RC    .045     .03    .045    4740     .03
 305          RX       0       1       2      17      37      52      53      54
 306          RY       5       5       5       0       0       5       5       5
              * DDM   ***** Preserved *****
1                                          HEC-1 INPUT                                                    PAGE  9

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

 307          KK    R192
 308          KM   ROUTING OF FLOW FROM SUB-BASIN 190 TO SUB-BASIN 200
 309          RS       3    FLOW      -1
 310          RC    .045    .035    .045    2200    .018
 311          RX       0       1      50      59      79      88     137     138
 312          RY     4.5       3       3       0       0       3       3     4.5
              * DDM   ***** Updated *****

 313          KK     200
 314          KM   SUB-BASIN 200
 315          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
 316          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .997
 317          KM     L = 1.58  Kb = .045  Adj. Slope =  305.6
 318          BA    .530
 319          LG    .350    .390   5.700    .200  10.000
 320          UC    .300    .201
 321          UA       0       3       5       8      12      20      43      75      90      96
 322          UA     100
              * DDM   ***** Preserved *****

 323          KK    C200
 324          KM   HYDROGRAPH COMBINATION FOR SUB-BASIN 220 & 200
 325          HC       3
              * DDM   ***** Preserved *****

 326          KK    S200
 327          KM    WEIR GEOMETRY OBTAINED FROM AS-BUILT PLANS @ PASS MTN. DIVERSION.
 328          KM   WEIR STORAGE DATA OBTAINED FROM 2' CONTOUR MAPPING.
 329          RS       1    STOR       0
 330          SA    2.56     3.1     9.4
 331          SE       0       3      10
 332          SS       3     112       3     1.5
              * DDM   ***** Preserved *****

 333          KK    R200
 334          KM   ROUTE FLOW FROM SUB-BASIN 200 TO SIGNAL BUTTE FRS through storage
 335          RS       1    FLOW      -1
 336          RC    .035    .025    .035     650    .005
 337          RX       0       1       2      17     117     132     133     134
 338          RY       5       5       5       0       0       5       5       5
              * DDM   ***** Preserved *****

 339          KK   SS200
 340          KM    WEIR GEOMETRY OBTAINED FROM AS-BUILT PLANS @ PASS MTN. DIVERSION.
 341          KM   WEIR STORAGE DATA OBTAINED FROM 2' CONTOUR MAPPING.
 342          RS       1    STOR       0
 343          SA       8     9.2     9.2
 344          SE       0       7      10
 345          SS       7     251       3     1.5
              * DDM   ***** Preserved *****
1                                          HEC-1 INPUT                                                    PAGE 10

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

 346          KK   RR200
 347          KM   ROUTE FLOW FROM SUB-BASIN 200 TO SIGNAL BUTTE FRS
 348          RS       3    FLOW      -1
 349          RC    .035    .025    .035    3150    .005
 350          RX       0       1       2      17     117     132     133     134
 351          RY       5       5       5       0       0       5       5       5
              * DDM   ***** Preserved *****

 352          KK   CC180
 353          KM   HYDROGRAPH COMBINATION FOR SIGNAL BUTTE FRS
              *      1       2
 354          HC       2
              * DDM   ***** Preserved *****

 355          KK    S180
 356          KM   SIGNAL BUTTE FRS DATED 1/28/85
 357          KM   OUTLET PIPE=36"RCP; L= 147';  INLET INV.=1690; OUTLET INV.=1687
 358          KM   EMERGENCY SPILLWAY ELEV.=1712.4; PRINCIPLE SPILLWAY ELEV.=1701
 359          KM   STORAGE VOLUME BELOW PRINCIPLE SPILLWAY FOR SEDIMENT = 250 ACRE-FEET
              *  ESE = 1714.63 ft; PSE = 1703.23 ft; Sediment Vol. = 247 Ac-Ft.
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360          RS       1    STOR       0
361          SV       0      92     226     462     742    1197    1418    1776    1941    3114
362          SQ       0      10    10.5      98     133     149     155    1484    2567    6000
363          SE      99     101   103.0     106     109   113.0   114.6     117     118     120
             * DDM   ***** Preserved *****

364          KK    R180
365          KM   Routing length updated using Signal Butte Floodway plans dated March 1983
366          KM   Routing length increased 100' from 1500' to 1600'    12/12/00
367          KM   CHANNEL GEOMETRY FOR SIGNAL BUTTE FRS OBTAINED FROM AS-BUILT PLANS.
368          KM   ROUTE FLOW FROM SIGNAL BUTTE FRS TO SUB-BASIN 260
369          RS       2    FLOW      -1
370          RC    .035    .025    .035    1600    .003
371          RX       0       1       2    22.6    38.6    59.2      60      61
372          RY     9.3     9.3     9.3       0       0     9.3     9.3     9.3
             * DDM   ***** Updated *****

373          KK     260
374          KM   SUB-BASIN 260
375          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
376          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .998
377          KM     L =  .81  Kb = .049  Adj. Slope =   68.0
378          BA    .262
379          LG    .300    .190   6.600    .170  15.000
380          UC    .363    .217
381          UA       0       5      16      30      65      77      84      90      94      97
382          UA     100
             * DDM   ***** Preserved *****
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LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

383          KK    C260
384          KM   HYDROGRAPH COMBINATION FOR OUTFLOW OF SIGNAL BUTTE FRS & SUB-BASIN 260
385          HC       2    .262
             * DDM   ***** Preserved *****

386          KK    R260
387          KM   Routing length updated using Signal Butte Floodway plans dated March 1983
388          KM   Routing length unchanged     12/12/00
389          KM   CHANNEL GEOMETRY FOR SIGNAL BUTTE FRS OBTAINED FROM AS-BUILT PLANS.
390          KM   ROUTE FLOW FROM SUB-BASIN 260 TO SUB-BASIN 280
391          RS       3    FLOW      -1
392          RC    .035    .025    .035    2300    .003
393          RX       0       1       2    23.4    43.4    64.8      65      66
394          RY     9.7     9.7     9.7       0       0     9.7     9.7     9.7
             * DDM   ***** Updated *****

395          KK     280
396          KM   SUB-BASIN 280
397          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
398          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .998
399          KM     L =  .77  Kb = .048  Adj. Slope =   84.0
400          BA    .319
401          LG    .300    .250   5.300    .290  15.000
402          UC    .329    .168
403          UA       0       5      16      30      65      77      84      90      94      97
404          UA     100
             * DDM   ***** Preserved *****

405          KK    C280
406          KM   HYDROGRAPH COMBINATION FOR SUB-BASIN 260 & SUB-BASIN 280
407          HC       2
             * DDM   ***** Preserved *****

408          KK    R280
409          KM   Routing length updated using Signal Butte Floodway plans dated March 1983
410          KM   Routing length decreased 400' from 2500' to 2100'    12/12/00
411          KM   CHANNEL GEOMETRY FOR SIGNAL BUTTE FRS OBTAINED FROM AS-BUILT PLANS.
412          KM   ROUTE FLOW FROM SUB-BASIN 280 TO SUB-BASIN 300
413          RS       3    FLOW      -1
414          RC    .035    .025    .035    2100    .003
415          RX       0       1       2    23.4    43.4    64.8      65      66
416          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 *****

417          KK     300
418          KM   SUB-BASIN 300
419          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
420          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .998
421          KM     L =  .78  Kb = .049  Adj. Slope =  103.0
422          BA    .289
423          LG    .320    .290   4.200    .480  11.000
424          UC    .325    .177
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LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

425          UA       0       5      16      30      65      77      84      90      94      97
426          UA     100
             * DDM   ***** Preserved *****
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427          KK    C300
428          KM   HYDROGRAPH COMBINATION OF SUB-BASIN 280 & 300
429          HC       2
             * DDM   ***** Preserved *****

430          KK    R300
431          KM   Routing length updated using Signal Butte Floodway plans dated March 1983
432          KM   Routing length increased 300' from 2200' to 2500'    12/12/00
433          KM   CHANNEL GEOMETRY FOR SIGNAL BUTTE FRS OBTAINED FROM AS-BUILT PLANS.
434          KM   ROUTE FLOW FROM SUB-BASIN 300 TO START OF FLOODWAY CONCRETE CHANNEL
435          RS       2    FLOW      -1
436          RC    .035    .025    .035    2500    .003
437          RX       0       1       2    23.4    55.4    76.8      77      78
438          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 *****

439          KK     305
440          KM   SUB-BASIN 305
441          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
442          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .996
443          KM     L = 2.50  Kb = .044  Adj. Slope =  116.0
444          BA    .702
445          LG    .340    .340   4.550    .350   6.000
446          UC    .642    .576
447          UA       0       5      16      30      65      77      84      90      94      97
448          UA     100
             * DDM   ***** Preserved *****

449          KK    C305
450          KM   HYDROGRAPH COMBINATION OF SUB-BASIN 300 AND 305
451          HC       2
             * DDM   ***** Preserved *****

452          KK    R305
453          KM   Routing length updated using Signal Butte Floodway plans dated March 1983
454          KM   Routing length decreased 50' from 6050' to 6000'     12/12/00
455          KM   CHANNEL GEOMETRY FOR SPOOK HILL FRS OBTAINED FROM AS-BUILTS PLANS.
456          KM   CONTINUE TO ROUTE FLOW WITHIN CONCRETE CHANNEL TO SPOOK HILL FRS
457          RS       3    FLOW      -1
458          RC    .016    .016    .016    6000   .0146
459          RX       0       1       2     2.1    16.1    16.2      17      18
460          RY     7.5     7.5     7.5       0       0     7.5     7.5     7.5
             *      1       2
             * DDM   ***** Updated *****
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LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

461          KK     350
462          KM   SUB-BASIN 350
463          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
464          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .994
465          KM     L = 2.22  Kb = .042  Adj. Slope =  315.0
466          BA    .970
467          LG    .350    .350   4.550    .340   4.000
468          UC    .367    .234
469          UA       0       3       5       8      12      20      43      75      90      96
470          UA     100
             * DDM   ***** Preserved *****

471          KK    D350
472          KM   DIVERT FLOW FROM SUB-BASIN 350. FOR MODELING PURPOSES THE SPLIT FLOW WILL
473          KM   BE ROUTED BETWEEN SUB-BASINS 355 & 310. THE MAIN FLOW WILL ROUTED TO 310
474          DT   SF350
475          DI       0    5000
476          DQ       0    2500
             * DDM   ***** Preserved *****

477          KK    R350
478          KM   CHANNEL GEOMETRY OBTAINED FROM 2' CONTOUR MAPPING
479          KM   ROUTING OF MAIN FLOW FROM DIVERSION OF SUB-BASIN 350 TO SUB-BASIN 310
480          RS       6    FLOW      -1
481          RC    .045    .035    .045    5150    .025
482          RX       0       1      40      46      56      62     102     103
483          RY       3       2       2       0       0       2       2       3
             * DDM   ***** Updated *****

484          KK     310
485          KM   SUB-BASIN 310
486          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
487          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .997
488          KM     L = 2.70  Kb = .045  Adj. Slope =  283.5
489          BA    .555
490          LG    .350    .350   3.910    .480    .000
491          UC    .483    .511
492          UA       0       3       5       8      12      20      43      75      90      96
493          UA     100
             * DDM   ***** Preserved *****

494          KK    C310
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495          KM   HYDROGRAPH COMBINATION OF SUB-BASINS 350 & 310
496          HC       2    1.04
             * DDM   ***** Preserved *****

497          KK    R310
498          KM   CHANNEL GEOMETRY OBTAINED FROM 2' CONTOUR MAPPING.
499          KM   ROUTING OF FLOW FROM SUB-BASIN 310 TO 320
500          RS      10    FLOW      -1
501          RC    .045    .035    .045   10050    .022
502          RX       0       1      40      46      56      62     102     103
503          RY       3       2       2       0       0       2       2       3
             *
             * The sub-basin area and soil make-up have been updated from CAD file 12/07/00
             * DDM   ***** Updated *****
1                                          HEC-1 INPUT                                                    PAGE 14

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

504          KK     320
505          KM   SUB-BASIN 320
506          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
507          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .994
508          KM     L = 2.20  Kb = .042  Adj. Slope =  132.0
509          BA    .950
510          LG    .310    .300   4.600    .350  14.000
511          UC    .508    .338
512          UA       0       5      16      30      65      77      84      90      94      97
513          UA     100
             * DDM   ***** Preserved *****

514          KK    D320
515          KM        DIVERT FLOW INTO ONLINE  DETENTION BASIN
516          KM   DETENTION/RETENTION BASINS LOCATED WITHIN THREE SUBDIVISIONS
517          KM   SIERRA HEIGHTS       FALCON RIDGE    & MARBLE CREEK
518          KM        MAXIMUM VOLUME DIVERSION = 12.27acre-feet
             *      1
519          DT   BS320   12.27
520          DI       0   10000
521          DQ       0   10000
             * DDM   ***** Preserved *****

522          KK   RT320
523          KM   RETRIEVE FLOW FROM DIVERSION INTO ONLINE BASIN
524          DR   BS320
             * DDM   ***** Preserved *****

525          KK    S320
526          KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
527          KM   12.27 ACRE-FEETx43560/36x3600=4.1cfs
             *      1
528          RS       1    STOR       0
529          SV       0     .01    12.3
530          SQ       0     3.0     4.2
             * DDM   ***** Preserved *****

531          KK    C320
532          KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
533          HC       4
             * DDM   ***** Updated *****

534          KK     340
535          KM   SUB-BASIN 340
536          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
537          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .991
538          KM     L = 2.40  Kb = .042  Adj. Slope =  160.0
539          BA   1.440
540          LG    .280    .280   4.150    .520  21.000
541          UC    .512    .288
542          UA       0       5      16      30      65      77      84      90      94      97
543          UA     100
             * DDM   ***** Preserved *****
1                                          HEC-1 INPUT                                                    PAGE 15

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

544          KK    D340
545          KM        DIVERT FLOW INTO ONLINE  DETENTION BASIN
546          KM   DETENTION/RETENTION BASINS LOCATED WITHIN THREE SUBDIVISIONS
547          KM   GRANDVIEW ESTATES    BOULDER MOUNTAIN & 33% OF MESA HIGHLANDS
548          KM        MAXIMUM VOLUME DIVERSION = 56.0 acre-feet
             *      1
549          DT   BS340      56
550          DI       0   10000
551          DQ       0   10000
             * DDM   ***** Preserved *****

552          KK   RT340
553          KM   RETRIEVE FLOW FROM DIVERSION INTO ONLINE BASIN
554          DR   BS340
             * DDM   ***** Preserved *****

555          KK    S340
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556          KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
557          KM    56.0 ACRE-FEETx43560/36x3600=18.8cfs
             *      1
558          RS       1    STOR       0
559          SV       0     .01      56
560          SQ       0     3.0    18.9
             * DDM   ***** Preserved *****

561          KK    C340
562          KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
563          HC       3
             * DDM   ***** Preserved *****

564          KK   RT350
565          KM   RETRIEVE SPLIT FLOW FROM DIVERSION OF SUB-BASIN 350
566          DR   SF350
             * DDM   ***** Preserved *****

567          KK   RR350
568          KM   CHANNEL GEOMETRY OBTAINED FROM 2' CONTOUR MAPPING.
569          KM   ROUTING OF FLOW FROM SPLIT OF SUB-BASIN 350 TO 355
570          RS       7    FLOW      -1
571          RC    .045    .035    .045    6050    .025
572          RX       0       1      40      46      56      62     102     103
573          RY       3       2       2       0       0       2       2       3
             *
             * The sub-basin area and soil make-up have been updated from CAD file 12/07/00
             * DDM   ***** Updated *****

574          KK     355
575          KM   SUB-BASIN 355
576          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
577          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .996
578          KM     L = 3.00  Kb = .044  Adj. Slope =  284.0
579          BA    .676
580          LG    .340    .340   4.450    .370   4.000
581          UC    .488    .502
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LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

582          UA       0       3       5       8      12      20      43      75      90      96
583          UA     100
             * DDM   ***** Preserved *****

584          KK    C355
585          KM   HYDROGRAPH COMBINATION OF SUB-BASIN 355 AND THE SPLIT FLOW FROM SUB-BASIN 350
586          HC       2   1.161
             * DDM   ***** Preserved *****

587          KK    R355
588          KM   CHANNEL GEOMETRY OBTAINED FROM 2' CONTOUR MAPPING.
589          KM   ROUTING OF FLOW FROM SUB-BASIN 355 TO SUB-BASIN 360
590          RS       9    FLOW      -1
591          RC    .045    .035    .045   10100    .026
592          RX       0       1      40      46      56      62     102     103
593          RY       3       2       2       0       0       2       2       3
             * DDM   ***** Updated *****

594          KK     360
595          KM   SUB-BASIN 360
596          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
597          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .995
598          KM     L = 2.10  Kb = .047  Adj. Slope =  124.0
599          BA    .880
600          LG    .260    .270   4.100    .560  20.000
601          UC    .575    .390
602          UA       0       5      16      30      65      77      84      90      94      97
603          UA     100
             * DDM   ***** Preserved *****

604          KK    D360
605          KM        DIVERT FLOW INTO ONLINE  DETENTION BASIN
606          KM   DETENTION/RETENTION BASINS LOCATED WITHIN 33% OF MESA HIGHLANDS
607          KM        MAXIMUM VOLUME DIVERSION = 28.6 acre-feet
             *      1
608          DT   BS360    28.6
609          DI       0   10000
610          DQ       0   10000
             * DDM   ***** Preserved *****

611          KK   RT360
612          KM   RETRIEVE FLOW FROM DIVERSION INTO ONLINE BASIN
613          DR   BS360
             * DDM   ***** Preserved *****

614          KK    S360
615          KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
616          KM    28.6 ACRE-FEETx43560/36x3600=9.6cfs
617          RS       1    STOR       0
618          SV       0     .01    28.6
619          SQ       0     3.0     9.6
             * DDM   ***** Preserved *****
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 620          KK    C360
 621          KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
 622          HC       4
              *
              * DDM   ***** Updated *****

 623          KK     380
 624          KM   SUB-BASIN 380
 625          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
 626          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .995
 627          KM     L = 2.20  Kb = .049  Adj. Slope =  114.0
 628          BA    .898
 629          LG    .300     .310   4.150     .500   7.000
 630          UC    .671     .475
 631          UA      0        5      16       30      65      77      84      90      94      97
 632          UA    100
              * DDM   ***** Preserved *****

 633          KK    D380
 634          KM        DIVERT FLOW INTO ONLINE  DETENTION BASIN
 635          KM   DETENTION/RETENTION BASINS LOCATED WITHIN 33% OF MESA HIGHLANDS
 636          KM        MAXIMUM VOLUME DIVERSION = 28.6 acre-feet
              *      1
 637          DT   BS380    28.6
 638          DI       0   10000
 639          DQ       0   10000
              * DDM   ***** Preserved *****

 640          KK   RT380
 641          KM   RETRIEVE FLOW FROM DIVERSION INTO ONLINE BASIN
 642          DR   BS380
              * DDM   ***** Preserved *****

 643          KK    S380
 644          KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
 645          KM    28.6 ACRE-FEETx43560/36x3600=9.6cfs
 646          RS       1    STOR       0
 647          SV       0     .01    28.6
 648          SQ       0     3.0     9.6
              * DDM   ***** Preserved *****

 649          KK    C380
 650          KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
 651          HC       3
              * DDM   ***** Updated *****

 652          KK     400
 653          KM   SUB-BASIN 400
 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  .996
 656          KM     L = 1.64  Kb = .046  Adj. Slope =  110.0
 657          BA    .616
 658          LG    .320     .300   4.150     .490   6.000
 659          UC    .508     .342
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 660          UA      0        5      16       30      65      77      84      90      94      97
 661          UA    100
              * DDM   ***** Preserved *****

 662          KK    D400
 663          KM        DIVERT FLOW INTO ONLINE  DETENTION BASIN
 664          KM   DETENTION/RETENTION BASIN LOCATED WITHIN SAGUARO VISTA SUBDIVISION
 665          KM        MAXIMUM VOLUME DIVERSION = 5.6 ACRE-FEET
              *      1
 666          DT   BS400     5.6
 667          DI       0   10000
 668          DQ       0   10000
              * DDM   ***** Preserved *****

 669          KK   RT400
 670          KM   RETRIEVE FLOW FROM DIVERSION INTO ONLINE BASIN
 671          DR   BS400
              * DDM   ***** Preserved *****

 672          KK    S400
 673          KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
 674          KM     5.6 ACRE-FEETx43560/36x3600 = 2 cfs
 675          RS       1    STOR       0
 676          SV       0     .01     5.6
 677          SQ       0       1       2
              * DDM   ***** Preserved *****

 678          KK    C400
 679          KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
 680          HC       2
              * DDM   ***** Preserved *****

 681          KK   CC400
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682          KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
683          HC       2
             *
             * DDM   ***** Updated *****

684          KK    420A
685          KM   SUB-BASIN 420A
686          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
687          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .997
688          KM     L = 1.91  Kb = .045  Adj. Slope =  120.0
689          BA    .570
690          LG    .320    .280   4.350    .440  10.000
691          UC    .521    .415
692          UA       0       5      16      30      65      77      84      90      94      97
693          UA     100
             * DDM   ***** Preserved *****
1                                          HEC-1 INPUT                                          PAGE 19

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

694          KK   D420A
695          KM        DIVERT FLOW INTO ONLINE  DETENTION BASIN
696          KM   DETENTION/RETENTION BASINS LOCATED WITHIN GRAY FOX SUBDIVISION
697          KM        MAXIMUM VOLUME DIVERSION = 8.65 acre-feet
             *      1
698          DT  BS420A    8.65
699          DI       0   10000
700          DQ       0   10000
             * DDM   ***** Preserved *****

701          KK  RT420A
702          KM   RETRIEVE FLOW FROM DIVERSION INTO ONLINE BASIN
703          DR  BS420A
             * DDM   ***** Preserved *****

704          KK   S420A
705          KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
706          KM   38.55 ACRE-FEETx43560/36x3600=13cfs
707          RS       1    STOR       0
708          SV       0     .01   38.55
709          SQ       0      13      13
             * DDM   ***** Preserved *****

710          KK   C420A
711          KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
712          HC       3
             *
             * The sub-basin area and soil make-up have been updated from CAD file 12/07/00
             * DDM   ***** Updated *****

713          KK     370
714          KM   SUB-BASIN 370
715          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
716          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .996
717          KM     L = 1.90  Kb = .044  Adj. Slope =  203.5
718          BA    .672
719          LG    .340    .320   4.650    .330   8.000
720          UC    .404    .284
721          UA       0       3       5       8      12      20      43      75      90      96
722          UA     100
             *
             * The sub-basin area and soil make-up have been updated from CAD file 12/07/00
             * DDM   ***** Updated *****

723          KK     395
724          KM   SUB-BASIN 395
725          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
726          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .999
727          KM     L = 1.30  Kb = .051  Adj. Slope =  219.2
728          BA    .199
729          LG    .330    .320   4.900    .300  10.000
730          UC    .333    .338
731          UA       0       3       5       8      12      20      43      75      90      96
732          UA     100
             * DDM   ***** Preserved *****
1                                          HEC-1 INPUT                                          PAGE 20

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

733          KK    C370
734          KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
             * KO     1
735          HC       2
             * DDM   ***** Preserved *****

736          KK    D370
737          KM   DIVERT FLOW INTO OFFLINE DETENTION BASIN LOCATED WITHIN SUB-BASINS
738          KM   370 AND 395.
             * KO     1
739          DT   BS370
740          DI       0     140    5000
741          DQ       0       0    4860
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            * DDM   ***** Preserved *****

742         KK   RT370
743         KM   RETRIEVE FLOW FROM DIVERSION
744         DR   BS370
            * DDM   ***** Preserved *****

745         KK    S370
746         KM   RETRIEVE FLOW INTO OFFLINE BASIN AND BLEED OFF WITHIN 36 HOURS.
747         KM      30 ACRE-FEETx43560/36x3600 = 10cfs
748         RS       1    STOR       0
749         SV       0     .01      34      40
750         SQ       0       4      10      12
            * DDM   ***** Preserved *****

751         KK   CC370
752         KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
753         HC       2
            * DDM   ***** Preserved *****

754         KK    R370
755         KM   CHANNEL GEOMETRY OBTAINED FROM 2' CONTOUR MAPPING.
756         KM   ROUTING OF FLOW FROM SUB-BASINS 370 AND 395 TO SUB-BASIN 380.
757         RS       4    FLOW      -1
758         RC    .045    .035    .045    2600    .023
759         RX       0       1      40      46      56      62     102     103
760         RY       3       2       2       0       0       2       2       3
            * DDM   ***** Updated *****

761         KK     390
762         KM   SUB-BASIN 390
763         KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
764         KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .999
765         KM     L =  .70  Kb = .050  Adj. Slope =  299.4
766         BA    .244
767         LG    .300    .250   4.700    .380  18.000
768         UC    .204    .107
769         UA       0       5      16      30      65      77      84      90      94      97
770         UA     100
            * DDM   ***** Preserved *****
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LINE        ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

771         KK    D390
772         KM        DIVERT FLOW INTO ONLINE  DETENTION BASIN
773         KM   DETENTION/RETENTION BASINS LOCATED WITHIN THUNDER MOUNTAIN ESTATES
774         KM        MAXIMUM VOLUME DIVERSION  = 3.5 acre-feet
            *      1
775         DT   BS390     3.5
776         DI       0   10000
777         DQ       0   10000
            * DDM   ***** Preserved *****

778         KK   RT390
779         KM   RETRIEVE FLOW FROM DIVERSION INTO ONLINE BASIN
780         DR   BS390
            * DDM   ***** Preserved *****

781         KK    S390
782         KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
783         KM     3.5 ACRE-FEETx43560/36x3600=1.2cfs
784         RS       1    STOR       0
785         SV       0     .01     3.5
786         SQ       0     1.2     1.2
            * DDM   ***** Preserved *****

787         KK    C390
788         KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
789         HC       3
            * DDM   ***** Preserved *****

790         KK    R390
791         KM   CHANNEL GEOMETRY OBTAINED FROM 2' CONTOUR MAPPING.
792         KM   FROM SUB-BASIN 390 TO SUB-BASIN 420B
793         RS       7    FLOW      -1
794         RC    .045    .045    .045    5500    .020
795         RX       0       1      40      46      56      62     102     103
796         RY       3       2       2       0       0       2       2       3
            * DDM   ***** Updated *****

797         KK    420B
798         KM   SUB-BASIN 420B
799         KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
800         KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .998
801         KM     L = 1.00  Kb = .049  Adj. Slope =  150.0
802         BA    .279
803         LG    .300    .250   3.910    .590  15.000
804         UC    .333    .226
805         UA       0       5      16      30      65      77      84      90      94      97
806         UA     100
            * DDM   ***** Preserved *****
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 807          KK   C420B
 808          KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
 809          HC       2
              * DDM   ***** Updated *****

 810          KK     385
 811          KM   SUB-BASIN 385
 812          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
 813          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .997
 814          KM     L = 2.30  Kb = .045  Adj. Slope =  303.0
 815          BA    .527
 816          LG    .340    .360   5.600    .220  13.000
 817          UC    .383    .358
 818          UA       0       3       5       8      12      20      43      75      90      96
 819          UA     100
              * DDM   ***** Updated *****

 820          KK    415C
 821          KM   SUB-BASIN 415C
 822          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
 823          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .998
 824          KM     L = 1.59  Kb = .048  Adj. Slope =  315.0
 825          BA    .329
 826          LG    .340    .340   5.300    .240  14.000
 827          UC    .308    .274
 828          UA       0       5      16      30      65      77      84      90      94      97
 829          UA     100
              * DDM   ***** Preserved *****

 830          KK   C415C
 831          KM   HYDROGRAPH COMBINATION OF 415 DIVERSION.
              * KO      1
 832          HC       2
              * DDM   ***** Preserved *****

 833          KK   D415C
 834          KM   DIVERT FLOW INTO OFFLINE DETENTION BASIN
 835          KM   MAXIMUM STORAGE VOLUME FOR DIVERSION = 15 AC-FT @ 5' DEPTH.
              * KO      1
 836          DT  BS415C
 837          DI       0     190    5000
 838          DQ       0       0    4810
              * DDM   ***** Preserved *****

 839          KK  RT415C
 840          KM   RETRIEVE FLOW FROM DIVERSION INTO OFFLINE BASIN
 841          DR  BS415C
              * DDM   ***** Preserved *****
1                                        HEC-1 INPUT                                          PAGE 23

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

 842          KK   S415C
 843          KM   RETRIEVE FLOW INTO OFFLINE BASIN AND BLEED OFF WITHIN 36 HOURS.
 844          KM      32 ACRE-FEETx43560/36x3600 = 11cfs
 845          RS       1    STOR       0
 846          SV       0     .01      32      40
 847          SQ       0       5      10      12
              * DDM   ***** Preserved *****

 848          KK  CC415C
 849          KM   HYDROGRAPH COMBINATION OF 415 DIVERSION.
 850          HC       2
              * DDM   ***** Preserved *****

 851          KK   R415C
 852          KM   CHANNEL GEOMETRY OBTAINED FROM 2' CONTOUR MAPPING.
 853          KM   ROUTING OF FLOW FROM 415C TO 415B
 854          RS       4    FLOW      -1
 855          RC    .045     .03    .045    2500    .024
 856          RX       0       1      40      46      56      62     102     103
 857          RY       3       2       2       0       0       2       2       3
              * DDM   ***** Updated *****

 858          KK    415B
 859          KM   SUB-BASIN 415B
 860          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
 861          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF 1.000
 862          KM     L =  .53  Kb = .058  Adj. Slope =  151.0
 863          BA    .063
 864          LG    .300    .250   4.100    .550  15.000
 865          UC    .242    .223
 866          UA       0       5      16      30      65      77      84      90      94      97
 867          UA     100
              * DDM   ***** Preserved *****

 868          KK   C415B
 869          KM   HYDROGRAPH COMBINATION OF SUB-BASINS 385, 415C, AND 415B.
 870          HC       2
              * DDM   ***** Preserved *****
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871          KK   R415B
872          KM   CHANNEL GEOMETRY OBTAINED FROM 2' CONTOUR MAPPING.
873          KM   ROUTING OF FLOW FROM R415C AND SUB BASIN 415B
874          RS       4    FLOW      -1
875          RC    .045    .035    .045    2900    .021
876          RX       0       1      40      46      56      62     102     103
877          RY       4       2       2       0       0       2       2       4
             *
             * DDM   ***** Updated *****
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LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

878          KK     440
879          KM   SUB-BASIN 440
880          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
881          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF 1.000
882          KM     L =  .40  Kb = .039  Adj. Slope =  315.0
883          BA    .080
884          LG    .190    .380   6.400    .140  13.000
885          UC    .129    .077
886          UA       0       3       5       8      12      20      43      75      90      96
887          UA     100
             * DDM   ***** Preserved *****

888          KK     R70
889          KM   ROUTE FLOW FROM SUB-BASIN 440 TO C108
890          RS       2    FLOW      -1
891          RC     .05    .035     .05    2250     .08
892          RX    1000    1025    1050    1070    1075    1095    1120    1145
893          RY      30    22.9    15.7      10      10    15.7    22.9      30
             * DDM   ***** Updated *****

894          KK     441
895          KM   SUB-BASIN 441
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 1.000
898          KM     L =  .28  Kb = .069  Adj. Slope =  315.0
899          BA    .010
900          LG    .300    .250   5.600    .220   5.000
901          UC    .150    .225
902          UA       0       5      16      30      65      77      84      90      94      97
903          UA     100
             * DDM   ***** Preserved *****

904          KK    C108
905          KM   COMBINE HYDROGRAPHS FROM SUB-BASINS 440 & 441
906          HC       2
             * DDM   ***** Preserved *****

907          KK      D4
908          KM        SPLIT FLOW WITH TWO 42 INCH PIPES TO WEST AND SOUTH
             *      1
909          DT   SPLIT
910          DI       0      14      40      82     120     154     180
911          DQ       0       7      20      41      60      77      90
             * DDM   ***** Preserved *****

912          KK    R108
913          KM        ROUTE FLOW FROM SUB-BASIN C108 TO C67
914          RS       2    FLOW      -1
915          RC     .05    .035     .05    3200      .1
916          RX    1000    1025    1050    1070    1075    1095    1120    1145
917          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

918          KK     442
919          KM   SUB-BASIN 442
920          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
921          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .999
922          KM     L =  .83  Kb = .055  Adj. Slope =  274.2
923          BA    .100
924          LG    .300    .270   3.290    .770   5.000
925          UC    .258    .264
926          UA       0       5      16      30      65      77      84      90      94      97
927          UA     100
             * DDM   ***** Preserved *****

928          KK     C67
929          KM   COMBINE FLOW FROM SUB-BASIN 442 & DIV4
930          HC       2
             * DDM   ***** Preserved *****

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

937          KK    RTD6
938          KM   RETRIEVE FLOW FROM DIVERSION INTO OFFLINE BASIN
939          DR  BASIN4
             * DDM   ***** Preserved *****

940          KK     SD6
941          KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
942          KM     3.3 ACRE-FEETx43560/36x3600=1.1cfs
             *      1
943          RS       1    STOR       0
944          SV       0     .01     3.3
945          SQ       0     0.2     1.1
             * DDM   ***** Preserved *****

946          KK     CD6
947          KM   HYDROGRAPH COMBINATION FOR OFFLINE BASIN BLEEDOFF
948          HC       2
             * DDM   ***** Updated *****

949          KK     443
950          KM   SUB-BASIN 443
951          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
952          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF 1.000
953          KM     L =  .71  Kb = .050  Adj. Slope =  315.0
954          BA    .080
955          LG    .250    .190   8.000    .080  10.000
956          UC    .196    .194
957          UA       0       5      16      30      65      77      84      90      94      97
1                                        HEC-1 INPUT                                          PAGE 26

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

958          UA     100
             * DDM   ***** Preserved *****

959          KK     D66
960          KM        DIVERT FLOW INTO 3 NATURAL WASHES WITH ONE 24" PIPE IN EACH WASH.
961          KM        EACH PIPE CAPACITY BASED ON 4 FEET OF HEAD
962          DT   WSH66
963          DI       0      78     100     200
964          DQ       0      78      78      78
             * DDM   ***** Preserved *****

965          KK    R113
966          KM        ROUTE FLOW FROM C113 TO C114
967          RS       1    FLOW      -1
968          RC    .019    .019    .019    1300    .029
969          RX    1000    1004    1008    1012    1018    1022    1026    1030
970          RY      17   15.33   12.67      10      10   12.67   15.33      17
             * DDM   ***** Preserved *****

971          KK    C114
972          KM        COMBINE HYDROGRAPHS FROM SUB-BASIN 67 AND C113
973          HC       2
             * DDM   ***** Updated *****

974          KK     444
975          KM   SUB-BASIN 444
976          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
977          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF 1.000
978          KM     L =  .33  Kb = .034  Adj. Slope =  315.0
979          BA    .040
980          LG    .130    .350   4.450    .320   1.000
981          UC    .112    .084
982          UA       0       3       5       8      12      20      43      75      90      96
983          UA     100
             * DDM   ***** Preserved *****

984          KK     R58
985          KM   ROUTE FLOW FROM SUB-BASIN 444 TO C107
986          RS       2    FLOW      -1
987          RC     .05    .035     .05    2370   .0516
988          RX    1000    1010    1020    1050    1055    1085    1095    1105
989          RY      19      18      17      10      10      17      18      19
             * DDM   ***** Updated *****

990          KK     445
991          KM   SUB-BASIN 445
992          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
993          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .999
994          KM     L =  .82  Kb = .036  Adj. Slope =  315.0
995          BA    .190
996          LG    .170    .320   3.470    .590   3.000
997          UC    .192    .130
998          UA       0       5      16      30      65      77      84      90      94      97
999          UA     100
             * DDM   ***** Preserved *****
2                                        HEC-1 INPUT                                          PAGE 27

LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10
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1000        KK    C107
1001        KM   COMBINE HYDROGRAPHS FROM SUB-BASINS 444 & 445
1002        HC       2
            * DDM   ***** Preserved *****

1003        KK    R107
1004        KM        ROUTE FLOW FROM C107 TO C109
1005        RS       2    FLOW      -1
1006        RC     .05    .035     .05     700   .0516
1007        RX    1000    1010    1020    1050    1055    1085    1095    1105
1008        RY      19      18      17      10      10      17      18      19
            * DDM   ***** Preserved *****

1009        KK    RTB2
1010        KM         RETRIEVE DIVERTED FLOW FROM BASIN 1
            *      1
1011        DR   SPLIT
            * DDM   ***** Preserved *****

1012        KK  RSPLIT
1013        KM        ROUTE FLOW FROM SPLIT TO C109
1014        RS       1    FLOW      -1
1015        RC     .05    .035     .05     800     .05
1016        RX    1000    1025    1050    1070    1075    1095    1120    1145
1017        RY      30    22.9    15.7      10      10    15.7    22.9      30
            * DDM   ***** Updated *****

1018        KK     446
1019        KM   SUB-BASIN 446
1020        KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1021        KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF 1.000
1022        KM     L =  .46  Kb = .061  Adj. Slope =  303.9
1023        BA    .040
1024        LG    .270    .250   4.500    .400  19.000
1025        UC    .183    .189
1026        UA       0       5      16      30      65      77      84      90      94      97
1027        UA     100
            * DDM   ***** Preserved *****

1028        KK    C109
1029        KM        COMBINE HYDROGRAPHS FROM COMBINES C107 AND C108
1030        HC       3
            * DDM   ***** Preserved *****

1031        KK      D5
1032        KM        DIVERT FLOW INTO WASHES TOWARDS WEST
1033        KM        DIVERSION THROUGH 36" PIPE WITH 3 FEET OF HEAD
            *      1
1034        DT  WSH404
1035        DI       0    40.7    71.2   121.6     190     276   379.4   500.6
1036        DQ       0      35      35      35      35      35      35      35
            * DDM   ***** Preserved *****
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LINE        ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1037        KK    R109
1038        KM        ROUTE FLOW FROM C109 TO C110
1039        RS       1    FLOW      -1
1040        RC    .019    .019    .019    3080     .05
1041        RX    1000    1005    1010    1015    1025    1030    1035    1040
1042        RY   13.75    12.5   11.25      10      10   11.25    12.5   13.75
            * DDM   ***** Updated *****

1043        KK     447
1044        KM   SUB-BASIN 447
1045        KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1046        KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .999
1047        KM     L =  .49  Kb = .056  Adj. Slope =  221.0
1048        BA    .090
1049        LG    .250    .270   3.350    .870  30.000
1050        UC    .208    .145
1051        UA       0       5      16      30      65      77      84      90      94      97
1052        UA     100
            * DDM   ***** Preserved *****

1053        KK   RT404
1054        KM         RETRIEVE DIVERTED FLOW FOR WASH 109
1055        DR  WSH404
            * DDM   ***** Preserved *****

1056        KK    R404
1057        KM        ROUTE FLOW FROM C110 TO C110
1058        RS       6    FLOW      -1
1059        RC    .019    .019    .019    3540     .03
1060        RX    1000    1012    1016    1020    1025    1029    1033    1045
1061        RY      15      12      11      10      10      11      12      15
            * DDM   ***** Preserved *****

1062        KK    C110
1063        KM   COMBINE HYDROGRAPHS FROM SUB-BASIN 447 AND R404
1064        HC       3
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                 * DDM   ***** Preserved *****

1065             KK    R110
1066             KM        ROUTE FLOW FROM C110 TO C115
1067             RS       1    FLOW      -1
1068             RC    .019    .019    .019     580    .0291
1069             RX    1000    1012    1016    1020    1035    1039    1043    1055
1070             RY      15      12      11      10      10      11      12      15
                 * DDM   ***** Preserved *****

1071             KK    C115
1072             KM        COMBINE HYDROGRAPHS FROM C114 AND C110
1073             HC       2
                 * DDM   ***** Preserved *****
1                                          HEC-1 INPUT                                                    PAGE 29

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

1074             KK    R115
                 * ******OUTFLOW FROM THIS ROUTING IS GREATER THAN INFLOW TO THE
                 * ******ROUTING BY 2cfs.  THIS IS NOTED BUT LEFT UNCHANGED WITHIN THE MODEL
1075             KM        ROUTE FLOW FROM C115 TO Sub 453
1076             RS       1    FLOW      -1
1077             RC    .019    .019    .019    2125    .029
1078             RX    1000    1012    1016    1020    1035    1039    1043    1055
1079             RY      15      12      11      10      10      11      12      15
                 * DDM   ***** Updated *****

1080             KK     448
1081             KM   SUB-BASIN 448
1082             KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1083             KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF 1.000
1084             KM     L =  .36  Kb = .042  Adj. Slope =  315.0
1085             BA    .045
1086             LG    .170    .310   4.200    .390  11.000
1087             UC    .133    .102
1088             UA       0       5      16      30      65      77      84      90      94      97
1089             UA     100
                 * DDM   ***** Updated *****

1090             KK     449
1091             KM   SUB-BASIN 449
1092             KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1093             KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF 1.000
1094             KM     L =  .40  Kb = .054  Adj. Slope =  315.0
1095             BA    .050
1096             LG    .260    .280   3.500    .640   6.000
1097             UC    .167    .134
1098             UA       0       5      16      30      65      77      84      90      94      97
1099             UA     100
                 * DDM   ***** Preserved *****

1100             KK   C6364
1101             KM   COMBINE HYDROGRAPHS FROM SUB-BASINS 448 & 449
1102             HC       2
                 * DDM   ***** Preserved *****

1103             KK   R6364
1104             KM   ROUTE FLOW FROM C116 AND SUB-BASINS 448 AND 449
1105             RS       5    FLOW      -1
1106             RC     .05    .035     .05    4375   .0333
1107             RX    1000    1027    1053    1080    1090    1117    1143    1170
1108             RY      15   13.33   11.67      10      10   11.67   13.33      15
                 * DDM   ***** Updated *****

1109             KK     450
1110             KM   SUB-BASIN 450
1111             KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1112             KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF 1.000
1113             KM     L =  .85  Kb = .057  Adj. Slope =  210.5
1114             BA    .070
1115             LG    .340    .350   3.630    .570   4.000
1                                          HEC-1 INPUT                                                    PAGE 30

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

1116             UC    .296    .383
1117             UA       0       3       5       8      12      20      43      75      90      96
1118             UA     100
                 * DDM   ***** Updated *****

1119             KK     451
1120             KM   SUB-BASIN 451
1121             KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1122             KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF 1.000
1123             KM     L =  .57  Kb = .063  Adj. Slope =  175.0
1124             BA    .025
1125             LG    .340    .340   3.290    .750   3.000
1126             UC    .271    .453
1127             UA       0       3       5       8      12      20      43      75      90      96
1128             UA     100
                 * DDM   ***** Preserved *****
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1129          KK    C451
1130          KM   COMBINE HYDROGRAPHS FROM SUB-BASINS 450 & 451
1131          HC       2
              * DDM   ***** Preserved *****

1132          KK    RT66
1133          KM        RETRIEVE DIVERTED FLOW FROM SUB-BASIN 66
1134          DR   WSH66
              * DDM   ***** Updated *****

1135          KK     452
1136          KM   SUB-BASIN 452
1137          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1138          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF 1.000
1139          KM     L =  .43  Kb = .055  Adj. Slope =  315.0
1140          BA    .040
1141          LG    .260    .280   3.700    .550   9.000
1142          UC    .171    .166
1143          UA       0       5      16      30      65      77      84      90      94      97
1144          UA     100
              * DDM   ***** Preserved *****

1145          KK   C6465
1146          KM   COMBINE HYDROGRAPHS FROM SUB-BASINS 443 AND 452
1147          HC       2
              * DDM   ***** Preserved *****

1148          KK   R6566
1149          KM        ROUTE FLOW FROM DIVERSIONS 65 AND 66 TO C116
1150          RS       3    FLOW      -1
1151          RC     .05    .035     .05    2435   .0282
1152          RX    1000    1045    1090    1150    1160    1220    1265    1310
1153          RY      25      23      20      10      10      20      23      25
              * DDM   ***** Preserved *****
1                                        HEC-1 INPUT                                                    PAGE 31

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


1154          KK    C116
1155          KM   COMBINE HYDROGRAPHS FROM SUB-BASINS 450 & 451 AND R6364 & R6465
1156          HC       3
              * DDM   ***** Preserved *****

1157          KK  BASIN5
1158          KM        RESERVOIR WITHIN PARCEL 31      2-48 INCH PIPES AT OUTFALL
1159          KM        BASIN 5 FEET DEEP
1160          RS       1    ELEV       0
1161          SV       0     4.5     9.9
1162          SQ       0      69     190
1163          SE       0     2.5       5
              * DDM   ***** Preserved *****

1164          KK    R116
1165          KM   ROUTE FLOW FROM C116 TO C117
1166          RS       2    FLOW      -1
1167          RC     .05    .035     .05    1300   .0333
1168          RX    1000    1100    1200    1300    1320    1420    1520    1620
1169          RY      13      12      11      10      10      11      12      13
              * DDM   ***** Updated *****

1170          KK     453
1171          KM   SUB-BASIN 453
1172          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1173          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF 1.000
1174          KM     L =  .58  Kb = .058  Adj. Slope =  138.0
1175          BA    .060
1176          LG    .290    .300   3.290    .820  18.000
1177          UC    .275    .284
1178          UA       0       5      16      30      65      77      84      90      94      97
1179          UA     100
              * DDM   ***** Preserved *****

1180          KK    C117
1181          KM   COMBINE HYDROGRAPHS FROM SUB-BASIN 453 AND R116
1182          HC       2
              * DDM   ***** Preserved *****

1183          KK    C118
1184          KM   COMBINE HYDROGRAPHS FROM R115 AND C117
1185          HC       2
              * DDM   ***** Preserved *****

1186          KK    R118
1187          KM        ROUTE FLOW FROM C118 TO  DIV7
              * KO     1
1188          RS       1    FLOW      -1
1189          RC    .019    .019    .019    1500    .024
1190          RX    1000    1012    1016    1020    1035    1039    1043    1055
1191          RY      15      12      11      10      10      11      12      15
              * DDM   ***** Preserved *****
                                         HEC-1 INPUT                                                    PAGE 32

LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10
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1192        KK      D7
1193        KM        OFFLINE BASIN AT NORTH MOUNTAIN RIDGE   FLOWS ENTER BASIN OVER
1194        KM        30' WEIR SET AT 5.3' ABOVE THE CHANNEL BOTTOM, Vol = 3.6 A-F
            * KO     1
1195        DT  BASIN6
1196        DI       0     363     487     563     645     900
1197        DQ       0       2      10      15      25     260
            * DDM   ***** Preserved *****

1198        KK    RTD7
1199        KM   RETRIEVE FLOW FROM DIVERSION INTO OFFLINE BASIN
1200        DR  BASIN6
            * DDM   ***** Preserved *****

1201        KK     SD7
1202        KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
1203        KM     3.6 ACRE-FEETx43560/36x3600=1.2cfs
1204        RS       1    STOR       0
1205        SV       0     .01     3.6     4.0
1206        SQ       0     0.2     1.2     1.5
            * DDM   ***** Preserved *****

1207        KK     CD7
1208        KM   HYDROGRAPH COMBINATION FOR OFFLINE BASIN BLEEDOFF
1209        HC       2
            * DDM   ***** Updated *****

1210        KK     454
1211        KM   SUB-BASIN 454
1212        KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1213        KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .999
1214        KM     L = 1.23  Kb = .051  Adj. Slope =  163.0
1215        BA    .180
1216        LG    .300    .310   3.780    .560  14.000
1217        UC    .379    .395
1218        UA       0       5      16      30      65      77      84      90      94      97
1219        UA     100
            * DDM   ***** Preserved *****

1220        KK    C119
1221        KM        COMBINE HYDROGRAPHS FROM SUB-BASIN 454 AND C119
            *      1       2
1222        HC       2
            *
            * DDM   ***** Preserved *****

1223        KK    C454
1224        KM        COMBINE HYDROGRAPHS FROM SUB-BASIN 415B AND C119
            *      1       2
1225        HC       2
            * DDM   ***** Preserved *****
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LINE        ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1226        KK    R454
1227        KM   CHANNEL GEOMETRY OBTAINED FROM 2' CONTOUR MAPPING.
1228        KM   ROUTE FLOW FROM C454 TO 415C
1229        RS       3    FLOW      -1
1230        RC    .045    .035    .045    2200    .009
1231        RX       0      .5       1      33      42      67    67.5      68
1232        RY       5       4       4       0       0       6       6       6
            *
            * DDM   ***** Updated *****

1233        KK    415A
1234        KM   SUB-BASIN 415A
1235        KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1236        KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .999
1237        KM     L = 1.09  Kb = .051  Adj. Slope =  138.0
1238        BA    .217
1239        LG    .300    .260   3.500    .780  15.000
1240        UC    .392    .335
1241        UA       0       5      16      30      65      77      84      90      94      97
1242        UA     100
            * DDM   ***** Preserved *****

1243        KK   C415A
1244        KM        COMBINE HYDROGRAPHS FROM R454, 415B, AND 420B
            * KO     1
1245        HC       3
            * DDM   ***** Preserved *****
            * KK D415A
            * KM DIVERT FLOW INTO OFFLINE DETENTION BASIN
            * KM MAXIMUM STORAGE VOLUME FOR DIVERSION = 15 AC-FT @ 5' DEPTH.
            * KO     1
            * DTBS415A
            * DI     0    1240    5000
            * DQ     0       0    3760
            * DDM   ***** Preserved *****
            * KKRT415A
            * KM RETRIEVE FLOW FROM DIVERSION INTO OFFLINE BASIN
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                * DRBS415A
                * DDM   ***** Preserved *****
                * KK S415A
                * KM RETRIEVE FLOW INTO OFFLINE BASIN AND BLEED OFF WITHIN 36 HOURS.
                * KM    16 ACRE-FEETx43560/36x3600 = 5 cfs
                * RS     1    STOR       0
                * SV     0     .01      18      20
                * SQ     0       2       5       8
                * DDM   ***** Preserved *****
                * KKCC415A
                * KM HYDROGRAPH COMBINATION OF 415A DIVERSION.
                * HC     2
                * DDM   ***** Preserved *****
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LINE            ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1246            KK   R415A
1247            KM   CHANNEL GEOMETRY OBTAINED FROM 2' CONTOUR MAPPING.
1248            KM   ROUTING OF FLOW FROM C415A TO 455C
1249            RS       4    FLOW      -1
1250            RC    .045     .03    .045    4100    .024
1251            RX       0      .5       1       8      16      23    23.5      24
1252            RY       8       8       8       0       0       8       8       8
                *
                * DDM   ***** Updated *****

1253            KK     455
1254            KM   SUB-BASIN 455
1255            KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1256            KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .993
1257            KM     L = 1.70  Kb = .041  Adj. Slope =  146.0
1258            BA   1.111
1259            LG    .270    .280   3.700    .640  24.000
1260            UC    .421    .204
1261            UA       0       5      16      30      65      77      84      90      94      97
1262            UA     100
                * DDM   ***** Preserved *****

1263            KK    D455
1264            KM        DIVERT FLOW INTO ONLINE  DETENTION BASIN
1265            KM   DETENTION/RETENTION BASINS LOCATED WITHIN LAS SENDAS ADDENDUM III
1266            KM   FOR BASIN #: 30      34      43      47&58
1267            KM        MAXIMUM VOLUME DIVERSION = 74.1 acre-feet
                *      1
1268            DT   BS455    74.1
1269            DI       0   10000
1270            DQ       0   10000
                * DDM   ***** Preserved *****

1271            KK   RT455
1272            KM   RETRIEVE FLOW FROM DIVERSION INTO ONLINE BASIN
1273            DR   BS455
                * DDM   ***** Preserved *****

1274            KK    S455
1275            KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
1276            KM    74.1 ACRE-FEETx43560/36x3600=25cfs
1277            RS       1    STOR       0
1278            SV       0     .01    74.1
1279            SQ       0     3.0      25
                * DDM   ***** Preserved *****

1280            KK    C455
1281            KM   HYDROGRAPH COMBINATION FOR SUB-BASIN 455 AND DIVERTED BASIN STORAGE OF 455
1282            HC       2
                * DDM   ***** Preserved *****
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LINE            ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1283            KK   CC455
1284            KM  HYDROGRAPH COMBINATION OF 420C, R415 AND C455
                *      1       2
1285            HC       3
                * DDM   ***** Preserved *****

1286            KK    S440
1287            KM   SPOOK HILL FRS PLANS DATED 6/15/77
1288            KM   OUTLET PIPE=7'x7.5'RCBC; L=70 INLET INV.=1566; OUTLET INV.=1566
1289            KM   EMERGENCY SPILLWAY ELEV.=1582; PRINCIPLE SPILLWAY ELEV.=1577.5
1290            KM   STORAGE VOLUME BELOW PRINCIPLE SPILLWAY FOR SEDIMENT = 200 ACRE-FEET
                *   ESE = 1583.86 ft; PSE = 1579.36 ft; Sediment Vol. = 271 Ac-Ft.
1291            RS       1    STOR       0
1292            SV       0      81     363     533     719     925    1120    1399    1668    4051
1293            SQ       0       0      10     180     367     595     800    1231    2625   24500
1294            SE      76      78      80      81      82      83    83.9      85      86      92
                * DDM   ***** Preserved *****

1295            KK    R455
1296            KM   ROUTE FLOW FROM SPOOK HILL FRS TO SUB-BASIN 480
1297            RS      15    FLOW      -1
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1298        RC    .035    .025    .035    7000   .0002
1299        RX       0       1       2      28      58      84      85      86
1300        RY    13.5    13.5    13.5       0       0    13.5    13.5    13.5
            * DDM    ***** Updated *****

1301        KK     480
1302        KM   SUB-BASIN 480
1303        KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1304        KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .996
1305        KM     L = 1.21  Kb = .042  Adj. Slope =  165.0
1306        BA    .731
1307        LG    .270    .270   3.580    .730  27.000
1308        UC    .325    .148
1309        UA       0       5      16      30      65      77      84      90      94      97
1310        UA     100
            * DDM    ***** Preserved *****

1311        KK    D480
1312        KM        DIVERT FLOW INTO ONLINE  DETENTION BASIN
1313        KM   DETENTION/RETENTION BASINS LOCATED WITHIN LAS SENDAS ADDENDUM III
1314        KM   FOR BASIN #: 18 & 26
1315        KM        MAXIMUM VOLUME DIVERSION = 16.5 acre-feet
            *      1
1316        DT   BS480    16.5
1317        DI       0   10000
1318        DQ       0   10000
            * DDM    ***** Preserved *****
1                                    HEC-1 INPUT                                                    PAGE 36

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


1319        KK   RT480
1320        KM   RETRIEVE FLOW FROM DIVERSION INTO ONLINE BASIN
1321        DR   BS480
            * DDM    ***** Preserved *****

1322        KK    S480
1323        KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
1324        KM    16.5 ACRE-FEETx43560/36x3600=5.5cfs
1325        RS       1    STOR       0
1326        SV       0     .01    16.5
1327        SQ       0     3.0     5.6
            * DDM    ***** Preserved *****

1328        KK    C480
1329        KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
1330        HC       2
            * DDM    ***** Preserved *****

1331        KK   CC480
1332        KM   HYDROGRAPH COMBINATION AT SUBBASIN 480
1333        HC       2   0.731
            * DDM    ***** Preserved *****

1334        KK    R480
1335        KM   ROUTE FLOW FROM SUB-BASIN 480 TO SUBBASIN 462
1336        RS       6    FLOW      -1
1337        RC    .035    .025    .035    2800   .0002
1338        RX       0       1       2      28      58      84      85      86
1339        RY    13.5    13.5    13.5       0       0    13.5    13.5    13.5
            * DDM    ***** Updated *****

1340        KK     456
1341        KM   SUB-BASIN 456
1342        KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1343        KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .998
1344        KM     L =  .94  Kb = .045  Adj. Slope =  315.0
1345        BA    .260
1346        LG    .300    .380   5.600    .200  12.000
1347        UC    .217    .139
1348        UA       0       5      16      30      65      77      84      90      94      97
1349        UA     100
            * DDM    ***** Preserved *****

1350        KK      D1
1351        KM        DIVERT FLOW INTO OFFLINE DETENTION BASIN
1352        KM        WEIR FOR BASIN SET AT 4 FEET ABOVE CHANNEL BOTTOM
            *      1
1353        DT  BASIN1     4.0
1354        DI       0    11.1   127.9   234.4   577.7   789.9  1025.5  1280.9  1555.7
1355        DQ       0       0       0    47.7     248   381.8   533.6   701.5     884
            * DDM    ***** Preserved *****
1                                    HEC-1 INPUT                                                    PAGE 37

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


1356        KK     CD2
1357        KM        SPLIT OUT FLOW FOR WASHES THAT FLOW TO THE SOUTH FROM
1358        KM        WASHES THAT DRAIN TO THE WES, SOUTHERN WASHES FED BY 30" & 24" PIPE
1359        DT    WA30
1360        DI       0    11.1   127.9   189.6   329.7     408   491.9   579.4   671.7
1361        DQ       0    11.1    38.4    48.2      63    69.5      76      81      86
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            * DDM   ***** Preserved *****

1362        KK    R456
1363        KM        ROUTE FLOW FROM SUB-BASIN 51 TO C101
1364        RS       2    FLOW      -1
1365        RC     .05    .035     .05    3800    .044
1366        RX    1000    1010    1020    1036    1041    1057    1067    1077
1367        RY   14.88   14.44      14      10      10      14   14.44   14.88
            * DDM   ***** Updated *****

1368        KK     457
1369        KM   SUB-BASIN 457
1370        KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1371        KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .999
1372        KM     L = 1.01  Kb = .045  Adj. Slope =  308.8
1373        BA    .190
1374        LG    .270    .330   3.950    .460   6.000
1375        UC    .237    .195
1376        UA       0       5      16      30      65      77      84      90      94      97
1377        UA     100
            * DDM   ***** Preserved *****

1378        KK    C101
1379        KM        COMBINE HYDROGRAPHS FROM SUB-BASINS 50 AND 51
1380        HC       2
            * DDM   ***** Preserved *****

1381        KK      D3
1382        KM        RESERVOIR AT THE EDGE OF THE PROPERTY   FLOW FROM CHANNEL
1383        KM        DIVERTED  INTO OFFLINE BASIN A 25' WEIR SET AT ELEVATION 1808 FT
            *      1
1384        DT  BASIN2     5.0
1385        DI       0      36      70     110     180   313.5     402   500.9
1386        DQ       0       0       0       0       0    67.5     124   190.9
            * DDM   ***** Preserved *****

1387        KK    RTD3
1388        KM   RETRIEVE FLOW FROM DIVERSION INTO OFFLINE BASIN
1389        DR  BASIN2
            * DDM   ***** Preserved *****

1390        KK     SD3
1391        KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
1392        KM     5.0 ACRE-FEETx43560/36x3600=1.7cfs
1393        RS       1    STOR       0
1394        SV       0     .01       5
1395        SQ       0     0.7     1.7
            * DDM   ***** Preserved *****
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LINE        ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1396        KK     CD3
1397        KM   HYDROGRAPH COMBINATION FOR OFFLINE BASIN BLEEDOFF
1398        HC       2
            * DDM   ***** Preserved *****

1399        KK    R101
1400        KM        ROUTE FLOW FROM SUBBASIN C101 TO C103
1401        RS       1    FLOW      -1
1402        RC     .05    .035     .05    1450     .05
1403        RX    1000    1010    1020    1036    1041    1057    1067    1077
1404        RY      15    14.5      14      10      10      14    14.5      15
            * DDM   ***** Updated *****

1405        KK     458
1406        KM   SUB-BASIN 458
1407        KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1408        KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .999
1409        KM     L =  .76  Kb = .048  Adj. Slope =  299.0
1410        BA    .190
1411        LG    .290    .330   5.800    .190   6.000
1412        UC    .204    .131
1413        UA       0       5      16      30      65      77      84      90      94      97
1414        UA     100
            * DDM   ***** Preserved *****

1415        KK    C103
1416        KM        COMBINE HYDROGRAPHS FROM SUB-BASIN 55 AND C101
1417        HC       2
            * DDM   ***** Preserved *****

1418        KK    R103
1419        KM        ROUTE FLOW FROM SUBBASIN C103 TO C106
1420        RS       1    FLOW      -1
1421        RC     .05    .035     .05     900     .03
1422        RX    1000    1010    1020    1030    1050    1060    1070    1080
1423        RY   13.16   12.83    12.5      10      10    12.5   12.83   13.16
            * DDM   ***** Preserved *****

1424        KK    RT30
1425        KM        RETRIEVE DIVERTED FLOW FOR WASH BELOW 30 INCH PIPE
1426        DR    WA30
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                * DDM   ***** Preserved *****

1427            KK     R30
1428            KM        ROUTE FLOW FROM WASH DIVERSION TO COMBINE C52
1429            RS       1    FLOW      -1
1430            RC     .05    .035     .05    1630     .05
1431            RX    1000    1010    1020    1036    1041    1057    1067    1077
1432            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

1433            KK    RTB1
1434            KM        RETRIEVE DIVERTED FLOW FROM BASIN 1
                *      1       2
1435            DR  BASIN1
                * DDM   ***** Preserved *****

1436            KK      B1
1437            KM        ROUTE FLOW THROUGH OFFLINE DETENTION BASIN
1438            KM        FLOW OUTLETS THROUGH A 30 INCH OUTLET PIPE
                *      1       2
1439            RS       1    ELEV       0
1440            SV              .7     1.4     2.3     2.7     4.0
1441            SQ       0       5      16      28    32.5      37
1442            SE       0       1       2       3     3.5       4
                * DDM   ***** Preserved *****

1443            KK     RB1
1444            KM        ROUTE FLOW FROM BASIN DIVERSION TO COMBINE C52
1445            RS       3    FLOW      -1
1446            RC     .05    .035     .05    1720     .05
1447            RX    1000    1010    1020    1036    1041    1057    1067    1077
1448            RY      15    14.5      14      10      10      14    14.5      15
                * DDM   ***** Preserved *****

1449            KK    CDIV
1450            KM        COMBINE FLOWS FROM WA30 AND BASIN 1
1451            HC       2     .12
                * DDM   ***** Updated *****

1452            KK     459
1453            KM   SUB-BASIN 459
1454            KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1455            KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF 1.000
1456            KM     L =  .35  Kb = .052  Adj. Slope =  251.6
1457            BA    .030
1458            LG    .220    .300   3.330    .710   8.000
1459            UC    .162    .157
1460            UA       0       5      16      30      65      77      84      90      94      97
1461            UA     100
                * DDM   ***** Preserved *****

1462            KK     C52
1463            KM        COMBINE FLOWS FROM SUB-BASIN 52 WA30 AND BASIN 1
1464            HC       2
                * DDM   ***** Preserved *****

1465            KK     R52
1466            KM        ROUTE FLOW FROM SUBBASIN 52 TO C102
1467            RS       3    FLOW      -1
1468            RC     .05    .035     .05    2000     .05
1469            RX    1000    1010    1020    1036    1041    1057    1067    1077
1470            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

1471            KK     460
1472            KM   SUB-BASIN 460
1473            KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1474            KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .999
1475            KM     L =  .62  Kb = .058  Adj. Slope =  194.0
1476            BA    .140
1477            LG    .250    .260   3.740    .690  27.000
1478            UC    .242    .160
1479            UA       0       5      16      30      65      77      84      90      94      97
1480            UA     100
                * DDM   ***** Preserved *****

1481            KK    C102
1482            KM        COMBINE HYDROGRAPHS FROM SUB-BASINS 52 AND 53
1483            HC       2
                * DDM   ***** Preserved *****

1484            KK  BASIN3
1485            KM        RESERVOIR AT CLUBHOUSE LOCATION 1-30 INCH PIPE AT OUTFALL
1486            KM        BOTTOM OF BASIN AT 6 FEET ABOVE 1795 ELEVATION
1487            RS       1    ELEV       0
1488            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
1489      SQ       0      22      45    47.4      48      51      57      62      67      73
1490      SE    1795  1797.5    1800  1800.4  1800.5    1801    1802    1803    1804  1805.5
          * DDM   ***** Preserved *****

1491      KK      R3
1492      KM        ROUTE FLOW FROM C102 to C106
1493      RS       5    FLOW      -1
1494      RC     .05     .03     .05    2750   .0375
1495      RX    1000    1010    1020    1052    1086    1118    1128    1138
1496      RY    19.2    18.4      18      10      10      18    18.4    19.2
          * DDM   ***** Updated *****

1497      KK     461
1498      KM   SUB-BASIN 461
1499      KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1500      KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .999
1501      KM     L =  .83  Kb = .052  Adj. Slope =  181.0
1502      BA    .120
1503      LG    .270    .250   4.250    .450  21.000
1504      UC    .271    .250
1505      UA       0       5      16      30      65      77      84      90      94      97
1506      UA     100
          * DDM   ***** Preserved *****

1507      KK    C104
1508      KM        COMBINE HYDROGRAPHS FROM SUB-BASIN 54 AND R102
1509      HC       2
          * DDM   ***** Preserved *****
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LINE      ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1510      KK    C106
1511      KM        COMBINE HYDROGRAPHS FROM SUB-BASIN C103 AND C104
1512      HC       2
          * DDM   ***** Preserved *****

1513      KK    R106
1514      KM        ROUTE FLOW FROM C106 TO C49
1515      RS       2    FLOW      -1
1516      RC     .05    .035     .05    3950    .033
1517      RX    1000    1010    1020    1030    1050    1060    1070    1080
1518      RY   13.16   12.83    12.5      10      10    12.5   12.83   13.16
          * DDM   ***** Updated *****

1519      KK     462
1520      KM   SUB-BASIN 462
1521      KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1522      KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .998
1523      KM     L =  .97  Kb = .045  Adj. Slope =  297.7
1524      BA    .301
1525      LG    .300    .330   5.300    .240  12.000
1526      UC    .225    .137
1527      UA       0       5      16      30      65      77      84      90      94      97
1528      UA     100
          * DDM   ***** Preserved *****

1529      KK     C56
1530      KM        COMBINE HYDROGRAPHS FROM SUB-BASIN 56 AND C106
          *      1       2
1531      HC       2
          * DDM   ***** Preserved *****

1532      KK    C462
1533      KM        COMBINE HYDROGRAPHS AT SUBBASIN 462
          *      1
1534      HC       2    2.09
          * DDM   ***** Preserved *****

1535      KK    R462
1536      KM   ROUTE FLOW FROM SUB-BASIN 462 TO SUB-BASIN 500 (First Channel Reach)
1537      RS       1    FLOW      -1
1538      RC    .025    .025    .025    1800    .005
1539      RX       0       1      20      32      62      74      93      94
1540      RY      13      12      12       0       0      12      12      13
          *

1541      KK   RR462
1542      KM   ROUTE FLOW FROM SUB-BASIN 462 TO SUB-BASIN 500 (Second Natural Wash Reach)
1543      RS       3    FLOW      -1
1544      RC    .055     .05    .055    4700     .05
1545      RX       0       1       2      28      58      84      85      86
1546      RY    13.5    13.5    13.5       0       0    13.5    13.5    13.5
          * DDM   ***** Updated *****
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LINE      ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1547      KK     500
1548      KM   SUB-BASIN 500
1549      KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
```

```
1550          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .994
1551          KM     L = 2.77  Kb = .042  Adj. Slope =  286.8
1552          BA    .930
1553          LG    .350    .400   6.000    .170   9.000
1554          UC    .421    .333
1555          UA       0       3       5       8      12      20      43      75      90      96
1556          UA     100
              * DDM   ***** Preserved *****

1557          KK    C500
1558          KM   HYDROGRAPH COMBINATION FOR THE ENTIRE WATERSHED AT THE SALT RIVER
1559          HC       2    3.02
1560          ZZ
```

1

SCHEMATIC DIAGRAM OF STREAM NETWORK

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

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

   24          10
                V
                V
   34         R10
                V
                V
   40         R12
                .
                .
   46           .          20
                .           .
                .           .
   56         C20............
                V
                V
   59         R20
                .
                .
   65           .          40
                .           .
                .           .
   75           .           .          60
                .           .           .
                .           .           .
   85         C60........................
                V
                V
   88         S60
                V
                V
   97         R60
                V
                V
  103        RR60
                .
                .
  109           .          80
                .           .
                .           .
  119         C80............
                V
                V
  122         R80
                .
                .
  128           .         100
                .           .
                .           .
  138        C100............
                V
                V
  141        R100
                .
                .
  147           .         120
                .           .
                .           .
  157        C120............
                V
                V
  160        R120
                .
                .
  166           .         140
                .           .
                .           .
  176           .           .         150
                .           .           V
                .           .           V
  186           .           .        R150
                .           .           V
                .           .           V
  192           .           .        R152
                .           .           .
```

```
198                                   160
                                       .
208                                    .          180
                                       .           .
218      C180.......................................
                                       .
221                 210                .
                     V                 .
                     V                 .
231                 R210               .
                     .                 .
237                  .                240
                     .                 .
                     .                 .
247                 C240...........    .
                     V                 .
                     V                 .
250                 S240               .
                     V                 .
                     V                 .
257                 R240               .
                     .                 .
264                  .                220
                     .                 .
                     .                 .
274                 C220...........    .
                     V                 .
                     V                 .
277                 S220               .
                     V                 .
                     V                 .
284                 R220               .
                     .                 .
291                  .                190
                     .                 V
                     .                 V
301                  .               R190
                     .                 V
                     .                 V
307                  .               R192
                     .                 .
313                  .                 .          200
                     .                 .           .
                     .                 .           .
323                 C200.......................
                     V
                     V
326                 S200
                     V
                     V
333                 R200
                     V
                     V
339                SS200
                     V
                     V
346                RR200
                     .
                     .
352      CC180...........
          V
          V
355       S180
          V
          V
364       R180
           .
           .
373                 260
                     .
                     .
383       C260...........
           V
           V
386       R260
           .
           .
395                 280
                     .
                     .
405       C280...........
           V
           V
408       R280
           .
           .
```

```
417          .         300
             .           .
             .           .
427       C300............
             V
             V
430       R300
             .
             .
439          .         305
             .           .
             .           .
449       C305............
             V
             V
452       R305
             .
             .
461          .         350
             .           .
             .           .
474          .           .-------->   SF350
471          .       D350
             .         V
             .         V
477          .       R350
             .           .
             .           .
484          .           .         310
             .           .           .
             .           .           .
494          .       C310............
             .         V
             .         V
497          .       R310
             .           .
             .           .
504          .           .         320
             .           .           .
             .           .           .
519          .           .           .-------->   BS320
514          .           .       D320
             .           .           .
             .           .           .
524          .           .           .          .<--------   BS320
522          .           .           .      RT320
             .           .           .          V
             .           .           .          V
525          .           .           .       S320
             .           .           .          .
             .           .           .          .
531       C320.................................
             .
             .
534          .         340
             .           .
             .           .
549          .           .-------->   BS340
544          .       D340
             .           .
             .           .
554          .           .           .<--------   BS340
552          .           .       RT340
             .           .           V
             .           .           V
555          .           .       S340
             .           .           .
             .           .           .
561       C340......................
             .
             .
566          .         .<--------   SF350
564          .       RT350
             .         V
             .         V
567          .       RR350
             .           .
             .           .
574          .           .         355
             .           .           .
             .           .           .
584          .       C355............
             .         V
             .         V
587          .       R355
             .           .
             .           .
594          .           .         360
             .           .           .
             .           .           .
608          .           .           .-------->   BS360
604          .           .       D360
             .           .           .
             .           .           .
```

```
613          .          .          .          .<-------   BS360
611          .          .          .       RT360
             .          .          .          V
             .          .          .          V
614          .          .          .       S360
             .          .          .          .
             .          .          .          .
620       C360.................................
             .
             .
623          .        380
             .          .
             .          .
637          .          .------->   BS380
633          .       D380
             .          .
             .          .
642          .          .          .<-------   BS380
640          .          .      RT380
             .          .          V
             .          .          V
643          .          .      S380
             .          .          .
             .          .          .
649       C380......................
             .
             .
652          .        400
             .          .
             .          .
666          .          .------->   BS400
662          .       D400
             .          .
             .          .
671          .          .          .<-------   BS400
669          .          .      RT400
             .          .          V
             .          .          V
672          .          .      S400
             .          .          .
             .          .          .
678          .       C400............
             .          .
             .          .
681       CC400............
             .
             .
684          .       420A
             .          .
             .          .
698          .          .------->  BS420A
694          .      D420A
             .          .
             .          .
703          .          .          .<-------  BS420A
701          .          .     RT420A
             .          .          V
             .          .          V
704          .          .     S420A
             .          .          .
             .          .          .
710       C420A......................
             .
             .
713          .        370
             .          .
             .          .
723          .          .        395
             .          .          .
             .          .          .
733          .       C370............
             .          .
             .          .
739          .          .------->   BS370
736          .       D370
             .          .
             .          .
744          .          .          .<-------   BS370
742          .          .      RT370
             .          .          V
             .          .          V
745          .          .      S370
             .          .          .
             .          .          .
751          .      CC370............
             .          V
             .          V
754          .       R370
             .          .
             .          .
761          .          .        390
             .          .          .
             .          .          .
775          .          .          .------->   BS390
```

```
771                 D390
                      .
780                   .<-------   BS390
778                 RT390
                      V
                      V
781                 S390
                      .
                      .
787          C390.......................
                V
                V
790          R390
                .
                .
797                 420B
                      .
                      .
807          C420B............
                .
                .
810                 385
                      .
                      .
820                 415C
                      .
                      .
830          C415C............
                .
                .
836                 -------> BS415C
833          D415C
                .
                .
841                   .<-------  BS415C
839                 RT415C
                      V
                      V
842                 S415C
                      .
                      .
848          CC415C............
                V
                V
851          R415C
                .
                .
858                 415B
                      .
                      .
868          C415B............
                V
                V
871          R415B
                .
                .
878                 440
                      V
                      V
888                 R70
                      .
                      .
894                   .         441
                      .           .
                      .           .
904                 C108............
                      .
                      .
909                   .------->   SPLIT
907                 D4
                      V
                      V
912                 R108
                      .
                      .
918                   .         442
                      .           .
                      .           .
928                 C67............
                      .
                      .
934                   .-------> BASIN4
931                 D6
                      .
                      .
939                   .           .<-------  BASIN4
937                   .         RTD6
                      .           V
                      .           V
940                   .         SD6
                      .           .
                      .           .
946                 CD6............
```

```
                443
                 .
                 .-------> WSH66
               D66
                V
                V
              R113
                 .
                 .
        C114............
                 .
                 .
                444
                 V
                 V
                R58
                 .
                 .
                 .          445
                 .           .
                 .           .
              C107............
                 V
                 V
              R107
                 .
                 .
                 .        .<-------   SPLIT
                 .      RTB2
                 .        V
                 .        V
                 .     RSPLIT
                 .        .
                 .        .
                 .        .          446
                 .        .           .
                 .        .           .
              C109........................
                 .
                 .
                 .-------> WSH404
                 D5
                 V
                 V
              R109
                 .
                 .
                 .          447
                 .           .
                 .           .
                 .           .        .<-------  WSH404
                 .           .     RT404
                 .           .        V
                 .           .        V
                 .           .      R404
                 .           .        .
                 .           .        .
              C110........................
                 V
                 V
              R110
                 .
                 .
        C115............
           V
           V
        R115
                 .
                 .
                448
                 .
                 .
                 .          449
                 .           .
                 .           .
             C6364............
                 V
                 V
             R6364
                 .
                 .
                 .          450
                 .           .
                 .           .
                 .           .          451
                 .           .           .
                 .           .           .
                 .        C451............
                 .           .
                 .           .
                 .           .        .<-------   WSH66
```

949

962
959

965

971

974

984

990

1000

1003

1011
1009

1012

1018

1028

1034
1031

1037

1043

1055
1053

1056

1062

1065

1071

1074

1080

1090

1100

1103

1109

1119

1129

1134

```
1132                                                                  RT66
                                                                        .
1135                                                                    .          452
                                                                        .           .
1145                                                                    .           .
                                                                  C6465............
                                                                      V
1148                                                                  V
                                                                  R6566
                                                                        .
1154                                                                    .
                                                            C116........................
                                                                V
1157                                                            V
                                                          BASIN5
                                                                V
1164                                                            V
                                                            R116
                                                                .
1170                                                            .
                                                                .          453
                                                                .           .
1180                                                            .           .
                                                            C117............
                                                                .
1183                                                            .
                                                      C118............
                                                          V
1186                                                      V
                                                      R118
                                                          .
1195                                                      .
1192                                                      .-------> BASIN6
                                                        D7
                                                          .
1200                                                      .
1198                                                      .          .<-------  BASIN6
                                                            .       RTD7
1201                                                        .          V
                                                            .          V
                                                            .         SD7
                                                            .           .
1207                                                        .           .
                                                      CD7............
                                                          .
1210                                                      .
                                                            .         454
                                                            .           .
1220                                                        .           .
                                                      C119............
                                                          .
1223                                                      .
                                            C454............
                                                V
1226                                            V
                                            R454
                                                .
1233                                            .
                                                      415A
                                                          .
1243                                                      .
                                      C415A........................
                                          V
1246                                      V
                                      R415A
                                          .
1253                                      .
                                            455
                                            .
1268                                        .
                                            .-------> BS455
1263                                        .
                                            D455
                                            .
1273                                        .
                                            .
1271                                        .          .<-------  BS455
                                                  RT455
                                                      V
1274                                                  V
                                                  S455
                                                      .
1280                                                  .
                                            C455............
                                                .
1283                                            .
                                  CC455........................
                                      V
                                      V
1286                              S440
                                      V
                                      V
1295                              R455
                                      .
                                      .
```

```
1301          .         480
              .           .
              .           .
1316          .           .-------->   BS480
1311          .       D480
              .           .
              .           .
1321          .           .           .<-------   BS480
1319          .           .       RT480
              .           .           V
              .           .           V
1322          .           .        S480
              .           .           .
              .           .           .
1328          .       C480............
              .           .
              .           .
1331      CC480............
              V
              V
1334       R480
              .
              .
1340          .         456
              .           .
              .           .
1353          .           .-------->  BASIN1
1350          .          D1
              .           .
              .           .
1359          .           .-------->    WA30
1356          .        CD2
              .          V
              .          V
1362          .       R456
              .           .
              .           .
1368          .           .         457
              .           .           .
              .           .           .
1378          .       C101............
              .           .
              .           .
1384          .           .-------->  BASIN2
1381          .          D3
              .           .
              .           .
1389          .           .           .<-------  BASIN2
1387          .           .       RTD3
              .           .           V
              .           .           V
1390          .           .         SD3
              .           .           .
              .           .           .
1396          .        CD3............
              .          V
              .          V
1399          .       R101
              .           .
              .           .
1405          .           .         458
              .           .           .
              .           .           .
1415          .       C103............
              .          V
              .          V
1418          .       R103
              .           .
              .           .
1426          .           .           .<-------    WA30
1424          .           .       RT30
              .           .          V
              .           .          V
1427          .           .        R30
              .           .           .
              .           .           .
1435          .           .           .           .<-------  BASIN1
1433          .           .           .       RTB1
              .           .           .          V
              .           .           .          V
1436          .           .           .         B1
              .           .           .          V
              .           .           .          V
1443          .           .           .        RB1
              .           .           .           .
              .           .           .           .
1449          .           .       CDIV............
              .           .           .
              .           .           .
1452          .           .           .        459
              .           .           .           .
              .           .           .           .
1462          .           .        C52............
              .           .          V
```

```
                 .          .          V
1465             .          .        R52
                 .          .          .
                 .          .          .
1471             .          .          .          460
                 .          .          .            .
                 .          .          .            .
1481             .          .       C102............
                 .          .          V
                 .          .          V
1484             .          .      BASIN3
                 .          .          V
                 .          .          V
1491             .          .         R3
                 .          .          .
                 .          .          .
1497             .          .          .          461
                 .          .          .            .
                 .          .          .            .
1507             .          .       C104............
                 .          .          .
                 .          .          .
1510             .       C106............
                 .          V
                 .          V
1513             .       R106
                 .          .
                 .          .
1519             .          .        462
                 .          .          .
                 .          .          .
1529             .        C56............
                 .          .
                 .          .
1532          C462............
                 V
                 V
1535          R462
                 V
                 V
1541         RR462
                 .
                 .
1547             .        500
                 .          .
                 .          .
1557          C500............
```

(***) RUNOFF ALSO COMPUTED AT THIS LOCATION

```
1****************************************
*                                      *
*   FLOOD HYDROGRAPH PACKAGE  (HEC-1)  *
*              JUN   1998              *
*            VERSION 4.1               *
*                                      *
*  RUN DATE   02MAY01  TIME  08:25:43  *
*                                      *
****************************************
```

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

DDMS MCUHP1 SPOOK HILL ADMP-EXISTING CONDITIONS MODEL-100YR, 24-HR STORM
McDowell Road Alternative - Option MD3E
Spook Hill FRS without Off-Line Basin

```
  5 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

  7 JD          INDEX STORM NO. 1
```

STRM 3.81 PRECIPITATION DEPTH
TRDA .01 TRANSPOSITION DRAINAGE AREA

8 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
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.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	.01	.01	.01	.01	.01
.01	.01	.03	.04	.04	.04	.04	.04	.04	.04
.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
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.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
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18 JD INDEX STORM NO. 2
STRM 3.79 PRECIPITATION DEPTH
TRDA 1.00 TRANSPOSITION DRAINAGE AREA

0 PI PRECIPITATION PATTERN

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19 JD INDEX STORM NO. 3

STRM 3.68 PRECIPITATION DEPTH

TRDA 5.80 TRANSPOSITION DRAINAGE AREA

0 PI PRECIPITATION PATTERN

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20 JD INDEX STORM NO. 4

STRM	3.57	PRECIPITATION DEPTH
TRDA	10.66	TRANSPOSITION DRAINAGE AREA

0 PI PRECIPITATION PATTERN

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21 JD INDEX STORM NO. 5

STRM 3.54 PRECIPITATION DEPTH

TRDA 13.70 TRANSPOSITION DRAINAGE AREA

0 PI PRECIPITATION PATTERN

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

0 PI PRECIPITATION PATTERN

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23 JD INDEX STORM NO. 7
STRM 3.32 PRECIPITATION DEPTH
TRDA 50.00 TRANSPOSITION DRAINAGE AREA

0 PI PRECIPITATION PATTERN

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

OPERATION	STATION	PEAK FLOW	TIME OF PEAK	AVERAGE FLOW FOR MAXIMUM PERIOD			BASIN AREA	MAXIMUM STAGE	TIME OF MAX STAGE
				6-HOUR	24-HOUR	72-HOUR			
+ HYDROGRAPH AT	10	989.	12.27	119.	33.	12.	.70		
+ ROUTED TO	R10	920.	12.40	119.	33.	12.	.70		
+ ROUTED TO	R12	853.	12.60	119.	33.	12.	.70		

+ HYDROGRAPH AT	20	1011.	12.43	136.	34.	12.	1.12
2 COMBINED AT	C20	1684.	12.53	252.	66.	24.	1.82
+ ROUTED TO	R20	1683.	12.57	252.	66.	24.	1.82
+ HYDROGRAPH AT	40	2695.	12.30	264.	69.	25.	2.23
+ HYDROGRAPH AT	60	1623.	12.40	239.	64.	23.	1.75
+ 3 COMBINED AT	C60	5371.	12.37	733.	194.	70.	5.80
+ ROUTED TO	S60	118.	14.27	118.	114.	70.	5.80
+ ROUTED TO	R60	118.	14.37	118.	114.	70.	5.80
+ ROUTED TO	RR60	118.	14.40	118.	114.	70.	5.80
+ HYDROGRAPH AT	80	1956.	12.27	189.	49.	18.	1.48
+ 2 COMBINED AT	C80	2009.	12.27	295.	160.	90.	1.48
+ ROUTED TO	R80	1981.	12.30	295.	160.	90.	1.48
+ HYDROGRAPH AT	100	423.	12.20	60.	16.	6.	.48
+ 2 COMBINED AT	C100	2373.	12.27	351.	174.	95.	1.96
+ ROUTED TO	R100	2370.	12.30	351.	174.	95.	1.96
+ HYDROGRAPH AT	120	3352.	12.27	340.	92.	33.	2.20
+ 2 COMBINED AT	C120	5618.	12.27	673.	256.	126.	4.16
+ ROUTED TO	R120	5546.	12.30	673.	256.	126.	4.16
+ HYDROGRAPH AT	140	665.	12.13	67.	18.	6.	.60
+ HYDROGRAPH AT	150	595.	12.17	51.	14.	5.	.41
+ ROUTED TO	R150	568.	12.23	51.	14.	5.	.41
+ ROUTED TO	R152	514.	12.33	51.	14.	5.	.41
+ HYDROGRAPH AT	160	228.	12.40	37.	9.	3.	.37
+ HYDROGRAPH AT	180	836.	12.37	97.	24.	9.	1.00
+ 5 COMBINED AT	C180	7306.	12.30	898.	313.	146.	6.54
+ HYDROGRAPH AT	210	1322.	12.17	111.	29.	10.	.79
+ ROUTED TO	R210	1246.	12.23	111.	29.	10.	.79
+ HYDROGRAPH AT	240	1513.	12.30	167.	42.	15.	1.41
+ 2 COMBINED AT	C240	2684.	12.27	273.	70.	25.	2.20
+ ROUTED TO	S240	799.	12.70	226.	59.	21.	2.20
ROUTED TO	R240	798.	12.77	225.	59.	21.	2.20
HYDROGRAPH AT							

+	220	676.	12.20	68.	18.	6.	.47
2 COMBINED AT	C220	962.	12.60	288.	75.	27.	2.67
+ ROUTED TO	S220	900.	12.80	280.	73.	26.	2.67
+ ROUTED TO	R220	897.	12.83	280.	73.	26.	2.67
+ HYDROGRAPH AT	190	1471.	12.17	123.	33.	12.	.92
+ ROUTED TO	R190	1415.	12.23	123.	33.	12.	.92
+ ROUTED TO	R192	1359.	12.30	123.	33.	12.	.92
+ HYDROGRAPH AT	200	831.	12.17	72.	20.	7.	.53
+ 3 COMBINED AT	C200	2254.	12.30	459.	122.	44.	4.12
+ ROUTED TO	S200	2135.	12.37	454.	119.	43.	4.12
+ ROUTED TO	R200	2127.	12.37	454.	119.	43.	4.12
+ ROUTED TO	SS200	1365.	12.73	333.	88.	32.	4.12
+ ROUTED TO	RR200	1330.	12.83	330.	88.	32.	4.12
+ 2 COMBINED AT	CC180	7306.	12.30	1212.	399.	177.	10.66
+ ROUTED TO	S180	113.	29.07	113.	113.	88.	10.66
ROUTED TO	R180	113.	28.93	113.	113.	88.	10.66
+ HYDROGRAPH AT	260	416.	12.10	43.	12.	4.	.26
+ 2 COMBINED AT	C260	421.	12.10	135.	124.	99.	.26
+ ROUTED TO	R260	407.	12.20	135.	124.	98.	.26
+ HYDROGRAPH AT	280	527.	12.10	46.	13.	5.	.32
+ 2 COMBINED AT	C280	884.	12.13	176.	135.	103.	.58
+ ROUTED TO	R280	862.	12.20	176.	134.	103.	.58
+ HYDROGRAPH AT	300	415.	12.10	34.	10.	3.	.29
+ 2 COMBINED AT	C300	1217.	12.17	207.	143.	106.	.87
+ ROUTED TO	R300	1172.	12.23	207.	142.	106.	.87
+ HYDROGRAPH AT	305	476.	12.27	81.	22.	8.	.70
+ 2 COMBINED AT	C305	1624.	12.23	283.	161.	112.	1.57
+ ROUTED TO	R305	1603.	12.30	282.	161.	112.	1.57
+ HYDROGRAPH AT	350	1258.	12.20	109.	28.	10.	.97
+ DIVERSION TO	SF350	629.	12.20	55.	14.	5.	.97
HYDROGRAPH AT	D350	629.	12.20	55.	14.	5.	.97
+ ROUTED TO	R350	557.	12.40	55.	14.	5.	.97

+ HYDROGRAPH AT	310	398.	12.33	52.	13.	5.	.56
+ 2 COMBINED AT	C310	928.	12.40	106.	27.	10.	1.04
+ ROUTED TO	R310	820.	12.73	106.	27.	10.	1.04
+ HYDROGRAPH AT	320	991.	12.20	127.	36.	13.	.95
+ DIVERSION TO	BS320	386.	11.93	21.	6.	2.	.95
+ HYDROGRAPH AT	D320	991.	12.20	113.	29.	11.	.95
+ HYDROGRAPH AT	RT320	386.	11.93	21.	6.	2.	.95
+ ROUTED TO	S320	4.	12.00	4.	4.	2.	.95
+ 4 COMBINED AT	C320	2546.	12.30	491.	216.	132.	3.56
+ HYDROGRAPH AT	340	1534.	12.17	194.	57.	21.	1.44
+ DIVERSION TO	BS340	1534.	12.17	103.	28.	10.	1.44
+ HYDROGRAPH AT	D340	1285.	12.30	106.	29.	10.	1.44
+ HYDROGRAPH AT	RT340	1534.	12.17	103.	28.	10.	1.44
+ ROUTED TO	S340	18.	12.33	17.	14.	9.	1.44
+ 3 COMBINED AT	C340	3733.	12.33	602.	255.	150.	5.00
+ HYDROGRAPH AT	RT350	629.	12.20	55.	14.	5.	.97
+ ROUTED TO	RR350	544.	12.43	55.	14.	5.	.97
+ HYDROGRAPH AT	355	546.	12.33	75.	19.	7.	.68
+ 2 COMBINED AT	C355	1028.	12.40	129.	34.	12.	1.16
+ ROUTED TO	R355	941.	12.70	129.	34.	12.	1.16
+ HYDROGRAPH AT	360	773.	12.23	116.	34.	12.	.88
+ DIVERSION TO	BS360	773.	12.23	52.	14.	5.	.88
+ HYDROGRAPH AT	D360	709.	12.33	73.	20.	7.	.88
+ HYDROGRAPH AT	RT360	773.	12.23	52.	14.	5.	.88
+ ROUTED TO	S360	9.	12.33	8.	7.	5.	.88
+ 4 COMBINED AT	C360	4484.	12.33	784.	307.	171.	7.04
+ HYDROGRAPH AT	380	627.	12.27	97.	26.	9.	.90
+ DIVERSION TO	BS380	627.	12.27	56.	14.	5.	.90
+ HYDROGRAPH AT	D380	461.	12.57	44.	12.	4.	.90
+ HYDROGRAPH AT	RT380	627.	12.27	56.	14.	5.	.90
+ ROUTED TO	S380	9.	12.57	9.	7.	5.	.90
3 COMBINED AT							

+	C380	4405.	12.33	821.	321.	178.	7.94
HYDROGRAPH AT	400	560.	12.20	66.	18.	6.	.62
DIVERSION TO +	BS400	311.	12.00	10.	3.	1.	.62
HYDROGRAPH AT +	D400	560.	12.20	58.	15.	5.	.62
HYDROGRAPH AT +	RT400	311.	12.00	10.	3.	1.	.62
ROUTED TO +	S400	2.	12.07	2.	2.	1.	.62
2 COMBINED AT +	C400	562.	12.20	60.	16.	6.	.62
2 COMBINED AT +	CC400	4788.	12.37	868.	334.	183.	8.56
HYDROGRAPH AT +	420A	495.	12.20	68.	19.	7.	.57
DIVERSION TO +	BS420A	377.	12.07	16.	4.	2.	.57
HYDROGRAPH AT +	D420A	495.	12.20	56.	14.	5.	.57
HYDROGRAPH AT +	RT420A	377.	12.07	16.	4.	2.	.57
ROUTED TO +	S420A	13.	11.60	13.	4.	2.	.57
3 COMBINED AT +	C420A	5167.	12.37	924.	348.	188.	9.13
HYDROGRAPH AT +	370	817.	12.23	83.	22.	8.	.67
HYDROGRAPH AT +	395	234.	12.20	26.	7.	3.	.20
2 COMBINED AT +	C370	1046.	12.23	108.	29.	11.	.87
DIVERSION TO +	BS370	906.	12.23	68.	17.	6.	.87
HYDROGRAPH AT +	D370	140.	11.87	40.	12.	4.	.87
HYDROGRAPH AT +	RT370	906.	12.23	68.	17.	6.	.87
ROUTED TO +	S370	10.	12.90	9.	8.	6.	.87
2 COMBINED AT +	CC370	150.	12.90	47.	19.	10.	.87
ROUTED TO +	R370	150.	12.90	47.	19.	10.	.87
HYDROGRAPH AT +	390	477.	12.03	35.	10.	4.	.24
DIVERSION TO +	BS390	101.	11.73	6.	2.	1.	.24
HYDROGRAPH AT +	D390	477.	12.03	31.	8.	3.	.24
HYDROGRAPH AT +	RT390	101.	11.73	6.	2.	1.	.24
ROUTED TO +	S390	1.	.70	1.	1.	1.	.24
3 COMBINED AT +	C390	620.	12.03	79.	28.	14.	1.12
ROUTED TO +	R390	519.	12.27	79.	28.	13.	1.12
HYDROGRAPH AT	420B	356.	12.10	34.	10.	4.	.28
2 COMBINED AT +	C420B	771.	12.23	112.	37.	17.	1.39

+ HYDROGRAPH AT	385	613.	12.23	74.	20.	7.	.53
HYDROGRAPH AT	415C	443.	12.10	46.	13.	5.	.33
+ 2 COMBINED AT	C415C	973.	12.20	120.	33.	12.	.86
+ DIVERSION TO	BS415C	783.	12.20	64.	16.	6.	.86
+ HYDROGRAPH AT	D415C	190.	11.83	56.	17.	6.	.86
+ HYDROGRAPH AT	RT415C	783.	12.20	64.	16.	6.	.86
+ ROUTED TO	S415C	10.	12.83	10.	9.	6.	.86
+ 2 COMBINED AT	CC415C	200.	12.83	63.	23.	12.	.86
+ ROUTED TO	R415C	200.	12.83	63.	23.	12.	.86
+ HYDROGRAPH AT	415B	86.	12.07	8.	2.	1.	.06
+ 2 COMBINED AT	C415B	281.	12.07	71.	26.	13.	.92
+ ROUTED TO	R415B	271.	12.23	71.	26.	13.	.92
+ HYDROGRAPH AT	440	184.	12.03	12.	3.	1.	.08
+ ROUTED TO	R70	181.	12.07	12.	3.	1.	.08
+ HYDROGRAPH AT	441	16.	12.03	1.	0.	0.	.01
2 COMBINED AT	C108	197.	12.07	14.	4.	1.	.09
+ DIVERSION TO	SPLIT	98.	12.07	7.	2.	1.	.09
+ HYDROGRAPH AT	D4	98.	12.07	7.	2.	1.	.09
+ ROUTED TO	R108	92.	12.13	7.	2.	1.	.09
+ HYDROGRAPH AT	442	105.	12.10	9.	2.	1.	.10
+ 2 COMBINED AT	C67	195.	12.10	16.	4.	2.	.19
+ DIVERSION TO	BASIN4	121.	12.10	6.	2.	1.	.19
+ HYDROGRAPH AT	D6	74.	12.10	10.	3.	1.	.19
+ HYDROGRAPH AT	RTD6	121.	12.10	6.	2.	1.	.19
+ ROUTED TO	SD6	1.	12.47	1.	1.	0.	.19
+ 2 COMBINED AT	CD6	74.	12.10	10.	3.	1.	.19
+ HYDROGRAPH AT	443	151.	12.07	15.	4.	1.	.08
+ DIVERSION TO	WSH66	78.	11.87	12.	3.	1.	.08
+ HYDROGRAPH AT	D66	73.	12.07	3.	1.	0.	.08
+ ROUTED TO	R113	71.	12.07	3.	1.	0.	.08
2 COMBINED AT	C114	144.	12.07	13.	4.	2.	.27
HYDROGRAPH AT							

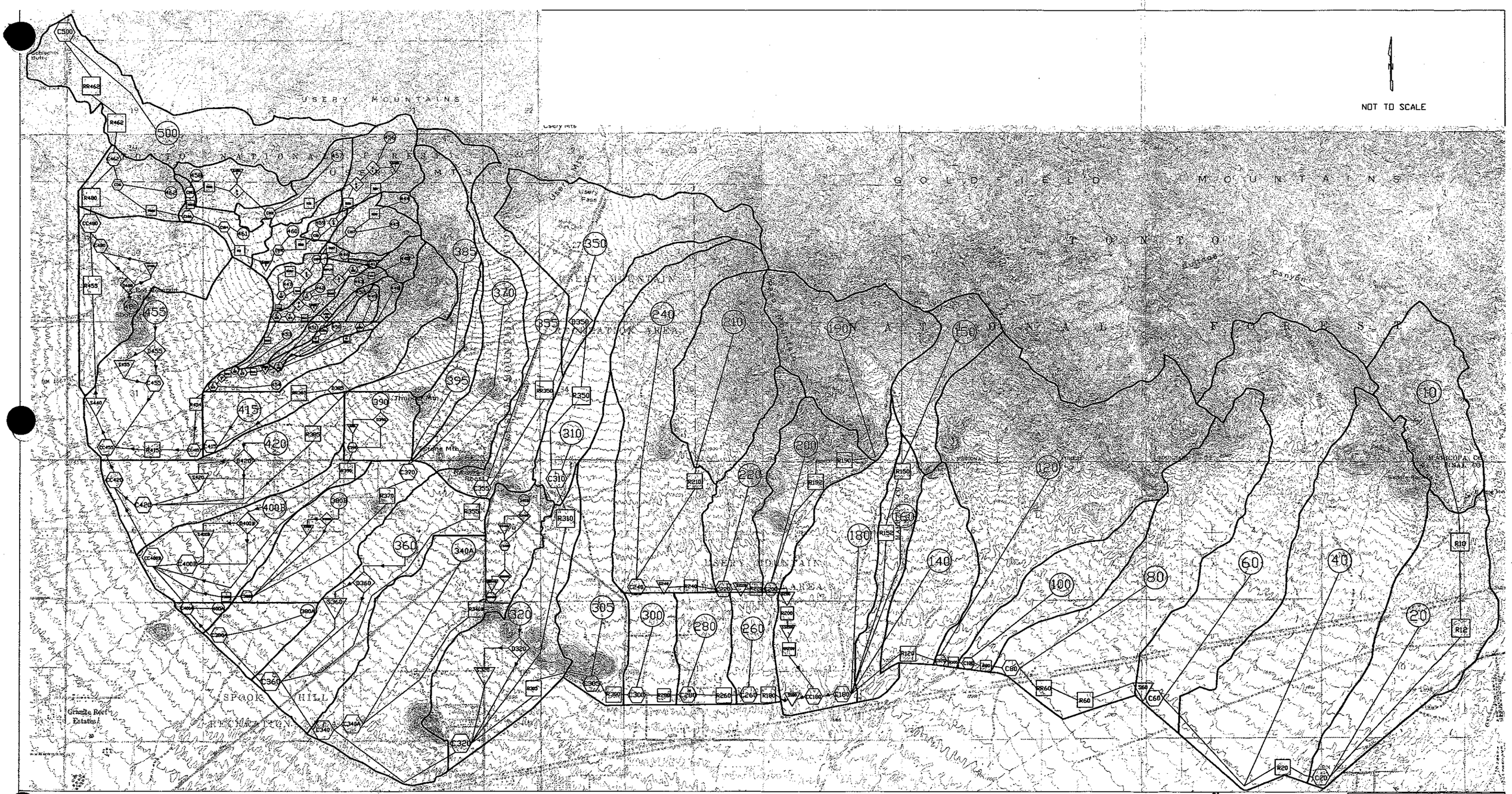
+	444	83.	12.03	5.	1.	0.	.04
ROUTED TO	R58	79.	12.07	5.	1.	0.	.04
HYDROGRAPH AT +	445	307.	12.03	19.	5.	2.	.19
2 COMBINED AT +	C107	382.	12.03	23.	6.	2.	.23
ROUTED TO +	R107	382.	12.07	23.	6.	2.	.23
HYDROGRAPH AT +	RTB2	98.	12.07	7.	2.	1.	.09
ROUTED TO +	RSPLIT	98.	12.07	7.	2.	1.	.09
HYDROGRAPH AT +	446	66.	12.03	6.	2.	1.	.04
3 COMBINED AT +	C109	545.	12.07	36.	10.	3.	.27
DIVERSION TO +	WSH404	35.	11.70	8.	2.	1.	.27
HYDROGRAPH AT +	D5	510.	12.07	28.	7.	3.	.27
ROUTED TO +	R109	493.	12.10	28.	7.	3.	.27
HYDROGRAPH AT +	447	141.	12.07	12.	4.	1.	.09
HYDROGRAPH AT +	RT404	35.	11.70	8.	2.	1.	.27
ROUTED TO +	R404	35.	11.83	8.	2.	1.	.27
3 COMBINED AT +	C110	666.	12.07	48.	13.	5.	.36
ROUTED TO +	R110	663.	12.10	48.	13.	5.	.36
2 COMBINED AT +	C115	805.	12.07	61.	17.	7.	.63
ROUTED TO +	R115	799.	12.10	61.	17.	7.	.63
HYDROGRAPH AT +	448	89.	12.03	6.	2.	1.	.05
HYDROGRAPH AT +	449	81.	12.03	5.	1.	0.	.05
2 COMBINED AT +	C6364	170.	12.03	11.	3.	1.	.09
ROUTED TO +	R6364	145.	12.17	11.	3.	1.	.09
HYDROGRAPH AT +	450	63.	12.20	7.	2.	1.	.07
HYDROGRAPH AT +	451	18.	12.17	2.	1.	0.	.03
2 COMBINED AT +	C451	80.	12.20	9.	2.	1.	.09
HYDROGRAPH AT +	RT66	78.	11.87	12.	3.	1.	.08
HYDROGRAPH AT +	452	63.	12.03	5.	1.	0.	.04
2 COMBINED AT +	C6465	141.	12.03	17.	4.	2.	.04
ROUTED TO +	R6566	137.	12.10	17.	4.	2.	.04
3 COMBINED AT	C116	357.	12.17	36.	10.	3.	.23
ROUTED TO +	BASIN5	159.	12.47	36.	10.	3.	.23

+	ROUTED TO	R116	157.	12.53	36.	10.	3.	.23
	HYDROGRAPH AT	453	63.	12.10	7.	2.	1.	.06
+	2 COMBINED AT	C117	177.	12.47	43.	12.	4.	.29
+	2 COMBINED AT	C118	892.	12.10	104.	29.	11.	.92
+	ROUTED TO	R118	887.	12.13	104.	29.	11.	.92
+	DIVERSION TO	BASIN6	248.	12.13	7.	2.	1.	.92
+	HYDROGRAPH AT	D7	639.	12.13	97.	27.	10.	.92
+	HYDROGRAPH AT	RTD7	248.	12.13	7.	2.	1.	.92
+	ROUTED TO	SD7	1.	12.63	1.	1.	1.	.92
+	2 COMBINED AT	CD7	640.	12.13	97.	28.	11.	.92
+	HYDROGRAPH AT	454	162.	12.13	21.	6.	2.	.18
+	2 COMBINED AT	C119	801.	12.13	118.	34.	13.	1.10
+	2 COMBINED AT	C454	1058.	12.17	187.	58.	25.	2.02
+	ROUTED TO	R454	1054.	12.23	187.	58.	25.	2.02
+	HYDROGRAPH AT	415A	196.	12.13	24.	7.	2.	.22
	3 COMBINED AT	C415A	1973.	12.23	317.	100.	44.	3.63
+	ROUTED TO	R415A	1960.	12.27	317.	100.	44.	3.63
+	HYDROGRAPH AT	455	1418.	12.13	150.	45.	16.	1.11
+	DIVERSION TO	BS455	1418.	12.13	139.	37.	13.	1.11
+	HYDROGRAPH AT	D455	145.	12.80	24.	8.	3.	1.11
+	HYDROGRAPH AT	RT455	1418.	12.13	139.	37.	13.	1.11
+	ROUTED TO	S455	23.	12.80	22.	18.	11.	1.11
+	2 COMBINED AT	C455	169.	12.80	46.	26.	14.	1.11
+	3 COMBINED AT	CC455	6772.	12.37	1214.	451.	237.	13.87
+	ROUTED TO	S440	225.	23.93	224.	210.	148.	13.87
+	ROUTED TO	R455	225.	24.57	224.	210.	145.	13.87
+	HYDROGRAPH AT	480	1102.	12.10	100.	31.	11.	.73
+	DIVERSION TO	BS480	487.	11.90	27.	8.	3.	.73
+	HYDROGRAPH AT	D480	1102.	12.10	83.	23.	8.	.73
+	HYDROGRAPH AT	RT480	487.	11.90	27.	8.	3.	.73
	ROUTED TO	S480	5.	11.97	5.	4.	3.	.73
	2 COMBINED AT							

+	C480	1107.	12.10	88.	27.	11.	.73
2 COMBINED AT	CC480	1107.	12.10	289.	259.	178.	.73
ROUTED TO +	R480	878.	12.33	289.	259.	177.	.73
HYDROGRAPH AT +	456	483.	12.07	37.	10.	4.	.26
DIVERSION TO +	BASIN1	193.	12.07	8.	2.	1.	.26
HYDROGRAPH AT +	D1	290.	12.07	29.	8.	3.	.26
DIVERSION TO +	WA30	59.	12.07	10.	3.	1.	.26
HYDROGRAPH AT +	CD2	231.	12.07	19.	5.	2.	.26
ROUTED TO +	R456	218.	12.13	19.	5.	2.	.26
HYDROGRAPH AT +	457	273.	12.07	21.	6.	2.	.19
2 COMBINED AT +	C101	480.	12.10	40.	10.	4.	.45
DIVERSION TO +	BASIN2	177.	12.10	8.	2.	1.	.45
HYDROGRAPH AT +	D3	303.	12.10	32.	8.	3.	.45
HYDROGRAPH AT +	RTD3	177.	12.10	8.	2.	1.	.45
ROUTED TO +	SD3	1.	12.40	1.	1.	1.	.45
2 COMBINED AT +	CD3	304.	12.10	33.	9.	4.	.45
ROUTED TO +	R101	302.	12.10	33.	9.	4.	.45
HYDROGRAPH AT +	458	366.	12.03	26.	7.	2.	.19
2 COMBINED AT +	C103	655.	12.07	59.	16.	6.	.64
ROUTED TO +	R103	651.	12.07	59.	16.	6.	.64
HYDROGRAPH AT +	RT30	59.	12.07	10.	3.	1.	.26
ROUTED TO +	R30	58.	12.10	10.	3.	1.	.26
HYDROGRAPH AT +	RTB1	193.	12.07	8.	2.	1.	.26
ROUTED TO +	B1	35.	12.20	8.	2.	1.	.26
ROUTED TO +	RB1	35.	12.27	8.	2.	1.	.26
2 COMBINED AT +	CDIV	87.	12.20	18.	5.	2.	.12
HYDROGRAPH AT +	459	45.	12.03	3.	1.	0.	.03
2 COMBINED AT +	C52	117.	12.10	21.	6.	2.	.15
ROUTED TO +	R52	116.	12.17	21.	6.	2.	.15
HYDROGRAPH AT +	460	221.	12.07	20.	6.	2.	.14
2 COMBINED AT	C102	323.	12.07	40.	12.	4.	.29
ROUTED TO +	BASIN3	71.	12.63	40.	12.	4.	.29

+	ROUTED TO	R3	71.	12.77	40.	12.	4.	.29
	HYDROGRAPH AT	461	165.	12.10	17.	5.	2.	.12
+	2 COMBINED AT	C104	220.	12.10	57.	17.	6.	.41
+	2 COMBINED AT	C106	866.	12.07	115.	33.	12.	1.05
+	ROUTED TO	R106	828.	12.13	115.	33.	12.	1.05
+	HYDROGRAPH AT	462	557.	12.07	42.	12.	4.	.30
+	2 COMBINED AT	C56	1306.	12.10	156.	44.	16.	1.35
+	2 COMBINED AT	C462	1603.	12.30	369.	285.	189.	2.09
+	ROUTED TO	R462	1575.	12.33	368.	285.	189.	2.09
+	ROUTED TO	RR462	1543.	12.40	367.	285.	188.	2.09
+	HYDROGRAPH AT	500	1126.	12.27	128.	35.	12.	.93
+	2 COMBINED AT	C500	2475.	12.33	478.	311.	198.	3.02

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



FLOOD CONTROL DISTRICT
OF MARICOPA COUNTY
ENGINEERING DIVISION

McKELLIPS ALTERNATIVE 1C

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

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

DRAWING NO. EC24MK1C.DWG SHEET OF

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1*****************************************
*                                       *
*   FLOOD HYDROGRAPH PACKAGE  (HEC-1)   *
*              JUN   1998               *
*            VERSION 4.1                *
*                                       *
*  RUN DATE   02MAY01  TIME  10:37:52   *
*                                       *
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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   Existing Condition Base Model with Spook Hill FRS Storage Routing
  2           ID   Spook Hill FRS without Off-Line Basin
  3           ID   McKellips Road Alternative - Option MK1C
  4           ID   DDM MCUHP1 SPOOK HILL AMDP - EXISTING CONDITIONS MODEL - 100YR, 24HR STORM
              *
              *  Original File Name: EC24MK2E.DAT, 4/20/01
              *  Modified File Name: EC24MK1C.DAT, 4/20/01, WOOD/PATEL, SZ
              *
              *  MAJOR ASSUMPTIONS / CRITERIA / CHANGES FROM PREVIOUS MODELS:
              *
              *    1. Refinement of areas for sub-basins 340, 380 and 400 into  sub-basins
              *       340A, 340B, 380A, 380B, 400A and 400B.
              *         Areas: 340A = 1.150 s.m., 340B = 0.290 s.m.
              *                380A = 0.261 s.m., 380B = 0.637 s.m.
              *                400A = 0.047 s.m., 400B = 0.569 s.m.
              *
              *    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.
              *
              *    3. Operations for option MK1C are added to the HEC-1 Model.
              *       One (1) offline basin on the NEC of McKellips Rd. and Usery Pass Rd.
              *
              *DIAGRAM
  5           IT       2                    2000
  6           IO       5
  7           IN      15
  8           JD    3.81    0.01
  9           PC    .000    .002    .005    .008    .011    .014    .017    .020    .023    .026
 10           PC    .029    .032    .035    .038    .041    .044    .048    .052    .056    .060
 11           PC    .064    .068    .072    .076    .080    .085    .090    .095    .100    .105
 12           PC    .110    .115    .120    .126    .133    .140    .147    .155    .163    .172
 13           PC    .181    .191    .203    .218    .236    .257    .283    .387    .663    .707
 14           PC    .735    .758    .776    .791    .804    .815    .825    .834    .842    .849
 15           PC    .856    .863    .869    .875    .881    .887    .893    .898    .903    .908
 16           PC    .913    .918    .922    .926    .930    .934    .938    .942    .946    .950
 17           PC    .953    .956    .959    .962    .965    .968    .971    .974    .977    .980
 18           PC    .983    .986    .989    .992    .995    .998   1.000
 19           JD   3.787    1.00
 20           JD   3.677    5.80
 21           JD   3.574   10.66
 22           JD   3.539   13.70
 23           JD   3.467   20.00
 24           JD   3.315   50.00
              * DDM   ***** Updated *****

 25           KK      10
 26           KM   SUB-BASIN 10
 27           KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
 28           KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .996
 29           KM     L = 2.00  Kb = .044  Adj. Slope =  165.0
 30           BA    .702
 31           LG    .350    .320   7.600    .090  15.000
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

  32          UC    .421    .302
  33          UA       0       3       5       8      12      20      43      75      90      96
  34          UA     100
              * DDM   ***** Preserved *****

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

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

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

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

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

  66          KK      40
  67          KM   SUB-BASIN 40
  68          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
  69          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .987
  70          KM     L = 3.08  Kb = .036  Adj. Slope =  189.0
  71          BA   2.233
  72          LG    .340    .340   4.900    .280   5.000
  73          UC    .496    .264
  74          UA       0       3       5       8      12      20      43      75      90      96
1                                          HEC-1 INPUT                                          PAGE  3

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

  75          UA     100
              * DDM   ***** Updated *****

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

  86          KK     C60
  87          KM     C60GRAPH COMBINATION FOR APACHE JUNCTION FRS
              *      1       2
  88          HC       3
              * DDM   ***** Preserved *****

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

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

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

110          KK      80
111          KM   SUB-BASIN 80
112          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
113          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .991
114          KM     L = 2.69  Kb = .039  Adj. Slope =  229.8
115          BA   1.475
1                                        HEC-1 INPUT                                          PAGE  4

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

116          LG    .330    .330   5.600    .210   4.000
117          UC    .433    .259
118          UA       0       3       5       8      12      20      43      75      90      96
119          UA     100
             * DDM   ***** Preserved *****

120          KK     C80
121          KM   HYDROGRAPH COMBINATION FOR FLOW FROM APACHE JUNCTION FRS & SUB-BASIN 80
122          HC       2   1.475
             * DDM   ***** Preserved *****

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

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

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

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

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

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

158          KK    C120
159          KM   HYDROGRAPH COMBINATION FOR FLOW FROM SUB-BASIN 100 & 120
160          HC       2
             * DDM   ***** Preserved *****

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

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

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

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

193          KK    R152
194          KM   ROUTING OF FLOW FROM R152 TO SUB-BASIN 160
195          RS       3    FLOW      -1
196          RC    .045     .03    .045    5900    .019
197          RX       0       1       2       8      33      39      40      41
198          RY       2       2       2       0       0       2       2       2
             * DDM   ***** Updated *****
1                                        HEC-1 INPUT                                                    PAGE  6

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

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

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

219          KK    C180
220          KM   HYDROGRAPH COMBINATION FOR SIGNAL BUTTE FRS
221          HC       5
             *
             * The sub-basin area and soil make-up have been updated from CAD file 12/07/00
             * DDM   ***** Updated *****

222          KK     210
223          KM   SUB-BASIN 210
224          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
225          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .995
226          KM     L = 1.84  Kb = .043  Adj. Slope =  315.0
227          BA    .792
228          LG    .350    .360   6.800    .130   4.000
229          UC    .313    .189
230          UA       0       3       5       8      12      20      43      75      90      96
231          UA     100
             * DDM   ***** Preserved *****

232          KK    R210
233          KM   ROUTING OF FLOW FROM SUB-BASIN 210 TO SUB-BASIN 220
234          RS       2    FLOW      -1
235          RC    .045     .03    .045    5100    .022
236          RX       0       1       2      14      34      46      47      48
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 237          RY       4       4       4       0       0       4       4       4
              *
              * The sub-basin area and soil make-up have been updated from CAD file 12/07/00
              * DDM    ***** Updated *****
                                          HEC-1 INPUT                                                    PAGE  7

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


 238          KK     240
 239          KM   SUB-BASIN 240
 240          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
 241          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .992
 242          KM     L = 3.50  Kb = .039  Adj. Slope =  298.6
 243          BA   1.408
 244          LG    .350    .370   5.300    .230   2.000
 245          UC    .467    .356
 246          UA       0       3       5       8      12      20      43      75      90      96
 247          UA     100
              * DDM    ***** Preserved *****

 248          KK    C240
 249          KM   HYDROGRAPH COMBINATION FOR SUB-BASIN 240 & 220
 250          HC       2
              * DDM    ***** Preserved *****

 251          KK    S240
 252          KM    WEIR GEOMETRY OBTAINED FROM AS-BUILT PLANS @ PASS MTN. DIVERSION.
 253          KM   WEIR STORAGE DATA OBTAINED FROM 2' CONTOUR MAPPING.
 254          RS       1    STOR       0
 255          SA    1.38    14.2    36.5
 256          SE     1.7       5      11
 257          SS       5      42       3     1.5
              * DDM    ***** Preserved *****

 258          KK    R240
 259          KM   ROUTE FLOW FROM SUB-BASIN 240 TO SUB-BASIN 220
 260          KM   PASS MOUNTAIN DIVERSION
 261          RS       3    FLOW      -1
 262          RC    .035    .025    .035    1800    .005
 263          RX       0      15      30      39      69      81      96     111
 264          RY     3.6     3.3       3       0       0       3       3       4
              *
              * The sub-basin area and soil make-up have been updated from CAD file 12/07/00
              * DDM    ***** Updated *****

 265          KK     220
 266          KM   SUB-BASIN 220
 267          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
 268          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .997
 269          KM     L = 1.92  Kb = .046  Adj. Slope =  315.0
 270          BA    .473
 271          LG    .350    .350   7.000    .120   5.000
 272          UC    .333    .282
 273          UA       0       3       5       8      12      20      43      75      90      96
 274          UA     100
              * DDM    ***** Preserved *****
1                                         HEC-1 INPUT                                                    PAGE  8

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


 275          KK    C220
 276          KM   HYDROGRAPH COMBINATION FOR SUB-BASIN 240 & 220
 277          HC       2
              * DDM    ***** Preserved *****

 278          KK    S220
 279          KM    WEIR GEOMETRY OBTAINED FROM AS-BUILT PLANS @ PASS MTN. DIVERSION.
 280          KM   WEIR STORAGE DATA OBTAINED FROM 2' CONTOUR MAPPING.
 281          RS       1    STOR       0
 282          SA     .78     4.1    13.7
 283          SE       1       3      10
 284          SS       3      65       3     1.5
              * DDM    ***** Preserved *****

 285          KK    R220
 286          KM   ROUTE FLOW FROM SUB-BASIN 220 TO SUB-BASIN 200
 287          KM   PASS MOUNTAIN DIVERSION
 288          RS       1    FLOW      -1
 289          RC    .035    .025    .035    1250    .005
 290          RX       0      50     100     109     139     148     178     184
 291          RY       5       4       3       0       0       3       3       5
              * DDM    ***** Updated *****

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

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

 308            KK    R192
 309            KM   ROUTING OF FLOW FROM SUB-BASIN 190 TO SUB-BASIN 200
 310            RS       3    FLOW      -1
 311            RC    .045    .035    .045    2200    .018
 312            RX       0       1      50      59      79      88     137     138
 313            RY     4.5       3       3       0       0       3       3     4.5
                * DDM   ***** Updated *****
1                                        HEC-1 INPUT                                                    PAGE  9

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

 314            KK     200
 315            KM   SUB-BASIN 200
 316            KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
 317            KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .997
 318            KM     L = 1.58  Kb = .045  Adj. Slope =  305.6
 319            BA    .530
 320            LG    .350    .390   5.700    .200  10.000
 321            UC    .300    .201
 322            UA       0       3       5       8      12      20      43      75      90      96
 323            UA     100
                * DDM   ***** Preserved *****

 324            KK    C200
 325            KM   HYDROGRAPH COMBINATION FOR SUB-BASIN 220 & 200
 326            HC       3
                * DDM   ***** Preserved *****

 327            KK    S200
 328            KM    WEIR GEOMETRY OBTAINED FROM AS-BUILT PLANS @ PASS MTN. DIVERSION.
 329            KM   WEIR STORAGE DATA OBTAINED FROM 2' CONTOUR MAPPING.
 330            RS       1    STOR       0
 331            SA    2.56     3.1     9.4
 332            SE       0       3      10
 333            SS       3     112       3     1.5
                * DDM   ***** Preserved *****

 334            KK    R200
 335            KM   ROUTE FLOW FROM SUB-BASIN 200 TO SIGNAL BUTTE FRS through storage
 336            RS       1    FLOW      -1
 337            RC    .035    .025    .035     650    .005
 338            RX       0       1       2      17     117     132     133     134
 339            RY       5       5       5       0       0       5       5       5
                * DDM   ***** Preserved *****

 340            KK   SS200
 341            KM    WEIR GEOMETRY OBTAINED FROM AS-BUILT PLANS @ PASS MTN. DIVERSION.
 342            KM   WEIR STORAGE DATA OBTAINED FROM 2' CONTOUR MAPPING.
 343            RS       1    STOR       0
 344            SA       8     9.2     9.2
 345            SE       0       7      10
 346            SS       7     251       3     1.5
                * DDM   ***** Preserved *****

 347            KK   RR200
 348            KM   ROUTE FLOW FROM SUB-BASIN 200 TO SIGNAL BUTTE FRS
 349            RS       3    FLOW      -1
 350            RC    .035    .025    .035    3150    .005
 351            RX       0       1       2      17     117     132     133     134
 352            RY       5       5       5       0       0       5       5       5
                * DDM   ***** Preserved *****
1                                        HEC-1 INPUT                                                    PAGE 10

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

 353            KK   CC180
 354            KM   HYDROGRAPH COMBINATION FOR SIGNAL BUTTE FRS
                *      1       2
 355            HC       2
                * DDM   ***** Preserved *****

 356            KK    S180
 357            KM   SIGNAL BUTTE FRS DATED 1/28/85
 358            KM   OUTLET PIPE=36"RCP; L= 147';  INLET INV.=1690; OUTLET INV.=1687
 359            KM   EMERGENCY SPILLWAY ELEV.=1712.4; PRINCIPLE SPILLWAY ELEV.=1701
 360            KM   STORAGE VOLUME BELOW PRINCIPLE SPILLWAY FOR SEDIMENT = 250 ACRE-FEET
                *  ESE = 1714.63 ft; PSE = 1703.23 ft; Sediment Vol. = 247 Ac-Ft.
 361            RS       1    STOR       0
 362            SV       0      92     226     462     742    1197    1418    1776    1941    3114
 363            SQ       0      10    10.5      98     133     149     155    1484    2567    6000
 364            SE      99     101   103.0     106     109   113.0   114.6     117     118     120
                * DDM   ***** Preserved *****
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365          KK    R180
366          KM   Routing length updated using Signal Butte Floodway plans dated March 1983
367          KM   Routing length increased 100' from 1500' to 1600'    12/12/00
368          KM   CHANNEL GEOMETRY FOR SIGNAL BUTTE FRS OBTAINED FROM AS-BUILT PLANS.
369          KM   ROUTE FLOW FROM SIGNAL BUTTE FRS TO SUB-BASIN 260
370          RS       2    FLOW      -1
371          RC    .035    .025    .035    1600    .003
372          RX       0       1       2    22.6    38.6    59.2      60      61
373          RY     9.3     9.3     9.3       0       0     9.3     9.3     9.3
             * DDM   ***** Updated *****

374          KK     260
375          KM   SUB-BASIN 260
376          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
377          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .998
378          KM     L =  .81  Kb = .049  Adj. Slope =   68.0
379          BA    .262
380          LG    .300    .190   6.600    .170  15.000
381          UC    .363    .217
382          UA       0       5      16      30      65      77      84      90      94      97
383          UA     100
             * DDM   ***** Preserved *****

384          KK    C260
385          KM   HYDROGRAPH COMBINATION FOR OUTFLOW OF SIGNAL BUTTE FRS & SUB-BASIN 260
386          HC       2    .262
             * DDM   ***** Preserved *****

387          KK    R260
388          KM   Routing length updated using Signal Butte Floodway plans dated March 1983
389          KM   Routing length unchanged     12/12/00
390          KM   CHANNEL GEOMETRY FOR SIGNAL BUTTE FRS OBTAINED FROM AS-BUILT PLANS.
391          KM   ROUTE FLOW FROM SUB-BASIN 260 TO SUB-BASIN 280
392          RS       3    FLOW      -1
393          RC    .035    .025    .035    2300    .003
394          RX       0       1       2    23.4    43.4    64.8      65      66
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LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

395          RY     9.7     9.7     9.7       0       0     9.7     9.7     9.7
             * DDM   ***** Updated *****

396          KK     280
397          KM   SUB-BASIN 280
398          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
399          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .998
400          KM     L =  .77  Kb = .048  Adj. Slope =   84.0
401          BA    .319
402          LG    .300    .250   5.300    .290  15.000
403          UC    .329    .168
404          UA       0       5      16      30      65      77      84      90      94      97
405          UA     100
             * DDM   ***** Preserved *****

406          KK    C280
407          KM   HYDROGRAPH COMBINATION FOR SUB-BASIN 260 & SUB-BASIN 280
408          HC       2
             * DDM   ***** Preserved *****

409          KK    R280
410          KM   Routing length updated using Signal Butte Floodway plans dated March 1983
411          KM   Routing length decreased 400' from 2500' to 2100'    12/12/00
412          KM   CHANNEL GEOMETRY FOR SIGNAL BUTTE FRS OBTAINED FROM AS-BUILT PLANS.
413          KM   ROUTE FLOW FROM SUB-BASIN 280 TO SUB-BASIN 300
414          RS       3    FLOW      -1
415          RC    .035    .025    .035    2100    .003
416          RX       0       1       2    23.4    43.4    64.8      65      66
417          RY     9.7     9.7     9.7       0       0     9.7     9.7     9.7
             *
             * The sub-basin area and soil make-up have been updated from CAD file 12/07/00
             * DDM   ***** Updated *****

418          KK     300
419          KM   SUB-BASIN 300
420          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
421          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .998
422          KM     L =  .78  Kb = .049  Adj. Slope =  103.0
423          BA    .289
424          LG    .320    .290   4.200    .480  11.000
425          UC    .325    .177
426          UA       0       5      16      30      65      77      84      90      94      97
427          UA     100
             * DDM   ***** Preserved *****

428          KK    C300
429          KM   HYDROGRAPH COMBINATION OF SUB-BASIN 280 & 300
430          HC       2
             * DDM   ***** Preserved *****
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LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

431          KK    R300
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432          KM   Routing length updated using Signal Butte Floodway plans dated March 1983
433          KM   Routing length increased 300' from 2200' to 2500'    12/12/00
434          KM   CHANNEL GEOMETRY FOR SIGNAL BUTTE FRS OBTAINED FROM AS-BUILT PLANS.
435          KM   ROUTE FLOW FROM SUB-BASIN 300 TO START OF FLOODWAY CONCRETE CHANNEL
436          RS       2    FLOW      -1
437          RC    .035    .025    .035    2500    .003
438          RX       0       1       2    23.4    55.4    76.8      77      78
439          RY     9.7     9.7     9.7       0       0     9.7     9.7     9.7
             *
             * The sub-basin area and soil make-up have been updated from CAD file 12/07/00
             * DDM   ***** Updated *****

440          KK     305
441          KM   SUB-BASIN 305
442          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
443          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .996
444          KM     L = 2.50  Kb = .044  Adj. Slope =  116.0
445          BA    .702
446          LG    .340    .340   4.550    .350   6.000
447          UC    .642    .576
448          UA       0       5      16      30      65      77      84      90      94      97
449          UA     100
             * DDM   ***** Preserved *****

450          KK    C305
451          KM   HYDROGRAPH COMBINATION OF SUB-BASIN 300 AND 305
452          HC       2
             * DDM   ***** Preserved *****

453          KK    R305
454          KM   Routing length updated using Signal Butte Floodway plans dated March 1983
455          KM   Routing length decreased 50' from 6050' to 6000'     12/12/00
456          KM   CHANNEL GEOMETRY FOR SPOOK HILL FRS OBTAINED FROM AS-BUILTS PLANS.
457          KM   CONTINUE TO ROUTE FLOW WITHIN CONCRETE CHANNEL TO SPOOK HILL FRS
458          RS       3    FLOW      -1
459          RC    .016    .016    .016    6000   .0146
460          RX       0       1       2     2.1    16.1    16.2      17      18
461          RY     7.5     7.5     7.5       0       0     7.5     7.5     7.5
             *      1       2
             * DDM   ***** Updated *****

462          KK     350
463          KM   SUB-BASIN 350
464          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
465          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .994
466          KM     L = 2.22  Kb = .042  Adj. Slope =  315.0
467          BA    .970
468          LG    .350    .350   4.550    .340   4.000
469          UC    .367    .234
470          UA       0       3       5       8      12      20      43      75      90      96
471          UA     100
             * DDM   ***** Preserved *****
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LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

472          KK    D350
473          KM   DIVERT FLOW FROM SUB-BASIN 350. FOR MODELING PURPOSES THE SPLIT FLOW WILL
474          KM   BE ROUTED BETWEEN SUB-BASINS 355 & 310. THE MAIN FLOW WILL ROUTED TO 310
475          DT   SF350
476          DI       0    5000
477          DQ       0    2500
             * DDM   ***** Preserved *****

478          KK    R350
479          KM   CHANNEL GEOMETRY OBTAINED FROM 2' CONTOUR MAPPING
480          KM   ROUTING OF MAIN FLOW FROM DIVERSION OF SUB-BASIN 350 TO SUB-BASIN 310
481          RS       6    FLOW      -1
482          RC    .045    .035    .045    5150    .025
483          RX       0       1      40      46      56      62     102     103
484          RY       3       2       2       0       0       2       2       3
             * DDM   ***** Updated *****

485          KK     310
486          KM   SUB-BASIN 310
487          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
488          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .997
489          KM     L = 2.70  Kb = .045  Adj. Slope =  283.5
490          BA    .555
491          LG    .350    .350   3.910    .480    .000
492          UC    .483    .511
493          UA       0       3       5       8      12      20      43      75      90      96
494          UA     100
             * DDM   ***** Preserved *****

495          KK    C310
496          KM   HYDROGRAPH COMBINATION OF SUB-BASINS 350 & 310
497          HC       2    1.04
             * DDM   ***** Preserved *****

498          KK    R310
499          KM   CHANNEL GEOMETRY OBTAINED FROM 2' CONTOUR MAPPING.
500          KM   ROUTING OF FLOW FROM SUB-BASIN 310 TO 320
501          RS      10    FLOW      -1
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502          RC     .045     .035     .045   10050     .022
503          RX        0        1       40      46       56       62      102      103
504          RY        3        2        2       0        0        2        2        3
             *
             * The sub-basin area and soil make-up have been updated from CAD file 12/07/00
             * DDM    ***** Updated *****

505          KK      320
506          KM    SUB-BASIN 320
507          KM    24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
508          KM    THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .994
509          KM      L = 2.20  Kb = .042  Adj. Slope =  132.0
510          BA     .950
511          LG     .310     .300   4.600     .350  14.000
512          UC     .508     .338
513          UA        0        5       16      30       65       77       84       90       94       97
1                                          HEC-1 INPUT                                                    PAGE 14

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

514          UA      100
             * DDM    ***** Preserved *****

515          KK     D320
516          KM         DIVERT FLOW INTO ONLINE  DETENTION BASIN
517          KM    DETENTION/RETENTION BASINS LOCATED WITHIN THREE SUBDIVISIONS
518          KM    SIERRA HEIGHTS        FALCON RIDGE     & MARBLE CREEK
519          KM         MAXIMUM VOLUME DIVERSION = 12.27acre-feet
             *       1
520          DT    BS320   12.27
521          DI        0   10000
522          DQ        0   10000
             * DDM    ***** Preserved *****

523          KK    RT320
524          KM    RETRIEVE FLOW FROM DIVERSION INTO ONLINE BASIN
525          DR    BS320
             * DDM    ***** Preserved *****

526          KK     S320
527          KM    RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
528          KM    12.27 ACRE-FEETx43560/36x3600=4.1cfs
             *       1
529          RS        1     STOR        0
530          SV        0      .01     12.3
531          SQ        0      3.0      4.2
             * DDM    ***** Preserved *****

532          KK     C320
533          KM    HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
534          HC        4
             *
             * DDM    ***** Updated *****

535          KK     340B
536          KM    SUB-BASIN 340B
537          KM    24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
538          KM    THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .998
539          KM      L =  .85  Kb = .049  Adj. Slope =  238.5
540          BA     .290
541          LG     .320     .280   4.000     .520  13.000
542          UC     .246     .139
543          UA        0        5       16      30       65       77       84       90       94       97
544          UA      100
             *
             * DDM    ***** Preserved *****

545          KK    D340B
546          KM         DIVERT FLOW INTO ONLINE  DETENTION BASIN
547          KM    DETENTION/RETENTION BASINS LOCATED WITHIN THREE SUBDIVISIONS
548          KM    GRANDVIEW ESTATES     BOULDER MOUNTAIN & 33% OF MESA HIGHLANDS
549          KM         MAXIMUM VOLUME DIVERSION = 11.0 acre-feet
             *       1
550          DT   BS340B      11
551          DI        0   10000
1                                          HEC-1 INPUT                                                    PAGE 15

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

552          DQ        0   10000
             * DDM    ***** Preserved *****

553          KK   RT340B
554          KM    RETRIEVE FLOW FROM DIVERSION INTO ONLINE BASIN
555          DR   BS340B
             * DDM    ***** Preserved *****

556          KK    S340B
557          KM    RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
558          KM     11.0 ACRE-FEETx43560/36x3600= 3.7cfs
             *       1
559          RS        1     STOR        0
560          SV        0      .01       11       15
561          SQ        0      2.0      3.7      4.0
             * DDM    ***** Preserved *****
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562          KK   C340B
563          KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
             * KO      1
564          HC        2
             *
             * DDM   ***** Preserved *****

565          KK  DD340B
566          KM   DIVERT FLOW INTO OFFLINE DETENTION BASIN LOCATED WITHIN SUB-BASINS 340B.
             * KO      1
567          DT   BS340
568          DI        0       18     5000
569          DQ        0        0     4982
             * DDM   ***** Preserved *****

570          KK   RT340
571          KM   RETRIEVE FLOW FROM DIVERSION
572          DR   BS340
             * DDM   ***** Preserved *****

573          KK  SS340B
574          KM   RETRIEVE FLOW INTO OFFLINE BASIN AND BLEED OFF WITHIN 36 HOURS.
575          KM        6 ACRE-FEETx43560/36x3600 = 2 cfs
576          RS        1    STOR        0
577          SV        0     .01        6        8
578          SQ        0     1.5        2        4
             * DDM   ***** Preserved *****

579          KK  CC340B
580          KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
581          HC        2
             * DDM   ***** Preserved *****
1                                        HEC-1 INPUT                                                    PAGE 16

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


582          KK   R340B
583          KM   CHANNEL GEOMETRY OBTAINED FROM 2' CONTOUR MAPPING.
584          KM   ROUTING OF FLOW FROM SUB-BASINS 370 AND 395 TO SUB-BASIN 380.
585          RS        4    FLOW       -1
586          RC     .045    .035     .045    2600     .023
587          RX        0       1       40      46       56       62      102      103
588          RY        3       2        2       0        0        2        2        3
             *
             * DDM   ***** Updated *****

589          KK    340A
590          KM   SUB-BASIN 340A
591          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
592          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .993
593          KM     L = 1.80  Kb = .044  Adj. Slope =  117.0
594          BA   1.150
595          LG    .260    .280   4.200    .510  23.000
596          UC    .492    .249
597          UA       0       5      16      30       65       77       84       90       94       97
598          UA     100
             *
             * DDM   ***** Preserved *****

599          KK   D340A
600          KM        DIVERT FLOW INTO ONLINE  DETENTION BASIN
601          KM   DETENTION/RETENTION BASINS LOCATED WITHIN THREE SUBDIVISIONS
602          KM   GRANDVIEW ESTATES    BOULDER MOUNTAIN & 33% OF MESA HIGHLANDS
603          KM        MAXIMUM VOLUME DIVERSION = 45.0 acre-feet
             * KO      1
604          DT  BS340A      45
605          DI        0   10000
606          DQ        0   10000
             * DDM   ***** Preserved *****

607          KK  RT340A
608          KM   RETRIEVE FLOW FROM DIVERSION INTO ONLINE BASIN
609          DR  BS340A
             * DDM   ***** Preserved *****

610          KK   S340A
611          KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
612          KM    45.0 ACRE-FEETx43560/36x3600=15.2cfs
             *      1
613          RS        1    STOR        0
614          SV        0     .01       45       50
615          SQ        0     3.0     15.2       16
             *
             * DDM   ***** Preserved *****
1                                        HEC-1 INPUT                                                    PAGE 17

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


616          KK   C340A
617          KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
618          HC        3
             *
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            * DDM   ***** Preserved *****

619         KK    C340
620         KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
621         HC       2
            * DDM   ***** Preserved *****

622         KK   RT350
623         KM   RETRIEVE SPLIT FLOW FROM DIVERSION OF SUB-BASIN 350
624         DR   SF350
            * DDM   ***** Preserved *****

625         KK   RR350
626         KM   CHANNEL GEOMETRY OBTAINED FROM 2' CONTOUR MAPPING.
627         KM   ROUTING OF FLOW FROM SPLIT OF SUB-BASIN 350 TO 355
628         RS       7    FLOW      -1
629         RC    .045    .035    .045    6050    .025
630         RX       0       1      40      46      56      62     102     103
631         RY       3       2       2       0       0       2       2       3
            *
            * The sub-basin area and soil make-up have been updated from CAD file 12/07/00
            * DDM   ***** Updated *****

632         KK     355
633         KM   SUB-BASIN 355
634         KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
635         KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .996
636         KM     L = 3.00  Kb = .044  Adj. Slope =  284.0
637         BA    .676
638         LG    .340    .340   4.450    .370   4.000
639         UC    .488    .502
640         UA       0       3       5       8      12      20      43      75      90      96
641         UA     100
            * DDM   ***** Preserved *****

642         KK    C355
643         KM   HYDROGRAPH COMBINATION OF SUB-BASIN 355 AND THE SPLIT FLOW FROM SUB-BASIN 350
644         HC       2   1.161
            * DDM   ***** Preserved *****

645         KK    R355
646         KM   CHANNEL GEOMETRY OBTAINED FROM 2' CONTOUR MAPPING.
647         KM   ROUTING OF FLOW FROM SUB-BASIN 355 TO SUB-BASIN 360
648         RS       9    FLOW      -1
649         RC    .045    .035    .045   10100    .026
650         RX       0       1      40      46      56      62     102     103
651         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

652         KK     360
653         KM   SUB-BASIN 360
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  .995
656         KM     L = 2.10  Kb = .047  Adj. Slope =  124.0
657         BA    .880
658         LG    .260    .270   4.100    .560  20.000
659         UC    .575    .390
660         UA       0       5      16      30      65      77      84      90      94      97
661         UA     100
            * DDM   ***** Preserved *****

662         KK    D360
663         KM        DIVERT FLOW INTO ONLINE  DETENTION BASIN
664         KM   DETENTION/RETENTION BASINS LOCATED WITHIN 33% OF MESA HIGHLANDS
665         KM        MAXIMUM VOLUME DIVERSION = 28.6 acre-feet
            *      1
666         DT   BS360    28.6
667         DI       0   10000
668         DQ       0   10000
            * DDM   ***** Preserved *****

669         KK   RT360
670         KM   RETRIEVE FLOW FROM DIVERSION INTO ONLINE BASIN
671         DR   BS360
            * DDM   ***** Preserved *****

672         KK    S360
673         KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
674         KM    28.6 ACRE-FEETx43560/36x3600=9.6cfs
675         RS       1    STOR       0
676         SV       0     .01    28.6
677         SQ       0     3.0     9.6
            * DDM   ***** Preserved *****

678         KK    C360
679         KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
680         HC       4
            *
            * DDM   ***** Updated *****

681         KK    380A
```

```
682          KM   SUB-BASIN 380A
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  .998
685          KM     L =  .66  Kb = .076  Adj. Slope =   91.0
686          BA    .261
687          LG    .170    .250   4.100    .710  21.000
688          UC    .425    .221
689          UA       0       3       5       8      12      20      43      75      90      96
690          UA     100
             *
             * DDM   ***** Preserved *****
1                                        HEC-1 INPUT                                          PAGE 19

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

691          KK   C380A
692          KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
693          HC       2
             *
             * DDM   ***** Updated *****

694          KK    400A
695          KM   SUB-BASIN 400A
696          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
697          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF 1.000
698          KM     L =  .28  Kb = .094  Adj. Slope =   71.0
699          BA    .048
700          LG    .250    .290   4.000    .640    .000
701          UC    .317    .211
702          UA       0       3       5       8      12      20      43      75      90      96
703          UA     100
             *
             * DDM   ***** Preserved *****

704          KK   C400A
705          KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
706          HC       2
             *
             * The sub-basin area and soil make-up have been updated from CAD file 12/07/00
             * DDM   ***** Updated *****

707          KK     370
708          KM   SUB-BASIN 370
709          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
710          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .996
711          KM     L = 1.90  Kb = .044  Adj. Slope =  203.5
712          BA    .672
713          LG    .340    .320   4.650    .330   8.000
714          UC    .404    .284
715          UA       0       3       5       8      12      20      43      75      90      96
716          UA     100
             *
             * The sub-basin area and soil make-up have been updated from CAD file 12/07/00
             * DDM   ***** Updated *****

717          KK     395
718          KM   SUB-BASIN 395
719          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
720          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .999
721          KM     L = 1.30  Kb = .051  Adj. Slope =  219.2
722          BA    .199
723          LG    .330    .320   4.900    .300  10.000
724          UC    .333    .338
725          UA       0       3       5       8      12      20      43      75      90      96
726          UA     100
             * DDM   ***** Preserved *****
1                                        HEC-1 INPUT                                          PAGE 20

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

727          KK    C370
728          KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
729          HC       2
             * DDM   ***** Preserved *****

730          KK    R370
731          KM   CHANNEL GEOMETRY OBTAINED FROM 2' CONTOUR MAPPING.
732          KM   ROUTING OF FLOW FROM SUB-BASINS 370 AND 395 TO SUB-BASIN 380.
733          RS      12    FLOW      -1
734          RC    .045    .035    .045   10250    .023
735          RX       0       1      40      46      56      62     102     103
736          RY       3       2       2       0       0       2       2       3
             *
             * DDM   ***** Updated *****

737          KK    380B
738          KM   SUB-BASIN 380B
739          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
740          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .996
741          KM     L = 1.80  Kb = .044  Adj. Slope =  122.0
742          BA    .637
743          LG    .340    .330   4.200    .440   4.000
744          UC    .504    .358
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745          UA       0       5      16      30      65      77      84      90      94      97
746          UA     100
             *
             * DDM   ***** Preserved *****

747          KK   D380B
748          KM        DIVERT FLOW INTO ONLINE  DETENTION BASIN
749          KM   DETENTION/RETENTION BASINS LOCATED WITHIN 33% OF MESA HIGHLANDS
750          KM        MAXIMUM VOLUME DIVERSION = 28.6 acre-feet
             *      1
751          DT  BS380B    28.6
752          DI       0   10000
753          DQ       0   10000
             * DDM   ***** Preserved *****

754          KK  RT380B
755          KM   RETRIEVE FLOW FROM DIVERSION INTO ONLINE BASIN
756          DR  BS380B
             * DDM   ***** Preserved *****

757          KK   S380B
758          KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
759          KM    28.6 ACRE-FEETx43560/36x3600=9.6cfs
760          RS       1    STOR       0
761          SV       0     .01    28.6
762          SQ       0     3.0     9.6
             * DDM   ***** Preserved *****
1                                    HEC-1 INPUT                                          PAGE 21

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


763          KK   C380B
764          KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
             * KO     1
765          HC       3
             *
             * DDM   ***** Preserved *****

766          KK   R380B
767          KM   CHANNEL GEOMETRY OBTAINED FROM 2' CONTOUR MAPPING.
768          KM   ROUTING OF FLOW FROM SUB-BASINS 370 AND 395 TO SUB-BASIN 380.
769          RS       4    FLOW      -1
770          RC    .045    .035    .045    2600    .023
771          RX       0       1      40      46      56      62     102     103
772          RY       3       2       2       0       0       2       2       3
             *
             * DDM   ***** Updated *****

773          KK     390
774          KM   SUB-BASIN 390
775          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
776          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .999
777          KM     L =  .70  Kb = .050  Adj. Slope =  299.4
778          BA    .244
779          LG    .300    .250   4.700    .380  18.000
780          UC    .204    .107
781          UA       0       5      16      30      65      77      84      90      94      97
782          UA     100
             * DDM   ***** Preserved *****

783          KK    D390
784          KM        DIVERT FLOW INTO ONLINE  DETENTION BASIN
785          KM   DETENTION/RETENTION BASINS LOCATED WITHIN THUNDER MOUNTAIN ESTATES
786          KM        MAXIMUM VOLUME DIVERSION  = 3.5 acre-feet
             *      1
787          DT   BS390     3.5
788          DI       0   10000
789          DQ       0   10000
             * DDM   ***** Preserved *****

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

793          KK    S390
794          KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
795          KM     3.5 ACRE-FEETx43560/36x3600=1.2cfs
796          RS       1    STOR       0
797          SV       0     .01     3.5
798          SQ       0     0.2     1.2
             * DDM   ***** Preserved *****
1                                    HEC-1 INPUT                                          PAGE 22

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


799          KK    C390
800          KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
801          HC       2
             * DDM   ***** Preserved *****

802          KK    R390
803          KM   CHANNEL GEOMETRY OBTAINED FROM 2' CONTOUR MAPPING.
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 804          KM   FROM SUB-BASIN 390 TO SUB-BASIN 400
 805          RS      15     FLOW      -1
 806          RC    .045     .045    .045     8800     .020
 807          RX       0        1      40       46       56       62      102      103
 808          RY       3        2       2        0        0        2        2        3
              *
              * DDM   ***** Updated *****

 809          KK    400B
 810          KM   SUB-BASIN 400B
 811          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
 812          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .997
 813          KM     L = 1.64  Kb = .045  Adj. Slope =  110.0
 814          BA    .568
 815          LG    .330     .300   4.150     .480   7.000
 816          UC    .500     .352
 817          UA       0        5      16       30       65       77       84       90       94       97
 818          UA     100
              *
              * DDM   ***** Preserved *****

 819          KK   D400B
 820          KM        DIVERT FLOW INTO ONLINE  DETENTION BASIN
 821          KM   DETENTION/RETENTION BASIN LOCATED WITHIN SAGUARO VISTA SUBDIVISION
 822          KM        MAXIMUM VOLUME DIVERSION = 5.6 ACRE-FEET
              *      1
 823          DT  BS400B     5.6
 824          DI       0   10000
 825          DQ       0   10000
              * DDM   ***** Preserved *****

 826          KK  RT400B
 827          KM   RETRIEVE FLOW FROM DIVERSION INTO ONLINE BASIN
 828          DR  BS400B
              * DDM   ***** Preserved *****

 829          KK   S400B
 830          KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
 831          KM     5.6 ACRE-FEETx43560/36x3600 = 2 cfs
 832          RS       1     STOR       0
 833          SV       0      .01     5.6
 834          SQ       0        1       2
              * DDM   ***** Preserved *****
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 835          KK   C400B
 836          KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
 837          HC       2
              * DDM   ***** Preserved *****

 838          KK  CC400B
 839          KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
 840          HC       4
              * DDM   ***** Updated *****

 841          KK     385
 842          KM   SUB-BASIN 385
 843          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
 844          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .997
 845          KM     L = 2.30  Kb = .045  Adj. Slope =  303.0
 846          BA    .527
 847          LG    .340     .360   5.600     .220  13.000
 848          UC    .383     .358
 849          UA       0        3       5        8       12       20       43       75       90       96
 850          UA     100
              * DDM   ***** Preserved *****

 851          KK    D385
 852          KM   DIVERT FLOW INTO SUB-BASINS 415 & 420
 853          DT   SF385
 854          DI       0     5000
 855          DQ       0     3000
              * DDM   ***** Preserved *****

 856          KK    R385
 857          KM   CHANNEL GEOMETRY OBTAINED FROM 2' CONTOUR MAPPING.
 858          KM   ROUTING OF FLOW DIVERSION FROM SUB-BASIN 385 INTO SUB-BASIN 420
 859          RS      13     FLOW      -1
 860          RC    .045      .04    .045    10250     .022
 861          RX       0        1      40       46       56       62      102      103
 862          RY       3        2       2        0        0        2        2        3
              * DDM   ***** Updated *****

 863          KK     420
 864          KM   SUB-BASIN 420
 865          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
 866          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .995
 867          KM     L = 1.91  Kb = .042  Adj. Slope =  120.0
 868          BA    .849
 869          LG    .310     .270   3.880     .580  12.000
 870          UC    .512     .325
 871          UA       0        5      16       30       65       77       84       90       94       97
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 872          UA     100
              * DDM   ***** Preserved *****
                                          HEC-1 INPUT                                                    PAGE 24

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

 873          KK    D420
 874          KM        DIVERT FLOW INTO ONLINE  DETENTION BASIN
 875          KM   DETENTION/RETENTION BASINS LOCATED WITHIN GRAY FOX SUBDIVISION
 876          KM        MAXIMUM VOLUME DIVERSION = 8.65 acre-feet
              *      1
 877          DT   BS420    8.65
 878          DI       0   10000
 879          DQ       0   10000
              * DDM   ***** Preserved *****

 880          KK   RT420
 881          KM   RETRIEVE FLOW FROM DIVERSION INTO ONLINE BASIN
 882          DR   BS420
              * DDM   ***** Preserved *****

 883          KK    S420
 884          KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
 885          KM    8.65 ACRE-FEETx43560/36x3600=2.9cfs
 886          RS       1    STOR       0
 887          SV       0     .01    8.65
 888          SQ       0     1.0     2.9
              * DDM   ***** Preserved *****

 889          KK    C420
 890          KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
 891          HC       3  1.0598
              * DDM   ***** Preserved *****

 892          KK   CC420
 893          KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
 894          HC       2
              * DDM   ***** Updated *****

 895          KK     440
 896          KM   SUB-BASIN 440
 897          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
 898          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF 1.000
 899          KM     L =  .40  Kb = .039  Adj. Slope =  315.0
 900          BA    .080
 901          LG    .190    .380   6.400    .140  13.000
 902          UC    .129    .077
 903          UA       0       3       5       8      12      20      43      75      90      96
 904          UA     100
              * DDM   ***** Preserved *****

 905          KK     R70
 906          KM   ROUTE FLOW FROM SUB-BASIN 440 TO C108
 907          RS       2    FLOW      -1
 908          RC     .05    .035     .05    2250     .08
 909          RX    1000    1025    1050    1070    1075    1095    1120    1145
 910          RY      30    22.9    15.7      10      10    15.7    22.9      30
              * DDM   ***** Updated *****
1                                         HEC-1 INPUT                                                    PAGE 25

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

 911          KK     441
 912          KM   SUB-BASIN 441
 913          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
 914          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF 1.000
 915          KM     L =  .28  Kb = .069  Adj. Slope =  315.0
 916          BA    .010
 917          LG    .300    .250   5.600    .220   5.000
 918          UC    .150    .225
 919          UA       0       5      16      30      65      77      84      90      94      97
 920          UA     100
              * DDM   ***** Preserved *****

 921          KK    C108
 922          KM   COMBINE HYDROGRAPHS FROM SUB-BASINS 440 & 441
 923          HC       2
              * DDM   ***** Preserved *****

 924          KK      D4
 925          KM        SPLIT FLOW WITH TWO 42 INCH PIPES TO WEST AND SOUTH
              *      1
 926          DT   SPLIT
 927          DI       0      14      40      82     120     154     180
 928          DQ       0       7      20      41      60      77      90
              * DDM   ***** Preserved *****

 929          KK    R108
 930          KM        ROUTE FLOW FROM SUB-BASIN C108 TO C67
 931          RS       2    FLOW      -1
 932          RC     .05    .035     .05    3200      .1
 933          RX    1000    1025    1050    1070    1075    1095    1120    1145
 934          RY      30    22.9    15.7      10      10    15.7    22.9      30
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                * DDM   ***** Updated *****

935             KK     442
936             KM   SUB-BASIN 442
937             KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
938             KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .999
939             KM     L =  .83  Kb = .055  Adj. Slope =  274.2
940             BA    .100
941             LG    .300    .270   3.290    .770   5.000
942             UC    .258    .264
943             UA       0       5      16      30      65      77      84      90      94      97
944             UA     100
                * DDM   ***** Preserved *****

945             KK     C67
946             KM   COMBINE FLOW FROM SUB-BASIN 442 & DIV4
947             HC       2
                * DDM   ***** Preserved *****
1                                          HEC-1 INPUT                                          PAGE 26

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

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

954             KK    RTD6
955             KM   RETRIEVE FLOW FROM DIVERSION INTO OFFLINE BASIN
956             DR  BASIN4
                * DDM   ***** Preserved *****

957             KK     SD6
958             KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
959             KM     3.3 ACRE-FEETx43560/36x3600=1.1cfs
                *      1
960             RS       1    STOR       0
961             SV       0     .01     3.3
962             SQ       0     0.2     1.1
                * DDM   ***** Preserved *****

963             KK     CD6
964             KM   HYDROGRAPH COMBINATION FOR OFFLINE BASIN BLEEDOFF
965             HC       2
                * DDM   ***** Updated *****

966             KK     443
967             KM   SUB-BASIN 443
968             KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
969             KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF 1.000
970             KM     L =  .71  Kb = .050  Adj. Slope =  315.0
971             BA    .080
972             LG    .250    .190   8.000    .080  10.000
973             UC    .196    .194
974             UA       0       5      16      30      65      77      84      90      94      97
975             UA     100
                * DDM   ***** Preserved *****

976             KK     D66
977             KM        DIVERT FLOW INTO 3 NATURAL WASHES WITH ONE 24" PIPE IN EACH WASH.
978             KM        EACH PIPE CAPACITY BASED ON 4 FEET OF HEAD
979             DT   WSH66
980             DI       0      78     100     200
981             DQ       0      78      78      78
                * DDM   ***** Preserved *****

982             KK    R113
983             KM        ROUTE FLOW FROM C113 TO C114
984             RS       1    FLOW      -1
985             RC    .019    .019    .019    1300    .029
986             RX    1000    1004    1008    1012    1018    1022    1026    1030
987             RY      17   15.33   12.67      10      10   12.67   15.33      17
                * DDM   ***** Preserved *****
1                                          HEC-1 INPUT                                          PAGE 27

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

988             KK    C114
989             KM        COMBINE HYDROGRAPHS FROM SUB-BASIN 67 AND C113
990             HC       2
                * DDM   ***** Updated *****

991             KK     444
992             KM   SUB-BASIN 444
993             KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
994             KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF 1.000
995             KM     L =  .33  Kb = .034  Adj. Slope =  315.0
996             BA    .040
997             LG    .130    .350   4.450    .320   1.000
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 998          UC    .112    .084
 999          UA       0       3       5       8      12      20      43      75      90      96
1000          UA     100
              * DDM   ***** Preserved *****

1001          KK     R58
1002          KM   ROUTE FLOW FROM SUB-BASIN 444 TO C107
1003          RS       2    FLOW      -1
1004          RC     .05    .035     .05    2370   .0516
1005          RX    1000    1010    1020    1050    1055    1085    1095    1105
1006          RY      19      18      17      10      10      17      18      19
              * DDM   ***** Updated *****

1007          KK     445
1008          KM   SUB-BASIN 445
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 =  .82  Kb = .036  Adj. Slope =  315.0
1012          BA    .190
1013          LG    .170    .320   3.470    .590   3.000
1014          UC    .192    .130
1015          UA       0       5      16      30      65      77      84      90      94      97
1016          UA     100
              * DDM   ***** Preserved *****

1017          KK    C107
1018          KM   COMBINE HYDROGRAPHS FROM SUB-BASINS 444 & 445
1019          HC       2
              * DDM   ***** Preserved *****

1020          KK    R107
1021          KM        ROUTE FLOW FROM C107 TO C109
1022          RS       2    FLOW      -1
1023          RC     .05    .035     .05     700   .0516
1024          RX    1000    1010    1020    1050    1055    1085    1095    1105
1025          RY      19      18      17      10      10      17      18      19
              * DDM   ***** Preserved *****
1                                          HEC-1 INPUT                                          PAGE 28

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

1026          KK    RTB2
1027          KM        RETRIEVE DIVERTED FLOW FROM BASIN 1
              *      1
1028          DR   SPLIT
              * DDM   ***** Preserved *****

1029          KK  RSPLIT
1030          KM        ROUTE FLOW FROM SPLIT TO C109
1031          RS       1    FLOW      -1
1032          RC     .05    .035     .05     800     .05
1033          RX    1000    1025    1050    1070    1075    1095    1120    1145
1034          RY      30    22.9    15.7      10      10    15.7    22.9      30
              * DDM   ***** Updated *****

1035          KK     446
1036          KM   SUB-BASIN 446
1037          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1038          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF 1.000
1039          KM     L =  .46  Kb = .061  Adj. Slope =  303.9
1040          BA    .040
1041          LG    .270    .250   4.500    .400  19.000
1042          UC    .183    .189
1043          UA       0       5      16      30      65      77      84      90      94      97
1044          UA     100
              * DDM   ***** Preserved *****

1045          KK    C109
1046          KM        COMBINE HYDROGRAPHS FROM COMBINES C107 AND C108
1047          HC       3
              * DDM   ***** Preserved *****

1048          KK      D5
1049          KM        DIVERT FLOW INTO WASHES TOWARDS WEST
1050          KM        DIVERSION THROUGH 36" PIPE WITH 3 FEET OF HEAD
              *      1
1051          DT  WSH404
1052          DI       0    40.7    71.2   121.6     190     276   379.4   500.6
1053          DQ       0      35      35      35      35      35      35      35
              * DDM   ***** Preserved *****

1054          KK    R109
1055          KM        ROUTE FLOW FROM C109 TO C110
1056          RS       1    FLOW      -1
1057          RC    .019    .019    .019    3080     .05
1058          RX    1000    1005    1010    1015    1025    1030    1035    1040
1059          RY   13.75    12.5   11.25      10      10   11.25    12.5   13.75
              * DDM   ***** Updated *****

1060          KK     447
1061          KM   SUB-BASIN 447
1062          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1063          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .999
1064          KM     L =  .49  Kb = .056  Adj. Slope =  221.0
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1065          BA    .090
1 

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

1066          LG    .250    .270   3.350    .870  30.000
1067          UC    .208    .145
1068          UA       0       5      16      30      65      77      84      90      94      97
1069          UA     100
              * DDM   ***** Preserved *****

1070          KK   RT404
1071          KM        RETRIEVE DIVERTED FLOW FOR WASH 109
1072          DR  WSH404
              * DDM   ***** Preserved *****

1073          KK    R404
1074          KM        ROUTE FLOW FROM C110 TO C110
1075          RS       6    FLOW      -1
1076          RC    .019    .019    .019    3540     .03
1077          RX    1000    1012    1016    1020    1025    1029    1033    1045
1078          RY      15      12      11      10      10      11      12      15
              * DDM   ***** Preserved *****

1079          KK    C110
1080          KM   COMBINE HYDROGRAPHS FROM SUB-BASIN 447 AND R404
1081          HC       3
              * DDM   ***** Preserved *****

1082          KK    R110
1083          KM        ROUTE FLOW FROM C110 TO C115
1084          RS       1    FLOW      -1
1085          RC    .019    .019    .019     580   .0291
1086          RX    1000    1012    1016    1020    1035    1039    1043    1055
1087          RY      15      12      11      10      10      11      12      15
              * DDM   ***** Preserved *****

1088          KK    C115
1089          KM        COMBINE HYDROGRAPHS FROM C114 AND C110
1090          HC       2
              * DDM   ***** Preserved *****

1091          KK    R115
              * ******OUTFLOW FROM THIS ROUTING IS GREATER THAN INFLOW TO THE
              * ******ROUTING BY 2cfs.  THIS IS NOTED BUT LEFT UNCHANGED WITHIN THE MODEL
1092          KM        ROUTE FLOW FROM C115 TO Sub 453
1093          RS       1    FLOW      -1
1094          RC    .019    .019    .019    2125    .029
1095          RX    1000    1012    1016    1020    1035    1039    1043    1055
1096          RY      15      12      11      10      10      11      12      15
              * DDM   ***** Updated *****

1097          KK     448
1098          KM   SUB-BASIN 448
1099          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1100          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF 1.000
1101          KM     L =  .36  Kb = .042  Adj. Slope =  315.0
1102          BA    .045
1103          LG    .170    .310   4.200    .390  11.000
1104          UC    .133    .102
1 

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

1105          UA       0       5      16      30      65      77      84      90      94      97
1106          UA     100
              * DDM   ***** Updated *****

1107          KK     449
1108          KM   SUB-BASIN 449
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 1.000
1111          KM     L =  .40  Kb = .054  Adj. Slope =  315.0
1112          BA    .050
1113          LG    .260    .280   3.500    .640   6.000
1114          UC    .167    .134
1115          UA       0       5      16      30      65      77      84      90      94      97
1116          UA     100
              * DDM   ***** Preserved *****

1117          KK   C6364
1118          KM   COMBINE HYDROGRAPHS FROM SUB-BASINS 448 & 449
1119          HC       2
              * DDM   ***** Preserved *****

1120          KK   R6364
1121          KM   ROUTE FLOW FROM C116 AND SUB-BASINS 448 AND 449
1122          RS       5    FLOW      -1
1123          RC     .05     .035     .05    4375   .0333
1124          RX    1000    1027    1053    1080    1090    1117    1143    1170
1125          RY      15   13.33   11.67      10      10   11.67   13.33      15
              * DDM   ***** Updated *****

1126          KK     450
1127          KM   SUB-BASIN 450
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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 =  .85  Kb = .057  Adj. Slope =  210.5
1131          BA    .070
1132          LG    .340    .350   3.630    .570   4.000
1133          UC    .296    .383
1134          UA      0       3       5       8      12      20      43      75      90      96
1135          UA    100
              * DDM   ***** Updated *****

1136          KK     451
1137          KM   SUB-BASIN 451
1138          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1139          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF 1.000
1140          KM     L =  .57  Kb = .063  Adj. Slope =  175.0
1141          BA    .025
1142          LG    .340    .340   3.290    .750   3.000
1143          UC    .271    .453
1144          UA      0       3       5       8      12      20      43      75      90      96
1145          UA    100
              * DDM   ***** Preserved *****
1                                        HEC-1 INPUT                                          PAGE 31

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

1146          KK    C451
1147          KM   COMBINE HYDROGRAPHS FROM SUB-BASINS 450 & 451
1148          HC       2
              * DDM   ***** Preserved *****

1149          KK    RT66
1150          KM        RETRIEVE DIVERTED FLOW FROM SUB-BASIN 66
1151          DR   WSH66
              * DDM   ***** Updated *****

1152          KK     452
1153          KM   SUB-BASIN 452
1154          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1155          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF 1.000
1156          KM     L =  .43  Kb = .055  Adj. Slope =  315.0
1157          BA    .040
1158          LG    .260    .280   3.700    .550   9.000
1159          UC    .171    .166
1160          UA      0       5      16      30      65      77      84      90      94      97
1161          UA    100
              * DDM   ***** Preserved *****

1162          KK   C6465
1163          KM   COMBINE HYDROGRAPHS FROM SUB-BASINS 443 AND 452
1164          HC       2
              * DDM   ***** Preserved *****

1165          KK   R6566
1166          KM        ROUTE FLOW FROM DIVERSIONS 65 AND 66 TO C116
1167          RS       3    FLOW      -1
1168          RC     .05    .035     .05    2435   .0282
1169          RX    1000    1045    1090    1150    1160    1220    1265    1310
1170          RY      25      23      20      10      10      20      23      25
              * DDM   ***** Preserved *****

1171          KK    C116
1172          KM   COMBINE HYDROGRAPHS FROM SUB-BASINS 450 & 451 AND R6364 & R6465
1173          HC       3
              * DDM   ***** Preserved *****

1174          KK  BASIN5
1175          KM        RESERVOIR WITHIN PARCEL 31      2-48 INCH PIPES AT OUTFALL
1176          KM        BASIN 5 FEET DEEP
1177          RS       1    ELEV       0
1178          SV       0     4.5     9.9
1179          SQ       0      69     190
1180          SE       0     2.5       5
              * DDM   ***** Preserved *****
1                                        HEC-1 INPUT                                          PAGE 32

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

1181          KK    R116
1182          KM   ROUTE FLOW FROM C116 TO C117
1183          RS       2    FLOW      -1
1184          RC     .05    .035     .05    1300   .0333
1185          RX    1000    1100    1200    1300    1320    1420    1520    1620
1186          RY      13      12      11      10      10      11      12      13
              * DDM   ***** Updated *****

1187          KK     453
1188          KM   SUB-BASIN 453
1189          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1190          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF 1.000
1191          KM     L =  .58  Kb = .058  Adj. Slope =  138.0
1192          BA    .060
1193          LG    .290    .300   3.290    .820  18.000
1194          UC    .275    .284
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1195    UA       0       5      16      30      65      77      84      90      94      97
1196    UA     100
        * DDM   ***** Preserved *****

1197    KK    C117
1198    KM   COMBINE HYDROGRAPHS FROM SUB-BASIN 453 AND R116
1199    HC       2
        * DDM   ***** Preserved *****

1200    KK    C118
1201    KM   COMBINE HYDROGRAPHS FROM R115 AND C117
1202    HC       2
        * DDM   ***** Preserved *****

1203    KK    R118
1204    KM        ROUTE FLOW FROM C118 TO  DIV7
1205    RS       1    FLOW      -1
1206    RC    .019    .019    .019    1500    .024
1207    RX    1000    1012    1016    1020    1035    1039    1043    1055
1208    RY      15      12      11      10      10      11      12      15
        * DDM   ***** Preserved *****

1209    KK      D7
1210    KM        OFFLINE BASIN AT NORTH MOUNTAIN RIDGE   FLOWS ENTER BASIN OVER
1211    KM        30' WEIR SET AT 5.3' ABOVE THE CHANNEL BOTTOM
        *      1
1212    DT  BASIN6      3.6
1213    DI       0      363     487     563     645     844
1214    DQ       0        3      47      83     125     244
        * DDM   ***** Preserved *****

1215    KK    RTD7
1216    KM   RETRIEVE FLOW FROM DIVERSION INTO OFFLINE BASIN
1217    DR  BASIN6
        * DDM   ***** Preserved *****
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LINE    ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1218    KK     SD7
1219    KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
1220    KM     3.6 ACRE-FEETx43560/36x3600=1.2cfs
1221    RS       1    STOR       0
1222    SV       0     .01     3.6
1223    SQ       0     0.2     1.2
        * DDM   ***** Preserved *****

1224    KK     CD7
1225    KM   HYDROGRAPH COMBINATION FOR OFFLINE BASIN BLEEDOFF
1226    HC       2
        * DDM   ***** Updated *****

1227    KK     454
1228    KM   SUB-BASIN 454
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  .999
1231    KM     L = 1.23  Kb = .051  Adj. Slope =  163.0
1232    BA    .180
1233    LG    .300    .310   3.780    .560  14.000
1234    UC    .379    .395
1235    UA       0       5      16      30      65      77      84      90      94      97
1236    UA     100
        * DDM   ***** Preserved *****

1237    KK    C119
1238    KM        COMBINE HYDROGRAPHS FROM SUB-BASIN 454 AND C119
        *      1       2
1239    HC       2
        * DDM   ***** Preserved *****

1240    KK    R454
1241    KM   CHANNEL GEOMETRY OBTAINED FROM 2' CONTOUR MAPPING.
1242    KM   ROUTE FLOW FROM C119 TO 415C
1243    RS       3    FLOW      -1
1244    RC    .045    .035    .045    2200    .009
1245    RX       0      .5       1      33      42      67    67.5      68
1246    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 *****

1247    KK     415
1248    KM   SUB-BASIN 415
1249    KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1250    KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .996
1251    KM     L = 2.58  Kb = .044  Adj. Slope =  298.5
1252    BA    .609
1253    LG    .320    .290   4.500    .400  15.000
1254    UC    .421    .401
1255    UA       0       5      16      30      65      77      84      90      94      97
1256    UA     100
        * DDM   ***** Preserved *****
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1257          KK   RT385
1258          KM   RETRIEVE FLOW FROM DIVERSION OF SUB-BASIN 385 INTO SUB-BASIN 415
1259          DR   SF385
              * DDM   ***** Preserved *****

1260          KK   RR385
1261          KM   CHANNEL GEOMETRY OBTAINED FROM 2' CONTOUR MAPPING.
1262          KM   ROUTING OF SPLIT FLOW FROM SUB-BASIN 385 TO SUB-BASIN 415
1263          RS      11    FLOW      -1
1264          RC    .045     .04    .045    5878    .024
1265          RX       0       1      40      46      56      62     102     103
1266          RY       3       2       2       0       0       2       2       3
              * DDM   ***** Preserved *****

1267          KK    C415
1268          KM   HYDROGRAPH COMBINATION OF SUB-BASINS 415, R454 & SPLIT FLOW FROM 385
1269          HC       2  0.9252
              * DDM   ***** Preserved *****

1270          KK   CC415
1271          KM   HYDROGRAPH COMBINATION OF SUB-BASINS 415, R454 & SPLIT FLOW FROM 385
1272          HC       2
              * DDM   ***** Preserved *****

1273          KK    R415
1274          KM   CHANNEL GEOMETRY OBTAINED FROM 2' CONTOUR MAPPING.
1275          KM   ROUTING OF FLOW FROM 415C TO 455C
1276          RS       3    FLOW      -1
1277          RC    .045     .03    .045    4100    .024
1278          RX       0      .5       1       8      16      23    23.5      24
1279          RY       8       8       8       0       0       8       8       8
              * DDM   ***** Updated *****

1280          KK     455
1281          KM   SUB-BASIN 455
1282          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1283          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .993
1284          KM     L = 1.70  Kb = .041  Adj. Slope =  146.0
1285          BA   1.111
1286          LG    .270    .280   3.700    .640  24.000
1287          UC    .421    .204
1288          UA       0       5      16      30      65      77      84      90      94      97
1289          UA     100
              * DDM   ***** Preserved *****

1290          KK    D455
1291          KM        DIVERT FLOW INTO ONLINE  DETENTION BASIN
1292          KM   DETENTION/RETENTION BASINS LOCATED WITHIN LAS SENDAS ADDENDUM III
1293          KM   FOR BASIN #: 30      34      43      47&58
1294          KM        MAXIMUM VOLUME DIVERSION = 74.1 acre-feet
              *      1
1295          DT   BS455    74.1
1296          DI       0   10000
1297          DQ       0   10000
              * DDM   ***** Preserved *****
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1298          KK   RT455
1299          KM   RETRIEVE FLOW FROM DIVERSION INTO ONLINE BASIN
1300          DR   BS455
              * DDM   ***** Preserved *****

1301          KK    S455
1302          KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
1303          KM    74.1 ACRE-FEETx43560/36x3600=25cfs
1304          RS       1    STOR       0
1305          SV       0     .01    74.1
1306          SQ       0     3.0      25
              * DDM   ***** Preserved *****

1307          KK    C455
1308          KM   HYDROGRAPH COMBINATION FOR SUB-BASIN 455 AND DIVERTED BASIN STORAGE OF 455
1309          HC       2
              * DDM   ***** Preserved *****

1310          KK   CC455
1311          KM  HYDROGRAPH COMBINATION OF 420C, R415 AND C455
              *      1       2
1312          HC       3
              * DDM   ***** Preserved *****

1313          KK    S440
1314          KM   SPOOK HILL FRS PLANS DATED 6/15/77
1315          KM   OUTLET PIPE=7'x7.5'RCBC; L=70 INLET INV.=1566; OUTLET INV.=1566
1316          KM   EMERGENCY SPILLWAY ELEV.=1582; PRINCIPLE SPILLWAY ELEV.=1577.5
1317          KM   STORAGE VOLUME BELOW PRINCIPLE SPILLWAY FOR SEDIMENT = 200 ACRE-FEET
              *   ESE = 1583.86 ft; PSE = 1579.36 ft; Sediment Vol. = 271 Ac-Ft.
1318          RS       1    STOR       0
1319          SV       0      81     363     533     719     925    1120    1399    1668    4051
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1320    SQ       0       0      10     180     367     595     800    1231    2625   24500
1321    SE      76      78      80      81      82      83    83.9      85      86      92
        * DDM   ***** Preserved *****

1322    KK    R455
1323    KM   ROUTE FLOW FROM SPOOK HILL FRS TO SUB-BASIN 480
1324    RS      15    FLOW      -1
1325    RC    .035    .025    .035    7000    .0002
1326    RX       0       1       2      28      58      84      85      86
1327    RY    13.5    13.5    13.5       0       0    13.5    13.5    13.5
        * DDM   ***** Updated *****

1328    KK     480
1329    KM   SUB-BASIN 480
1330    KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1331    KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .996
1332    KM     L = 1.21  Kb = .042  Adj. Slope =  165.0
1333    BA    .731
1334    LG    .270    .270   3.580    .730  27.000
1335    UC    .325    .148
1336    UA       0       5      16      30      65      77      84      90      94      97
1337    UA     100
        * DDM   ***** Preserved *****
1                                   HEC-1 INPUT                                          PAGE 36

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

1338    KK    D480
1339    KM        DIVERT FLOW INTO ONLINE  DETENTION BASIN
1340    KM   DETENTION/RETENTION BASINS LOCATED WITHIN LAS SENDAS ADDENDUM III
1341    KM   FOR BASIN #: 18 & 26
1342    KM        MAXIMUM VOLUME DIVERSION = 16.5 acre-feet
        *      1
1343    DT   BS480    16.5
1344    DI       0   10000
1345    DQ       0   10000
        * DDM   ***** Preserved *****

1346    KK   RT480
1347    KM   RETRIEVE FLOW FROM DIVERSION INTO ONLINE BASIN
1348    DR   BS480
        * DDM   ***** Preserved *****

1349    KK    S480
1350    KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
1351    KM    16.5 ACRE-FEETx43560/36x3600=5.5cfs
1352    RS       1    STOR       0
1353    SV       0     .01    16.5
1354    SQ       0     3.0     5.6
        * DDM   ***** Preserved *****

1355    KK    C480
1356    KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
1357    HC       2
        * DDM   ***** Preserved *****

1358    KK   CC480
1359    KM   HYDROGRAPH COMBINATION AT SUBBASIN 480
1360    HC       2   0.731
        * DDM   ***** Preserved *****

1361    KK    R480
1362    KM   ROUTE FLOW FROM SUB-BASIN 480 TO SUBBASIN 462
1363    RS       6    FLOW      -1
1364    RC    .035    .025    .035    2800    .0002
1365    RX       0       1       2      28      58      84      85      86
1366    RY    13.5    13.5    13.5       0       0    13.5    13.5    13.5
        * DDM   ***** Updated *****

1367    KK     456
1368    KM   SUB-BASIN 456
1369    KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1370    KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .998
1371    KM     L =  .94  Kb = .045  Adj. Slope =  315.0
1372    BA    .260
1373    LG    .300    .380   5.600    .200  12.000
1374    UC    .217    .139
1375    UA       0       5      16      30      65      77      84      90      94      97
1376    UA     100
        * DDM   ***** Preserved *****
1                                   HEC-1 INPUT                                          PAGE 37

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

1377    KK      D1
1378    KM        DIVERT FLOW INTO OFFLINE DETENTION BASIN
1379    KM        WEIR FOR BASIN SET AT 4 FEET ABOVE CHANNEL BOTTOM
        *      1
1380    DT  BASIN1     4.0
1381    DI       0    11.1   127.9   234.4   577.7   789.9  1025.5  1280.9  1555.7
1382    DQ       0       0       0    47.7     248   381.8   533.6   701.5     884
        * DDM   ***** Preserved *****
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1383          KK     CD2
1384          KM        SPLIT OUT FLOW FOR WASHES THAT FLOW TO THE SOUTH FROM
1385          KM        WASHES THAT DRAIN TO THE WES, SOUTHERN WASHES FED BY 30" & 24" PIPE
1386          DT    WA30
1387          DI       0    11.1   127.9   189.6   329.7     408   491.9   579.4   671.7
1388          DQ       0    11.1    38.4    48.2      63    69.5      76      81      86
              * DDM   ***** Preserved *****

1389          KK    R456
1390          KM        ROUTE FLOW FROM SUB-BASIN 51 TO C101
1391          RS       2    FLOW      -1
1392          RC     .05    .035     .05    3800    .044
1393          RX    1000    1010    1020    1036    1041    1057    1067    1077
1394          RY   14.88   14.44      14      10      10      14   14.44   14.88
              * DDM   ***** Updated *****

1395          KK     457
1396          KM   SUB-BASIN 457
1397          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1398          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .999
1399          KM     L = 1.01  Kb = .045  Adj. Slope =  308.8
1400          BA    .190
1401          LG    .270    .330   3.950    .460   6.000
1402          UC    .237    .195
1403          UA       0       5      16      30      65      77      84      90      94      97
1404          UA     100
              * DDM   ***** Preserved *****

1405          KK    C101
1406          KM        COMBINE HYDROGRAPHS FROM SUB-BASINS 50 AND 51
1407          HC       2
              * DDM   ***** Preserved *****

1408          KK      D3
1409          KM        RESERVOIR AT THE EDGE OF THE PROPERTY   FLOW FROM CHANNEL
1410          KM        DIVERTED  INTO OFFLINE BASIN A 25' WEIR SET AT ELEVATION 1808 FT
              *      1
1411          DT  BASIN2     5.0
1412          DI       0      36      70     110     180   313.5     402   500.9
1413          DQ       0       0       0       0       0    67.5     124   190.9
              * DDM   ***** Preserved *****
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1414          KK    RTD3
1415          KM   RETRIEVE FLOW FROM DIVERSION INTO OFFLINE BASIN
1416          DR  BASIN2
              * DDM   ***** Preserved *****

1417          KK     SD3
1418          KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
1419          KM     5.0 ACRE-FEETx43560/36x3600=1.7cfs
1420          RS       1    STOR       0
1421          SV       0     .01       5
1422          SQ       0     0.7     1.7
              * DDM   ***** Preserved *****

1423          KK     CD3
1424          KM   HYDROGRAPH COMBINATION FOR OFFLINE BASIN BLEEDOFF
1425          HC       2
              * DDM   ***** Preserved *****

1426          KK    R101
1427          KM        ROUTE FLOW FROM SUBBASIN C101 TO C103
1428          RS       1    FLOW      -1
1429          RC     .05    .035     .05    1450     .05
1430          RX    1000    1010    1020    1036    1041    1057    1067    1077
1431          RY      15    14.5      14      10      10      14    14.5      15
              * DDM   ***** Updated *****

1432          KK     458
1433          KM   SUB-BASIN 458
1434          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1435          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .999
1436          KM     L =  .76  Kb = .048  Adj. Slope =  299.0
1437          BA    .190
1438          LG    .290    .330   5.800    .190   6.000
1439          UC    .204    .131
1440          UA       0       5      16      30      65      77      84      90      94      97
1441          UA     100
              * DDM   ***** Preserved *****

1442          KK    C103
1443          KM        COMBINE HYDROGRAPHS FROM SUB-BASIN 55 AND C101
1444          HC       2
              * DDM   ***** Preserved *****

1445          KK    R103
1446          KM        ROUTE FLOW FROM SUBBASIN C103 TO C106
1447          RS       1    FLOW      -1
1448          RC     .05    .035     .05     900     .03
1449          RX    1000    1010    1020    1030    1050    1060    1070    1080
1450          RY   13.16   12.83    12.5      10      10    12.5   12.83   13.16
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                * DDM   ***** Preserved *****
1
                                        HEC-1 INPUT                                                          PAGE 39
LINE            ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1451            KK    RT30
1452            KM        RETRIEVE DIVERTED FLOW FOR WASH BELOW 30 INCH PIPE
1453            DR    WA30
                * DDM   ***** Preserved *****

1454            KK     R30
1455            KM        ROUTE FLOW FROM WASH DIVERSION TO COMBINE C52
1456            RS       1    FLOW      -1
1457            RC     .05    .035     .05    1630     .05
1458            RX    1000    1010    1020    1036    1041    1057    1067    1077
1459            RY      15    14.5      14      10      10      14    14.5      15
                * DDM   ***** Preserved *****

1460            KK    RTB1
1461            KM        RETRIEVE DIVERTED FLOW FROM BASIN 1
                *      1       2
1462            DR  BASIN1
                * DDM   ***** Preserved *****

1463            KK      B1
1464            KM        ROUTE FLOW THROUGH OFFLINE DETENTION BASIN
1465            KM        FLOW OUTLETS THROUGH A 30 INCH OUTLET PIPE
                *      1       2
1466            RS       1    ELEV       0
1467            SV              .7     1.4     2.3     2.7     4.0
1468            SQ       0       5      16      28    32.5      37
1469            SE       0       1       2       3     3.5       4
                * DDM   ***** Preserved *****

1470            KK     RB1
1471            KM        ROUTE FLOW FROM BASIN DIVERSION TO COMBINE C52
1472            RS       3    FLOW      -1
1473            RC     .05    .035     .05    1720     .05
1474            RX    1000    1010    1020    1036    1041    1057    1067    1077
1475            RY      15    14.5      14      10      10      14    14.5      15
                * DDM   ***** Preserved *****

1476            KK    CDIV
1477            KM        COMBINE FLOWS FROM WA30 AND BASIN 1
1478            HC       2     .12
                * DDM   ***** Updated *****

1479            KK     459
1480            KM   SUB-BASIN 459
1481            KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1482            KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF 1.000
1483            KM     L =  .35  Kb = .052  Adj. Slope =  251.6
1484            BA    .030
1485            LG    .220    .300   3.330    .710   8.000
1486            UC    .162    .157
1487            UA       0       5      16      30      65      77      84      90      94      97
1488            UA     100
                * DDM   ***** Preserved *****
1
                                        HEC-1 INPUT                                                          PAGE 40
LINE            ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1489            KK     C52
1490            KM        COMBINE FLOWS FROM SUB-BASIN 52 WA30 AND BASIN 1
1491            HC       2
                * DDM   ***** Preserved *****

1492            KK     R52
1493            KM        ROUTE FLOW FROM SUBBASIN 52 TO C102
1494            RS       3    FLOW      -1
1495            RC     .05    .035     .05    2000     .05
1496            RX    1000    1010    1020    1036    1041    1057    1067    1077
1497            RY      15    14.5      14      10      10      14    14.5      15
                * DDM   ***** Updated *****

1498            KK     460
1499            KM   SUB-BASIN 460
1500            KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1501            KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .999
1502            KM     L =  .62  Kb = .058  Adj. Slope =  194.0
1503            BA    .140
1504            LG    .250    .260   3.740    .690  27.000
1505            UC    .242    .160
1506            UA       0       5      16      30      65      77      84      90      94      97
1507            UA     100
                * DDM   ***** Preserved *****

1508            KK    C102
1509            KM        COMBINE HYDROGRAPHS FROM SUB-BASINS 52 AND 53
1510            HC       2
                * DDM   ***** Preserved *****

1511            KK  BASIN3
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1512        KM        RESERVOIR AT CLUBHOUSE LOCATION 1-30 INCH PIPE AT OUTFALL
1513        KM        BOTTOM OF BASIN AT 6 FEET ABOVE 1795 ELEVATION
1514        RS       1    ELEV       0
1515        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
1516        SQ       0      22      45    47.4      48      51      57      62      67      73
1517        SE    1795  1797.5    1800  1800.4  1800.5    1801    1802    1803    1804  1805.5
            * DDM   ***** Preserved *****

1518        KK      R3
1519        KM        ROUTE FLOW FROM C102 to C106
1520        RS       5    FLOW      -1
1521        RC     .05     .03     .05    2750   .0375
1522        RX    1000    1010    1020    1052    1086    1118    1128    1138
1523        RY    19.2    18.4      18      10      10      18    18.4    19.2
            * DDM   ***** Updated *****

1524        KK     461
1525        KM   SUB-BASIN 461
1526        KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1527        KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .999
1528        KM     L =  .83  Kb = .052  Adj. Slope =  181.0
1529        BA    .120
```



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

1530        LG    .270    .250   4.250    .450  21.000
1531        UC    .271    .250
1532        UA       0       5      16      30      65      77      84      90      94      97
1533        UA     100
            * DDM   ***** Preserved *****

1534        KK    C104
1535        KM        COMBINE HYDROGRAPHS FROM SUB-BASIN 54 AND R102
1536        HC       2
            * DDM   ***** Preserved *****

1537        KK    C106
1538        KM        COMBINE HYDROGRAPHS FROM SUB-BASIN C103 AND C104
1539        HC       2
            * DDM   ***** Preserved *****

1540        KK    R106
1541        KM        ROUTE FLOW FROM C106 TO C49
1542        RS       2    FLOW      -1
1543        RC     .05    .035     .05    3950    .033
1544        RX    1000    1010    1020    1030    1050    1060    1070    1080
1545        RY   13.16   12.83    12.5      10      10    12.5   12.83   13.16
            * DDM   ***** Updated *****

1546        KK     462
1547        KM   SUB-BASIN 462
1548        KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1549        KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .998
1550        KM     L =  .97  Kb = .045  Adj. Slope =  297.7
1551        BA    .301
1552        LG    .300    .330   5.300    .240  12.000
1553        UC    .225    .137
1554        UA       0       5      16      30      65      77      84      90      94      97
1555        UA     100
            * DDM   ***** Preserved *****

1556        KK     C56
1557        KM        COMBINE HYDROGRAPHS FROM SUB-BASIN 56 AND C106
            *      1       2
1558        HC       2
            * DDM   ***** Preserved *****

1559        KK    C462
1560        KM        COMBINE HYDROGRAPHS AT SUBBASIN 462
            *      1
1561        HC       2    2.09
            * DDM   ***** Preserved *****

1562        KK    R462
1563        KM   ROUTE FLOW FROM SUB-BASIN 462 TO SUB-BASIN 500 (First Channel Reach)
1564        RS       1    FLOW      -1
1565        RC    .025    .025    .025    1800    .005
1566        RX       0       1      20      32      62      74      93      94
1567        RY      13      12      12       0       0      12      12      13
            *
            * DDM   ***** Preserved *****
```



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

1568        KK   RR462
1569        KM   ROUTE FLOW FROM SUB-BASIN 462 TO SUB-BASIN 500 (Second Natural Wash Reach)
1570        RS       3    FLOW      -1
1571        RC    .055     .05    .055    4700     .05
1572        RX       0       1       2      28      58      84      85      86
1573        RY    13.5    13.5    13.5       0       0    13.5    13.5    13.5
            * DDM   ***** Updated *****
```

```
1574          KK     500
1575          KM   SUB-BASIN 500
1576          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1577          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .994
1578          KM     L = 2.77  Kb = .042  Adj. Slope =  286.8
1579          BA    .930
1580          LG    .350    .400   6.000    .170   9.000
1581          UC    .421    .333
1582          UA       0       3       5       8      12      20      43      75      90      96
1583          UA     100
              * DDM   ***** Preserved *****

1584          KK    C500
1585          KM   HYDROGRAPH COMBINATION FOR THE ENTIRE WATERSHED AT THE SALT RIVER
1586          HC       2    3.02
1587          ZZ
```

1

```
          SCHEMATIC DIAGRAM OF STREAM NETWORK
INPUT
 LINE     (V) ROUTING          (--->) DIVERSION OR PUMP FLOW

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

   25         10
               V
               V
   35        R10
               V
               V
   41        R12
               .
               .
   47          .          20
               .           .
               .           .
   57        C20............
               V
               V
   60        R20
               .
               .
   66          .          40
               .           .
               .           .
   76          .           .          60
               .           .           .
               .           .           .
   86        C60........................
               V
               V
   89        S60
               V
               V
   98        R60
               V
               V
  104       RR60
               .
               .
  110          .          80
               .           .
               .           .
  120        C80............
               V
               V
  123        R80
               .
               .
  129          .         100
               .           .
               .           .
  139       C100............
               V
               V
  142       R100
               .
               .
  148          .         120
               .           .
               .           .
  158       C120............
               V
               V
  161       R120
               .
               .
  167          .         140
               .           .
               .           .
  177          .           .         150
               .           .           V
               .           .           V
  187          .           .        R150
               .           .           V
```

```
193          .           .          V
             .           .       R152
             .           .          .
199          .           .          .        160
             .           .          .          .
209          .           .          .          .        180
             .           .          .          .          .
             .           .          .          .          .
219       C180.............................................
             .
             .
222          .        210
             .          V
             .          V
232          .       R210
             .          .
             .          .
238          .           .       240
             .           .         .
             .           .         .
248          .       C240............
             .          V
             .          V
251          .       S240
             .          V
             .          V
258          .       R240
             .          .
             .          .
265          .           .       220
             .           .         .
             .           .         .
275          .       C220............
             .          V
             .          V
278          .       S220
             .          V
             .          V
285          .       R220
             .          .
             .          .
292          .           .       190
             .           .         V
             .           .         V
302          .           .      R190
             .           .         V
             .           .         V
308          .           .      R192
             .           .         .
             .           .         .
314          .           .         .        200
             .           .         .          .
             .           .         .          .
324          .       C200........................
             .          V
             .          V
327          .       S200
             .          V
             .          V
334          .       R200
             .          V
             .          V
340          .      SS200
             .          V
             .          V
347          .      RR200
             .          .
             .          .
353       CC180............
             V
             V
356       S180
             V
             V
365       R180
             .
             .
374          .        260
             .          .
             .          .
384       C260............
             V
             V
387       R260
             .
             .
396          .        280
             .          .
             .          .
406       C280............
             V
             V
409       R280
```

```
418          .         300
             .           .
             .           .
428       C300............
             V
             V
431       R300
             .
             .
440          .         305
             .           .
             .           .
450       C305............
             V
             V
453       R305
             .
             .
462          .         350
             .           .
             .           .
475          .           .-------->   SF350
472          .       D350
             .          V
             .          V
478          .       R350
             .           .
             .           .
485          .           .         310
             .           .           .
             .           .           .
495          .       C310............
             .          V
             .          V
498          .       R310
             .           .
             .           .
505          .           .         320
             .           .           .
             .           .           .
520          .           .           .-------->   BS320
515          .           .       D320
             .           .           .
             .           .           .
525          .           .           .           .<--------   BS320
523          .           .           .       RT320
             .           .           .          V
             .           .           .          V
526          .           .           .       S320
             .           .           .           .
             .           .           .           .
532       C320.................................
             .
             .
535          .       340B
             .           .
             .           .
550          .           .-------->  BS340B
545          .      D340B
             .           .
             .           .
555          .           .           .<--------  BS340B
553          .           .     RT340B
             .           .          V
             .           .          V
556          .           .      S340B
             .           .           .
             .           .           .
562          .      C340B............
             .           .
             .           .
567          .           .-------->   BS340
565          .     DD340B
             .           .
             .           .
572          .           .           .<--------   BS340
570          .           .      RT340
             .           .          V
             .           .          V
573          .           .     SS340B
             .           .           .
             .           .           .
579          .     CC340B............
             .          V
             .          V
582          .      R340B
             .           .
             .           .
589          .           .        340A
             .           .           .
             .           .           .
604          .           .           .-------->  BS340A
599          .           .      D340A
```

```
                .           .           .
                .           .           .
609             .           .           .           .<-------  BS340A
607             .           .           .      RT340A
                .           .           .           V
                .           .           .           V
610             .           .           .       S340A
                .           .           .           .
                .           .           .           .
616             .      C340A.......................
                .           .
                .           .
619         C340............
                .
                .
624             .           .<-------   SF350
622             .      RT350
                .           V
                .           V
625             .      RR350
                .           .
                .           .
632             .           .         355
                .           .           .
                .           .           .
642             .       C355............
                .           V
                .           V
645             .       R355
                .           .
                .           .
652             .           .         360
                .           .           .
                .           .           .
666             .           .           .------->   BS360
662             .           .        D360
                .           .           .
                .           .           .
671             .           .           .           .<-------   BS360
669             .           .           .      RT360
                .           .           .           V
                .           .           .           V
672             .           .           .       S360
                .           .           .           .
                .           .           .           .
678         C360...................................
                .
                .
681             .       380A
                .           .
                .           .
691        C380A............
                .
                .
694             .       400A
                .           .
                .           .
704        C400A............
                .
                .
707             .        370
                .           .
                .           .
717             .           .         395
                .           .           .
                .           .           .
727             .       C370............
                .           V
                .           V
730             .       R370
                .           .
                .           .
737             .           .        380B
                .           .           .
                .           .           .
751             .           .           .------->  BS380B
747             .           .       D380B
                .           .           .
                .           .           .
756             .           .           .           .<-------  BS380B
754             .           .           .      RT380B
                .           .           .           V
                .           .           .           V
757             .           .           .       S380B
                .           .           .           .
                .           .           .           .
763             .      C380B.......................
                .           V
                .           V
766             .      R380B
                .           .
                .           .
773             .           .         390
                .           .           .
                .           .           .
```

```
787                 .-------> BS390
783            D390
                 .
                 .
792                 .<-------  BS390
790            RT390
                 V
                 V
793            S390
                 .
                 .
799            C390............
                V
                V
802            R390
                 .
                 .
809             400B
                 .
                 .
823                 .-------> BS400B
819            D400B
                 .
                 .
828                 .<-------  BS400B
826                 .     RT400B
                 .          V
                 .          V
829                 .      S400B
                 .          .
                 .          .
835            C400B............
                 .
                 .
838     CC400B..................................
                 .
841          385
                 .
                 .
853          .-------> SF385
851          D385
                 V
                 V
856          R385
                 .
                 .
863                 420
                 .
                 .
877                 .-------> BS420
873            D420
                 .
                 .
882                 .<-------  BS420
880            RT420
                 V
                 V
883            S420
                 .
                 .
889          C420........................
                 .
                 .
892      CC420............
                 .
895          440
                 V
                 V
905          R70
                 .
                 .
911                 441
                 .
                 .
921          C108............
                 .
                 .
926          .-------> SPLIT
924          D4
                 V
                 V
929          R108
                 .
                 .
935                 442
                 .
                 .
945          C67............
                 .
                 .
951          .-------> BASIN4
948          D6
                 .
```

```
 956                .<-------  BASIN4
 954            RTD6
                   V
                   V
 957             SD6
                   .
                   .
 963         CD6............
                   .
                   .
 966             443
                   .
                   .
 979               .------->   WSH66
 976             D66
                   V
                   V
 982            R113
                   .
                   .
 988        C114............
                   .
                   .
 991             444
                   V
                   V
1001             R58
                   .
                   .
1007               .         445
                   .           .
                   .           .
1017            C107............
                   V
                   V
1020            R107
                   .
                   .
1028               .           .<-------   SPLIT
1026               .        RTB2
                   .           V
                   .           V
1029               .      RSPLIT
                   .           .
                   .           .
1035               .           .         446
                   .           .           .
                   .           .           .
1045            C109........................
                   .
                   .
1051               .-------> WSH404
1048             D5
                   V
                   V
1054            R109
                   .
                   .
1060               .         447
                   .           .
                   .           .
1072               .           .          .<-------  WSH404
1070               .           .       RT404
                   .           .          V
                   .           .          V
1073               .           .        R404
                   .           .           .
                   .           .           .
1079            C110........................
                   V
                   V
1082            R110
                   .
                   .
1088        C115............
                V
                V
1091        R115
                   .
                   .
1097             448
                   .
                   .
1107               .         449
                   .           .
                   .           .
1117          C6364............
                   V
                   V
1120          R6364
                   .
                   .
1126               .         450
                   .           .
```

```
1136                                                  451
                                                       .
1146                                          C451.........
                                                       .
1151                                                   .<-------   WSH66
1149                                                RT66
                                                       .
1152                                                   .          452
                                                       .            .
1162                                             C6465.........
                                                     V
                                                     V
1165                                             R6566
                                                       .
1171                                   C116.......................
                                         V
                                         V
1174                                 BASIN5
                                         V
                                         V
1181                                   R116
                                         .
1187                                           453
                                               .
1197                                   C117............
                                         .
1200                           C118............
                                 V
                                 V
1203                           R118
                                 .
1212                             .-------> BASIN6
1209                             D7
                                 .
1217                             .          .<-------  BASIN6
1215                                     RTD7
                                         V
                                         V
1218                                     SD7
                                         .
1224                           CD7............
                                 .
1227                                     454
                                         .
1237                           C119............
                                 V
                                 V
1240                           R454
                                 .
1247                                     415
                                         .
1259                                         .<-------   SF385
1257                                     .       RT385
                                         .           V
                                         .           V
1260                                     .       RR385
                                         .           .
1267                                   C415............
                                         .
1270                         CC415............
                                 V
                                 V
1273                         R415
                                 .
1280                                     455
                                         .
1295                                     .-------->  BS455
1290                                   D455
                                         .
1300                                         .<-------   BS455
1298                                     .       RT455
                                         .           V
                                         .           V
1301                                     .        S455
```

```
                .          .          .          .
                .          .          .          .
1307            .          .       C455...........
                .          .          .
                .          .          .
1310        CC455......................
                V
                V
1313         S440
                V
                V
1322         R455
                .
                .
1328            .        480
                .          .
                .          .
1343            .          .------->   BS480
1338            .       D480
                .          .
                .          .
1348            .          .          .<-------   BS480
1346            .          .      RT480
                .          .          V
                .          .          V
1349            .          .       S480
                .          .          .
                .          .          .
1355            .       C480...........
                .          .
                .          .
1358        CC480...........
                V
                V
1361         R480
                .
                .
1367            .        456
                .          .
                .          .
1380            .          .------->  BASIN1
1377            .         D1
                .          .
                .          .
1386            .          .------->    WA30
1383            .        CD2
                .          V
                .          V
1389            .       R456
                .          .
                .          .
1395            .          .         457
                .          .          .
                .          .          .
1405            .       C101...........
                .          .
                .          .
1411            .          .------->  BASIN2
1408            .         D3
                .          .
                .          .
1416            .          .          .<-------  BASIN2
1414            .          .       RTD3
                .          .          V
                .          .          V
1417            .          .        SD3
                .          .          .
                .          .          .
1423            .        CD3...........
                .          V
                .          V
1426            .       R101
                .          .
                .          .
1432            .          .         458
                .          .          .
                .          .          .
1442            .       C103...........
                .          V
                .          V
1445            .       R103
                .          .
                .          .
1453            .          .          .<-------    WA30
1451            .          .       RT30
                .          .          V
                .          .          V
1454            .          .        R30
                .          .          .
                .          .          .
1462            .          .          .          .<-------  BASIN1
1460            .          .          .       RTB1
                .          .          .          V
                .          .          .          V
1463            .          .          .         B1
```

```
                 .          .          .          V
                 .          .          .          V
  1470           .          .          .        RB1
                 .          .          .          .
                 .          .          .          .
  1476           .          .       CDIV...........
                 .          .          .
                 .          .          .
  1479           .          .          .        459
                 .          .          .          .
                 .          .          .          .
  1489           .          .        C52...........
                 .          .          V
                 .          .          V
  1492           .          .        R52
                 .          .          .
                 .          .          .
  1498           .          .          .        460
                 .          .          .          .
                 .          .          .          .
  1508           .          .       C102...........
                 .          .          V
                 .          .          V
  1511           .          .     BASIN3
                 .          .          V
                 .          .          V
  1518           .          .         R3
                 .          .          .
                 .          .          .
  1524           .          .          .        461
                 .          .          .          .
                 .          .          .          .
  1534           .          .       C104...........
                 .          .          .
                 .          .          .
  1537           .       C106...........
                 .          V
                 .          V
  1540           .       R106
                 .          .
                 .          .
  1546           .          .        462
                 .          .          .
                 .          .          .
  1556           .        C56...........
                 .          .
                 .          .
  1559        C462...........
                 V
                 V
  1562        R462
                 V
                 V
  1568       RR462
                 .
                 .
  1574           .        500
                 .          .
                 .          .
  1584        C500...........
```

(***) RUNOFF ALSO COMPUTED AT THIS LOCATION

```
1*****************************************
 *                                       *
 *   FLOOD HYDROGRAPH PACKAGE  (HEC-1)   *
 *              JUN   1998               *
 *            VERSION 4.1                *
 *                                       *
 *  RUN DATE   02MAY01  TIME  10:37:52   *
 *                                       *
 *****************************************
```

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

Existing Condition Base Model with Spook Hill FRS Storage Routing
Spook Hill FRS without Off-Line Basin
McKellips Road Alternative - Option MK1C
DDM MCUHP1 SPOOK HILL AMDP - EXISTING CONDITIONS MODEL - 100YR, 24HR STORM

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

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

```
                COMPUTATION INTERVAL     .03 HOURS
                       TOTAL TIME BASE   66.63 HOURS

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

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

9 PI            PRECIPITATION PATTERN
```

.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
.00	.00	.00	.00	.00	.00	.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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19 JD         INDEX STORM NO. 2
                    STRM         3.79  PRECIPITATION DEPTH
                    TRDA         1.00  TRANSPOSITION DRAINAGE AREA

0 PI            PRECIPITATION PATTERN
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20 JD INDEX STORM NO. 3

STRM 3.68 PRECIPITATION DEPTH

TRDA 5.80 TRANSPOSITION DRAINAGE AREA

0 PI PRECIPITATION PATTERN

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21 JD INDEX STORM NO. 4

STRM 3.57 PRECIPITATION DEPTH

TRDA 10.66 TRANSPOSITION DRAINAGE AREA

0 PI PRECIPITATION PATTERN

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22 JD INDEX STORM NO. 5

STRM 3.54 PRECIPITATION DEPTH

TRDA 13.70 TRANSPOSITION DRAINAGE AREA

0 PI PRECIPITATION PATTERN

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

0 PI PRECIPITATION PATTERN

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24 JD         INDEX STORM NO. 7
                    STRM        3.32  PRECIPITATION DEPTH
                    TRDA       50.00  TRANSPOSITION DRAINAGE AREA

 0 PI            PRECIPITATION PATTERN
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          WARNING EXCESS AT PONDING LESS THAN ZERO FOR PERIOD. EXCESS SET TO ZERO
          WARNING EXCESS AT PONDING LESS THAN ZERO FOR PERIOD. EXCESS SET TO ZERO

WARNING --- ROUTED OUTFLOW (     1029.) IS GREATER THAN MAXIMUM OUTFLOW (     1018.) IN STORAGE-OUTFLOW TABLE

WARNING --- ROUTED OUTFLOW (     1042.) IS GREATER THAN MAXIMUM OUTFLOW (     1018.) IN STORAGE-OUTFLOW TABLE

WARNING --- ROUTED OUTFLOW (     1027.) IS GREATER THAN MAXIMUM OUTFLOW (     1018.) IN STORAGE-OUTFLOW TABLE

WARNING --- ROUTED OUTFLOW (     1027.) IS GREATER THAN MAXIMUM OUTFLOW (     1018.) IN STORAGE-OUTFLOW TABLE

WARNING --- ROUTED OUTFLOW (     1021.) IS GREATER THAN MAXIMUM OUTFLOW (     1018.) IN STORAGE-OUTFLOW TABLE
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WARNING --- ROUTED OUTFLOW (1020.) IS GREATER THAN MAXIMUM OUTFLOW (1018.) IN STORAGE-OUTFLOW TABLE

WARNING --- ROUTED OUTFLOW (1033.) IS GREATER THAN MAXIMUM OUTFLOW (1018.) IN STORAGE-OUTFLOW TABLE

WARNING --- ROUTED OUTFLOW (1018.) IS GREATER THAN MAXIMUM OUTFLOW (1018.) IN STORAGE-OUTFLOW TABLE
WARNING EXCESS AT PONDING LESS THAN ZERO FOR PERIOD. EXCESS SET TO ZERO

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

	OPERATION	STATION	PEAK FLOW	TIME OF PEAK	AVERAGE FLOW FOR MAXIMUM PERIOD 6-HOUR	24-HOUR	72-HOUR	BASIN AREA	MAXIMUM STAGE	TIME OF MAX STAGE
+	HYDROGRAPH AT	10	989.	12.27	119.	33.	12.	.70		
+	ROUTED TO	R10	920.	12.40	119.	33.	12.	.70		
+	ROUTED TO	R12	853.	12.60	119.	33.	12.	.70		
+	HYDROGRAPH AT	20	1011.	12.43	136.	34.	12.	1.12		
+	2 COMBINED AT	C20	1684.	12.53	252.	66.	24.	1.82		
+	ROUTED TO	R20	1683.	12.57	252.	66.	24.	1.82		
+	HYDROGRAPH AT	40	2695.	12.30	264.	69.	25.	2.23		
+	HYDROGRAPH AT	60	1623.	12.40	239.	64.	23.	1.75		
+	3 COMBINED AT	C60	5371.	12.37	733.	194.	70.	5.80		
+	ROUTED TO	S60	118.	14.27	118.	114.	70.	5.80		
	ROUTED TO	R60	118.	14.37	118.	114.	70.	5.80		
+	ROUTED TO	RR60	118.	14.40	118.	114.	70.	5.80		
+	HYDROGRAPH AT	80	1956.	12.27	189.	49.	18.	1.48		
+	2 COMBINED AT	C80	2009.	12.27	295.	160.	90.	1.48		
+	ROUTED TO	R80	1981.	12.30	295.	160.	90.	1.48		
+	HYDROGRAPH AT	100	423.	12.20	60.	16.	6.	.48		
+	2 COMBINED AT	C100	2373.	12.27	351.	174.	95.	1.96		
+	ROUTED TO	R100	2370.	12.30	351.	174.	95.	1.96		
+	HYDROGRAPH AT	120	3352.	12.27	340.	92.	33.	2.20		
+	2 COMBINED AT	C120	5618.	12.27	673.	256.	126.	4.16		
+	ROUTED TO	R120	5546.	12.30	673.	256.	126.	4.16		
+	HYDROGRAPH AT	140	665.	12.13	67.	18.	6.	.60		
+	HYDROGRAPH AT	150	595.	12.17	51.	14.	5.	.41		
+	ROUTED TO	R150	568.	12.23	51.	14.	5.	.41		
+	ROUTED TO	R152	514.	12.33	51.	14.	5.	.41		
	HYDROGRAPH AT	160	228.	12.40	37.	9.	3.	.37		
+	HYDROGRAPH AT	180	836.	12.37	97.	24.	9.	1.00		

+	5 COMBINED AT	C180	7306.	12.30	898.	313.	146.	6.54
	HYDROGRAPH AT	210	1322.	12.17	111.	29.	10.	.79
+	ROUTED TO	R210	1246.	12.23	111.	29.	10.	.79
+	HYDROGRAPH AT	240	1513.	12.30	167.	42.	15.	1.41
+	2 COMBINED AT	C240	2684.	12.27	273.	70.	25.	2.20
+	ROUTED TO	S240	799.	12.70	226.	59.	21.	2.20
+	ROUTED TO	R240	798.	12.77	225.	59.	21.	2.20
+	HYDROGRAPH AT	220	676.	12.20	68.	18.	6.	.47
+	2 COMBINED AT	C220	962.	12.60	288.	75.	27.	2.67
+	ROUTED TO	S220	900.	12.80	280.	73.	26.	2.67
+	ROUTED TO	R220	897.	12.83	280.	73.	26.	2.67
+	HYDROGRAPH AT	190	1471.	12.17	123.	33.	12.	.92
+	ROUTED TO	R190	1415.	12.23	123.	33.	12.	.92
+	ROUTED TO	R192	1359.	12.30	123.	33.	12.	.92
+	HYDROGRAPH AT	200	831.	12.17	72.	20.	7.	.53
	3 COMBINED AT	C200	2254.	12.30	459.	122.	44.	4.12
+	ROUTED TO	S200	2135.	12.37	454.	119.	43.	4.12
+	ROUTED TO	R200	2127.	12.37	454.	119.	43.	4.12
+	ROUTED TO	SS200	1365.	12.73	333.	88.	32.	4.12
+	ROUTED TO	RR200	1330.	12.83	330.	88.	32.	4.12
+	2 COMBINED AT	CC180	7306.	12.30	1212.	399.	177.	10.66
+	ROUTED TO	S180	113.	29.07	113.	113.	88.	10.66
+	ROUTED TO	R180	113.	28.93	113.	113.	88.	10.66
+	HYDROGRAPH AT	260	416.	12.10	43.	12.	4.	.26
+	2 COMBINED AT	C260	421.	12.10	135.	124.	99.	.26
+	ROUTED TO	R260	407.	12.20	135.	124.	98.	.26
+	HYDROGRAPH AT	280	527.	12.10	46.	13.	5.	.32
+	2 COMBINED AT	C280	884.	12.13	176.	135.	103.	.58
+	ROUTED TO	R280	862.	12.20	176.	134.	103.	.58
+	HYDROGRAPH AT	300	415.	12.10	34.	10.	3.	.29
+	2 COMBINED AT	C300	1217.	12.17	207.	143.	106.	.87
+	ROUTED TO	R300	1172.	12.23	207.	142.	106.	.87

+ HYDROGRAPH AT	305	476.	12.27	81.	22.	8.	.70
2 COMBINED AT	C305	1624.	12.23	283.	161.	112.	1.57
+ ROUTED TO	R305	1603.	12.30	282.	161.	112.	1.57
+ HYDROGRAPH AT	350	1258.	12.20	109.	28.	10.	.97
+ DIVERSION TO	SF350	629.	12.20	55.	14.	5.	.97
+ HYDROGRAPH AT	D350	629.	12.20	55.	14.	5.	.97
+ ROUTED TO	R350	557.	12.40	55.	14.	5.	.97
+ HYDROGRAPH AT	310	398.	12.33	52.	13.	5.	.56
+ 2 COMBINED AT	C310	928.	12.40	106.	27.	10.	1.04
+ ROUTED TO	R310	820.	12.73	106.	27.	10.	1.04
+ HYDROGRAPH AT	320	991.	12.20	127.	36.	13.	.95
+ DIVERSION TO	BS320	386.	11.93	21.	6.	2.	.95
+ HYDROGRAPH AT	D320	991.	12.20	113.	29.	11.	.95
+ HYDROGRAPH AT	RT320	386.	11.93	21.	6.	2.	.95
+ ROUTED TO	S320	4.	12.00	4.	4.	2.	.95
4 COMBINED AT	C320	2546.	12.30	491.	216.	132.	3.56
+ HYDROGRAPH AT	340B	475.	12.07	35.	10.	4.	.29
+ DIVERSION TO	BS340B	475.	12.07	21.	6.	2.	.29
+ HYDROGRAPH AT	D340B	390.	12.13	16.	4.	2.	.29
+ HYDROGRAPH AT	RT340B	475.	12.07	21.	6.	2.	.29
+ ROUTED TO	S340B	3.	12.13	3.	3.	2.	.29
+ 2 COMBINED AT	C340B	394.	12.13	19.	7.	4.	.29
+ DIVERSION TO	BS340	376.	12.13	12.	3.	1.	.29
+ HYDROGRAPH AT	DD340B	18.	12.10	8.	4.	3.	.29
+ HYDROGRAPH AT	RT340	376.	12.13	12.	3.	1.	.29
+ ROUTED TO	SS340B	2.	12.63	2.	2.	1.	.29
+ 2 COMBINED AT	CC340B	20.	12.63	10.	6.	4.	.29
+ ROUTED TO	R340B	20.	12.70	10.	6.	4.	.29
+ HYDROGRAPH AT	340A	1361.	12.17	161.	48.	17.	1.15
+ DIVERSION TO	BS340A	1361.	12.17	82.	23.	8.	1.15
HYDROGRAPH AT	D340A	1217.	12.23	93.	25.	9.	1.15
+ HYDROGRAPH AT	RT340A	1361.	12.17	82.	23.	8.	1.15

+	ROUTED TO	S340A	14.	12.27	13.	11.	7.	1.15
+	3 COMBINED AT	C340A	1212.	12.27	115.	42.	20.	1.44
+	2 COMBINED AT	C340	3667.	12.27	595.	255.	150.	5.00
+	HYDROGRAPH AT	RT350	629.	12.20	55.	14.	5.	.97
+	ROUTED TO	RR350	544.	12.43	55.	14.	5.	.97
+	HYDROGRAPH AT	355	546.	12.33	75.	19.	7.	.68
+	2 COMBINED AT	C355	1028.	12.40	129.	34.	12.	1.16
+	ROUTED TO	R355	941.	12.70	129.	34.	12.	1.16
+	HYDROGRAPH AT	360	773.	12.23	116.	34.	12.	.88
+	DIVERSION TO	BS360	773.	12.23	52.	14.	5.	.88
+	HYDROGRAPH AT	D360	709.	12.33	73.	20.	7.	.88
+	HYDROGRAPH AT	RT360	773.	12.23	52.	14.	5.	.88
+	ROUTED TO	S360	9.	12.33	8.	7.	5.	.88
+	4 COMBINED AT	C360	4279.	12.33	777.	307.	171.	7.04
+	HYDROGRAPH AT	380A	322.	12.27	33.	10.	4.	.26
+	2 COMBINED AT	C380A	4513.	12.33	803.	314.	174.	7.30
+	HYDROGRAPH AT	400A	56.	12.20	4.	1.	0.	.05
+	2 COMBINED AT	C400A	4540.	12.33	807.	314.	174.	7.35
+	HYDROGRAPH AT	370	817.	12.23	83.	22.	8.	.67
+	HYDROGRAPH AT	395	234.	12.20	26.	7.	3.	.20
+	2 COMBINED AT	C370	1046.	12.23	108.	29.	11.	.87
+	ROUTED TO	R370	913.	12.57	108.	29.	11.	.87
+	HYDROGRAPH AT	380B	567.	12.20	67.	17.	6.	.64
+	DIVERSION TO	BS380B	567.	12.20	57.	14.	5.	.64
+	HYDROGRAPH AT	D380B	147.	12.80	12.	3.	1.	.64
+	HYDROGRAPH AT	RT380B	567.	12.20	57.	14.	5.	.64
+	ROUTED TO	S380B	9.	12.80	9.	7.	5.	.64
+	3 COMBINED AT	C380B	913.	12.57	125.	38.	16.	1.51
+	ROUTED TO	R380B	888.	12.63	125.	38.	16.	1.51
+	HYDROGRAPH AT	390	477.	12.03	35.	10.	4.	.24
+	DIVERSION TO	BS390	101.	11.73	6.	2.	1.	.24
+	HYDROGRAPH AT	D390	477.	12.03	31.	8.	3.	.24

+ HYDROGRAPH AT	RT390	101.	11.73	6.	2.	1.	.24
ROUTED TO	S390	1.	11.80	1.	1.	1.	.24
+ 2 COMBINED AT	C390	478.	12.03	32.	9.	4.	.24
+ ROUTED TO	R390	342.	12.50	32.	9.	4.	.24
+ HYDROGRAPH AT	400B	516.	12.20	62.	17.	6.	.57
+ DIVERSION TO	BS400B	292.	12.00	10.	3.	1.	.57
+ HYDROGRAPH AT	D400B	516.	12.20	54.	14.	5.	.57
+ HYDROGRAPH AT	RT400B	292.	12.00	10.	3.	1.	.57
+ ROUTED TO	S400B	2.	12.07	2.	2.	1.	.57
+ 2 COMBINED AT	C400B	518.	12.20	56.	15.	6.	.57
+ 4 COMBINED AT	CC400B	5234.	12.37	978.	365.	195.	9.67
+ HYDROGRAPH AT	385	613.	12.23	74.	20.	7.	.53
+ DIVERSION TO	SF385	368.	12.23	44.	12.	4.	.53
+ HYDROGRAPH AT	D385	245.	12.23	29.	8.	3.	.53
+ ROUTED TO	R385	208.	12.67	29.	8.	3.	.53
HYDROGRAPH AT	420	796.	12.20	98.	27.	10.	.85
+ DIVERSION TO	BS420	266.	11.93	14.	4.	2.	.85
+ HYDROGRAPH AT	D420	796.	12.20	89.	23.	8.	.85
+ HYDROGRAPH AT	RT420	266.	11.93	14.	4.	2.	.85
+ ROUTED TO	S420	3.	12.00	2.	2.	2.	.85
+ 3 COMBINED AT	C420	805.	12.20	120.	33.	13.	1.06
+ 2 COMBINED AT	CC420	5857.	12.37	1077.	392.	206.	10.73
+ HYDROGRAPH AT	440	184.	12.03	12.	3.	1.	.08
+ ROUTED TO	R70	181.	12.07	12.	3.	1.	.08
+ HYDROGRAPH AT	441	16.	12.03	1.	0.	0.	.01
+ 2 COMBINED AT	C108	197.	12.07	14.	4.	1.	.09
+ DIVERSION TO	SPLIT	98.	12.07	7.	2.	1.	.09
+ HYDROGRAPH AT	D4	98.	12.07	7.	2.	1.	.09
+ ROUTED TO	R108	92.	12.13	7.	2.	1.	.09
+ HYDROGRAPH AT	442	105.	12.10	9.	2.	1.	.10
+ 2 COMBINED AT	C67	195.	12.10	16.	4.	2.	.19
+ DIVERSION TO	BASIN4	121.	12.10	6.	2.	1.	.19

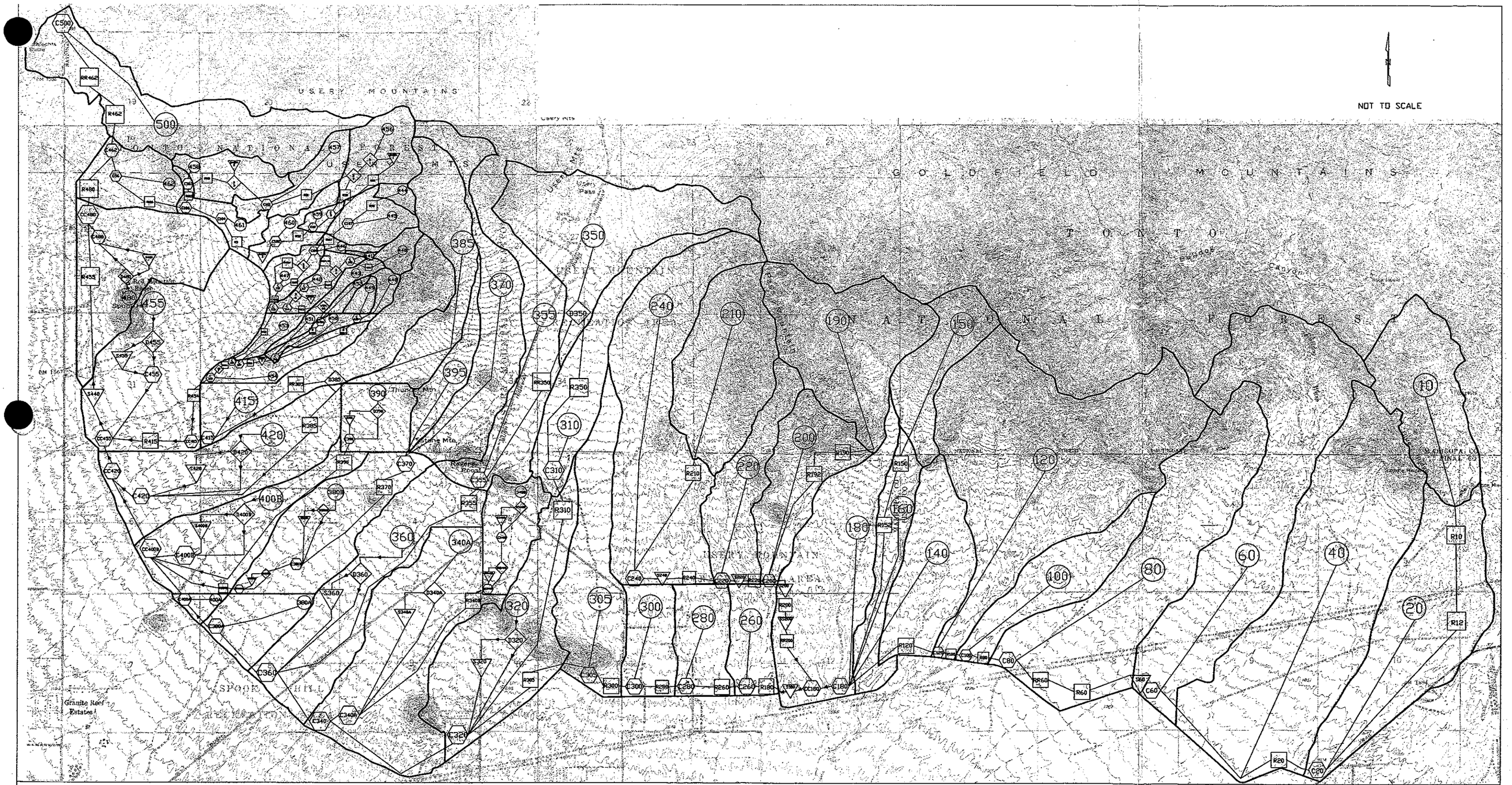
+ HYDROGRAPH AT	D6	74.	12.10	10.	3.	1.	.19
+ HYDROGRAPH AT	RTD6	121.	12.10	6.	2.	1.	.19
+ ROUTED TO	SD6	1.	12.47	1.	1.	0.	.19
+ 2 COMBINED AT	CD6	74.	12.10	10.	3.	1.	.19
+ HYDROGRAPH AT	443	151.	12.07	15.	4.	1.	.08
+ DIVERSION TO	WSH66	78.	11.87	12.	3.	1.	.08
+ HYDROGRAPH AT	D66	73.	12.07	3.	1.	0.	.08
+ ROUTED TO	R113	71.	12.07	3.	1.	0.	.08
+ 2 COMBINED AT	C114	144.	12.07	13.	4.	2.	.27
+ HYDROGRAPH AT	444	83.	12.03	5.	1.	0.	.04
+ ROUTED TO	R58	79.	12.07	5.	1.	0.	.04
+ HYDROGRAPH AT	445	307.	12.03	19.	5.	2.	.19
+ 2 COMBINED AT	C107	382.	12.03	23.	6.	2.	.23
+ ROUTED TO	R107	382.	12.07	23.	6.	2.	.23
+ HYDROGRAPH AT	RTB2	98.	12.07	7.	2.	1.	.09
ROUTED TO	RSPLIT	98.	12.07	7.	2.	1.	.09
+ HYDROGRAPH AT	446	66.	12.03	6.	2.	1.	.04
+ 3 COMBINED AT	C109	545.	12.07	36.	10.	3.	.27
+ DIVERSION TO	WSH404	35.	11.70	8.	2.	1.	.27
+ HYDROGRAPH AT	D5	510.	12.07	28.	7.	3.	.27
+ ROUTED TO	R109	493.	12.10	28.	7.	3.	.27
+ HYDROGRAPH AT	447	141.	12.07	12.	4.	1.	.09
+ HYDROGRAPH AT	RT404	35.	11.70	8.	2.	1.	.27
+ ROUTED TO	R404	35.	11.83	8.	2.	1.	.27
+ 3 COMBINED AT	C110	666.	12.07	48.	13.	5.	.36
+ ROUTED TO	R110	663.	12.10	48.	13.	5.	.36
+ 2 COMBINED AT	C115	805.	12.07	61.	17.	7.	.63
+ ROUTED TO	R115	799.	12.10	61.	17.	7.	.63
+ HYDROGRAPH AT	448	89.	12.03	6.	2.	1.	.05
+ HYDROGRAPH AT	449	81.	12.03	5.	1.	0.	.05
+ 2 COMBINED AT	C6364	170.	12.03	11.	3.	1.	.09
+ ROUTED TO	R6364	145.	12.17	11.	3.	1.	.09

+ HYDROGRAPH AT	450	63.	12.20	7.	2.	1.	.07
HYDROGRAPH AT	451	18.	12.17	2.	1.	0.	.03
+ 2 COMBINED AT	C451	80.	12.20	9.	2.	1.	.09
+ HYDROGRAPH AT	RT66	78.	11.87	12.	3.	1.	.08
+ HYDROGRAPH AT	452	63.	12.03	5.	1.	0.	.04
+ 2 COMBINED AT	C6465	141.	12.03	17.	4.	2.	.04
+ ROUTED TO	R6566	137.	12.10	17.	4.	2.	.04
+ 3 COMBINED AT	C116	357.	12.17	36.	10.	3.	.23
+ ROUTED TO	BASIN5	159.	12.47	36.	10.	3.	.23
+ ROUTED TO	R116	157.	12.53	36.	10.	3.	.23
+ HYDROGRAPH AT	453	63.	12.10	7.	2.	1.	.06
+ 2 COMBINED AT	C117	177.	12.47	43.	12.	4.	.29
+ 2 COMBINED AT	C118	892.	12.10	104.	29.	11.	.92
+ ROUTED TO	R118	887.	12.13	104.	29.	11.	.92
+ DIVERSION TO	BASIN6	270.	12.13	7.	2.	1.	.92
HYDROGRAPH AT	D7	737.	12.20	97.	27.	10.	.92
+ HYDROGRAPH AT	RTD7	270.	12.13	7.	2.	1.	.92
+ ROUTED TO	SD7	1.	12.23	1.	1.	1.	.92
+ 2 COMBINED AT	CD7	739.	12.20	97.	28.	11.	.92
+ HYDROGRAPH AT	454	162.	12.13	21.	6.	2.	.18
+ 2 COMBINED AT	C119	885.	12.20	118.	34.	13.	1.10
+ ROUTED TO	R454	833.	12.27	118.	34.	13.	1.10
+ HYDROGRAPH AT	415	589.	12.17	80.	23.	8.	.61
+ HYDROGRAPH AT	RT385	368.	12.23	44.	12.	4.	.53
+ ROUTED TO	RR385	322.	12.57	44.	12.	4.	.53
+ 2 COMBINED AT	C415	757.	12.23	124.	35.	13.	.93
+ 2 COMBINED AT	CC415	1540.	12.27	238.	67.	25.	2.03
+ ROUTED TO	R415	1527.	12.30	238.	67.	25.	2.03
+ HYDROGRAPH AT	455	1418.	12.13	150.	45.	16.	1.11
+ DIVERSION TO	BS455	1418.	12.13	139.	37.	13.	1.11
HYDROGRAPH AT	D455	145.	12.80	24.	8.	3.	1.11
+ HYDROGRAPH AT	RT455	1418.	12.13	139.	37.	13.	1.11

+	ROUTED TO	S455	23.	12.80	22.	18.	11.	1.11
+	2 COMBINED AT	C455	169.	12.80	46.	26.	14.	1.11
+	3 COMBINED AT	CC455	7091.	12.37	1295.	464.	238.	13.87
+	ROUTED TO	S440	242.	18.53	241.	221.	150.	13.87
+	ROUTED TO	R455	242.	19.30	241.	221.	147.	13.87
+	HYDROGRAPH AT	480	1102.	12.10	100.	31.	11.	.73
+	DIVERSION TO	BS480	487.	11.90	27.	8.	3.	.73
+	HYDROGRAPH AT	D480	1102.	12.10	83.	23.	8.	.73
+	HYDROGRAPH AT	RT480	487.	11.90	27.	8.	3.	.73
+	ROUTED TO	S480	5.	11.97	5.	4.	3.	.73
+	2 COMBINED AT	C480	1107.	12.10	88.	27.	11.	.73
+	2 COMBINED AT	CC480	1107.	12.10	322.	275.	181.	.73
+	ROUTED TO	R480	878.	12.33	322.	274.	180.	.73
+	HYDROGRAPH AT	456	483.	12.07	37.	10.	4.	.26
+	DIVERSION TO	BASIN1	193.	12.07	8.	2.	1.	.26
+	HYDROGRAPH AT	D1	290.	12.07	29.	8.	3.	.26
+	DIVERSION TO	WA30	59.	12.07	10.	3.	1.	.26
+	HYDROGRAPH AT	CD2	231.	12.07	19.	5.	2.	.26
+	ROUTED TO	R456	218.	12.13	19.	5.	2.	.26
+	HYDROGRAPH AT	457	273.	12.07	21.	6.	2.	.19
+	2 COMBINED AT	C101	480.	12.10	40.	10.	4.	.45
+	DIVERSION TO	BASIN2	177.	12.10	8.	2.	1.	.45
+	HYDROGRAPH AT	D3	303.	12.10	32.	8.	3.	.45
+	HYDROGRAPH AT	RTD3	177.	12.10	8.	2.	1.	.45
+	ROUTED TO	SD3	1.	12.40	1.	1.	1.	.45
+	2 COMBINED AT	CD3	304.	12.10	33.	9.	4.	.45
+	ROUTED TO	R101	302.	12.10	33.	9.	4.	.45
+	HYDROGRAPH AT	458	366.	12.03	26.	7.	2.	.19
+	2 COMBINED AT	C103	655.	12.07	59.	16.	6.	.64
+	ROUTED TO	R103	651.	12.07	59.	16.	6.	.64
+	HYDROGRAPH AT	RT30	59.	12.07	10.	3.	1.	.26
+	ROUTED TO	R30	58.	12.10	10.	3.	1.	.26

	HYDROGRAPH AT							
+		RTB1	193.	12.07	8.	2.	1.	.26
	ROUTED TO							
		B1	35.	12.20	8.	2.	1.	.26
	ROUTED TO							
+		RB1	35.	12.27	8.	2.	1.	.26
	2 COMBINED AT							
+		CDIV	87.	12.20	18.	5.	2.	.12
	HYDROGRAPH AT							
+		459	45.	12.03	3.	1.	0.	.03
	2 COMBINED AT							
+		C52	117.	12.10	21.	6.	2.	.15
	ROUTED TO							
+		R52	116.	12.17	21.	6.	2.	.15
	HYDROGRAPH AT							
+		460	221.	12.07	20.	6.	2.	.14
	2 COMBINED AT							
+		C102	323.	12.07	40.	12.	4.	.29
	ROUTED TO							
+		BASIN3	71.	12.63	40.	12.	4.	.29
	ROUTED TO							
+		R3	71.	12.77	40.	12.	4.	.29
	HYDROGRAPH AT							
+		461	165.	12.10	17.	5.	2.	.12
	2 COMBINED AT							
+		C104	220.	12.10	57.	17.	6.	.41
	2 COMBINED AT							
+		C106	866.	12.07	115.	33.	12.	1.05
	ROUTED TO							
+		R106	828.	12.13	115.	33.	12.	1.05
	HYDROGRAPH AT							
		462	557.	12.07	42.	12.	4.	.30
	2 COMBINED AT							
+		C56	1306.	12.10	156.	44.	16.	1.35
	2 COMBINED AT							
+		C462	1603.	12.30	398.	301.	192.	2.09
	ROUTED TO							
+		R462	1575.	12.33	398.	301.	192.	2.09
	ROUTED TO							
+		RR462	1543.	12.40	396.	301.	191.	2.09
	HYDROGRAPH AT							
+		500	1126.	12.27	128.	35.	12.	.93
	2 COMBINED AT							
+		C500	2475.	12.33	507.	326.	201.	3.02

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



FLOOD CONTROL DISTRICT
OF MARICOPA COUNTY
ENGINEERING DIVISION

McKELLIPS ALTERNATIVE 2E

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

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

DRAWING NO. EC24MK2E.DWG SHEET OF

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1****************************************
*                                      *
*   FLOOD HYDROGRAPH PACKAGE  (HEC-1)  *
*             JUN   1998               *
*           VERSION 4.1                *
*                                      *
*  RUN DATE   01MAY01  TIME  11:32:35  *
*                                      *
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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   Existing Condition Base Model with Spook Hill FRS Storage Routing
  2           ID   Spook Hill FRS without Off-Line Basin
  3           ID   McKellips Road Alternative - Option MK2E
  4           ID   DDM MCUHP1 SPOOK HILL AMDP - EXISTING CONDITIONS MODEL - 100YR, 24HR STORM
              *
              *  Original File Name: EC24BASE.DAT, 4/4/01
              *  Modified File Name: EC24MK2E.DAT, 4/19/01, WOOD/PATEL, SZ
              *
              *  MAJOR ASSUMPTIONS / CRITERIA / CHANGES FROM PREVIOUS MODELS:
              *
              *    1. Refinement of areas for sub-basins 340, 380 and 400 into  sub-basins
              *       340A, 340B, 380A, 380B, 400A and 400B.
              *         Areas: 340A = 1.150 s.m., 340B = 0.290 s.m.
              *                380A = 0.261 s.m., 380B = 0.637 s.m.
              *                400A = 0.047 s.m., 400B = 0.569 s.m.
              *
              *    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.
              *
              *    3. Operations for option MK2E are added to the HEC-1 Model.
              *       Two (2) offline basins
              *
              *DIAGRAM
  5           IT       2                    2000
  6           IO       5
  7           IN      15
  8           JD    3.81    0.01
  9           PC    .000    .002    .005    .008    .011    .014    .017    .020    .023    .026
 10           PC    .029    .032    .035    .038    .041    .044    .048    .052    .056    .060
 11           PC    .064    .068    .072    .076    .080    .085    .090    .095    .100    .105
 12           PC    .110    .115    .120    .126    .133    .140    .147    .155    .163    .172
 13           PC    .181    .191    .203    .218    .236    .257    .283    .387    .663    .707
 14           PC    .735    .758    .776    .791    .804    .815    .825    .834    .842    .849
 15           PC    .856    .863    .869    .875    .881    .887    .893    .898    .903    .908
 16           PC    .913    .918    .922    .926    .930    .934    .938    .942    .946    .950
 17           PC    .953    .956    .959    .962    .965    .968    .971    .974    .977    .980
 18           PC    .983    .986    .989    .992    .995    .998   1.000
 19           JD   3.787    1.00
 20           JD   3.677    5.80
 21           JD   3.574   10.66
 22           JD   3.539   13.70
 23           JD   3.467   20.00
 24           JD   3.315   50.00
              * DDM   ***** Updated *****

 25           KK      10
 26           KM   SUB-BASIN 10
 27           KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
 28           KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .996
 29           KM     L = 2.00  Kb = .044  Adj. Slope =  165.0
 30           BA    .702
 31           LG    .350    .320   7.600    .090  15.000
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 32           UC    .421    .302
 33           UA       0       3       5       8      12      20      43      75      90      96
 34           UA     100
              * DDM   ***** Preserved *****

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

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

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

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

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

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

 75           UA     100
              * DDM   ***** Updated *****

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

 86           KK     C60
 87           KM     C60GRAPH COMBINATION FOR APACHE JUNCTION FRS
              *      1       2
 88           HC       3
              * DDM   ***** Preserved *****

 89           KK     S60
 90           KM   APACHE JUNCTION FRS AS-BUILT PLANS 12/19/88
 91           KM   OUTLET PIPE=30"RCP; L=136.6'; INLET INV.=1783.5; OUTLET INV.=1783
 92           KM   EMERGENCY SPILLWAY ELEV.=1799.77'; PRINCIPLE SPILLWAY ELEV.=1793.5'
 93           KM   STORAGE VOLUME BELOW PRINCIPLE SPILLWAY FOR SEDIMENT = 100 ACRE-FEET
              *  ESE = 1801.92 ft; PSE = 1795.65 ft; Sediment Vol. = 237 Ac-Ft.
 94           RS       1    STOR       0
 95           SV       0       0      77     242     371     439     563     687    2163
 96           SQ       0      12     103     114     120     362    1462    3101   30000
 97           SE    95.0    96.0    98.0   100.0   101.6   101.9   103.0   104.0   112.9
              * DDM   ***** Preserved *****
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 98          KK     R60
 99          KM        ROUTE FLOW THROUGH BULLDOG FLOODWAY FROM APACHE JUNCTION FRS
100          RS       1    FLOW      -1
101          RC    .016    .016    .016    2850    .012
102          RX       0       1       2     2.1     5.6     5.7       6       7
103          RY     3.5     3.5     3.5       0       0     3.5     3.5     3.5
             * DDM   ***** Preserved *****

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

110          KK      80
111          KM   SUB-BASIN 80
112          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
113          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .991
114          KM     L = 2.69  Kb = .039  Adj. Slope =  229.8
115          BA   1.475
1                                        HEC-1 INPUT                                                    PAGE  4

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

116          LG    .330    .330   5.600    .210   4.000
117          UC    .433    .259
118          UA       0       3       5       8      12      20      43      75      90      96
119          UA     100
             * DDM   ***** Preserved *****

120          KK     C80
121          KM   HYDROGRAPH COMBINATION FOR FLOW FROM APACHE JUNCTION FRS & SUB-BASIN 80
122          HC       2   1.475
             * DDM   ***** Preserved *****

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

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

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

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

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

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

158          KK    C120
159          KM   HYDROGRAPH COMBINATION FOR FLOW FROM SUB-BASIN 100 & 120
160          HC       2
             * DDM   ***** Preserved *****

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

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

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

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

193          KK    R152
194          KM   ROUTING OF FLOW FROM R152 TO SUB-BASIN 160
195          RS       3    FLOW      -1
196          RC    .045     .03    .045    5900    .019
197          RX       0       1       2       8      33      39      40      41
198          RY       2       2       2       0       0       2       2       2
             * DDM   ***** Updated *****
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LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

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

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

219          KK    C180
220          KM   HYDROGRAPH COMBINATION FOR SIGNAL BUTTE FRS
221          HC       5
             *
             * The sub-basin area and soil make-up have been updated from CAD file 12/07/00
             * DDM   ***** Updated *****

222          KK     210
223          KM   SUB-BASIN 210
224          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
225          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .995
226          KM     L = 1.84  Kb = .043  Adj. Slope =  315.0
227          BA    .792
228          LG    .350    .360   6.800    .130   4.000
229          UC    .313    .189
230          UA       0       3       5       8      12      20      43      75      90      96
231          UA     100
             * DDM   ***** Preserved *****

232          KK    R210
233          KM   ROUTING OF FLOW FROM SUB-BASIN 210 TO SUB-BASIN 220
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 234          RS       2    FLOW      -1
 235          RC    .045     .03    .045    5100    .022
 236          RX       0       1       2      14      34      46      47      48
 237          RY       4       4       4       0       0       4       4       4
              *
              * The sub-basin area and soil make-up have been updated from CAD file 12/07/00
              * DDM   ***** Updated *****
1                                          HEC-1 INPUT                                                          PAGE  7

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

 238          KK     240
 239          KM   SUB-BASIN 240
 240          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
 241          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .992
 242          KM     L = 3.50  Kb = .039  Adj. Slope =  298.6
 243          BA   1.408
 244          LG    .350    .370   5.300    .230   2.000
 245          UC    .467    .356
 246          UA       0       3       5       8      12      20      43      75      90      96
 247          UA     100
              * DDM   ***** Preserved *****

 248          KK    C240
 249          KM   HYDROGRAPH COMBINATION FOR SUB-BASIN 240 & 220
 250          HC       2
              * DDM   ***** Preserved *****

 251          KK    S240
 252          KM    WEIR GEOMETRY OBTAINED FROM AS-BUILT PLANS @ PASS MTN. DIVERSION.
 253          KM   WEIR STORAGE DATA OBTAINED FROM 2' CONTOUR MAPPING.
 254          RS       1    STOR       0
 255          SA    1.38    14.2    36.5
 256          SE     1.7       5      11
 257          SS       5      42       3     1.5
              * DDM   ***** Preserved *****

 258          KK    R240
 259          KM   ROUTE FLOW FROM SUB-BASIN 240 TO SUB-BASIN 220
 260          KM   PASS MOUNTAIN DIVERSION
 261          RS       3    FLOW      -1
 262          RC    .035    .025    .035    1800    .005
 263          RX       0      15      30      39      69      81      96     111
 264          RY     3.6     3.3       3       0       0       3       3       4
              *
              * The sub-basin area and soil make-up have been updated from CAD file 12/07/00
              * DDM   ***** Updated *****

 265          KK     220
 266          KM   SUB-BASIN 220
 267          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
 268          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .997
 269          KM     L = 1.92  Kb = .046  Adj. Slope =  315.0
 270          BA    .473
 271          LG    .350    .350   7.000    .120   5.000
 272          UC    .333    .282
 273          UA       0       3       5       8      12      20      43      75      90      96
 274          UA     100
              * DDM   ***** Preserved *****
1                                          HEC-1 INPUT                                                          PAGE  8

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

 275          KK    C220
 276          KM   HYDROGRAPH COMBINATION FOR SUB-BASIN 240 & 220
 277          HC       2
              * DDM   ***** Preserved *****

 278          KK    S220
 279          KM    WEIR GEOMETRY OBTAINED FROM AS-BUILT PLANS @ PASS MTN. DIVERSION.
 280          KM   WEIR STORAGE DATA OBTAINED FROM 2' CONTOUR MAPPING.
 281          RS       1    STOR       0
 282          SA     .78     4.1    13.7
 283          SE       1       3      10
 284          SS       3      65       3     1.5
              * DDM   ***** Preserved *****

 285          KK    R220
 286          KM   ROUTE FLOW FROM SUB-BASIN 220 TO SUB-BASIN 200
 287          KM   PASS MOUNTAIN DIVERSION
 288          RS       1    FLOW      -1
 289          RC    .035    .025    .035    1250    .005
 290          RX       0      50     100     109     139     148     178     184
 291          RY       5       4       3       0       0       3       3       5
              * DDM   ***** Updated *****

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

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

308          KK    R192
309          KM   ROUTING OF FLOW FROM SUB-BASIN 190 TO SUB-BASIN 200
310          RS       3    FLOW      -1
311          RC    .045    .035    .045    2200    .018
312          RX       0       1      50      59      79      88     137     138
313          RY     4.5       3       3       0       0       3       3     4.5
             * DDM   ***** Updated *****
1                                          HEC-1 INPUT                                                    PAGE  9

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


314          KK     200
315          KM   SUB-BASIN 200
316          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
317          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .997
318          KM     L = 1.58  Kb = .045  Adj. Slope =  305.6
319          BA    .530
320          LG    .350    .390   5.700    .200  10.000
321          UC    .300    .201
322          UA       0       3       5       8      12      20      43      75      90      96
323          UA     100
             * DDM   ***** Preserved *****

324          KK    C200
325          KM   HYDROGRAPH COMBINATION FOR SUB-BASIN 220 & 200
326          HC       3
             * DDM   ***** Preserved *****

327          KK    S200
328          KM    WEIR GEOMETRY OBTAINED FROM AS-BUILT PLANS @ PASS MTN. DIVERSION.
329          KM   WEIR STORAGE DATA OBTAINED FROM 2' CONTOUR MAPPING.
330          RS       1    STOR       0
331          SA    2.56     3.1     9.4
332          SE       0       3      10
333          SS       3     112       3     1.5
             * DDM   ***** Preserved *****

334          KK    R200
335          KM   ROUTE FLOW FROM SUB-BASIN 200 TO SIGNAL BUTTE FRS through storage
336          RS       1    FLOW      -1
337          RC    .035    .025    .035     650    .005
338          RX       0       1       2      17     117     132     133     134
339          RY       5       5       5       0       0       5       5       5
             * DDM   ***** Preserved *****

340          KK   SS200
341          KM    WEIR GEOMETRY OBTAINED FROM AS-BUILT PLANS @ PASS MTN. DIVERSION.
342          KM   WEIR STORAGE DATA OBTAINED FROM 2' CONTOUR MAPPING.
343          RS       1    STOR       0
344          SA       8     9.2     9.2
345          SE       0       7      10
346          SS       7     251       3     1.5
             * DDM   ***** Preserved *****

347          KK   RR200
348          KM   ROUTE FLOW FROM SUB-BASIN 200 TO SIGNAL BUTTE FRS
349          RS       3    FLOW      -1
350          RC    .035    .025    .035    3150    .005
351          RX       0       1       2      17     117     132     133     134
352          RY       5       5       5       0       0       5       5       5
             * DDM   ***** Preserved *****
1                                          HEC-1 INPUT                                                    PAGE 10

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


353          KK   CC180
354          KM   HYDROGRAPH COMBINATION FOR SIGNAL BUTTE FRS
             *      1       2
355          HC       2
             * DDM   ***** Preserved *****

356          KK    S180
357          KM   SIGNAL BUTTE FRS DATED 1/28/85
358          KM   OUTLET PIPE=36"RCP; L= 147';  INLET INV.=1690; OUTLET INV.=1687
359          KM   EMERGENCY SPILLWAY ELEV.=1712.4; PRINCIPLE SPILLWAY ELEV.=1701
360          KM   STORAGE VOLUME BELOW PRINCIPLE SPILLWAY FOR SEDIMENT = 250 ACRE-FEET
             *  ESE = 1714.63 ft; PSE = 1703.23 ft; Sediment Vol. = 247 Ac-Ft.
361          RS       1    STOR       0
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362          SV       0      92     226     462     742    1197    1418    1776    1941    3114
363          SQ       0      10    10.5      98     133     149     155    1484    2567    6000
364          SE      99     101   103.0     106     109   113.0   114.6     117     118     120
             * DDM   ***** Preserved *****

365          KK    R180
366          KM   Routing length updated using Signal Butte Floodway plans dated March 1983
367          KM   Routing length increased 100' from 1500' to 1600'    12/12/00
368          KM   CHANNEL GEOMETRY FOR SIGNAL BUTTE FRS OBTAINED FROM AS-BUILT PLANS.
369          KM   ROUTE FLOW FROM SIGNAL BUTTE FRS TO SUB-BASIN 260
370          RS       2    FLOW      -1
371          RC    .035    .025    .035    1600    .003
372          RX       0       1       2    22.6    38.6    59.2      60      61
373          RY     9.3     9.3     9.3       0       0     9.3     9.3     9.3
             * DDM   ***** Updated *****

374          KK     260
375          KM   SUB-BASIN 260
376          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
377          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .998
378          KM     L =  .81  Kb = .049  Adj. Slope =   68.0
379          BA    .262
380          LG    .300    .190   6.600    .170  15.000
381          UC    .363    .217
382          UA       0       5      16      30      65      77      84      90      94      97
383          UA     100
             * DDM   ***** Preserved *****

384          KK    C260
385          KM   HYDROGRAPH COMBINATION FOR OUTFLOW OF SIGNAL BUTTE FRS & SUB-BASIN 260
386          HC       2    .262
             * DDM   ***** Preserved *****

387          KK    R260
388          KM   Routing length updated using Signal Butte Floodway plans dated March 1983
389          KM   Routing length unchanged     12/12/00
390          KM   CHANNEL GEOMETRY FOR SIGNAL BUTTE FRS OBTAINED FROM AS-BUILT PLANS.
391          KM   ROUTE FLOW FROM SUB-BASIN 260 TO SUB-BASIN 280
392          RS       3    FLOW      -1
393          RC    .035    .025    .035    2300    .003
394          RX       0       1       2    23.4    43.4    64.8      65      66
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LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

395          RY     9.7     9.7     9.7       0       0     9.7     9.7     9.7
             * DDM   ***** Updated *****

396          KK     280
397          KM   SUB-BASIN 280
398          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
399          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .998
400          KM     L =  .77  Kb = .048  Adj. Slope =   84.0
401          BA    .319
402          LG    .300    .250   5.300    .290  15.000
403          UC    .329    .168
404          UA       0       5      16      30      65      77      84      90      94      97
405          UA     100
             * DDM   ***** Preserved *****

406          KK    C280
407          KM   HYDROGRAPH COMBINATION FOR SUB-BASIN 260 & SUB-BASIN 280
408          HC       2
             * DDM   ***** Preserved *****

409          KK    R280
410          KM   Routing length updated using Signal Butte Floodway plans dated March 1983
411          KM   Routing length decreased 400' from 2500' to 2100'    12/12/00
412          KM   CHANNEL GEOMETRY FOR SIGNAL BUTTE FRS OBTAINED FROM AS-BUILT PLANS.
413          KM   ROUTE FLOW FROM SUB-BASIN 280 TO SUB-BASIN 300
414          RS       3    FLOW      -1
415          RC    .035    .025    .035    2100    .003
416          RX       0       1       2    23.4    43.4    64.8      65      66
417          RY     9.7     9.7     9.7       0       0     9.7     9.7     9.7
             *
             * The sub-basin area and soil make-up have been updated from CAD file 12/07/00
             * DDM   ***** Updated *****

418          KK     300
419          KM   SUB-BASIN 300
420          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
421          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .998
422          KM     L =  .78  Kb = .049  Adj. Slope =  103.0
423          BA    .289
424          LG    .320    .290   4.200    .480  11.000
425          UC    .325    .177
426          UA       0       5      16      30      65      77      84      90      94      97
427          UA     100
             * DDM   ***** Preserved *****

428          KK    C300
429          KM   HYDROGRAPH COMBINATION OF SUB-BASIN 280 & 300
430          HC       2
             * DDM   ***** Preserved *****
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 431          KK    R300
 432          KM   Routing length updated using Signal Butte Floodway plans dated March 1983
 433          KM   Routing length increased 300' from 2200' to 2500'    12/12/00
 434          KM   CHANNEL GEOMETRY FOR SIGNAL BUTTE FRS OBTAINED FROM AS-BUILT PLANS.
 435          KM   ROUTE FLOW FROM SUB-BASIN 300 TO START OF FLOODWAY CONCRETE CHANNEL
 436          RS       2    FLOW      -1
 437          RC    .035    .025    .035    2500    .003
 438          RX       0       1       2    23.4    55.4    76.8      77      78
 439          RY     9.7     9.7     9.7       0       0     9.7     9.7     9.7
              *
              * The sub-basin area and soil make-up have been updated from CAD file 12/07/00
              * DDM   ***** Updated *****

 440          KK     305
 441          KM   SUB-BASIN 305
 442          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
 443          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .996
 444          KM     L = 2.50  Kb = .044  Adj. Slope =  116.0
 445          BA    .702
 446          LG    .340    .340   4.550    .350   6.000
 447          UC    .642    .576
 448          UA       0       5      16      30      65      77      84      90      94      97
 449          UA     100
              * DDM   ***** Preserved *****

 450          KK    C305
 451          KM   HYDROGRAPH COMBINATION OF SUB-BASIN 300 AND 305
 452          HC       2
              * DDM   ***** Preserved *****

 453          KK    R305
 454          KM   Routing length updated using Signal Butte Floodway plans dated March 1983
 455          KM   Routing length decreased 50' from 6050' to 6000'     12/12/00
 456          KM   CHANNEL GEOMETRY FOR SPOOK HILL FRS OBTAINED FROM AS-BUILTS PLANS.
 457          KM   CONTINUE TO ROUTE FLOW WITHIN CONCRETE CHANNEL TO SPOOK HILL FRS
 458          RS       3    FLOW      -1
 459          RC    .016    .016    .016    6000   .0146
 460          RX       0       1       2     2.1    16.1    16.2      17      18
 461          RY     7.5     7.5     7.5       0       0     7.5     7.5     7.5
              *      1       2
              * DDM   ***** Updated *****

 462          KK     350
 463          KM   SUB-BASIN 350
 464          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
 465          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .994
 466          KM     L = 2.22  Kb = .042  Adj. Slope =  315.0
 467          BA    .970
 468          LG    .350    .350   4.550    .340   4.000
 469          UC    .367    .234
 470          UA       0       3       5       8      12      20      43      75      90      96
 471          UA     100
              * DDM   ***** Preserved *****
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 472          KK    D350
 473          KM   DIVERT FLOW FROM SUB-BASIN 350. FOR MODELING PURPOSES THE SPLIT FLOW WILL
 474          KM   BE ROUTED BETWEEN SUB-BASINS 355 & 310. THE MAIN FLOW WILL ROUTED TO 310
 475          DT   SF350
 476          DI       0    5000
 477          DQ       0    2500
              * DDM   ***** Preserved *****

 478          KK    R350
 479          KM   CHANNEL GEOMETRY OBTAINED FROM 2' CONTOUR MAPPING
 480          KM   ROUTING OF MAIN FLOW FROM DIVERSION OF SUB-BASIN 350 TO SUB-BASIN 310
 481          RS       6    FLOW      -1
 482          RC    .045    .035    .045    5150    .025
 483          RX       0       1      40      46      56      62     102     103
 484          RY       3       2       2       0       0       2       2       3
              * DDM   ***** Updated *****

 485          KK     310
 486          KM   SUB-BASIN 310
 487          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
 488          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .997
 489          KM     L = 2.70  Kb = .045  Adj. Slope =  283.5
 490          BA    .555
 491          LG    .350    .350   3.910    .480    .000
 492          UC    .483    .511
 493          UA       0       3       5       8      12      20      43      75      90      96
 494          UA     100
              * DDM   ***** Preserved *****

 495          KK    C310
 496          KM   HYDROGRAPH COMBINATION OF SUB-BASINS 350 & 310
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 497          HC       2    1.04
              * DDM   ***** Preserved *****

 498          KK    R310
 499          KM   CHANNEL GEOMETRY OBTAINED FROM 2' CONTOUR MAPPING.
 500          KM   ROUTING OF FLOW FROM SUB-BASIN 310 TO 320
 501          RS      10    FLOW      -1
 502          RC    .045    .035    .045   10050    .022
 503          RX       0       1      40      46      56      62     102     103
 504          RY       3       2       2       0       0       2       2       3
              *
              * The sub-basin area and soil make-up have been updated from CAD file 12/07/00
              * DDM   ***** Updated *****

 505          KK     320
 506          KM   SUB-BASIN 320
 507          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
 508          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .994
 509          KM     L = 2.20  Kb = .042  Adj. Slope =  132.0
 510          BA    .950
 511          LG    .310    .300   4.600    .350  14.000
 512          UC    .508    .338
 513          UA       0       5      16      30      65      77      84      90      94      97
1                                          HEC-1 INPUT                                          PAGE 14

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

 514          UA     100
              * DDM   ***** Preserved *****

 515          KK    D320
 516          KM        DIVERT FLOW INTO ONLINE  DETENTION BASIN
 517          KM   DETENTION/RETENTION BASINS LOCATED WITHIN THREE SUBDIVISIONS
 518          KM   SIERRA HEIGHTS       FALCON RIDGE    & MARBLE CREEK
 519          KM        MAXIMUM VOLUME DIVERSION = 12.27acre-feet
              *      1
 520          DT   BS320   12.27
 521          DI       0   10000
 522          DQ       0   10000
              * DDM   ***** Preserved *****

 523          KK   RT320
 524          KM   RETRIEVE FLOW FROM DIVERSION INTO ONLINE BASIN
 525          DR   BS320
              * DDM   ***** Preserved *****

 526          KK    S320
 527          KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
 528          KM   12.27 ACRE-FEETx43560/36x3600=4.1cfs
              *      1
 529          RS       1    STOR       0
 530          SV       0     .01    12.3
 531          SQ       0     3.0     4.2
              * DDM   ***** Preserved *****

 532          KK    C320
 533          KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
 534          HC       4
              *
              * DDM   ***** Updated *****

 535          KK    340B
 536          KM   SUB-BASIN 340B
 537          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
 538          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .998
 539          KM     L =  .85  Kb = .049  Adj. Slope =  238.5
 540          BA    .290
 541          LG    .320    .280   4.000    .520  13.000
 542          UC    .246    .139
 543          UA       0       5      16      30      65      77      84      90      94      97
 544          UA     100
              *
              * DDM   ***** Preserved *****

 545          KK   D340B
 546          KM        DIVERT FLOW INTO ONLINE  DETENTION BASIN
 547          KM   DETENTION/RETENTION BASINS LOCATED WITHIN THREE SUBDIVISIONS
 548          KM   GRANDVIEW ESTATES    BOULDER MOUNTAIN & 33% OF MESA HIGHLANDS
 549          KM        MAXIMUM VOLUME DIVERSION = 11.0 acre-feet
              *      1
 550          DT  BS340B      11
 551          DI       0   10000
1                                          HEC-1 INPUT                                          PAGE 15

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

 552          DQ       0   10000
              * DDM   ***** Preserved *****

 553          KK  RT340B
 554          KM   RETRIEVE FLOW FROM DIVERSION INTO ONLINE BASIN
 555          DR  BS340B
              * DDM   ***** Preserved *****
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556          KK   S340B
557          KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
558          KM    11.0 ACRE-FEETx43560/36x3600= 3.7cfs
             *      1
559          RS       1     STOR       0
560          SV       0      .01      11      15
561          SQ       0      2.0     3.7     4.0
             * DDM   ***** Preserved *****

562          KK   C340B
563          KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
             * KO     1
564          HC       2
             *
             * DDM   ***** Preserved *****

565          KK  DD340B
566          KM   DIVERT FLOW INTO OFFLINE DETENTION BASIN LOCATED WITHIN SUB-BASINS 340B.
             * KO     1
567          DT   BS340
568          DI       0      18    5000
569          DQ       0       0    4982
             * DDM   ***** Preserved *****

570          KK   RT340
571          KM   RETRIEVE FLOW FROM DIVERSION
572          DR   BS340
             * DDM   ***** Preserved *****

573          KK  SS340B
574          KM   RETRIEVE FLOW INTO OFFLINE BASIN AND BLEED OFF WITHIN 36 HOURS.
575          KM       6 ACRE-FEETx43560/36x3600 = 2 cfs
576          RS       1     STOR       0
577          SV       0      .01       6       8
578          SQ       0      1.5       2       4
             * DDM   ***** Preserved *****

579          KK  CC340B
580          KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
581          HC       2
             * DDM   ***** Preserved *****
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LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

582          KK   R340B
583          KM   CHANNEL GEOMETRY OBTAINED FROM 2' CONTOUR MAPPING.
584          KM   ROUTING OF FLOW FROM SUB-BASINS 370 AND 395 TO SUB-BASIN 380.
585          RS       4     FLOW      -1
586          RC    .045     .035    .045    2600    .023
587          RX       0        1      40      46      56      62     102     103
588          RY       3        2       2       0       0       2       2       3
             *
             * DDM   ***** Updated *****

589          KK    340A
590          KM   SUB-BASIN 340A
591          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
592          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .993
593          KM     L = 1.80  Kb = .044  Adj. Slope =  117.0
594          BA   1.150
595          LG    .260     .280   4.200    .510  23.000
596          UC    .492     .249
597          UA       0        5      16      30      65      77      84      90      94      97
598          UA     100
             *
             * DDM   ***** Preserved *****

599          KK   D340A
600          KM        DIVERT FLOW INTO ONLINE  DETENTION BASIN
601          KM   DETENTION/RETENTION BASINS LOCATED WITHIN THREE SUBDIVISIONS
602          KM   GRANDVIEW ESTATES    BOULDER MOUNTAIN & 33% OF MESA HIGHLANDS
603          KM        MAXIMUM VOLUME DIVERSION = 45.0 acre-feet
             * KO     1
604          DT  BS340A      45
605          DI       0   10000
606          DQ       0   10000
             * DDM   ***** Preserved *****

607          KK  RT340A
608          KM   RETRIEVE FLOW FROM DIVERSION INTO ONLINE BASIN
609          DR  BS340A
             * DDM   ***** Preserved *****

610          KK   S340A
611          KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
612          KM    45.0 ACRE-FEETx43560/36x3600=15.2cfs
             *      1
613          RS       1     STOR       0
614          SV       0      .01      45      50
615          SQ       0      3.0    15.2      16
             *
             * DDM   ***** Preserved *****
```

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

 616          KK   C340A
 617          KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
 618          HC       3
              *
              * DDM   ***** Preserved *****

 619          KK    C340
 620          KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
 621          HC       2
              * DDM   ***** Preserved *****

 622          KK   RT350
 623          KM   RETRIEVE SPLIT FLOW FROM DIVERSION OF SUB-BASIN 350
 624          DR   SF350
              * DDM   ***** Preserved *****

 625          KK   RR350
 626          KM   CHANNEL GEOMETRY OBTAINED FROM 2' CONTOUR MAPPING.
 627          KM   ROUTING OF FLOW FROM SPLIT OF SUB-BASIN 350 TO 355
 628          RS       7    FLOW      -1
 629          RC    .045    .035    .045    6050    .025
 630          RX       0       1      40      46      56      62     102     103
 631          RY       3       2       2       0       0       2       2       3
              *
              * The sub-basin area and soil make-up have been updated from CAD file 12/07/00
              * DDM   ***** Updated *****

 632          KK     355
 633          KM   SUB-BASIN 355
 634          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
 635          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .996
 636          KM     L = 3.00  Kb = .044  Adj. Slope =  284.0
 637          BA    .676
 638          LG    .340    .340   4.450    .370   4.000
 639          UC    .488    .502
 640          UA       0       3       5       8      12      20      43      75      90      96
 641          UA     100
              * DDM   ***** Preserved *****

 642          KK    C355
 643          KM   HYDROGRAPH COMBINATION OF SUB-BASIN 355 AND THE SPLIT FLOW FROM SUB-BASIN 350
 644          HC       2   1.161
              * DDM   ***** Preserved *****

 645          KK    R355
 646          KM   CHANNEL GEOMETRY OBTAINED FROM 2' CONTOUR MAPPING.
 647          KM   ROUTING OF FLOW FROM SUB-BASIN 355 TO SUB-BASIN 360
 648          RS       9    FLOW      -1
 649          RC    .045    .035    .045   10100    .026
 650          RX       0       1      40      46      56      62     102     103
 651          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

 652          KK     360
 653          KM   SUB-BASIN 360
 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  .995
 656          KM     L = 2.10  Kb = .047  Adj. Slope =  124.0
 657          BA    .880
 658          LG    .260    .270   4.100    .560  20.000
 659          UC    .575    .390
 660          UA       0       5      16      30      65      77      84      90      94      97
 661          UA     100
              * DDM   ***** Preserved *****

 662          KK    D360
 663          KM        DIVERT FLOW INTO ONLINE  DETENTION BASIN
 664          KM   DETENTION/RETENTION BASINS LOCATED WITHIN 33% OF MESA HIGHLANDS
 665          KM        MAXIMUM VOLUME DIVERSION = 28.6 acre-feet
              *      1
 666          DT   BS360    28.6
 667          DI       0   10000
 668          DQ       0   10000
              * DDM   ***** Preserved *****

 669          KK   RT360
 670          KM   RETRIEVE FLOW FROM DIVERSION INTO ONLINE BASIN
 671          DR   BS360
              * DDM   ***** Preserved *****

 672          KK    S360
 673          KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
 674          KM    28.6 ACRE-FEETx43560/36x3600=9.6cfs
 675          RS       1    STOR       0
 676          SV       0     .01    28.6
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677          SQ        0     3.0     9.6
             * DDM   ***** Preserved *****

678          KK    C360
679          KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
680          HC       4
             *
             * DDM   ***** Updated *****

681          KK    380A
682          KM   SUB-BASIN 380A
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  .998
685          KM     L =  .66  Kb = .076  Adj. Slope =   91.0
686          BA    .261
687          LG    .170    .250   4.100    .710  21.000
688          UC    .425    .221
689          UA       0       3       5       8      12      20      43      75      90      96
690          UA     100
             *
             * DDM   ***** Preserved *****
1                                          HEC-1 INPUT                                          PAGE 19

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

691          KK   C380A
692          KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
693          HC       2
             *
             * DDM   ***** Updated *****

694          KK    400A
695          KM   SUB-BASIN 400A
696          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
697          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF 1.000
698          KM     L =  .28  Kb = .094  Adj. Slope =   71.0
699          BA    .048
700          LG    .250    .290   4.000    .640    .000
701          UC    .317    .211
702          UA       0       3       5       8      12      20      43      75      90      96
703          UA     100
             *
             * DDM   ***** Preserved *****

704          KK   C400A
705          KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
706          HC       2
             *
             * The sub-basin area and soil make-up have been updated from CAD file 12/07/00
             * DDM   ***** Updated *****

707          KK     370
708          KM   SUB-BASIN 370
709          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
710          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .996
711          KM     L = 1.90  Kb = .044  Adj. Slope =  203.5
712          BA    .672
713          LG    .340    .320   4.650    .330   8.000
714          UC    .404    .284
715          UA       0       3       5       8      12      20      43      75      90      96
716          UA     100
             *
             * The sub-basin area and soil make-up have been updated from CAD file 12/07/00
             * DDM   ***** Updated *****

717          KK     395
718          KM   SUB-BASIN 395
719          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
720          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .999
721          KM     L = 1.30  Kb = .051  Adj. Slope =  219.2
722          BA    .199
723          LG    .330    .320   4.900    .300  10.000
724          UC    .333    .338
725          UA       0       3       5       8      12      20      43      75      90      96
726          UA     100
             * DDM   ***** Preserved *****
1                                          HEC-1 INPUT                                          PAGE 20

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

727          KK    C370
728          KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
729          HC       2
             * DDM   ***** Preserved *****

730          KK    R370
731          KM   CHANNEL GEOMETRY OBTAINED FROM 2' CONTOUR MAPPING.
732          KM   ROUTING OF FLOW FROM SUB-BASINS 370 AND 395 TO SUB-BASIN 380.
733          RS      12    FLOW      -1
734          RC    .045    .035    .045   10250    .023
735          RX       0       1      40      46      56      62     102     103
736          RY       3       2       2       0       0       2       2       3
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                *
                * DDM   ***** Updated *****

 737            KK    380B
 738            KM   SUB-BASIN 380B
 739            KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
 740            KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .996
 741            KM     L = 1.80  Kb = .044  Adj. Slope =  122.0
 742            BA    .637
 743            LG    .340    .330   4.200    .440   4.000
 744            UC    .504    .358
 745            UA       0       5      16      30      65      77      84      90      94      97
 746            UA     100
                *
                * DDM   ***** Preserved *****

 747            KK   D380B
 748            KM        DIVERT FLOW INTO ONLINE  DETENTION BASIN
 749            KM   DETENTION/RETENTION BASINS LOCATED WITHIN 33% OF MESA HIGHLANDS
 750            KM        MAXIMUM VOLUME DIVERSION = 28.6 acre-feet
                *      1
 751            DT  BS380B    28.6
 752            DI       0   10000
 753            DQ       0   10000
                * DDM   ***** Preserved *****

 754            KK  RT380B
 755            KM   RETRIEVE FLOW FROM DIVERSION INTO ONLINE BASIN
 756            DR  BS380B
                * DDM   ***** Preserved *****

 757            KK   S380B
 758            KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
 759            KM    28.6 ACRE-FEETx43560/36x3600=9.6cfs
 760            RS       1    STOR       0
 761            SV       0     .01    28.6
 762            SQ       0     3.0     9.6
                * DDM   ***** Preserved *****
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LINE            ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 763            KK   C380B
 764            KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
                * KO     1
 765            HC       3
                *
                * DDM   ***** Preserved *****

 766            KK  DD380B
 767            KM   DIVERT FLOW INTO OFFLINE DETENTION BASIN LOCATED WITHIN SUB-BASINS 380B.
                * KO     1
 768            DT   BS380
 769            DI       0      86    5000
 770            DQ       0       0    4914
                * DDM   ***** Preserved *****

 771            KK   RT380
 772            KM   RETRIEVE FLOW FROM DIVERSION
 773            DR   BS380
                * DDM   ***** Preserved *****

 774            KK  SS380B
 775            KM   RETRIEVE FLOW INTO OFFLINE BASIN AND BLEED OFF WITHIN 36 HOURS.
 776            KM      44 ACRE-FEETx43560/36x3600 = 15cfs
 777            RS       1    STOR       0
 778            SV       0     .01      44      50
 779            SQ       0       4      15      20
                * DDM   ***** Preserved *****

 780            KK  CC380B
 781            KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
 782            HC       2
                * DDM   ***** Preserved *****

 783            KK   R380B
 784            KM   CHANNEL GEOMETRY OBTAINED FROM 2' CONTOUR MAPPING.
 785            KM   ROUTING OF FLOW FROM SUB-BASINS 370 AND 395 TO SUB-BASIN 380.
 786            RS       4    FLOW      -1
 787            RC    .045    .035    .045    2600    .023
 788            RX       0       1      40      46      56      62     102     103
 789            RY       3       2       2       0       0       2       2       3
                *
                * DDM   ***** Updated *****

 790            KK     390
 791            KM   SUB-BASIN 390
 792            KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
 793            KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .999
 794            KM     L =  .70  Kb = .050  Adj. Slope =  299.4
 795            BA    .244
 796            LG    .300    .250   4.700    .380  18.000
 797            UC    .204    .107
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798          UA       0       5      16      30      65      77      84      90      94      97
799          UA     100
             * DDM   ***** Preserved *****
                                          HEC-1 INPUT                                                PAGE 22

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


800          KK    D390
801          KM        DIVERT FLOW INTO ONLINE  DETENTION BASIN
802          KM   DETENTION/RETENTION BASINS LOCATED WITHIN THUNDER MOUNTAIN ESTATES
803          KM        MAXIMUM VOLUME DIVERSION  = 3.5 acre-feet
             *      1
804          DT   BS390     3.5
805          DI       0   10000
806          DQ       0   10000
             * DDM   ***** Preserved *****

807          KK   RT390
808          KM   RETRIEVE FLOW FROM DIVERSION INTO ONLINE BASIN
809          DR   BS390
             * DDM   ***** Preserved *****

810          KK    S390
811          KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
812          KM     3.5 ACRE-FEETx43560/36x3600=1.2cfs
813          RS       1    STOR       0
814          SV       0     .01     3.5
815          SQ       0     0.2     1.2
             * DDM   ***** Preserved *****

816          KK    C390
817          KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
818          HC       2
             * DDM   ***** Preserved *****

819          KK    R390
820          KM   CHANNEL GEOMETRY OBTAINED FROM 2' CONTOUR MAPPING.
821          KM   FROM SUB-BASIN 390 TO SUB-BASIN 400
822          RS      15    FLOW      -1
823          RC    .045    .045    .045    8800    .020
824          RX       0       1      40      46      56      62     102     103
825          RY       3       2       2       0       0       2       2       3
             *
             * DDM   ***** Updated *****

826          KK    400B
827          KM   SUB-BASIN 400B
828          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
829          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .997
830          KM     L = 1.64  Kb = .045  Adj. Slope =  110.0
831          BA    .568
832          LG    .330    .300   4.150    .480   7.000
833          UC    .500    .352
834          UA       0       5      16      30      65      77      84      90      94      97
835          UA     100
             *
             * DDM   ***** Preserved *****
1                                         HEC-1 INPUT                                                PAGE 23

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


836          KK   D400B
837          KM        DIVERT FLOW INTO ONLINE  DETENTION BASIN
838          KM   DETENTION/RETENTION BASIN LOCATED WITHIN SAGUARO VISTA SUBDIVISION
839          KM        MAXIMUM VOLUME DIVERSION = 5.6 ACRE-FEET
             *      1
840          DT  BS400B     5.6
841          DI       0   10000
842          DQ       0   10000
             * DDM   ***** Preserved *****

843          KK  RT400B
844          KM   RETRIEVE FLOW FROM DIVERSION INTO ONLINE BASIN
845          DR  BS400B
             * DDM   ***** Preserved *****

846          KK   S400B
847          KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
848          KM     5.6 ACRE-FEETx43560/36x3600 = 2 cfs
849          RS       1    STOR       0
850          SV       0     .01     5.6
851          SQ       0       1       2
             * DDM   ***** Preserved *****

852          KK   C400B
853          KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
854          HC       2
             * DDM   ***** Preserved *****

855          KK  CC400B
856          KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
857          HC       4
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            * DDM   ***** Updated *****

 858        KK     385
 859        KM   SUB-BASIN 385
 860        KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
 861        KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .997
 862        KM     L = 2.30  Kb = .045  Adj. Slope =  303.0
 863        BA    .527
 864        LG    .340    .360   5.600    .220  13.000
 865        UC    .383    .358
 866        UA       0       3       5       8      12      20      43      75      90      96
 867        UA     100
            * DDM   ***** Preserved *****

 868        KK    D385
 869        KM   DIVERT FLOW INTO SUB-BASINS 415 & 420
 870        DT   SF385
 871        DI       0    5000
 872        DQ       0    3000
            * DDM   ***** Preserved *****
1                                   HEC-1 INPUT                                          PAGE 24

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

 873        KK    R385
 874        KM   CHANNEL GEOMETRY OBTAINED FROM 2' CONTOUR MAPPING.
 875        KM   ROUTING OF FLOW DIVERSION FROM SUB-BASIN 385 INTO SUB-BASIN 420
 876        RS      13    FLOW      -1
 877        RC    .045     .04    .045   10250    .022
 878        RX       0       1      40      46      56      62     102     103
 879        RY       3       2       2       0       0       2       2       3
            * DDM   ***** Updated *****

 880        KK     420
 881        KM   SUB-BASIN 420
 882        KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
 883        KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .995
 884        KM     L = 1.91  Kb = .042  Adj. Slope =  120.0
 885        BA    .849
 886        LG    .310    .270   3.880    .580  12.000
 887        UC    .512    .325
 888        UA       0       5      16      30      65      77      84      90      94      97
 889        UA     100
            * DDM   ***** Preserved *****

 890        KK    D420
 891        KM        DIVERT FLOW INTO ONLINE  DETENTION BASIN
 892        KM   DETENTION/RETENTION BASINS LOCATED WITHIN GRAY FOX SUBDIVISION
 893        KM        MAXIMUM VOLUME DIVERSION = 8.65 acre-feet
            *      1
 894        DT   BS420    8.65
 895        DI       0   10000
 896        DQ       0   10000
            * DDM   ***** Preserved *****

 897        KK   RT420
 898        KM   RETRIEVE FLOW FROM DIVERSION INTO ONLINE BASIN
 899        DR   BS420
            * DDM   ***** Preserved *****

 900        KK    S420
 901        KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
 902        KM    8.65 ACRE-FEETx43560/36x3600=2.9cfs
 903        RS       1    STOR       0
 904        SV       0     .01    8.65
 905        SQ       0     1.0     2.9
            * DDM   ***** Preserved *****

 906        KK    C420
 907        KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
 908        HC       3  1.0598
            * DDM   ***** Preserved *****
1                                   HEC-1 INPUT                                          PAGE 25

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

 909        KK   CC420
 910        KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
 911        HC       2
            * DDM   ***** Updated *****

 912        KK     440
 913        KM   SUB-BASIN 440
 914        KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
 915        KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF 1.000
 916        KM     L =  .40  Kb = .039  Adj. Slope =  315.0
 917        BA    .080
 918        LG    .190    .380   6.400    .140  13.000
 919        UC    .129    .077
 920        UA       0       3       5       8      12      20      43      75      90      96
 921        UA     100
            * DDM   ***** Preserved *****
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922          KK     R70
923          KM   ROUTE FLOW FROM SUB-BASIN 440 TO C108
924          RS       2    FLOW      -1
925          RC     .05    .035     .05    2250     .08
926          RX    1000    1025    1050    1070    1075    1095    1120    1145
927          RY      30    22.9    15.7      10      10    15.7    22.9      30
             * DDM   ***** Updated *****

928          KK     441
929          KM   SUB-BASIN 441
930          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
931          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF 1.000
932          KM     L =  .28  Kb = .069  Adj. Slope =  315.0
933          BA    .010
934          LG    .300    .250   5.600    .220   5.000
935          UC    .150    .225
936          UA       0       5      16      30      65      77      84      90      94      97
937          UA     100
             * DDM   ***** Preserved *****

938          KK    C108
939          KM   COMBINE HYDROGRAPHS FROM SUB-BASINS 440 & 441
940          HC       2
             * DDM   ***** Preserved *****

941          KK      D4
942          KM        SPLIT FLOW WITH TWO 42 INCH PIPES TO WEST AND SOUTH
             *      1
943          DT   SPLIT
944          DI       0      14      40      82     120     154     180
945          DQ       0       7      20      41      60      77      90
             * DDM   ***** Preserved *****
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LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

946          KK    R108
947          KM        ROUTE FLOW FROM SUB-BASIN C108 TO C67
948          RS       2    FLOW      -1
949          RC     .05    .035     .05    3200      .1
950          RX    1000    1025    1050    1070    1075    1095    1120    1145
951          RY      30    22.9    15.7      10      10    15.7    22.9      30
             * DDM   ***** Updated *****

952          KK     442
953          KM   SUB-BASIN 442
954          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
955          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .999
956          KM     L =  .83  Kb = .055  Adj. Slope =  274.2
957          BA    .100
958          LG    .300    .270   3.290    .770   5.000
959          UC    .258    .264
960          UA       0       5      16      30      65      77      84      90      94      97
961          UA     100
             * DDM   ***** Preserved *****

962          KK     C67
963          KM   COMBINE FLOW FROM SUB-BASIN 442 & DIV4
964          HC       2
             * DDM   ***** Preserved *****

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

971          KK    RTD6
972          KM   RETRIEVE FLOW FROM DIVERSION INTO OFFLINE BASIN
973          DR  BASIN4
             * DDM   ***** Preserved *****

974          KK     SD6
975          KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
976          KM     3.3 ACRE-FEETx43560/36x3600=1.1cfs
             *      1
977          RS       1    STOR       0
978          SV       0     .01     3.3
979          SQ       0     0.2     1.1
             * DDM   ***** Preserved *****

980          KK     CD6
981          KM   HYDROGRAPH COMBINATION FOR OFFLINE BASIN BLEEDOFF
982          HC       2
             * DDM   ***** Updated *****
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LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10
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 983          KK     443
 984          KM   SUB-BASIN 443
 985          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
 986          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF 1.000
 987          KM     L =  .71  Kb = .050  Adj. Slope =  315.0
 988          BA    .080
 989          LG    .250    .190   8.000    .080  10.000
 990          UC    .196    .194
 991          UA       0       5      16      30      65      77      84      90      94      97
 992          UA     100
              * DDM   ***** Preserved *****

 993          KK     D66
 994          KM        DIVERT FLOW INTO 3 NATURAL WASHES WITH ONE 24" PIPE IN EACH WASH.
 995          KM        EACH PIPE CAPACITY BASED ON 4 FEET OF HEAD
 996          DT   WSH66
 997          DI       0      78     100     200
 998          DQ       0      78      78      78
              * DDM   ***** Preserved *****

 999          KK    R113
1000          KM        ROUTE FLOW FROM C113 TO C114
1001          RS       1    FLOW      -1
1002          RC    .019    .019    .019    1300    .029
1003          RX    1000    1004    1008    1012    1018    1022    1026    1030
1004          RY      17   15.33   12.67      10      10   12.67   15.33      17
              * DDM   ***** Preserved *****

1005          KK    C114
1006          KM        COMBINE HYDROGRAPHS FROM SUB-BASIN 67 AND C113
1007          HC       2
              * DDM   ***** Updated *****

1008          KK     444
1009          KM   SUB-BASIN 444
1010          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1011          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF 1.000
1012          KM     L =  .33  Kb = .034  Adj. Slope =  315.0
1013          BA    .040
1014          LG    .130    .350   4.450    .320   1.000
1015          UC    .112    .084
1016          UA       0       3       5       8      12      20      43      75      90      96
1017          UA     100
              * DDM   ***** Preserved *****

1018          KK     R58
1019          KM   ROUTE FLOW FROM SUB-BASIN 444 TO C107
1020          RS       2    FLOW      -1
1021          RC     .05    .035     .05    2370   .0516
1022          RX    1000    1010    1020    1050    1055    1085    1095    1105
1023          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

1024          KK     445
1025          KM   SUB-BASIN 445
1026          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1027          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .999
1028          KM     L =  .82  Kb = .036  Adj. Slope =  315.0
1029          BA    .190
1030          LG    .170    .320   3.470    .590   3.000
1031          UC    .192    .130
1032          UA       0       5      16      30      65      77      84      90      94      97
1033          UA     100
              * DDM   ***** Preserved *****

1034          KK    C107
1035          KM   COMBINE HYDROGRAPHS FROM SUB-BASINS 444 & 445
1036          HC       2
              * DDM   ***** Preserved *****

1037          KK    R107
1038          KM        ROUTE FLOW FROM C107 TO C109
1039          RS       2    FLOW      -1
1040          RC     .05    .035     .05     700   .0516
1041          RX    1000    1010    1020    1050    1055    1085    1095    1105
1042          RY      19      18      17      10      10      17      18      19
              * DDM   ***** Preserved *****

1043          KK    RTB2
1044          KM        RETRIEVE DIVERTED FLOW FROM BASIN 1
              *      1
1045          DR   SPLIT
              * DDM   ***** Preserved *****

1046          KK  RSPLIT
1047          KM        ROUTE FLOW FROM SPLIT TO C109
1048          RS       1    FLOW      -1
1049          RC     .05    .035     .05     800     .05
1050          RX    1000    1025    1050    1070    1075    1095    1120    1145
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1051          RY      30    22.9    15.7      10      10    15.7    22.9      30
              * DDM   ***** Updated *****

1052          KK     446
1053          KM   SUB-BASIN 446
1054          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1055          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF 1.000
1056          KM     L =  .46  Kb = .061  Adj. Slope =  303.9
1057          BA    .040
1058          LG    .270    .250   4.500    .400  19.000
1059          UC    .183    .189
1060          UA       0       5      16      30      65      77      84      90      94      97
1061          UA     100
              * DDM   ***** Preserved *****
1                                          HEC-1 INPUT                                          PAGE 29

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

1062          KK    C109
1063          KM        COMBINE HYDROGRAPHS FROM COMBINES C107 AND C108
1064          HC       3
              * DDM   ***** Preserved *****

1065          KK      D5
1066          KM        DIVERT FLOW INTO WASHES TOWARDS WEST
1067          KM        DIVERSION THROUGH 36" PIPE WITH 3 FEET OF HEAD
              *      1
1068          DT  WSH404
1069          DI       0    40.7    71.2   121.6     190     276   379.4   500.6
1070          DQ       0      35      35      35      35      35      35      35
              * DDM   ***** Preserved *****

1071          KK    R109
1072          KM        ROUTE FLOW FROM C109 TO C110
1073          RS       1    FLOW      -1
1074          RC    .019    .019    .019    3080     .05
1075          RX    1000    1005    1010    1015    1025    1030    1035    1040
1076          RY   13.75    12.5   11.25      10      10   11.25    12.5   13.75
              * DDM   ***** Updated *****

1077          KK     447
1078          KM   SUB-BASIN 447
1079          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1080          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .999
1081          KM     L =  .49  Kb = .056  Adj. Slope =  221.0
1082          BA    .090
1083          LG    .250    .270   3.350    .870  30.000
1084          UC    .208    .145
1085          UA       0       5      16      30      65      77      84      90      94      97
1086          UA     100
              * DDM   ***** Preserved *****

1087          KK   RT404
1088          KM        RETRIEVE DIVERTED FLOW FOR WASH 109
1089          DR  WSH404
              * DDM   ***** Preserved *****

1090          KK    R404
1091          KM        ROUTE FLOW FROM C110 TO C110
1092          RS       6    FLOW      -1
1093          RC    .019    .019    .019    3540     .03
1094          RX    1000    1012    1016    1020    1025    1029    1033    1045
1095          RY      15      12      11      10      10      11      12      15
              * DDM   ***** Preserved *****

1096          KK    C110
1097          KM   COMBINE HYDROGRAPHS FROM SUB-BASIN 447 AND R404
1098          HC       3
              * DDM   ***** Preserved *****
1                                          HEC-1 INPUT                                          PAGE 30

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

1099          KK    R110
1100          KM        ROUTE FLOW FROM C110 TO C115
1101          RS       1    FLOW      -1
1102          RC    .019    .019    .019     580   .0291
1103          RX    1000    1012    1016    1020    1035    1039    1043    1055
1104          RY      15      12      11      10      10      11      12      15
              * DDM   ***** Preserved *****

1105          KK    C115
1106          KM        COMBINE HYDROGRAPHS FROM C114 AND C110
1107          HC       2
              * DDM   ***** Preserved *****

1108          KK    R115
              * ******OUTFLOW FROM THIS ROUTING IS GREATER THAN INFLOW TO THE
              * ******ROUTING BY 2cfs.  THIS IS NOTED BUT LEFT UNCHANGED WITHIN THE MODEL
1109          KM        ROUTE FLOW FROM C115 TO Sub 453
1110          RS       1    FLOW      -1
1111          RC    .019    .019    .019    2125    .029
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1112          RX    1000    1012    1016    1020    1035    1039    1043    1055
1113          RY      15      12      11      10      10      11      12      15
              * DDM   ***** Updated *****

1114          KK     448
1115          KM   SUB-BASIN 448
1116          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1117          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF 1.000
1118          KM     L =  .36  Kb = .042  Adj. Slope =  315.0
1119          BA    .045
1120          LG    .170    .310   4.200    .390  11.000
1121          UC    .133    .102
1122          UA       0       5      16      30      65      77      84      90      94      97
1123          UA     100
              * DDM   ***** Updated *****

1124          KK     449
1125          KM   SUB-BASIN 449
1126          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1127          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF 1.000
1128          KM     L =  .40  Kb = .054  Adj. Slope =  315.0
1129          BA    .050
1130          LG    .260    .280   3.500    .640   6.000
1131          UC    .167    .134
1132          UA       0       5      16      30      65      77      84      90      94      97
1133          UA     100
              * DDM   ***** Preserved *****

1134          KK   C6364
1135          KM   COMBINE HYDROGRAPHS FROM SUB-BASINS 448 & 449
1136          HC       2
              * DDM   ***** Preserved *****
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1137          KK   R6364
1138          KM   ROUTE FLOW FROM C116 AND SUB-BASINS 448 AND 449
1139          RS       5    FLOW      -1
1140          RC     .05    .035     .05    4375   .0333
1141          RX    1000    1027    1053    1080    1090    1117    1143    1170
1142          RY      15   13.33   11.67      10      10   11.67   13.33      15
              * DDM   ***** Updated *****

1143          KK     450
1144          KM   SUB-BASIN 450
1145          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1146          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF 1.000
1147          KM     L =  .85  Kb = .057  Adj. Slope =  210.5
1148          BA    .070
1149          LG    .340    .350   3.630    .570   4.000
1150          UC    .296    .383
1151          UA       0       3       5       8      12      20      43      75      90      96
1152          UA     100
              * DDM   ***** Updated *****

1153          KK     451
1154          KM   SUB-BASIN 451
1155          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1156          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF 1.000
1157          KM     L =  .57  Kb = .063  Adj. Slope =  175.0
1158          BA    .025
1159          LG    .340    .340   3.290    .750   3.000
1160          UC    .271    .453
1161          UA       0       3       5       8      12      20      43      75      90      96
1162          UA     100
              * DDM   ***** Preserved *****

1163          KK    C451
1164          KM   COMBINE HYDROGRAPHS FROM SUB-BASINS 450 & 451
1165          HC       2
              * DDM   ***** Preserved *****

1166          KK    RT66
1167          KM        RETRIEVE DIVERTED FLOW FROM SUB-BASIN 66
1168          DR   WSH66
              * DDM   ***** Updated *****

1169          KK     452
1170          KM   SUB-BASIN 452
1171          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1172          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF 1.000
1173          KM     L =  .43  Kb = .055  Adj. Slope =  315.0
1174          BA    .040
1175          LG    .260    .280   3.700    .550   9.000
1176          UC    .171    .166
1177          UA       0       5      16      30      65      77      84      90      94      97
1178          UA     100
              * DDM   ***** Preserved *****
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10
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1179          KK   C6465
1180          KM   COMBINE HYDROGRAPHS FROM SUB-BASINS 443 AND 452
1181          HC       2
              * DDM   ***** Preserved *****

1182          KK   R6566
1183          KM        ROUTE FLOW FROM DIVERSIONS 65 AND 66 TO C116
1184          RS       3    FLOW      -1
1185          RC     .05    .035     .05    2435    .0282
1186          RX    1000    1045    1090    1150    1160    1220    1265    1310
1187          RY      25      23      20      10      10      20      23      25
              * DDM   ***** Preserved *****

1188          KK    C116
1189          KM   COMBINE HYDROGRAPHS FROM SUB-BASINS 450 & 451 AND R6364 & R6465
1190          HC       3
              * DDM   ***** Preserved *****

1191          KK  BASIN5
1192          KM        RESERVOIR WITHIN PARCEL 31      2-48 INCH PIPES AT OUTFALL
1193          KM        BASIN 5 FEET DEEP
1194          RS       1    ELEV       0
1195          SV       0     4.5     9.9
1196          SQ       0      69     190
1197          SE       0     2.5       5
              * DDM   ***** Preserved *****

1198          KK    R116
1199          KM   ROUTE FLOW FROM C116 TO C117
1200          RS       2    FLOW      -1
1201          RC     .05    .035     .05    1300    .0333
1202          RX    1000    1100    1200    1300    1320    1420    1520    1620
1203          RY      13      12      11      10      10      11      12      13
              * DDM   ***** Updated *****

1204          KK     453
1205          KM   SUB-BASIN 453
1206          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1207          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF 1.000
1208          KM     L =  .58  Kb = .058  Adj. Slope =  138.0
1209          BA    .060
1210          LG    .290    .300   3.290    .820  18.000
1211          UC    .275    .284
1212          UA       0       5      16      30      65      77      84      90      94      97
1213          UA     100
              * DDM   ***** Preserved *****

1214          KK    C117
1215          KM   COMBINE HYDROGRAPHS FROM SUB-BASIN 453 AND R116
1216          HC       2
              * DDM   ***** Preserved *****
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1217          KK    C118
1218          KM   COMBINE HYDROGRAPHS FROM R115 AND C117
1219          HC       2
              * DDM   ***** Preserved *****

1220          KK    R118
1221          KM        ROUTE FLOW FROM C118 TO  DIV7
1222          RS       1    FLOW      -1
1223          RC    .019    .019    .019    1500    .024
1224          RX    1000    1012    1016    1020    1035    1039    1043    1055
1225          RY      15      12      11      10      10      11      12      15
              * DDM   ***** Preserved *****

1226          KK      D7
1227          KM        OFFLINE BASIN AT NORTH MOUNTAIN RIDGE   FLOWS ENTER BASIN OVER
1228          KM        30' WEIR SET AT 5.3' ABOVE THE CHANNEL BOTTOM
              *      1
1229          DT  BASIN6     3.6
1230          DI       0     363     487     563     645     844
1231          DQ       0       3      47      83     125     244
              * DDM   ***** Preserved *****

1232          KK    RTD7
1233          KM   RETRIEVE FLOW FROM DIVERSION INTO OFFLINE BASIN
1234          DR  BASIN6
              * DDM   ***** Preserved *****

1235          KK     SD7
1236          KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
1237          KM     3.6 ACRE-FEETx43560/36x3600=1.2cfs
1238          RS       1    STOR       0
1239          SV       0     .01     3.6
1240          SQ       0     0.2     1.2
              * DDM   ***** Preserved *****

1241          KK     CD7
1242          KM   HYDROGRAPH COMBINATION FOR OFFLINE BASIN BLEEDOFF
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1243          HC       2
              * DDM   ***** Updated *****

1244          KK     454
1245          KM   SUB-BASIN 454
1246          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1247          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .999
1248          KM     L = 1.23  Kb = .051  Adj. Slope =  163.0
1249          BA    .180
1250          LG    .300    .310   3.780    .560  14.000
1251          UC    .379    .395
1252          UA       0       5      16      30      65      77      84      90      94      97
1253          UA     100
              * DDM   ***** Preserved *****
1                                        HEC-1 INPUT                                          PAGE 34

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

1254          KK    C119
1255          KM        COMBINE HYDROGRAPHS FROM SUB-BASIN 454 AND C119
              *      1       2
1256          HC       2
              * DDM   ***** Preserved *****

1257          KK    R454
1258          KM   CHANNEL GEOMETRY OBTAINED FROM 2' CONTOUR MAPPING.
1259          KM   ROUTE FLOW FROM C119 TO 415C
1260          RS       3    FLOW      -1
1261          RC    .045    .035    .045    2200    .009
1262          RX       0      .5       1      33      42      67    67.5      68
1263          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 *****

1264          KK     415
1265          KM   SUB-BASIN 415
1266          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1267          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .996
1268          KM     L = 2.58  Kb = .044  Adj. Slope =  298.5
1269          BA    .609
1270          LG    .320    .290   4.500    .400  15.000
1271          UC    .421    .401
1272          UA       0       5      16      30      65      77      84      90      94      97
1273          UA     100
              * DDM   ***** Preserved *****

1274          KK   RT385
1275          KM   RETRIEVE FLOW FROM DIVERSION OF SUB-BASIN 385 INTO SUB-BASIN 415
1276          DR   SF385
              * DDM   ***** Preserved *****

1277          KK   RR385
1278          KM   CHANNEL GEOMETRY OBTAINED FROM 2' CONTOUR MAPPING.
1279          KM   ROUTING OF SPLIT FLOW FROM SUB-BASIN 385 TO SUB-BASIN 415
1280          RS      11    FLOW      -1
1281          RC    .045     .04    .045    5878    .024
1282          RX       0       1      40      46      56      62     102     103
1283          RY       3       2       2       0       0       2       2       3
              * DDM   ***** Preserved *****

1284          KK    C415
1285          KM   HYDROGRAPH COMBINATION OF SUB-BASINS 415, R454 & SPLIT FLOW FROM 385
1286          HC       2  0.9252
              * DDM   ***** Preserved *****

1287          KK   CC415
1288          KM   HYDROGRAPH COMBINATION OF SUB-BASINS 415, R454 & SPLIT FLOW FROM 385
1289          HC       2
              * DDM   ***** Preserved *****
1                                        HEC-1 INPUT                                          PAGE 35

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

1290          KK    R415
1291          KM   CHANNEL GEOMETRY OBTAINED FROM 2' CONTOUR MAPPING.
1292          KM   ROUTING OF FLOW FROM 415C TO 455C
1293          RS       3    FLOW      -1
1294          RC    .045     .03    .045    4100    .024
1295          RX       0      .5       1       8      16      23    23.5      24
1296          RY       8       8       8       0       0       8       8       8
              * DDM   ***** Updated *****

1297          KK     455
1298          KM   SUB-BASIN 455
1299          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1300          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .993
1301          KM     L = 1.70  Kb = .041  Adj. Slope =  146.0
1302          BA   1.111
1303          LG    .270    .280   3.700    .640  24.000
1304          UC    .421    .204
1305          UA       0       5      16      30      65      77      84      90      94      97
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1306        UA     100
            * DDM   ***** Preserved *****

1307        KK    D455
1308        KM        DIVERT FLOW INTO ONLINE  DETENTION BASIN
1309        KM   DETENTION/RETENTION BASINS LOCATED WITHIN LAS SENDAS ADDENDUM III
1310        KM   FOR BASIN #: 30      34      43      47&58
1311        KM        MAXIMUM VOLUME DIVERSION = 74.1 acre-feet
            *      1
1312        DT   BS455    74.1
1313        DI       0   10000
1314        DQ       0   10000
            * DDM   ***** Preserved *****

1315        KK   RT455
1316        KM   RETRIEVE FLOW FROM DIVERSION INTO ONLINE BASIN
1317        DR   BS455
            * DDM   ***** Preserved *****

1318        KK    S455
1319        KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
1320        KM    74.1 ACRE-FEETx43560/36x3600=25cfs
1321        RS       1    STOR      0
1322        SV       0     .01    74.1
1323        SQ       0     3.0      25
            * DDM   ***** Preserved *****

1324        KK    C455
1325        KM   HYDROGRAPH COMBINATION FOR SUB-BASIN 455 AND DIVERTED BASIN STORAGE OF 455
1326        HC       2
            * DDM   ***** Preserved *****
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LINE        ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1327        KK   CC455
1328        KM  HYDROGRAPH COMBINATION OF 420C, R415 AND C455
            *      1       2
1329        HC       3
            * DDM   ***** Preserved *****

1330        KK    S440
1331        KM   SPOOK HILL FRS PLANS DATED 6/15/77
1332        KM   OUTLET PIPE=7'x7.5'RCBC; L=70 INLET INV.=1566; OUTLET INV.=1566
1333        KM   EMERGENCY SPILLWAY ELEV.=1582; PRINCIPLE SPILLWAY ELEV.=1577.5
1334        KM   STORAGE VOLUME BELOW PRINCIPLE SPILLWAY FOR SEDIMENT = 200 ACRE-FEET
            *   ESE = 1583.86 ft; PSE = 1579.36 ft; Sediment Vol. = 271 Ac-Ft.
1335        RS       1    STOR      0
1336        SV       0      81     363     533     719     925    1120    1399    1668    4051
1337        SQ       0       0      10     180     367     595     800    1231    2625   24500
1338        SE      76      78      80      81      82      83    83.9      85      86      92
            * DDM   ***** Preserved *****

1339        KK    R455
1340        KM   ROUTE FLOW FROM SPOOK HILL FRS TO SUB-BASIN 480
1341        RS      15    FLOW      -1
1342        RC    .035    .025    .035    7000   .0002
1343        RX       0       1       2      28      58      84      85      86
1344        RY    13.5    13.5    13.5       0       0    13.5    13.5    13.5
            * DDM   ***** Updated *****

1345        KK     480
1346        KM   SUB-BASIN 480
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  .996
1349        KM     L = 1.21  Kb = .042  Adj. Slope =  165.0
1350        BA    .731
1351        LG    .270    .270   3.580    .730  27.000
1352        UC    .325    .148
1353        UA       0       5      16      30      65      77      84      90      94      97
1354        UA     100
            * DDM   ***** Preserved *****

1355        KK    D480
1356        KM        DIVERT FLOW INTO ONLINE  DETENTION BASIN
1357        KM   DETENTION/RETENTION BASINS LOCATED WITHIN LAS SENDAS ADDENDUM III
1358        KM   FOR BASIN #: 18 & 26
1359        KM        MAXIMUM VOLUME DIVERSION = 16.5 acre-feet
            *      1
1360        DT   BS480    16.5
1361        DI       0   10000
1362        DQ       0   10000
            * DDM   ***** Preserved *****
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LINE        ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1363        KK   RT480
1364        KM   RETRIEVE FLOW FROM DIVERSION INTO ONLINE BASIN
1365        DR   BS480
            * DDM   ***** Preserved *****
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1366          KK    S480
1367          KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
1368          KM    16.5 ACRE-FEETx43560/36x3600=5.5cfs
1369          RS       1    STOR       0
1370          SV       0     .01    16.5
1371          SQ       0     3.0     5.6
              * DDM   ***** Preserved *****

1372          KK    C480
1373          KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
1374          HC       2
              * DDM   ***** Preserved *****

1375          KK   CC480
1376          KM   HYDROGRAPH COMBINATION AT SUBBASIN 480
1377          HC       2   0.731
              * DDM   ***** Preserved *****

1378          KK    R480
1379          KM   ROUTE FLOW FROM SUB-BASIN 480 TO SUBBASIN 462
1380          RS       6    FLOW      -1
1381          RC    .035    .025    .035    2800    .0002
1382          RX       0       1       2      28      58      84      85      86
1383          RY    13.5    13.5    13.5       0       0    13.5    13.5    13.5
              * DDM   ***** Updated *****

1384          KK     456
1385          KM   SUB-BASIN 456
1386          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1387          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .998
1388          KM     L =  .94  Kb = .045  Adj. Slope =  315.0
1389          BA    .260
1390          LG    .300    .380   5.600    .200  12.000
1391          UC    .217    .139
1392          UA       0       5      16      30      65      77      84      90      94      97
1393          UA     100
              * DDM   ***** Preserved *****

1394          KK      D1
1395          KM        DIVERT FLOW INTO OFFLINE DETENTION BASIN
1396          KM        WEIR FOR BASIN SET AT 4 FEET ABOVE CHANNEL BOTTOM
              *      1
1397          DT  BASIN1     4.0
1398          DI       0    11.1   127.9   234.4   577.7   789.9  1025.5  1280.9  1555.7
1399          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

1400          KK     CD2
1401          KM        SPLIT OUT FLOW FOR WASHES THAT FLOW TO THE SOUTH FROM
1402          KM        WASHES THAT DRAIN TO THE WES, SOUTHERN WASHES FED BY 30" & 24" PIPE
1403          DT    WA30
1404          DI       0    11.1   127.9   189.6   329.7     408   491.9   579.4   671.7
1405          DQ       0    11.1    38.4    48.2      63    69.5      76      81      86
              * DDM   ***** Preserved *****

1406          KK    R456
1407          KM        ROUTE FLOW FROM SUB-BASIN 51 TO C101
1408          RS       2    FLOW      -1
1409          RC     .05    .035     .05    3800    .044
1410          RX    1000    1010    1020    1036    1041    1057    1067    1077
1411          RY   14.88   14.44      14      10      10      14   14.44   14.88
              * DDM   ***** Updated *****

1412          KK     457
1413          KM   SUB-BASIN 457
1414          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1415          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .999
1416          KM     L = 1.01  Kb = .045  Adj. Slope =  308.8
1417          BA    .190
1418          LG    .270    .330   3.950    .460   6.000
1419          UC    .237    .195
1420          UA       0       5      16      30      65      77      84      90      94      97
1421          UA     100
              * DDM   ***** Preserved *****

1422          KK    C101
1423          KM        COMBINE HYDROGRAPHS FROM SUB-BASINS 50 AND 51
1424          HC       2
              * DDM   ***** Preserved *****

1425          KK      D3
1426          KM        RESERVOIR AT THE EDGE OF THE PROPERTY   FLOW FROM CHANNEL
1427          KM        DIVERTED  INTO OFFLINE BASIN A 25' WEIR SET AT ELEVATION 1808 FT
              *      1
1428          DT  BASIN2     5.0
1429          DI       0      36      70     110     180   313.5     402   500.9
1430          DQ       0       0       0       0       0    67.5     124   190.9
              * DDM   ***** Preserved *****

1431          KK    RTD3
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1432        KM   RETRIEVE FLOW FROM DIVERSION INTO OFFLINE BASIN
1433        DR  BASIN2
            * DDM   ***** Preserved *****

1434        KK     SD3
1435        KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
1436        KM     5.0 ACRE-FEETx43560/36x3600=1.7cfs
1437        RS       1     STOR       0
1438        SV       0      .01       5
1439        SQ       0      0.7     1.7
            * DDM   ***** Preserved *****
1                                    HEC-1 INPUT                                                    PAGE 39

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

1440        KK     CD3
1441        KM   HYDROGRAPH COMBINATION FOR OFFLINE BASIN BLEEDOFF
1442        HC       2
            * DDM   ***** Preserved *****

1443        KK    R101
1444        KM        ROUTE FLOW FROM SUBBASIN C101 TO C103
1445        RS       1     FLOW      -1
1446        RC     .05     .035     .05    1450     .05
1447        RX    1000     1010    1020    1036    1041    1057    1067    1077
1448        RY      15     14.5      14      10      10      14    14.5      15
            * DDM   ***** Updated *****

1449        KK     458
1450        KM   SUB-BASIN 458
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  .999
1453        KM     L =  .76  Kb = .048  Adj. Slope =  299.0
1454        BA    .190
1455        LG    .290     .330   5.800    .190   6.000
1456        UC    .204     .131
1457        UA       0        5      16      30      65      77      84      90      94      97
1458        UA     100
            * DDM   ***** Preserved *****

1459        KK    C103
1460        KM        COMBINE HYDROGRAPHS FROM SUB-BASIN 55 AND C101
1461        HC       2
            * DDM   ***** Preserved *****

1462        KK    R103
1463        KM        ROUTE FLOW FROM SUBBASIN C103 TO C106
1464        RS       1     FLOW      -1
1465        RC     .05     .035     .05     900     .03
1466        RX    1000     1010    1020    1030    1050    1060    1070    1080
1467        RY   13.16    12.83    12.5      10      10    12.5   12.83   13.16
            * DDM   ***** Preserved *****

1468        KK    RT30
1469        KM        RETRIEVE DIVERTED FLOW FOR WASH BELOW 30 INCH PIPE
1470        DR    WA30
            * DDM   ***** Preserved *****

1471        KK     R30
1472        KM        ROUTE FLOW FROM WASH DIVERSION TO COMBINE C52
1473        RS       1     FLOW      -1
1474        RC     .05     .035     .05    1630     .05
1475        RX    1000     1010    1020    1036    1041    1057    1067    1077
1476        RY      15     14.5      14      10      10      14    14.5      15
            * DDM   ***** Preserved *****
1                                    HEC-1 INPUT                                                    PAGE 40

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

1477        KK    RTB1
1478        KM        RETRIEVE DIVERTED FLOW FROM BASIN 1
            *      1       2
1479        DR  BASIN1
            * DDM   ***** Preserved *****

1480        KK      B1
1481        KM        ROUTE FLOW THROUGH OFFLINE DETENTION BASIN
1482        KM        FLOW OUTLETS THROUGH A 30 INCH OUTLET PIPE
            *      1       2
1483        RS       1     ELEV       0
1484        SV              .7     1.4     2.3     2.7     4.0
1485        SQ       0       5      16      28    32.5      37
1486        SE       0       1       2       3     3.5       4
            * DDM   ***** Preserved *****

1487        KK     RB1
1488        KM        ROUTE FLOW FROM BASIN DIVERSION TO COMBINE C52
1489        RS       3     FLOW      -1
1490        RC     .05     .035     .05    1720     .05
1491        RX    1000     1010    1020    1036    1041    1057    1067    1077
1492        RY      15     14.5      14      10      10      14    14.5      15
            * DDM   ***** Preserved *****
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1493          KK    CDIV
1494          KM        COMBINE FLOWS FROM WA30 AND BASIN 1
1495          HC       2      .12
              * DDM   ***** Updated *****

1496          KK     459
1497          KM   SUB-BASIN 459
1498          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1499          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF 1.000
1500          KM     L =  .35  Kb = .052  Adj. Slope =  251.6
1501          BA    .030
1502          LG    .220    .300   3.330    .710   8.000
1503          UC    .162    .157
1504          UA       0       5      16      30      65      77      84      90      94      97
1505          UA     100
              * DDM   ***** Preserved *****

1506          KK     C52
1507          KM        COMBINE FLOWS FROM SUB-BASIN 52 WA30 AND BASIN 1
1508          HC       2
              * DDM   ***** Preserved *****

1509          KK     R52
1510          KM        ROUTE FLOW FROM SUBBASIN 52 TO C102
1511          RS       3    FLOW      -1
1512          RC     .05    .035     .05    2000     .05
1513          RX    1000    1010    1020    1036    1041    1057    1067    1077
1514          RY      15    14.5      14      10      10      14    14.5      15
              * DDM   ***** Updated *****
1                                        HEC-1 INPUT                                          PAGE 41

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


1515          KK     460
1516          KM   SUB-BASIN 460
1517          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1518          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .999
1519          KM     L =  .62  Kb = .058  Adj. Slope =  194.0
1520          BA    .140
1521          LG    .250    .260   3.740    .690  27.000
1522          UC    .242    .160
1523          UA       0       5      16      30      65      77      84      90      94      97
1524          UA     100
              * DDM   ***** Preserved *****

1525          KK    C102
1526          KM        COMBINE HYDROGRAPHS FROM SUB-BASINS 52 AND 53
1527          HC       2
              * DDM   ***** Preserved *****

1528          KK  BASIN3
1529          KM        RESERVOIR AT CLUBHOUSE LOCATION 1-30 INCH PIPE AT OUTFALL
1530          KM        BOTTOM OF BASIN AT 6 FEET ABOVE 1795 ELEVATION
1531          RS       1    ELEV       0
1532          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
1533          SQ       0      22      45    47.4      48      51      57      62      67      73
1534          SE    1795  1797.5    1800  1800.4  1800.5    1801    1802    1803    1804  1805.5
              * DDM   ***** Preserved *****

1535          KK      R3
1536          KM        ROUTE FLOW FROM C102 to C106
1537          RS       5    FLOW      -1
1538          RC     .05     .03     .05    2750   .0375
1539          RX    1000    1010    1020    1052    1086    1118    1128    1138
1540          RY    19.2    18.4      18      10      10      18    18.4    19.2
              * DDM   ***** Updated *****

1541          KK     461
1542          KM   SUB-BASIN 461
1543          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1544          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .999
1545          KM     L =  .83  Kb = .052  Adj. Slope =  181.0
1546          BA    .120
1547          LG    .270    .250   4.250    .450  21.000
1548          UC    .271    .250
1549          UA       0       5      16      30      65      77      84      90      94      97
1550          UA     100
              * DDM   ***** Preserved *****

1551          KK    C104
1552          KM        COMBINE HYDROGRAPHS FROM SUB-BASIN 54 AND R102
1553          HC       2
              * DDM   ***** Preserved *****
1                                        HEC-1 INPUT                                          PAGE 42

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


1554          KK    C106
1555          KM        COMBINE HYDROGRAPHS FROM SUB-BASIN C103 AND C104
1556          HC       2
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                    * DDM   ***** Preserved *****

1557                KK    R106
1558                KM        ROUTE FLOW FROM C106 TO C49
1559                RS       2    FLOW      -1
1560                RC     .05    .035     .05    3950    .033
1561                RX    1000    1010    1020    1030    1050    1060    1070    1080
1562                RY   13.16   12.83    12.5      10      10    12.5   12.83   13.16
                    * DDM   ***** Updated *****

1563                KK     462
1564                KM   SUB-BASIN 462
1565                KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1566                KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .998
1567                KM     L =  .97  Kb = .045  Adj. Slope =  297.7
1568                BA    .301
1569                LG    .300    .330   5.300    .240  12.000
1570                UC    .225    .137
1571                UA       0       5      16      30      65      77      84      90      94      97
1572                UA     100
                    * DDM   ***** Preserved *****

1573                KK     C56
1574                KM        COMBINE HYDROGRAPHS FROM SUB-BASIN 56 AND C106
                    *      1       2
1575                HC       2
                    * DDM   ***** Preserved *****

1576                KK    C462
1577                KM        COMBINE HYDROGRAPHS AT SUBBASIN 462
                    *      1
1578                HC       2    2.09
                    * DDM   ***** Preserved *****

1579                KK    R462
1580                KM   ROUTE FLOW FROM SUB-BASIN 462 TO SUB-BASIN 500 (First Channel Reach)
1581                RS       1    FLOW      -1
1582                RC    .025    .025    .025    1800    .005
1583                RX       0       1      20      32      62      74      93      94
1584                RY      13      12      12       0       0      12      12      13
                    *
                    * DDM   ***** Preserved *****

1585                KK   RR462
1586                KM   ROUTE FLOW FROM SUB-BASIN 462 TO SUB-BASIN 500 (Second Natural Wash Reach)
1587                RS       3    FLOW      -1
1588                RC    .055     .05    .055    4700     .05
1589                RX       0       1       2      28      58      84      85      86
1590                RY    13.5    13.5    13.5       0       0    13.5    13.5    13.5
                    * DDM   ***** Updated *****
1                                          HEC-1 INPUT                                          PAGE 43

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

1591                KK     500
1592                KM   SUB-BASIN 500
1593                KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1594                KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .994
1595                KM     L = 2.77  Kb = .042  Adj. Slope =  286.8
1596                BA    .930
1597                LG    .350    .400   6.000    .170   9.000
1598                UC    .421    .333
1599                UA       0       3       5       8      12      20      43      75      90      96
1600                UA     100
                    * DDM   ***** Preserved *****

1601                KK    C500
1602                KM   HYDROGRAPH COMBINATION FOR THE ENTIRE WATERSHED AT THE SALT RIVER
1603                HC       2    3.02
1604                ZZ
1
          SCHEMATIC DIAGRAM OF STREAM NETWORK
 INPUT
 LINE      (V) ROUTING          (--->) DIVERSION OR PUMP FLOW

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

   25          10
                V
                V
   35         R10
                V
                V
   41         R12
                .
                .
   47           .          20
                .           .
                .           .
   57         C20............
                V
                V
   60         R20
```

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                .
                .
 66             .          40
                .           .
                .           .
 76             .           .          60
                .           .           .
                .           .           .
 86          C60.......................
               V
               V
 89          S60
               V
               V
 98          R60
               V
               V
104         RR60
                .
                .
110             .          80
                .           .
                .           .
120          C80............
               V
               V
123          R80
                .
                .
129             .         100
                .           .
                .           .
139         C100............
               V
               V
142         R100
                .
                .
148             .         120
                .           .
                .           .
158         C120............
               V
               V
161         R120
                .
                .
167             .         140
                .           .
                .           .
177             .           .         150
                .           .           V
                .           .           V
187             .           .        R150
                .           .           V
                .           .           V
193             .           .        R152
                .           .           .
                .           .           .
199             .           .           .        160
                .           .           .          .
                .           .           .          .
209             .           .           .          .         180
                .           .           .          .           .
                .           .           .          .           .
219         C180.............................................
                .
                .
222             .         210
                .           V
                .           V
232             .        R210
                .           .
                .           .
238             .           .         240
                .           .           .
                .           .           .
248             .        C240............
                .           V
                .           V
251             .        S240
                .           V
                .           V
258             .        R240
                .           .
                .           .
265             .           .         220
                .           .           .
                .           .           .
275             .        C220............
                .           V
                .           V
278             .        S220
                .           V
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                .          V
285             .       R220
                .          .
                .          .
292             .          .        190
                .          .          V
                .          .          V
302             .          .       R190
                .          .          V
                .          .          V
308             .          .       R192
                .          .          .
                .          .          .
314             .          .          .        200
                .          .          .          .
                .          .          .          .
324             .       C200.......................
                .          V
                .          V
327             .       S200
                .          V
                .          V
334             .       R200
                .          V
                .          V
340             .      SS200
                .          V
                .          V
347             .      RR200
                .          .
                .          .
353        CC180............
              V
              V
356         S180
              V
              V
365         R180
                .
                .
374             .        260
                .          .
                .          .
384         C260............
              V
              V
387         R260
                .
                .
396             .        280
                .          .
                .          .
406         C280............
              V
              V
409         R280
                .
                .
418             .        300
                .          .
                .          .
428         C300............
              V
              V
431         R300
                .
                .
440             .        305
                .          .
                .          .
450         C305............
              V
              V
453         R305
                .
                .
462             .        350
                .          .
                .          .
475             .          .-------->   SF350
472             .       D350
                .          V
                .          V
478             .       R350
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                .          .
485             .          .        310
                .          .          .
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495             .       C310............
                .          V
                .          V
498             .       R310
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505                 320
                      .
520                   .-------> BS320
515               D320
                      .
525                   .        .<-------  BS320
523                   .     RT320
                      .        V
                      .        V
526                   .      S320
                      .        .
532          C320.................................
                 .
535              340B
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550                  .-------> BS340B
545              D340B
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555                  .        .<-------  BS340B
553                  .     RT340B
                     .        V
                     .        V
556                  .      S340B
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                     .        .
562              C340B............
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                     .
567                  .-------> BS340
565             DD340B
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572                  .        .<-------  BS340
570                  .     RT340
                     .        V
                     .        V
573                  .     SS340B
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579             CC340B............
                     V
                     V
582              R340B
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589                  .      340A
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604                  .        .-------> BS340A
599                  .     D340A
                     .        .
                     .        .
609                  .        .        .<-------  BS340A
607                  .        .     RT340A
                     .        .        V
                     .        .        V
610                  .        .      S340A
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616              C340A........................
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619          C340............
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                 .
624                  .<-------  SF350
622             RT350
                     V
                     V
625             RR350
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632                  .      355
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642              C355............
                     V
                     V
645              R355
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652                  .      360
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666                  .        .-------> BS360
662                  .     D360
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671          .           .           .           .<-------   BS360
669          .           .           .       RT360
             .           .           .           V
             .           .           .           V
672          .           .           .        S360
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678       C360.................................
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681          .        380A
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691     C380A............
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694          .        400A
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704     C400A............
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707          .         370
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             .           .
717          .           .         395
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727          .        C370............
             .           V
             .           V
730          .        R370
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             .           .
737          .           .        380B
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751          .           .           .-------> BS380B
747          .           .       D380B
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756          .           .           .           .<-------  BS380B
754          .           .           .      RT380B
             .           .           .           V
             .           .           .           V
757          .           .           .       S380B
             .           .           .           .
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763          .       C380B........................
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             .           .
768          .           .------->   BS380
766          .      DD380B
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773          .           .           .<-------   BS380
771          .           .       RT380
             .           .           V
             .           .           V
774          .           .      SS380B
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780          .      CC380B............
             .           V
             .           V
783          .       R380B
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790          .           .         390
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804          .           .           .------->   BS390
800          .           .        D390
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809          .           .           .           .<-------   BS390
807          .           .           .       RT390
             .           .           .           V
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810          .           .           .        S390
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816          .           .        C390............
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819          .           .        R390
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826          .           .           .        400B
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840          .           .           .           .-------> BS400B
836          .           .           .       D400B
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845                                                  .<-------  BS400B
843                                            RT400B
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                                                    V
846                                             S400B
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852                                       C400B............
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855      CC400B...................................
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858                 385
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870                   .------->   SF385
868                D385
                      V
                      V
873                R385
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880                   .         420
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894                   .           .------->   BS420
890                   .        D420
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899                   .           .           .<-------   BS420
897                   .           .       RT420
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                      .           .           V
900                   .           .        S420
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906                C420........................
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909      CC420............
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912                440
                     V
                     V
922                R70
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928                   .         441
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938                C108............
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943                   .------->   SPLIT
941                 D4
                     V
                     V
946                R108
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952                   .         442
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962                C67............
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968                   .------->  BASIN4
965                 D6
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973                   .           .<-------  BASIN4
971                   .        RTD6
                      .           V
                      .           V
974                   .         SD6
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980                CD6............
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983                   .         443
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996                   .           .------->   WSH66
993                   .         D66
                      .           V
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999                   .        R113
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1005          .        C114............
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1008          .           .        444
              .           .         V
              .           .         V
1018          .           .        R58
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1024          .           .          .        445
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1034          .           .      C107............
              .           .         V
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1037          .           .      R107
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1045          .           .          .          .<-------   SPLIT
1043          .           .          .      RTB2
              .           .          .         V
              .           .          .         V
1046          .           .          .     RSPLIT
              .           .          .          .
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1052          .           .          .          .        446
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1062          .           .      C109......................
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1068          .           .          .-------> WSH404
1065          .           .        D5
              .           .         V
              .           .         V
1071          .           .      R109
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              .           .          .
1077          .           .          .        447
              .           .          .          .
              .           .          .          .
1089          .           .          .          .          .<-------  WSH404
1087          .           .          .          .      RT404
              .           .          .          .         V
              .           .          .          .         V
1090          .           .          .          .       R404
              .           .          .          .          .
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1096          .           .      C110......................
              .           .         V
              .           .         V
1099          .           .      R110
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1105          .        C115............
              .           V
              .           V
1108          .        R115
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1114          .           .        448
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1124          .           .          .        449
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1134          .           .     C6364............
              .           .         V
              .           .         V
1137          .           .     R6364
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1143          .           .          .        450
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1153          .           .          .          .        451
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1163          .           .          .       C451............
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1168          .           .          .          .          .<-------   WSH66
1166          .           .          .          .      RT66
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1169          .           .          .          .          .        452
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1179          .           .          .          .      C6465............
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              .           .          .          .         V
1182          .           .          .          .      R6566
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1188          .           .        C116.......................
              .           .           V
              .           .           V
1191          .           .      BASIN5
              .           .           V
              .           .           V
1198          .           .        R116
              .           .           .
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1204          .           .           .         453
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1214          .           .        C117............
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1217          .       C118............
              .          V
              .          V
1220          .       R118
              .           .
              .           .
1229          .           .-------> BASIN6
1226          .         D7
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1234          .           .           .<-------  BASIN6
1232          .           .        RTD7
              .           .           V
              .           .           V
1235          .           .         SD7
              .           .           .
              .           .           .
1241          .        CD7............
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1244          .           .         454
              .           .           .
              .           .           .
1254          .       C119............
              .          V
              .          V
1257          .       R454
              .           .
              .           .
1264          .           .         415
              .           .           .
              .           .           .
1276          .           .           .           .<-------   SF385
1274          .           .           .       RT385
              .           .           .           V
              .           .           .           V
1277          .           .           .       RR385
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1284          .           .        C415............
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1287          .      CC415............
              .          V
              .          V
1290          .       R415
              .           .
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1297          .           .         455
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              .           .           .
1312          .           .           .-------->   BS455
1307          .           .        D455
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1317          .           .           .           .<-------   BS455
1315          .           .           .       RT455
              .           .           .           V
              .           .           .           V
1318          .           .           .        S455
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1324          .           .        C455............
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1327       CC455........................
              V
              V
1330       S440
              V
              V
1339       R455
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1345          .         480
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1360          .           .-------->   BS480
1355          .       D480
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1365            .           .           .<-------   BS480
1363            .           .       RT480
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                .           .          V
1366            .           .       S480
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1372            .       C480............
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                .           .
1375        CC480............
                V
                V
1378         R480
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1384            .        456
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1397            .           .------->  BASIN1
1394            .         D1
                .           .
                .           .
1403            .           .------->    WA30
1400            .        CD2
                .          V
                .          V
1406            .       R456
                .           .
                .           .
1412            .           .         457
                .           .           .
                .           .           .
1422            .       C101............
                .           .
                .           .
1428            .           .------->  BASIN2
1425            .         D3
                .           .
                .           .
1433            .           .           .<-------  BASIN2
1431            .           .       RTD3
                .           .          V
                .           .          V
1434            .           .        SD3
                .           .          .
                .           .          .
1440            .        CD3............
                .          V
                .          V
1443            .       R101
                .           .
                .           .
1449            .           .         458
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                .           .           .
1459            .       C103............
                .          V
                .          V
1462            .       R103
                .           .
                .           .
1470            .           .           .<-------    WA30
1468            .           .       RT30
                .           .          V
                .           .          V
1471            .           .        R30
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                .           .          .
1479            .           .           .           .<-------  BASIN1
1477            .           .           .        RTB1
                .           .           .          V
                .           .           .          V
1480            .           .           .         B1
                .           .           .          V
                .           .           .          V
1487            .           .           .        RB1
                .           .           .          .
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1493            .           .       CDIV............
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1496            .           .           .        459
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1506            .           .        C52............
                .           .          V
                .           .          V
1509            .           .        R52
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1515            .           .           .        460
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 1525           .          .       C102...........
                .          .          V
                .          .          V
 1528           .          .      BASIN3
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                .          .          V
 1535           .          .         R3
                .          .          .
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 1541           .          .          .         461
                .          .          .           .
                .          .          .           .
 1551           .          .       C104...........
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 1554           .        C106..........
                .          V
                .          V
 1557           .        R106
                .          .
                .          .
 1563           .          .         462
                .          .          .
                .          .          .
 1573           .         C56..........
                .          .
                .          .
 1576        C462..........
                V
                V
 1579        R462
                V
                V
 1585       RR462
                .
                .
 1591           .         500
                .          .
                .          .
 1601        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  11:32:35   *
 *                                       *
 *****************************************
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*****************************************
*                                       *
*    U.S. ARMY CORPS OF ENGINEERS       *
*    HYDROLOGIC ENGINEERING CENTER      *
*          609 SECOND STREET            *
*       DAVIS, CALIFORNIA 95616         *
*           (916) 756-1104              *
*                                       *
*****************************************
```

Existing Condition Base Model with Spook Hill FRS Storage Routing
Spook Hill FRS without Off-Line Basin
McKellips Road Alternative - Option MK2E
DDM MCUHP1 SPOOK HILL AMDP - EXISTING CONDITIONS MODEL - 100YR, 24HR STORM

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

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

                 COMPUTATION INTERVAL      .03 HOURS
                      TOTAL TIME BASE   66.63 HOURS

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

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

  9 PI            PRECIPITATION PATTERN
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19 JD INDEX STORM NO. 2
STRM 3.79 PRECIPITATION DEPTH
TRDA 1.00 TRANSPOSITION DRAINAGE AREA

0 PI PRECIPITATION PATTERN

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20 JD INDEX STORM NO. 3

STRM 3.68 PRECIPITATION DEPTH

TRDA 5.80 TRANSPOSITION DRAINAGE AREA

0 PI PRECIPITATION PATTERN

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21 JD INDEX STORM NO. 4

STRM 3.57 PRECIPITATION DEPTH

TRDA 10.66 TRANSPOSITION DRAINAGE AREA

0 PI PRECIPITATION PATTERN

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

0 PI PRECIPITATION PATTERN

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23 JD INDEX STORM NO. 6

STRM 3.47 PRECIPITATION DEPTH

TRDA 20.00 TRANSPOSITION DRAINAGE AREA

0 PI PRECIPITATION PATTERN

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24 JD INDEX STORM NO. 7

STRM 3.32 PRECIPITATION DEPTH

TRDA 50.00 TRANSPOSITION DRAINAGE AREA

0 PI PRECIPITATION PATTERN

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WARNING EXCESS AT PONDING LESS THAN ZERO FOR PERIOD. EXCESS SET TO ZERO
WARNING EXCESS AT PONDING LESS THAN ZERO FOR PERIOD. EXCESS SET TO ZERO

WARNING --- ROUTED OUTFLOW (   1029.) IS GREATER THAN MAXIMUM OUTFLOW (   1018.) IN STORAGE-OUTFLOW TABLE

WARNING --- ROUTED OUTFLOW (   1042.) IS GREATER THAN MAXIMUM OUTFLOW (   1018.) IN STORAGE-OUTFLOW TABLE

WARNING --- ROUTED OUTFLOW (   1027.) IS GREATER THAN MAXIMUM OUTFLOW (   1018.) IN STORAGE-OUTFLOW TABLE

WARNING --- ROUTED OUTFLOW (   1027.) IS GREATER THAN MAXIMUM OUTFLOW (   1018.) IN STORAGE-OUTFLOW TABLE

WARNING --- ROUTED OUTFLOW (   1021.) IS GREATER THAN MAXIMUM OUTFLOW (   1018.) IN STORAGE-OUTFLOW TABLE

WARNING --- ROUTED OUTFLOW (   1020.) IS GREATER THAN MAXIMUM OUTFLOW (   1018.) IN STORAGE-OUTFLOW TABLE

WARNING --- ROUTED OUTFLOW (   1033.) IS GREATER THAN MAXIMUM OUTFLOW (   1018.) IN STORAGE-OUTFLOW TABLE

WARNING --- ROUTED OUTFLOW (   1018.) IS GREATER THAN MAXIMUM OUTFLOW (   1018.) IN STORAGE-OUTFLOW TABLE
WARNING EXCESS AT PONDING LESS THAN ZERO FOR PERIOD. EXCESS SET TO ZERO
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RUNOFF SUMMARY
FLOW IN CUBIC FEET PER SECOND
TIME IN HOURS, AREA IN SQUARE MILES

	OPERATION	STATION	PEAK FLOW	TIME OF PEAK	AVERAGE FLOW FOR MAXIMUM PERIOD 6-HOUR	24-HOUR	72-HOUR	BASIN AREA	MAXIMUM STAGE	TIME OF MAX STAGE
+	HYDROGRAPH AT	10	989.	12.27	119.	33.	12.	.70		
+	ROUTED TO	R10	920.	12.40	119.	33.	12.	.70		
+	ROUTED TO	R12	853.	12.60	119.	33.	12.	.70		
+	HYDROGRAPH AT	20	1011.	12.43	136.	34.	12.	1.12		
+	2 COMBINED AT	C20	1684.	12.53	252.	66.	24.	1.82		
+	ROUTED TO	R20	1683.	12.57	252.	66.	24.	1.82		
+	HYDROGRAPH AT	40	2695.	12.30	264.	69.	25.	2.23		
+	HYDROGRAPH AT	60	1623.	12.40	239.	64.	23.	1.75		
+	3 COMBINED AT	C60	5371.	12.37	733.	194.	70.	5.80		
+	ROUTED TO	S60	118.	14.27	118.	114.	70.	5.80		
+	ROUTED TO	R60	118.	14.37	118.	114.	70.	5.80		
+	ROUTED TO	RR60	118.	14.40	118.	114.	70.	5.80		
+	HYDROGRAPH AT	80	1956.	12.27	189.	49.	18.	1.48		
+	2 COMBINED AT	C80	2009.	12.27	295.	160.	90.	1.48		
	ROUTED TO	R80	1981.	12.30	295.	160.	90.	1.48		
+	HYDROGRAPH AT	100	423.	12.20	60.	16.	6.	.48		
+	2 COMBINED AT	C100	2373.	12.27	351.	174.	95.	1.96		
+	ROUTED TO	R100	2370.	12.30	351.	174.	95.	1.96		
+	HYDROGRAPH AT	120	3352.	12.27	340.	92.	33.	2.20		
+	2 COMBINED AT	C120	5618.	12.27	673.	256.	126.	4.16		
+	ROUTED TO	R120	5546.	12.30	673.	256.	126.	4.16		
+	HYDROGRAPH AT	140	665.	12.13	67.	18.	6.	.60		
+	HYDROGRAPH AT	150	595.	12.17	51.	14.	5.	.41		
+	ROUTED TO	R150	568.	12.23	51.	14.	5.	.41		
+	ROUTED TO	R152	514.	12.33	51.	14.	5.	.41		
+	HYDROGRAPH AT	160	228.	12.40	37.	9.	3.	.37		
+	HYDROGRAPH AT	180	836.	12.37	97.	24.	9.	1.00		
+	5 COMBINED AT	C180	7306.	12.30	898.	313.	146.	6.54		
	HYDROGRAPH AT	210	1322.	12.17	111.	29.	10.	.79		
+	ROUTED TO	R210	1246.	12.23	111.	29.	10.	.79		

+	HYDROGRAPH AT 240	1513.	12.30	167.	42.	15.	1.41
	2 COMBINED AT C240	2684.	12.27	273.	70.	25.	2.20
+	ROUTED TO S240	799.	12.70	226.	59.	21.	2.20
+	ROUTED TO R240	798.	12.77	225.	59.	21.	2.20
+	HYDROGRAPH AT 220	676.	12.20	68.	18.	6.	.47
+	2 COMBINED AT C220	962.	12.60	288.	75.	27.	2.67
+	ROUTED TO S220	900.	12.80	280.	73.	26.	2.67
+	ROUTED TO R220	897.	12.83	280.	73.	26.	2.67
+	HYDROGRAPH AT 190	1471.	12.17	123.	33.	12.	.92
+	ROUTED TO R190	1415.	12.23	123.	33.	12.	.92
+	ROUTED TO R192	1359.	12.30	123.	33.	12.	.92
+	HYDROGRAPH AT 200	831.	12.17	72.	20.	7.	.53
+	3 COMBINED AT C200	2254.	12.30	459.	122.	44.	4.12
+	ROUTED TO S200	2135.	12.37	454.	119.	43.	4.12
+	ROUTED TO R200	2127.	12.37	454.	119.	43.	4.12
	ROUTED TO SS200	1365.	12.73	333.	88.	32.	4.12
+	ROUTED TO RR200	1330.	12.83	330.	88.	32.	4.12
+	2 COMBINED AT CC180	7306.	12.30	1212.	399.	177.	10.66
+	ROUTED TO S180	113.	29.07	113.	113.	88.	10.66
+	ROUTED TO R180	113.	28.93	113.	113.	88.	10.66
+	HYDROGRAPH AT 260	416.	12.10	43.	12.	4.	.26
+	2 COMBINED AT C260	421.	12.10	135.	124.	99.	.26
+	ROUTED TO R260	407.	12.20	135.	124.	98.	.26
+	HYDROGRAPH AT 280	527.	12.10	46.	13.	5.	.32
+	2 COMBINED AT C280	884.	12.13	176.	135.	103.	.58
+	ROUTED TO R280	862.	12.20	176.	134.	103.	.58
+	HYDROGRAPH AT 300	415.	12.10	34.	10.	3.	.29
+	2 COMBINED AT C300	1217.	12.17	207.	143.	106.	.87
+	ROUTED TO R300	1172.	12.23	207.	142.	106.	.87
+	HYDROGRAPH AT 305	476.	12.27	81.	22.	8.	.70
	2 COMBINED AT C305	1624.	12.23	283.	161.	112.	1.57
	ROUTED TO						

+	R305	1603.	12.30	282.	161.	112.	1.57
HYDROGRAPH AT	350	1258.	12.20	109.	28.	10.	.97
+ DIVERSION TO	SF350	629.	12.20	55.	14.	5.	.97
+ HYDROGRAPH AT	D350	629.	12.20	55.	14.	5.	.97
+ ROUTED TO	R350	557.	12.40	55.	14.	5.	.97
+ HYDROGRAPH AT	310	398.	12.33	52.	13.	5.	.56
+ 2 COMBINED AT	C310	928.	12.40	106.	27.	10.	1.04
+ ROUTED TO	R310	820.	12.73	106.	27.	10.	1.04
+ HYDROGRAPH AT	320	991.	12.20	127.	36.	13.	.95
+ DIVERSION TO	BS320	386.	11.93	21.	6.	2.	.95
+ HYDROGRAPH AT	D320	991.	12.20	113.	29.	11.	.95
+ HYDROGRAPH AT	RT320	386.	11.93	21.	6.	2.	.95
+ ROUTED TO	S320	4.	12.00	4.	4.	2.	.95
+ 4 COMBINED AT	C320	2546.	12.30	491.	216.	132.	3.56
+ HYDROGRAPH AT	340B	475.	12.07	35.	10.	4.	.29
DIVERSION TO	BS340B	475.	12.07	21.	6.	2.	.29
+ HYDROGRAPH AT	D340B	390.	12.13	16.	4.	2.	.29
+ HYDROGRAPH AT	RT340B	475.	12.07	21.	6.	2.	.29
+ ROUTED TO	S340B	3.	12.13	3.	3.	2.	.29
+ 2 COMBINED AT	C340B	394.	12.13	19.	7.	4.	.29
+ DIVERSION TO	BS340	376.	12.13	12.	3.	1.	.29
+ HYDROGRAPH AT	DD340B	18.	12.10	8.	4.	3.	.29
+ HYDROGRAPH AT	RT340	376.	12.13	12.	3.	1.	.29
+ ROUTED TO	SS340B	2.	12.63	2.	2.	1.	.29
+ 2 COMBINED AT	CC340B	20.	12.63	10.	6.	4.	.29
+ ROUTED TO	R340B	20.	12.70	10.	6.	4.	.29
+ HYDROGRAPH AT	340A	1361.	12.17	161.	48.	17.	1.15
+ DIVERSION TO	BS340A	1361.	12.17	82.	23.	8.	1.15
+ HYDROGRAPH AT	D340A	1217.	12.23	93.	25.	9.	1.15
+ HYDROGRAPH AT	RT340A	1361.	12.17	82.	23.	8.	1.15
ROUTED TO	S340A	14.	12.27	13.	11.	7.	1.15
+ 3 COMBINED AT	C340A	1212.	12.27	115.	42.	20.	1.44

+	2 COMBINED AT	C340	3667.	12.27	595.	255.	150.	5.00
	HYDROGRAPH AT	RT350	629.	12.20	55.	14.	5.	.97
+	ROUTED TO	RR350	544.	12.43	55.	14.	5.	.97
+	HYDROGRAPH AT	355	546.	12.33	75.	19.	7.	.68
+	2 COMBINED AT	C355	1028.	12.40	129.	34.	12.	1.16
+	ROUTED TO	R355	941.	12.70	129.	34.	12.	1.16
+	HYDROGRAPH AT	360	773.	12.23	116.	34.	12.	.88
+	DIVERSION TO	BS360	773.	12.23	52.	14.	5.	.88
+	HYDROGRAPH AT	D360	709.	12.33	73.	20.	7.	.88
+	HYDROGRAPH AT	RT360	773.	12.23	52.	14.	5.	.88
+	ROUTED TO	S360	9.	12.33	8.	7.	5.	.88
+	4 COMBINED AT	C360	4279.	12.33	777.	307.	171.	7.04
+	HYDROGRAPH AT	380A	322.	12.27	33.	10.	4.	.26
+	2 COMBINED AT	C380A	4513.	12.33	803.	314.	174.	7.30
+	HYDROGRAPH AT	400A	56.	12.20	4.	1.	0.	.05
	2 COMBINED AT	C400A	4540.	12.33	807.	314.	174.	7.35
+	HYDROGRAPH AT	370	817.	12.23	83.	22.	8.	.67
+	HYDROGRAPH AT	395	234.	12.20	26.	7.	3.	.20
+	2 COMBINED AT	C370	1046.	12.23	108.	29.	11.	.87
+	ROUTED TO	R370	913.	12.57	108.	29.	11.	.87
+	HYDROGRAPH AT	380B	567.	12.20	67.	17.	6.	.64
+	DIVERSION TO	BS380B	567.	12.20	57.	14.	5.	.64
+	HYDROGRAPH AT	D380B	147.	12.80	12.	3.	1.	.64
+	HYDROGRAPH AT	RT380B	567.	12.20	57.	14.	5.	.64
+	ROUTED TO	S380B	9.	12.80	9.	7.	5.	.64
+	3 COMBINED AT	C380B	913.	12.57	125.	38.	16.	1.51
+	DIVERSION TO	BS380	825.	12.57	87.	22.	8.	1.51
+	HYDROGRAPH AT	DD380B	86.	12.13	38.	16.	9.	1.51
+	HYDROGRAPH AT	RT380	825.	12.57	87.	22.	8.	1.51
+	ROUTED TO	SS380B	14.	13.53	14.	12.	7.	1.51
	2 COMBINED AT	CC380B	100.	13.53	51.	27.	16.	1.51
	ROUTED TO							

+	R380B	100.	13.57	51.	27.	16.	1.51
HYDROGRAPH AT	390	477.	12.03	35.	10.	4.	.24
DIVERSION TO +	BS390	101.	11.73	6.	2.	1.	.24
HYDROGRAPH AT +	D390	477.	12.03	31.	8.	3.	.24
HYDROGRAPH AT +	RT390	101.	11.73	6.	2.	1.	.24
ROUTED TO +	S390	1.	11.80	1.	1.	1.	.24
2 COMBINED AT +	C390	478.	12.03	32.	9.	4.	.24
ROUTED TO +	R390	342.	12.50	32.	9.	4.	.24
HYDROGRAPH AT +	400B	516.	12.20	62.	17.	6.	.57
DIVERSION TO +	BS400B	292.	12.00	10.	3.	1.	.57
HYDROGRAPH AT +	D400B	516.	12.20	54.	14.	5.	.57
HYDROGRAPH AT +	RT400B	292.	12.00	10.	3.	1.	.57
ROUTED TO +	S400B	2.	12.07	2.	2.	1.	.57
2 COMBINED AT +	C400B	518.	12.20	56.	15.	6.	.57
4 COMBINED AT +	CC400B	5081.	12.37	915.	357.	195.	9.67
HYDROGRAPH AT +	385	613.	12.23	74.	20.	7.	.53
DIVERSION TO +	SF385	368.	12.23	44.	12.	4.	.53
HYDROGRAPH AT +	D385	245.	12.23	29.	8.	3.	.53
ROUTED TO +	R385	208.	12.67	29.	8.	3.	.53
HYDROGRAPH AT +	420	796.	12.20	98.	27.	10.	.85
DIVERSION TO +	BS420	266.	11.93	14.	4.	2.	.85
HYDROGRAPH AT +	D420	796.	12.20	89.	23.	8.	.85
HYDROGRAPH AT +	RT420	266.	11.93	14.	4.	2.	.85
ROUTED TO +	S420	3.	12.00	2.	2.	2.	.85
3 COMBINED AT +	C420	805.	12.20	120.	33.	13.	1.06
2 COMBINED AT +	CC420	5705.	12.37	1015.	384.	205.	10.73
HYDROGRAPH AT +	440	184.	12.03	12.	3.	1.	.08
ROUTED TO +	R70	181.	12.07	12.	3.	1.	.08
HYDROGRAPH AT +	441	16.	12.03	1.	0.	0.	.01
2 COMBINED AT +	C108	197.	12.07	14.	4.	1.	.09
DIVERSION TO	SPLIT	98.	12.07	7.	2.	1.	.09
HYDROGRAPH AT +	D4	98.	12.07	7.	2.	1.	.09

+	ROUTED TO	R108	92.	12.13	7.	2.	1.	.09
	HYDROGRAPH AT	442	105.	12.10	9.	2.	1.	.10
+	2 COMBINED AT	C67	195.	12.10	16.	4.	2.	.19
+	DIVERSION TO	BASIN4	121.	12.10	6.	2.	1.	.19
+	HYDROGRAPH AT	D6	74.	12.10	10.	3.	1.	.19
+	HYDROGRAPH AT	RTD6	121.	12.10	6.	2.	1.	.19
+	ROUTED TO	SD6	1.	12.47	1.	1.	0.	.19
+	2 COMBINED AT	CD6	74.	12.10	10.	3.	1.	.19
+	HYDROGRAPH AT	443	151.	12.07	15.	4.	1.	.08
+	DIVERSION TO	WSH66	78.	11.87	12.	3.	1.	.08
+	HYDROGRAPH AT	D66	73.	12.07	3.	1.	0.	.08
+	ROUTED TO	R113	71.	12.07	3.	1.	0.	.08
+	2 COMBINED AT	C114	144.	12.07	13.	4.	2.	.27
+	HYDROGRAPH AT	444	83.	12.03	5.	1.	0.	.04
+	ROUTED TO	R58	79.	12.07	5.	1.	0.	.04
	HYDROGRAPH AT	445	307.	12.03	19.	5.	2.	.19
+	2 COMBINED AT	C107	382.	12.03	23.	6.	2.	.23
+	ROUTED TO	R107	382.	12.07	23.	6.	2.	.23
+	HYDROGRAPH AT	RTB2	98.	12.07	7.	2.	1.	.09
+	ROUTED TO	RSPLIT	98.	12.07	7.	2.	1.	.09
+	HYDROGRAPH AT	446	66.	12.03	6.	2.	1.	.04
+	3 COMBINED AT	C109	545.	12.07	36.	10.	3.	.27
+	DIVERSION TO	WSH404	35.	11.70	8.	2.	1.	.27
+	HYDROGRAPH AT	D5	510.	12.07	28.	7.	3.	.27
+	ROUTED TO	R109	493.	12.10	28.	7.	3.	.27
+	HYDROGRAPH AT	447	141.	12.07	12.	4.	1.	.09
+	HYDROGRAPH AT	RT404	35.	11.70	8.	2.	1.	.27
+	ROUTED TO	R404	35.	11.83	8.	2.	1.	.27
+	3 COMBINED AT	C110	666.	12.07	48.	13.	5.	.36
+	ROUTED TO	R110	663.	12.10	48.	13.	5.	.36
	2 COMBINED AT	C115	805.	12.07	61.	17.	7.	.63
	ROUTED TO							

+	R115	799.	12.10	61.	17.	7.	.63
HYDROGRAPH AT	448	89.	12.03	6.	2.	1.	.05
+ HYDROGRAPH AT	449	81.	12.03	5.	1.	0.	.05
+ 2 COMBINED AT	C6364	170.	12.03	11.	3.	1.	.09
+ ROUTED TO	R6364	145.	12.17	11.	3.	1.	.09
+ HYDROGRAPH AT	450	63.	12.20	7.	2.	1.	.07
+ HYDROGRAPH AT	451	18.	12.17	2.	1.	0.	.03
+ 2 COMBINED AT	C451	80.	12.20	9.	2.	1.	.09
+ HYDROGRAPH AT	RT66	78.	11.87	12.	3.	1.	.08
+ HYDROGRAPH AT	452	63.	12.03	5.	1.	0.	.04
+ 2 COMBINED AT	C6465	141.	12.03	17.	4.	2.	.04
+ ROUTED TO	R6566	137.	12.10	17.	4.	2.	.04
+ 3 COMBINED AT	C116	357.	12.17	36.	10.	3.	.23
+ ROUTED TO	BASIN5	159.	12.47	36.	10.	3.	.23
+ ROUTED TO	R116	157.	12.53	36.	10.	3.	.23
+ HYDROGRAPH AT	453	63.	12.10	7.	2.	1.	.06
+ 2 COMBINED AT	C117	177.	12.47	43.	12.	4.	.29
+ 2 COMBINED AT	C118	892.	12.10	104.	29.	11.	.92
+ ROUTED TO	R118	887.	12.13	104.	29.	11.	.92
+ DIVERSION TO	BASIN6	270.	12.13	7.	2.	1.	.92
+ HYDROGRAPH AT	D7	737.	12.20	97.	27.	10.	.92
+ HYDROGRAPH AT	RTD7	270.	12.13	7.	2.	1.	.92
+ ROUTED TO	SD7	1.	12.23	1.	1.	1.	.92
+ 2 COMBINED AT	CD7	739.	12.20	97.	28.	11.	.92
+ HYDROGRAPH AT	454	162.	12.13	21.	6.	2.	.18
+ 2 COMBINED AT	C119	885.	12.20	118.	34.	13.	1.10
+ ROUTED TO	R454	833.	12.27	118.	34.	13.	1.10
+ HYDROGRAPH AT	415	589.	12.17	80.	23.	8.	.61
+ HYDROGRAPH AT	RT385	368.	12.23	44.	12.	4.	.53
+ ROUTED TO	RR385	322.	12.57	44.	12.	4.	.53
2 COMBINED AT	C415	757.	12.23	124.	35.	13.	.93
+ 2 COMBINED AT	CC415	1540.	12.27	238.	67.	25.	2.03

+	ROUTED TO R415	1527.	12.30	238.	67.	25.	2.03
	HYDROGRAPH AT 455	1418.	12.13	150.	45.	16.	1.11
+	DIVERSION TO BS455	1418.	12.13	139.	37.	13.	1.11
+	HYDROGRAPH AT D455	145.	12.80	24.	8.	3.	1.11
+	HYDROGRAPH AT RT455	1418.	12.13	139.	37.	13.	1.11
+	ROUTED TO S455	23.	12.80	22.	18.	11.	1.11
+	2 COMBINED AT C455	169.	12.80	46.	26.	14.	1.11
+	3 COMBINED AT CC455	6940.	12.37	1235.	456.	238.	13.87
+	ROUTED TO S440	229.	22.13	228.	213.	149.	13.87
+	ROUTED TO R455	229.	22.87	228.	213.	146.	13.87
+	HYDROGRAPH AT 480	1102.	12.10	100.	31.	11.	.73
+	DIVERSION TO BS480	487.	11.90	27.	8.	3.	.73
+	HYDROGRAPH AT D480	1102.	12.10	83.	23.	8.	.73
+	HYDROGRAPH AT RT480	487.	11.90	27.	8.	3.	.73
+	ROUTED TO S480	5.	11.97	5.	4.	3.	.73
	2 COMBINED AT C480	1107.	12.10	88.	27.	11.	.73
+	2 COMBINED AT CC480	1107.	12.10	295.	263.	179.	.73
+	ROUTED TO R480	878.	12.33	295.	263.	178.	.73
+	HYDROGRAPH AT 456	483.	12.07	37.	10.	4.	.26
+	DIVERSION TO BASIN1	193.	12.07	8.	2.	1.	.26
+	HYDROGRAPH AT D1	290.	12.07	29.	8.	3.	.26
+	DIVERSION TO WA30	59.	12.07	10.	3.	1.	.26
+	HYDROGRAPH AT CD2	231.	12.07	19.	5.	2.	.26
+	ROUTED TO R456	218.	12.13	19.	5.	2.	.26
+	HYDROGRAPH AT 457	273.	12.07	21.	6.	2.	.19
+	2 COMBINED AT C101	480.	12.10	40.	10.	4.	.45
+	DIVERSION TO BASIN2	177.	12.10	8.	2.	1.	.45
+	HYDROGRAPH AT D3	303.	12.10	32.	8.	3.	.45
+	HYDROGRAPH AT RTD3	177.	12.10	8.	2.	1.	.45
+	ROUTED TO SD3	1.	12.40	1.	1.	1.	.45
	2 COMBINED AT CD3	304.	12.10	33.	9.	4.	.45
	ROUTED TO						

+	R101	302.	12.10	33.	9.	4.	.45
HYDROGRAPH AT	458	366.	12.03	26.	7.	2.	.19
+ 2 COMBINED AT	C103	655.	12.07	59.	16.	6.	.64
+ ROUTED TO	R103	651.	12.07	59.	16.	6.	.64
+ HYDROGRAPH AT	RT30	59.	12.07	10.	3.	1.	.26
+ ROUTED TO	R30	58.	12.10	10.	3.	1.	.26
+ HYDROGRAPH AT	RTB1	193.	12.07	8.	2.	1.	.26
+ ROUTED TO	B1	35.	12.20	8.	2.	1.	.26
+ ROUTED TO	RB1	35.	12.27	8.	2.	1.	.26
+ 2 COMBINED AT	CDIV	87.	12.20	18.	5.	2.	.12
+ HYDROGRAPH AT	459	45.	12.03	3.	1.	0.	.03
+ 2 COMBINED AT	C52	117.	12.10	21.	6.	2.	.15
+ ROUTED TO	R52	116.	12.17	21.	6.	2.	.15
+ HYDROGRAPH AT	460	221.	12.07	20.	6.	2.	.14
+ 2 COMBINED AT	C102	323.	12.07	40.	12.	4.	.29
+ ROUTED TO	BASIN3	71.	12.63	40.	12.	4.	.29
+ ROUTED TO	R3	71.	12.77	40.	12.	4.	.29
+ HYDROGRAPH AT	461	165.	12.10	17.	5.	2.	.12
+ 2 COMBINED AT	C104	220.	12.10	57.	17.	6.	.41
+ 2 COMBINED AT	C106	866.	12.07	115.	33.	12.	1.05
+ ROUTED TO	R106	828.	12.13	115.	33.	12.	1.05
+ HYDROGRAPH AT	462	557.	12.07	42.	12.	4.	.30
+ 2 COMBINED AT	C56	1306.	12.10	156.	44.	16.	1.35
+ 2 COMBINED AT	C462	1603.	12.30	376.	289.	190.	2.09
+ ROUTED TO	R462	1575.	12.33	376.	289.	190.	2.09
+ ROUTED TO	RR462	1543.	12.40	374.	289.	189.	2.09
+ HYDROGRAPH AT	500	1126.	12.27	128.	35.	12.	.93
+ 2 COMBINED AT	C500	2475.	12.33	485.	315.	199.	3.02

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