ADOBE DAM/DESERT HILLS

AREA DRAINAGE MASTER PLAN

Part 3

Desert Hills Area Hydrology Technical Data Notebook

Volume 1

Flood Control District of Maricopa County

August 2003

Desert Hills Area Hydrology

Technical Data Notebook

August 2003

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ENCLOSED DATA CD INCLUDES:

- **Digital Copy of Report in PDF Format**
- **Digital Copies of DDMSW and HEC-1 Files**
- **GIS Shapefile Coverages of Project Elements**

SECTION 1: INTRODUCTION

1.1 Purpose of Study

This study was a hydrologic modeling study done in support and in conjunction with the Adobe Dam / Desert Hills Area Drainage Master Plan (ADMP). The hydrology of the Desert Hills area had been previously studied for the purposes of floodplain delineation first by Jerry Jones in 1991 followed by Stanley Consultants in 1997. The Jerry Jones study developed an HEC-1 model using the SCS Curve Number method for determination of rainfall excess and unit hydrographs. The Jerry Jones study resulted in delineation of long reaches of Desert Hills, Apache and Paradise Washes. The Stanley Consultants study used the Jerry Jones hydrology with some refinements to compute discharges at additional concentration points. The result was the extension of the floodplain delineations further upstream and into numerous tributaries within the greater Apache Wash system.

The primary purpose of the current study was to develop an HEC-1 model using methods consistent with the most recent version of the Drainage Design Manual for Maricopa County, Volume I, Hydrology. In addition, future conditions land use was also evaluated. Finally, the existing and future conditions land use models served as a basis for the alternatives formulation and evaluation for the ADMP.

1.2 Authority for Study

The current study was authorized by the Flood Control District of Maricopa County under contract FCD 2002C001 as part of the scope of services for the Adobe Dam / Desert Hills ADMP.

1.3 Location of study

Figure 1.1 shows the location of the watershed. The study area is located in northern Maricopa County, Arizona. The watershed is bounded by the Skunk Creek watershed to the west and Cave Creek to the east. The majority of the watershed lies north of Carefree Highway between about 7th Avenue and 36th Street. The watercourses within the study area are all tributary to Cave Creek and enter Cave Creek within the pool area of the old Cave Creek Dam.

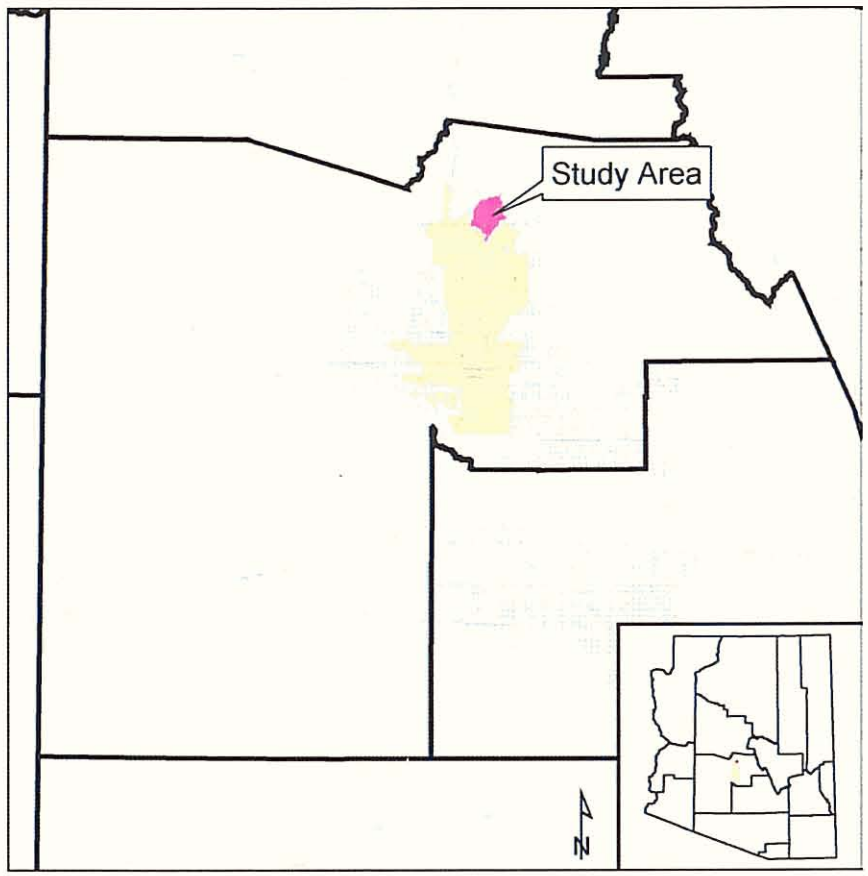

Figure 1.1 Location of Study Area

1.4 Methodology

The methods employed in this study were those outlined in the Drainage Design Manuals for Maricopa County.

1.4.1 Hydrology

The U.S. Army Corps of Engineers HEC-1 model (version 4.1) was used to compute runoff hydrographs and peak discharges. In addition, the FLO-2D computer model (version 2001.06) was used to perform the hydrologic analyses for about a four square mile portion of the study area along the western side of the study area. Eleven hydrographs from the HEC-1 model upstream of the FLO-2D model were imported into the FLO-2D model. The results of the FLO-2D model at its downstream limit near Carefree Highway and 7th Street were then inserted into the final HEC-1 models for determination of discharges further downstream.

1.4.2 Hydraulics

Hydraulic analyses performed in this study were associated with the outflow pipes or weirs from storage routings within the HEC-1 and FLO-2D models. In addition, FLO-2D performs hydraulic analyses internal to the model. However, no floodplains were delineated using conventional step-backwater approaches for this study.

1.5 Acknowledgements

This study was funded entirely by the Flood Control District of Maricopa County. Assistance and review from their staff was critical to the success of this project. In addition, staff at the Arizona State Land Department supplied valuable information used in the completion of this project.

1.6 Study results

The study resulted in the development of rainfall-runoff models for the 2-year, 10-year, and 100-year 6-hour duration events for the 26.8 square mile watershed.

SECTION 2: ADWR/FEMA FORMS

This study was not performed for the purposes of a floodplain delineation study. Therefore, no FEMA forms were completed.

SECTION 3: MAPPING AND SURVEY INFORMATION

3.1 Field Survey Information

Refer to the Flood Control District of Maricopa County for field survey information associated with the various topographic mapping used in the current study.

3.2 Mapping

The Flood Control District provided new 2-foot contour mapping and DTM data for use in the FLO-2D modeling. That work was done under separate contract by Cooper Aerial for the FCDMC in 2002. The flight date of the mapping was 3-26-02 and 10-24-02.

In addition, supplemental areas were added to the FLO-2D modeling grid from the 10-foot topographic mapping also provided by the FCDMC. Those data date from 2001.

SECTION 4: HYDROLOGY

4.1 Method Description

The methods employed in this study were those outlined in the current Drainage Design Manual for Maricopa County, Volume I, Hydrology (1995) and 2003 draft revised Hydrology Manual. The DDMSW version 2.1 was used to assist in the development of the HEC-1 models. The U.S. Army Corps of Engineers HEC-1 model (version 4.1) was used to compute runoff hydrographs and peak discharges. In addition, the FLO-2D computer model (version 2001.06) was used to perform the hydrologic analyses for about a four square mile portion of the study area along the western side of the study area (see Figure 4.1 and Plate 1). Eleven hydrographs from the HEC-1 model upstream of the FLO-2D model were imported into the FLO-2D model. The location of the subbasins that inflow to the FLO-2D area are shown in Figure 4.1 and Plate 1. Table D.7.1, taken from Appendix D.7, shows the inflow discharges, FLO-2D grid cells, and HEC-1 KK ID names for each inflow hydrograph. The FLO-2D outflow location is just downstream of Carefree Highway on the southeast corner of the FLO-2D grid shown in Figure 4.1. The results of the FLO-2D model at its downstream limit were then inserted into the final HEC-1 models for determination of discharges further downstream. A complete description of the FLO-2D modeling is found in Appendix D.7.

Table D.7.1

Summary of inflow hydrograph data for FLO-2D models (taken from Appendix D.7)

FLO-2D Inflow Element	Element Type	Existing Condition Peak Discharge, in cfs			Future Condition Peak Discharge, in cfs			HEC-1 Operation
		Q100	Q10	Q2	Q100	Q10	Q2	
336	Floodplain	105	37	11	106	40	16	S500
344	Channel	1,187	415	119	1,205	458	181	C101
711	Channel	1,331	466	133	1,335	507	200	C104
5948	Floodplain	673	236	67	690	262	104	C107
12841	Floodplain	38	13	4	38	14	6	S150
13022	Floodplain	49	17	5	49	19	7	S151
13281	Floodplain	59	21	6	59	22	9	DR152
13372	Floodplain	232	81	23	232	88	35	C153
13506	Channel	358	125	36	350	133	53	S122
13519	Floodplain	363	127	36	366	139	55	S123
13531	Floodplain	497	174	50	518	197	78	C125

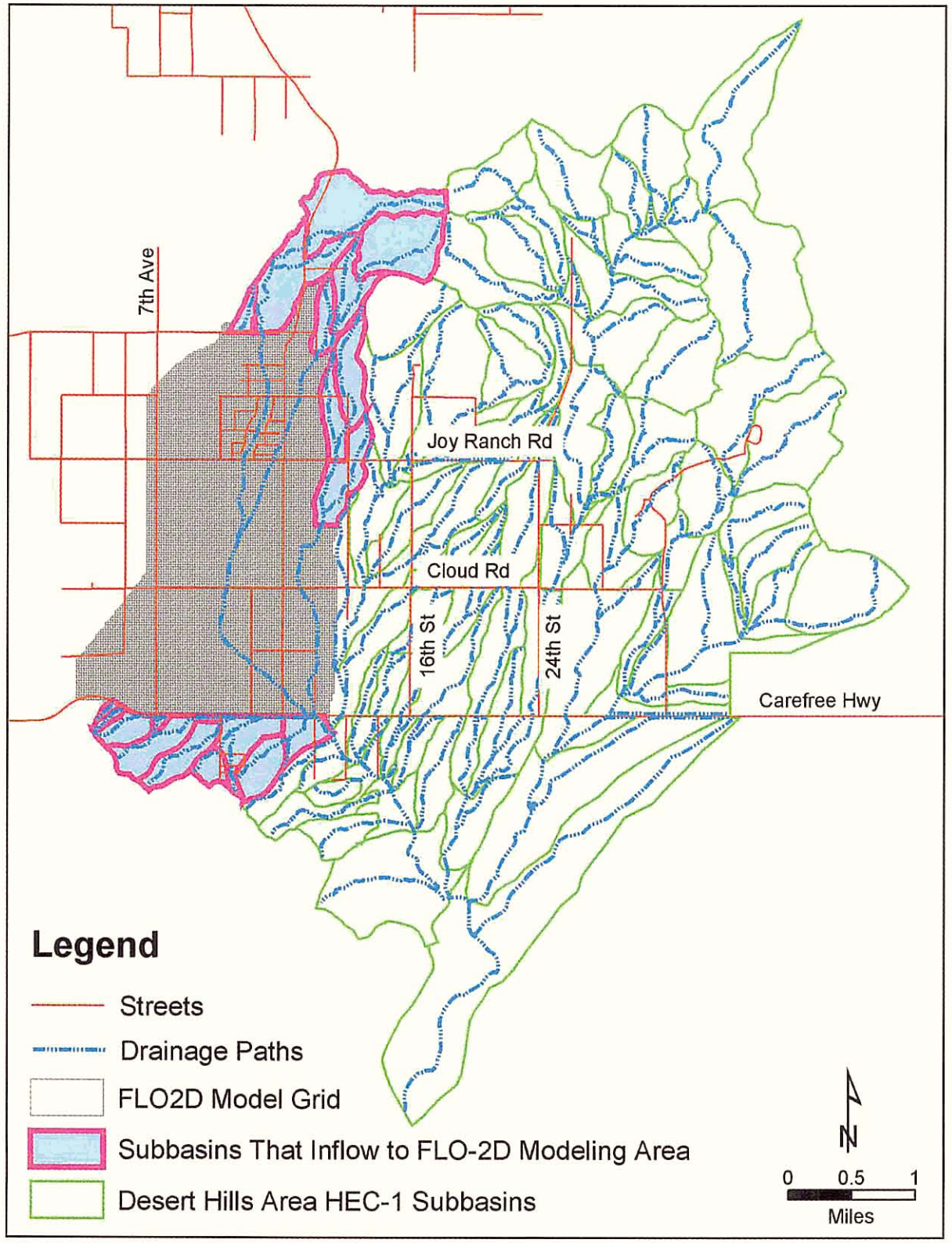

Figure 4.1 Location of HEC-1 Subbasins and FLO-2D Model Area

Rainfall losses were calculated by use of the Green and Ampt infiltration equation with an allowance for surface retention loss within HEC-1. Channel routing was performed using the normal depth Modified Puls method.

Peak discharges were estimated at various concentration points. Rainfall-runoff models were generated for the 2-year, 10-year and 100-year return periods. Generally, the 2-year and 10-year models use a ratio of the 100-year results to compute peak discharges and hydrographs per the 2003 draft Hydrology Manual. However, the FLO-2D model computed the 2-year and 10-year rainfall events with ratioed inflow hydrographs from the ratioed HEC-1 models.

Two land use conditions were evaluated: 1) existing conditions (c.a Feb. 2002) and 2) full build-out of watershed with similar style of development as currently exists in the area.

4.2 Parameter Estimation

4.2.1 Drainage Area Boundaries

The study area watershed and hydrologic subbasins are shown on Plate 1. The watershed is approximately 26.8 square miles in area. Three major sub-watersheds exist within the overall study watershed: Desert Hills Wash, Apache Wash, and Paradise Wash from west to east respectively. A portion of the Skunk Tank Wash watershed was also included in order to calculate runoff exchanged between the Desert Hills Wash and Skunk Creek watersheds. The results indicate that runoff is primarily lost to the Skunk Tank Wash watershed from an area of overflow of Desert Lake Wash near Joy Ranch Road. The details of these outflows to Skunk Tank Wash are discussed in Appendix D.7.

4.2.2 Watershed work maps

Refer to Plate 1 for the watershed work maps for HEC-1 modeling. Plates 2 shows the NRCS soils data and the distribution of saturated conductivity values for the area. Plate 3 shows the existing land use distribution used in this analysis. Plate 4 shows the future conditions land use distribution.

4.2.3 Gage data

No gage data were available for Desert Hills, Apache or Paradise Washes. However, streamflow data have been collected on the larger watersheds surrounding the study area. Cave Creek, Skunk Creek, and the New River all have gage records of over 30 years. These

data as well as the USGS regional regression equations are compared to the results of the rainfall-runoff modeling in Section 4.5.

4.2.4 Statistical parameters

The only statistical data used directly in the study were the precipitation statistics obtained from the NOAA Atlas 2, Arizona. The statistics from the NOAA Atlas were analyzed to develop the rainfall depth-duration-frequency table for the watershed. The analysis was performed using the PREFRE program. The program output is provided in Appendix D.1.

4.2.5 Precipitation

The rainfall depths used for the HEC-1 model were obtained from the NOAA Altas 2 maps for Arizona. Figure 4.2 shows the location of the watershed on the NOAA maps for the data required for input into the PREFRE program. The multiple storm option (JD records) were used to determine the critical storm at each concentration point in the HEC-1 model. The depth-area reduction factors were applied via the DDMSW 2.1 computer program for use with HEC-1.

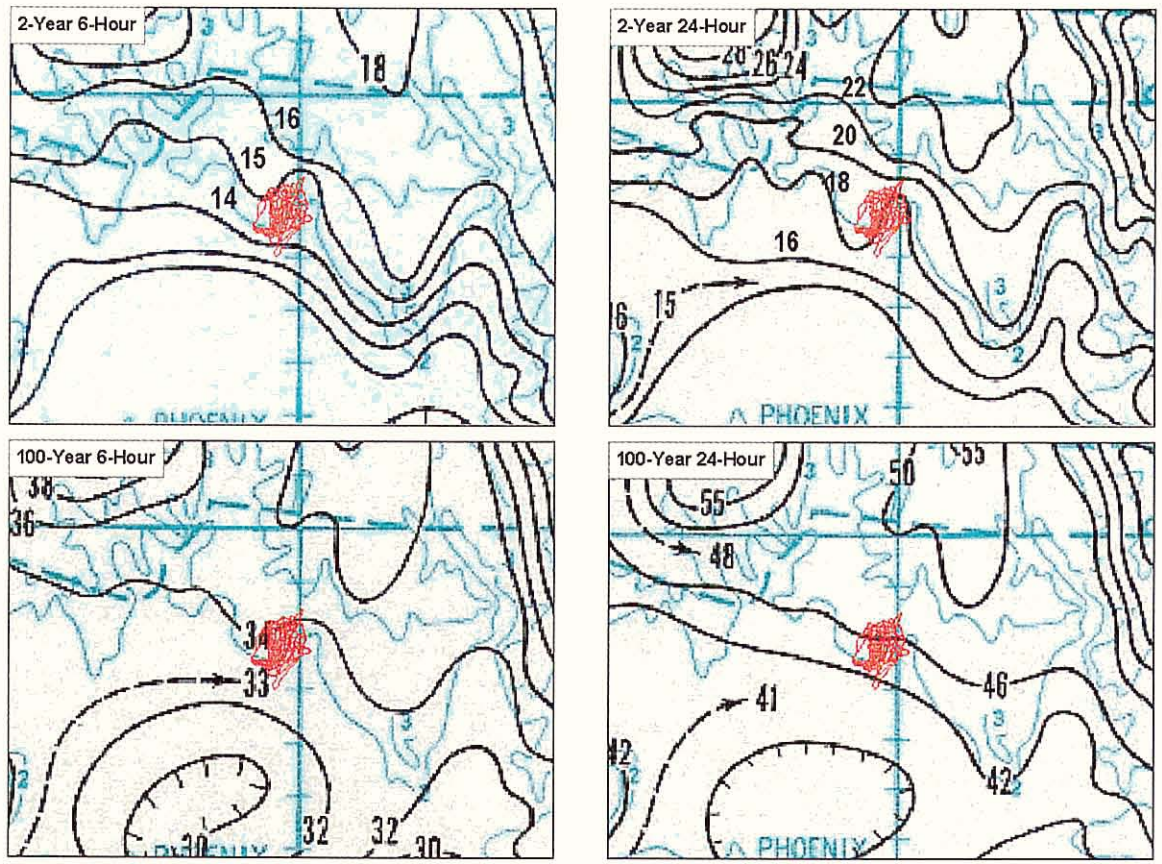

Figure 4.2. Watershed Location on NOAA Maps

The storm duration modeled was the 6-hour storm as described in the Drainage Design Manual for Maricopa County. The temporal distributions for the 6-hour storms with the JD records were implemented via the DDMSW program. The 500 square mile index storm was removed from the final models as it was not needed for a 26.8 square mile watershed.

The 10-year and 2-year models were computed by use of field 3 on the BA record in HEC-1. A ratio of 0.35 was applied to the 100-year models to compute the 10-year discharge for all of the area except the portion modeled external to HEC-1 with the FLO-2D computer model. A ratio of 0.10 was applied to the 100-year model in a similar fashion for the 2-year discharge computations. These ratios were selected based on the recommendations in Chapter 6 of the 2003 draft Drainage Design Manual, Hydrology. The FLO-2D model computed the 10-year and 2-year discharges directly using the ratio results from the eleven

HEC-1 model inflow hydrographs. See Appendix D.7 for more details on the 10-year and 2-year FLO-2D analyses.

4.2.6 Physical parameters

Rainfall Losses

Rainfall losses were computed using the Green and Ampt method as outlined in the Drainage Design Manual for Maricopa County, Volume I, Hydrology. The County's preprocessing program for HEC-1, DDMSW, version 2.1 was used to perform the lumped parameter calculations and to develop the draft HEC-1 models. The development of the soils, land use, and subbasin data for use in the DDMSW is described briefly below.

Soils

The NRCS (formerly SCS) *Soil Survey of Aguila-Carefree Area* (Camp, 1986) presents the descriptions of the soils in the study watershed. Appendix A of the Drainage Design Manual provides loss rate parameters for the map units for this soil survey. The loss rates from Appendix A of the Manual are integrated into the DDMSW. The spatial distribution of the soil map units for the watershed area is shown on Plate 2. Plate 2 also shows the saturated conductivity values (XKSAT) for the soil units in the watershed. Note that a large proportion of the watershed is covered by clay to clay loam soils with XKSAT values less than 0.06 inches/hour.

Areas of each soil unit in each subbasin were computed using ArcMap – ArcView 8.2 software. These data were imported into the DDMSW. Average subbasin XKSAT values were then computed using logarithmic averaging as implemented in the DDMSW version 2.1.

The subbasin soil data and subbasin average results are provided in Appendix D.2.

Land Use

Two land use conditions were evaluated for the ADMP – 1) existing land uses, and 2) future build-out land uses based on existing zoning with the style of development similar to the existing conditions. The future conditions analysis was performed to provide a baseline against which flood control alternatives developed in the ADMP can be measured. Existing land use conditions were evaluated based on GIS files provided by the Flood Control District of Maricopa County and updated to reflect conditions shown in aerial photographs dated

February 2002. Future land uses were estimated based on MAG general plan data provided via the Flood Control District. In addition, the data were modified to be comparable with the existing conditions land uses. Plate 3 and Plate 4 show the existing and future land use distributions for the study area, respectively.

Table 1 summarizes the hydrologic parameters related to the land use categories used in the existing and future condition analyses for estimation of rainfall excess using the Green and Ampt method and Maricopa County procedures. These parameters include surface retention loss (IA), effective impervious area (RTIMP), surface roughness (Kb Type), vegetation cover (%), and antecedent moisture conditions (DTHETA Condition). The antecedent moisture condition for all areas was assumed to be NORMAL as defined in the Drainage Design Manual.

The subbasin existing and future land use data are provided in Appendix D.3.

Table 1. Land Use Types and Hydrologic Parameters (Existing Conditions and Future Conditions)

Land Use Code	Description	DTHETA Condition	Vegetation Cover (%)	RTIMP (%)	IA (in)	Kb Type
DESERT	Desert, undeveloped land	Normal	50.00	0	0.35	Low
VLDR	Very Low Density Residential (1 to 5 acre lots)	Normal	20.00	5	0.30	Low
LDR	Low Density Residential (1/2 to 1 acre lots)	Normal	30.00	15	0.30	Low
COMM	Commercial	Normal	10.00	80	0.10	Min
PARK DEVELOPED	Developed park areas with some streets and other impervious facilities	Normal	50.00	5	0.30	Low
ELDR	Extremely Low Density Residential (5 acre or larger lots)	Normal	40.00	3	0.35	Low
SCHOOL	Educational facilities	Normal	30.00	20	0.30	Low

Unit Hydrograph

The Clark unit hydrograph method as outlined in the Drainage Design Manual was used in the HEC-1 modeling of the watershed. Watershed drainage areas, time of concentration path lengths and slopes were computed using ArcMap – ArcView 8.2 GIS software and examination of the 2002 aerial photographs, 2001 10-foot contour data, and various flood delineation study (FDS) 2-foot contour data available for portions of the area.

Time-area relationships were assigned either 'Urban', 'Natural', or 'HEC-1 default' based on examination of the watershed shapes. That is, the watershed shape and its influence on the time-area relationship were emphasized rather than the name assigned to the time-area distribution in the Manual. Therefore, undeveloped watersheds that contribute approximately the same amount of area per unit Tc were assigned the HEC-1 default time-area curve rather than the Natural curve as it is believed to be more representative of the actual hydrologic response. Time-area relationships for the existing and future conditions were assumed to be the same.

Surface roughness values were assigned as shown in Table 1 described above. As noted in Section 4.3.1, a computational error was discovered in the DDMSW 2.1 during this project in the computation of Kb.

Time of concentration (Tc) and the Clark storage coefficient (R) were computed using the DDMSW version 2.1 based on the geometric and land use parameters provided. Tables summarizing the Clark unit hydrograph parameters for the existing conditions and future conditions are provided in Appendix D.4.

Routing Parameters

Channel Routing - Routing of the model subbasin hydrographs was done using the Modified Puls normal depth channel option in HEC-1. The routing reach paths are shown on Plate 1. Each route is identified by a name consisting of the upper and lower subbasin and/or concentration point numbers defining the reach. Reach 100101, for instance, starts at the outlet of subbasin 100 at the upper end and extends to concentration point 101 at the lower end.

The routing reaches, routing parameters, and related routing information are provided in Appendix D.5. The watershed mapping was used to delineate the routing reaches and estimate the elevations at the end of each channel routing reach. Reach lengths were computed in the ArcMap – ArcView GIS software.

The eight-point channel cross sections input to HEC-1 were developed from representative cross sections from the existing FDS step-backwater models (Jerry Jones, 1992 or Stanley, 1999) wherever possible. For areas without existing HEC-2 or HECRAS models, cross section geometry was estimated from the best available topographic data for that reach. Manning's n values were also taken from the FDS models when available. The selected cross sections are referenced in the HEC-1 models. A plot of each cross section is provided in Appendix D.5.

The number of routing steps for input to the HEC-1 models was estimated using an iterative process. An initial NSTEP value was estimated based on an estimated channel velocity divided by the channel length and the model time interval. The HEC-1 models were then run using the assumed values. The reach travel time was then compared to the computed travel time from the HEC-1 model run. This process was repeated until the HEC-1 travel time from the previous run equals the travel time from the current run within the variation possible given the 5 minute time step used in the HEC-1 model.

Channel infiltration losses were not included in the routing computations. These losses were considered negligible for this area. This assumption is supported by the presence of clay at a shallow depths below channels in the area as described in excavations performed for the Skunk Creek and Cave Creek Watercourse Master Plans. In addition, XKSAT values in the study area are generally very low (< 0.06 in/hr; see also Plate 2) which supports the idea of very low to negligible transmission losses.

Reservoir Routing - Only one reservoir routing was performed within the HEC-1 model. A series of two relatively large stock tanks exist on either side of 32nd Street on Ranieri Tank Wash. In addition to the tanks, the street also stands high across the wash. Flows in the wash pass through a collection of multiple CMP culverts under the roadway. The volumes of storage were estimated from the 2-ft and 10-ft topographic mapping. Outflow discharges were estimated using HY8 and the culvert geometry as found in the field. These analyses are provided in Appendix D.5.

Multiple Frequency Models

Existing Conditions - The 10-year and 2-year discharges were computed based on ratios of the 100-year results as described in the 2003 draft Hydrology Manual. The 2003 Manual recommends computation of the 10-year peak discharge as 35% of the 100-year value. The 2-year peak discharge can be estimated as 10% of the 100-year result. The ratios were applied on field 3 of the BA record in copies of the 100-year HEC-1 model. Those portions of the area modeled with FLO-2D were modeled outside of HEC-1 for the 10-year and 2-year events using ratioed inflow hydrographs from the HEC-1 models. Appendix D.7 outlines the 10-year and 2-year modeling in FLO-2D. The results of the 10-year and 2-year FLO-2D analyses were then input directly into the 10-year and 2-year HEC-1 models to compute the final 10-year and 2-year peak discharges downstream of the FLO-2D area.

Future Conditions - The future condition 10-year and 2-year discharges were computed in a similar manner to the existing condition. However, different ratios of the 100-year were used. Separate analyses conducted on an individual subbasin and two hypothetical subbasins suggested that the future condition has a greater influence on the more frequent discharges. As a result of those analyses (see Appendix B), ratios of 0.38 and 0.15 were selected for the future condition analyses to reflect the impact of development on more frequent events.

4.3 Problems Encountered During the Study

4.3.1 Special problems and solutions

The DDMSW version 2.1 was discovered to incorrectly compute average subbasin Kb values for subbasins with more than one land use type. The result of the computational errors is that the greater the number of land use polygons entered for a single subbasin in the DDMSW, the larger the resultant Kb value. This error was not detected until very near the completion of this project. However, an analysis was conducted to investigate the magnitude and direction of the potential differences introduced by this computational error.

The results of a comparative analysis revealed only a nominal effect on peak discharge resulting from the incorrect computation of Kb in the DDMSW 2.1 in this case. The average

difference in peak discharge for all KK blocks was found to be a 0.8% increase. The median difference was a 3 cfs or 0.3% increase in peak discharge.

Therefore, while computationally incorrect, the overall resulting peak discharges were evaluated to be within acceptable limits for a planning level hydrologic study. Therefore, no corrections were made to the Kb values computed by the DDMSW or the models used and presented in this study. A correction to the DDMSW program (new version 2.1.3) has subsequently been made available, but the new version was not applied to this project.

4.3.2 Modeling warning and error messages

The HEC-1 models contain numerous warning messages. They are all related to "routed flow greater than maximum outflow". This results from the use of JD records and index storms which produce maximum routed discharges greater than the capacity of the normal-depth routing section. These warnings do not affect the results for the basin area of interest at those routing blocks which generate the warning messages.

4.4 Calibration

No calibration of the models was performed as part of this study. However, the results were compared to previous studies and regional regression equations and found to be reasonable. In addition, the methods used in this study have been designed for application to the area and have been found to produce reasonable results in hundreds of studies throughout Maricopa County.

4.5 Final Results

4.5.1 Hydrologic analysis results

Table 2 show the peak discharges for the existing and future conditions for selected locations in the watershed. The future conditions are not significantly larger than the existing conditions discharges for the 100-year event. The reasons for the relatively small impacts of the future condition are twofold. First, the existing Desert Hills area is almost half developed at the present time. Second, the large lot type development does not greatly increase peak discharges due to the small amounts of imperviousness added by rooftops.

Table 2. Existing and Future Conditions Hydrologic Results

Location	Model CP	Area (sq.mi.)	ADMP Existing Q100 (cfs)	ADMP Existing Q10 (cfs)	ADMP Existing Q2 (cfs)	ADMP Future Conditions - 6-hr Q100 (cfs)	ADMP Future Conditions - 6-hr Q10 (cfs)	ADMP Future Conditions - 6-hr Q2 (cfs)	% Difference (Fu-Ex)/Ex) Q100	% Difference (Fu-Ex)/Ex) Q10	% Difference (Fu-Ex)/Ex) Q2
Desert Hills Wash System											
Desert Lake Wash at Desert Hills Drive	C101	0.64	1,187	410	110	1,205	449	177	1.5	9.5	60.9
Desert Lake Wash Trib 2 at Desert Hills Drive	C103	0.44	1,197	404	105	1,200	440	162	0.3	8.9	54.3
East Fork Desert Lake Wash nr Maddock	C107	0.45	673	234	73	690	255	114	2.5	9.0	56.2
Desert Hills Wash Tributary 5	C109R	0.69	1,633	563	139	1,664	623	229	1.9	10.7	64.7
Desert Hills Wash about 1/4 mile D/S Joy Ranch Rd	C109	2.02	2,676	851	217	2,741	950	357	2.4	11.6	64.5
Desert Hills Wash at Cloud Road	C116	2.91	3,217	1,006	260	3,296	1,121	427	2.5	11.4	64.2
Desert Hills Wash U/S Carefree Hwy	C127L	3.50	3,191	928	243	3,267	1,040	398	2.4	12.1	63.8
Desert Hills Wash Tributary 2 @ Carefree Hwy	C133	0.35	521	155	46	544	178	72	4.4	14.8	56.5
Desert Hills Wash Tributary 1 @ Carefree Hwy	C138	0.35	501	160	39	530	186	65	5.8	16.3	66.7
Desert Hills Wash D/S 14th Street	C139	10.47	4,679	1,278	287	6,038	1,946	525	29.0	52.3	82.9
Desert Hills Wash	C147R	12.13	4,618	1,263	294	5,850	1,865	523	26.7	47.7	77.9
Apache Wash System								Average	7.2	18.6	64.8
Apache Wash D/S Rockaway Hills Rd. alignment	C201	1.37	2,727	954	273	2,701	1,026	405	-1.0	7.5	48.5
Apache Wash U/S West Fork Apache Wash	C215L	2.96	4,288	1,480	396	4,322	1,627	134	0.8	9.9	-66.2
West Fork Apache Wash	C215R	1.08	1,994	637	164	2,007	701	255	0.7	10.0	55.5
Apache Wash D/S of West Fork	C215	4.05	5,533	1,882	506	5,580	2,070	786	0.8	10.0	55.3
Apache Wash near Old New River Road	C217	5.61	6,369	1,964	517	6,453	2,199	777	1.3	12.0	50.3
Apache Wash at Carefree Hwy	C222	6.12	5,984	1,748	505	6,079	1,946	775	1.6	11.3	53.5
Apache Wash Tributary 1 at Carefree Hwy	C226	0.56	693	232	67	710	256	107	2.5	10.3	59.7
Apache Wash U/S of Desert Hills Wash	C228	7.32	5,815	1,727	521	5,938	1,916	811	2.1	10.9	55.7
Apache Wash + Desert Hills Wash	C147	19.45	8,574	2,475	727	10,119	3,154	1,106	18.0	27.4	52.1
Apache Wash D/S of Paradise Wash	C319	25.11	11,078	3,134	932	12,667	3,554	1,546	14.3	13.4	66.0
Apache Wash U/S of Cave Buttes pool	C400	26.79	11,050	3,146	908	12,704	3,674	1,557	15.0	16.9	71.6
								Average	5.1	12.7	45.6

Table 2. Existing and Future Conditions Hydrologic Results

Location	Model CP	Area (sq.mi.)	ADMP Existing Q100 (cfs)	ADMP Existing Q10 (cfs)	ADMP Existing Q2 (cfs)	ADMP Future Conditions - 6-hr Q100 (cfs)	ADMP Future Conditions - 6-hr Q10 (cfs)	ADMP Future Conditions - 6-hr Q2 (cfs)	% Difference (Fu-Ex)/Ex) Q100	% Difference (Fu-Ex)/Ex) Q10	% Difference (Fu-Ex)/Ex) Q2
Paradise Wash System											
Paradise Wash at Cloud Road	C303	1.37	2,525	852	224	2,513	921	350	-0.5	8.1	56.3
Paradise Wash U/S Ranieri Tank Wash	C312R	1.50	2,139	756	205	2,144	825	321	0.2	9.1	56.6
Ranieri Tank Wash at Paradise Wash	C312L	1.91	2,164	762	105	2,196	846	282	1.5	11.0	168.6
Paradise Wash D/S of Ranieri Tank Wash	C312	3.42	3,795	1,347	267	3,826	1,485	539	0.8	10.2	101.9
Paradise Wash West Branch at Cloud Road	C316	0.46	1,148	377	101	1,155	414	155	0.6	9.8	53.5
Paradise Wash West Branch at Carefree Hwy	C317	1.07	1,589	523	136	1,613	580	219	1.5	10.9	61.0
Paradise Wash D/S of Carefree Highway	C318	4.78	4,858	1,601	314	4,921	1,791	659	1.3	11.9	110.0
Paradise Wash U/S of Apache Wash	C319L	5.66	4,864	1,695	318	4,966	1,915	694	2.1	13.0	118.2
								Average	0.9	10.5	90.8

As mentioned in the multiple frequency modeling, the impacts of development are greater for the more frequent flood events. More frequent storms are impacted to a greater degree due to the fact that the rainfall excess generated even by small amounts of impervious area represent a greater proportion of the total rainfall excess for the shallower rainfall depths in more frequent storms. Additionally, development is assumed to reduce initial abstractions somewhat from the natural condition. Lower IA values also increase rainfall excess. The effect is more dramatic for the more frequent rainfall events because the increase in the magnitude of rainfall excess for these storms represents a larger proportion the total storm depth.

4.5.2 *Verification of results*

Figure 4.3 shows a plot of the peak discharge results for the 100-year model with the USGS regional regression equations for Region 12. The model results fall generally along the regression curve for the region and all well within the envelope curves for the region. The results that fall below the regression equation line in the vicinity of 10 square miles drainage area are the results affected by the FLO-2D modeled area. That is, the broad, shallow area of flow distributes and attenuates flows more significantly than areas represented in the regression equations.

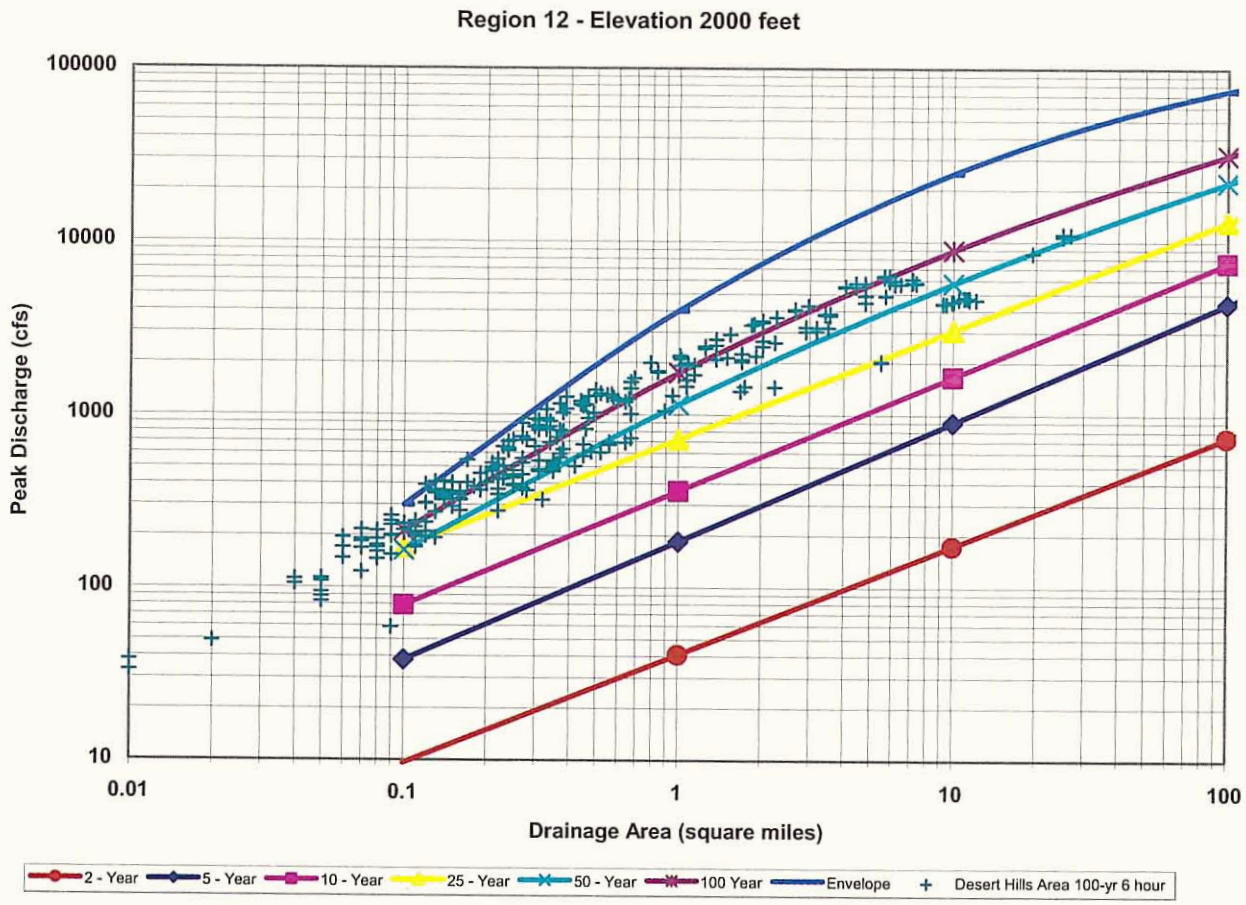

Figure 4.3. Comparison of 100-year Results with USGS Regression Equations

4.5.3 Comparison with Previous Studies

Table 3 shows a comparison of the results of the existing condition 6-hour rainfall-runoff model results with the previous Floodplain Delineation Study results by Jerry Jones and Stanley Consultants. For small drainage areas, the current study 100-year results are generally greater than the results of the previous studies. For larger drainage areas, the results of the current study are generally lower than the previous studies. The previous studies used a 24-hour SCS Type IIA storm in their analyses. This is part of the reason for the differences observed in the results.

Another factor contributing to the differences in the results is the flow lost to the west into the Skunk Tank Wash watershed along the western boundary of the watershed from just north of Joy Ranch Road to about ½ mile south of Joy Ranch Road. About 350-400 cfs flows

out of the Desert Lake Wash watershed that was not accounted for in the previous studies. Finally, the application of the FLO-2D model more realistically depicts the amount of hydrologic attenuation that occurs on Desert Lake Wash between Joy Ranch Road and Carefree Highway.

Table 3. Comparison of Results with Previous Studies

Location	FDS Model CP	FDS Area	FDS Q100	ADMP Existing Conditions - 6-Hour Model CP	Area	Q100	Q10	Q2	USGS Regression Equations Q100	Q10	Q2	Elev @ Centroid
Desert Hills Wash System												
Desert Lake Wash at Desert Hills Drive	70ESUM	0.70	992	C101	0.64	1,187	410	110				
Desert Lake Wash Trib 2 at Desert Hills Drive	80ESUM	0.45	845	C103	0.44	1,197	404	105				
East Fork Desert Lake Wash nr Maddock	50BSM1	0.52	692	C107	0.45	673	234	73				
Desert Hills Wash Tributary 5	44ASUM	0.60	782	C109R	0.69	1,633	563	139				
Desert Hills Wash about 1/4 mile D/S Joy Ranch Rd	42T	2.12	2,692	C109	2.02	2,676	851	217				
Desert Hills Wash at Cloud Road	41T	3.01	3,669	C116	2.91	3,217	1,006	260				
Desert Hills Wash U/S Carefree Hwy	40T	3.59	4,143	C127L	3.50	3,191	928	243				
Desert Hills Wash Tributary 2 @ Carefree Hwy	F2B	0.36	437	C133	0.35	521	155	46				
Desert Hills Wash Tributary 1 @ Carefree Hwy	30BSUM	0.29	376	C138	0.35	501	160	39				
Desert Hills Wash D/S 14th Street	F3T	11.26	9,657	C139	10.47	4,679	1,278	287				
Desert Hills Wash	F6T	12.57	10,221	C147R	12.13	4,618	1,263	294	10,500	1,950	200	1,850
Apache Wash System												
Apache Wash D/S Rockaway Hills Rd. alignment	24BSUM	1.45	2,770	C201	1.37	2,727	954	273				
Apache Wash U/S West Fork Apache Wash	24	2.91	3,853	C215L	2.96	4,288	1,480	396				
West Fork Apache Wash	25	1.41	2,191	C215R	1.08	1,994	637	164				
Apache Wash D/S of West Fork	24T	4.32	5,927	C215	4.05	5,533	1,882	506				
Apache Wash near Old New River Road	23T	6.03	7,187	C217	5.61	6,369	1,964	517				
Apache Wash at Carefree Hwy	22T	6.54	7,213	C222	6.12	5,984	1,748	505				
Apache Wash Tributary 1 at Carefree Hwy	21	0.51	581	C226	0.56	693	232	67				
Apache Wash U/S of Desert Hills Wash	20T	7.73	7,534	C228	7.32	5,815	1,727	521	7,300	1,340	140	2,040
Apache Wash + Desert Hills Wash	20MT	20.30	13,541	C147	19.45	8,574	2,475	727				
Apache Wash D/S of Paradise Wash	10MT	25.91	16,962	C319	25.11	11,078	3,134	932	15,700	3,090	310	1,950
Apache Wash U/S of Cave Buttes pool	EMT	27.02	17,136	C400	26.79	11,050	3,146	908	16,200	3,230	330	1,950

Table 3. Comparison of Results with Previous Studies

Location	FDS			ADMP Existing Conditions - 6-Hour					USGS Regression Equations			Elev @
	Model CP	Area	Q100	Model CP	Area	Q100	Q10	Q2	Q100	Q10	Q2	Centroid
Paradise Wash at Cloud Road	14	1.25	1,590	C303	1.37	2,525	852	224				
Paradise Wash U/S Ranieri Tank Wash	13T	1.40	1,701	C312R	1.50	2,139	756	205				
Ranieri Tank Wash at Paradise Wash	12	1.89	2,348	C312L	1.91	2,164	762	105				
Paradise Wash D/S of Ranieri Tank Wash	12T	3.29	4,049	C312	3.42	3,795	1,347	267				
Paradise Wash West Branch at Cloud Road	11BSUM	0.47	798	C316	0.46	1,148	377	101				
Paradise Wash West Branch at Carefree Hwy	11	0.99	1,092	C317	1.07	1,589	523	136				
Paradise Wash D/S of Carefree Highway	11T	4.65	5,232	C318	4.78	4,858	1,601	314				
Paradise Wash U/S of Apache Wash	10T	5.61	5,763	C319L	5.66	4,864	1,695	318	6,400	1,170	120	1,890

SECTION 5: HYDRAULICS

This study was not performed for the purposes of a floodplain delineation study. Therefore, no hydraulic modeling is presented in this Technical Data Notebook. Hydraulic modeling performed in conjunction with the rainfall-runoff modeling is presented in Section 4 and Appendix D.

SECTION 6: SEDIMENT TRANSPORT/EROSION

No sediment transport modeling was performed as a part of the hydrology study for the ADMP.

SECTION 7: DRAFT FIS

This study was not performed for the purposes of a floodplain delineation study. Therefore, a Draft FIS is not presented.

Appendix A

References

FCDMC, 2003, draft Drainage Design Manual, Volume I, Hydrology, draft revisions to the 1995 edition.

FCDMC, 1995, Drainage Design Manual, Volume I, Hydrology, as revised January 1, 1995.

Jerry R. Jones & Associates, 1992, Apache Wash Flood Insurance Study, study performed for FCDMC under contract FCD 89-66.

Stanley Consultants, Inc., 1999, Floodplain Delineation and Topographic Mapping for the Desert Hills Area, Study, study performed for the FCDMC under contract FCD 96-06.

Tetra Tech, Inc., 2001, Upper Cave Creek / Apache Wash Watercourse Master Plan, performed under contract with FCDMC, Phoenix, Arizona.

U.S. Army Corps of Engineers, 1990, HEC-1 Flood Hydrograph Package, User's Manual, CPD-1A

Appendix B

Correspondence

Flood Control District
of Maricopa County

INTEROFFICE MEMORANDUM

Date: September 8, 2003

To: Afshin Ahouraiyan, Project Manager

From: David Degerness, P.E.

Subject: DDMSW Kb Computations for Adobe Dam/Desert Hills ADMP

JE Fuller who is the FCD's consultant on the above referenced project noticed a discrepancy in the way the DDMSW software calculated the Kb value for each sub-basin as compared against previous versions of the software. JE Fuller devised a method to get around the computation deficiency until a fix could be provided for the DDMSW software. The "corrected" values of Kb yielded an average increase in flow of 0.8%, with the largest flow difference being 4.8%. This difference was considered negligible and the consultant along with the District's blessing proceeded to use the hydrology as produced by the DDMSW software.

2801 West Durango Street Phoenix, Arizona 85009 Phone: 602-506-1501 Fax: 602-506-4601

JE Fuller/ Hydrology & Geomorphology, Inc.

Jon Fuller, P.E., R.G., P.H., C.F.M.	**Pat Deschamps, P.E., L.S.**	**6101 S. Rural Rd., Suite 110**
Brian Iserman, P.E.	**Tamara J. Norton, E.I.T.**	**Tempe, Arizona 85283**
John Wallace, P.E.	**Brooks Dillard, B.A.**	**1-877-752-2124 (toll free)**
Ted Lehman, P.E.	**Mike Kellogg, M.S.**	**480-752-2124 (voice)**
W. Scott Ogden, P.E.	**Nick Headley, A.A.S.**	**480-839-2193 (fax)**
Jeffrey A. Despain, P.E.	**Annette Griffin, A.A.S.**	**www.jefuller.com**

August 15, 2003

Dave Degerness, P.E.
Flood Control District of Maricopa County
2801 W. Durango Street
Phoenix, AZ 85009

RE: Response to review comments on Desert Hills Area Hydrology TDN, Adobe ADMP, Part 3, Volume 1, dated July 2003

Dave:

This letter describes our responses to your review comments on the subject report. The format of this letter is to list your comment and then our response following each comment:

1. The first draft submittal had 24 hour duration events submitted. Why does this submittal have only the 6 hour duration events in the TDN? Does this warrant an explanation in the text of the TDN?

Response: Review of the scope of work following the original submittal showed that the 24-hour modeling was not included. While the draft HEC-1 models were created for the 24-hour storm, no FLO-2D models were ever generated for the area. Therefore, no 24-hour modeling is included in the final TDN for the Desert Hills Area. As such, no explanation will be given in the final TDN either.

2 Would like to see more of a link between the flo-2d model and its results and the hec-1 model for the Desert Hills Area TDN. Maybe a graphic presentation showing the flo-2d area with its inflow points and its outflow points would clarify the relationship for the reader.

Response: A figure and table and some additional text have been added to section 4.1 to address this comment.

3. The various hec-1 output files contained in Appendix D6 should be separated by blue paper so the reader can easily distinguish the various duration outputs of the models.

Response: Colored divider sheets have been added to the final TDN copies.

4. Minor comment: the 10 year and 2 year future conditions models contain the 100 year note at the top of their output pages.

Response: The model comments have been revised and rerun. The output in the TDN now contains correctly labeled ID records.

In addition to the changes in response to the comments provided above, I have also changed the models and supporting documentation for RR310 based on the questions you asked me via phone and email during your review. The rating curves for the outflows from the storage reservoir have been corrected. The HY8 output files have also been regenerated properly. The data in the HY8 and summarized in Appendix D.5 now matches the HEC-1 model input. The changes to RR310 result in about a 20 cfs reduction in peak discharges (out of about 2000 cfs) in the 100-yr and 1 cfs (out of 100 cfs) in the 2-year. Changes to the final results have also been updated in the summary tables in the TDN.

The corrections are included in the final TDN documents.

Sincerely,
JE Fuller/Hydrology & Geomorphology, Inc.

Ted Lehman, P.E.

CC: Afhsin Ahouriayan, FCDMC
File
TDN Appendix B

Flood Control District of Maricopa County
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Phoenix, Arizona 85009-6399
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www.fcd.maricopa.gov

DATE: July 25, 2003

MEMO TO: Afshin Ahouraiyan, Project Manager

FROM: David Degerness, P.E.

SUBJECT: Desert Hills Area Hydrology, Technical Data Notebook dated July 2003

I have finished my review of the above referenced document and I have the following comments.

1. The first draft submittal had 24 hour duration events submitted. Why does this submittal have only the 6 hour duration events in the TDN? Does this warrant an explanation in the text of the TDN?

2 Would like to see more of a link between the flo-2d model and its results and the hec-1 model for the Desert Hills Area TDN. Maybe a graphic presentation showing the flo-2d area with its inflow points and its outflow points would clarify the relationship for the reader.

3. The various hec-1 output files contained in Appendix D6 should be separated by blue paper so the reader can easily distinguish the various duration outputs of the models.

4. Minor comment: the 10 year and 2 year future conditions models contain the 100 year note at the top of their output pages.

JE FULLER
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July 10, 2003

TRANSMITTAL

Afshin Ahouraiyan
Flood Control District of Maricopa County
2801 W. Durango Street
Phoenix, AZ 85009

Afshin,

Attached are the following materials provided by JEFuller/ Hydrology & Geomorphology, Inc.:

Two copies of the Final Part 3, Volume 1, Desert Hills Area Hydrology Technical Data Notebook we have completed as part of the Adobe Dam / Desert Hills ADMP. The TDN also includes a CD-ROM in each copy with the DDMSW, HEC-1, and Arcview shapefiles of the data used in this report. Finally, the CDs also include a pdf version of the entire TDN.

This Final submittal incorporates the comments received from Mr. Degerness of your office dated Feb. 4, 2003. His comment letter is included in Appendix B for reference.

Please note that the hydrologic models in the TDN include the results of the final FLO-2D analyses. However, the details on the FLO-2D modeling itself is part of Appendix D.7 which will submitted as a separate binder to you next week. It will be called Part 3, Volume 2, Desert Hills Area Hydrology Technical Data Notebook, Appendix D.7 FLO-2D Modeling Documentation. Appendix D.7 will also include a CD-ROM with the FLO-2D models and other pertinent electronic data.

If you have any questions regarding this submittal or the data contained herein, please do not hesitate to contact myself or Pat Deschamps.

Sincerely,
JE Fuller/Hydrology & Geomorphology, Inc.

Ted Lehman, P.E.

Cc: Pat Deschamps, P.E.
File

Memorandum JE Fuller/ Hydrology & Geomorphology, Inc.

DATE: May 21, 2003

TO: Afshin Ahouraiyan (FCDMC)
Richard Harris, P.E. (FCDMC)
David Degerness (FCDMC)

FROM: W. Scott Ogden, P.E.

RE: Adobe/Desert Hills ADMP
Desert Lake FLO-2D Model Review Comment Responses

CC: Pat Deschamps, P.E., R.L.S.

JE Fuller/ Hydrology & Geomorphology, Inc. (JEF) received two sets of review comments on the draft report documenting the FLO-2D analyses performed for the Desert Lake area of the Desert Hills watershed. The first set of comments was received from David Degerness of the District and are dated May 13, 2003. Richard Harris provided additional comments in a digital file received by email from Afshin Ahouraiyan on May 20, 2003. In the following, each comment is provided in *italicized text* with our responses to the comments in the normal font and indented:

MAY 13, 2003 COMMENTS RECEIVED FROM DAVE DEGERNESS

Comment 1. There are supposed to be 11 hydrograph inflow nodes in the model based upon an email from JE Fuller. The FPINOUT.DAT file only has 8 inflow nodes. Missing flows would be from the following HEC-1 ID points: C101, C104, and S122.

JEF: The three hydrographs referenced are input to the model using the CINOUT.DAT file, as the flows are input to grid at an element that contains a channel. (David providing an email dated May 16, 2003 acknowledging this and rescinding the comment).

Comment 2. Initial abstraction within the model is set at 0.15 inches for the entire modeled area. Is this too general, should there be more variability to this parameter?

JEF: First, a point of clarification regarding the FLO-2D model. The initial abstraction (IA) value, as defined by the Maricopa County Hydrology Manual, is actually accounted for in two places in the FLO-2D model. The first is in the INFIL.DAT file and the second is in the TOLER.DAT file. In the INFIL.DAT file, the ABSTR value accounts for rainfall interception, and is predominantly focused on interception by vegetation. In the TOLER.DAT file, the TOL variable is the depression storage. No flood routing will begin until TOL value is satisfied. The two primary land uses within the modeled area can be classified as VLDR and natural desert, with recommended IA values of 0.30 and 0.35 inches. These

values are so close, that we decided to use a value of 0.30 inches over the whole area. We split this IA value between the ABSTR and TOL variables.

Comment 3. How are the ARF footprints determined. Placement of the grid elements on the ARF shows that there is more variability than what is being modeled. Is this a general representation or can it be varied even more? If so, is it even worth the effort of adding more variability to the ARF?

JEF: The ARF polygons were determined using the aerial orthophotos, ground photos, field observations, and engineering judgment to define areas of common ARF values. The delineations are somewhat general in that this model is intended for conceptual use and is primarily developed to support the hydrologic modeling by estimating the break out flow to Skunk Tank Wash. Within FLO-2D, the ARF values can be individually coded for each element if desired. However, that level of detail, given the intended use of the model, is not necessary. The model results are somewhat sensitive to the ARF value assignments in that they both reduce the portion of the element available for flood routing and also serve as the equivalent to RTIMP within HEC-1 analysis. It is our opinion that further refinement of the ARF values will not significantly alter the outflow hydrograph and is not warranted for this level of study.

MAY 15, 2003 COMMENTS RECEIVED FROM RICHARD HARRIS

Comment 1. Through our own comparison between the District's DTM for the study area, and the grid element centers elevations used in the model, it was found that for part of the westernmost area, the RMSE was too high to be acceptable for design level work such as floodplain delineation or structural planning. This is very likely attributable to using the 10' CI mapping in this area, to construct the model grid. Ideally, using the 2' mapping throughout could refine the model. However, for the purpose of hydrological analysis done to estimate the flow split location and quantity up to the beginning of the 10' mapping boundary, such refinement is not necessary. I suggest that this variance in source elevation data be listed in the report text section 4.3, Flo-2d Model Results. Flow paths shown west of the 10' mapping edge may vary, for example, if the more accurate data were to be applied.

JEF: I wholly agree that the two foot mapping will provide better resolution in the area where we had to use the ten foot contour interval DTM. The two foot mapping has only recently been made available and in order to maintain the project schedule, we had to move forward with what we had. We will include discussion in Section 4.3 to clarify the results and need for updating.

Comment 2. To help enhance the description of flow patterns on page D.7.3, I suggest that Tanya Road be labeled on the full size Plates and display Figures.

JEF: JEF will add the Tanya Road label as suggested.

Comment 3. Within the text section 2.1, Field Reconnaissance, there is mention of geometric data measurements and ground photos. Please add these to the report. If any field surveying was done, please include Sealed survey notes. If As-built or Design plans were used in the culvert analyses, please include copies and describe the source(s) and date(s) in the text.

JEF: JEF will provide the field worksheets and appropriate photographs in an appendix and refer to them accordingly in the text. JEF has not performed any as-built surveys since our field measurements, in combination with the two foot contour interval topography and orthophotography, were considered adequate to hydrologically model the culverts.

Comment 4. Within the text section 3.2, Inflow Hydrographs, please add the model names and dates from which the hydrographs were extracted. Please include the model version, too.

JEF: JEF will include this information as requested.

Comment 5. The Manning's n-Values of 0.045 and 0.05 used for the Natural Desert and Large lot areas are both at the very low end of ranges suggested within the Flo-2d manual and the HEC-1 manual from which the Flo-2d table was modified. The 0.045 value used currently is more representative of a hard-packed earthen surface perhaps similar to a parking lot, rather than Natural Desert. According to Table 2 of the manual, a value between 0.05 and 0.13, such as 0.09, may be more applicable. If the current value is to be maintained, please substantiate and describe in the text.

JEF: The overland flow roughness values presented in Table 2 of the FLO-2D Manual[1] were developed for modeling shallow (typically less than 0.5 feet), overland flows. In the FLO-2D model, when depths are less than 0.5 feet in depth, the Manning's roughness is dictated by the SHALLOWN variable in the CONT.DAT file. This value has been set to 0.15. According to the FLO-2D Manual, when flow depths are less than 0.2 feet, the roughness value is set to SHALLOWN (which is equal to 0.15). When flow depths range between 0.2 and 0.5 feet, the roughness value is set to half of the SHALLOWN value (0.075) unless the values set in the FPLAIN.DAT are higher. Depths over 0.5 feet default to the values set in the FPLAIN.DAT file. Accordingly, the values used in the FPLAIN.DAT file are proposed to be maintained since at the greater depths, the lower end of the Table 2 curve would be justified. JEF will include this description in the text of the report to provide clarity.

Comment 6. The word "areas" within Table D.7.2 appears to be misspelled as "arenas". Please revise.

---

[1] FLO-2D Software Inc., 2001, *FLO-2D User's Manual*, Version 2001.06 with updates.

JEF: In this instance, it was our intention to use the word "arenas". Looking at the aerial orthophotography, it can be seen that several of the properties within this small polygon have sizable livestock arenas that are essentially comprised of bare ground and limited roughness.

Comment 7. The box culvert input data set at Tanya Road was not found in the Culvert.dat file. Please address.

JEF: The Tanya Road culvert has to be modeled in FLO-2D using the BRIDGE.DAT file (included with the review materials) since the culvert is on a modeled channel. Please see the BRIDGE.DAT file provided with original review materials.

Comment 8. Only 12 of the 16 cross-sections found in the fpinout.dat file are shown on table D.7.5. If four of them are considered impertinent to the analysis, you might want to remove them. Please address.

JEF: The four cross sections not summarized in the report are for our use in checking the model results at various locations. JEF will add a note to the discussion in Section 4.3.1 that states this.

Comment 9. The modeled estimation of additional diverted flow that could pass into the Skunk Tank system may depend on the potential for flows to travel from hydraulic sections 12 and 13 towards the south, within the 7th avenue alignment. To check this potential scenario I recommend that 7th avenue geometry be included in the Streets.dat file. Please address.

JEF: JEF would agree that including 7th Avenue in the STREET.DAT file would be advantageous to better defining the concentration of flows along that corridor. We chose not to include it because at the time, we were working with the ten foot contour interval mapping for that area, and also, our primary focus was to develop hydrology that supported the hydrologic modeling for the Desert Hills Area. It is our opinion that the model is sufficient to accomplish the intended purpose and should remain as is. Should the Adobe Team later decides to refine or expand the FLO-2D model to further address the Skunk Tank Wash issues, we would then propose to update the grid elements to reflect the two foot contour mapping and add the 7th Avenue corridor to the STREETS.DAT file.

Memorandum JE Fuller/ Hydrology & Geomorphology, Inc.

DATE: March 25, 2003

TO: Pat Deschamps, P.E.

FROM: Ted Lehman, P.E.

RE: HEC-1 and HECRAS analysis of effects of Disturbance Envelope concept for Development Guidelines for Adobe Dam / Desert Hills ADMP Phase I

CC: File

This memorandum briefly describes the approach and limitations of the HEC-1 and HECRAS analyses used to examine the effects of the disturbance envelope concept for the development guidelines or Rules of Development for the Adobe Dam / Desert Hills ADMP. The purpose of the analyses was to provide technical information regarding the hydrologic and hydraulic impacts of the removal of vegetation from large single lot development on a watershed.

HEC-1

Subbasins

Two hypothetical subbasins were developed for the HEC-1 analyses. The basic parameters and geometry of the basins were adopted based on examination of the middle piedmont area of the Desert Hills portion of the ADMP study area. One basin had an assumed basin area of 0.25 square miles (160 acres) (Figure 1). The second basin had an area of 1.0 square miles (640 acres) (Figure 2).

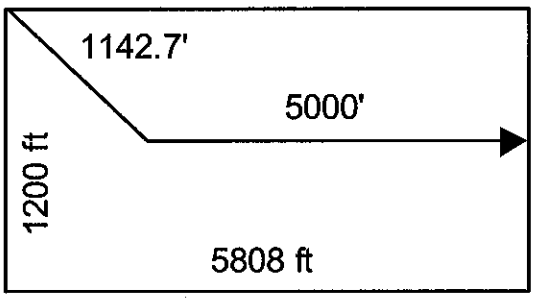


Figure 1. 160 acre hypothetical basin

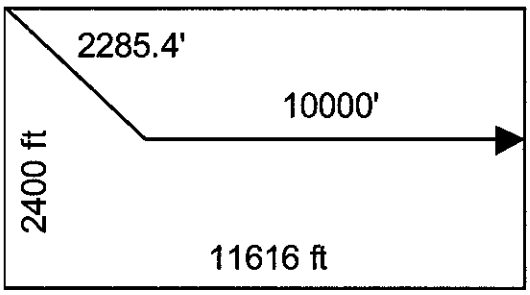


Figure 2. 640 acre hypothetical basin

Rainfall

The rainfall parameters used in the analysis was the 6-hour design storms as described in the FCDMC Drainage Design Manual. For the 160 ac basin, Pattern 1 was used for the temporal distribution. For the 640 ac basin, Pattern 1.40 was used based on the Manual's criteria. Point rainfall values were computed using PREFRE and areally reduced based on the total subbasin area for each hypothetical basin.

Soils

Examination of the XKSAT values in the Desert Hills area show a large portion of the area, especially the piedmont, is composed of clays, clay loams, and sandy clay loams.

This matches well with observations in the field. Therefore, an XKSAT value of 0.06 inches/hour (sandy clay loam) was selected for the analyses. The higher XKSAT value of the clayey soils was selected to allow the vegetation cover changes to be better expressed. The reason is that the FCDMC Drainage Design Manual methods apply an upward adjustment to XKSAT due to vegetation from a minimum adjustment of zero adjustment for a 10% vegetation cover to a 100% increase in XKSAT for 100% vegetation cover.

Vegetation Cover

Seven levels of vegetation cover impacts accompanying very low density residential (VLDR) development were examined ranging from 30% removal of vegetation to 100% removal of vegetation. The hydrologic impacts of vegetation cover changes were incorporated into the initial abstraction (IA) and XKSAT vegetation adjustment factor (Ck). Changes in these factors were computed based on a percent weighting in proportion to the change in vegetation cover. Table 1 summarizes the assumed land use parameters used in the analyses.

Roughness

Subbasin roughness was also assumed to change with changes in the degree of vegetation removal. The FCDMC method Clark Unit hydrograph approach was used in this analysis. Roughness changes were evaluated by varying Kb from Type C, moderately high roughness, to Type B, moderately low roughness proportionally to the degree of vegetation removal. Computationally this was achieved by ratioing the m and b factors and then computing the resultant Kb for each basin area. Tables 2 and 3 list the indexed values of roughness parameters for the 160 and 640 acre basins respectively.

Results

The results of the HEC-1 analyses show a significant increase in peak discharge with decreasing vegetation cover (see Tables 4 and 5). The increases are greater for the more frequent events. Discharges increase nearly linearly between about 30% to 200% from 30% vegetation removal to 100% vegetation removal in the 2-year event. For the 160 acre subbasin, the 100-year event discharge increases range from about 10% to 50% for the same range of vegetation removal (Figure 3).

The larger subbasin shows similar trends to the smaller basin, but the degree of impact on the frequent events being somewhat lesser (about 100% vs. 200%) (Figure 4).

Note that Table 4 and 5 also show the changes in discharge assuming no change in Kb with vegetation removal (VLDR1_B vs. Desert_B). The VLDR1_B vs. Desert_B results are similar to the results previously presented to the technical working group members in February and in a meeting on March 17th. These results show a much smaller increase in discharges with vegetation removal. This is because the effects on roughness are not accounted for in those analyses, only the changes in IA and adjustments to XKSAT.

Also shown are the results assuming a roughness change assuming the desert condition started in Kb Type B and smoothening to Kb Type A (VLDR1_A vs. Desert_B). This

comparison shows that if the basin is assumed to get smoother from an already relatively smooth condition, the effects on peak discharge are somewhat lesser than C to B scenario.

HECRAS

Given the significant increases in peak discharge for the 100-year event as a result of vegetation cover reduction, the impact of increases in discharge on floodplains was examined. Two HECRAS models from flood insurance studies in the Desert Hills area were used in this analysis – one for Apache Wash and the other for Desert Hills Wash. 10, 20, 30, 40, and 50 percent increases in peak discharge were modeled using the FDS models. No other changes were made to those models.

The results indicate nominal effects in computed water surface elevation, velocity, flow area, or top width for 10% increases in peak discharge (Table 6). However, at a 50% increase in peak discharge water surface elevations increased about 1 foot, velocities about 1 ft/s, flow area about 500 sq. ft., and top width about 80 feet.

Supporting Materials

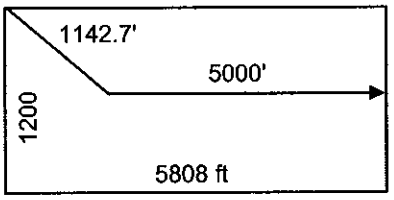
The HEC-1 model input and output, input parameter calculations, and summary of results are attached. The digital HEC-1 and RAS models are available from JEF.

Table 1. Assumed Land Use Parameters Affecting Rainfall Excess and Unit Hydrographs

LAND USE TYPE	%VEG	IA	RTIMP	DIST. ENV.	Ck	XKSAT	Adj XKSAT
DESERT	50	0.35	0	0%	1.44	0.06	0.087
RTIMP	0	0.10			1.00	0.06	0.060
DEVELOPED BARE GROUND	0	0.15	0	100%	1.00	0.06	0.060
VLDR.3	35	0.35	5%	30%	1.28	0.06	0.077
VLDR.4	30	0.30	5%	40%	1.22	0.06	0.073
VLDR.5	25	0.25	5%	50%	1.17	0.06	0.070
VLDR.6	20	0.20	5%	60%	1.11	0.06	0.067
VLDR.7	15	0.15	5%	70%	1.06	0.06	0.063
VLDR.8	10	0.10	5%	80%	1.00	0.06	0.060
VLDR1	0	0.10	5%	100%	1.00	0.06	0.060

Table 2. Kb factors for 160 acre subbasin

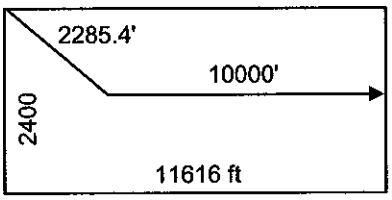
Basin Area = 0.25 sq.mi. (1200 ft x 5808 ft)
S = 0.0125 = 66.0 ft/mi
L = 6142.7 ft = 1.16 miles



		Kb factors				
		m	b	Area	DIST. ENV.	Kb
	C	-0.02500	0.150	160	0%	0.095
VLDR.3	High B	-0.02163	0.130	160	30%	0.082
VLDR.4		-0.02050	0.123	160	40%	0.078
VLDR.5		-0.01938	0.116	160	50%	0.073
VLDR.6		-0.01825	0.109	160	60%	0.069
VLDR.7		-0.01713	0.102	160	70%	0.064
VLDR.8		-0.01600	0.095	160	80%	0.060
VLDR1_B	B	-0.01375	0.080	160	100%	0.050
VLDR1_A	A	-0.00625	0.04	160	100%	0.026

Table 3. Kb factors for 640 acre subbasin

Basin Area = 1.00 sq.mi. (2400 ft x 11616 ft)
S = 0.01125 = 59.4 ft/mi
L = 12285.4 ft = 2.33 miles



		Kb factors				
		m	b	Area	DIST. ENV.	Kb
	C	-0.02500	0.150	640	0%	0.080
VLDR.3	High B	-0.02163	0.130	640	30%	0.069
VLDR.4		-0.02050	0.123	640	40%	0.065
VLDR.5		-0.01938	0.116	640	50%	0.062
VLDR.6		-0.01825	0.109	640	60%	0.058
VLDR.7		-0.01713	0.102	640	70%	0.054
VLDR.8		-0.01600	0.095	640	80%	0.050
VLDR1_B	B	-0.01375	0.080	640	100%	0.041
VLDR1_A	A	-0.00625	0.04	640	100%	0.022

Table 4. HEC-1 results for 160 acre subbasin

Basin Area = 0.25 sq.mi. (1200 ft x 5808 ft)
S = 0.0125 = 66.0 ft/mi
L = 6142.7 ft = 1.16 miles

	2-yr	5-yr	10-yr	25-yr	50-yr	100-yr
	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)
Desert_B	72	157	220	316	389	463
Desert_C	41	95	140	212	267	325
VLDR.3	54	117	167	242	302	365
VLDR.4	63	129	181	257	317	381
VLDR.5	72	143	195	273	337	401
VLDR.6	83	156	208	289	354	418
VLDR.7	95	170	224	308	374	441
VLDR.8	106	183	239	323	389	459
VLDR1B	120	204	265	356	424	497
VLDR1A	180	289	362	479	564	653
	(% diff (VLDR.# - Desert_C)/Desert_C)					
Desert_B	76%	65%	57%	49%	46%	42%
Desert_C	0%	0%	0%	0%	0%	0%
VLDR.3	32%	23%	19%	14%	13%	12%
VLDR.4	54%	36%	29%	21%	19%	17%
VLDR.5	76%	51%	39%	29%	26%	23%
VLDR.6	102%	64%	49%	36%	33%	29%
VLDR.7	132%	79%	60%	45%	40%	36%
VLDR.8	159%	93%	71%	52%	46%	41%
VLDR1_B	193%	115%	89%	68%	59%	53%
	VLDR1_A vs. Desert_B					
VLDR1_A	150%	84%	65%	52%	45%	41%
	VLDR1_B vs. Desert_B					
VLDR1_B	67%	30%	20%	13%	9%	7%

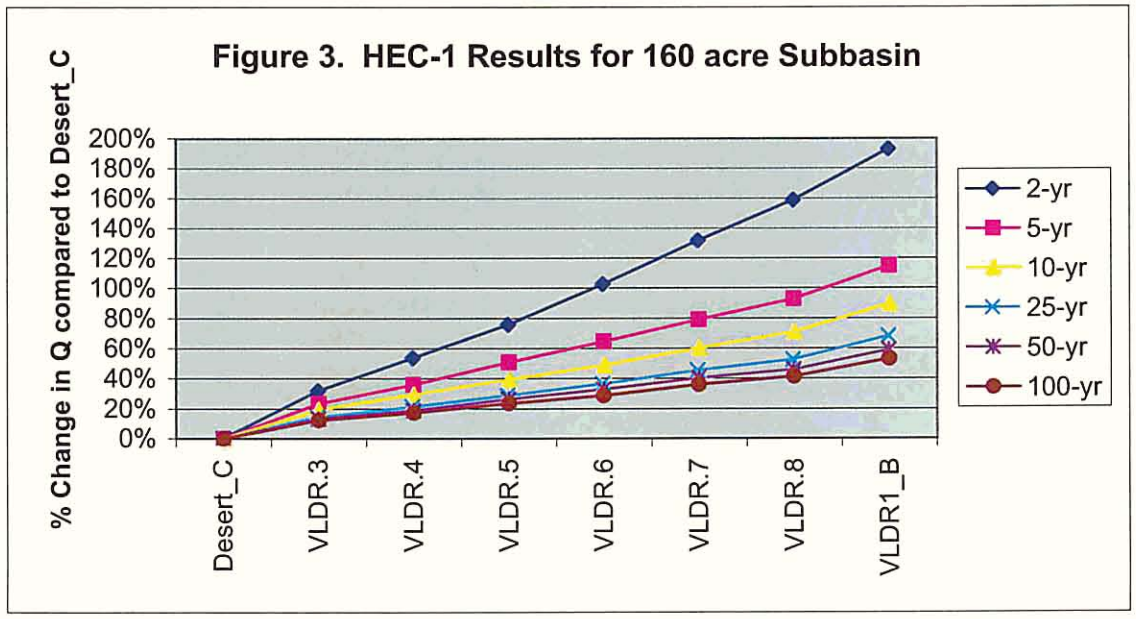


Table 5. HEC-1 results for 640 acre subbasin

Basin Area = 1.00 sq.mi. (2400 ft x 11616 ft)
S = 0.01125 = 59.4 ft/mi
L = 12285.4 ft = 2.33 miles

	2-yr	5-yr	10-yr	25-yr	50-yr	100-yr	
	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	
Desert_B	166	400	592	883	1105	1329	
Desert_C	154	267	350	554	725	901	=Tc=1.5
VLDR.3	171	291	430	656	840	1027	
VLDR.4	185	331	476	711	899	1089	
VLDR.5	197	365	517	759	946	1134	
VLDR.6	210	407	566	811	1002	1199	
VLDR.7	238	454	621	870	1062	1259	
VLDR.8	271	504	671	926	1125	1326	
VLDR1B	315	572	754	1025	1239	1459	
VLDR1A	484	803	1030	1358	1612	1879	

(% diff (VLDR.# - Desert_C)/Desert_C)

Desert_B	8%	50%	69%	59%	52%	48%
Desert_C	0%	0%	0%	0%	0%	0%
VLDR.3	11%	9%	23%	18%	16%	14%
VLDR.4	20%	24%	36%	28%	24%	21%
VLDR.5	28%	37%	48%	37%	30%	26%
VLDR.6	36%	52%	62%	46%	38%	33%
VLDR.7	55%	70%	77%	57%	46%	40%
VLDR.8	76%	89%	92%	67%	55%	47%
VLDR1_B	105%	114%	115%	85%	71%	62%

VLDR1_A vs. Desert_B

VLDR1_A	192%	101%	74%	54%	46%	41%

VLDR1_B vs. Desert_B

VLDR1_B	90%	43%	27%	16%	12%	10%

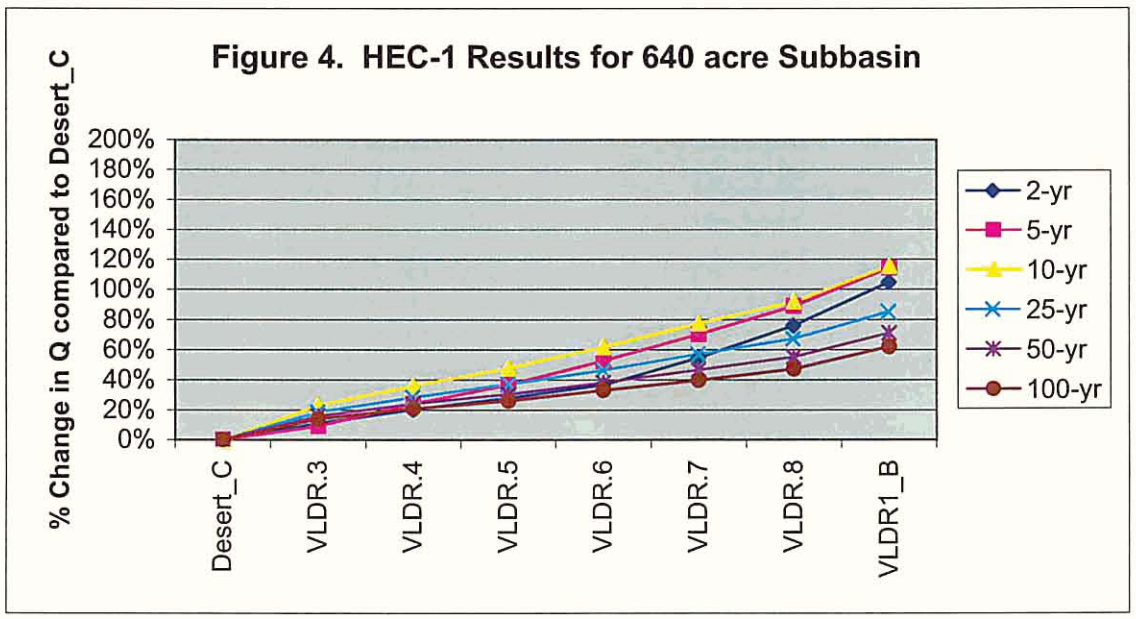


Table 6. Hydraulic Effect of Changes in Peak Discharge on Floodplains

	Existing vs. % Higher Q's - 100-year Event - Change in Variable Magnitude					
	Q Total	W.S. Elev	Vel Chnl	Flow Area	Top Width	Froude # Chl
	(cfs)	(ft)	(ft/s)	(sq ft)	(ft)	
JJ DHW	5%	0.10	0.07	68.1	8.0	0.00
AW RM 4.78 - 8.0	5%	0.12	0.13	53.6	9.6	0.00
JJ DHW	10%	0.18	0.15	121.4	14.9	0.00
AW RM 4.78 - 8.0	10%	0.24	0.21	118.0	25.3	0.00
JJ DHW	20%	0.35	0.31	238.6	34.5	0.01
AW RM 4.78 - 8.0	20%	0.45	0.43	220	38.4	0.01
JJ DHW	30%	0.51	0.44	343.3	53.3	0.01
AW RM 4.78 - 8.0	30%	0.66	0.65	321.2	57.5	0.01
JJ DHW	40%	0.65	0.57	446.8	65.6	0.01
AW RM 4.78 - 8.0	40%	0.85	0.85	417.9	69.3	0.02
JJ DHW	50%	0.79	0.7	547.5	77.3	0.01
AW RM 4.78 - 8.0	50%	1.05	1.04	515.4	82.5	0.02

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 *                                      *                    *                                      *
 *   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   21MAR03  TIME  09:41:04  *                    *           (916) 756-1104             *
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                                        XXXXXXX  XXXX     X        XXXXX  X
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                                        X     X  X        X     X         X
                                        X     X  XXXXXXX   XXXXX        XXX

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

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

1                                                HEC-1 INPUT                                                PAGE  1

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        1           ID     ADOBE DAM / DESERT HILLS ADMP
        2           ID     MARCH 2003
        3           ID     JE FULLER/ HYDROLOGY & GEOMORPHOLOGY, INC.
        4           ID
        5           ID   HYPOTHETICAL SUBBASIN ANALYSIS FOR DEV. GUIDELINES
        6           ID
        7           ID    AREA = 0.25 SQ. MI. (1200' X 5808')
        8           ID    L = 6142.7 FT = 1.16 MI.
        9           ID    S = 0.0125 = 66.0 FT/MI.
       10           ID
       11           ID    DSRT_B = DESERT RANGELAND BASIN WITH Kb TYPE B
       12           ID    DSRT_C = DESERT RANGELAND BASIN WITH Kb TYPE C
       13           ID
       14           ID    THE FOLLOWING VLDR.# BASINS HAVE Kb TYPES INCREMENTALLY SMOOTHER TRANSITIONI
       15           ID    FROM Kb TYPE C (DSRT_C) TO Kb TYPE B (VLDR1B)IN PROPORTION TO ASSUMED
       16           ID    VEGETATION REMOVAL.
       17           ID
       18           ID    VLDR.3 = VERY LOW DENSITY RESIDENTIAL (1-2 AC LOTS)
       19           ID            WITH 30% VEGETATION REMOVAL ASSUMED
       20           ID    VLDR.4 = VERY LOW DENSITY RESIDENTIAL (1-2 AC LOTS)
       21           ID            WITH 40% VEGETATION REMOVAL ASSUMED
       22           ID    VLDR.5 = VERY LOW DENSITY RESIDENTIAL (1-2 AC LOTS)
       23           ID            WITH 50% VEGETATION REMOVAL ASSUMED
       24           ID    VLDR.6 = VERY LOW DENSITY RESIDENTIAL (1-2 AC LOTS)
       25           ID            WITH 60% VEGETATION REMOVAL ASSUMED
       26           ID    VLDR.7 = VERY LOW DENSITY RESIDENTIAL (1-2 AC LOTS)
       27           ID            WITH 70% VEGETATION REMOVAL ASSUMED
       28           ID    VLDR.8 = VERY LOW DENSITY RESIDENTIAL (1-2 AC LOTS)
       29           ID            WITH 80% VEGETATION REMOVAL ASSUMED
       30           ID    VLDR1B = VERY LOW DENSITY RESIDENTIAL (1-2 AC LOTS)
       31           ID            WITH 100% VEGETATION REMOVAL ASSUMED
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       33           ID    VLDR1A = VERY LOW DENSITY RESIDENTIAL (1-2 AC LOTS)
       34           ID            WITH 100% VEGETATION REMOVAL ASSUMED
       35           ID            Kb TYPE A
       36           ID
       37           IT       2                    300
       38           IO       5
       39           JP       6
                    *

       40           KK  DSRT_B
       41           KP       1
                    *   PLAN 1 IS THE 2-YEAR EVENT
       42           KM   SUB-BASIN DSRT_B
       43           KM   6-HOUR RAINFALL, PATTERN NO. 1.00 WAS USED TO FIND TC & R FOR THIS BASIN
       44           KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .997
       45           KM     L = 1.16  Kb = .050  Adj. Slope =   66.0
       46           BA    .250
       47           IN      15
       48           KM   RAINFALL DEPTH OF 1.45 WAS SPACIALLY REDUCED AS SHOWN BY THE PB RECORD
       49           PB   1.445
       50           KM   THE FOLLOWING PC RECORD USED A 6-HOUR STORM WITH A PATTERN No. OF 1.00
       51           PC    .000    .008    .016    .025    .033    .041    .050    .058    .066    .074
       52           PC    .087    .099    .118    .138    .216    .377    .834    .911    .931    .950
1                                                HEC-1 INPUT                                                PAGE  2

      LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10
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 53          PC    .962    .972    .983    .991   1.000
 54          LG    .350    .150   8.600    .087    .000
 55          UC    .821    .738
 56          KP       2
             *   PLAN 2 IS THE 5-YEAR EVENT
 57          KM   RAINFALL DEPTH OF 1.91 WAS SPACIALLY REDUCED AS SHOWN BY THE PB RECORD
 58          PB   1.904
 59          UC    .604    .525
             *
 60          KP       3
             *   PLAN 3 IS THE 10-YEAR EVENT
 61          KM   RAINFALL DEPTH OF 2.22 WAS SPACIALLY REDUCED AS SHOWN BY THE PB RECORD
 62          PB   2.213
 63          UC    .533    .457
             *
 64          KP       4
             *   PLAN 4 IS THE 25-YEAR EVENT
 65          KM   RAINFALL DEPTH OF 2.67 WAS SPACIALLY REDUCED AS SHOWN BY THE PB RECORD
 66          PB   2.661
 67          UC    .467    .394
             *
 68          KP       5
             *   PLAN 5 IS THE 50-YEAR EVENT
 69          KM   RAINFALL DEPTH OF 3.01 WAS SPACIALLY REDUCED AS SHOWN BY THE PB RECORD
 70          PB   3.000
 71          UC    .433    .363
             *
 72          KP       6
             *   PLAN 6 IS THE 100-YEAR EVENT
 73          KM   RAINFALL DEPTH OF 3.35 WAS SPACIALLY REDUCED AS SHOWN BY THE PB RECORD
 74          PB   3.339
 75          UC    .408    .340
             *

 76          KK  DSRT_C
 77          KP       1
             *   PLAN 1 IS THE 2-YEAR EVENT
 78          KM   SUB-BASIN DSRT_C
 79          KM   6-HOUR RAINFALL, PATTERN NO. 1.00 WAS USED TO FIND TC & R FOR THIS BASIN
 80          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .997
 81          KM     L = 1.16  Kb = .095  Adj. Slope =   66.0
 82          BA    .250
 83          IN      15
 84          KM   RAINFALL DEPTH OF 1.45 WAS SPACIALLY REDUCED AS SHOWN BY THE PB RECORD
 85          PB   1.445
 86          KM   THE FOLLOWING PC RECORD USED A 6-HOUR STORM WITH A PATTERN No. OF 1.00
 87          PC    .000    .008    .016    .025    .033    .041    .050    .058    .066    .074
 88          PC    .087    .099    .118    .138    .216    .377    .834    .911    .931    .950
 89          PC    .962    .972    .983    .991   1.000
 90          LG    .350    .150   8.600    .087    .000
 91          UC   1.408   1.343
 92          KP       2
             *   PLAN 2 IS THE 5-YEAR EVENT
 93          KM   RAINFALL DEPTH OF 1.91 WAS SPACIALLY REDUCED AS SHOWN BY THE PB RECORD
 94          PB   1.904
1                                        HEC-1 INPUT                                          PAGE  3

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

 95          UC   1.025    .944
             *
 96          KP       3
             *   PLAN 3 IS THE 10-YEAR EVENT
 97          KM   RAINFALL DEPTH OF 2.22 WAS SPACIALLY REDUCED AS SHOWN BY THE PB RECORD
 98          PB   2.213
 99          UC    .879    .796
             *
100          KP       4
             *   PLAN 4 IS THE 25-YEAR EVENT
101          KM   RAINFALL DEPTH OF 2.67 WAS SPACIALLY REDUCED AS SHOWN BY THE PB RECORD
102          PB   2.661
103          UC    .746    .663
             *
104          KP       5
             *   PLAN 5 IS THE 50-YEAR EVENT
105          KM   RAINFALL DEPTH OF 3.01 WAS SPACIALLY REDUCED AS SHOWN BY THE PB RECORD
106          PB   3.000
107          UC    .688    .606
             *
108          KP       6
             *   PLAN 6 IS THE 100-YEAR EVENT
109          KM   RAINFALL DEPTH OF 3.35 WAS SPACIALLY REDUCED AS SHOWN BY THE PB RECORD
110          PB   3.339
111          UC    .642    .561
             *

112          KK  VLDR.3
113          KP       1
             *   PLAN 1 IS THE 2-YEAR EVENT
114          KM   SUB-BASIN VLDR.3
115          KM   6-HOUR RAINFALL, PATTERN NO. 1.00 WAS USED TO FIND TC & R FOR THIS BASIN
116          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .997
117          KM     L = 1.16  Kb = .082  Adj. Slope =   66.0
118          BA    .250
119          IN      15
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 120          KM   RAINFALL DEPTH OF 1.45 WAS SPACIALLY REDUCED AS SHOWN BY THE PB RECORD
 121          PB   1.445
 122          KM   THE FOLLOWING PC RECORD USED A 6-HOUR STORM WITH A PATTERN No. OF 1.00
 123          PC    .000    .008    .016    .025    .033    .041    .050    .058    .066    .074
 124          PC    .087    .099    .118    .138    .216    .377    .834    .911    .931    .950
 125          PC    .962    .972    .983    .991   1.000
 126          LG    .350    .150   8.600    .077   5.000
 127          UC   1.179   1.103
              *
 128          KP       2
              *   PLAN 2 IS THE 5-YEAR EVENT
 129          KM   RAINFALL DEPTH OF 1.91 WAS SPACIALLY REDUCED AS SHOWN BY THE PB RECORD
 130          PB   1.904
 131          UC    .875    .792
              *
 132          KP       3
              *   PLAN 3 IS THE 10-YEAR EVENT
 133          KM   RAINFALL DEPTH OF 2.22 WAS SPACIALLY REDUCED AS SHOWN BY THE PB RECORD
 134          PB   2.213
1                                        HEC-1 INPUT                                          PAGE  4

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

 135          UC    .758    .675
              *
 136          KP       4
              *   PLAN 4 IS THE 25-YEAR EVENT
 137          KM   RAINFALL DEPTH OF 2.67 WAS SPACIALLY REDUCED AS SHOWN BY THE PB RECORD
 138          PB   2.661
 139          UC    .663    .581
              *
 140          KP       5
              *   PLAN 5 IS THE 50-YEAR EVENT
 141          PB   3.000
 142          UC    .613    .533
              *
 143          KP       6
              *   PLAN 6 IS THE 100-YEAR EVENT
 144          KM   RAINFALL DEPTH OF 3.35 WAS SPACIALLY REDUCED AS SHOWN BY THE PB RECORD
 145          PB   3.339
 146          UC    .571    .493
              *

 147          KK  VLDR.4
 148          KP       1
              *   PLAN 1 IS THE 2-YEAR EVENT
 149          KM   SUB-BASIN VLDR.4
 150          KM   6-HOUR RAINFALL, PATTERN NO. 1.00 WAS USED TO FIND TC & R FOR THIS BASIN
 151          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .997
 152          KM     L = 1.16  Kb = .078  Adj. Slope =   66.0
 153          BA    .250
 154          IN      15
 155          KM   RAINFALL DEPTH OF 1.45 WAS SPACIALLY REDUCED AS SHOWN BY THE PB RECORD
 156          PB   1.445
 157          KM   THE FOLLOWING PC RECORD USED A 6-HOUR STORM WITH A PATTERN No. OF 1.00
 158          PC    .000    .008    .016    .025    .033    .041    .050    .058    .066    .074
 159          PC    .087    .099    .118    .138    .216    .377    .834    .911    .931    .950
 160          PC    .962    .972    .983    .991   1.000
 161          LG    .300    .150   8.600    .073   5.000
 162          UC   1.087   1.007
              *
 163          KP       2
              *   PLAN 2 IS THE 5-YEAR EVENT
 164          KM   RAINFALL DEPTH OF 1.91 WAS SPACIALLY REDUCED AS SHOWN BY THE PB RECORD
 165          PB   1.904
 166          UC    .817    .733
              *
 167          KP       3
              *   PLAN 3 IS THE 10-YEAR EVENT
 168          KM   RAINFALL DEPTH OF 2.22 WAS SPACIALLY REDUCED AS SHOWN BY THE PB RECORD
 169          PB   2.213
 170          UC    .717    .634
              *
 171          KP       4
              *   PLAN 4 IS THE 25-YEAR EVENT
 172          KM   RAINFALL DEPTH OF 2.67 WAS SPACIALLY REDUCED AS SHOWN BY THE PB RECORD
 173          PB   2.661
 174          UC    .633    .553
              *
1                                        HEC-1 INPUT                                          PAGE  5

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

 175          KP       5
              *   PLAN 5 IS THE 50-YEAR EVENT
 176          KM   RAINFALL DEPTH OF 3.01 WAS SPACIALLY REDUCED AS SHOWN BY THE PB RECORD
 177          PB   3.000
 178          UC    .587    .509
              *
 179          KP       6
              *   PLAN 6 IS THE 100-YEAR EVENT
 180          KM   RAINFALL DEPTH OF 3.35 WAS SPACIALLY REDUCED AS SHOWN BY THE PB RECORD
 181          PB   3.339
 182          UC    .550    .473
              *
```

```
183          KK  VLDR.5
184          KP       1
             *   PLAN 1 IS THE 2-YEAR EVENT
185          KM   SUB-BASIN VLDR.5
186          KM   6-HOUR RAINFALL, PATTERN NO. 1.00 WAS USED TO FIND TC & R FOR THIS BASIN
187          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .997
188          KM     L = 1.16  Kb = .073  Adj. Slope =   66.0
189          BA    .250
190          IN      15
191          KM   RAINFALL DEPTH OF 1.45 WAS SPACIALLY REDUCED AS SHOWN BY THE PB RECORD
192          PB   1.445
193          KM   THE FOLLOWING PC RECORD USED A 6-HOUR STORM WITH A PATTERN No. OF 1.00
194          PC    .000    .008    .016    .025    .033    .041    .050    .058    .066    .074
195          PC    .087    .099    .118    .138    .216    .377    .834    .911    .931    .950
196          PC    .962    .972    .983    .991   1.000
197          LG    .250    .150   8.600    .070   5.000
198          UC    .992    .910
             *
199          KP       2
             *   PLAN 2 IS THE 5-YEAR EVENT
200          KM   RAINFALL DEPTH OF 1.91 WAS SPACIALLY REDUCED AS SHOWN BY THE PB RECORD
201          PB   1.904
202          UC    .758    .675
             *
203          KP       3
             *   PLAN 3 IS THE 10-YEAR EVENT
204          KM   RAINFALL DEPTH OF 2.22 WAS SPACIALLY REDUCED AS SHOWN BY THE PB RECORD
205          PB   2.213
206          UC    .675    .594
             *
207          KP       4
             *   PLAN 4 IS THE 25-YEAR EVENT
208          KM   RAINFALL DEPTH OF 2.67 WAS SPACIALLY REDUCED AS SHOWN BY THE PB RECORD
209          PB   2.661
210          UC    .600    .521
             *
211          KP       5
             *   PLAN 5 IS THE 50-YEAR EVENT
212          KM   RAINFALL DEPTH OF 3.01 WAS SPACIALLY REDUCED AS SHOWN BY THE PB RECORD
213          PB   3.000
214          UC    .554    .477
             *
1                                        HEC-1 INPUT                                          PAGE  6

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

215          KP       6
             *   PLAN 6 IS THE 100-YEAR EVENT
216          KM   RAINFALL DEPTH OF 3.35 WAS SPACIALLY REDUCED AS SHOWN BY THE PB RECORD
217          PB   3.339
218          UC    .521    .445
             *

219          KK  VLDR.6
220          KP       1
             *   PLAN 1 IS THE 2-YEAR EVENT
221          KM   SUB-BASIN VLDR.6
222          KM   6-HOUR RAINFALL, PATTERN NO. 1.00 WAS USED TO FIND TC & R FOR THIS BASIN
223          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .997
224          KM     L = 1.16  Kb = .069  Adj. Slope =   66.0
225          BA    .250
226          IN      15
227          KM   RAINFALL DEPTH OF 1.45 WAS SPACIALLY REDUCED AS SHOWN BY THE PB RECORD
228          PB   1.445
229          KM   THE FOLLOWING PC RECORD USED A 6-HOUR STORM WITH A PATTERN No. OF 1.00
230          PC    .000    .008    .016    .025    .033    .041    .050    .058    .066    .074
231          PC    .087    .099    .118    .138    .216    .377    .834    .911    .931    .950
232          PC    .962    .972    .983    .991   1.000
233          LG    .200    .150   8.600    .067   5.000
234          UC    .913    .829
             *
235          KP       2
             *   PLAN 2 IS THE 5-YEAR EVENT
236          KM   RAINFALL DEPTH OF 1.91 WAS SPACIALLY REDUCED AS SHOWN BY THE PB RECORD
237          PB   1.904
238          UC    .712    .630
             *
239          KP       3
             *   PLAN 3 IS THE 10-YEAR EVENT
240          KM   RAINFALL DEPTH OF 2.22 WAS SPACIALLY REDUCED AS SHOWN BY THE PB RECORD
241          PB   2.213
242          UC    .642    .561
             *
243          KP       4
             *   PLAN 4 IS THE 25-YEAR EVENT
244          KM   RAINFALL DEPTH OF 2.67 WAS SPACIALLY REDUCED AS SHOWN BY THE PB RECORD
245          PB   2.661
246          UC    .571    .493
             *
247          KP       5
             *   PLAN 5 IS THE 50-YEAR EVENT
248          KM   RAINFALL DEPTH OF 3.01 WAS SPACIALLY REDUCED AS SHOWN BY THE PB RECORD
249          PB   3.000
250          UC    .529    .453
             *
251          KP       6
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                 *   PLAN 6 IS THE 100-YEAR EVENT
252              KM   RAINFALL DEPTH OF 3.35 WAS SPACIALLY REDUCED AS SHOWN BY THE PB RECORD
253              PB   3.339
254              UC    .500    .425
                 *
1                                          HEC-1 INPUT                                          PAGE  7

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


255              KK  VLDR.7
256              KP       1
                 *   PLAN 1 IS THE 2-YEAR EVENT
257              KM   SUB-BASIN VLDR.7
258              KM   6-HOUR RAINFALL, PATTERN NO. 1.00 WAS USED TO FIND TC & R FOR THIS BASIN
259              KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .997
260              KM     L = 1.16  Kb = .064  Adj. Slope =   66.0
261              BA    .250
262              IN      15
263              KM   RAINFALL DEPTH OF 1.45 WAS SPACIALLY REDUCED AS SHOWN BY THE PB RECORD
264              PB   1.445
265              KM   THE FOLLOWING PC RECORD USED A 6-HOUR STORM WITH A PATTERN No. OF 1.00
266              PC    .000    .008    .016    .025    .033    .041    .050    .058    .066    .074
267              PC    .087    .099    .118    .138    .216    .377    .834    .911    .931    .950
268              PC    .962    .972    .983    .991   1.000
269              LG    .150    .150   8.600    .063   5.000
270              UC    .829    .746
                 *
271              KP       2
                 *   PLAN 2 IS THE 5-YEAR EVENT
272              KM   RAINFALL DEPTH OF 1.91 WAS SPACIALLY REDUCED AS SHOWN BY THE PB RECORD
273              PB   1.904
274              UC    .667    .585
                 *
275              KP       3
                 *   PLAN 3 IS THE 10-YEAR EVENT
276              KM   RAINFALL DEPTH OF 2.22 WAS SPACIALLY REDUCED AS SHOWN BY THE PB RECORD
277              PB   2.213
278              UC    .604    .525
                 *
279              KP       4
                 *   PLAN 4 IS THE 25-YEAR EVENT
280              KM   RAINFALL DEPTH OF 2.67 WAS SPACIALLY REDUCED AS SHOWN BY THE PB RECORD
281              PB   2.661
282              UC    .538    .461
                 *
283              KP       5
                 *   PLAN 5 IS THE 50-YEAR EVENT
284              KM   RAINFALL DEPTH OF 3.01 WAS SPACIALLY REDUCED AS SHOWN BY THE PB RECORD
285              PB   3.000
286              UC    .500    .425
                 *
287              KP       6
                 *   PLAN 6 IS THE 100-YEAR EVENT
288              KM   RAINFALL DEPTH OF 3.35 WAS SPACIALLY REDUCED AS SHOWN BY THE PB RECORD
289              PB   3.339
290              UC    .471    .398
                 *
1                                          HEC-1 INPUT                                          PAGE  8

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


291              KK  VLDR.8
292              KP       1
                 *   PLAN 1 IS THE 2-YEAR EVENT
293              KM   SUB-BASIN VLDR.8
294              KM   6-HOUR RAINFALL, PATTERN NO. 1.00 WAS USED TO FIND TC & R FOR THIS BASIN
295              KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .997
296              KM     L = 1.16  Kb = .060  Adj. Slope =   66.0
297              BA    .250
298              IN      15
299              KM   RAINFALL DEPTH OF 1.45 WAS SPACIALLY REDUCED AS SHOWN BY THE PB RECORD
300              PB   1.445
301              KM   THE FOLLOWING PC RECORD USED A 6-HOUR STORM WITH A PATTERN No. OF 1.00
302              PC    .000    .008    .016    .025    .033    .041    .050    .058    .066    .074
303              PC    .087    .099    .118    .138    .216    .377    .834    .911    .931    .950
304              PC    .962    .972    .983    .991   1.000
305              LG    .100    .150   8.600    .060   5.000
306              UC    .767    .683
                 *
307              KP       2
                 *   PLAN 2 IS THE 5-YEAR EVENT
308              KM   RAINFALL DEPTH OF 1.91 WAS SPACIALLY REDUCED AS SHOWN BY THE PB RECORD
309              PB   1.904
310              UC    .629    .549
                 *
311              KP       3
                 *   PLAN 3 IS THE 10-YEAR EVENT
312              KM   RAINFALL DEPTH OF 2.22 WAS SPACIALLY REDUCED AS SHOWN BY THE PB RECORD
313              PB   2.213
314              UC    .571    .493
                 *
315              KP       4
                 *   PLAN 4 IS THE 25-YEAR EVENT
316              KM   RAINFALL DEPTH OF 2.67 WAS SPACIALLY REDUCED AS SHOWN BY THE PB RECORD
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317          PB   2.661
318          UC    .512    .437
             *
319          KP       5
             *   PLAN 5 IS THE 50-YEAR EVENT
320          KM   RAINFALL DEPTH OF 3.01 WAS SPACIALLY REDUCED AS SHOWN BY THE PB RECORD
321          PB   3.000
322          UC    .479    .406
             *
323          KP       6
             *   PLAN 6 IS THE 100-YEAR EVENT
324          KM   RAINFALL DEPTH OF 3.35 WAS SPACIALLY REDUCED AS SHOWN BY THE PB RECORD
325          PB   3.339
326          UC    .450    .378
             *
1                                        HEC-1 INPUT                                          PAGE  9

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


327          KK  VLDR1B
328          KP       1
             *   PLAN 1 IS THE 2-YEAR EVENT
329          KM   SUB-BASIN VLDR1B
330          KM   6-HOUR RAINFALL, PATTERN NO. 1.00 WAS USED TO FIND TC & R FOR THIS BASIN
331          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .997
332          KM     L = 1.16  Kb = .050  Adj. Slope =   66.0
333          BA    .250
334          IN      15
335          KM   RAINFALL DEPTH OF 1.45 WAS SPACIALLY REDUCED AS SHOWN BY THE PB RECORD
336          PB   1.445
337          KM   THE FOLLOWING PC RECORD USED A 6-HOUR STORM WITH A PATTERN No. OF 1.00
338          PC    .000    .008    .016    .025    .033    .041    .050    .058    .066    .074
339          PC    .087    .099    .118    .138    .216    .377    .834    .911    .931    .950
340          PC    .962    .972    .983    .991   1.000
341          LG    .100    .150   8.600    .060   5.000
342          UC    .667    .585
             *
343          KP       2
             *   PLAN 2 IS THE 5-YEAR EVENT
344          KM   RAINFALL DEPTH OF 1.91 WAS SPACIALLY REDUCED AS SHOWN BY THE PB RECORD
345          PB   1.904
346          UC    .550    .473
             *
347          KP       3
             *   PLAN 3 IS THE 10-YEAR EVENT
348          KM   RAINFALL DEPTH OF 2.22 WAS SPACIALLY REDUCED AS SHOWN BY THE PB RECORD
349          PB   2.213
350          UC    .500    .425
             *
351          KP       4
             *   PLAN 4 IS THE 25-YEAR EVENT
352          KM   RAINFALL DEPTH OF 2.67 WAS SPACIALLY REDUCED AS SHOWN BY THE PB RECORD
353          PB   2.661
354          UC    .450    .378
             *
355          KP       5
             *   PLAN 5 IS THE 50-YEAR EVENT
356          KM   RAINFALL DEPTH OF 3.01 WAS SPACIALLY REDUCED AS SHOWN BY THE PB RECORD
357          PB   3.000
358          UC    .425    .355
             *
359          KP       6
             *   PLAN 6 IS THE 100-YEAR EVENT
360          KM   RAINFALL DEPTH OF 3.35 WAS SPACIALLY REDUCED AS SHOWN BY THE PB RECORD
361          PB   3.339
362          UC    .400    .332
             *
1                                        HEC-1 INPUT                                          PAGE 10

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


363          KK  VLDR1A
364          KP       1
             *   PLAN 1 IS THE 2-YEAR EVENT
365          KM   SUB-BASIN VLDR1A
366          KM   6-HOUR RAINFALL, PATTERN NO. 1.00 WAS USED TO FIND TC & R FOR THIS BASIN
367          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .997
368          KM     L = 1.16  Kb = .026  Adj. Slope =   66.0
369          BA    .250
370          IN      15
371          KM   RAINFALL DEPTH OF 1.45 WAS SPACIALLY REDUCED AS SHOWN BY THE PB RECORD
372          PB   1.445
373          KM   THE FOLLOWING PC RECORD USED A 6-HOUR STORM WITH A PATTERN No. OF 1.00
374          PC    .000    .008    .016    .025    .033    .041    .050    .058    .066    .074
375          PC    .087    .099    .118    .138    .216    .377    .834    .911    .931    .950
376          PC    .962    .972    .983    .991   1.000
377          LG    .100    .150   8.600    .060   5.000
378          UC    .412    .344
             *
379          KP       2
             *   PLAN 2 IS THE 5-YEAR EVENT
380          KM   RAINFALL DEPTH OF 1.91 WAS SPACIALLY REDUCED AS SHOWN BY THE PB RECORD
381          PB   1.904
382          UC    .346    .283
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                    *
383                 KP        3
                    *   PLAN 3 IS THE 10-YEAR EVENT
384                 KM   RAINFALL DEPTH OF 2.22 WAS SPACIALLY REDUCED AS SHOWN BY THE PB RECORD
385                 PB   2.213
386                 UC    .321    .260
                    *
387                 KP        4
                    *   PLAN 4 IS THE 25-YEAR EVENT
388                 KM   RAINFALL DEPTH OF 2.67 WAS SPACIALLY REDUCED AS SHOWN BY THE PB RECORD
389                 PB   2.661
390                 UC    .287    .230
                    *
391                 KP        5
                    *   PLAN 5 IS THE 50-YEAR EVENT
392                 KM   RAINFALL DEPTH OF 3.01 WAS SPACIALLY REDUCED AS SHOWN BY THE PB RECORD
393                 PB   3.000
394                 UC    .271    .215
                    *
395                 KP        6
                    *   PLAN 6 IS THE 100-YEAR EVENT
396                 KM   RAINFALL DEPTH OF 3.35 WAS SPACIALLY REDUCED AS SHOWN BY THE PB RECORD
397                 PB   3.339
398                 UC    .258    .204
                    *
399                 ZZ
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   21MAR03  TIME  09:41:04    *                                    *           (916) 756-1104             *
*                                        *                                    *                                      *
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ADOBE DAM / DESERT HILLS ADMP
MARCH 2003
JE FULLER/ HYDROLOGY & GEOMORPHOLOGY, INC.

HYPOTHETICAL SUBBASIN ANALYSIS FOR DEV. GUIDELINES

AREA = 0.25 SQ. MI. (1200' X 5808')
L = 6142.7 FT = 1.16 MI.
S = 0.0125 = 66.0 FT/MI.

DSRT_B = DESERT RANGELAND BASIN WITH Kb TYPE B
DSRT_C = DESERT RANGELAND BASIN WITH Kb TYPE C

THE FOLLOWING VLDR.# BASINS HAVE Kb TYPES INCREMENTALLY SMOOTHER TRANSITIONI
FROM Kb TYPE C (DSRT_C) TO Kb TYPE B (VLDR1B)IN PROPORTION TO ASSUMED
VEGETATION REMOVAL.

VLDR.3 = VERY LOW DENSITY RESIDENTIAL (1-2 AC LOTS)
         WITH 30% VEGETATION REMOVAL ASSUMED
VLDR.4 = VERY LOW DENSITY RESIDENTIAL (1-2 AC LOTS)
         WITH 40% VEGETATION REMOVAL ASSUMED
VLDR.5 = VERY LOW DENSITY RESIDENTIAL (1-2 AC LOTS)
         WITH 50% VEGETATION REMOVAL ASSUMED
VLDR.6 = VERY LOW DENSITY RESIDENTIAL (1-2 AC LOTS)
         WITH 60% VEGETATION REMOVAL ASSUMED
VLDR.7 = VERY LOW DENSITY RESIDENTIAL (1-2 AC LOTS)
         WITH 70% VEGETATION REMOVAL ASSUMED
VLDR.8 = VERY LOW DENSITY RESIDENTIAL (1-2 AC LOTS)
         WITH 80% VEGETATION REMOVAL ASSUMED
VLDR1B = VERY LOW DENSITY RESIDENTIAL (1-2 AC LOTS)
         WITH 100% VEGETATION REMOVAL ASSUMED
         Kb TYPE B
VLDR1A = VERY LOW DENSITY RESIDENTIAL (1-2 AC LOTS)
         WITH 100% VEGETATION REMOVAL ASSUMED
         Kb TYPE A


 38 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        300  NUMBER OF HYDROGRAPH ORDINATES
                     NDDATE      1   0  ENDING DATE
                     NDTIME       0958  ENDING TIME
                      ICENT         19  CENTURY MARK

                 COMPUTATION INTERVAL     .03 HOURS
                      TOTAL TIME BASE    9.97 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

     JP          MULTI-PLAN OPTION
                      NPLAN           6  NUMBER OF PLANS

     JR          MULTI-RATIO OPTION
                     RATIOS OF RUNOFF
                       1.00
         WARNING EXCESS AT PONDING LESS THAN ZERO FOR PERIOD. EXCESS SET TO ZERO
1

              PEAK FLOW AND STAGE (END-OF-PERIOD) SUMMARY FOR MULTIPLE PLAN-RATIO ECONOMIC COMPUTATIONS
                                  FLOWS IN CUBIC FEET PER SECOND,  AREA IN SQUARE MILES
                                                TIME TO PEAK IN HOURS


                                                                  RATIOS APPLIED TO FLOWS
 OPERATION       STATION     AREA    PLAN              RATIO 1
                                                          1.00

 HYDROGRAPH AT
+                DSRT_B       .25     1   FLOW            72.
                                         TIME           4.60
                                      2  FLOW           157.
                                         TIME           4.40
                                      3  FLOW           220.
                                         TIME           4.33
                                      4  FLOW           316.
                                         TIME           4.27
                                      5  FLOW           389.
                                         TIME           4.23
                                      6  FLOW           463.
                                         TIME           4.23

 HYDROGRAPH AT
+                DSRT_C       .25     1   FLOW            41.
                                         TIME           5.13
                                      2  FLOW            95.
                                         TIME           4.77
                                      3  FLOW           140.
                                         TIME           4.63
                                      4  FLOW           212.
                                         TIME           4.50
                                      5  FLOW           267.
                                         TIME           4.47
                                      6  FLOW           325.
                                         TIME           4.43

 HYDROGRAPH AT
+                VLDR.3       .25     1   FLOW            54.
                                         TIME           4.93
                                      2  FLOW           117.
                                         TIME           4.63
                                      3  FLOW           167.
                                         TIME           4.53
                                      4  FLOW           242.
                                         TIME           4.43
                                      5  FLOW           302.
                                         TIME           4.40
                                      6  FLOW           365.
                                         TIME           4.37

 HYDROGRAPH AT
+                VLDR.4       .25     1   FLOW            63.
                                         TIME           4.83
                                      2  FLOW           129.
                                         TIME           4.57
                                      3  FLOW           181.
                                         TIME           4.50
                                      4  FLOW           257.
                                         TIME           4.40
                                      5  FLOW           317.
                                         TIME           4.37
                                      6  FLOW           381.
                                         TIME           4.33

 HYDROGRAPH AT
+                VLDR.5       .25     1   FLOW            72.
                                         TIME           4.73
                                      2  FLOW           143.
                                         TIME           4.53
                                      3  FLOW           195.
                                         TIME           4.47
                                      4  FLOW           273.
                                         TIME           4.40
                                      5  FLOW           337.
                                         TIME           4.33
                                      6  FLOW           401.
                                         TIME           4.33

 HYDROGRAPH AT
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+                VLDR.6       .25     1   FLOW          83.
                                         TIME         4.67
                                     2   FLOW         156.
                                         TIME         4.50
                                     3   FLOW         208.
                                         TIME         4.43
                                     4   FLOW         289.
                                         TIME         4.37
                                     5   FLOW         354.
                                         TIME         4.33
                                     6   FLOW         418.
                                         TIME         4.30

 HYDROGRAPH AT
+                VLDR.7       .25     1   FLOW          95.
                                         TIME         4.60
                                     2   FLOW         170.
                                         TIME         4.43
                                     3   FLOW         224.
                                         TIME         4.40
                                     4   FLOW         308.
                                         TIME         4.33
                                     5   FLOW         374.
                                         TIME         4.30
                                     6   FLOW         441.
                                         TIME         4.27

 HYDROGRAPH AT
+                VLDR.8       .25     1   FLOW         106.
                                         TIME         4.53
                                     2   FLOW         183.
                                         TIME         4.40
                                     3   FLOW         239.
                                         TIME         4.37
                                     4   FLOW         323.
                                         TIME         4.30
                                     5   FLOW         389.
                                         TIME         4.27
                                     6   FLOW         459.
                                         TIME         4.27

 HYDROGRAPH AT
+                VLDR1B       .25     1   FLOW         120.
                                         TIME         4.43
                                     2   FLOW         204.
                                         TIME         4.33
                                     3   FLOW         265.
                                         TIME         4.30
                                     4   FLOW         356.
                                         TIME         4.27
                                     5   FLOW         424.
                                         TIME         4.23
                                     6   FLOW         497.
                                         TIME         4.20

 HYDROGRAPH AT
+                VLDR1A       .25     1   FLOW         180.
                                         TIME         4.23
                                     2   FLOW         289.
                                         TIME         4.17
                                     3   FLOW         362.
                                         TIME         4.17
                                     4   FLOW         479.
                                         TIME         4.13
                                     5   FLOW         564.
                                         TIME         4.10
                                     6   FLOW         653.
                                         TIME         4.10


 *** NORMAL END OF HEC-1 ***
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1****************************************                                    ****************************************
 *                                      *                                    *                                      *
 *   FLOOD HYDROGRAPH PACKAGE  (HEC-1)  *                                    *    U.S. ARMY CORPS OF ENGINEERS      *
 *              JUN   1998              *                                    *    HYDROLOGIC ENGINEERING CENTER     *
 *            VERSION 4.1               *                                    *          609 SECOND STREET           *
 *                                      *                                    *       DAVIS, CALIFORNIA 95616        *
 *  RUN DATE   21MAR03  TIME  09:40:57  *                                    *           (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     ADOBE DAM / DESERT HILLS ADMP
        2           ID     MARCH 2003
        3           ID     JE FULLER/ HYDROLOGY & GEOMORPHOLOGY, INC.
        4           ID
        5           ID   HYPOTHETICAL SUBBASIN ANALYSIS FOR DEV. GUIDELINES
        6           ID    AREA = 1.00 SQ. MI. (2400' X 11616')
        7           ID    L = 12285.4 FT = 2.33 MI.
        8           ID    S = 0.01125 = 59.4 FT/MI.
        9           ID
       10           ID    DSRT_B = DESERT RANGELAND BASIN WITH Kb TYPE B
       11           ID    DSRT_C = DESERT RANGELAND BASIN WITH Kb TYPE C
       12           ID
       13           ID    THE FOLLOWING VLDR.# BASINS HAVE Kb TYPES INCREMENTALLY SMOOTHER TRANSITIONI
       14           ID    FROM Kb TYPE C (DSRT_C) TO Kb TYPE B (VLDR1B)IN PROPORTION TO ASSUMED
       15           ID    VEGETATION REMOVAL.
       16           ID
       17           ID    VLDR.3 = VERY LOW DENSITY RESIDENTIAL (1-2 AC LOTS)
       18           ID             WITH 30% VEGETATION REMOVAL ASSUMED
       19           ID    VLDR.4 = VERY LOW DENSITY RESIDENTIAL (1-2 AC LOTS)
       20           ID             WITH 40% VEGETATION REMOVAL ASSUMED
       21           ID    VLDR.5 = VERY LOW DENSITY RESIDENTIAL (1-2 AC LOTS)
       22           ID             WITH 50% VEGETATION REMOVAL ASSUMED
       23           ID    VLDR.6 = VERY LOW DENSITY RESIDENTIAL (1-2 AC LOTS)
       24           ID             WITH 60% VEGETATION REMOVAL ASSUMED
       25           ID    VLDR.7 = VERY LOW DENSITY RESIDENTIAL (1-2 AC LOTS)
       26           ID             WITH 70% VEGETATION REMOVAL ASSUMED
       27           ID    VLDR.8 = VERY LOW DENSITY RESIDENTIAL (1-2 AC LOTS)
       28           ID             WITH 80% VEGETATION REMOVAL ASSUMED
       29           ID    VLDR1B = VERY LOW DENSITY RESIDENTIAL (1-2 AC LOTS)
       30           ID             WITH 100% VEGETATION REMOVAL ASSUMED
       31           ID             Kb TYPE B
       32           ID    VLDR1A = VERY LOW DENSITY RESIDENTIAL (1-2 AC LOTS)
       33           ID             WITH 100% VEGETATION REMOVAL ASSUMED
       34           ID             Kb TYPE A
       35           ID
       36           IT       2                    300
       37           IO       5
       38           JP       6
                    *

       39           KK  DSRT_B
       40           KP       1
                    *   PLAN 1 IS THE 2-YEAR EVENT
       41           KM   SUB-BASIN DSRT_B
       42           KM   6-HOUR RAINFALL, PATTERN NO. 1.40 WAS USED TO FIND TC & R FOR THIS BASIN
       43           KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .987
       44           KM     L = 2.33  Kb = .041  Adj. Slope =   59.4
       45           BA   1.000
       46           IN      15
       47           KM   RAINFALL DEPTH OF 1.45 WAS SPACIALLY REDUCED AS SHOWN BY THE PB RECORD
       48           PB   1.431
       49           KM   THE FOLLOWING PC RECORD USED A 6-HOUR STORM WITH A PATTERN No. OF 1.40
       50           PC    .000    .008    .016    .025    .033    .041    .050    .058    .066    .075
       51           PC    .087    .099    .119    .148    .230    .407    .778    .881    .919    .945
       52           PC    .957    .968    .980    .990   1.000
1                                                HEC-1 INPUT                                                    PAGE  2

      LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10
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 53          LG    .350    .150   8.600    .087    .000
 54          UC   1.396   1.054
 55          KP       2
             *   PLAN 2 IS THE 5-YEAR EVENT
 56          KM   RAINFALL DEPTH OF 1.91 WAS SPACIALLY REDUCED AS SHOWN BY THE PB RECORD
 57          PB   1.885
 58          UC    .992    .721
             *
 59          KP       3
             *   PLAN 3 IS THE 10-YEAR EVENT
 60          KM   RAINFALL DEPTH OF 2.22 WAS SPACIALLY REDUCED AS SHOWN BY THE PB RECORD
 61          PB   2.191
 62          UC    .846    .604
             *
 63          KP       4
             *   PLAN 4 IS THE 25-YEAR EVENT
 64          KM   RAINFALL DEPTH OF 2.67 WAS SPACIALLY REDUCED AS SHOWN BY THE PB RECORD
 65          PB   2.635
 66          UC    .725    .509
             *
 67          KP       5
             *   PLAN 5 IS THE 50-YEAR EVENT
 68          KM   RAINFALL DEPTH OF 3.01 WAS SPACIALLY REDUCED AS SHOWN BY THE PB RECORD
 69          PB   2.971
 70          UC    .671    .467
             *
 71          KP       6
             *   PLAN 6 IS THE 100-YEAR EVENT
 72          KM   RAINFALL DEPTH OF 3.35 WAS SPACIALLY REDUCED AS SHOWN BY THE PB RECORD
 73          PB   3.306
 74          UC    .629    .435
             *

 75          KK  DSRT_C
 76          KP       1
             *   PLAN 1 IS THE 2-YEAR EVENT
 77          KM   SUB-BASIN DSRT_C
 78          KM   6-HOUR RAINFALL, PATTERN NO. 1.40 WAS USED TO FIND TC & R FOR THIS BASIN
 79          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .987
 80          KM     L = 2.33  Kb = .041  Adj. Slope =   59.4
 81          BA   1.000
 82          IN      15
 83          KM   RAINFALL DEPTH OF 1.45 WAS SPACIALLY REDUCED AS SHOWN BY THE PB RECORD
 84          PB   1.431
 85          KM   THE FOLLOWING PC RECORD USED A 6-HOUR STORM WITH A PATTERN No. OF 1.40
 86          PC    .000    .008    .016    .025    .033    .041    .050    .058    .066    .075
 87          PC    .087    .099    .119    .148    .230    .407    .778    .881    .919    .945
 88          PC    .957    .968    .980    .990   1.000
 89          LG    .350    .150   8.600    .087    .000
 90          UC   1.500   1.142
             *
 91          KP       2
             *   PLAN 2 IS THE 5-YEAR EVENT
 92          KM   RAINFALL DEPTH OF 1.91 WAS SPACIALLY REDUCED AS SHOWN BY THE PB RECORD
 93          PB   1.885
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LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 94          UC   1.500   1.142
             *
 95          KP       3
             *   PLAN 3 IS THE 10-YEAR EVENT
 96          KM   RAINFALL DEPTH OF 2.22 WAS SPACIALLY REDUCED AS SHOWN BY THE PB RECORD
 97          PB   2.191
 98          UC   1.479   1.124
             *
 99          KP       4
             *   PLAN 4 IS THE 25-YEAR EVENT
100          KM   RAINFALL DEPTH OF 2.67 WAS SPACIALLY REDUCED AS SHOWN BY THE PB RECORD
101          PB   2.635
102          UC   1.233    .919
             *
103          KP       5
             *   PLAN 5 IS THE 50-YEAR EVENT
104          KM   RAINFALL DEPTH OF 3.01 WAS SPACIALLY REDUCED AS SHOWN BY THE PB RECORD
105          PB   2.971
106          UC   1.108    .816
             *
107          KP       6
             *   PLAN 6 IS THE 100-YEAR EVENT
108          KM   RAINFALL DEPTH OF 3.35 WAS SPACIALLY REDUCED AS SHOWN BY THE PB RECORD
109          PB   3.306
110          UC   1.021    .745
             *

111          KK  VLDR.3
112          KP       1
             *   PLAN 1 IS THE 2-YEAR EVENT
113          KM   SUB-BASIN VLDR.3
114          KM   6-HOUR RAINFALL, PATTERN NO. 1.40 WAS USED TO FIND TC & R FOR THIS BASIN
115          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .987
116          KM     L = 2.33  Kb = .069  Adj. Slope =   59.4
117          BA   1.000
118          IN      15
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119          KM   RAINFALL DEPTH OF 1.45 WAS SPACIALLY REDUCED AS SHOWN BY THE PB RECORD
120          PB   1.431
121          KM   THE FOLLOWING PC RECORD USED A 6-HOUR STORM WITH A PATTERN No. OF 1.40
122          PC    .000    .008    .016    .025    .033    .041    .050    .058    .066    .075
123          PC    .087    .099    .119    .148    .230    .407    .778    .881    .919    .945
124          PC    .957    .968    .980    .990   1.000
125          LG    .350    .150   8.600    .077   5.000
126          UC   1.500   1.142
             *
127          KP       2
             *   PLAN 2 IS THE 5-YEAR EVENT
128          KM   RAINFALL DEPTH OF 1.91 WAS SPACIALLY REDUCED AS SHOWN BY THE PB RECORD
129          PB   1.885
130          UC   1.471   1.117
             *
131          KP       3
             *   PLAN 3 IS THE 10-YEAR EVENT
132          KM   RAINFALL DEPTH OF 2.22 WAS SPACIALLY REDUCED AS SHOWN BY THE PB RECORD
133          PB   2.191
1                                        HEC-1 INPUT                                          PAGE  4

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

134          UC   1.263    .943
             *
135          KP       4
             *   PLAN 4 IS THE 25-YEAR EVENT
136          KM   RAINFALL DEPTH OF 2.67 WAS SPACIALLY REDUCED AS SHOWN BY THE PB RECORD
137          PB   2.635
138          UC   1.071    .785
             *
139          KP       5
             *   PLAN 5 IS THE 50-YEAR EVENT
140          PB   2.971
141          UC    .971    .704
             *
142          KP       6
             *   PLAN 6 IS THE 100-YEAR EVENT
143          KM   RAINFALL DEPTH OF 3.35 WAS SPACIALLY REDUCED AS SHOWN BY THE PB RECORD
144          PB   3.306
145          UC    .900    .648
             *

146          KK  VLDR.4
147          KP       1
             *   PLAN 1 IS THE 2-YEAR EVENT
148          KM   SUB-BASIN VLDR.4
149          KM   6-HOUR RAINFALL, PATTERN NO. 1.40 WAS USED TO FIND TC & R FOR THIS BASIN
150          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .987
151          KM     L = 2.33  Kb = .065  Adj. Slope =   59.4
152          BA   1.000
153          IN      15
154          KM   RAINFALL DEPTH OF 1.45 WAS SPACIALLY REDUCED AS SHOWN BY THE PB RECORD
155          PB   1.431
156          KM   THE FOLLOWING PC RECORD USED A 6-HOUR STORM WITH A PATTERN No. OF 1.40
157          PC    .000    .008    .016    .025    .033    .041    .050    .058    .066    .075
158          PC    .087    .099    .119    .148    .230    .407    .778    .881    .919    .945
159          PC    .957    .968    .980    .990   1.000
160          LG    .300    .150   8.600    .073   5.000
161          UC   1.500   1.142
             *
162          KP       2
             *   PLAN 2 IS THE 5-YEAR EVENT
163          KM   RAINFALL DEPTH OF 1.91 WAS SPACIALLY REDUCED AS SHOWN BY THE PB RECORD
164          PB   1.885
165          UC   1.354   1.019
             *
166          KP       3
             *   PLAN 3 IS THE 10-YEAR EVENT
167          KM   RAINFALL DEPTH OF 2.22 WAS SPACIALLY REDUCED AS SHOWN BY THE PB RECORD
168          PB   2.191
169          UC   1.175    .871
             *
170          KP       4
             *   PLAN 4 IS THE 25-YEAR EVENT
171          KM   RAINFALL DEPTH OF 2.67 WAS SPACIALLY REDUCED AS SHOWN BY THE PB RECORD
172          PB   2.635
173          UC   1.004    .731
             *
1                                        HEC-1 INPUT                                          PAGE  5

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

174          KP       5
             *   PLAN 5 IS THE 50-YEAR EVENT
175          KM   RAINFALL DEPTH OF 3.01 WAS SPACIALLY REDUCED AS SHOWN BY THE PB RECORD
176          PB   2.971
177          UC    .917    .661
             *
178          KP       6
             *   PLAN 6 IS THE 100-YEAR EVENT
179          KM   RAINFALL DEPTH OF 3.35 WAS SPACIALLY REDUCED AS SHOWN BY THE PB RECORD
180          PB   3.306
181          UC    .854    .611
             *
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182          KK  VLDR.5
183          KP       1
             *   PLAN 1 IS THE 2-YEAR EVENT
184          KM   SUB-BASIN VLDR.5
185          KM   6-HOUR RAINFALL, PATTERN NO. 1.40 WAS USED TO FIND TC & R FOR THIS BASIN
186          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .987
187          KM     L = 2.33  Kb = .062  Adj. Slope =   59.4
188          BA   1.000
189          IN      15
190          KM   RAINFALL DEPTH OF 1.45 WAS SPACIALLY REDUCED AS SHOWN BY THE PB RECORD
191          PB   1.431
192          KM   THE FOLLOWING PC RECORD USED A 6-HOUR STORM WITH A PATTERN No. OF 1.40
193          PC    .000    .008    .016    .025    .033    .041    .050    .058    .066    .075
194          PC    .087    .099    .119    .148    .230    .407    .778    .881    .919    .945
195          PC    .957    .968    .980    .990   1.000
196          LG    .250    .150   8.600    .070   5.000
197          UC   1.500   1.142
             *
198          KP       2
             *   PLAN 2 IS THE 5-YEAR EVENT
199          KM   RAINFALL DEPTH OF 1.91 WAS SPACIALLY REDUCED AS SHOWN BY THE PB RECORD
200          PB   1.885
201          UC   1.271    .950
             *
202          KP       3
             *   PLAN 3 IS THE 10-YEAR EVENT
203          KM   RAINFALL DEPTH OF 2.22 WAS SPACIALLY REDUCED AS SHOWN BY THE PB RECORD
204          PB   2.191
205          UC   1.108    .816
             *
206          KP       4
             *   PLAN 4 IS THE 25-YEAR EVENT
207          KM   RAINFALL DEPTH OF 2.67 WAS SPACIALLY REDUCED AS SHOWN BY THE PB RECORD
208          PB   2.635
209          UC    .954    .691
             *
210          KP       5
             *   PLAN 5 IS THE 50-YEAR EVENT
211          KM   RAINFALL DEPTH OF 3.01 WAS SPACIALLY REDUCED AS SHOWN BY THE PB RECORD
212          PB   2.971
213          UC    .879    .631
             *
1                                        HEC-1 INPUT                                          PAGE  6

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

214          KP       6
             *   PLAN 6 IS THE 100-YEAR EVENT
215          KM   RAINFALL DEPTH OF 3.35 WAS SPACIALLY REDUCED AS SHOWN BY THE PB RECORD
216          PB   3.306
217          UC    .825    .588
             *

218          KK  VLDR.6
219          KP       1
             *   PLAN 1 IS THE 2-YEAR EVENT
220          KM   SUB-BASIN VLDR.6
221          KM   6-HOUR RAINFALL, PATTERN NO. 1.40 WAS USED TO FIND TC & R FOR THIS BASIN
222          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .987
223          KM     L = 2.33  Kb = .058  Adj. Slope =   59.4
224          BA   1.000
225          IN      15
226          KM   RAINFALL DEPTH OF 1.45 WAS SPACIALLY REDUCED AS SHOWN BY THE PB RECORD
227          PB   1.431
228          KM   THE FOLLOWING PC RECORD USED A 6-HOUR STORM WITH A PATTERN No. OF 1.40
229          PC    .000    .008    .016    .025    .033    .041    .050    .058    .066    .075
230          PC    .087    .099    .119    .148    .230    .407    .778    .881    .919    .945
231          PC    .957    .968    .980    .990   1.000
232          LG    .200    .150   8.600    .067   5.000
233          UC   1.500   1.142
             *
234          KP       2
             *   PLAN 2 IS THE 5-YEAR EVENT
235          KM   RAINFALL DEPTH OF 1.91 WAS SPACIALLY REDUCED AS SHOWN BY THE PB RECORD
236          PB   1.885
237          UC   1.175    .871
             *
238          KP       3
             *   PLAN 3 IS THE 10-YEAR EVENT
239          KM   RAINFALL DEPTH OF 2.22 WAS SPACIALLY REDUCED AS SHOWN BY THE PB RECORD
240          PB   2.191
241          UC   1.033    .755
             *
242          KP       4
             *   PLAN 4 IS THE 25-YEAR EVENT
243          KM   RAINFALL DEPTH OF 2.67 WAS SPACIALLY REDUCED AS SHOWN BY THE PB RECORD
244          PB   2.635
245          UC    .900    .648
             *
246          KP       5
             *   PLAN 5 IS THE 50-YEAR EVENT
247          KM   RAINFALL DEPTH OF 3.01 WAS SPACIALLY REDUCED AS SHOWN BY THE PB RECORD
248          PB   2.971
249          UC    .833    .595
             *
250          KP       6
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                 *   PLAN 6 IS THE 100-YEAR EVENT
 251             KM   RAINFALL DEPTH OF 3.35 WAS SPACIALLY REDUCED AS SHOWN BY THE PB RECORD
 252             PB   3.306
 253             UC    .779    .552
                 *
1                                          HEC-1 INPUT                                          PAGE  7

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


 254             KK  VLDR.7
 255             KP       1
                 *   PLAN 1 IS THE 2-YEAR EVENT
 256             KM   6-HOUR RAINFALL, PATTERN NO. 1.40 WAS USED TO FIND TC & R FOR THIS BASIN
 257             KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .987
 258             KM     L = 2.33  Kb = .054  Adj. Slope =   59.4
 259             BA   1.000
 260             IN      15
 261             KM   RAINFALL DEPTH OF 1.45 WAS SPACIALLY REDUCED AS SHOWN BY THE PB RECORD
 262             PB   1.431
 263             KM   THE FOLLOWING PC RECORD USED A 6-HOUR STORM WITH A PATTERN No. OF 1.40
 264             PC    .000    .008    .016    .025    .033    .041    .050    .058    .066    .075
 265             PC    .087    .099    .119    .148    .230    .407    .778    .881    .919    .945
 266             PC    .957    .968    .980    .990   1.000
 267             LG    .150    .150   8.600    .063   5.000
 268             UC   1.396   1.054
                 *
 269             KP       2
                 *   PLAN 2 IS THE 5-YEAR EVENT
 270             KM   RAINFALL DEPTH OF 1.91 WAS SPACIALLY REDUCED AS SHOWN BY THE PB RECORD
 271             PB   1.885
 272             UC   1.083    .796
                 *
 273             KP       3
                 *   PLAN 3 IS THE 10-YEAR EVENT
 274             KM   RAINFALL DEPTH OF 2.22 WAS SPACIALLY REDUCED AS SHOWN BY THE PB RECORD
 275             PB   2.191
 276             UC    .958    .694
                 *
 277             KP       4
                 *   PLAN 4 IS THE 25-YEAR EVENT
 278             KM   RAINFALL DEPTH OF 2.67 WAS SPACIALLY REDUCED AS SHOWN BY THE PB RECORD
 279             PB   2.635
 280             UC    .846    .604
                 *
 281             KP       5
                 *   PLAN 5 IS THE 50-YEAR EVENT
 282             KM   RAINFALL DEPTH OF 3.01 WAS SPACIALLY REDUCED AS SHOWN BY THE PB RECORD
 283             PB   2.971
 284             UC    .788    .558
                 *
 285             KP       6
                 *   PLAN 6 IS THE 100-YEAR EVENT
 286             KM   RAINFALL DEPTH OF 3.35 WAS SPACIALLY REDUCED AS SHOWN BY THE PB RECORD
 287             PB   3.306
 288             UC    .742    .522
                 *

 289             KK  VLDR.8
 290             KP       1
                 *   PLAN 1 IS THE 2-YEAR EVENT
 291             KM   SUB-BASIN VLDR.8
 292             KM   6-HOUR RAINFALL, PATTERN NO. 1.40 WAS USED TO FIND TC & R FOR THIS BASIN
 293             KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .987
1                                          HEC-1 INPUT                                          PAGE  8

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

 294             KM     L = 2.33  Kb = .050  Adj. Slope =   59.4
 295             BA   1.000
 296             IN      15
 297             KM   RAINFALL DEPTH OF 1.45 WAS SPACIALLY REDUCED AS SHOWN BY THE PB RECORD
 298             PB   1.431
 299             KM   THE FOLLOWING PC RECORD USED A 6-HOUR STORM WITH A PATTERN No. OF 1.40
 300             PC    .000    .008    .016    .025    .033    .041    .050    .058    .066    .075
 301             PC    .087    .099    .119    .148    .230    .407    .778    .881    .919    .945
 302             PC    .957    .968    .980    .990   1.000
 303             LG    .100    .150   8.600    .060   5.000
 304             UC   1.275    .953
                 *
 305             KP       2
                 *   PLAN 2 IS THE 5-YEAR EVENT
 306             KM   RAINFALL DEPTH OF 1.91 WAS SPACIALLY REDUCED AS SHOWN BY THE PB RECORD
 307             PB   1.885
 308             UC    .996    .725
                 *
 309             KP       3
                 *   PLAN 3 IS THE 10-YEAR EVENT
 310             KM   RAINFALL DEPTH OF 2.22 WAS SPACIALLY REDUCED AS SHOWN BY THE PB RECORD
 311             PB   2.191
 312             UC    .896    .644
                 *
 313             KP       4
                 *   PLAN 4 IS THE 25-YEAR EVENT
 314             KM   RAINFALL DEPTH OF 2.67 WAS SPACIALLY REDUCED AS SHOWN BY THE PB RECORD
 315             PB   2.635
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 316          UC    .796    .565
              *
 317          KP       5
              *   PLAN 5 IS THE 50-YEAR EVENT
 318          KM   RAINFALL DEPTH OF 3.01 WAS SPACIALLY REDUCED AS SHOWN BY THE PB RECORD
 319          PB   2.971
 320          UC    .742    .522
              *
 321          KP       6
              *   PLAN 6 IS THE 100-YEAR EVENT
 322          KM   RAINFALL DEPTH OF 3.35 WAS SPACIALLY REDUCED AS SHOWN BY THE PB RECORD
 323          PB   3.306
 324          UC    .700    .490
              *

 325          KK  VLDR1B
 326          KP       1
              *   PLAN 1 IS THE 2-YEAR EVENT
 327          KM   SUB-BASIN VLDR1B
 328          KM   6-HOUR RAINFALL, PATTERN NO. 1.40 WAS USED TO FIND TC & R FOR THIS BASIN
 329          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .987
 330          KM     L = 2.33  Kb = .041  Adj. Slope =   59.4
 331          BA   1.000
 332          IN      15
 333          KM   RAINFALL DEPTH OF 1.45 WAS SPACIALLY REDUCED AS SHOWN BY THE PB RECORD
 334          PB   1.431
 335          KM   THE FOLLOWING PC RECORD USED A 6-HOUR STORM WITH A PATTERN No. OF 1.40
1                                          HEC-1 INPUT                                          PAGE  9

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

 336          PC    .000    .008    .016    .025    .033    .041    .050    .058    .066    .075
 337          PC    .087    .099    .119    .148    .230    .407    .778    .881    .919    .945
 338          PC    .957    .968    .980    .990   1.000
 339          LG    .100    .150   8.600    .060   5.000
 340          UC   1.083    .796
              *
 341          KP       2
              *   PLAN 2 IS THE 5-YEAR EVENT
 342          KM   RAINFALL DEPTH OF 1.91 WAS SPACIALLY REDUCED AS SHOWN BY THE PB RECORD
 343          PB   1.885
 344          UC    .858    .614
              *
 345          KP       3
              *   PLAN 3 IS THE 10-YEAR EVENT
 346          KM   RAINFALL DEPTH OF 2.22 WAS SPACIALLY REDUCED AS SHOWN BY THE PB RECORD
 347          PB   2.191
 348          UC    .775    .549
              *
 349          KP       4
              *   PLAN 4 IS THE 25-YEAR EVENT
 350          KM   RAINFALL DEPTH OF 2.67 WAS SPACIALLY REDUCED AS SHOWN BY THE PB RECORD
 351          PB   2.635
 352          UC    .696    .487
              *
 353          KP       5
              *   PLAN 5 IS THE 50-YEAR EVENT
 354          KM   RAINFALL DEPTH OF 3.01 WAS SPACIALLY REDUCED AS SHOWN BY THE PB RECORD
 355          PB   2.971
 356          UC    .650    .451
              *
 357          KP       6
              *   PLAN 6 IS THE 100-YEAR EVENT
 358          KM   RAINFALL DEPTH OF 3.35 WAS SPACIALLY REDUCED AS SHOWN BY THE PB RECORD
 359          PB   3.306
 360          UC    .613    .422
              *

 361          KK  VLDR1A
 362          KP       1
              *   PLAN 1 IS THE 2-YEAR EVENT
 363          KM   SUB-BASIN VLDR1A
 364          KM   6-HOUR RAINFALL, PATTERN NO. 1.40 WAS USED TO FIND TC & R FOR THIS BASIN
 365          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .987
 366          KM     L = 2.33  Kb = .022  Adj. Slope =   59.4
 367          BA   1.000
 368          IN      15
 369          KM   RAINFALL DEPTH OF 1.45 WAS SPACIALLY REDUCED AS SHOWN BY THE PB RECORD
 370          PB   1.431
 371          KM   THE FOLLOWING PC RECORD USED A 6-HOUR STORM WITH A PATTERN No. OF 1.40
 372          PC    .000    .008    .016    .025    .033    .041    .050    .058    .066    .075
 373          PC    .087    .099    .119    .148    .230    .407    .778    .881    .919    .945
 374          PC    .957    .968    .980    .990   1.000
 375          LG    .100    .150   8.600    .060   5.000
 376          UC    .663    .461
              *
1                                          HEC-1 INPUT                                          PAGE 10

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

 377          KP       2
              *   PLAN 2 IS THE 5-YEAR EVENT
 378          KM   RAINFALL DEPTH OF 1.91 WAS SPACIALLY REDUCED AS SHOWN BY THE PB RECORD
 379          PB   1.885
 380          UC    .554    .378
              *
```

```
381          KP       3
             *   PLAN 3 IS THE 10-YEAR EVENT
382          KM   RAINFALL DEPTH OF 2.22 WAS SPACIALLY REDUCED AS SHOWN BY THE PB RECORD
383          PB   2.191
384          UC    .504    .340
             *
385          KP       4
             *   PLAN 4 IS THE 25-YEAR EVENT
386          KM   RAINFALL DEPTH OF 2.67 WAS SPACIALLY REDUCED AS SHOWN BY THE PB RECORD
387          PB   2.635
388          UC    .458    .306
             *
389          KP       5
             *   PLAN 5 IS THE 50-YEAR EVENT
390          KM   RAINFALL DEPTH OF 3.01 WAS SPACIALLY REDUCED AS SHOWN BY THE PB RECORD
391          PB   2.971
392          UC    .433    .288
             *
393          KP       6
             *   PLAN 6 IS THE 100-YEAR EVENT
394          KM   RAINFALL DEPTH OF 3.35 WAS SPACIALLY REDUCED AS SHOWN BY THE PB RECORD
395          PB   3.306
396          UC    .408    .269
             *
397          ZZ
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   21MAR03  TIME  09:40:57  *                                    *          (916) 756-1104              *
 *                                      *                                    *                                      *
 ****************************************                                    ****************************************

                          ADOBE DAM / DESERT HILLS ADMP
                          MARCH 2003
                          JE FULLER/ HYDROLOGY & GEOMORPHOLOGY, INC.

                         HYPOTHETICAL SUBBASIN ANALYSIS FOR DEV. GUIDELINES
                          AREA = 1.00 SQ. MI. (2400' X 11616')
                          L = 12285.4 FT = 2.33 MI.
                          S = 0.01125 = 59.4 FT/MI.

                          DSRT_B = DESERT RANGELAND BASIN WITH Kb TYPE B
                          DSRT_C = DESERT RANGELAND BASIN WITH Kb TYPE C

                          THE FOLLOWING VLDR.# BASINS HAVE Kb TYPES INCREMENTALLY SMOOTHER TRANSITIONI
                          FROM Kb TYPE C (DSRT_C) TO Kb TYPE B (VLDR1B) IN PROPORTION TO ASSUMED
                          VEGETATION REMOVAL.

                          VLDR.3 = VERY LOW DENSITY RESIDENTIAL (1-2 AC LOTS)
                                   WITH 30% VEGETATION REMOVAL ASSUMED
                          VLDR.4 = VERY LOW DENSITY RESIDENTIAL (1-2 AC LOTS)
                                   WITH 40% VEGETATION REMOVAL ASSUMED
                          VLDR.5 = VERY LOW DENSITY RESIDENTIAL (1-2 AC LOTS)
                                   WITH 50% VEGETATION REMOVAL ASSUMED
                          VLDR.6 = VERY LOW DENSITY RESIDENTIAL (1-2 AC LOTS)
                                   WITH 60% VEGETATION REMOVAL ASSUMED
                          VLDR.7 = VERY LOW DENSITY RESIDENTIAL (1-2 AC LOTS)
                                   WITH 70% VEGETATION REMOVAL ASSUMED
                          VLDR.8 = VERY LOW DENSITY RESIDENTIAL (1-2 AC LOTS)
                                   WITH 80% VEGETATION REMOVAL ASSUMED
                          VLDR1B = VERY LOW DENSITY RESIDENTIAL (1-2 AC LOTS)
                                   WITH 100% VEGETATION REMOVAL ASSUMED
                                   Kb TYPE B
                          VLDR1A = VERY LOW DENSITY RESIDENTIAL (1-2 AC LOTS)
                                   WITH 100% VEGETATION REMOVAL ASSUMED
                                   Kb TYPE A

  37 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        300  NUMBER OF HYDROGRAPH ORDINATES
                      NDDATE      1    0  ENDING DATE
                      NDTIME       0958  ENDING TIME
                       ICENT         19  CENTURY MARK

                  COMPUTATION INTERVAL     .03 HOURS
                       TOTAL TIME BASE    9.97 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

     JP           MULTI-PLAN OPTION
                       NPLAN            6  NUMBER OF PLANS

     JR           MULTI-RATIO OPTION
                      RATIOS OF RUNOFF
                     1.00
1

                PEAK FLOW AND STAGE (END-OF-PERIOD) SUMMARY FOR MULTIPLE PLAN-RATIO ECONOMIC COMPUTATIONS
                                FLOWS IN CUBIC FEET PER SECOND,  AREA IN SQUARE MILES
                                                TIME TO PEAK IN HOURS

                                                                    RATIOS APPLIED TO FLOWS
 OPERATION       STATION     AREA    PLAN                  RATIO 1
                                                              1.00

 HYDROGRAPH AT
+                DSRT_B      1.00     1   FLOW                166.
                                          TIME                5.10
                                      2   FLOW                400.
                                          TIME                4.73
                                      3   FLOW                592.
                                          TIME                4.60
                                      4   FLOW                883.
                                          TIME                4.47
                                      5   FLOW               1105.
                                          TIME                4.43
                                      6   FLOW               1329.
                                          TIME                4.40

 HYDROGRAPH AT
+                DSRT_C      1.00     1   FLOW                154.
                                          TIME                5.20
                                      2   FLOW                267.
                                          TIME                5.17
                                      3   FLOW                350.
                                          TIME                5.13
                                      4   FLOW                554.
                                          TIME                4.90
                                      5   FLOW                725.
                                          TIME                4.80
                                      6   FLOW                901.
                                          TIME                4.73

 HYDROGRAPH AT
+                VLDR.3      1.00     1   FLOW                171.
                                          TIME                5.20
                                      2   FLOW                291.
                                          TIME                5.13
                                      3   FLOW                430.
                                          TIME                4.93
                                      4   FLOW                656.
                                          TIME                4.77
                                      5   FLOW                840.
                                          TIME                4.70
                                      6   FLOW               1027.
                                          TIME                4.63

 HYDROGRAPH AT
+                VLDR.4      1.00     1   FLOW                185.
                                          TIME                5.17
                                      2   FLOW                331.
                                          TIME                5.03
                                      3   FLOW                476.
                                          TIME                4.87
                                      4   FLOW                711.
                                          TIME                4.70
                                      5   FLOW                899.
                                          TIME                4.63
                                      6   FLOW               1089.
                                          TIME                4.57

 HYDROGRAPH AT
+                VLDR.5      1.00     1   FLOW                197.
                                          TIME                5.17
                                      2   FLOW                365.
                                          TIME                4.93
                                      3   FLOW                517.
                                          TIME                4.80
                                      4   FLOW                759.
                                          TIME                4.67
                                      5   FLOW                946.
                                          TIME                4.60
                                      6   FLOW               1134.
                                          TIME                4.57

 HYDROGRAPH AT
+                VLDR.6      1.00     1   FLOW                210.
                                          TIME                5.13
                                      2   FLOW                407.
```

```
                                    TIME        4.87
                                3   FLOW         566.
                                    TIME        4.73
                                4   FLOW         811.
                                    TIME        4.63
                                5   FLOW        1002.
                                    TIME        4.57
                                6   FLOW        1199.
                                    TIME        4.53

 HYDROGRAPH AT
+                VLDR.7      1.00   1   FLOW         238.
                                    TIME        5.03
                                2   FLOW         454.
                                    TIME        4.77
                                3   FLOW         621.
                                    TIME        4.67
                                4   FLOW         870.
                                    TIME        4.57
                                5   FLOW        1062.
                                    TIME        4.53
                                6   FLOW        1259.
                                    TIME        4.50

 HYDROGRAPH AT
+                VLDR.8      1.00   1   FLOW         271.
                                    TIME        4.93
                                2   FLOW         504.
                                    TIME        4.70
                                3   FLOW         671.
                                    TIME        4.60
                                4   FLOW         926.
                                    TIME        4.53
                                5   FLOW        1125.
                                    TIME        4.50
                                6   FLOW        1326.
                                    TIME        4.43

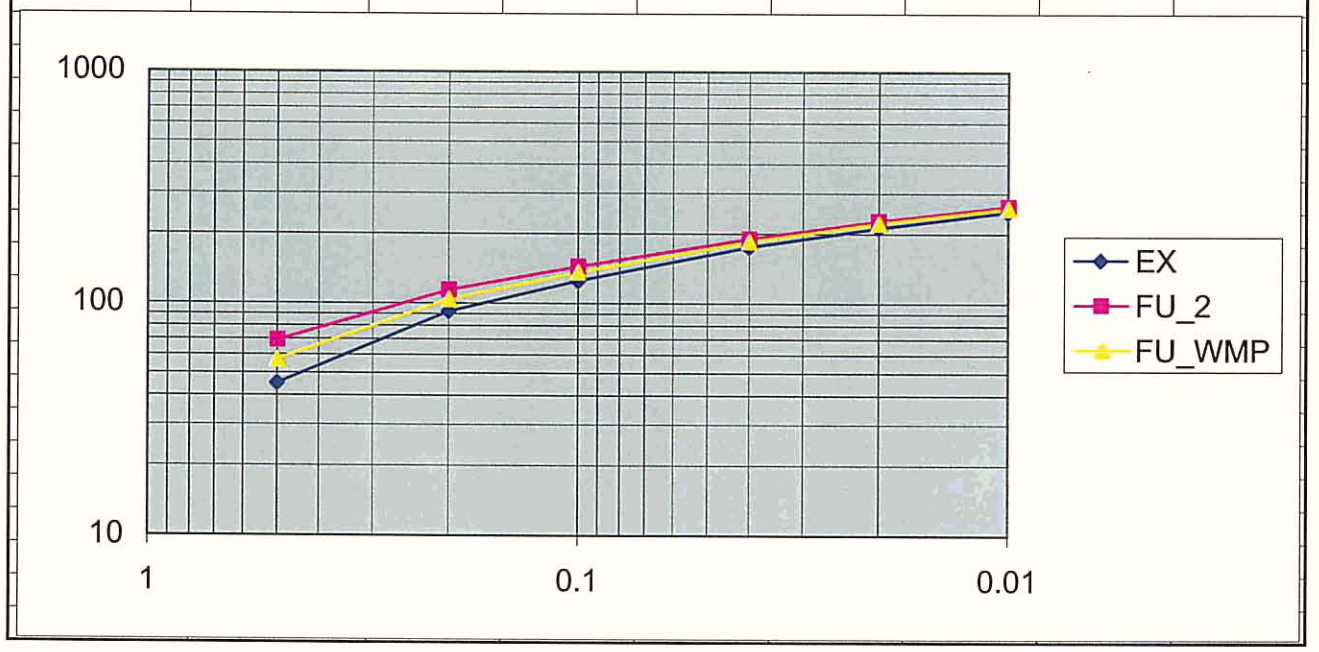
 HYDROGRAPH AT
+                VLDR1B      1.00   1   FLOW         315.
                                    TIME        4.77
                                2   FLOW         572.
                                    TIME        4.60
                                3   FLOW         754.
                                    TIME        4.50
                                4   FLOW        1025.
                                    TIME        4.43
                                5   FLOW        1239.
                                    TIME        4.40
                                6   FLOW        1459.
                                    TIME        4.37

 HYDROGRAPH AT
+                VLDR1A      1.00   1   FLOW         484.
                                    TIME        4.43
                                2   FLOW         803.
                                    TIME        4.33
                                3   FLOW        1030.
                                    TIME        4.30
                                4   FLOW        1358.
                                    TIME        4.23
                                5   FLOW        1612.
                                    TIME        4.23
                                6   FLOW        1879.
                                    TIME        4.20


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

Example of Existing vs. Future Conditions with Most Vegetation Removed (FU_2) and Watercourse Master Plan
Horse Corral Property Evaluation (FU_WMP)

Examples for Subbasin S114							
	Area	Q2	Q5	Q10	Q25	Q50	Q100
EX	0.11	45	92	125	175	212	249
FU_2	0.11	69	114	144	190	227	263
FU_WMP	0.11	57	104	136	185	222	258
FU_2 - EX	0	24	22	19	15	15	14
FU_WMP-EX	0	12	12	11	10	10	9
% difference	0	53.3	23.9	15.2	8.6	7.1	5.6
% difference	0	26.7	13.0	8.8	5.7	4.7	3.6
Ratios							
EX	QT:Q100	0.18	0.37	0.50	0.70	0.85	1.00
FU_2		0.26	0.43	0.55	0.72	0.86	1.00
FU_WMP		0.22	0.40	0.53	0.72	0.86	1.00
FU_2:EX		1.45	1.17	1.09	1.03	1.01	1.00
FU_WMP:EX		1.22	1.09	1.05	1.02	1.01	1.00
New Manual Recomm.		0.10		0.35			1.00
Proposed Future Ratios		0.15		0.38			1.00
	Prob.	EX	FU_2	FU_WMP			
Q2	0.5	45	69	57			
Q5	0.2	92	114	104			
Q10	0.1	125	144	136			
Q25	0.04	175	190	185			
Q50	0.02	212	227	222			
Q100	0.01	249	263	258			



JE Fuller/ Hydrology & Geomorphology, Inc.

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February 7, 2003

Dave Degerness
FCDMC
2801 W. Durango St.
Phoenix, AZ 85009

RE: review comments for Desert Hills area hydrology

Dave:

This letter is to acknowledge receipt of your comments on the preliminary hydrology submittal for the Desert Hills area for the Adobe Dam / Desert Hills ADMP. I wanted to let you know that we see no trouble addressing any of your stated concerns. We understand and are in general agreement with all of your questions and concerns.

We have begun the FLO-2D analysis and will incorporate the suggestions and respond to all of your comments formally in our next submittal which includes the results of the FLO-2D analysis.

Additionally, I will also incorporate the nature and spirit of some of your comments into our Bisquit Flat area hydrology. We plan to have a preliminary hydrology submittal for that area to you within the next week or two.

Thank you again for your timely review of our hydrology submittals for this project. It helps everyone stay on schedule.

Sincerely,

JE Fuller/Hydrology & Geomorphology, Inc.

Ted Lehman, P.E.

Flood Control District of Maricopa County
2801 West Durango Street
Phoenix, Arizona 85009-6399
(602) 506-1501
FAX: (602) 506-4601
TT: (602) 506-5897
www.fcd.maricopa.gov

DATE: 2/4/03

MEMO TO: Marilyn DeRosa, Project Manager

FROM: David Degerness, Project Hydrologist

SUBJECT: Desert Hills Area Hydrologic Submital dated January 28, 2003

I have finished my review of the above referenced material and I have the following comments.

1. PDF files of subbasin delineations do not match arcview shape files of delineations. This occurs with subbasin S150 through S153, subbasin FLO2D2 and S500.

2. Some concentration points in the hec-1 model do not appear on the provided PDF map. Is this due to available space or oversight. One that is the most noticable is C109, area is confusing.

3. Subbasin S117 is not routed to Cloud Road before being combined. Should it be routed, there are other short routings in the model?

4. Concentration points located on a road or major road intersection should be described as such in the model. I believe you did this very well, but just want to make sure.

5. How will the FLO2D results be incorporated into this model? What about subbasin FLO2D2, should that be incorporated into the hec-1 model.

6. Routing reach 108109 has an nstep of 1 which routes the flow at a velocity of 17 ft/s. An nstep of 5 gives a velocity of 9 ft/s, much more in line with the rest of the watershed routings.

7. Each of the models have the same ID records which describe what the model is accomplishing. This should be changed for each of the 5 scenarios being modeled. Be very specific on what the FU6_2 is accomplishing. It appears you are lowering the vegetative cover for selected landuses, please explain why.

8. Stage-storage relationship for RR310 does not appear to match any of the HY-8 files provided as part of this submittal. Several of the larger SE records are way off when compared against HY-8 output. Explain what each of the rr310.inp files is accomplishing. Also, there is an rr152 in the HY-8 data that is not in the model. What is this providing data for?

9. Subbasin FLO2D2 does not appear in the DDMSW files.

JE FULLER
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January 28, 2003

TRANSMITTAL

Dave Degerness
Flood Control District of Maricopa County
2801 W. Durango Street
Phoenix, AZ 85009

Dave,

Attached are the following materials provided by JEFuller/ Hydrology & Geomorphology, Inc.:

One ZIP file containing DDMSW backup files, ArcView shapefiles, PDFs of updated maps, and a few other miscellaneous files related to the Desert Hills Area hydrology we are performing as part of the Adobe Dam / Desert Hills ADMP.

These models are preliminary. In particular, they do not yet reflect the inclusion of the FLO-2D analyses for the area in the western portion of the watershed. Once the FLO-2D models have been completed the results from those model(s) will be incorporated into a final set of HEC-1 models for the area. This affects all of Desert Lake Wash system downstream of Desert Hills Drive, and Desert Hills Wash downstream of Carefree Highway. Apache Wash and Paradise Wash systems upstream of their confluences with Desert Hills/Apache Wash are considered complete pending your review and comment.

If there are additional data you need to help with your review or if you should have any questions, please let me know. In the meantime, I will be working next on a write up describing the methods and providing placeholders for the final results. However, the methods employed are those outlined in the *Drainage Design Manual. Briefly, we have used Green and Ampt to compute rainfall excess, Clark unit* hydrograph method, and normal-depth routing.

Sincerely,
JE Fuller/Hydrology & Geomorphology, Inc.

Ted Lehman, P.E.

JE FULLER
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6101 South Rural Road, Suite 110
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January 7, 2003

TRANSMITTAL

Mr. Dave Degerness
2801 W. Durango Street
Phoenix, Arizona 85009

Attached are the following materials provided by JEFuller/ Hydrology & Geomorphology, Inc. for your review:

- delineation of subbasins for Desert Hills Area hydrology for the Adobe Dam/ Desert Hills ADMP
- delineation of Tc and routing paths for same area
- Arcview shapefiles of subbasins and tc paths
- Dhabsn.pdf a pdf file of an 11 x 17 version of the subbasin map

Comments,

Dave,

Please note the extent of the area proposed for analysis with FLO-2D. Also, Subbasin 150 will be further subdivided pending further field examination of culverts and roadside ditches (hopefully later this week).

Please let Scott Ogden or I know if you have any questions or need some additional data to facilitate your review.

Ted Lehman, P.E.
JE Fuller/Hydrology & Geomorphology, Inc.

January 7, 2003
Date

Appendix C

Mapping & Survey

The mapping used in this study was performed under separate contracts with the Flood Control District. Refer to the Flood Control District for more information.

Appendix D

Supporting Documentation for Hydrology

D.1 PREFRE Output

```
                    *** O U T P U T   D A T A ***
   REVISED JUNE 1988 TO UPDATE COMPUTATION OF SHORT-DURATION VALUES

  PRECIPITATION FREQUENCY VALUES FOR Desert Hills Area Hydrology,
   PRIMARY ZONE NUMBER=   7
   SHORT-DURATION ZONE NUMBER=   8
```

POINT VALUES

DURATION	2-YR	5-YR	10-YR	25-YR	50-YR	100-YR	500-YR	
			RETURN PERIOD					
5-MIN	.37	.45	.51	.59	.66	.73	.88	5-MIN
10-MIN	.56	.68	.78	.91	1.01	1.11	1.35	10-MIN
15-MIN	.68	.85	.98	1.15	1.29	1.43	1.74	15-MIN
30-MIN	.89	1.14	1.31	1.56	1.75	1.94	2.37	30-MIN
1-HR	1.09	1.41	1.63	1.94	2.18	2.42	2.97	1-HR
2-HR	1.21	1.58	1.83	2.19	2.46	2.74	3.37	2-HR
3-HR	1.29	1.69	1.97	2.35	2.65	2.95	3.64	3-HR
6-HR	1.45	1.91	2.22	2.67	3.01	3.35	4.14	6-HR
12-HR	1.63	2.17	2.55	3.07	3.47	3.88	4.80	12-HR
24-HR	1.80	2.44	2.87	3.47	3.94	4.40	5.47	24-HR

```
 * IF YOUR SITE IS IN ARIZONA OR NEW MEXICO, PLEASE CONSULT THE
   FOLLOWING PAPER FOR REVISED DEPTH-AREA VALUES:
     DEPTH-AREA RATIOS IN THE SEMI-ARID SOUTHWEST UNITED STATES
     NOAA TECHNICAL MEMORANDUM NWS HYDRO-40
     ZEHR AND MYERS
     AUGUST 1984


              INPUT DATA

PROJECT NAME=Desert Hills Area Hydrology,
ZONE= 7    SHORT-DURATION ZONE= 8
LATITUDE=   .00    LONGITUDE= 100.00    ELEVATION=    0
2-YR, 6-HR PCPN= 1.45    100-YR, 6-HR PCPN= 3.35
2-YR, 24-HR PCPN= 1.80    100-YR, 24-HR PCPN= 4.40


         * * * *  E N D   OF   R U N  * * * *
```

D.2. Subbasin Soil Data

(DDMSW Report Output)

Soil Data

	Sub Basin ID	Soil Survey	Map Unit	Area	Area Pct (%)	XKSAT	Rock Outcrop (%)	Effective (%)
Major Basin	**01**							
	FLO2D	Aguila/Carefree	12	0.278	8.6	0.01		
		Aguila/Carefree	13	0.124	3.8	0.01		
		Aguila/Carefree	22	2.124	65.7	0.04		
		Aguila/Carefree	44	0.048	1.5	0.03		
		Aguila/Carefree	50	0.027	0.8	0.26		
		Aguila/Carefree	52	0.004	0.1	0.16	20.0	100
		Aguila/Carefree	68	0.002	0.1	0.63		
		Aguila/Carefree	75	0.044	1.4	0.23		
		Aguila/Carefree	76	0.075	2.3	0.23		
		Aguila/Carefree	98	0.080	2.5	0.37		
		Aguila/Carefree	110	0.022	0.7	0.13		
		Aguila/Carefree	112	0.404	12.5	0.39		
	FLO2D2	Aguila/Carefree	12	0.411	43.1	0.01		
		Aguila/Carefree	22	0.230	24.1	0.04		
		Aguila/Carefree	112	0.312	32.8	0.39		
	S100	Aguila/Carefree	44	0.042	12.3	0.03		
		Aguila/Carefree	72	0.276	81.1	0.09	30.0	100
		Aguila/Carefree	98	0.023	6.6	0.37		
	S101	Aguila/Carefree	12	0.048	16.1	0.01		
		Aguila/Carefree	44	0.180	60.4	0.03		
		Aguila/Carefree	72	0.012	4.2	0.09	30.0	100
		Aguila/Carefree	98	0.011	3.8	0.37		
		Aguila/Carefree	112	0.046	15.5	0.39		
	S102	Aguila/Carefree	44	0.032	10.8	0.03		
		Aguila/Carefree	52	0.006	2.0	0.16	20.0	100
		Aguila/Carefree	72	0.217	72.7	0.09	30.0	100
		Aguila/Carefree	98	0.043	14.5	0.37		
	S103	Aguila/Carefree	12	0.026	18.4	0.01		
		Aguila/Carefree	44	0.033	23.5	0.03		
		Aguila/Carefree	52	0.010	7.2	0.16	20.0	100
		Aguila/Carefree	98	0.070	50.0	0.37		
		Aguila/Carefree	112	0.001	0.9	0.39		
	S104	Aguila/Carefree	12	0.036	44.5	0.01		
		Aguila/Carefree	44	0.006	7.1	0.03		
		Aguila/Carefree	52	0.014	16.8	0.16	20.0	100
		Aguila/Carefree	98	0.023	28.5	0.37		
		Aguila/Carefree	110	0.003	3.1	0.13		
	S105	Aguila/Carefree	12	0.153	94.6	0.01		
		Aguila/Carefree	44	0.000	0.1	0.03		
		Aguila/Carefree	98	0.001	0.4	0.37		
		Aguila/Carefree	112	0.008	4.9	0.39		
	S106	Aguila/Carefree	12	0.107	100.0	0.01		

* Custom Value (not default value)

Soil Data

Sub Basin ID	Soil Survey	Map Unit	Area	Area Pct (%)	XKSAT	Rock Outcrop (%)	Effective (%)
S107	Aguila/Carefree	12	0.121	64.7	0.01		
	Aguila/Carefree	22	0.047	25.2	0.04		
	Aguila/Carefree	76	0.004	1.9	0.23		
	Aguila/Carefree	112	0.015	8.2	0.39		
S108	Aguila/Carefree	12	0.031	9.4	0.01		
	Aguila/Carefree	44	0.136	41.3	0.03		
	Aguila/Carefree	72	0.133	40.3	0.09	30.0	100
	Aguila/Carefree	98	0.020	6.1	0.37		
	Aguila/Carefree	112	0.009	2.9	0.39		
S109	Aguila/Carefree	12	0.107	29.3	0.01		
	Aguila/Carefree	44	0.098	26.7	0.03		
	Aguila/Carefree	72	0.002	0.5	0.09	30.0	100
	Aguila/Carefree	98	0.105	28.6	0.37		
	Aguila/Carefree	110	0.048	13.0	0.13		
	Aguila/Carefree	112	0.007	1.9	0.39		
S110	Aguila/Carefree	33	0.042	31.4	0.23		
	Aguila/Carefree	72	0.088	66.1	0.09	30.0	100
	Aguila/Carefree	110	0.003	2.5	0.13		
S111	Aguila/Carefree	33	0.008	3.1	0.23		
	Aguila/Carefree	44	0.114	46.0	0.03		
	Aguila/Carefree	72	0.062	24.8	0.09	30.0	100
	Aguila/Carefree	98	0.012	4.6	0.37		
	Aguila/Carefree	110	0.053	21.4	0.13		
S112	Aguila/Carefree	12	0.025	4.4	0.01		
	Aguila/Carefree	13	0.015	2.7	0.01		
	Aguila/Carefree	44	0.313	55.2	0.03		
	Aguila/Carefree	72	0.075	13.2	0.09	30.0	100
	Aguila/Carefree	98	0.100	17.7	0.37		
	Aguila/Carefree	110	0.039	6.8	0.13		
S113	Aguila/Carefree	13	0.009	8.2	0.01		
	Aguila/Carefree	33	0.052	47.4	0.23		
	Aguila/Carefree	95	0.022	19.6	0.04		
	Aguila/Carefree	98	0.027	24.7	0.37		
	Aguila/Carefree	110	0.000	0.2	0.13		
S114	Aguila/Carefree	12	0.019	17.6	0.01		
	Aguila/Carefree	13	0.018	16.3	0.01		
	Aguila/Carefree	95	0.007	6.7	0.04		
	Aguila/Carefree	98	0.030	27.3	0.37		
	Aguila/Carefree	110	0.035	32.2	0.13		
S115	Aguila/Carefree	12	0.086	55.5	0.01		
	Aguila/Carefree	13	0.023	14.9	0.01		
	Aguila/Carefree	98	0.027	17.2	0.37		
	Aguila/Carefree	110	0.019	12.3	0.13		

* Custom Value (not default value)

Soil Data

Sub Basin ID	Soil Survey	Map Unit	Area	Area Pct (%)	XKSAT	Rock Outcrop (%)	Effective (%)
S116	Aguila/Carefree	12	0.015	6.7	0.01		
	Aguila/Carefree	13	0.025	11.3	0.01		
	Aguila/Carefree	50	0.002	0.9	0.26		
	Aguila/Carefree	76	0.010	4.2	0.23		
	Aguila/Carefree	98	0.079	35.1	0.37		
	Aguila/Carefree	112	0.093	41.7	0.39		
S117	Aguila/Carefree	12	0.168	72.5	0.01		
	Aguila/Carefree	98	0.000	0.2	0.37		
	Aguila/Carefree	112	0.063	27.3	0.39		
S118	Aguila/Carefree	12	0.109	87.9	0.01		
	Aguila/Carefree	95	0.012	9.7	0.04		
	Aguila/Carefree	112	0.003	2.4	0.39		
S119	Aguila/Carefree	12	0.167	53.4	0.01		
	Aguila/Carefree	98	0.006	1.8	0.37		
	Aguila/Carefree	110	0.039	12.6	0.13		
	Aguila/Carefree	112	0.101	32.3	0.39		
S120	Aguila/Carefree	12	0.030	11.0	0.01		
	Aguila/Carefree	13	0.006	2.1	0.01		
	Aguila/Carefree	22	0.093	33.6	0.04		
	Aguila/Carefree	50	0.038	13.8	0.26		
	Aguila/Carefree	76	0.019	6.7	0.23		
	Aguila/Carefree	98	0.035	12.7	0.37		
	Aguila/Carefree	112	0.056	20.2	0.39		
S121	Aguila/Carefree	12	0.025	8.0	0.01		
	Aguila/Carefree	22	0.172	54.2	0.04		
	Aguila/Carefree	112	0.120	37.8	0.39		
S122	Aguila/Carefree	22	0.000	0.1	0.04		
	Aguila/Carefree	44	0.070	44.0	0.03		
	Aguila/Carefree	50	0.006	4.0	0.26		
	Aguila/Carefree	52	0.063	39.7	0.16	20.0	100
	Aguila/Carefree	98	0.012	7.8	0.37		
	Aguila/Carefree	100	0.007	4.4	0.40	20.0	100
S123	Aguila/Carefree	44	0.075	56.0	0.03		
	Aguila/Carefree	50	0.016	11.7	0.26		
	Aguila/Carefree	52	0.042	31.4	0.16	20.0	100
	Aguila/Carefree	98	0.001	0.9	0.37		
S124	Aguila/Carefree	44	0.041	69.8	0.03		
	Aguila/Carefree	52	0.018	30.2	0.16	20.0	100
S125	Aguila/Carefree	44	0.065	43.0	0.03		
	Aguila/Carefree	50	0.020	13.2	0.26		
	Aguila/Carefree	52	0.015	9.8	0.16	20.0	100
	Aguila/Carefree	75	0.052	34.0	0.23		
S126	Aguila/Carefree	44	0.016	12.3	0.03		

* Custom Value (not default value)

Soil Data

Sub Basin ID	Soil Survey	Map Unit	Area	Area Pct (%)	XKSAT	Rock Outcrop (%)	Effective (%)
S126	Aguila/Carefree	52	0.087	66.8	0.16	20.0	100
	Aguila/Carefree	75	0.027	20.8	0.23		
S127	Aguila/Carefree	44	0.024	25.9	0.03		
	Aguila/Carefree	52	0.014	15.4	0.16	20.0	100
	Aguila/Carefree	75	0.046	49.9	0.23		
	Aguila/Carefree	112	0.008	8.8	0.39		
S128	Aguila/Carefree	44	0.048	41.1	0.03		
	Aguila/Carefree	52	0.068	58.9	0.16	20.0	100
S129	Aguila/Carefree	22	0.011	9.1	0.04		
	Aguila/Carefree	44	0.050	40.9	0.03		
	Aguila/Carefree	52	0.033	26.8	0.16	20.0	100
	Aguila/Carefree	112	0.028	23.2	0.39		
S130	Aguila/Carefree	22	0.025	47.4	0.04		
	Aguila/Carefree	101	0.007	13.4	0.28		
	Aguila/Carefree	112	0.020	39.2	0.39		
S131	Aguila/Carefree	12	0.060	55.5	0.01		
	Aguila/Carefree	44	0.042	39.0	0.03		
	Aguila/Carefree	112	0.006	5.5	0.39		
S132	Aguila/Carefree	12	0.065	45.1	0.01		
	Aguila/Carefree	22	0.003	1.8	0.04		
	Aguila/Carefree	44	0.068	47.1	0.03		
	Aguila/Carefree	112	0.009	6.0	0.39		
S133	Aguila/Carefree	12	0.060	59.5	0.01		
	Aguila/Carefree	22	0.000		0.04		
	Aguila/Carefree	44	0.004	3.9	0.03		
	Aguila/Carefree	101	0.005	5.4	0.28		
	Aguila/Carefree	112	0.031	31.2	0.39		
S134	Aguila/Carefree	12	0.023	32.0	0.01		
	Aguila/Carefree	22	0.007	9.2	0.04		
	Aguila/Carefree	44	0.000	0.3	0.03		
	Aguila/Carefree	101	0.011	15.5	0.28		
	Aguila/Carefree	112	0.032	43.1	0.39		
S135	Aguila/Carefree	44	0.036	52.6	0.03		
	Aguila/Carefree	52	0.032	47.4	0.16	20.0	100
S136	Aguila/Carefree	12	0.002	2.8	0.01		
	Aguila/Carefree	44	0.022	28.3	0.03		
	Aguila/Carefree	52	0.003	3.2	0.16	20.0	100
	Aguila/Carefree	112	0.052	65.7	0.39		
S137	Aguila/Carefree	12	0.051	60.5	0.01		
	Aguila/Carefree	44	0.003	3.3	0.03		
	Aguila/Carefree	112	0.031	36.2	0.39		
S138	Aguila/Carefree	12	0.201	75.6	0.01		

* Custom Value (not default value)

Sub Basin ID	Soil Survey	Map Unit	Area	Area Pct (%)	XKSAT	Rock Outcrop (%)	Effective (%)
S138	Aguila/Carefree	44	0.020	7.5	0.03		
	Aguila/Carefree	112	0.045	16.9	0.39		
S139	Aguila/Carefree	12	0.007	10.2	0.01		
	Aguila/Carefree	112	0.062	89.8	0.39		
S140	Aguila/Carefree	12	0.185	74.1	0.01		
	Aguila/Carefree	44	0.037	14.7	0.03		
	Aguila/Carefree	112	0.028	11.2	0.39		
S141	Aguila/Carefree	12	0.084	82.4	0.01		
	Aguila/Carefree	44	0.014	13.4	0.03		
	Aguila/Carefree	112	0.004	4.2	0.39		
S142	Aguila/Carefree	44	0.050	36.2	0.03		
	Aguila/Carefree	52	0.084	60.8	0.16	20.0	100
	Aguila/Carefree	112	0.004	3.0	0.39		
S143	Aguila/Carefree	44	0.097	70.2	0.03		
	Aguila/Carefree	52	0.041	29.6	0.16	20.0	100
	Aguila/Carefree	110	0.000	0.2	0.13		
S144	Aguila/Carefree	12	0.035	22.7	0.01		
	Aguila/Carefree	44	0.048	31.2	0.03		
	Aguila/Carefree	110	0.007	4.3	0.13		
	Aguila/Carefree	112	0.064	41.8	0.39		
S145	Aguila/Carefree	12	0.193	94.8	0.01		
	Aguila/Carefree	44	0.006	3.1	0.03		
	Aguila/Carefree	112	0.004	2.1	0.39		
S147	Aguila/Carefree	12	0.061	9.1	0.01		
	Aguila/Carefree	44	0.242	35.9	0.03		
	Aguila/Carefree	52	0.236	35.0	0.16	20.0	100
	Aguila/Carefree	98	0.016	2.3	0.37		
	Aguila/Carefree	110	0.003	0.4	0.13		
	Aguila/Carefree	112	0.116	17.3	0.39		
S150	Aguila/Carefree	13	0.003	27.3	0.01		
	Aguila/Carefree	44	0.007	60.9	0.03		
	Aguila/Carefree	100	0.001	11.8	0.40	20.0	100
S151	Aguila/Carefree	13	0.002	8.9	0.01		
	Aguila/Carefree	44	0.008	49.1	0.03		
	Aguila/Carefree	100	0.007	42.0	0.40	20.0	100
S152	Aguila/Carefree	13	0.005	6.0	0.01		
	Aguila/Carefree	22	0.002	2.3	0.04		
	Aguila/Carefree	44	0.032	37.0	0.03		
	Aguila/Carefree	98	0.024	28.1	0.37		
	Aguila/Carefree	100	0.023	26.6	0.40	20.0	100
S153	Aguila/Carefree	22	0.004	33.3	0.04		
	Aguila/Carefree	44	0.008	66.7	0.03		

* Custom Value (not default value)

Soil Data

Sub Basin ID	Soil Survey	Map Unit	Area	Area Pct (%)	XKSAT	Rock Outcrop (%)	Effective (%)
S200	Aguila/Carefree	26	0.080	13.7	0.01		
	Aguila/Carefree	66	0.184	31.8	0.23		
	Aguila/Carefree	72	0.178	30.7	0.09	30.0	100
	Aguila/Carefree	93	0.004	0.7	0.33		
	Aguila/Carefree	95	0.134	23.2	0.04		
S201	Aguila/Carefree	33	0.006	0.7	0.23		
	Aguila/Carefree	63	0.195	24.6	0.14	25.0	100
	Aguila/Carefree	72	0.585	73.8	0.09	30.0	100
	Aguila/Carefree	96	0.007	0.9	0.07		
S203	Aguila/Carefree	33	0.034	20.5	0.23		
	Aguila/Carefree	63	0.051	30.5	0.14	25.0	100
	Aguila/Carefree	72	0.062	37.2	0.09	30.0	100
	Aguila/Carefree	96	0.020	11.8	0.07		
S204	Aguila/Carefree	33	0.005	1.6	0.23		
	Aguila/Carefree	66	0.016	5.2	0.23		
	Aguila/Carefree	72	0.270	90.5	0.09	30.0	100
	Aguila/Carefree	93	0.008	2.5	0.33		
	Aguila/Carefree	96	0.001	0.2	0.07		
S205	Aguila/Carefree	33	0.029	70.9	0.23		
	Aguila/Carefree	72	0.002	4.9	0.09	30.0	100
	Aguila/Carefree	96	0.010	24.2	0.07		
S206	Aguila/Carefree	33	0.033	22.6	0.23		
	Aguila/Carefree	72	0.073	50.0	0.09	30.0	100
	Aguila/Carefree	93	0.038	26.1	0.33		
	Aguila/Carefree	96	0.002	1.3	0.07		
S207	Aguila/Carefree	33	0.145	57.6	0.23		
	Aguila/Carefree	61	0.009	3.7	0.15		
	Aguila/Carefree	63	0.055	21.8	0.14	25.0	100
	Aguila/Carefree	93	0.000		0.33		
	Aguila/Carefree	96	0.042	16.8	0.07		
S208	Aguila/Carefree	26	0.002	0.7	0.01		
	Aguila/Carefree	33	0.134	43.5	0.23		
	Aguila/Carefree	66	0.006	2.0	0.23		
	Aguila/Carefree	72	0.164	53.2	0.09	30.0	100
	Aguila/Carefree	93	0.001	0.4	0.33		
	Aguila/Carefree	96	0.001	0.2	0.07		
S209	Aguila/Carefree	26	0.017	24.7	0.01		
	Aguila/Carefree	33	0.007	10.7	0.23		
	Aguila/Carefree	66	0.017	24.7	0.23		
	Aguila/Carefree	96	0.027	39.8	0.07		
S210	Aguila/Carefree	26	0.008	2.5	0.01		
	Aguila/Carefree	33	0.093	29.4	0.23		
	Aguila/Carefree	61	0.033	10.5	0.15		

* Custom Value (not default value)

Soil Data

Sub Basin ID	Soil Survey	Map Unit	Area	Area Pct (%)	XKSAT	Rock Outcrop (%)	Effective (%)
S210	Aguila/Carefree	63	0.030	9.5	0.14	25.0	100
	Aguila/Carefree	66	0.038	12.2	0.23		
	Aguila/Carefree	72	0.006	2.0	0.09	30.0	100
	Aguila/Carefree	96	0.094	29.8	0.07		
	Aguila/Carefree	104	0.013	4.0	0.14	60.0	100
S211	Aguila/Carefree	33	0.043	16.1	0.23		
	Aguila/Carefree	72	0.223	82.8	0.09	30.0	100
	Aguila/Carefree	96	0.003	1.1	0.07		
S212	Aguila/Carefree	33	0.104	57.2	0.23		
	Aguila/Carefree	66	0.031	17.0	0.23		
	Aguila/Carefree	72	0.003	1.8	0.09	30.0	100
	Aguila/Carefree	96	0.044	24.0	0.07		
S213	Aguila/Carefree	33	0.108	44.6	0.23		
	Aguila/Carefree	66	0.033	13.7	0.23		
	Aguila/Carefree	72	0.090	37.0	0.09	30.0	100
	Aguila/Carefree	96	0.011	4.7	0.07		
S214	Aguila/Carefree	33	0.072	21.9	0.23		
	Aguila/Carefree	72	0.235	71.6	0.09	30.0	100
	Aguila/Carefree	96	0.021	6.5	0.07		
S215	Aguila/Carefree	33	0.005	9.1	0.23		
	Aguila/Carefree	66	0.002	3.4	0.23		
	Aguila/Carefree	95	0.003	5.5	0.04		
	Aguila/Carefree	96	0.048	82.0	0.07		
S216	Aguila/Carefree	33	0.025	6.7	0.23		
	Aguila/Carefree	61	0.051	13.8	0.15		
	Aguila/Carefree	63	0.012	3.3	0.14	25.0	100
	Aguila/Carefree	72	0.158	43.1	0.09	30.0	100
	Aguila/Carefree	93	0.026	7.1	0.33		
	Aguila/Carefree	95	0.041	11.3	0.04		
	Aguila/Carefree	96	0.009	2.5	0.07		
	Aguila/Carefree	98	0.001	0.3	0.37		
	Aguila/Carefree	104	0.020	5.4	0.14	60.0	100
	Aguila/Carefree	120	0.024	6.5	0.06		
S217	Aguila/Carefree	12	0.040	10.9	0.01		
	Aguila/Carefree	44	0.054	14.9	0.03		
	Aguila/Carefree	72	0.112	31.0	0.09	30.0	100
	Aguila/Carefree	95	0.049	13.5	0.04		
	Aguila/Carefree	98	0.106	29.3	0.37		
	Aguila/Carefree	104	0.001	0.4	0.14	60.0	100
S218	Aguila/Carefree	63	0.083	21.3	0.14	25.0	100
	Aguila/Carefree	72	0.266	68.5	0.09	30.0	100
	Aguila/Carefree	98	0.036	9.4	0.37		
	Aguila/Carefree	104	0.003	0.7	0.14	60.0	100

* Custom Value (not default value)

Sub Basin ID	Soil Survey	Map Unit	Area	Area Pct (%)	XKSAT	Rock Outcrop (%)	Effective (%)
S219	Aguila/Carefree	44	0.022	7.6	0.03		
	Aguila/Carefree	72	0.215	75.8	0.09	30.0	100
	Aguila/Carefree	98	0.047	16.6	0.37		
S220	Aguila/Carefree	44	0.062	37.0	0.03		
	Aguila/Carefree	72	0.071	41.9	0.09	30.0	100
	Aguila/Carefree	98	0.036	21.2	0.37		
S221	Aguila/Carefree	12	0.118	50.9	0.01		
	Aguila/Carefree	44	0.064	27.5	0.03		
	Aguila/Carefree	98	0.050	21.6	0.37		
S222	Aguila/Carefree	12	0.185	68.0	0.01		
	Aguila/Carefree	44	0.010	3.8	0.03		
	Aguila/Carefree	98	0.043	15.9	0.37		
	Aguila/Carefree	112	0.033	12.2	0.39		
S223	Aguila/Carefree	12	0.053	58.5	0.01		
	Aguila/Carefree	112	0.038	41.5	0.39		
S224	Aguila/Carefree	12	0.063	29.5	0.01		
	Aguila/Carefree	112	0.151	70.5	0.39		
S225	Aguila/Carefree	12	0.231	73.5	0.01		
	Aguila/Carefree	44	0.070	22.1	0.03		
	Aguila/Carefree	95	0.012	3.9	0.04		
	Aguila/Carefree	112	0.001	0.4	0.39		
S226	Aguila/Carefree	12	0.118	47.6	0.01		
	Aguila/Carefree	44	0.031	12.3	0.03		
	Aguila/Carefree	112	0.099	40.1	0.39		
S227	Aguila/Carefree	12	0.080	75.6	0.01		
	Aguila/Carefree	44	0.009	8.6	0.03		
	Aguila/Carefree	112	0.017	15.8	0.39		
S228	Aguila/Carefree	12	0.139	61.7	0.01		
	Aguila/Carefree	55	0.015	6.5	0.27		
	Aguila/Carefree	112	0.072	31.9	0.39		
S300	Aguila/Carefree	33	0.085	16.9	0.23		
	Aguila/Carefree	34	0.022	4.5	0.23		
	Aguila/Carefree	72	0.396	78.7	0.09	30.0	100
S301	Aguila/Carefree	33	0.105	20.9	0.23		
	Aguila/Carefree	34	0.000		0.23		
	Aguila/Carefree	61	0.018	3.6	0.15		
	Aguila/Carefree	72	0.380	75.4	0.09	30.0	100
S302	Aguila/Carefree	33	0.084	35.1	0.23		
	Aguila/Carefree	66	0.004	1.5	0.23		
	Aguila/Carefree	72	0.132	55.3	0.09	30.0	100
	Aguila/Carefree	98	0.019	8.0	0.37		
S303	Aguila/Carefree	12	0.041	32.6	0.01		

* Custom Value (not default value)

Soil Data

Sub Basin ID	Soil Survey	Map Unit	Area	Area Pct (%)	XKSAT	Rock Outcrop (%)	Effective (%)
S303	Aguila/Carefree	33	0.019	14.9	0.23		
	Aguila/Carefree	72	0.024	19.2	0.09	30.0	100
	Aguila/Carefree	98	0.042	33.4	0.37		
S304	Aguila/Carefree	12	0.017	12.5	0.01		
	Aguila/Carefree	98	0.116	87.5	0.37		
S305	Aguila/Carefree	33	0.104	45.1	0.23		
	Aguila/Carefree	61	0.007	3.2	0.15		
	Aguila/Carefree	72	0.119	51.8	0.09	30.0	100
S306	Aguila/Carefree	12	0.000		0.01		
	Aguila/Carefree	33	0.052	100.0	0.23		
S307	Aguila/Carefree	33	0.096	46.6	0.23		
	Aguila/Carefree	72	0.110	53.4	0.09	30.0	100
S308	Aguila/Carefree	12	0.037	7.9	0.01		
	Aguila/Carefree	33	0.294	63.1	0.23		
	Aguila/Carefree	72	0.135	28.9	0.09	30.0	100
S309	Aguila/Carefree	12	0.035	18.6	0.01		
	Aguila/Carefree	33	0.111	58.5	0.23		
	Aguila/Carefree	72	0.044	23.0	0.09	30.0	100
S310	Aguila/Carefree	12	0.414	74.8	0.01		
	Aguila/Carefree	33	0.140	25.2	0.23		
	Aguila/Carefree	98	0.000		0.37		
S311	Aguila/Carefree	12	0.077	100.0	0.01		
S312	Aguila/Carefree	12	0.098	70.0	0.01		
	Aguila/Carefree	98	0.042	30.1	0.37		
S313	Aguila/Carefree	12	0.049	100.0	0.01		
S314	Aguila/Carefree	12	0.040	44.9	0.01		
	Aguila/Carefree	98	0.049	55.1	0.37		
S315	Aguila/Carefree	12	0.045	19.0	0.01		
	Aguila/Carefree	44	0.066	27.5	0.03		
	Aguila/Carefree	66	0.008	3.5	0.23		
	Aguila/Carefree	72	0.107	44.8	0.09	30.0	100
	Aguila/Carefree	98	0.013	5.3	0.37		
S316	Aguila/Carefree	12	0.032	14.3	0.01		
	Aguila/Carefree	44	0.120	53.7	0.03		
	Aguila/Carefree	72	0.012	5.2	0.09	30.0	100
	Aguila/Carefree	98	0.060	26.8	0.37		
S317	Aguila/Carefree	12	0.374	62.0	0.01		
	Aguila/Carefree	44	0.003	0.5	0.03		
	Aguila/Carefree	98	0.211	34.9	0.37		
	Aguila/Carefree	112	0.015	2.6	0.39		
S318	Aguila/Carefree	12	0.064	40.9	0.01		
	Aguila/Carefree	98	0.093	59.1	0.37		

* Custom Value (not default value)

Soil Data

Sub Basin ID	Soil Survey	Map Unit	Area	Area Pct (%)	XKSAT	Rock Outcrop (%)	Effective (%)
S319	Aguila/Carefree	12	0.694	78.3	0.01		
	Aguila/Carefree	44	0.000		0.03		
	Aguila/Carefree	98	0.192	21.6	0.37		
	Aguila/Carefree	112	0.000		0.39		
S400	Aguila/Carefree	12	0.986	58.8	0.01		
	Aguila/Carefree	13	0.007	0.4	0.01		
	Aguila/Carefree	44	0.205	12.2	0.03		
	Aguila/Carefree	52	0.221	13.2	0.16	20.0	100
	Aguila/Carefree	98	0.211	12.6	0.37		
	Aguila/Carefree	112	0.047	2.8	0.39		
S500	Aguila/Carefree	12	0.038	97.4	0.01		
	Aguila/Carefree	112	0.001	2.6	0.39		

* Custom Value (not default value)

D.3. Subbasin Land Use Data

D.3.1 Existing Land Use Data (DDMSW Report Output)

D.3.2 Future Land Use Data (DDMSW Report Output)

Land Use Data

Sub Basin ID	Land Use Code	Area	Area Pct (%)	DTHETA Condition	Vegetation Cover (%)	RTIMP (%)	IA (in)	Kn	Kb Type	Kb
Major Basin:	**01**									
FLO2D	COMM	0.024	0.7	Normal	10.0	80	0.10	0.020	Min	0.033
	DESERT	1.374	42.5	Normal	50.0		0.35	0.030	Low	0.040
	SCHOOL	0.101	3.1	Normal	30.0	20	0.30		Low	0.055
	VLDR	1.733	53.6	Normal	20.0	5	0.30	0.050	Low	0.038
FLO2D2	DESERT	0.588	61.7	Normal	50.0		0.35	0.030	Low	0.045
	VLDR	0.365	38.3	Normal	20.0	5	0.30	0.050	Low	0.047
S100	DESERT	0.292	85.8	Normal	50.0		0.35	0.030	Low	0.049
	VLDR	0.048	14.2	Normal	20.0	5	0.30	0.050	Low	0.060
S101	DESERT	0.124	41.5	Normal	50.0		0.35	0.030	Low	0.054
	VLDR	0.174	58.5	Normal	20.0	5	0.30	0.050	Low	0.052
S102	DESERT	0.298	100.0	Normal	50.0		0.35	0.030	Low	0.049
S103	DESERT	0.076	54.7	Normal	50.0		0.35	0.030	Low	0.057
	VLDR	0.063	45.3	Normal	20.0	5	0.30	0.050	Low	0.058
S104	DESERT	0.012	15.0	Normal	50.0		0.35	0.030	Low	0.068
	VLDR	0.069	85.0	Normal	20.0	5	0.30	0.050	Low	0.057
S105	DESERT	0.120	74.0	Normal	50.0		0.35	0.030	Low	0.054
	VLDR	0.042	26.0	Normal	20.0	5	0.30	0.050	Low	0.060
S106	DESERT	0.030	28.0	Normal	50.0		0.35	0.030	Low	0.062
	VLDR	0.077	72.0	Normal	20.0	5	0.30	0.050	Low	0.057
S107	DESERT	0.055	29.3	Normal	50.0		0.35	0.030	Low	0.059
	VLDR	0.132	70.7	Normal	20.0	5	0.30	0.050	Low	0.054
S108	DESERT	0.329	100.0	Normal	50.0		0.35	0.030	Low	0.048
S109	DESERT	0.325	88.8	Normal	50.0		0.35	0.030	Low	0.048
	VLDR	0.041	11.2	Normal	20.0	5	0.30	0.050	Low	0.060
S110	DESERT	0.115	86.6	Normal	50.0		0.35	0.030	Low	0.054
	VLDR	0.018	13.4	Normal	20.0	5	0.30	0.050	Low	0.066

* Custom Value (not default value)

Land Use Data

Sub Basin ID	Land Use Code	Area	Area Pct (%)	DTHETA Condition	Vegetation Cover (%)	RTIMP (%)	IA (in)	Kn	Kb Type	Kb
Major Basin:	**01**									
S111	DESERT	0.246	99.2	Normal	50.0		0.35	0.030	Low	0.050
	VLDR	0.002	0.8	Normal	20.0	5	0.30	0.050	Low	0.078
S112	DESERT	0.269	47.5	Normal	50.0		0.35	0.030	Low	0.049
	VLDR	0.298	52.5	Normal	20.0	5	0.30	0.050	Low	0.049
S113	DESERT	0.072	64.9	Normal	50.0		0.35	0.030	Low	0.057
	VLDR	0.039	35.1	Normal	20.0	5	0.30	0.050	Low	0.061
S114	DESERT	0.109	99.6	Normal	50.0		0.35	0.030	Low	0.055
	VLDR	0.000	0.4	Normal	20.0	5	0.30	0.050	Low	0.088
S115	DESERT	0.067	43.5	Normal	50.0		0.35	0.030	Low	0.058
	VLDR	0.088	56.5	Normal	20.0	5	0.30	0.050	Low	0.056
S116	DESERT	0.064	28.7	Normal	50.0		0.35	0.030	Low	0.058
	VLDR	0.159	71.3	Normal	20.0	5	0.30	0.050	Low	0.052
S117	DESERT	0.050	21.4	Normal	50.0		0.35	0.030	Low	0.059
	VLDR	0.183	78.6	Normal	20.0	5	0.30	0.050	Low	0.052
S118	DESERT	0.061	49.4	Normal	50.0		0.35	0.030	Low	0.058
	VLDR	0.063	50.6	Normal	20.0	5	0.30	0.050	Low	0.058
S119	DESERT	0.089	28.6	Normal	50.0		0.35	0.030	Low	0.056
	VLDR	0.223	71.4	Normal	20.0	5	0.30	0.050	Low	0.050
S120	DESERT	0.026	9.3	Normal	50.0		0.35	0.030	Low	0.063
	VLDR	0.251	90.7	Normal	20.0	5	0.30	0.050	Low	0.050
S121	COMM	0.009	2.7	Normal	10.0	80	0.10	0.020	Min	0.035
	DESERT	0.108	34.3	Normal	50.0		0.35	0.030	Low	0.055
	LDR	0.002	0.5	Normal	30.0	15	0.30	0.050	Low	0.080
	VLDR	0.198	62.5	Normal	20.0	5	0.30	0.050	Low	0.051
S122	DESERT	0.158	99.6	Normal	50.0		0.35	0.030	Low	0.052

* Custom Value (not default value)

Land Use Data

Sub Basin ID	Land Use Code	Area	Area Pct (%)	DTHETA Condition	Vegetation Cover (%)	RTIMP (%)	IA (in)	Kn	Kb Type	Kb
Major Basin:	**01**									
S122	VLDR	0.001	0.4	Normal	20.0	5	0.30	0.050	Low	0.086
S123	DESERT	0.135	100.0	Normal	50.0		0.35	0.030	Low	0.053
S124	DESERT	0.047	80.6	Normal	50.0		0.35	0.030	Low	0.060
	LDR	0.011	19.4	Normal	30.0	15	0.30	0.050	Low	0.068
S125	COMM	0.006	4.2	Normal	10.0	80	0.10	0.020	Min	0.036
	DESERT	0.111	73.6	Normal	50.0		0.35	0.030	Low	0.055
	LDR	0.034	22.1	Normal	30.0	15	0.30	0.050	Low	0.062
S126	DESERT	0.101	77.1	Normal	50.0		0.35	0.030	Low	0.055
	LDR	0.030	22.9	Normal	30.0	15	0.30	0.050	Low	0.062
S127	COMM	0.000	0.1	Normal	10.0	80	0.10	0.020	Min	0.047
	DESERT	0.061	66.3	Normal	50.0		0.35	0.030	Low	0.058
	LDR	0.031	33.6	Normal	30.0	15	0.30	0.050	Low	0.062
S128	DESERT	0.068	58.7	Normal	50.0		0.35	0.030	Low	0.057
	LDR	0.048	41.3	Normal	30.0	15	0.30	0.050	Low	0.060
S129	DESERT	0.062	50.7	Normal	50.0		0.35	0.030	Low	0.058
	LDR	0.060	49.3	Normal	30.0	15	0.30	0.050	Low	0.058
S130	DESERT	0.018	33.6	Normal	50.0		0.35	0.030	Low	0.066
	VLDR	0.035	66.4	Normal	20.0	5	0.30	0.050	Low	0.062
S131	DESERT	0.071	66.0	Normal	50.0		0.35	0.030	Low	0.057
	VLDR	0.037	34.0	Normal	20.0	5	0.30	0.050	Low	0.061
S132	DESERT	0.121	83.2	Normal	50.0		0.35	0.030	Low	0.054
	VLDR	0.024	16.8	Normal	20.0	5	0.30	0.050	Low	0.064
S133	DESERT	0.038	38.0	Normal	50.0		0.35	0.030	Low	0.061
	VLDR	0.062	62.0	Normal	20.0	5	0.30	0.050	Low	0.058
S134	DESERT	0.047	64.6	Normal	50.0		0.35	0.030	Low	0.060
	LDR	0.026	35.4	Normal	30.0	15	0.30	0.050	Low	0.063

* Custom Value (not default value)

Land Use Data

Sub Basin ID	Land Use Code	Area	Area Pct (%)	DTHETA Condition	Vegetation Cover (%)	RTIMP (%)	IA (in)	Kn	Kb Type	Kb
Major Basin:	**01**									
S135	DESERT	0.027	39.7	Normal	50.0		0.35	0.030	Low	0.063
	LDR	0.041	60.3	Normal	30.0	15	0.30	0.050	Low	0.061
S136	DESERT	0.015	19.1	Normal	50.0		0.35	0.030	Low	0.067
	LDR	0.063	80.9	Normal	30.0	15	0.30	0.050	Low	0.058
S137	DESERT	0.049	58.4	Normal	50.0		0.35	0.030	Low	0.059
	VLDR	0.035	41.6	Normal	20.0	5	0.30	0.050	Low	0.061
S138	DESERT	0.241	90.7	Normal	50.0		0.35	0.030	Low	0.050
	VLDR	0.025	9.3	Normal	20.0	5	0.30	0.050	Low	0.063
S139	DESERT	0.069	100.0	Normal	50.0		0.35	0.030	Low	0.057
S140	DESERT	0.249	100.0	Normal	50.0		0.35	0.030	Low	0.050
S141	DESERT	0.102	100.0	Normal	50.0		0.35	0.030	Low	0.055
S142	DESERT	0.107	76.9	Normal	50.0		0.35	0.030	Low	0.055
	LDR	0.032	23.1	Normal	30.0	15	0.30	0.050	Low	0.062
S143	DESERT	0.072	52.1	Normal	50.0		0.35	0.030	Low	0.057
	LDR	0.066	47.9	Normal	30.0	15	0.30	0.050	Low	0.058
S144	DESERT	0.069	45.2	Normal	50.0		0.35	0.030	Low	0.057
	LDR	0.083	54.8	Normal	30.0	15	0.30	0.050	Low	0.056
S145	DESERT	0.204	100.0	Normal	50.0		0.35	0.030	Low	0.051
S147	DESERT	0.663	98.6	Normal	50.0		0.35	0.030	Low	0.044
	LDR	0.010	1.4	Normal	30.0	15	0.30	0.050	Low	0.069
S150	DESERT	0.011	100.0	Normal	50.0		0.35	0.030	Low	0.068
S151	DESERT	0.017	100.0	Normal	50.0		0.35	0.030	Low	0.066
S152	DESERT	0.087	100.0	Normal	50.0		0.35	0.030	Low	0.056
S153	DESERT	0.011	96.6	Normal	50.0		0.35	0.030	Low	0.068

* Custom Value (not default value)

Land Use Data

Sub Basin ID	Land Use Code	Area	Area Pct (%)	DTHETA Condition	Vegetation Cover (%)	RTIMP (%)	IA (in)	Kn	Kb Type	Kb
Major Basin:	**01**									
S153	VLDR	0.000	3.4	Normal	20.0	5	0.30	0.050	Low	0.088
S200	DESERT	0.579	100.0	Normal	50.0		0.35	0.030	Low	0.045
S201	DESERT	0.793	100.0	Normal	50.0		0.35	0.030	Low	0.043
S203	DESERT	0.164	97.8	Normal	50.0		0.35	0.030	Low	0.052
	ELDR	0.004	2.2	Normal	40.0	3	0.35		Low	0.075
S204	DESERT	0.292	97.9	Normal	50.0		0.35	0.030	Low	0.049
	ELDR	0.006	2.1	Normal	40.0	3	0.35		Low	0.072
S205	DESERT	0.035	85.8	Normal	50.0		0.35	0.030	Low	0.061
	ELDR	0.006	14.2	Normal	40.0	3	0.35		Low	0.072
S206	DESERT	0.143	97.4	Normal	50.0		0.35	0.030	Low	0.053
	ELDR	0.004	2.6	Normal	40.0	3	0.35		Low	0.075
S207	DESERT	0.234	92.9	Normal	50.0		0.35	0.030	Low	0.050
	ELDR	0.017	6.7	Normal	40.0	3	0.35		Low	0.066
	VLDR	0.001	0.4	Normal	20.0	5	0.30	0.050	Low	0.083
S208	DESERT	0.290	94.0	Normal	50.0		0.35	0.030	Low	0.049
	VLDR	0.019	6.0	Normal	20.0	5	0.30	0.050	Low	0.065
S209	DESERT	0.021	31.6	Normal	50.0		0.35	0.030	Low	0.064
	VLDR	0.046	68.4	Normal	20.0	5	0.30	0.050	Low	0.060
S210	DESERT	0.245	78.0	Normal	50.0		0.35	0.030	Low	0.050
	VLDR	0.069	22.0	Normal	20.0	5	0.30	0.050	Low	0.057
S211	DESERT	0.270	100.0	Normal	50.0		0.35	0.030	Low	0.049
S212	DESERT	0.134	73.4	Normal	50.0		0.35	0.030	Low	0.053
	VLDR	0.049	26.6	Normal	20.0	5	0.30	0.050	Low	0.059
S213	DESERT	0.227	93.5	Normal	50.0		0.35	0.030	Low	0.050
	VLDR	0.016	6.5	Normal	20.0	5	0.30	0.050	Low	0.066

* Custom Value (not default value)

Land Use Data

Sub Basin ID	Land Use Code	Area	Area Pct (%)	DTHETA Condition	Vegetation Cover (%)	RTIMP (%)	IA (in)	Kn	Kb Type	Kb
Major Basin:	**01**									
S214	DESERT	0.324	98.8	Normal	50.0		0.35	0.030	Low	0.048
	VLDR	0.004	1.2	Normal	20.0	5	0.30	0.050	Low	0.075
S215	DESERT	0.023	39.3	Normal	50.0		0.35	0.030	Low	0.064
	VLDR	0.035	60.7	Normal	20.0	5	0.30	0.050	Low	0.061
S216	DESERT	0.290	79.4	Normal	50.0		0.35	0.030	Low	0.049
	VLDR	0.075	20.6	Normal	20.0	5	0.30	0.050	Low	0.057
S217	DESERT	0.300	82.7	Normal	50.0		0.35	0.030	Low	0.049
	VLDR	0.063	17.3	Normal	20.0	5	0.30	0.050	Low	0.058
S218	DESERT	0.388	100.0	Normal	50.0		0.35	0.030	Low	0.047
S219	DESERT	0.261	92.0	Normal	50.0		0.35	0.030	Low	0.049
	PARK DEVELOPED	0.023	8.0	Normal	50.0	5	0.30		Low	0.064
S220	DESERT	0.134	79.7	Normal	50.0		0.35	0.030	Low	0.053
	PARK DEVELOPED	0.025	14.9	Normal	50.0	5	0.30		Low	0.063
	VLDR	0.009	5.3	Normal	20.0	5	0.30	0.050	Low	0.070
S221	DESERT	0.082	35.5	Normal	50.0		0.35	0.030	Low	0.056
	PARK DEVELOPED	0.004	1.7	Normal	50.0	5	0.30		Low	0.074
	VLDR	0.146	62.8	Normal	20.0	5	0.30	0.050	Low	0.053
S222	DESERT	0.253	92.9	Normal	50.0		0.35	0.030	Low	0.050
	VLDR	0.019	7.1	Normal	20.0	5	0.30	0.050	Low	0.065
S223	DESERT	0.091	100.0	Normal	50.0		0.35	0.030	Low	0.056
S224	DESERT	0.214	100.0	Normal	50.0		0.35	0.030	Low	0.051
S225	DESERT	0.085	27.0	Normal	50.0		0.35	0.030	Low	0.056
	VLDR	0.230	73.0	Normal	20.0	5	0.30	0.050	Low	0.050
S226	DESERT	0.248	100.0	Normal	50.0		0.35	0.030	Low	0.050
S227	DESERT	0.106	100.0	Normal	50.0		0.35	0.030	Low	0.055

* Custom Value (not default value)

Land Use Data

Sub Basin ID	Land Use Code	Area	Area Pct (%)	DTHETA Condition	Vegetation Cover (%)	RTIMP (%)	IA (in)	Kn	Kb Type	Kb
Major Basin:	**01**									
S228	DESERT	0.225	100.0	Normal	50.0		0.35	0.030	Low	0.050
S300	DESERT	0.475	94.5	Normal	50.0		0.35	0.030	Low	0.046
	PARK DEVELOPED	0.028	5.5	Normal	50.0	5	0.30		Low	0.063
S301	DESERT	0.478	94.7	Normal	50.0		0.35	0.030	Low	0.046
	PARK DEVELOPED	0.027	5.3	Normal	50.0	5	0.30		Low	0.063
S302	DESERT	0.236	98.8	Normal	50.0		0.35	0.030	Low	0.050
	PARK DEVELOPED	0.003	1.2	Normal	50.0	5	0.30		Low	0.076
S303	DESERT	0.120	94.7	Normal	50.0		0.35	0.030	Low	0.054
	VLDR	0.007	5.3	Normal	20.0	5	0.30	0.050	Low	0.071
S304	DESERT	0.132	100.0	Normal	50.0		0.35	0.030	Low	0.053
S305	DESERT	0.208	90.6	Normal	50.0		0.35	0.030	Low	0.051
	VLDR	0.022	9.4	Normal	20.0	5	0.30	0.050	Low	0.064
S306	DESERT	0.042	80.2	Normal	50.0		0.35	0.030	Low	0.060
	VLDR	0.010	19.8	Normal	20.0	5	0.30	0.050	Low	0.069
S307	DESERT	0.162	78.6	Normal	50.0		0.35	0.030	Low	0.052
	VLDR	0.044	21.4	Normal	20.0	5	0.30	0.050	Low	0.060
S308	DESERT	0.466	100.0	Normal	50.0		0.35	0.030	Low	0.046
S309	DESERT	0.182	95.6	Normal	50.0		0.35	0.030	Low	0.052
	VLDR	0.008	4.4	Normal	20.0	5	0.30	0.050	Low	0.070
S310	DESERT	0.506	91.4	Normal	50.0		0.35	0.030	Low	0.045
	LDR	0.000		Normal	30.0	15	0.30	0.050	Low	0.096
	VLDR	0.048	8.6	Normal	20.0	5	0.30	0.050	Low	0.060
S311	DESERT	0.077	100.0	Normal	50.0		0.35	0.030	Low	0.057
S312	DESERT	0.140	100.0	Normal	50.0		0.35	0.030	Low	0.053
S313	DESERT	0.049	100.0	Normal	50.0		0.35	0.030	Low	0.059

* Custom Value (not default value)

Land Use Data

Sub Basin ID	Land Use Code	Area	Area Pct (%)	DTHETA Condition	Vegetation Cover (%)	RTIMP (%)	IA (in)	Kn	Kb Type	Kb
Major Basin:	**01**									
S314	DESERT	0.089	100.0	Normal	50.0		0.35	0.030	Low	0.056
S315	DESERT	0.175	73.2	Normal	50.0		0.35	0.030	Low	0.052
	PARK DEVELOPED	0.021	8.7	Normal	50.0	5	0.30		Low	0.065
	VLDR	0.043	18.1	Normal	20.0	5	0.30	0.050	Low	0.060
S316	DESERT	0.108	48.1	Normal	50.0		0.35	0.030	Low	0.055
	PARK DEVELOPED	0.051	22.8	Normal	50.0	5	0.30		Low	0.059
	VLDR	0.065	29.1	Normal	20.0	5	0.30	0.050	Low	0.058
S317	DESERT	0.580	96.3	Normal	50.0		0.35	0.030	Low	0.045
	VLDR	0.022	3.7	Normal	20.0	5	0.30	0.050	Low	0.064
S318	DESERT	0.157	100.0	Normal	50.0		0.35	0.030	Low	0.052
S319	DESERT	0.886	100.0	Normal	50.0		0.35	0.030	Low	0.042
S400	DESERT	1.677	100.0	Normal	50.0		0.35	0.030	Low	0.038
S500	DESERT	0.019	47.7	Normal	50.0		0.35	0.030	Low	0.065
	VLDR	0.021	52.3	Normal	20.0	5	0.30	0.050	Low	0.065

* Custom Value (not default value)

Land Use Data

Sub Basin ID	Land Use Code	Area	Area Pct (%)	DTHETA Condition	Vegetation Cover (%)	RTIMP (%)	IA (in)	Kn	Kb Type	Kb
Major Basin:	**01**									
FLO2D	COMM	0.024	0.7	Normal	10.0	80	0.10	0.020	Min	0.033
	DESERT	0.203	6.3	Normal	50.0		0.35	0.030	Low	0.051
	SCHOOL	0.101	3.1	Normal	30.0	20	0.30		Low	0.055
	VLDR	2.903	89.8	Normal	20.0	5	0.30	0.050	Low	0.035
S100	DESERT	0.240	70.6	Normal	50.0		0.35	0.030	Low	0.050
	VLDR	0.100	29.4	Normal	20.0	5	0.30	0.050	Low	0.055
S101	VLDR	0.298	100.0	Normal	20.0	5	0.30	0.050	Low	0.049
S102	DESERT	0.226	75.7	Normal	50.0		0.35	0.030	Low	0.050
	VLDR	0.073	24.3	Normal	20.0	5	0.30	0.050	Low	0.057
S103	VLDR	0.139	100.0	Normal	20.0	5	0.30	0.050	Low	0.053
S104	VLDR	0.082	100.0	Normal	20.0	5	0.30	0.050	Low	0.056
S105	VLDR	0.162	100.0	Normal	20.0	5	0.30	0.050	Low	0.052
S106	VLDR	0.107	100.0	Normal	20.0	5	0.30	0.050	Low	0.055
S107	VLDR	0.186	100.0	Normal	20.0	5	0.30	0.050	Low	0.051
S108	DESERT	0.117	35.6	Normal	50.0		0.35	0.030	Low	0.054
	VLDR	0.212	64.4	Normal	20.0	5	0.30	0.050	Low	0.051
S109	VLDR	0.366	100.0	Normal	20.0	5	0.30	0.050	Low	0.047
S110	DESERT	0.095	72.0	Normal	50.0		0.35	0.030	Low	0.055
	VLDR	0.037	28.0	Normal	20.0	5	0.30	0.050	Low	0.061
S111	DESERT	0.109	44.1	Normal	50.0		0.35	0.030	Low	0.055
	ELDR	0.017	6.7	Normal	40.0	3	0.35		Low	0.066
	VLDR	0.122	49.3	Normal	20.0	5	0.30	0.050	Low	0.054
S112	DESERT	0.093	16.4	Normal	50.0		0.35	0.030	Low	0.056
	VLDR	0.474	83.6	Normal	20.0	5	0.30	0.050	Low	0.046
S113	ELDR	0.047	42.4	Normal	40.0	3	0.35		Low	0.060

* Custom Value (not default value)

Land Use Data

Sub Basin ID	Land Use Code	Area	Area Pct (%)	DTHETA Condition	Vegetation Cover (%)	RTIMP (%)	IA (in)	Kn	Kb Type	Kb
Major Basin:	**01**									
S113	VLDR	0.064	57.6	Normal	20.0	5	0.30	0.050	Low	0.058
S114	ELDR	0.006	5.1	Normal	40.0	3	0.35		Low	0.072
	VLDR	0.104	94.9	Normal	20.0	5	0.30	0.050	Low	0.055
S115	VLDR	0.155	100.0	Normal	20.0	5	0.30	0.050	Low	0.053
S116	VLDR	0.224	100.0	Normal	20.0	5	0.30	0.050	Low	0.050
S117	VLDR	0.232	100.0	Normal	20.0	5	0.30	0.050	Low	0.050
S118	ELDR	0.014	11.0	Normal	40.0	3	0.35		Low	0.067
	VLDR	0.110	89.0	Normal	20.0	5	0.30	0.050	Low	0.055
S119	VLDR	0.312	100.0	Normal	20.0	5	0.30	0.050	Low	0.048
S120	VLDR	0.277	100.0	Normal	20.0	5	0.30	0.050	Low	0.049
S121	COMM	0.007	2.2	Normal	10.0	80	0.10	0.020	Min	0.036
	LDR	0.009	3.0	Normal	30.0	15	0.30	0.050	Low	0.069
	VLDR	0.300	94.8	Normal	20.0	5	0.30	0.050	Low	0.049
S122	DESERT	0.085	53.7	Normal	50.0		0.35	0.030	Low	0.056
	LDR	0.071	45.0	Normal	30.0	15	0.30	0.050	Low	0.057
	VLDR	0.002	1.3	Normal	20.0	5	0.30	0.050	Low	0.079
S123	DESERT	0.019	14.3	Normal	50.0		0.35	0.030	Low	0.065
	LDR	0.115	85.7	Normal	30.0	15	0.30	0.050	Low	0.054
S124	DESERT	0.002	3.9	Normal	50.0		0.35	0.030	Low	0.078
	LDR	0.056	96.1	Normal	30.0	15	0.30	0.050	Low	0.059
S125	COMM	0.012	8.1	Normal	10.0	80	0.10	0.020	Min	0.034
	LDR	0.138	91.3	Normal	30.0	15	0.30	0.050	Low	0.053
	VLDR	0.001	0.6	Normal	20.0	5	0.30	0.050	Low	0.083
S126	LDR	0.131	100.0	Normal	30.0	15	0.30	0.050	Low	0.054
S127	LDR	0.091	99.5	Normal	30.0	15	0.30	0.050	Low	0.056

* Custom Value (not default value)

Sub Basin ID	Land Use Code	Area	Area Pct (%)	DTHETA Condition	Vegetation Cover (%)	RTIMP (%)	IA (in)	Kn	Kb Type	Kb
Major Basin:	**01**									
S127	VLDR	0.001	0.5	Normal	20.0	5	0.30	0.050	Low	0.087
S128	LDR	0.116	100.0	Normal	30.0	15	0.30	0.050	Low	0.054
S129	LDR	0.122	99.9	Normal	30.0	15	0.30	0.050	Low	0.054
	VLDR	0.000	0.1	Normal	20.0	5	0.30	0.050	Low	0.096
S130	VLDR	0.052	100.0	Normal	20.0	5	0.30	0.050	Low	0.059
S131	VLDR	0.108	100.0	Normal	20.0	5	0.30	0.050	Low	0.055
S132	VLDR	0.145	100.0	Normal	20.0	5	0.30	0.050	Low	0.053
S133	VLDR	0.100	100.0	Normal	20.0	5	0.30	0.050	Low	0.055
S134	LDR	0.073	99.2	Normal	30.0	15	0.30	0.050	Low	0.057
	VLDR	0.001	0.8	Normal	20.0	5	0.30	0.050	Low	0.086
S135	LDR	0.068	100.0	Normal	30.0	15	0.30	0.050	Low	0.058
S136	LDR	0.078	100.0	Normal	30.0	15	0.30	0.050	Low	0.057
S137	VLDR	0.084	100.0	Normal	20.0	5	0.30	0.050	Low	0.056
S138	VLDR	0.266	100.0	Normal	20.0	5	0.30	0.050	Low	0.049
S139	LDR	0.069	99.6	Normal	30.0	15	0.30	0.050	Low	0.057
	VLDR	0.000	0.4	Normal	20.0	5	0.30	0.050	Low	0.090
S140	VLDR	0.249	100.0	Normal	20.0	5	0.30	0.050	Low	0.050
S141	LDR	0.102	99.8	Normal	30.0	15	0.30	0.050	Low	0.055
	VLDR	0.000	0.2	Normal	20.0	5	0.30	0.050	Low	0.092
S142	LDR	0.139	100.0	Normal	30.0	15	0.30	0.050	Low	0.053
S143	DESERT	0.007	5.0	Normal	50.0		0.35	0.030	Low	0.071
	LDR	0.110	80.1	Normal	30.0	15	0.30	0.050	Low	0.055
	VLDR	0.021	14.9	Normal	20.0	5	0.30	0.050	Low	0.065
S144	LDR	0.148	97.2	Normal	30.0	15	0.30	0.050	Low	0.053

* Custom Value (not default value)

Land Use Data

Sub Basin ID	Land Use Code	Area	Area Pct (%)	DTHETA Condition	Vegetation Cover (%)	RTIMP (%)	IA (in)	Kn	Kb Type	Kb
Major Basin:	**01**									
S144	VLDR	0.004	2.8	Normal	20.0	5	0.30	0.050	Low	0.074
S145	LDR	0.171	83.9	Normal	30.0	15	0.30	0.050	Low	0.052
	VLDR	0.033	16.1	Normal	20.0	5	0.30	0.050	Low	0.062
S147	DESERT	0.031	4.6	Normal	50.0		0.35	0.030	Low	0.062
	LDR	0.035	5.2	Normal	30.0	15	0.30	0.050	Low	0.061
	VLDR	0.607	90.2	Normal	20.0	5	0.30	0.050	Low	0.044
S150	DESERT	0.011	100.0	Normal	50.0		0.35	0.030	Low	0.068
S151	DESERT	0.017	100.0	Normal	50.0		0.35	0.030	Low	0.066
S152	DESERT	0.087	100.0	Normal	50.0		0.35	0.030	Low	0.056
S153	DESERT	0.004	37.1	Normal	50.0		0.35	0.030	Low	0.074
	LDR	0.007	62.1	Normal	30.0	15	0.30	0.050	Low	0.071
	VLDR	0.000	0.9	Normal	20.0	5	0.30	0.050	Low	0.096
S200	ELDR	0.579	100.0	Normal	40.0	3	0.35		Low	0.045
S201	DESERT	0.489	61.7	Normal	50.0		0.35	0.030	Low	0.046
	ELDR	0.304	38.3	Normal	40.0	3	0.35		Low	0.049
S203	ELDR	0.167	100.0	Normal	40.0	3	0.35		Low	0.052
S204	ELDR	0.298	100.0	Normal	40.0	3	0.35		Low	0.049
S205	ELDR	0.041	100.0	Normal	40.0	3	0.35		Low	0.061
S206	ELDR	0.147	100.0	Normal	40.0	3	0.35		Low	0.053
S207	DESERT	0.028	11.0	Normal	50.0		0.35	0.030	Low	0.063
	ELDR	0.223	88.7	Normal	40.0	3	0.35		Low	0.050
	VLDR	0.001	0.4	Normal	20.0	5	0.30	0.050	Low	0.083
S208	DESERT	0.028	9.2	Normal	50.0		0.35	0.030	Low	0.063
	ELDR	0.246	79.9	Normal	40.0	3	0.35		Low	0.050
	VLDR	0.034	11.0	Normal	20.0	5	0.30	0.050	Low	0.062

* Custom Value (not default value)

Land Use Data

Sub Basin ID	Land Use Code	Area	Area Pct (%)	DTHETA Condition	Vegetation Cover (%)	RTIMP (%)	IA (in)	Kn	Kb Type	Kb
Major Basin:	**01**									
S209	ELDR	0.007	10.7	Normal	40.0	3	0.35		Low	0.071
	VLDR	0.060	89.3	Normal	20.0	5	0.30	0.050	Low	0.058
S210	DESERT	0.084	26.6	Normal	50.0		0.35	0.030	Low	0.056
	ELDR	0.114	36.3	Normal	40.0	3	0.35		Low	0.054
	VLDR	0.117	37.1	Normal	20.0	5	0.30	0.050	Low	0.054
S211	DESERT	0.270	100.0	Normal	50.0		0.35	0.030	Low	0.049
S212	DESERT	0.077	42.3	Normal	50.0		0.35	0.030	Low	0.057
	ELDR	0.007	3.7	Normal	40.0	3	0.35		Low	0.071
	VLDR	0.098	54.0	Normal	20.0	5	0.30	0.050	Low	0.055
S213	DESERT	0.150	61.9	Normal	50.0		0.35	0.030	Low	0.053
	VLDR	0.093	38.1	Normal	20.0	5	0.30	0.050	Low	0.056
S214	DESERT	0.272	82.8	Normal	50.0		0.35	0.030	Low	0.049
	VLDR	0.057	17.2	Normal	20.0	5	0.30	0.050	Low	0.059
S215	VLDR	0.058	100.0	Normal	20.0	5	0.30	0.050	Low	0.058
S216	DESERT	0.005	1.4	Normal	50.0		0.35	0.030	Low	0.073
	ELDR	0.243	66.5	Normal	40.0	3	0.35		Low	0.050
	VLDR	0.117	32.1	Normal	20.0	5	0.30	0.050	Low	0.054
S217	ELDR	0.266	73.3	Normal	40.0	3	0.35		Low	0.049
	VLDR	0.097	26.7	Normal	20.0	5	0.30	0.050	Low	0.055
S218	DESERT	0.277	71.4	Normal	50.0		0.35	0.030	Low	0.049
	ELDR	0.111	28.6	Normal	40.0	3	0.35		Low	0.055
S219	DESERT	0.116	40.8	Normal	50.0		0.35	0.030	Low	0.054
	ELDR	0.139	49.2	Normal	40.0	3	0.35		Low	0.053
	PARK DEVELOPED	0.023	8.0	Normal	50.0	5	0.30		Low	0.064
	VLDR	0.006	2.0	Normal	20.0	5	0.30	0.050	Low	0.072
S220	ELDR	0.116	68.9	Normal	40.0	3	0.35		Low	0.054

* Custom Value (not default value)

Sub Basin ID	Land Use Code	Area	Area Pct (%)	DTHETA Condition	Vegetation Cover (%)	RTIMP (%)	IA (in)	Kn	Kb Type	Kb
Major Basin:	**01**									
	PARK DEVELOPED	0.025	14.6	Normal	50.0	5	0.30		Low	0.064
	VLDR	0.028	16.5	Normal	20.0	5	0.30	0.050	Low	0.063
S221	ELDR	0.000	0.1	Normal	40.0	3	0.35		Low	0.092
	PARK DEVELOPED	0.004	1.7	Normal	50.0	5	0.30		Low	0.074
	VLDR	0.228	98.2	Normal	20.0	5	0.30	0.050	Low	0.050
S222	VLDR	0.272	100.0	Normal	20.0	5	0.30	0.050	Low	0.049
S223	VLDR	0.091	100.0	Normal	20.0	5	0.30	0.050	Low	0.056
S224	VLDR	0.214	100.0	Normal	20.0	5	0.30	0.050	Low	0.051
S225	ELDR	0.040	12.7	Normal	40.0	3	0.35		Low	0.061
	VLDR	0.275	87.3	Normal	20.0	5	0.30	0.050	Low	0.049
S226	VLDR	0.248	100.0	Normal	20.0	5	0.30	0.050	Low	0.050
S227	LDR	0.001	1.3	Normal	30.0	15	0.30	0.050	Low	0.081
	VLDR	0.104	98.7	Normal	20.0	5	0.30	0.050	Low	0.055
S228	VLDR	0.225	100.0	Normal	20.0	5	0.30	0.050	Low	0.050
S300	DESERT	0.452	89.9	Normal	50.0		0.35	0.030	Low	0.046
	ELDR	0.023	4.6	Normal	40.0	3	0.35		Low	0.064
	PARK DEVELOPED	0.028	5.5	Normal	50.0	5	0.30		Low	0.063
S301	DESERT	0.387	76.7	Normal	50.0		0.35	0.030	Low	0.047
	ELDR	0.091	18.0	Normal	40.0	3	0.35		Low	0.056
	PARK DEVELOPED	0.027	5.3	Normal	50.0	5	0.30		Low	0.063
S302	DESERT	0.044	18.6	Normal	50.0		0.35	0.030	Low	0.060
	ELDR	0.192	80.2	Normal	40.0	3	0.35		Low	0.051
	PARK DEVELOPED	0.003	1.2	Normal	50.0	5	0.30		Low	0.076
S303	DESERT	0.007	5.4	Normal	50.0		0.35	0.030	Low	0.071
	ELDR	0.120	94.6	Normal	40.0	3	0.35		Low	0.054

* Custom Value (not default value)

Land Use Data

Sub Basin ID	Land Use Code	Area	Area Pct (%)	DTHETA Condition	Vegetation Cover (%)	RTIMP (%)	IA (in)	Kn	Kb Type	Kb
Major Basin: 01										
S304	DESERT	0.036	26.8	Normal	50.0		0.35	0.030	Low	0.061
	ELDR	0.085	64.5	Normal	40.0	3	0.35		Low	0.056
	VLDR	0.012	8.7	Normal	20.0	5	0.30	0.050	Low	0.068
S305	DESERT	0.026	11.4	Normal	50.0		0.35	0.030	Low	0.063
	ELDR	0.204	88.6	Normal	40.0	3	0.35		Low	0.051
S306	DESERT	0.003	5.0	Normal	50.0		0.35	0.030	Low	0.077
	ELDR	0.050	95.0	Normal	40.0	3	0.35		Low	0.059
S307	DESERT	0.034	16.4	Normal	50.0		0.35	0.030	Low	0.062
	ELDR	0.172	83.6	Normal	40.0	3	0.35		Low	0.052
S308	DESERT	0.406	87.2	Normal	50.0		0.35	0.030	Low	0.047
	ELDR	0.060	12.8	Normal	40.0	3	0.35		Low	0.058
S309	DESERT	0.033	17.6	Normal	50.0		0.35	0.030	Low	0.062
	ELDR	0.157	82.4	Normal	40.0	3	0.35		Low	0.052
S310	DESERT	0.029	5.2	Normal	50.0		0.35	0.030	Low	0.063
	ELDR	0.410	74.1	Normal	40.0	3	0.35		Low	0.047
	LDR	0.005	0.9	Normal	30.0	15	0.30	0.050	Low	0.073
	VLDR	0.110	19.8	Normal	20.0	5	0.30	0.050	Low	0.055
S311	VLDR	0.077	100.0	Normal	20.0	5	0.30	0.050	Low	0.057
S312	DESERT	0.020	14.4	Normal	50.0		0.35	0.030	Low	0.065
	ELDR	0.024	17.0	Normal	40.0	3	0.35		Low	0.064
	VLDR	0.096	68.6	Normal	20.0	5	0.30	0.050	Low	0.055
S313	LDR	0.000	0.6	Normal	30.0	15	0.30	0.050	Low	0.090
	VLDR	0.049	99.4	Normal	20.0	5	0.30	0.050	Low	0.059
S314	DESERT	0.025	27.8	Normal	50.0		0.35	0.030	Low	0.063
	VLDR	0.064	72.2	Normal	20.0	5	0.30	0.050	Low	0.058
S315	DESERT	0.097	40.6	Normal	50.0		0.35	0.030	Low	0.055

* Custom Value (not default value)

Land Use Data

Sub Basin ID	Land Use Code	Area	Area Pct (%)	DTHETA Condition	Vegetation Cover (%)	RTIMP (%)	IA (in)	Kn	Kb Type	Kb
Major Basin:	**01**									
S315	ELDR	0.121	50.7	Normal	40.0	3	0.35		Low	0.054
	PARK DEVELOPED	0.021	8.7	Normal	50.0	5	0.30		Low	0.065
S316	DESERT	0.001	0.2	Normal	50.0		0.35	0.030	Low	0.087
	ELDR	0.105	46.8	Normal	40.0	3	0.35		Low	0.055
	PARK DEVELOPED	0.051	22.8	Normal	50.0	5	0.30		Low	0.059
	VLDR	0.068	30.2	Normal	20.0	5	0.30	0.050	Low	0.058
S317	ELDR	0.192	31.9	Normal	40.0	3	0.35		Low	0.051
	VLDR	0.411	68.1	Normal	20.0	5	0.30	0.050	Low	0.047
S318	VLDR	0.157	100.0	Normal	20.0	5	0.30	0.050	Low	0.052
S319	LDR	0.212	23.9	Normal	30.0	15	0.30	0.050	Low	0.051
	VLDR	0.675	76.1	Normal	20.0	5	0.30	0.050	Low	0.044
S400	DESERT	0.023	1.4	Normal	50.0		0.35	0.030	Low	0.064
	LDR	0.634	37.8	Normal	30.0	15	0.30	0.050	Low	0.044
	VLDR	1.020	60.9	Normal	20.0	5	0.30	0.050	Low	0.041
S500	VLDR	0.039	100.0	Normal	20.0	5	0.30	0.050	Low	0.061

D.4. Subbasin Unit Hydrograph Data

(DDMSW Report Output)

Sub Basin Data

4/21/2003

Basin: 01 | Storms: Multiple | Duration: 6 Hour | Loss Method: Green-Ampt | Unit Hydrograph: Clark

Sub Basin ID	Sub Basin Parameters: Area (sq mi)	Length (mi)	Slope (ft/mi)	Adj Slope	Time-Area	Kb	Rainfall Losses: IA (in)	DTHETA	PSIF (in)	XKSAT (in/hr)	RTIMP (%)		Return Period (Years): 2	5	10	25	50	100
FLO2D	3.23	4.01	61.6	61.6	Urban	0.037	0.30	0.15	8.80	0.06	6	**Tc (hrs)**	1.50	1.31	1.14	1.00	0.93	0.87
												Vel (f/s)	3.92	4.50	5.15	5.86	6.36	6.78
												R (hrs)	0.90	0.78	0.67	0.58	0.53	0.49
S100	0.34	1.33	592.6	314.0	Natural	0.051	0.34	0.15	7.30	0.12	26	**Tc (hrs)**	0.41	0.33	0.30	0.27	0.25	0.24
												Vel (f/s)	4.78	5.93	6.50	7.20	7.68	8.06
												R (hrs)	0.32	0.25	0.23	0.20	0.19	0.18
S101	0.30	1.35	140.3	140.3	Natural	0.049	0.30	0.15	9.70	0.04	6	**Tc (hrs)**	0.54	0.44	0.40	0.36	0.34	0.32
												Vel (f/s)	3.65	4.48	4.95	5.45	5.79	6.17
												R (hrs)	0.48	0.38	0.34	0.30	0.29	0.27
S102	0.30	0.93	739.7	315.0	Natural	0.052	0.34	0.15	7.00	0.13	23	**Tc (hrs)**	0.32	0.26	0.24	0.23	0.21	0.20
												Vel (f/s)	4.25	5.19	5.64	6.06	6.40	6.69
												R (hrs)	0.20	0.16	0.14	0.13	0.13	0.12
S103	0.14	0.83	203.6	204.0	Natural	0.053	0.30	0.15	7.00	0.11	6	**Tc (hrs)**	0.36	0.30	0.27	0.25	0.23	0.22
												Vel (f/s)	3.35	4.11	4.49	4.95	5.22	5.51
												R (hrs)	0.32	0.25	0.23	0.21	0.20	0.18
S104	0.08	0.64	158.4	158.4	HEC-1 Default	0.056	0.30	0.15	8.80	0.06	8	**Tc (hrs)**	0.34	0.28	0.26	0.24	0.23	0.22
												Vel (f/s)	2.78	3.36	3.64	3.94	4.17	4.33
												R (hrs)	0.32	0.26	0.24	0.22	0.21	0.20
S105	0.16	1.09	106.0	106.0	HEC-1 Default	0.052	0.30	0.05	12.40	0.01	5	**Tc (hrs)**	0.50	0.43	0.40	0.36	0.34	0.32
												Vel (f/s)	3.22	3.76	4.04	4.47	4.73	4.98
												R (hrs)	0.51	0.43	0.40	0.36	0.34	0.32
S106	0.11	0.90	90.7	90.7	HEC-1 Default	0.055	0.30	0.05	12.40	0.01	5	**Tc (hrs)**	0.48	0.42	0.38	0.35	0.33	0.31
												Vel (f/s)	2.73	3.17	3.45	3.77	4.01	4.22
												R (hrs)	0.54	0.46	0.42	0.38	0.35	0.33
S107	0.19	1.03	57.3	57.3	Urban	0.051	0.30	0.10	11.20	0.02	5	**Tc (hrs)**	0.65	0.53	0.49	0.44	0.42	0.39
												Vel (f/s)	2.34	2.86	3.10	3.42	3.62	3.85

* Non default value

Sub Basin Data

Basin: 01 Storms: Multiple Duration: 6 Hour Loss Method: Green-Ampt Unit Hydrograph: Clark

Sub Basin ID	Sub Basin Parameters: Area (sq mi)	Length (mi)	Slope (ft/mi)	Adj Slope	Time-Area	Kb	Rainfall Losses: IA (in)	DTHETA	PSIF (in)	XKSAT (in/hr)	RTIMP (%)		Return Period (Years): 2	5	10	25	50	100
												R (hrs)	0.61	0.49	0.45	0.40	0.37	0.35
S108	0.33	0.90	404.2	297.0	Natural	0.052	0.32	0.15	8.80	0.06	15	**Tc (hrs)**	0.30	0.26	0.24	0.22	0.21	0.20
												Vel (f/s)	4.34	5.12	5.45	5.97	6.20	6.47
												R (hrs)	0.17	0.14	0.13	0.12	0.12	0.11
S109	0.37	1.36	122.4	122.4	Natural	0.047	0.30	0.15	8.40	0.07	5	**Tc (hrs)**	0.60	0.47	0.42	0.38	0.35	0.33
												Vel (f/s)	3.35	4.27	4.74	5.26	5.63	5.99
												R (hrs)	0.47	0.36	0.32	0.29	0.27	0.25
S110	0.13	0.86	493.0	302.0	Natural	0.057	0.34	0.19	6.60	0.16	21	**Tc (hrs)**	0.35	0.28	0.25	0.23	0.22	0.21
												Vel (f/s)	3.65	4.59	5.05	5.51	5.71	6.06
												R (hrs)	0.32	0.25	0.22	0.20	0.20	0.18
S111	0.25	1.04	430.0	298.0	Natural	0.055	0.33	0.15	8.00	0.09	10	**Tc (hrs)**	0.37	0.30	0.28	0.25	0.24	0.23
												Vel (f/s)	4.11	5.08	5.55	6.20	6.41	6.78
												R (hrs)	0.28	0.22	0.20	0.18	0.17	0.16
S112	0.57	1.88	267.8	250.0	Natural	0.048	0.31	0.15	8.40	0.07	8	**Tc (hrs)**	0.56	0.45	0.40	0.36	0.34	0.32
												Vel (f/s)	4.94	6.18	6.89	7.70	8.16	8.70
												R (hrs)	0.44	0.35	0.31	0.27	0.25	0.24
S113	0.11	0.95	125.8	125.8	HEC-1 Default	0.059	0.32	0.23	6.20	0.17	4	**Tc (hrs)**	0.65	0.48	0.42	0.36	0.33	0.31
												Vel (f/s)	2.14	2.91	3.34	3.89	4.18	4.45
												R (hrs)	0.78	0.55	0.47	0.40	0.37	0.34
S114	0.11	0.71	84.9	84.9	HEC-1 Default	0.056	0.30	0.15	8.00	0.08	5	**Tc (hrs)**	0.50	0.40	0.36	0.32	0.30	0.28
												Vel (f/s)	2.08	2.63	2.91	3.24	3.47	3.68
												R (hrs)	0.46	0.36	0.32	0.28	0.26	0.25
S115	0.16	1.09	77.0	77.0	HEC-1 Default	0.053	0.30	0.13	10.10	0.03	5	**Tc (hrs)**	0.63	0.51	0.47	0.42	0.40	0.37
												Vel (f/s)	2.56	3.15	3.42	3.80	4.04	4.31
												R (hrs)	0.68	0.54	0.49	0.44	0.41	0.38

Sub Basin Data

Basin: 01 Storms: Multiple Duration: 6 Hour Loss Method: Green-Ampt Unit Hydrograph: Clark

Sub Basin ID	Sub Basin Parameters: Area (sq mi)	Length (mi)	Slope (ft/mi)	Adj Slope	Time-Area	Kb	Rainfall Losses: IA (in)	DTHETA	PSIF (in)	XKSAT (in/hr)	RTIMP (%)		Return Period (Years): 2	5	10	25	50	100
S116	0.22	1.27	50.6	50.6	HEC-1 Default	0.050	0.30	0.25	5.40	0.21	5	**Tc (hrs)**	1.14	0.85	0.72	0.60	0.54	0.50
												Vel (f/s)	1.63	2.20	2.60	3.10	3.44	3.73
												R (hrs)	1.22	0.87	0.73	0.60	0.53	0.49
S117	0.23	1.25	71.8	71.8	HEC-1 Default	0.050	0.30	0.13	10.10	0.03	5	**Tc (hrs)**	0.68	0.55	0.50	0.45	0.43	0.40
												Vel (f/s)	2.68	3.31	3.64	4.04	4.27	4.54
												R (hrs)	0.67	0.53	0.48	0.42	0.40	0.37
S118	0.12	1.09	65.1	65.1	HEC-1 Default	0.056	0.31	0.05	12.40	0.01	5	**Tc (hrs)**	0.65	0.55	0.50	0.46	0.43	0.41
												Vel (f/s)	2.46	2.93	3.17	3.49	3.69	3.92
												R (hrs)	0.81	0.67	0.61	0.55	0.52	0.48
S119	0.31	1.59	69.4	69.4	HEC-1 Default	0.048	0.30	0.15	8.80	0.06	5	**Tc (hrs)**	0.88	0.68	0.61	0.54	0.50	0.47
												Vel (f/s)	2.64	3.43	3.84	4.33	4.66	4.95
												R (hrs)	0.91	0.68	0.60	0.52	0.48	0.45
S120	0.28	1.51	43.7	43.7	Urban	0.049	0.30	0.15	7.00	0.11	5	**Tc (hrs)**	1.17	0.87	0.75	0.66	0.61	0.57
												Vel (f/s)	1.89	2.54	2.94	3.37	3.64	3.88
												R (hrs)	1.27	0.92	0.78	0.67	0.62	0.57
S121	0.32	1.96	45.9	45.9	HEC-1 Default	0.049	0.30	0.15	7.30	0.10	7	**Tc (hrs)**	1.38	1.03	0.90	1.50	0.71	0.67
												Vel (f/s)	2.09	2.79	3.21	1.85	4.03	4.31
												R (hrs)	1.74	1.26	1.08	2.00	0.84	0.78
S122	0.16	0.96	119.9	119.9	Natural	0.057	0.33	0.15	7.30	0.12	16	**Tc (hrs)**	0.56	0.44	0.39	0.35	0.33	0.31
												Vel (f/s)	2.52	3.21	3.59	4.02	4.33	4.57
												R (hrs)	0.54	0.41	0.36	0.32	0.29	0.28
S123	0.14	0.83	226.4	223.0	Natural	0.056	0.31	0.15	8.00	0.09	19	**Tc (hrs)**	0.35	0.29	0.27	0.24	0.23	0.22
												Vel (f/s)	3.44	4.17	4.56	5.03	5.22	5.51
												R (hrs)	0.32	0.25	0.23	0.21	0.20	0.19
S124	0.06	0.28	141.8	141.8	Natural	0.060	0.30	0.15	8.80	0.06	20	**Tc (hrs)**	0.22	0.19	0.18	0.17	0.16	0.15
												Vel (f/s)	1.89	2.14	2.29	2.46	2.60	2.67

* Non default value

Sub Basin Data

Basin: 01 Storms: Multiple Duration: 6 Hour Loss Method:Green-Ampt Unit Hydrograph: Clark

Sub Basin ID	Sub Basin Parameters: Area (sq mi)	Length (mi)	Slope (ft/mi)	Adj Slope	Time-Area	Kb	Rainfall Losses: IA (in)	DTHETA	PSIF (in)	XKSAT (in/hr)	RTIMP (%)		Return Period (Years): 2	5	10	25	50	100
												R (hrs)	0.12	0.11	0.10	0.09	0.09	0.08
S125	0.15	0.97	177.1	177.1	Urban	0.052	0.28	0.15	7.30	0.11	22	Tc (hrs)	0.42	0.34	0.31	0.28	0.26	0.25
												Vel (f/s)	3.41	4.21	4.62	5.10	5.41	5.69
												R (hrs)	0.40	0.32	0.29	0.26	0.24	0.23
S126	0.13	0.48	151.3	151.3	Natural	0.054	0.30	0.23	6.20	0.17	28	Tc (hrs)	0.29	0.24	0.23	0.21	0.20	0.19
												Vel (f/s)	2.41	2.91	3.13	3.38	3.59	3.74
												R (hrs)	0.17	0.14	0.13	0.12	0.11	0.10
S127	0.09	0.55	128.2	128.2	HEC-1 Default	0.056	0.30	0.23	6.20	0.17	18	Tc (hrs)	0.37	0.29	0.26	0.24	0.23	0.22
												Vel (f/s)	2.17	2.76	3.07	3.39	3.59	3.72
												R (hrs)	0.30	0.23	0.20	0.18	0.17	0.17
S128	0.12	0.83	322.4	271.0	Natural	0.054	0.30	0.15	7.60	0.10	27	Tc (hrs)	0.31	0.26	0.24	0.23	0.21	0.20
												Vel (f/s)	3.89	4.63	5.03	5.41	5.72	5.97
												R (hrs)	0.30	0.25	0.23	0.21	0.20	0.19
S129	0.12	0.54	433.8	298.0	Natural	0.054	0.30	0.15	7.30	0.11	20	Tc (hrs)	0.23	0.20	0.19	0.18	0.17	0.16
												Vel (f/s)	3.40	3.88	4.13	4.53	4.74	4.86
												R (hrs)	0.15	0.13	0.12	0.11	0.10	0.10
S130	0.05	0.57	52.9	52.9	HEC-1 Default	0.059	0.30	0.21	6.40	0.14	5	Tc (hrs)	0.62	0.46	0.41	0.36	0.34	0.31
												Vel (f/s)	1.35	1.81	2.05	2.34	2.47	2.67
												R (hrs)	0.75	0.54	0.47	0.41	0.38	0.35
S131	0.11	0.87	68.6	68.6	HEC-1 Default	0.055	0.30	0.10	11.20	0.02	5	Tc (hrs)	0.56	0.46	0.43	0.39	0.36	0.35
												Vel (f/s)	2.29	2.76	2.97	3.29	3.52	3.69
												R (hrs)	0.62	0.50	0.46	0.41	0.38	0.36
S132	0.15	0.73	63.4	63.4	HEC-1 Default	0.053	0.30	0.10	11.20	0.02	5	Tc (hrs)	0.50	0.42	0.38	0.35	0.33	0.31
												Vel (f/s)	2.14	2.57	2.80	3.06	3.25	3.48
												R (hrs)	0.40	0.33	0.30	0.27	0.25	0.23

Sub Basin Data

Basin: 01 Storms: Multiple Duration: 6 Hour Loss Method: Green-Ampt Unit Hydrograph: Clark

	Sub Basin Parameters						Rainfall Losses						Return Period (Years)					
Sub Basin ID	Area (sq mi)	Length (mi)	Slope (ft/mi)	Adj Slope	Time-Area	Kb	IA (in)	DTHETA	PSIF (in)	XKSAT (in/hr)	RTIMP (%)		2	5	10	25	50	100
S133	0.10	0.58	60.0	60.0	HEC-1 Default	0.055	0.30	0.15	9.70	0.04	5	**Tc (hrs)**	0.47	0.38	0.35	1.50	0.30	0.28
												Vel (f/s)	1.82	2.22	2.43	0.54	2.87	3.01
												R (hrs)	0.38	0.31	0.28	1.48	0.23	0.22
S134	0.07	0.44	59.5	59.5	Natural	0.057	0.30	0.15	7.30	0.11	15	**Tc (hrs)**	0.42	0.34	0.31	0.28	0.26	0.25
												Vel (f/s)	1.53	1.91	2.10	2.35	2.50	2.62
												R (hrs)	0.33	0.26	0.23	0.20	0.19	0.18
S135	0.07	0.43	331.8	273.0	Natural	0.058	0.30	0.15	8.00	0.08	24	**Tc (hrs)**	0.22	0.19	0.18	0.17	0.16	0.15
												Vel (f/s)	2.91	3.28	3.52	3.78	3.99	4.10
												R (hrs)	0.16	0.14	0.13	0.12	0.11	0.11
S136	0.08	0.50	53.8	53.8	Natural	0.057	0.30	0.25	5.70	0.20	16	**Tc (hrs)**	0.55	0.42	0.37	0.33	0.30	0.28
												Vel (f/s)	1.34	1.74	2.00	2.26	2.44	2.59
												R (hrs)	0.47	0.35	0.30	0.26	0.24	0.22
S137	0.08	0.70	69.0	69.0	HEC-1 Default	0.056	0.30	0.15	9.70	0.04	5	**Tc (hrs)**	0.51	0.42	0.38	0.35	0.32	0.30
												Vel (f/s)	2.00	2.46	2.71	2.97	3.20	3.38
												R (hrs)	0.54	0.43	0.39	0.35	0.32	0.31
S138	0.27	1.67	59.4	59.4	HEC-1 Default	0.049	0.30	0.10	11.20	0.02	5	**Tc (hrs)**	0.89	0.71	0.65	0.59	0.55	0.51
												Vel (f/s)	2.76	3.44	3.77	4.17	4.49	4.77
												R (hrs)	1.04	0.81	0.74	0.66	0.61	0.57
S139	0.07	0.58	63.5	63.5	Natural	0.057	0.30	0.25	4.65	0.32	15	**Tc (hrs)**	0.62	0.46	0.40	0.34	0.32	0.30
												Vel (f/s)	1.38	1.86	2.13	2.49	2.68	2.87
												R (hrs)	0.64	0.46	0.40	0.33	0.31	0.28
S140	0.25	1.33	57.4	57.4	Urban	0.050	0.30	0.10	11.20	0.02	5	**Tc (hrs)**	0.76	0.63	0.58	0.51	0.48	0.45
												Vel (f/s)	2.56	3.12	3.39	3.80	4.04	4.30
												R (hrs)	0.76	0.61	0.56	0.49	0.46	0.43
S141	0.10	0.77	57.4	57.4	HEC-1 Default	0.055	0.30	0.05	12.40	0.01	15	**Tc (hrs)**	0.53	0.45	0.42	0.38	0.36	0.34
												Vel (f/s)	2.15	2.51	2.71	2.98	3.15	3.30

Sub Basin Data

Basin: 01 | Storms: Multiple | Duration: 6 Hour | Loss Method: Green-Ampt | Unit Hydrograph: Clark

	Sub Basin Parameters						Rainfall Losses						Return Period (Years)					
Sub Basin ID	Area (sq mi)	Length (mi)	Slope (ft/mi)	Adj Slope	Time-Area	Kb	IA (in)	DTHETA	PSIF (in)	XKSAT (in/hr)	RTIMP (%)		2	5	10	25	50	100
												R (hrs)	0.54	0.46	0.42	0.38	0.35	0.34
S142	0.14	1.04	245.4	238.0	Natural	0.053	0.30	0.15	7.30	0.11	27	**Tc (hrs)**	0.39	0.32	0.29	0.26	0.25	0.24
												Vel (f/s)	3.93	4.81	5.30	5.80	6.20	6.41
												R (hrs)	0.41	0.33	0.30	0.27	0.25	0.24
S143	0.14	0.62	150.0	150.0	Natural	0.057	0.30	0.15	8.80	0.06	19	**Tc (hrs)**	0.34	0.28	0.26	0.24	0.23	0.22
												Vel (f/s)	2.69	3.21	3.52	3.82	3.97	4.19
												R (hrs)	0.23	0.19	0.17	0.16	0.15	0.14
S144	0.15	0.75	40.3	40.3	HEC-1 Default	0.054	0.30	0.15	8.00	0.08	15	**Tc (hrs)**	0.70	0.55	0.49	0.44	0.41	0.39
												Vel (f/s)	1.57	2.00	2.24	2.49	2.66	2.84
												R (hrs)	0.58	0.44	0.39	0.35	0.32	0.30
S145	0.20	1.06	54.0	54.0	HEC-1 Default	0.054	0.30	0.05	12.40	0.01	13	**Tc (hrs)**	0.67	0.57	0.52	0.47	0.45	0.43
												Vel (f/s)	2.32	2.74	2.98	3.30	3.49	3.66
												R (hrs)	0.62	0.51	0.47	0.42	0.39	0.37
S147	0.67	1.75	141.9	141.9	Natural	0.046	0.30	0.15	7.60	0.09	12	**Tc (hrs)**	0.68	0.54	0.48	0.43	0.40	0.38
												Vel (f/s)	3.76	4.77	5.36	5.98	6.35	6.77
												R (hrs)	0.48	0.36	0.32	0.28	0.27	0.25
S150	0.01	0.19	729.2	315.0	HEC-1 Default	0.068	0.35	0.13	10.10	0.04	2	**Tc (hrs)**	0.15	0.13	0.13	0.12	0.11	0.10
												Vel (f/s)	1.86	2.10	2.23	2.38	2.58	2.68
												R (hrs)	0.16	0.14	0.13	0.12	0.11	0.10
S151	0.02	0.30	748.3	315.0	HEC-1 Default	0.066	0.35	0.15	7.60	0.11	8	**Tc (hrs)**	0.19	0.17	0.15	0.15	0.14	0.13
												Vel (f/s)	2.29	2.63	2.86	3.01	3.19	3.41
												R (hrs)	0.23	0.20	0.18	0.17	0.16	0.15
S152	0.09	0.55	444.4	299.0	Natural	0.056	0.35	0.19	6.60	0.17	5	**Tc (hrs)**	0.26	0.22	0.20	0.18	0.18	0.17
												Vel (f/s)	3.07	3.72	4.03	4.41	4.61	4.83
												R (hrs)	0.21	0.17	0.16	0.14	0.13	0.13

* Non default value

Sub Basin Data

Basin: 01 | Storms: Multiple | Duration: 6 Hour | Loss Method:Green-Ampt | Unit Hydrograph: Clark

	Sub Basin Parameters						Rainfall Losses						Return Period (Years)					
Sub Basin ID	Area (sq mi)	Length (mi)	Slope (ft/mi)	Adj Slope	Time-Area	Kb	IA (in)	DTHETA	PSIF (in)	XKSAT (in/hr)	RTIMP (%)		2	5	10	25	50	100
S153	0.01	0.22	111.6	111.6	HEC-1 Default	0.072	0.32	0.13	10.10	0.04	9	**Tc (hrs)**	0.23	0.20	0.19	0.18	0.17	0.16
												Vel (f/s)	1.41	1.61	1.72	1.84	1.93	2.04
												R (hrs)	0.27	0.23	0.21	0.20	0.19	0.18
S200	0.58	1.91	220.9	218.0	Urban	0.045	0.35	0.15	7.60	0.10	12	**Tc (hrs)**	0.61	0.47	0.42	0.37	0.35	0.33
												Vel (f/s)	4.61	6.00	6.65	7.55	8.00	8.51
												R (hrs)	0.49	0.36	0.32	0.28	0.26	0.25
S201	0.79	1.55	387.9	290.0	Natural	0.047	0.35	0.15	7.00	0.14	29	**Tc (hrs)**	0.48	0.38	0.35	0.31	0.29	0.28
												Vel (f/s)	4.75	5.94	6.57	7.26	7.79	8.27
												R (hrs)	0.27	0.21	0.19	0.17	0.15	0.14
S203	0.17	0.51	455.4	299.0	Natural	0.052	0.35	0.19	6.60	0.16	22	**Tc (hrs)**	0.23	0.20	0.18	0.17	0.16	0.15
												Vel (f/s)	3.27	3.82	4.09	4.37	4.59	4.86
												R (hrs)	0.12	0.10	0.09	0.08	0.08	0.08
S204	0.30	1.09	261.0	246.0	Natural	0.049	0.35	0.15	7.00	0.13	30	**Tc (hrs)**	0.38	0.31	0.28	0.25	0.24	0.23
												Vel (f/s)	4.22	5.19	5.73	6.29	6.61	6.98
												R (hrs)	0.27	0.21	0.19	0.17	0.16	0.15
S205	0.04	0.39	262.8	247.0	Natural	0.061	0.35	0.25	5.70	0.22	4	**Tc (hrs)**	0.26	0.21	0.19	0.18	0.17	0.16
												Vel (f/s)	2.22	2.75	2.98	3.27	3.43	3.62
												R (hrs)	0.24	0.19	0.17	0.16	0.15	0.14
S206	0.15	0.79	693.7	315.0	Natural	0.053	0.35	0.25	5.80	0.21	18	**Tc (hrs)**	0.33	0.25	0.23	0.21	0.20	0.19
												Vel (f/s)	3.52	4.63	4.97	5.44	5.79	6.03
												R (hrs)	0.27	0.20	0.18	0.16	0.15	0.15
S207	0.25	0.90	634.0	315.0	Natural	0.052	0.35	0.25	5.70	0.22	8	**Tc (hrs)**	0.38	0.28	0.25	0.23	0.22	0.20
												Vel (f/s)	3.48	4.73	5.28	5.87	6.08	6.47
												R (hrs)	0.26	0.18	0.16	0.14	0.14	0.13
S208	0.31	0.95	868.9	315.0	Natural	0.053	0.34	0.23	6.20	0.18	19	**Tc (hrs)**	0.36	0.28	0.25	0.23	0.22	0.21
												Vel (f/s)	3.84	4.99	5.49	5.98	6.30	6.70

Sub Basin Data

Basin: 01 Storms: Multiple Duration: 6 Hour Loss Method:Green-Ampt Unit Hydrograph: Clark

Sub Basin ID	Sub Basin Parameters: Area (sq mi)	Length (mi)	Slope (ft/mi)	Adj Slope	Time-Area	Kb	Rainfall Losses: IA (in)	DTHETA	PSIF (in)	XKSAT (in/hr)	RTIMP (%)		Return Period (Years): 2	5	10	25	50	100
												R (hrs)	0.23	0.17	0.15	0.14	0.13	0.12
S209	0.07	0.64	178.8	178.8	Natural	0.059	0.31	0.15	8.00	0.08	5	**Tc (hrs)**	0.34	0.28	0.25	0.24	0.23	0.22
												Vel (f/s)	2.74	3.36	3.70	3.94	4.17	4.33
												R (hrs)	0.37	0.29	0.26	0.25	0.23	0.22
S210	0.32	1.21	519.9	305.0	Natural	0.055	0.33	0.21	6.40	0.16	8	**Tc (hrs)**	0.46	0.35	0.31	0.28	0.26	0.25
												Vel (f/s)	3.83	5.07	5.67	6.45	6.88	7.21
												R (hrs)	0.35	0.26	0.23	0.20	0.19	0.18
S211	0.27	0.72	761.5	315.0	Natural	0.049	0.35	0.17	6.80	0.15	25	**Tc (hrs)**	0.26	0.22	0.21	0.19	0.18	0.18
												Vel (f/s)	4.09	4.78	5.08	5.50	5.77	6.03
												R (hrs)	0.13	0.11	0.11	0.10	0.09	0.09
S212	0.18	1.16	259.7	245.0	Natural	0.056	0.32	0.25	5.70	0.21	3	**Tc (hrs)**	0.56	0.40	0.35	0.30	0.28	0.26
												Vel (f/s)	3.05	4.21	4.86	5.60	6.01	6.47
												R (hrs)	0.58	0.40	0.34	0.29	0.27	0.25
S213	0.24	1.12	628.1	315.0	Natural	0.054	0.33	0.25	6.00	0.19	13	**Tc (hrs)**	0.43	0.33	0.29	0.26	0.24	0.23
												Vel (f/s)	3.79	4.99	5.70	6.37	6.79	7.05
												R (hrs)	0.36	0.26	0.23	0.20	0.19	0.18
S214	0.33	1.43	526.6	306.0	Natural	0.051	0.34	0.17	6.80	0.15	22	**Tc (hrs)**	0.45	0.36	0.32	0.29	0.27	0.25
												Vel (f/s)	4.62	5.86	6.53	7.28	7.74	8.26
												R (hrs)	0.39	0.30	0.26	0.23	0.22	0.20
S215	0.06	0.56	158.6	158.6	Natural	0.058	0.30	0.15	7.60	0.09	5	**Tc (hrs)**	0.32	0.27	0.25	0.23	0.22	0.21
												Vel (f/s)	2.56	3.08	3.34	3.65	3.78	3.95
												R (hrs)	0.33	0.27	0.25	0.23	0.22	0.21
S216	0.37	0.93	302.4	263.0	Natural	0.052	0.33	0.15	7.00	0.12	21	**Tc (hrs)**	0.35	0.28	0.26	0.24	0.23	0.22
												Vel (f/s)	3.94	4.89	5.29	5.73	6.06	6.29
												R (hrs)	0.19	0.15	0.14	0.13	0.12	0.11

Sub Basin Data

Basin: 01 | Storms: Multiple | Duration: 6 Hour | Loss Method: Green-Ampt | Unit Hydrograph: Clark

Sub Basin ID	Sub Basin Parameters: Area (sq mi)	Length (mi)	Slope (ft/mi)	Adj Slope	Time-Area	Kb	Rainfall Losses: IA (in)	DTHETA	PSIF (in)	XKSAT (in/hr)	RTIMP (%)		Return Period (Years): 2	5	10	25	50	100
S217	0.36	1.74	202.2	202.0	Natural	0.051	0.34	0.15	7.60	0.10	13	Tc (hrs)	0.63	0.49	0.43	0.39	0.36	0.34
												Vel (f/s)	4.06	5.23	5.89	6.58	7.13	7.46
												R (hrs)	0.61	0.46	0.41	0.36	0.33	0.31
S218	0.39	0.92	494.6	302.0	Natural	0.051	0.35	0.17	6.80	0.15	27	Tc (hrs)	0.33	0.26	0.24	0.23	0.21	0.20
												Vel (f/s)	4.15	5.13	5.58	6.00	6.33	6.61
												R (hrs)	0.17	0.14	0.12	0.11	0.11	0.10
S219	0.28	1.16	207.0	206.0	Natural	0.055	0.35	0.17	6.80	0.15	25	Tc (hrs)	0.49	0.39	0.35	0.31	0.29	0.27
												Vel (f/s)	3.46	4.38	4.92	5.52	5.91	6.28
												R (hrs)	0.39	0.30	0.26	0.23	0.21	0.20
S220	0.17	1.08	290.2	260.0	Natural	0.057	0.33	0.15	7.60	0.10	16	Tc (hrs)	0.42	0.33	0.30	0.27	0.25	0.25
												Vel (f/s)	3.80	4.76	5.21	5.85	6.24	6.44
												R (hrs)	0.41	0.32	0.29	0.26	0.24	0.23
S221	0.23	1.11	68.5	68.5	HEC-1 Default	0.050	0.30	0.13	10.10	0.03	5	Tc (hrs)	0.64	0.52	0.48	0.43	0.40	0.38
												Vel (f/s)	2.54	3.12	3.43	3.79	4.03	4.30
												R (hrs)	0.57	0.45	0.41	0.36	0.34	0.32
S222	0.27	1.00	52.0	52.0	HEC-1 Default	0.049	0.30	0.13	10.10	0.03	5	Tc (hrs)	0.66	0.54	0.49	0.44	0.42	0.39
												Vel (f/s)	2.21	2.73	3.01	3.32	3.52	3.74
												R (hrs)	0.49	0.39	0.35	0.31	0.29	0.28
S223	0.09	0.61	55.8	55.8	HEC-1 Default	0.056	0.30	0.15	8.80	0.06	5	Tc (hrs)	0.53	0.43	0.38	0.35	0.33	0.30
												Vel (f/s)	1.69	2.11	2.34	2.59	2.75	2.94
												R (hrs)	0.48	0.38	0.34	0.30	0.28	0.26
S224	0.21	0.79	57.9	57.9	Natural	0.051	0.30	0.21	6.40	0.14	5	Tc (hrs)	0.69	0.51	0.45	0.39	0.36	0.34
												Vel (f/s)	1.68	2.26	2.60	2.96	3.19	3.39
												R (hrs)	0.49	0.35	0.30	0.26	0.24	0.22
S225	0.32	1.55	67.0	67.0	HEC-1 Default	0.051	0.31	0.05	12.40	0.01	5	Tc (hrs)	0.77	0.65	0.60	0.54	0.50	0.48
												Vel (f/s)	2.95	3.52	3.81	4.23	4.51	4.79

Sub Basin Data

Basin: 01 | Storms: Multiple | Duration: 6 Hour | Loss Method:Green-Ampt | Unit Hydrograph: Clark

Sub Basin ID	Sub Basin Parameters: Area (sq mi)	Length (mi)	Slope (ft/mi)	Adj Slope	Time-Area	Kb	Rainfall Losses: IA (in)	DTHETA	PSIF (in)	XKSAT (in/hr)	RTIMP (%)		Return Period (Years): 2	5	10	25	50	100
												R (hrs)	0.76	0.63	0.57	0.51	0.48	0.44
S226	0.25	1.09	60.8	60.8	HEC-1 Default	0.050	0.30	0.15	8.80	0.06	5	**Tc (hrs)**	0.72	0.57	0.50	0.45	0.43	0.40
												Vel (f/s)	2.22	2.82	3.17	3.55	3.76	4.00
												R (hrs)	0.61	0.47	0.41	0.36	0.34	0.32
S227	0.11	0.77	51.8	51.8	HEC-1 Default	0.055	0.30	0.10	11.20	0.02	5	**Tc (hrs)**	0.58	0.48	0.44	0.40	0.38	0.35
												Vel (f/s)	1.95	2.36	2.56	2.82	3.01	3.19
												R (hrs)	0.59	0.48	0.44	0.39	0.36	0.34
S228	0.23	1.06	54.7	54.7	HEC-1 Default	0.050	0.30	0.15	9.70	0.04	5	**Tc (hrs)**	0.71	0.57	0.51	0.46	0.43	0.41
												Vel (f/s)	2.18	2.74	3.03	3.39	3.62	3.81
												R (hrs)	0.62	0.48	0.43	0.38	0.36	0.34
S300	0.50	1.64	396.6	295.0	Natural	0.048	0.35	0.17	6.80	0.15	24	**Tc (hrs)**	0.49	0.38	0.35	0.31	0.29	0.27
												Vel (f/s)	4.93	6.28	6.95	7.81	8.35	8.88
												R (hrs)	0.37	0.28	0.25	0.22	0.20	0.19
S301	0.50	1.37	299.3	262.0	Natural	0.049	0.35	0.17	6.80	0.15	23	**Tc (hrs)**	0.46	0.36	0.33	0.29	0.27	0.26
												Vel (f/s)	4.39	5.54	6.18	6.88	7.41	7.79
												R (hrs)	0.30	0.23	0.20	0.18	0.17	0.16
S302	0.24	0.95	184.1	184.1	Natural	0.053	0.35	0.23	6.20	0.18	19	**Tc (hrs)**	0.47	0.36	0.32	0.28	0.26	0.25
												Vel (f/s)	2.98	3.89	4.40	4.92	5.30	5.57
												R (hrs)	0.35	0.26	0.22	0.20	0.18	0.17
S303	0.13	0.64	194.1	194.1	HEC-1 Default	0.055	0.35	0.15	7.60	0.10	9	**Tc (hrs)**	0.32	0.26	0.24	0.22	0.21	0.20
												Vel (f/s)	2.92	3.64	3.88	4.25	4.41	4.60
												R (hrs)	0.24	0.19	0.17	0.16	0.15	0.14
S304	0.13	0.95	80.8	80.8	HEC-1 Default	0.058	0.35	0.25	4.90	0.31	2	**Tc (hrs)**	0.97	0.67	0.56	0.46	0.42	0.38
												Vel (f/s)	1.43	2.09	2.47	3.01	3.34	3.64
												R (hrs)	1.09	0.72	0.60	0.48	0.43	0.39

* Non default value

Sub Basin Data

Basin: 01 | Storms: Multiple | Duration: 6 Hour | Loss Method: Green-Ampt | Unit Hydrograph: Clark

Sub Basin ID	Sub Basin Parameters: Area (sq mi)	Length (mi)	Slope (ft/mi)	Adj Slope	Time-Area	Kb	Rainfall Losses: IA (in)	DTHETA	PSIF (in)	XKSAT (in/hr)	RTIMP (%)		Return Period (Years): 2	5	10	25	50	100
S305	0.23	0.95	603.4	315.0	Natural	0.052	0.35	0.23	6.20	0.18	18	**Tc (hrs)**	0.36	0.28	0.25	0.23	0.22	0.21
												Vel (f/s)	3.89	5.07	5.57	6.08	6.42	6.70
												R (hrs)	0.26	0.20	0.18	0.16	0.15	0.14
S306	0.05	0.59	110.2	110.2	HEC-1 Default	0.060	0.35	0.25	5.00	0.30	3	**Tc (hrs)**	0.58	0.40	0.34	0.29	0.27	0.25
												Vel (f/s)	1.50	2.19	2.56	3.00	3.24	3.46
												R (hrs)	0.71	0.47	0.39	0.33	0.30	0.28
S307	0.21	1.07	606.2	315.0	Natural	0.054	0.35	0.23	6.20	0.18	19	**Tc (hrs)**	0.40	0.31	0.28	0.25	0.24	0.23
												Vel (f/s)	3.88	5.10	5.62	6.28	6.59	6.97
												R (hrs)	0.35	0.26	0.23	0.21	0.20	0.18
S308	0.47	1.21	249.8	240.0	Natural	0.048	0.35	0.23	6.20	0.19	9	**Tc (hrs)**	0.49	0.36	0.32	0.28	0.26	0.25
												Vel (f/s)	3.61	4.89	5.60	6.36	6.75	7.21
												R (hrs)	0.30	0.22	0.19	0.16	0.15	0.14
S309	0.19	1.17	451.4	299.0	Natural	0.054	0.35	0.15	7.00	0.13	9	**Tc (hrs)**	0.42	0.33	0.30	0.27	0.25	0.24
												Vel (f/s)	4.08	5.28	5.80	6.43	6.86	7.21
												R (hrs)	0.41	0.31	0.28	0.25	0.23	0.22
S310	0.55	1.33	90.3	90.3	HEC-1 Default	0.050	0.34	0.10	11.20	0.03	3	**Tc (hrs)**	0.66	0.53	0.48	0.44	0.41	0.39
												Vel (f/s)	2.96	3.66	4.04	4.45	4.72	5.03
												R (hrs)	0.41	0.32	0.29	0.26	0.24	0.23
S311	0.08	0.50	50.0	50.0	HEC-1 Default	0.057	0.30	0.05	12.40	0.01	5	**Tc (hrs)**	0.43	0.37	0.34	0.31	0.29	0.28
												Vel (f/s)	1.71	1.98	2.14	2.34	2.51	2.63
												R (hrs)	0.36	0.31	0.28	0.25	0.24	0.22
S312	0.14	0.73	85.4	85.4	HEC-1 Default	0.058	0.32	0.13	10.10	0.04	4	**Tc (hrs)**	0.50	0.40	0.37	0.33	0.31	0.29
												Vel (f/s)	2.16	2.65	2.92	3.22	3.42	3.67
												R (hrs)	0.41	0.32	0.29	0.26	0.24	0.23
S313	0.05	0.50	52.5	52.5	HEC-1 Default	0.059	0.30	0.05	12.40	0.01	5	**Tc (hrs)**	0.43	0.37	0.35	0.31	0.30	0.28
												Vel (f/s)	1.71	1.98	2.12	2.34	2.48	2.63

* Non default value

Basin: 01 | Storms: Multiple | Duration: 6 Hour | Loss Method: Green-Ampt | Unit Hydrograph: Clark

Sub Basin ID	Sub Basin Parameters: Area (sq mi)	Length (mi)	Slope (ft/mi)	Adj Slope	Time-Area	Kb	Rainfall Losses: IA (in)	DTHETA	PSIF (in)	XKSAT (in/hr)	RTIMP (%)		Return Period (Years): 2	5	10	25	50	100
												R (hrs)	0.46	0.39	0.37	0.33	0.31	0.29
S314	0.09	0.47	76.4	76.4	HEC-1 Default	0.059	0.31	0.15	8.00	0.08	4	**Tc (hrs)**	0.40	0.33	0.30	0.27	0.25	0.24
												Vel (f/s)	1.72	2.12	2.33	2.58	2.76	2.85
												R (hrs)	0.29	0.23	0.21	0.19	0.17	0.17
S315	0.24	0.94	292.9	260.0	Natural	0.055	0.35	0.15	8.80	0.07	15	**Tc (hrs)**	0.36	0.29	0.27	0.25	0.23	0.23
												Vel (f/s)	3.85	4.72	5.16	5.60	5.92	6.13
												R (hrs)	0.26	0.20	0.18	0.17	0.16	0.15
S316	0.22	0.90	88.5	88.5	HEC-1 Default	0.057	0.32	0.15	8.80	0.06	6	**Tc (hrs)**	0.59	0.46	0.42	0.38	0.35	0.33
												Vel (f/s)	2.24	2.85	3.17	3.52	3.77	4.01
												R (hrs)	0.44	0.34	0.30	0.27	0.25	0.23
S317	0.60	1.59	79.5	79.5	Natural	0.048	0.32	0.15	9.70	0.05	4	**Tc (hrs)**	0.84	0.65	0.58	0.52	0.48	0.45
												Vel (f/s)	2.77	3.59	4.03	4.51	4.87	5.14
												R (hrs)	0.59	0.44	0.39	0.34	0.32	0.30
S318	0.16	0.83	67.5	67.5	HEC-1 Default	0.052	0.30	0.15	7.30	0.10	5	**Tc (hrs)**	0.61	0.47	0.42	0.38	0.35	0.33
												Vel (f/s)	2.00	2.58	2.89	3.25	3.48	3.66
												R (hrs)	0.53	0.40	0.35	0.31	0.29	0.27
S319	0.89	2.82	54.3	54.3	HEC-1 Default	0.046	0.30	0.10	11.20	0.02	7	**Tc (hrs)**	1.36	1.08	0.97	0.86	0.80	0.76
												Vel (f/s)	3.05	3.85	4.28	4.79	5.14	5.46
												R (hrs)	1.28	0.99	0.88	0.77	0.71	0.67
S400	1.68	4.57	48.3	48.3	HEC-1 Default	0.042	0.30	0.13	10.10	0.03	11	**Tc (hrs)**	1.50	1.50	1.42	1.24	1.15	1.50
												Vel (f/s)	4.47	4.47	4.73	5.41	5.85	4.35
												R (hrs)	1.46	1.46	1.37	1.18	1.08	1.50
S500	0.04	0.41	93.4	93.4	Urban	0.061	0.30	0.05	12.40	0.01	5	**Tc (hrs)**	0.30	0.27	0.25	0.23	0.22	0.21
												Vel (f/s)	1.98	2.25	2.44	2.63	2.72	2.82
												R (hrs)	0.31	0.27	0.24	0.23	0.22	0.21

Flood Control District of Maricopa County
DHA_EX6 - Desert Hills Area Existing Conditions

Sub Basin Data

4/21/2003

Basin: 01 | Storms: Multiple | Duration: 6 Hour | Loss Method:Green-Ampt | Unit Hydrograph: Clark

Sub Basin ID	Sub Basin Parameters: Area (sq mi)	Length (mi)	Slope (ft/mi)	Adj Slope	Time-Area	Kb	Rainfall Losses: IA (in)	DTHETA	PSIF (in)	XKSAT (in/hr)	RTIMP (%)		Return Period (Years): 2	5	10	25	50	100
FLO2D	3.23	4.01	61.6	61.6	Urban	0.039	0.32	0.15	8.80	0.06	4	**Tc (hrs)**	1.50	1.38	1.20	1.05	0.97	0.90
												Vel (f/s)	3.92	4.25	4.90	5.62	6.08	6.51
												R (hrs)	0.90	0.83	0.71	0.61	0.56	0.52
S100	0.34	1.33	592.6	314.0	Natural	0.051	0.34	0.15	7.30	0.12	25	**Tc (hrs)**	0.41	0.33	0.30	0.27	0.25	0.24
												Vel (f/s)	4.78	5.93	6.50	7.20	7.68	8.06
												R (hrs)	0.32	0.25	0.23	0.20	0.19	0.18
S101	0.30	1.35	140.3	140.3	Natural	0.053	0.32	0.15	9.70	0.05	4	**Tc (hrs)**	0.60	0.48	0.43	0.38	0.36	0.34
												Vel (f/s)	3.30	4.17	4.62	5.17	5.53	5.79
												R (hrs)	0.53	0.41	0.37	0.32	0.30	0.29
S102	0.30	0.93	739.7	315.0	Natural	0.049	0.35	0.15	7.00	0.14	22	**Tc (hrs)**	0.31	0.25	0.24	0.22	0.21	0.20
												Vel (f/s)	4.43	5.37	5.73	6.29	6.56	6.96
												R (hrs)	0.19	0.15	0.14	0.13	0.12	0.11
S103	0.14	0.83	203.6	204.0	Natural	0.057	0.33	0.15	7.00	0.13	4	**Tc (hrs)**	0.41	0.32	0.29	0.26	0.24	0.23
												Vel (f/s)	2.98	3.84	4.23	4.72	5.03	5.22
												R (hrs)	0.36	0.27	0.25	0.22	0.20	0.20
S104	0.08	0.64	158.4	158.4	HEC-1 Default	0.059	0.31	0.15	8.80	0.06	8	**Tc (hrs)**	0.35	0.29	0.27	0.24	0.23	0.22
												Vel (f/s)	2.68	3.21	3.52	3.88	4.03	4.25
												R (hrs)	0.34	0.27	0.25	0.22	0.21	0.20
S105	0.16	1.09	106.0	106.0	HEC-1 Default	0.056	0.34	0.05	12.40	0.01	1	**Tc (hrs)**	0.53	0.45	0.42	0.38	0.35	0.34
												Vel (f/s)	3.00	3.55	3.83	4.22	4.52	4.73
												R (hrs)	0.56	0.46	0.42	0.38	0.35	0.34
S106	0.11	0.90	90.7	90.7	HEC-1 Default	0.058	0.31	0.05	12.40	0.01	4	**Tc (hrs)**	0.51	0.43	0.40	0.36	0.34	0.33
												Vel (f/s)	2.60	3.05	3.30	3.64	3.86	4.06
												R (hrs)	0.57	0.48	0.44	0.39	0.37	0.35
S107	0.19	1.03	57.3	57.3	Urban	0.055	0.31	0.10	11.20	0.02	4	**Tc (hrs)**	0.69	0.56	0.51	0.46	0.44	0.41
												Vel (f/s)	2.20	2.68	2.94	3.26	3.45	3.66

* Non default value

Sub Basin Data

Basin: 01 | Storms: Multiple | Duration: 6 Hour | Loss Method:Green-Ampt | Unit Hydrograph: Clark

Sub Basin ID	Sub Basin Parameters: Area (sq mi)	Length (mi)	Slope (ft/mi)	Adj Slope	Time-Area	Kb	Rainfall Losses: IA (in)	DTHETA	PSIF (in)	XKSAT (in/hr)	RTIMP (%)		Return Period (Years): 2	5	10	25	50	100
												R (hrs)	0.65	0.52	0.47	0.42	0.40	0.37
S108	0.33	0.90	404.2	297.0	Natural	0.048	0.35	0.15	8.80	0.07	12	**Tc (hrs)**	0.30	0.25	0.23	0.21	0.20	0.20
												Vel (f/s)	4.46	5.37	5.67	6.20	6.47	6.73
												R (hrs)	0.17	0.14	0.13	0.12	0.11	0.11
S109	0.37	1.36	122.4	122.4	Natural	0.049	0.34	0.15	8.40	0.08	1	**Tc (hrs)**	0.65	0.50	0.44	0.39	0.37	0.35
												Vel (f/s)	3.05	3.99	4.51	5.09	5.44	5.76
												R (hrs)	0.52	0.39	0.34	0.30	0.28	0.26
S110	0.13	0.86	493.0	302.0	Natural	0.056	0.34	0.19	6.60	0.16	21	**Tc (hrs)**	0.34	0.27	0.25	0.23	0.22	0.21
												Vel (f/s)	3.69	4.65	5.05	5.51	5.81	6.06
												R (hrs)	0.32	0.24	0.22	0.20	0.19	0.18
S111	0.25	1.04	430.0	298.0	Natural	0.050	0.35	0.15	8.00	0.10	7	**Tc (hrs)**	0.35	0.28	0.26	0.24	0.23	0.22
												Vel (f/s)	4.31	5.39	5.91	6.41	6.78	7.03
												R (hrs)	0.27	0.21	0.19	0.17	0.16	0.16
S112	0.57	1.88	267.8	250.0	Natural	0.049	0.32	0.15	8.40	0.07	7	**Tc (hrs)**	0.58	0.45	0.41	0.37	0.34	0.33
												Vel (f/s)	4.80	6.13	6.76	7.51	8.06	8.48
												R (hrs)	0.46	0.35	0.31	0.28	0.26	0.24
S113	0.11	0.95	125.8	125.8	HEC-1 Default	0.058	0.33	0.23	6.20	0.18	2	**Tc (hrs)**	0.67	0.48	0.42	0.36	0.33	0.31
												Vel (f/s)	2.09	2.88	3.34	3.89	4.18	4.52
												R (hrs)	0.80	0.56	0.47	0.40	0.37	0.34
S114	0.11	0.71	84.9	84.9	HEC-1 Default	0.055	0.35	0.15	8.00	0.10		**Tc (hrs)**	0.53	0.40	0.36	0.32	0.30	0.28
												Vel (f/s)	1.95	2.58	2.87	3.24	3.47	3.68
												R (hrs)	0.50	0.36	0.32	0.28	0.26	0.25
S115	0.16	1.09	77.0	77.0	HEC-1 Default	0.057	0.32	0.13	10.10	0.04	3	**Tc (hrs)**	0.69	0.55	0.50	0.45	0.42	0.39
												Vel (f/s)	2.32	2.91	3.22	3.58	3.83	4.08
												R (hrs)	0.76	0.59	0.53	0.47	0.43	0.41

Sub Basin Data

Basin: 01 Storms: Multiple Duration: 6 Hour Loss Method:Green-Ampt Unit Hydrograph: Clark

	Sub Basin Parameters						Rainfall Losses						Return Period (Years)					
Sub Basin ID	Area (sq mi)	Length (mi)	Slope (ft/mi)	Adj Slope	Time-Area	Kb	IA (in)	DTHETA	PSIF (in)	XKSAT (in/hr)	RTIMP (%)		2	5	10	25	50	100
S116	0.22	1.27	50.6	50.6	HEC-1 Default	0.054	0.31	0.25	5.40	0.23	4	**Tc (hrs)**	1.27	0.93	0.79	0.65	0.58	0.53
												Vel (f/s)	1.47	2.01	2.36	2.87	3.19	3.49
												R (hrs)	1.37	0.96	0.81	0.65	0.58	0.52
S117	0.23	1.25	71.8	71.8	HEC-1 Default	0.053	0.31	0.13	10.10	0.03	4	**Tc (hrs)**	0.72	0.58	0.53	0.48	0.45	0.42
												Vel (f/s)	2.54	3.14	3.49	3.86	4.11	4.35
												R (hrs)	0.71	0.56	0.50	0.45	0.42	0.39
S118	0.12	1.09	65.1	65.1	HEC-1 Default	0.058	0.32	0.05	12.40	0.01	3	**Tc (hrs)**	0.67	0.56	0.52	0.47	0.44	0.42
												Vel (f/s)	2.38	2.84	3.09	3.39	3.62	3.80
												R (hrs)	0.84	0.69	0.63	0.57	0.53	0.50
S119	0.31	1.59	69.4	69.4	HEC-1 Default	0.052	0.31	0.15	8.80	0.06	4	**Tc (hrs)**	0.95	0.73	0.65	0.57	0.53	0.50
												Vel (f/s)	2.44	3.22	3.61	4.08	4.41	4.70
												R (hrs)	0.99	0.73	0.64	0.56	0.51	0.48
S120	0.28	1.51	43.7	43.7	Urban	0.051	0.30	0.15	7.00	0.11	5	**Tc (hrs)**	1.21	0.90	0.78	0.68	0.63	0.59
												Vel (f/s)	1.83	2.46	2.84	3.26	3.54	3.77
												R (hrs)	1.33	0.95	0.81	0.70	0.64	0.59
S121	0.32	1.96	45.9	45.9	HEC-1 Default	0.052	0.31	0.15	7.30	0.11	5	**Tc (hrs)**	1.50	1.11	0.96	0.82	0.75	0.70
												Vel (f/s)	1.92	2.59	3.00	3.52	3.83	4.11
												R (hrs)	1.92	1.37	1.17	0.98	0.89	0.82
S122	0.16	0.96	119.9	119.9	Natural	0.052	0.35	0.15	7.30	0.13	9	**Tc (hrs)**	0.55	0.42	0.37	0.33	0.31	0.29
												Vel (f/s)	2.58	3.38	3.80	4.28	4.57	4.89
												R (hrs)	0.52	0.39	0.34	0.30	0.28	0.26
S123	0.14	0.83	226.4	223.0	Natural	0.053	0.35	0.15	8.00	0.10	6	**Tc (hrs)**	0.36	0.28	0.26	0.24	0.23	0.22
												Vel (f/s)	3.40	4.30	4.63	5.11	5.41	5.61
												R (hrs)	0.32	0.25	0.23	0.20	0.19	0.18
S124	0.06	0.28	141.8	141.8	Natural	0.062	0.34	0.15	8.80	0.07	9	**Tc (hrs)**	0.23	0.20	0.18	0.17	0.16	0.16
												Vel (f/s)	1.83	2.05	2.24	2.40	2.52	2.60

Sub Basin Data

Basin: 01 | Storms: Multiple | Duration: 6 Hour | Loss Method: Green-Ampt | Unit Hydrograph: Clark

Sub Basin ID	Sub Basin Parameters: Area (sq mi)	Length (mi)	Slope (ft/mi)	Adj Slope	Time-Area	Kb	Rainfall Losses: IA (in)	DTHETA	PSIF (in)	XKSAT (in/hr)	RTIMP (%)		Return Period (Years): 2	5	10	25	50	100
												R (hrs)	0.13	0.11	0.10	0.09	0.09	0.09
S125	0.15	0.97	177.1	177.1	Urban	0.056	0.33	0.15	7.30	0.12	9	**Tc (hrs)**	0.48	0.37	0.33	0.30	0.28	0.26
												Vel (f/s)	3.00	3.88	4.27	4.81	5.17	5.41
												R (hrs)	0.46	0.35	0.31	0.27	0.25	0.24
S126	0.13	0.48	151.3	151.3	Natural	0.057	0.34	0.23	6.20	0.19	17	**Tc (hrs)**	0.33	0.25	0.23	0.22	0.20	0.20
												Vel (f/s)	2.14	2.77	3.02	3.24	3.45	3.59
												R (hrs)	0.19	0.14	0.13	0.12	0.11	0.11
S127	0.09	0.55	128.2	128.2	HEC-1 Default	0.059	0.33	0.23	6.20	0.19	8	**Tc (hrs)**	0.42	0.31	0.28	0.25	0.24	0.23
												Vel (f/s)	1.92	2.58	2.89	3.23	3.39	3.59
												R (hrs)	0.34	0.25	0.22	0.19	0.18	0.17
S128	0.12	0.83	322.4	271.0	Natural	0.058	0.33	0.15	7.60	0.11	18	**Tc (hrs)**	0.34	0.28	0.25	0.23	0.22	0.21
												Vel (f/s)	3.56	4.36	4.79	5.22	5.51	5.72
												R (hrs)	0.33	0.26	0.24	0.22	0.20	0.20
S129	0.12	0.54	433.8	298.0	Natural	0.058	0.33	0.15	7.30	0.12	13	**Tc (hrs)**	0.25	0.21	0.20	0.18	0.18	0.17
												Vel (f/s)	3.22	3.72	3.96	4.33	4.53	4.74
												R (hrs)	0.16	0.13	0.13	0.11	0.11	0.10
S130	0.05	0.57	52.9	52.9	HEC-1 Default	0.063	0.32	0.21	6.40	0.16	3	**Tc (hrs)**	1.50	0.51	0.44	0.38	0.35	0.33
												Vel (f/s)	0.53	1.65	1.91	2.18	2.36	2.51
												R (hrs)	2.09	0.60	0.51	0.44	0.40	0.38
S131	0.11	0.87	68.6	68.6	HEC-1 Default	0.058	0.33	0.10	11.20	0.03	2	**Tc (hrs)**	0.60	0.49	0.45	0.40	0.38	0.36
												Vel (f/s)	2.13	2.61	2.86	3.16	3.37	3.56
												R (hrs)	0.67	0.53	0.48	0.43	0.40	0.38
S132	0.15	0.73	63.4	63.4	HEC-1 Default	0.056	0.34	0.10	11.20	0.03	1	**Tc (hrs)**	0.54	0.44	0.40	0.36	0.34	0.32
												Vel (f/s)	1.99	2.42	2.65	2.95	3.13	3.34
												R (hrs)	0.43	0.35	0.32	0.28	0.26	0.25

* Non default value

Sub Basin Data

Basin: 01 Storms: Multiple Duration: 6 Hour Loss Method: Green-Ampt Unit Hydrograph: Clark

Sub Basin ID	Sub Basin Parameters: Area (sq mi)	Length (mi)	Slope (ft/mi)	Adj Slope	Time-Area	Kb	Rainfall Losses: IA (in)	DTHETA	PSIF (in)	XKSAT (in/hr)	RTIMP (%)		Return Period (Years): 2	5	10	25	50	100
S133	0.10	0.58	60.0	60.0	HEC-1 Default	0.059	0.32	0.15	9.70	0.05	3	**Tc (hrs)**	0.51	0.41	0.37	0.34	0.31	0.30
												Vel (f/s)	1.66	2.06	2.29	2.52	2.72	2.87
												R (hrs)	0.42	0.33	0.30	0.27	0.24	0.23
S134	0.07	0.44	59.5	59.5	Natural	0.061	0.33	0.15	7.30	0.12	5	**Tc (hrs)**	0.47	0.36	0.33	0.29	0.27	0.26
												Vel (f/s)	1.37	1.78	1.96	2.21	2.38	2.50
												R (hrs)	0.37	0.28	0.25	0.22	0.20	0.19
S135	0.07	0.43	331.8	273.0	Natural	0.062	0.32	0.15	8.00	0.09	19	**Tc (hrs)**	0.23	0.20	0.19	0.18	0.17	0.16
												Vel (f/s)	2.75	3.15	3.35	3.60	3.78	3.99
												R (hrs)	0.17	0.15	0.14	0.13	0.12	0.11
S136	0.08	0.50	53.8	53.8	Natural	0.060	0.31	0.25	5.70	0.21	13	**Tc (hrs)**	0.59	0.45	0.39	0.34	0.31	0.29
												Vel (f/s)	1.24	1.64	1.89	2.17	2.34	2.51
												R (hrs)	0.51	0.37	0.32	0.27	0.25	0.23
S137	0.08	0.70	69.0	69.0	HEC-1 Default	0.060	0.33	0.15	9.70	0.05	2	**Tc (hrs)**	0.56	0.45	0.40	0.36	0.34	0.32
												Vel (f/s)	1.82	2.30	2.54	2.83	3.00	3.20
												R (hrs)	0.60	0.47	0.42	0.37	0.35	0.32
S138	0.27	1.67	59.4	59.4	HEC-1 Default	0.051	0.35	0.10	11.20	0.03		**Tc (hrs)**	0.99	0.76	0.68	0.61	0.57	0.53
												Vel (f/s)	2.48	3.23	3.59	4.03	4.29	4.60
												R (hrs)	1.17	0.87	0.78	0.68	0.64	0.59
S139	0.07	0.58	63.5	63.5	Natural	0.057	0.35	0.25	4.65	0.38		**Tc (hrs)**	0.82	0.53	0.44	0.36	0.33	0.30
												Vel (f/s)	1.04	1.62	1.92	2.34	2.59	2.80
												R (hrs)	0.88	0.54	0.44	0.36	0.32	0.29
S140	0.25	1.33	57.4	57.4	Urban	0.050	0.35	0.10	11.20	0.03		**Tc (hrs)**	0.83	0.65	0.58	0.52	0.49	0.46
												Vel (f/s)	2.36	3.02	3.35	3.74	4.00	4.26
												R (hrs)	0.83	0.63	0.56	0.50	0.46	0.43
S141	0.10	0.77	57.4	57.4	HEC-1 Default	0.055	0.35	0.05	12.40	0.01		**Tc (hrs)**	0.54	0.45	0.42	0.38	0.36	0.34
												Vel (f/s)	2.10	2.49	2.68	2.98	3.15	3.30

Sub Basin Data

Basin: 01 | Storms: Multiple | Duration: 6 Hour | Loss Method: Green-Ampt | Unit Hydrograph: Clark

Sub Basin ID	Sub Basin Parameters: Area (sq mi)	Length (mi)	Slope (ft/mi)	Adj Slope	Time-Area	Kb	Rainfall Losses: IA (in)	DTHETA	PSIF (in)	XKSAT (in/hr)	RTIMP (%)		Return Period (Years): 2	5	10	25	50	100
												R (hrs)	0.55	0.46	0.42	0.38	0.35	0.34
S142	0.14	1.04	245.4	238.0	Natural	0.057	0.34	0.15	7.30	0.12	16	Tc (hrs)	0.43	0.34	0.31	0.28	0.26	0.25
												Vel (f/s)	3.52	4.46	4.95	5.55	5.91	6.20
												R (hrs)	0.47	0.36	0.32	0.28	0.26	0.25
S143	0.14	0.62	150.0	150.0	Natural	0.057	0.33	0.15	8.80	0.07	13	Tc (hrs)	0.35	0.28	0.26	0.24	0.23	0.22
												Vel (f/s)	2.63	3.21	3.46	3.76	3.97	4.11
												R (hrs)	0.24	0.19	0.18	0.16	0.15	0.15
S144	0.15	0.75	40.3	40.3	HEC-1 Default	0.056	0.32	0.15	8.00	0.09	8	Tc (hrs)	0.76	0.59	0.52	0.46	0.43	0.40
												Vel (f/s)	1.44	1.87	2.13	2.40	2.59	2.75
												R (hrs)	0.64	0.48	0.41	0.36	0.33	0.31
S145	0.20	1.06	54.0	54.0	HEC-1 Default	0.051	0.35	0.05	12.40	0.01		Tc (hrs)	0.65	0.55	0.50	0.46	0.43	0.41
												Vel (f/s)	2.38	2.85	3.11	3.39	3.62	3.81
												R (hrs)	0.60	0.49	0.44	0.40	0.38	0.36
S147	0.67	1.75	141.9	141.9	Natural	0.044	0.35	0.15	7.60	0.11	7	Tc (hrs)	0.73	0.54	0.48	0.43	0.40	0.37
												Vel (f/s)	3.54	4.74	5.36	6.04	6.48	6.92
												R (hrs)	0.51	0.37	0.32	0.28	0.26	0.24
S150	0.01	0.19	729.2	315.0	HEC-1 Default	0.068	0.35	0.13	10.10	0.04	2	Tc (hrs)	0.15	0.13	0.13	0.12	0.11	0.10
												Vel (f/s)	1.86	2.10	2.23	2.38	2.58	2.68
												R (hrs)	0.16	0.14	0.13	0.12	0.11	0.10
S151	0.02	0.30	748.3	315.0	HEC-1 Default	0.066	0.35	0.15	7.60	0.11	8	Tc (hrs)	0.19	0.17	0.15	0.15	0.14	0.13
												Vel (f/s)	2.29	2.63	2.86	3.01	3.19	3.41
												R (hrs)	0.23	0.20	0.18	0.17	0.16	0.15
S152	0.09	0.55	444.4	299.0	Natural	0.056	0.35	0.19	6.60	0.17	5	Tc (hrs)	0.26	0.22	0.20	0.18	0.18	0.17
												Vel (f/s)	3.07	3.72	4.03	4.41	4.61	4.83
												R (hrs)	0.21	0.17	0.16	0.14	0.13	0.13

* Non default value

Sub Basin Data

Basin: 01 Storms: Multiple Duration: 6 Hour Loss Method:Green-Ampt Unit Hydrograph: Clark

Sub Basin ID	Sub Basin Parameters: Area (sq mi)	Length (mi)	Slope (ft/mi)	Adj Slope	Time-Area	Kb	Rainfall Losses: IA (in)	DTHETA	PSIF (in)	XKSAT (in/hr)	RTIMP (%)		Return Period (Years): 2	5	10	25	50	100
S153	0.01	0.22	111.6	111.6	HEC-1 Default	0.069	0.35	0.13	10.10	0.04		**Tc (hrs)**	0.23	0.20	0.19	0.17	0.16	0.16
												Vel (f/s)	1.43	1.61	1.72	1.89	1.98	2.04
												R (hrs)	0.26	0.23	0.21	0.19	0.18	0.18
S200	0.58	1.91	220.9	218.0	Urban	0.045	0.35	0.15	7.60	0.11	9	**Tc (hrs)**	0.63	0.48	0.43	0.38	0.35	0.33
												Vel (f/s)	4.48	5.90	6.59	7.47	8.00	8.51
												R (hrs)	0.50	0.37	0.33	0.29	0.26	0.25
S201	0.79	1.55	387.9	290.0	Natural	0.043	0.35	0.15	7.00	0.14	28	**Tc (hrs)**	0.45	0.36	0.33	0.29	0.28	0.26
												Vel (f/s)	5.05	6.35	6.91	7.79	8.27	8.64
												R (hrs)	0.25	0.19	0.18	0.15	0.14	0.14
S203	0.17	0.51	455.4	299.0	Natural	0.053	0.35	0.19	6.60	0.17	19	**Tc (hrs)**	0.23	0.20	0.19	0.17	0.16	0.15
												Vel (f/s)	3.21	3.74	3.98	4.37	4.59	4.86
												R (hrs)	0.12	0.10	0.09	0.08	0.08	0.08
S204	0.30	1.09	261.0	246.0	Natural	0.049	0.35	0.15	7.00	0.14	27	**Tc (hrs)**	0.39	0.31	0.28	0.25	0.24	0.23
												Vel (f/s)	4.12	5.19	5.65	6.29	6.61	6.98
												R (hrs)	0.28	0.21	0.20	0.17	0.16	0.15
S205	0.04	0.39	262.8	247.0	Natural	0.063	0.35	0.25	5.70	0.24	2	**Tc (hrs)**	0.28	0.21	0.20	0.18	0.17	0.16
												Vel (f/s)	2.08	2.69	2.92	3.20	3.35	3.51
												R (hrs)	0.26	0.19	0.18	0.16	0.15	0.14
S206	0.15	0.79	693.7	315.0	Natural	0.054	0.35	0.25	5.80	0.22	15	**Tc (hrs)**	0.34	0.26	0.24	0.22	0.20	0.20
												Vel (f/s)	3.39	4.49	4.87	5.34	5.68	5.91
												R (hrs)	0.28	0.20	0.19	0.17	0.16	0.15
S207	0.25	0.90	634.0	315.0	Natural	0.051	0.35	0.25	5.70	0.24	6	**Tc (hrs)**	0.39	0.28	0.25	0.23	0.21	0.20
												Vel (f/s)	3.37	4.73	5.37	5.87	6.20	6.47
												R (hrs)	0.26	0.18	0.16	0.14	0.13	0.13
S208	0.31	0.95	868.9	315.0	Natural	0.050	0.35	0.23	6.20	0.19	16	**Tc (hrs)**	0.36	0.27	0.25	0.23	0.21	0.20
												Vel (f/s)	3.89	5.14	5.66	6.19	6.54	6.83

Sub Basin Data

Basin: 01 | Storms: Multiple | Duration: 6 Hour | Loss Method: Green-Ampt | Unit Hydrograph: Clark

Sub Basin ID	Sub Basin Parameters: Area (sq mi)	Length (mi)	Slope (ft/mi)	Adj Slope	Time-Area	Kb	Rainfall Losses: IA (in)	DTHETA	PSIF (in)	XKSAT (in/hr)	RTIMP (%)		Return Period (Years): 2	5	10	25	50	100
												R (hrs)	0.22	0.16	0.15	0.13	0.13	0.12
S209	0.07	0.64	178.8	178.8	Natural	0.061	0.32	0.15	8.00	0.08	3	**Tc (hrs)**	0.35	0.29	0.26	0.24	0.23	0.22
												Vel (f/s)	2.68	3.26	3.57	3.88	4.10	4.33
												R (hrs)	0.38	0.30	0.27	0.25	0.24	0.22
S210	0.32	1.21	519.9	305.0	Natural	0.052	0.34	0.21	6.40	0.17	6	**Tc (hrs)**	0.45	0.34	0.30	0.27	0.25	0.24
												Vel (f/s)	3.91	5.25	5.92	6.65	7.10	7.46
												R (hrs)	0.35	0.25	0.22	0.19	0.18	0.17
S211	0.27	0.72	761.5	315.0	Natural	0.049	0.35	0.17	6.80	0.15	25	**Tc (hrs)**	0.26	0.22	0.21	0.19	0.18	0.18
												Vel (f/s)	4.09	4.78	5.08	5.50	5.77	6.03
												R (hrs)	0.13	0.11	0.11	0.10	0.09	0.09
S212	0.18	1.16	259.7	245.0	Natural	0.055	0.34	0.25	5.70	0.22	2	**Tc (hrs)**	0.57	0.41	0.35	0.30	0.28	0.26
												Vel (f/s)	2.98	4.17	4.86	5.67	6.10	6.47
												R (hrs)	0.59	0.41	0.34	0.29	0.27	0.25
S213	0.24	1.12	628.1	315.0	Natural	0.051	0.35	0.25	6.00	0.21	11	**Tc (hrs)**	0.44	0.32	0.28	0.25	0.24	0.23
												Vel (f/s)	3.75	5.12	5.80	6.57	6.90	7.30
												R (hrs)	0.36	0.26	0.22	0.20	0.18	0.17
S214	0.33	1.43	526.6	306.0	Natural	0.048	0.35	0.17	6.80	0.15	22	**Tc (hrs)**	0.43	0.34	0.31	0.28	0.26	0.25
												Vel (f/s)	4.84	6.13	6.81	7.63	8.13	8.53
												R (hrs)	0.37	0.28	0.25	0.22	0.21	0.20
S215	0.06	0.56	158.6	158.6	Natural	0.062	0.32	0.15	7.60	0.10	3	**Tc (hrs)**	0.35	0.28	0.26	0.24	0.23	0.21
												Vel (f/s)	2.35	2.94	3.18	3.45	3.65	3.86
												R (hrs)	0.37	0.29	0.26	0.24	0.23	0.21
S216	0.37	0.93	302.4	263.0	Natural	0.051	0.34	0.15	7.00	0.13	18	**Tc (hrs)**	0.35	0.28	0.25	0.23	0.23	0.21
												Vel (f/s)	3.90	4.89	5.37	5.85	6.06	6.40
												R (hrs)	0.19	0.15	0.14	0.12	0.12	0.11

* Non default value

Sub Basin Data

Basin: 01 Storms: Multiple Duration: 6 Hour Loss Method: Green-Ampt Unit Hydrograph: Clark

Sub Basin ID	Sub Basin Parameters: Area (sq mi)	Length (mi)	Slope (ft/mi)	Adj Slope	Time-Area	Kb	Rainfall Losses: IA (in)	DTHETA	PSIF (in)	XKSAT (in/hr)	RTIMP (%)		Return Period (Years): 2	5	10	25	50	100
S217	0.36	1.74	202.2	202.0	Natural	0.051	0.34	0.15	7.60	0.11	10	**Tc (hrs)**	0.65	0.50	0.44	0.39	0.36	0.34
												Vel (f/s)	3.95	5.15	5.83	6.58	7.03	7.46
												R (hrs)	0.63	0.47	0.41	0.36	0.33	0.31
S218	0.39	0.92	494.6	302.0	Natural	0.047	0.35	0.17	6.80	0.15	26	**Tc (hrs)**	0.30	0.25	0.23	0.22	0.20	0.20
												Vel (f/s)	4.44	5.40	5.79	6.22	6.61	6.88
												R (hrs)	0.16	0.13	0.12	0.11	0.10	0.10
S219	0.28	1.16	207.0	206.0	Natural	0.050	0.35	0.17	6.80	0.15	23	**Tc (hrs)**	0.46	0.36	0.33	0.29	0.27	0.26
												Vel (f/s)	3.71	4.69	5.23	5.83	6.28	6.59
												R (hrs)	0.36	0.28	0.25	0.22	0.20	0.19
S220	0.17	1.08	290.2	260.0	Natural	0.055	0.34	0.15	7.60	0.11	14	**Tc (hrs)**	0.42	0.33	0.30	0.27	0.25	0.24
												Vel (f/s)	3.80	4.81	5.35	5.93	6.34	6.55
												R (hrs)	0.41	0.32	0.28	0.25	0.23	0.23
S221	0.23	1.11	68.5	68.5	HEC-1 Default	0.054	0.32	0.13	10.10	0.04	3	**Tc (hrs)**	0.71	0.56	0.51	0.45	0.43	0.40
												Vel (f/s)	2.30	2.89	3.20	3.59	3.79	4.03
												R (hrs)	0.63	0.49	0.44	0.39	0.36	0.34
S222	0.27	1.00	52.0	52.0	HEC-1 Default	0.051	0.35	0.13	10.10	0.04		**Tc (hrs)**	0.73	0.58	0.51	0.46	0.43	0.40
												Vel (f/s)	2.00	2.55	2.86	3.20	3.42	3.63
												R (hrs)	0.55	0.42	0.37	0.33	0.30	0.28
S223	0.09	0.61	55.8	55.8	HEC-1 Default	0.056	0.35	0.15	8.80	0.07		**Tc (hrs)**	0.56	0.43	0.39	0.35	0.33	0.30
												Vel (f/s)	1.60	2.07	2.31	2.59	2.75	2.94
												R (hrs)	0.51	0.39	0.34	0.30	0.28	0.26
S224	0.21	0.79	57.9	57.9	Natural	0.051	0.35	0.21	6.40	0.18		**Tc (hrs)**	0.77	0.55	0.47	0.40	0.37	0.35
												Vel (f/s)	1.50	2.09	2.46	2.87	3.12	3.35
												R (hrs)	0.55	0.38	0.32	0.27	0.25	0.23
S225	0.32	1.55	67.0	67.0	HEC-1 Default	0.052	0.31	0.05	12.40	0.01	4	**Tc (hrs)**	0.78	0.66	0.60	0.54	0.51	0.48
												Vel (f/s)	2.90	3.45	3.76	4.19	4.48	4.71

* Non default value

Sub Basin Data

Basin: 01 | Storms: Multiple | Duration: 6 Hour | Loss Method: Green-Ampt | Unit Hydrograph: Clark

Sub Basin ID	Sub Basin Parameters: Area (sq mi)	Length (mi)	Slope (ft/mi)	Adj Slope	Time-Area	Kb	Rainfall Losses: IA (in)	DTHETA	PSIF (in)	XKSAT (in/hr)	RTIMP (%)		Return Period (Years): 2	5	10	25	50	100
												R (hrs)	0.77	0.64	0.58	0.51	0.48	0.45
S226	0.25	1.09	60.8	60.8	HEC-1 Default	0.050	0.35	0.15	8.80	0.07		Tc (hrs)	0.78	0.59	0.52	0.46	0.43	0.40
												Vel (f/s)	2.05	2.72	3.07	3.49	3.76	4.00
												R (hrs)	0.67	0.49	0.43	0.37	0.34	0.32
S227	0.11	0.77	51.8	51.8	HEC-1 Default	0.055	0.35	0.10	11.20	0.03		Tc (hrs)	0.61	0.49	0.45	0.40	0.38	0.36
												Vel (f/s)	1.86	2.30	2.53	2.80	2.98	3.15
												R (hrs)	0.62	0.49	0.44	0.40	0.37	0.35
S228	0.23	1.06	54.7	54.7	HEC-1 Default	0.050	0.35	0.15	9.70	0.06		Tc (hrs)	0.79	0.60	0.53	0.47	0.44	0.41
												Vel (f/s)	1.96	2.59	2.94	3.33	3.55	3.76
												R (hrs)	0.70	0.52	0.45	0.39	0.36	0.34
S300	0.50	1.64	396.6	295.0	Natural	0.047	0.35	0.17	6.80	0.15	24	Tc (hrs)	0.48	0.38	0.34	0.30	0.28	0.27
												Vel (f/s)	5.02	6.41	7.03	7.91	8.50	9.01
												R (hrs)	0.36	0.27	0.25	0.22	0.20	0.19
S301	0.50	1.37	299.3	262.0	Natural	0.047	0.35	0.17	6.80	0.15	23	Tc (hrs)	0.45	0.35	0.32	0.28	0.26	0.25
												Vel (f/s)	4.51	5.74	6.34	7.10	7.64	8.04
												R (hrs)	0.29	0.22	0.20	0.17	0.16	0.15
S302	0.24	0.95	184.1	184.1	Natural	0.050	0.35	0.23	6.20	0.20	17	Tc (hrs)	0.46	0.35	0.31	0.27	0.25	0.24
												Vel (f/s)	3.04	3.98	4.52	5.14	5.49	5.76
												R (hrs)	0.34	0.25	0.22	0.19	0.18	0.17
S303	0.13	0.64	194.1	194.1	HEC-1 Default	0.055	0.35	0.15	7.60	0.11	6	Tc (hrs)	0.33	0.26	0.24	0.22	0.21	0.20
												Vel (f/s)	2.89	3.57	3.88	4.25	4.41	4.60
												R (hrs)	0.24	0.19	0.17	0.16	0.15	0.14
S304	0.13	0.95	80.8	80.8	HEC-1 Default	0.053	0.35	0.25	4.90	0.34		Tc (hrs)	0.98	0.64	0.54	0.44	0.40	0.36
												Vel (f/s)	1.43	2.17	2.59	3.15	3.52	3.84
												R (hrs)	1.10	0.69	0.57	0.46	0.40	0.37

Sub Basin Data

Basin: 01 Storms: Multiple Duration: 6 Hour Loss Method: Green-Ampt Unit Hydrograph: Clark

Sub Basin ID	Sub Basin Parameters: Area (sq mi)	Length (mi)	Slope (ft/mi)	Adj Slope	Time-Area	Kb	Rainfall Losses: IA (in)	DTHETA	PSIF (in)	XKSAT (in/hr)	RTIMP (%)		Return Period (Years): 2	5	10	25	50	100
S305	0.23	0.95	603.4	315.0	Natural	0.052	0.35	0.23	6.20	0.19	16	**Tc (hrs)**	0.37	0.28	0.25	0.23	0.22	0.21
												Vel (f/s)	3.80	4.99	5.57	6.08	6.42	6.70
												R (hrs)	0.27	0.20	0.18	0.16	0.15	0.14
S306	0.05	0.59	110.2	110.2	HEC-1 Default	0.062	0.34	0.25	5.00	0.31	1	**Tc (hrs)**	0.61	0.42	0.35	0.30	0.28	0.25
												Vel (f/s)	1.42	2.08	2.47	2.92	3.15	3.41
												R (hrs)	0.75	0.50	0.41	0.34	0.31	0.29
S307	0.21	1.07	606.2	315.0	Natural	0.054	0.34	0.23	6.20	0.19	17	**Tc (hrs)**	0.41	0.31	0.28	0.25	0.24	0.23
												Vel (f/s)	3.80	5.01	5.62	6.28	6.59	6.97
												R (hrs)	0.36	0.26	0.23	0.21	0.20	0.18
S308	0.47	1.21	249.8	240.0	Natural	0.046	0.35	0.23	6.20	0.20	9	**Tc (hrs)**	0.48	0.35	0.31	0.28	0.25	0.24
												Vel (f/s)	3.67	5.01	5.76	6.45	6.99	7.33
												R (hrs)	0.30	0.21	0.18	0.16	0.15	0.14
S309	0.19	1.17	451.4	299.0	Natural	0.053	0.35	0.15	7.00	0.14	7	**Tc (hrs)**	0.43	0.33	1.50	0.26	0.25	0.24
												Vel (f/s)	4.04	5.28	1.09	6.52	6.98	7.21
												R (hrs)	0.42	0.31	1.80	0.25	0.23	0.22
S310	0.55	1.33	90.3	90.3	HEC-1 Default	0.046	0.35	0.10	11.20	0.03		**Tc (hrs)**	0.63	0.50	0.46	0.41	0.39	0.37
												Vel (f/s)	3.12	3.87	4.26	4.72	5.03	5.32
												R (hrs)	0.39	0.31	0.27	0.24	0.23	0.21
S311	0.08	0.50	50.0	50.0	HEC-1 Default	0.057	0.35	0.05	12.40	0.01		**Tc (hrs)**	0.43	0.37	0.34	0.31	0.29	0.28
												Vel (f/s)	1.69	1.98	2.14	2.34	2.51	2.63
												R (hrs)	0.37	0.31	0.28	0.25	0.24	0.22
S312	0.14	0.73	85.4	85.4	HEC-1 Default	0.053	0.35	0.13	10.10	0.04		**Tc (hrs)**	0.47	0.38	0.35	0.31	0.29	0.28
												Vel (f/s)	2.29	2.82	3.09	3.42	3.67	3.89
												R (hrs)	0.38	0.30	0.27	0.24	0.23	0.21
S313	0.05	0.50	52.5	52.5	HEC-1 Default	0.059	0.35	0.05	12.40	0.01		**Tc (hrs)**	0.43	0.37	0.35	0.31	0.30	0.28
												Vel (f/s)	1.69	1.98	2.12	2.34	2.48	2.63

* Non default value

Basin: 01 Storms: Multiple Duration: 6 Hour Loss Method: Green-Ampt Unit Hydrograph: Clark

Sub Basin ID	Sub Basin Parameters: Area (sq mi)	Length (mi)	Slope (ft/mi)	Adj Slope	Time-Area	Kb	Rainfall Losses: IA (in)	DTHETA	PSIF (in)	XKSAT (in/hr)	RTIMP (%)		Return Period (Years): 2	5	10	25	50	100
												R (hrs)	0.47	0.39	0.37	0.33	0.31	0.29
S314	0.09	0.47	76.4	76.4	HEC-1 Default	0.056	0.35	0.15	8.00	0.10		Tc (hrs)	0.41	0.32	0.29	0.26	0.25	0.23
												Vel (f/s)	1.67	2.15	2.39	2.67	2.80	2.96
												R (hrs)	0.30	0.23	0.20	0.18	0.17	0.16
S315	0.24	0.94	292.9	260.0	Natural	0.055	0.34	0.15	8.80	0.07	15	Tc (hrs)	0.36	0.29	0.27	0.25	0.23	0.23
												Vel (f/s)	3.85	4.72	5.16	5.60	5.92	6.13
												R (hrs)	0.26	0.20	0.18	0.17	0.16	0.15
S316	0.22	0.90	88.5	88.5	HEC-1 Default	0.057	0.32	0.15	8.80	0.07	4	Tc (hrs)	0.60	0.47	0.42	0.38	0.35	0.33
												Vel (f/s)	2.20	2.83	3.14	3.52	3.77	3.96
												R (hrs)	0.45	0.34	0.31	0.27	0.25	0.24
S317	0.60	1.59	79.5	79.5	Natural	0.046	0.35	0.15	9.70	0.06		Tc (hrs)	0.87	0.65	0.58	0.50	0.47	0.45
												Vel (f/s)	2.68	3.59	4.06	4.63	4.95	5.23
												R (hrs)	0.61	0.44	0.39	0.33	0.31	0.29
S318	0.16	0.83	67.5	67.5	HEC-1 Default	0.052	0.35	0.15	7.30	0.13		Tc (hrs)	0.68	0.50	0.44	0.38	0.35	0.33
												Vel (f/s)	1.79	2.45	2.78	3.18	3.44	3.66
												R (hrs)	0.60	0.42	0.37	0.32	0.29	0.27
S319	0.89	2.82	54.3	54.3	HEC-1 Default	0.042	0.35	0.10	11.20	0.03		Tc (hrs)	1.39	1.05	0.93	0.82	0.77	0.72
												Vel (f/s)	2.97	3.94	4.43	5.04	5.39	5.74
												R (hrs)	1.31	0.96	0.84	0.73	0.68	0.63
S400	1.68	4.57	48.3	48.3	HEC-1 Default	0.038	0.35	0.13	10.10	0.04	3	Tc (hrs)	1.50	1.50	1.38	1.19	1.09	1.02
												Vel (f/s)	4.47	4.47	4.87	5.64	6.14	6.59
												R (hrs)	1.46	1.46	1.32	1.13	1.03	0.95
S500	0.04	0.41	93.4	93.4	Urban	0.065	0.32	0.05	12.40	0.01	3	Tc (hrs)	0.32	0.28	0.26	0.24	0.23	0.22
												Vel (f/s)	1.87	2.19	2.33	2.53	2.67	2.77
												R (hrs)	0.33	0.28	0.26	0.23	0.22	0.21

D.5. Routing Data

Routing Data - Normal Depth

		RS Card	RC Card						RX and RY Cards								
Basin	Reach ID	NSTPS	ANL	ANCH	ANR	RLNTH (ft)	SEL (ft/ft)	ELMAX		1	2	LB	4	5	RB	7	8
01	100101	3	0.075	0.055	0.075	4970	0.0160		**Sta**	9930.4	9950.2	9992.1	10000.0	10017.0	10022.0	10078.0	10122.0
									Elev	1936.0	1932.6	1930.6	1928.5	1929.2	1930.7	1930.7	1936.0
01	101CFH	19	0.060	0.050	0.060	18272	0.0074		**Sta**	0.0	10.0	110.0	120.0	135.0	145.0	245.0	255.0
									Elev	100.0	90.0	89.0	88.0	88.0	89.0	90.0	100.0
01	102103	2	0.075	0.055	0.075	2635	0.0205		**Sta**	9989.2	9991.6	9995.7	10000.0	10019.0	10066.0	10119.0	10146.0
									Elev	1978.6	1976.0	1972.0	1968.0	1968.9	1972.0	1976.0	1978.5
01	103104	1	0.075	0.055	0.075	1290	0.0160		**Sta**	9842.3	9939.1	9975.0	10000.0	10010.0	10019.0	10029.0	10035.0
									Elev	1928.0	1924.9	1923.1	1920.2	1919.1	1923.0	1926.0	1928.0
01	104CFH	18	0.060	0.050	0.060	17795	0.0081		**Sta**	0.0	10.0	110.0	120.0	135.0	145.0	245.0	255.0
									Elev	100.0	90.0	89.0	88.0	88.0	89.0	90.0	100.0
01	105106	2	0.060	0.050	0.060	1600	0.0125		**Sta**	9805.6	9964.1	9995.6	10000.0	10005.0	10010.0	10036.0	10140.0
									Elev	1868.0	1864.0	1863.6	1862.2	1862.2	1863.3	1864.0	1868.0
01	106107	3	0.075	0.055	0.075	2882	0.0083		**Sta**	9799.6	9956.2	9992.2	10000.0	10005.0	10010.0	10078.0	10191.0
									Elev	1850.0	1848.0	1846.7	1844.0	1844.0	1846.6	1847.0	1850.0
01	107CFH	8	0.050	0.040	0.050	8801	0.0064		**Sta**	0.0	10.0	110.0	120.0	135.0	145.0	245.0	255.0
									Elev	100.0	90.0	89.0	88.0	88.0	89.0	90.0	100.0
01	152153	1	0.030	0.030	0.060	616	0.0130		**Sta**	0.0	1.0	31.0	43.0	48.0	60.0	80.0	100.0
									Elev	100.0	99.5	99.0	96.0	96.0	99.0	99.5	100.0
01	CFH127	1	0.065	0.050	0.065	1234	0.0040		**Sta**	10560.0	10620.0	10660.0	10670.0	10680.0	10810.0	11000.0	11200.0
									Elev	1776.0	1774.0	1774.0	1770.0	1772.0	1774.0	1776.0	1778.0
01	108109	5	0.050	0.040	0.050	5783	0.0123		**Sta**	0.0	10.0	110.0	120.0	135.0	145.0	245.0	255.0
									Elev	100.0	90.0	89.0	84.0	84.0	89.0	90.0	100.0
01	110111	4	0.075	0.055	0.075	4457	0.0157		**Sta**	9972.7	9988.0	9989.0	10000.0	10016.0	10061.0	10075.0	10092.0
									Elev	1926.0	1922.0	1921.7	1919.2	1920.8	1922.4	1924.0	1926.0
01	111109	5	0.070	0.055	0.070	5694	0.0090		**Sta**	9938.7	9951.1	9979.0	10000.0	10010.0	10054.0	10101.0	10114.0
									Elev	1872.0	1870.0	1868.0	1867.0	1867.0	1868.0	1870.0	1872.0

Routing Data - Normal Depth

		RS Card	RC Card						RX and RY Cards								
Basin	Reach ID	NSTPS	ANL	ANCH	ANR	RLNTH (ft)	SEL (ft/ft)	ELMAX		1	2	LB	4	5	RB	7	8
01	113114	2	0.075	0.055	0.075	3220	0.0143		**Sta**	9888.8	9957.5	9990.9	9995.0	10005.0	10011.0	10030.0	10105.0
									Elev	1928.0	1926.0	1925.0	1923.0	1923.0	1925.0	1926.0	1928.0
01	114115	3	0.075	0.055	0.075	3565	0.0135		**Sta**	9896.0	9910.0	9953.8	9964.0	10000.0	10010.0	10023.0	10036.0
									Elev	1888.0	1886.5	1884.6	1882.9	1881.9	1884.0	1886.0	1888.0
01	115109	1	0.065	0.050	0.065	1415	0.0085		**Sta**	9824.9	9915.7	9966.2	9995.0	10005.0	10012.0	10018.0	10024.0
									Elev	1854.0	1850.0	1850.0	1846.4	1846.4	1850.0	1852.0	1854.0
01	109116	4	0.065	0.050	0.065	4849	0.0070		**Sta**	9780.0	9808.0	9977.0	9988.0	10012.0	10042.0	10073.0	10110.0
									Elev	1838.0	1836.0	1834.0	1832.0	1832.0	1834.0	1836.0	1838.0
01	118119	5	0.050	0.040	0.050	5989	0.0130		**Sta**	9955.6	9971.9	9990.8	9998.0	10002.0	10010.0	10064.0	10096.0
									Elev	1834.0	1832.0	1829.7	1827.5	1827.5	1830.4	1831.7	1834.0
01	116120	4	0.065	0.050	0.065	3945	0.0060		**Sta**	9919.5	9983.3	9986.9	9995.0	10010.0	10020.0	10173.0	10556.0
									Elev	1798.0	1796.0	1794.0	1790.0	1790.0	1794.0	1794.0	1796.0
01	120127	3	0.065	0.050	0.065	2909	0.0055		**Sta**	9570.0	9620.0	9990.0	9994.0	10006.0	10010.0	10160.0	10255.0
									Elev	1788.0	1786.0	1784.0	1782.2	1782.2	1784.0	1786.0	1788.0
01	122125	2	0.030	0.035	0.050	2616	0.0100		**Sta**	0.0	1.0	31.0	46.0	56.0	64.0	100.0	200.0
									Elev	100.0	99.5	99.0	95.0	95.0	99.0	99.5	100.0
01	123125	2	0.030	0.035	0.050	2704	0.0090		**Sta**	0.0	1.0	31.0	46.0	56.0	64.0	100.0	200.0
									Elev	100.0	99.5	99.0	95.0	95.0	99.0	99.5	100.0
01	124125	3	0.050	0.040	0.050	3289	0.0097		**Sta**	0.0	40.0	80.0	88.0	98.0	106.0	146.0	186.0
									Elev	100.0	96.0	92.0	90.0	90.0	92.0	96.0	100.0
01	125127	2	0.065	0.050	0.065	2429	0.0074		**Sta**	10560.0	10620.0	10660.0	10670.0	10680.0	10810.0	11000.0	11200.0
									Elev	1776.0	1774.0	1774.0	1770.0	1772.0	1774.0	1776.0	1778.0
01	126127	2	0.050	0.040	0.050	2974	0.0094		**Sta**	0.0	40.0	80.0	88.0	98.0	106.0	146.0	186.0
									Elev	100.0	96.0	92.0	90.0	90.0	92.0	96.0	100.0
01	127129	1	0.065	0.050	0.065	1296	0.0046		**Sta**	9150.0	9330.0	9993.0	9995.0	10005.0	10016.0	10108.0	10255.0
									Elev	1774.0	1770.0	1768.0	1766.0	1766.0	1770.0	1770.0	1774.0

Routing Data - Normal Depth

Basin	Reach ID	RS Card NSTPS	RC Card ANL	ANCH	ANR	RLNTH (ft)	SEL (ft/ft)	ELMAX	RX and RY Cards	1	2	LB	4	5	RB	7	8
01	128129	2	0.065	0.050	0.065	1924	0.0156		**Sta**	9150.0	9330.0	9993.0	9995.0	10005.0	10016.0	10108.0	10255.0
									Elev	1774.0	1770.0	1768.0	1766.0	1766.0	1770.0	1770.0	1774.0
01	129134	1	0.065	0.050	0.065	579	0.0035		**Sta**	9140.0	9490.0	9985.0	9993.0	10005.0	10013.0	10240.0	10585.0
									Elev	1770.0	1766.0	1766.0	1762.0	1762.0	1766.0	1766.0	1770.0
01	130134	2	0.050	0.040	0.050	2075	0.0100		**Sta**	0.0	55.0	110.0	115.0	135.0	140.0	195.0	250.0
									Elev	100.0	98.0	96.0	95.0	95.0	96.0	98.0	100.0
01	131132	4	0.065	0.050	0.065	3449	0.0107		**Sta**	0.0	70.0	140.0	147.0	153.0	160.0	230.0	300.0
									Elev	100.0	99.0	98.0	96.0	96.0	98.0	99.0	100.0
01	132133	3	0.065	0.050	0.065	2909	0.0096		**Sta**	9959.0	9976.0	9993.0	9999.0	10004.0	10010.0	10080.0	10115.0
									Elev	1798.0	1797.0	1796.0	1795.0	1795.0	1796.3	1796.6	1798.0
01	133134	2	0.065	0.050	0.065	2076	0.0087		**Sta**	9873.0	9936.0	9993.0	9998.0	10004.0	10009.0	10043.0	10186.0
									Elev	1774.0	1772.0	1770.0	1767.7	1767.7	1770.0	1770.7	1774.0
01	134139	2	0.065	0.050	0.065	1214	0.0041		**Sta**	9100.0	9325.0	9835.0	9845.0	9855.0	9865.0	10080.0	10670.0
									Elev	1768.0	1764.0	1760.0	1756.0	1756.0	1760.0	1760.0	1770.0
01	135139	1	0.065	0.050	0.065	1106	0.0127		**Sta**	9340.0	9745.0	9960.0	9985.0	10025.0	10060.0	10115.0	10435.0
									Elev	1766.0	1760.0	1758.0	1756.0	1756.0	1758.0	1760.0	1766.0
01	137138	6	0.050	0.045	0.050	6568	0.0107		**Sta**	9938.0	9960.0	9982.0	9993.0	9998.0	10009.0	10030.0	10064.0
									Elev	1812.0	1811.4	1810.7	1808.0	1808.0	1810.3	1811.0	1812.0
01	138139	3	0.050	0.045	0.050	2696	0.0108		**Sta**	9729.0	9827.0	9996.0	10003.0	10009.0	10016.0	10088.0	10166.0
									Elev	1776.0	1773.0	1772.6	1771.6	1771.6	1772.8	1774.0	1776.0
01	139141	1	0.065	0.050	0.065	696	0.0043		**Sta**	9820.0	9910.0	9986.0	9990.0	10012.0	10016.0	10120.0	10500.0
									Elev	1762.0	1758.0	1756.0	1754.0	1754.0	1756.0	1756.0	1762.0
01	140141	3	0.050	0.040	0.050	3458	0.0104		**Sta**	0.0	45.0	85.0	90.0	95.0	100.0	140.0	185.0
									Elev	100.0	98.0	97.0	95.0	95.0	97.0	98.0	100.0
01	142141	1	0.050	0.050	0.050	611	0.0196		**Sta**	0.0	50.0	100.0	103.0	107.0	110.0	160.0	210.0
									Elev	100.0	99.0	98.0	96.0	96.0	98.0	99.0	100.0

Routing Data - Normal Depth

		RS Card	RC Card						RX and RY Cards								
Basin	Reach ID	NSTPS	ANL	ANCH	ANR	RLNTH (ft)	SEL (ft/ft)	ELMAX		1	2	LB	4	5	RB	7	8
01	141145	2	0.065	0.050	0.065	1969	0.0046		**Sta**	9698.3	9831.5	9950.5	10001.0	10012.0	10022.0	10235.0	10800.0
									Elev	1758.0	1752.0	1751.0	1748.0	1748.0	1752.0	1752.0	1758.0
01	143144	1	0.050	0.050	0.050	1750	0.0126		**Sta**	0.0	50.0	100.0	103.0	107.0	110.0	160.0	210.0
									Elev	100.0	99.0	98.0	96.0	96.0	98.0	99.0	100.0
01	145147	4	0.065	0.050	0.065	3886	0.0033		**Sta**	8680.0	9475.0	9987.0	9996.0	10011.0	10020.0	10085.0	10465.0
									Elev	1752.0	1746.0	1744.0	1740.0	1740.0	1744.0	1744.0	1752.0
01	201204	2	0.080	0.055	0.080	2164	0.0222		**Sta**	9976.0	9981.0	9995.0	10000.0	10005.0	10022.0	10030.0	10035.0
									Elev	2082.0	2080.0	2074.0	2071.4	2072.0	2074.0	2080.0	2082.0
01	204206	1	0.080	0.055	0.080	1209	0.0149		**Sta**	9961.0	9980.0	9986.0	9995.0	10010.0	10022.0	10080.0	10150.0
									Elev	2056.0	2050.0	2047.6	2044.4	2044.4	2048.0	2050.0	2054.0
01	206209	2	0.080	0.055	0.080	1939	0.0113		**Sta**	9942.0	9966.0	9980.0	9990.0	10010.0	10020.0	10022.0	10035.0
									Elev	2034.0	2028.0	2028.0	2024.5	2024.5	2028.0	2030.0	2036.0
01	208209	2	0.080	0.055	0.080	2633	0.0220		**Sta**	9970.0	9978.0	9985.0	9987.0	10000.0	10015.0	10018.0	10022.0
									Elev	2040.0	2038.0	2036.0	2034.7	2033.7	2036.0	2038.0	2040.0
01	209215	2	0.100	0.055	0.100	2036	0.0138		**Sta**	9960.0	9978.0	9984.0	9992.0	10012.0	10060.0	10260.0	10275.0
									Elev	2012.0	2010.0	2006.0	2001.0	2001.0	2006.0	2010.0	2012.0
01	211214	3	0.075	0.055	0.075	5218	0.0240		**Sta**	9990.0	9991.0	9992.0	10000.0	10027.0	10040.0	10106.0	10120.0
									Elev	2056.0	2053.0	2050.0	2047.0	2048.7	2050.0	2052.9	2056.0
01	214215	1	0.100	0.055	0.100	1801	0.0150		**Sta**	9692.0	9862.0	9934.0	9991.0	10000.0	10002.0	10018.0	10038.0
									Elev	2024.0	2016.0	2016.0	2014.0	2014.0	2016.0	2020.0	2024.0
01	215216	2	0.050	0.040	0.050	2088	0.0129		**Sta**	9828.0	9916.0	9984.0	9995.0	10025.0	10036.0	10206.0	10222.0
									Elev	1982.0	1976.0	1976.0	1974.0	1974.0	1978.0	1980.0	1982.0
01	216217	7	0.100	0.055	0.100	7706	0.0100		**Sta**	9896.0	9930.0	9970.0	9992.0	10022.0	10025.0	10145.0	10183.0
									Elev	1966.0	1962.0	1960.0	1956.0	1956.0	1958.0	1960.0	1966.0
01	218219	5	0.070	0.060	0.070	5923	0.0181		**Sta**	9940.0	9951.0	9954.0	9993.0	10000.0	10016.0	10028.0	10065.0
									Elev	1940.0	1938.0	1937.4	1934.0	1933.5	1937.4	1938.0	1940.0

Routing Data - Normal Depth

		RS Card	RC Card						RX and RY Cards								
Basin	Reach ID	NSTPS	ANL	ANCH	ANR	RLNTH (ft)	SEL (ft/ft)	ELMAX		1	2	LB	4	5	RB	7	8
01	220217	1	0.065	0.050	0.065	788	0.0100		**Sta**	9911.0	9932.0	9962.0	9990.0	10015.0	10045.0	10268.0	10570.0
									Elev	1898.0	1896.0	1892.0	1888.0	1888.0	1892.0	1892.0	1898.0
01	217221	3	0.065	0.050	0.065	3118	0.0100		**Sta**	9815.0	9890.0	9935.0	9972.0	10048.0	10070.0	10345.0	10380.0
									Elev	1886.0	1884.0	1882.0	1879.5	1879.5	1882.0	1884.0	1886.0
01	221222	4	0.065	0.050	0.065	5489	0.0093		**Sta**	9870.0	9945.0	9978.0	9987.0	10017.0	10025.0	10495.0	10522.0
									Elev	1839.0	1838.0	1836.0	1830.0	1830.0	1834.0	1836.0	1838.0
01	222227	3	0.065	0.050	0.065	3886	0.0083		**Sta**	9771.0	9896.0	9980.0	9990.0	10010.0	10020.0	10055.0	10111.0
									Elev	1796.0	1794.0	1792.0	1788.0	1788.0	1792.0	1794.0	1796.0
01	223227	3	0.065	0.055	0.065	3813	0.0105		**Sta**	9400.0	9890.0	9945.0	9995.0	10005.0	10010.0	10150.0	10230.0
									Elev	1796.0	1794.0	1794.0	1792.0	1792.0	1794.0	1794.0	1796.0
01	225226	4	0.065	0.045	0.065	5803	0.0100		**Sta**	9926.0	9946.0	9990.0	9997.0	10005.0	10012.0	10034.0	10058.0
									Elev	1818.0	1815.0	1816.0	1813.6	1813.6	1816.0	1816.7	1818.0
01	226227	4	0.065	0.045	0.065	3752	0.0091		**Sta**	9917.0	9976.0	9990.0	9998.0	10004.0	10012.0	10045.0	10078.0
									Elev	1784.0	1782.7	1782.5	1779.6	1779.6	1782.0	1783.0	1784.0
01	227228	3	0.065	0.050	0.065	3336	0.0072		**Sta**	9600.0	9725.0	9955.0	9972.0	10002.0	10020.0	10240.0	10900.0
									Elev	1758.0	1754.0	1754.0	1750.0	1750.0	1754.0	1754.0	1758.0
01	228147	1	0.065	0.050	0.065	1190	0.0067		**Sta**	8920.0	8990.0	9000.0	9040.0	9060.0	9065.0	9170.0	9365.0
									Elev	1752.0	1746.0	1744.0	1738.0	1738.0	1742.0	1742.0	1744.0
01	147319	1	0.065	0.050	0.065	939	0.0053		**Sta**	9756.0	9812.0	9972.0	9986.0	10020.0	10036.0	10071.0	10130.0
									Elev	1740.0	1736.0	1732.0	1728.0	1728.0	1732.0	1734.0	1740.0
01	301302	2	0.070	0.055	0.070	2988	0.0180		**Sta**	9934.0	9962.0	9987.0	9996.0	10004.0	10010.0	10027.0	10045.0
									Elev	1952.0	1946.0	1940.0	1938.0	1938.0	1940.0	1946.0	1952.0
01	302303	2	0.070	0.055	0.070	2671	0.0116		**Sta**	9956.0	9972.0	9988.0	9995.0	10010.0	10024.0	10044.0	10060.0
									Elev	1914.0	1910.0	1906.0	1904.0	1904.0	1906.0	1910.0	1914.0
01	303312	4	0.065	0.050	0.065	5007	0.0134		**Sta**	9678.0	9850.0	9982.0	9993.0	10009.0	10018.0	10041.0	10637.0
									Elev	1852.0	1850.0	1848.0	1846.0	1846.0	1848.0	1850.0	1852.0

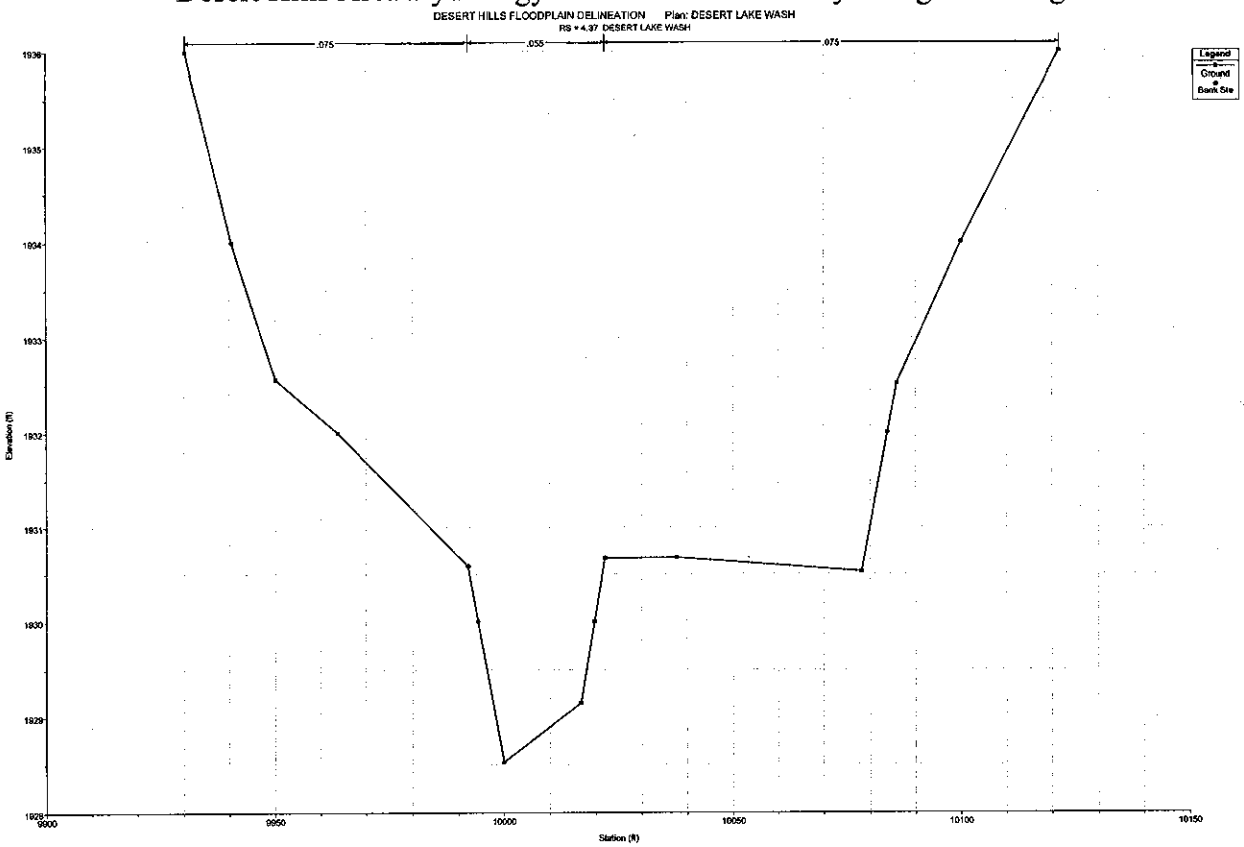
Routing Data - Normal Depth

		RS Card	RC Card						RX and RY Cards								
Basin	Reach ID	NSTPS	ANL	ANCH	ANR	RLNTH (ft)	SEL (ft/ft)	ELMAX		1	2	LB	4	5	RB	7	8
01	305309	2	0.065	0.055	0.065	3517	0.0151		**Sta**	9956.0	9976.0	9991.0	9999.0	10005.0	10013.0	10047.0	10075.0
									Elev	1908.6	1906.4	1905.6	1904.2	1904.2	1905.6	1906.0	1909.0
01	307309	1	0.065	0.055	0.065	723	0.0097		**Sta**	9896.0	9958.0	9981.0	9994.0	9999.0	10012.0	10175.0	10267.0
									Elev	1894.0	1892.0	1891.0	1888.0	1888.0	1890.6	1891.4	1894.0
01	308309	2	0.065	0.055	0.065	2133	0.0108		**Sta**	9758.0	9901.0	9991.0	9997.0	10003.0	10009.0	10031.0	10213.0
									Elev	1902.0	1900.6	1900.6	1898.6	1898.6	1900.6	1900.6	1902.0
01	309310	3	0.065	0.050	0.065	3609	0.0097		**Sta**	9738.0	9778.0	9968.0	9992.0	10000.0	10020.0	10100.0	10412.0
									Elev	1868.0	1864.0	1862.0	1860.0	1860.0	1862.0	1866.0	1868.0
01	310312	2	0.065	0.050	0.065	2221	0.0099		**Sta**	9683.0	9834.0	9938.0	9981.0	10013.0	10030.0	10200.0	10425.0
									Elev	1852.0	1848.0	1844.0	1842.0	1842.0	1844.0	1846.0	1852.0
01	311312	3	0.065	0.055	0.065	2280	0.0136		**Sta**	0.0	40.0	80.0	120.0	160.0	200.0	240.0	280.0
									Elev	100.0	99.7	99.3	99.0	99.0	99.3	99.7	100.0
01	312314	1	0.065	0.050	0.065	1024	0.0078		**Sta**	9926.0	9962.0	9970.0	9979.0	10026.0	10219.0	10638.0	10754.0
									Elev	1830.0	1828.0	1826.0	1824.0	1824.0	1826.0	1826.0	1830.0
01	313314	2	0.030	0.030	0.055	2487	0.0145		**Sta**	0.0	1.0	31.0	43.0	48.0	60.0	245.0	355.0
									Elev	100.0	99.0	98.0	92.0	92.0	98.0	99.0	100.0
01	314318	2	0.065	0.050	0.065	3277	0.0098		**Sta**	9866.0	9975.0	9984.0	9990.0	10005.0	10190.0	10390.0	10550.0
									Elev	1818.0	1810.0	1808.0	1806.0	1806.0	1810.0	1810.0	1818.0
01	315316	2	0.070	0.055	0.070	2328	0.0107		**Sta**	9983.0	9986.0	9989.0	9996.0	10004.0	10034.0	10047.0	10060.0
									Elev	1874.0	1873.0	1872.0	1869.0	1869.0	1872.0	1873.0	1874.0
01	316317	4	0.065	0.055	0.065	5852	0.0092		**Sta**	9973.0	9984.0	9993.0	9997.0	10007.0	10011.0	10067.0	10168.0
									Elev	1838.0	1836.0	1834.0	1832.7	1832.7	1834.0	1836.0	1838.0
01	317318	3	0.065	0.055	0.065	2279	0.0079		**Sta**	9820.0	9845.0	9995.0	9999.0	10015.0	10070.0	10650.0	10760.0
									Elev	1808.0	1806.0	1804.0	1802.0	1802.0	1806.0	1806.0	1808.0
01	318319	6	0.070	0.055	0.070	7226	0.0082		**Sta**	9500.0	9640.0	9980.0	9985.0	10010.0	10078.0	10352.0	10520.0
									Elev	1780.0	1770.0	1770.0	1764.0	1764.0	1768.0	1774.0	1780.0

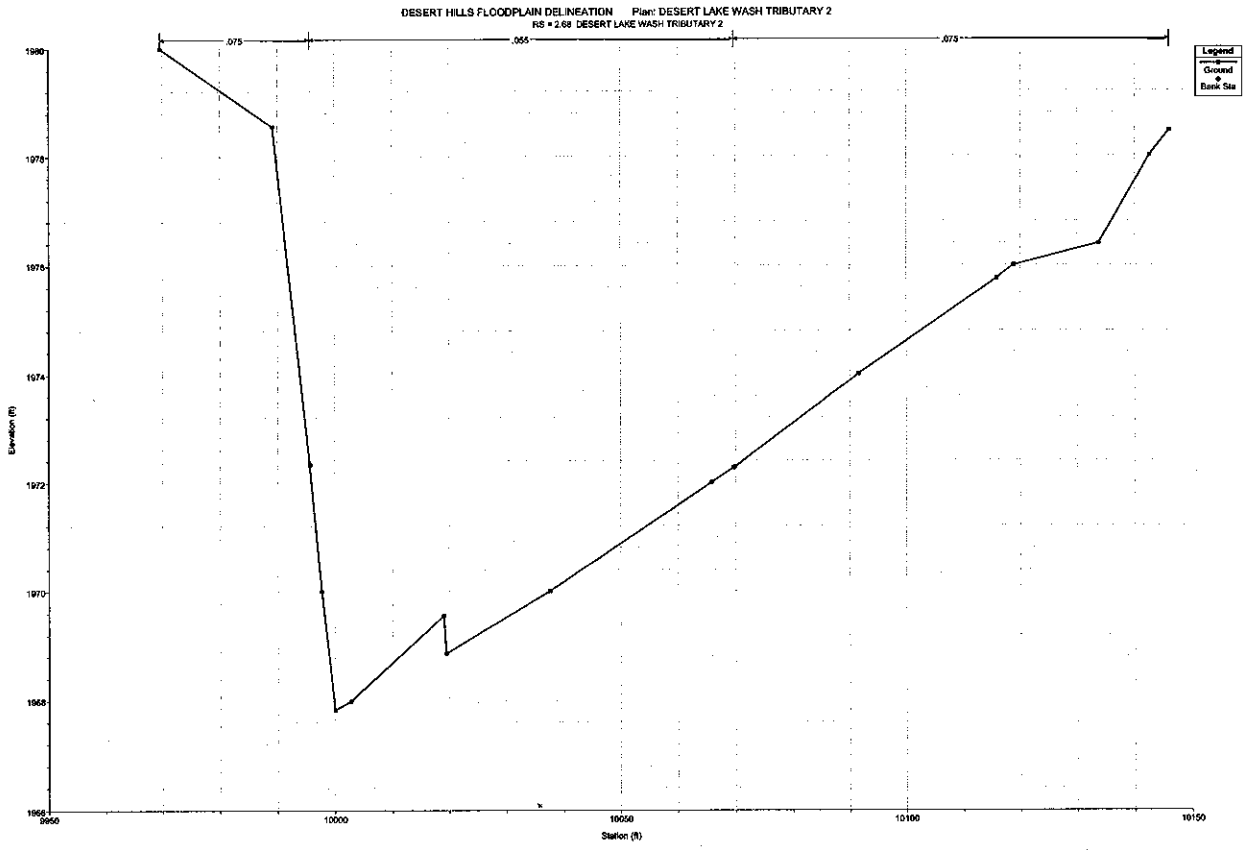
Routing Data - Normal Depth

		RS Card	RC Card						RX and RY Cards								
Basin	Reach ID	NSTPS	ANL	ANCH	ANR	RLNTH (ft)	SEL (ft/ft)	ELMAX		1	2	LB	4	5	RB	7	8
01	319400	9	0.070	0.055	0.070	11176	0.0060		**Sta**	9493.0	9580.0	9932.0	9978.0	10013.0	10030.0	10042.0	10054.0
									Elev	1698.0	1694.0	1692.0	1688.0	1688.0	1692.0	1695.0	1698.0

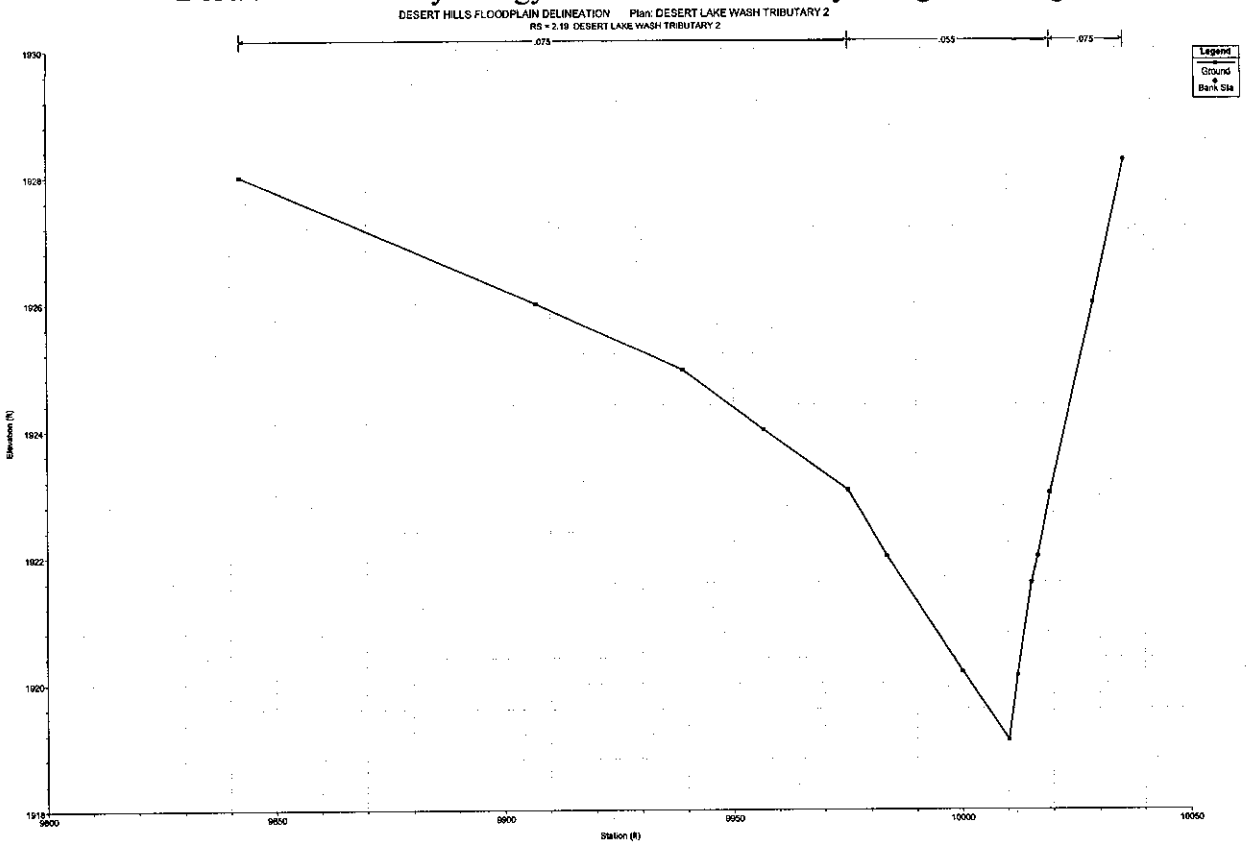
Desert Hills Area Hydrology - Cross sections for Hydrologic Routing



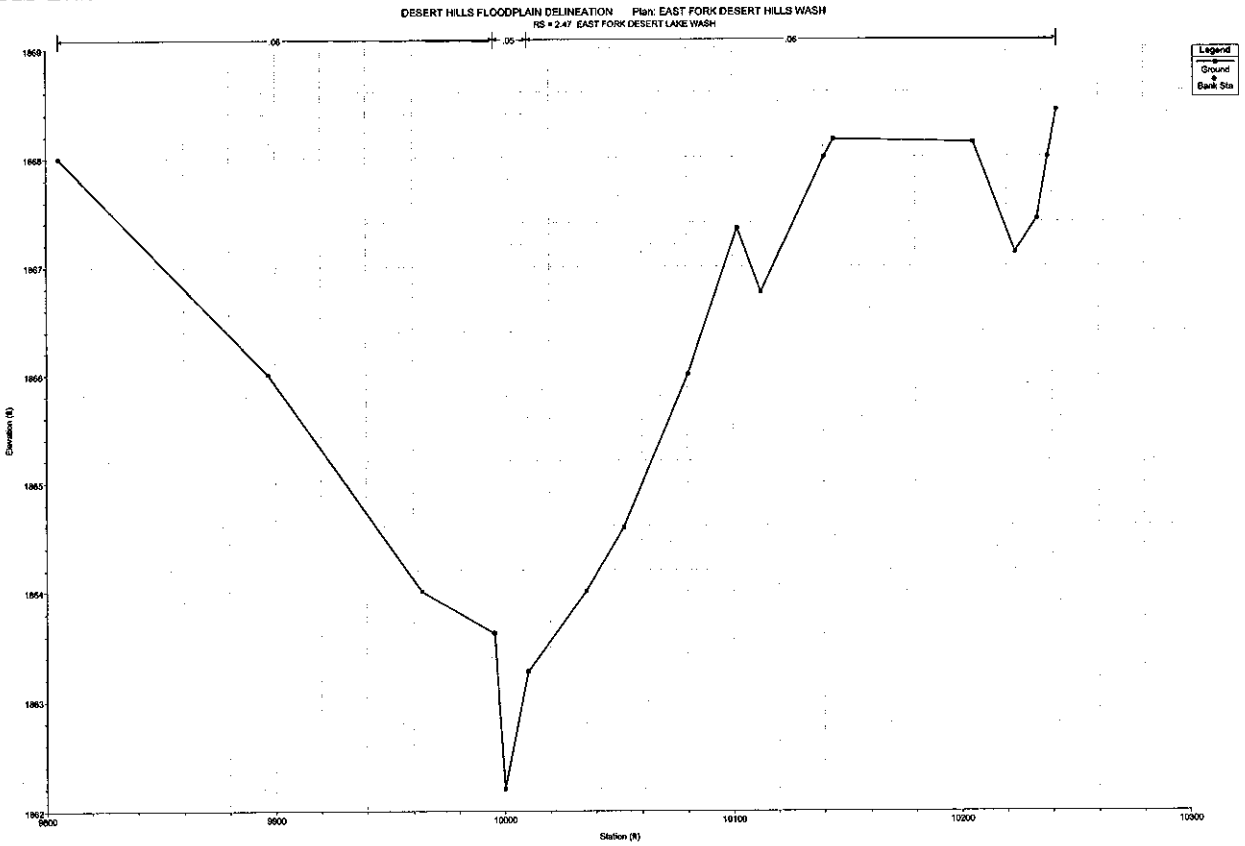
FDS cross section used as basis for routing reach 100101 (Stanley Consultants, 1999)
XS 4.37 from DSLK.PRJ



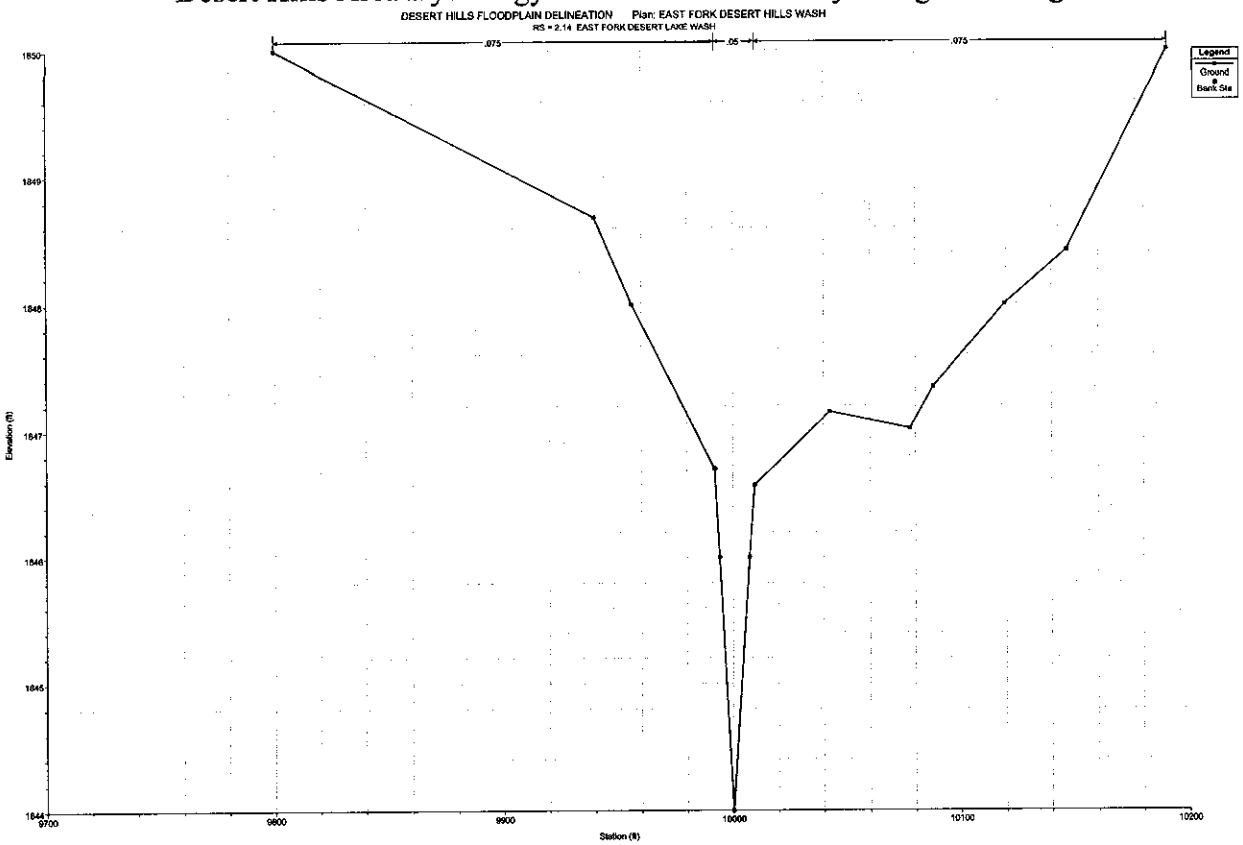
FDS cross section used as basis for routing reach 102103 (Stanley Consultants, 1999)
XS 2.68 from DSLK-T2.PRJ



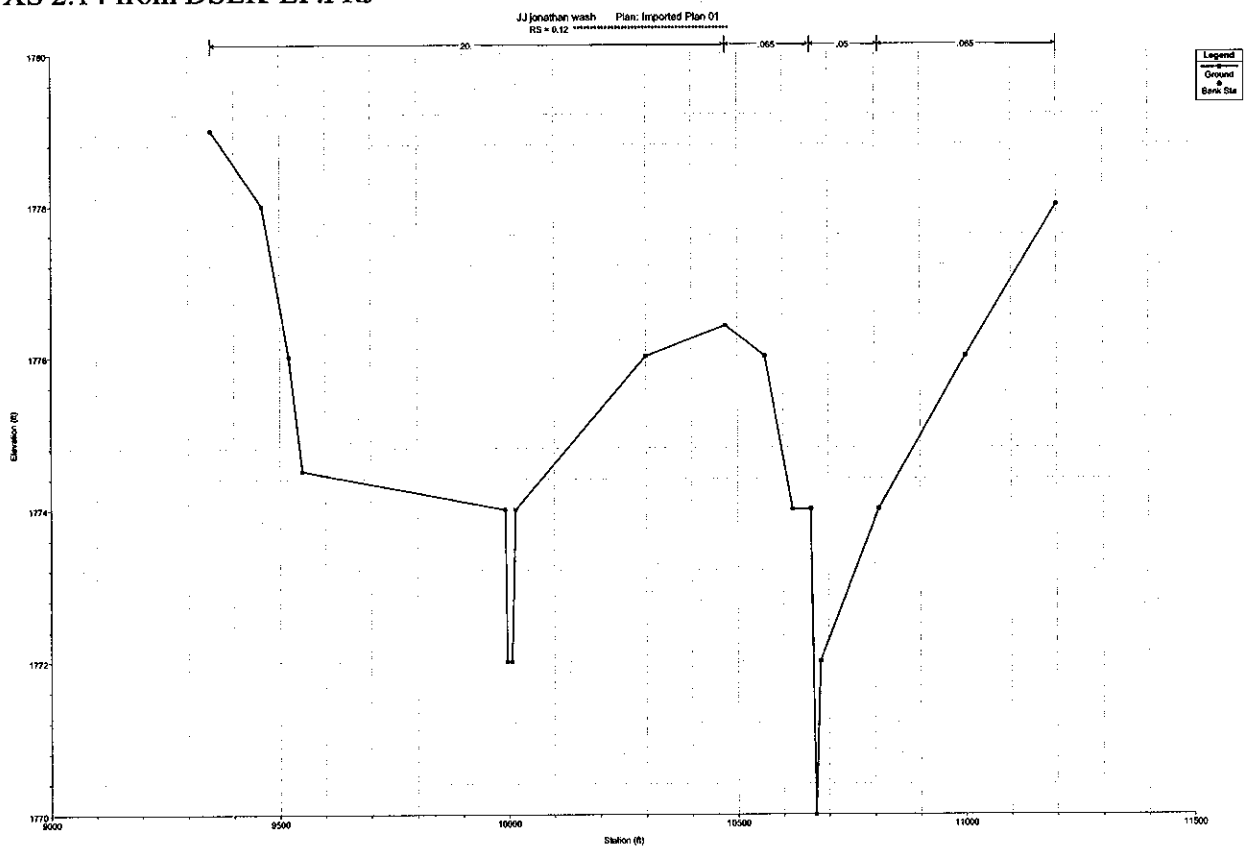
FDS cross section used as basis for routing reach 103104 (Stanley Consultants, 1999)
XS 2.19 from DSLK-T2.PRJ



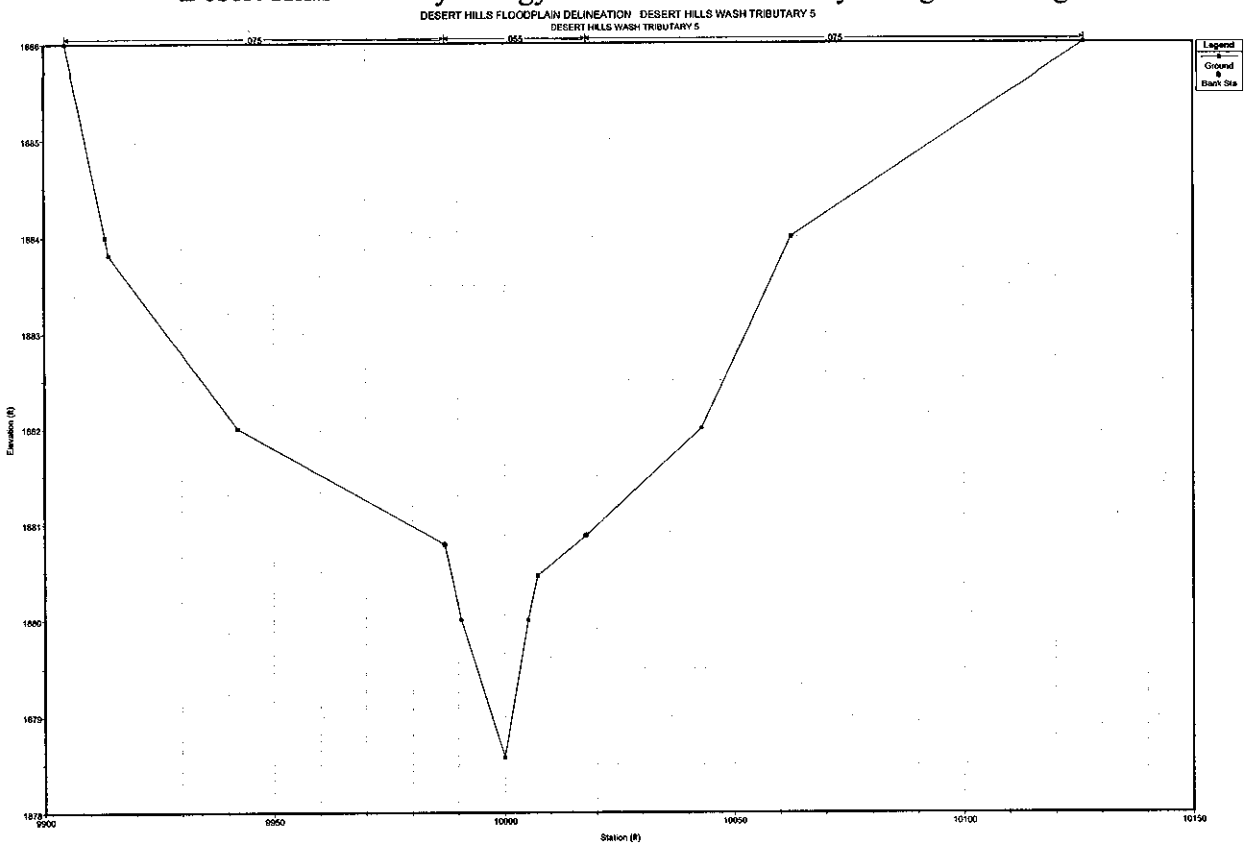
FDS cross section used as basis for routing reach 105106 (Stanley Consultants, 1999)
XS 2.47 from DSLK-EF.PRJ



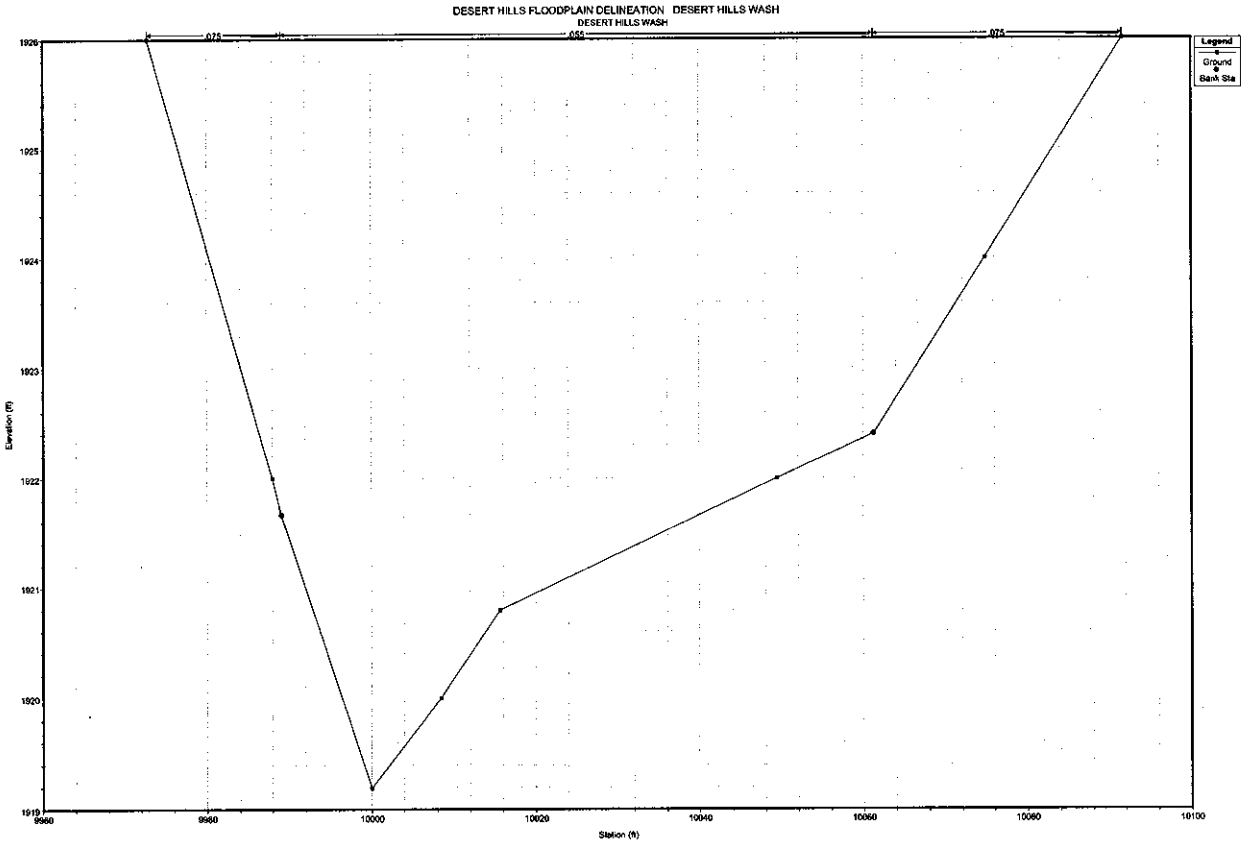
FDS cross section used as basis for routing reach 106107 (Stanley Consultants, 1999) XS 2.14 from DSLK-EF.PRJ



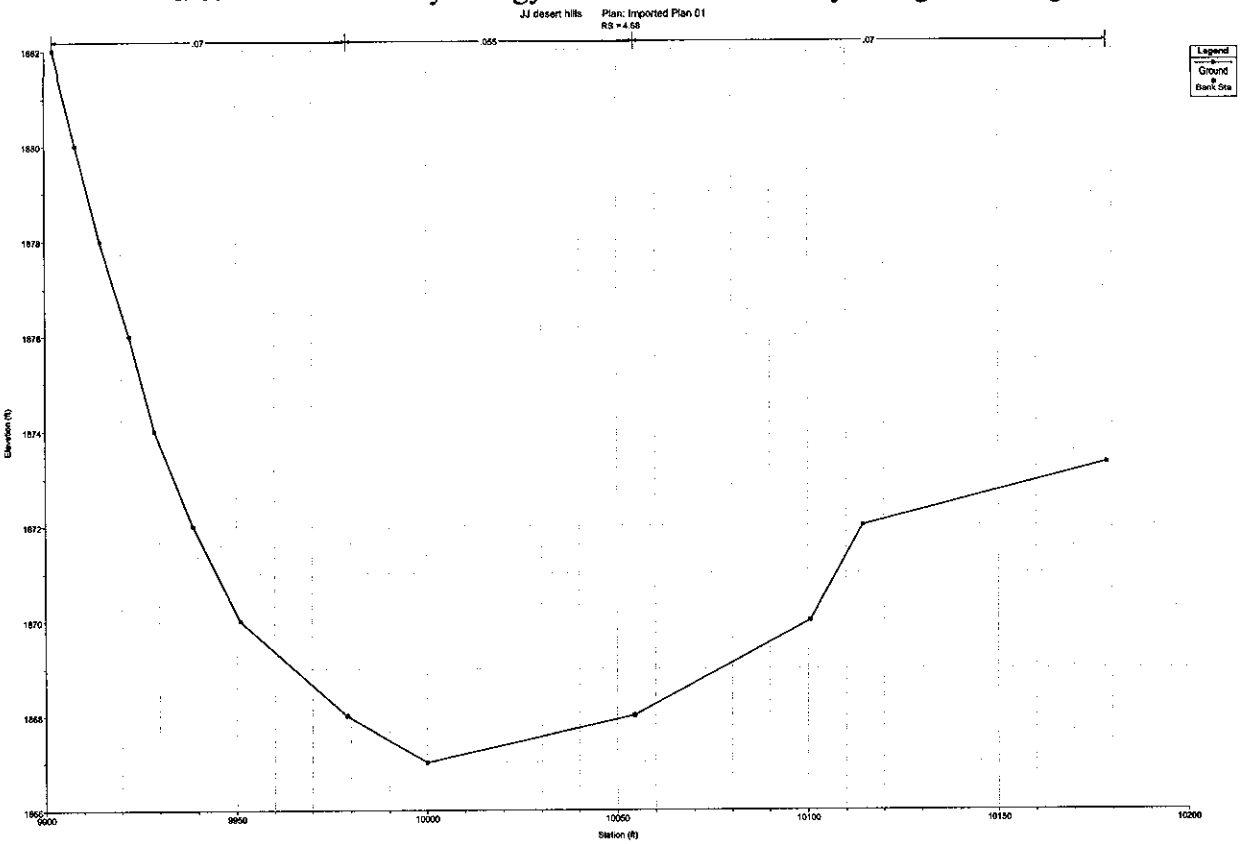
FDS cross section used as basis for routing reach CFH127 AND 125127 (right channel only) (Jerry Jones, 1992). XS 0.12 from JONA.DAT.



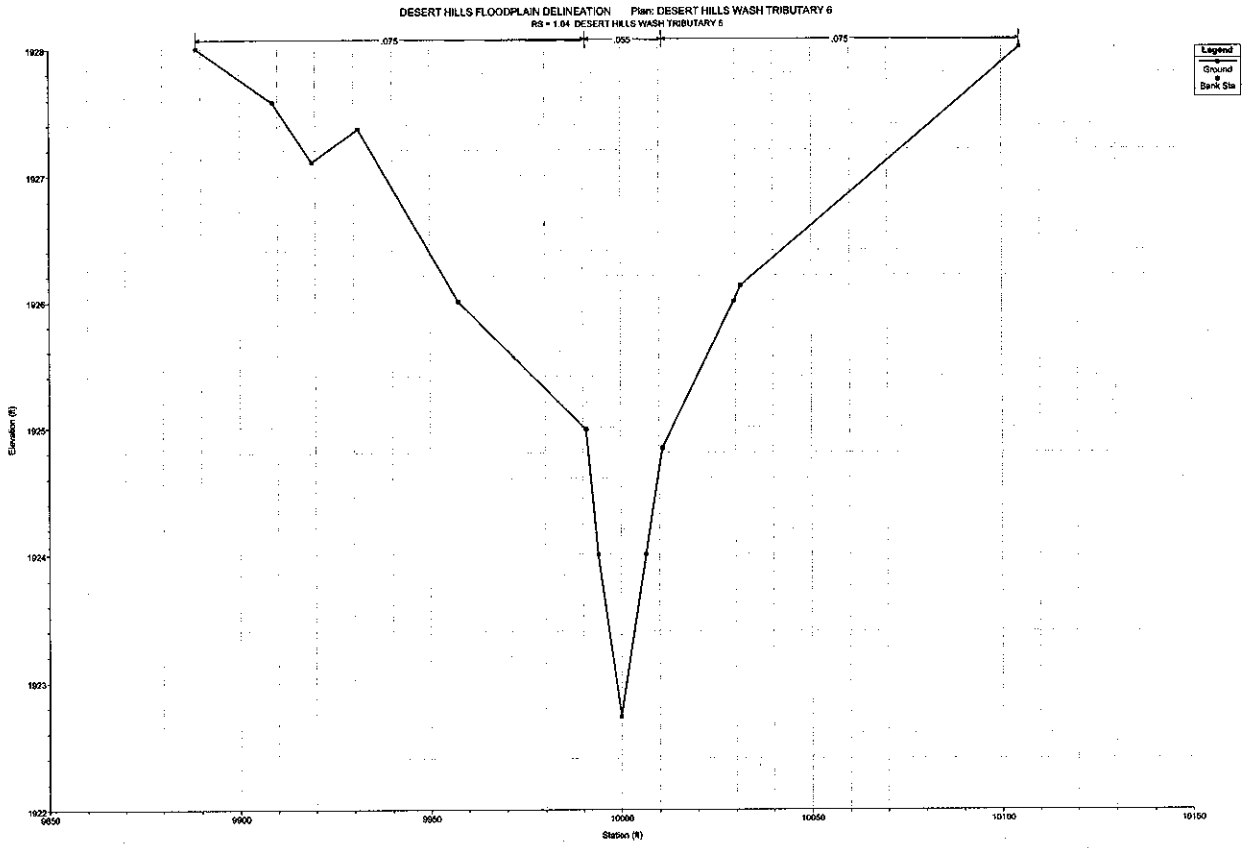
FDS cross section used as basis for routing reach 108109 (Stanley Consultants, 1999)
XS 0.74 from DTHL-T5.PRJ



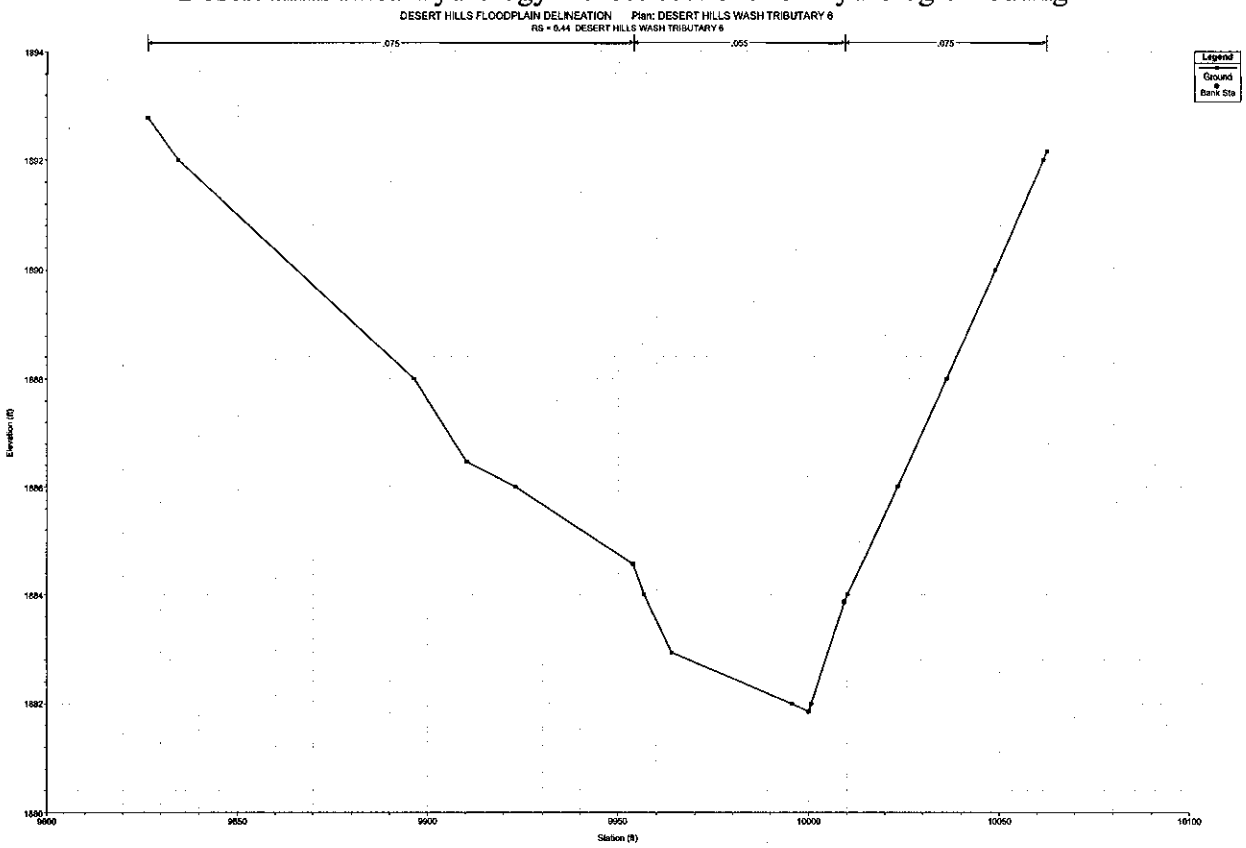
FDS cross section used as basis for routing reach 110111 (Stanley Consultants, 1999)
XS 5.57 from DTHL.PRJ



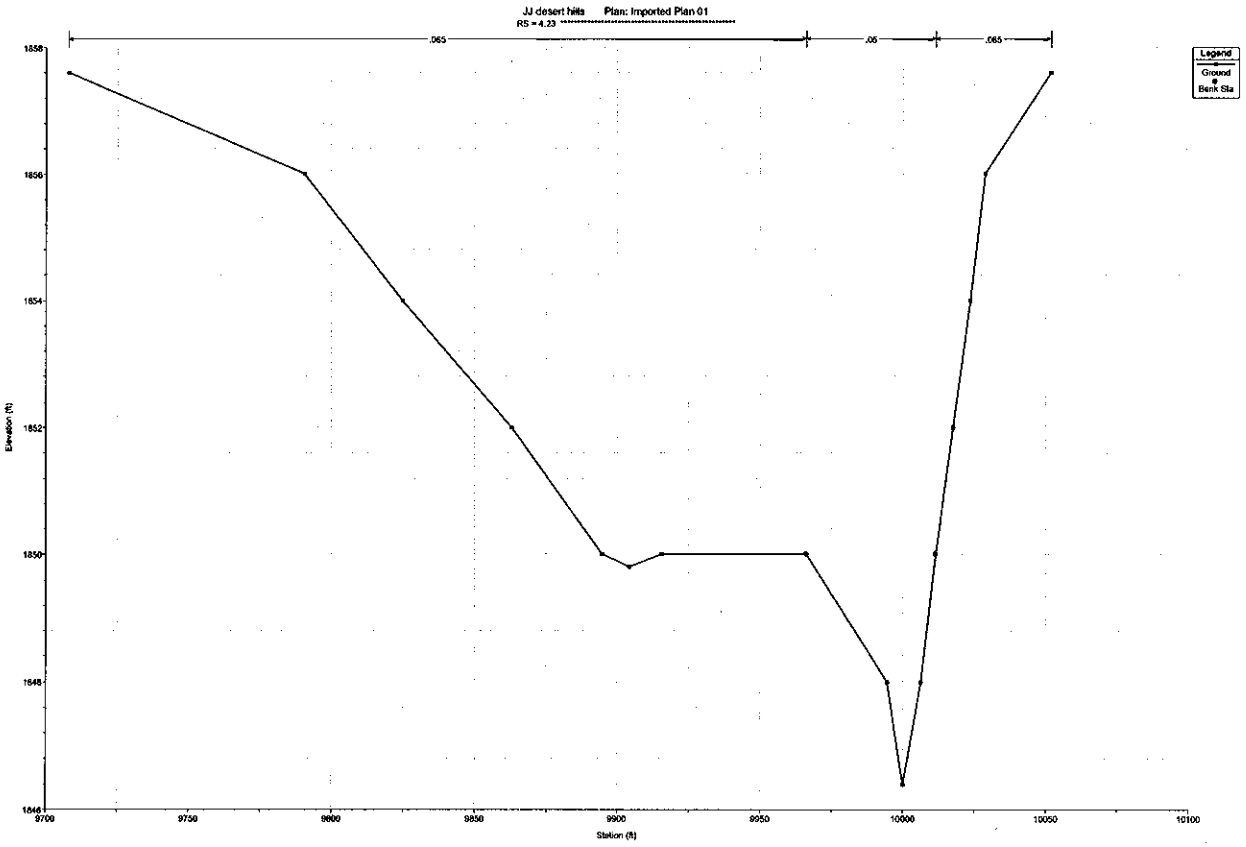
FDS cross section used as basis for routing reach 111109 (Jerry Jones, 1992).
XS 4.68 from DTHL.DAT.



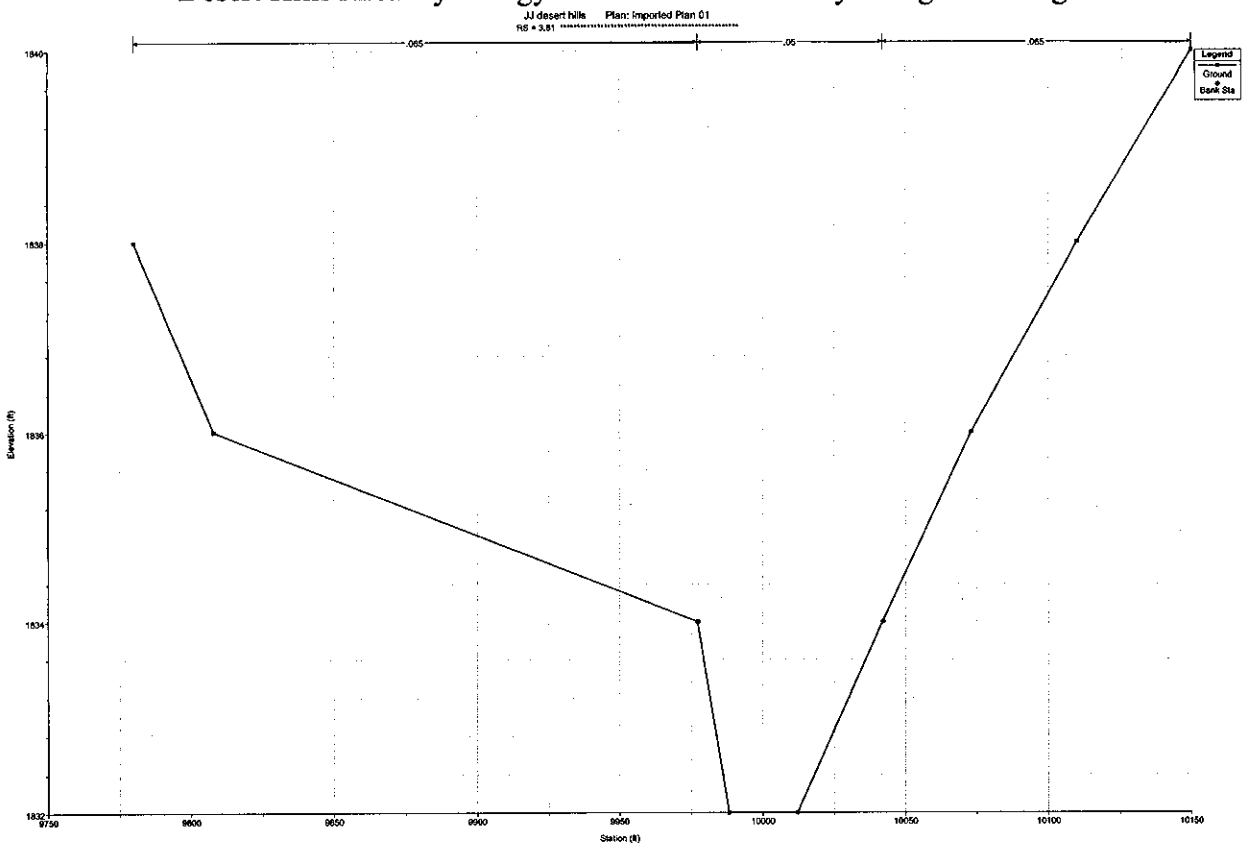
FDS cross section used as basis for routing reach 113114 (Stanley Consultants, 1999)
XS 1.04 from DTHL-T6.PRJ



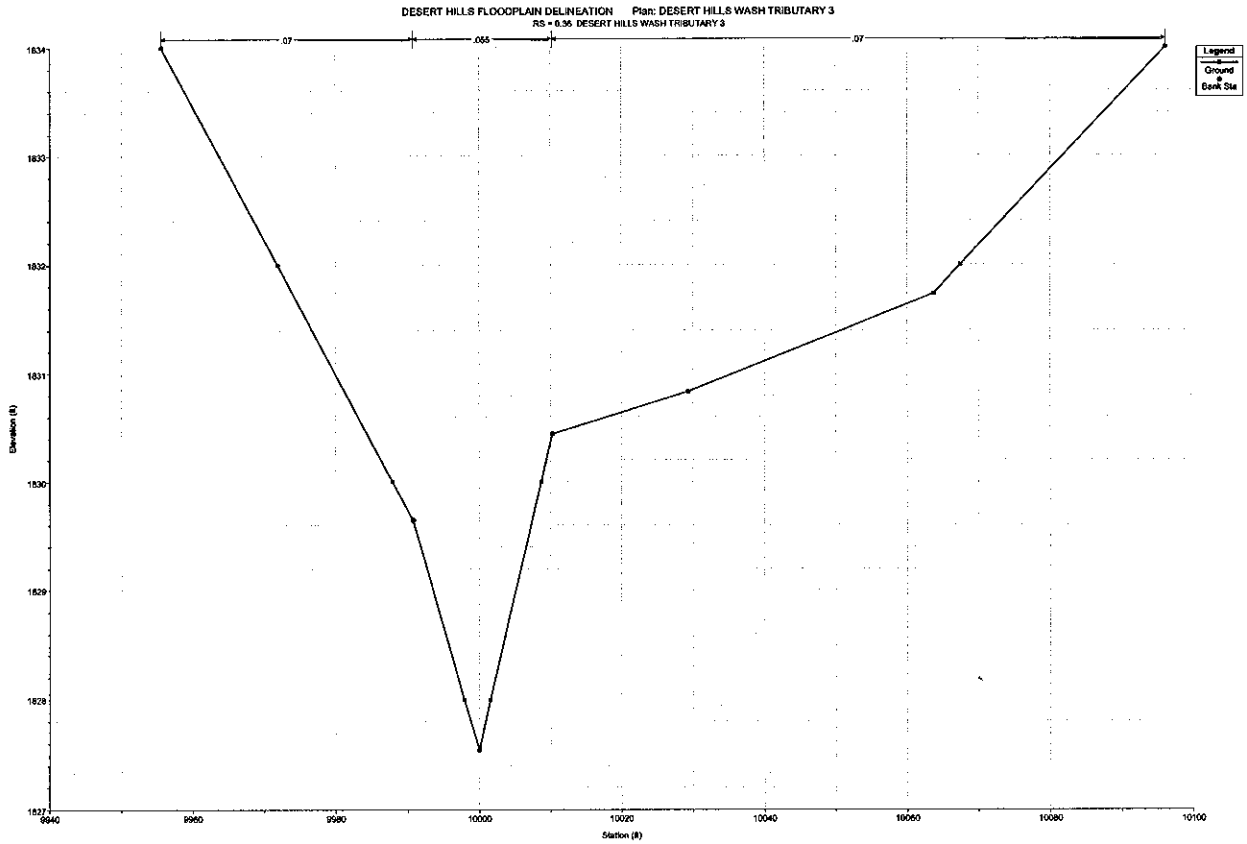
FDS cross section used as basis for routing reach 114115 (Stanley Consultants, 1999)
XS 0.44 from DTHL-T6.PRJ



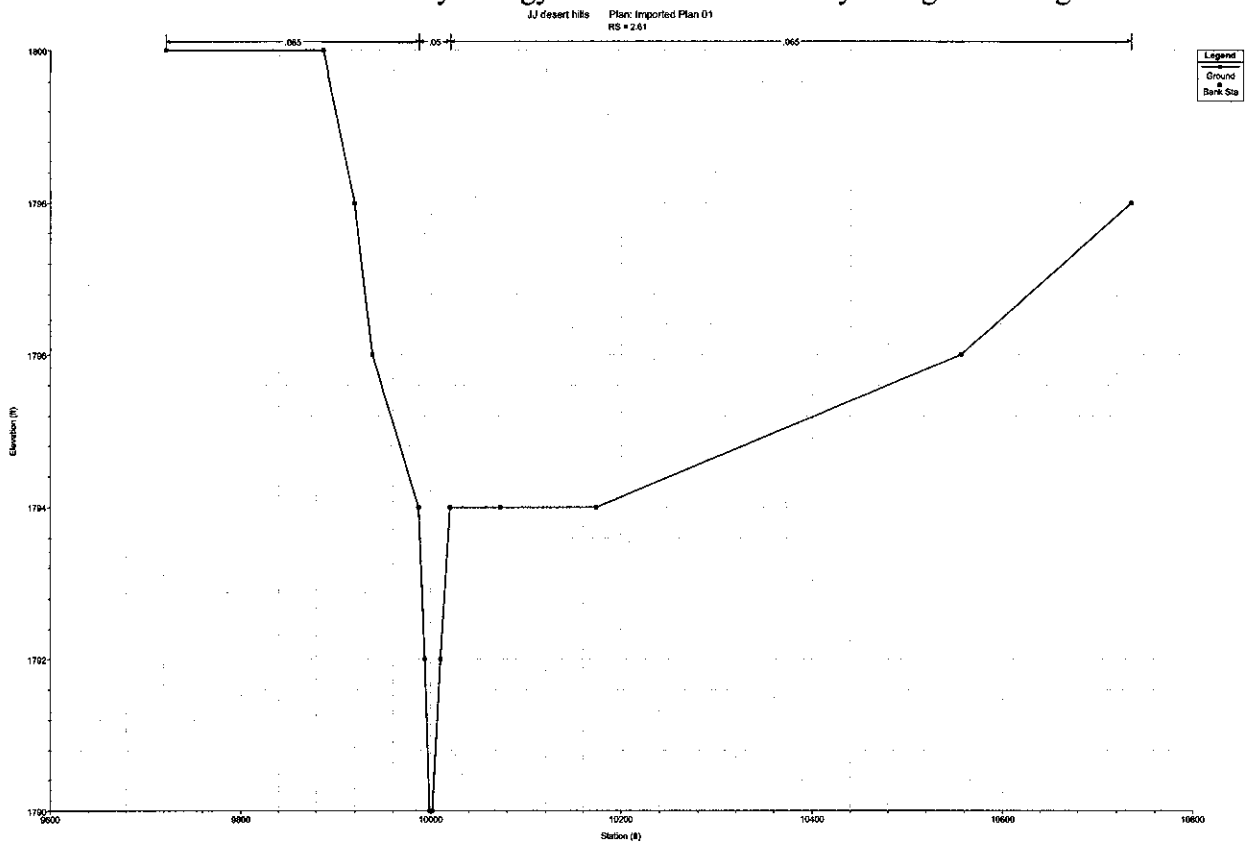
FDS cross section used as basis for routing reach 115109 (Jerry Jones, 1992).
XS 4.23 from DTHL.DAT.



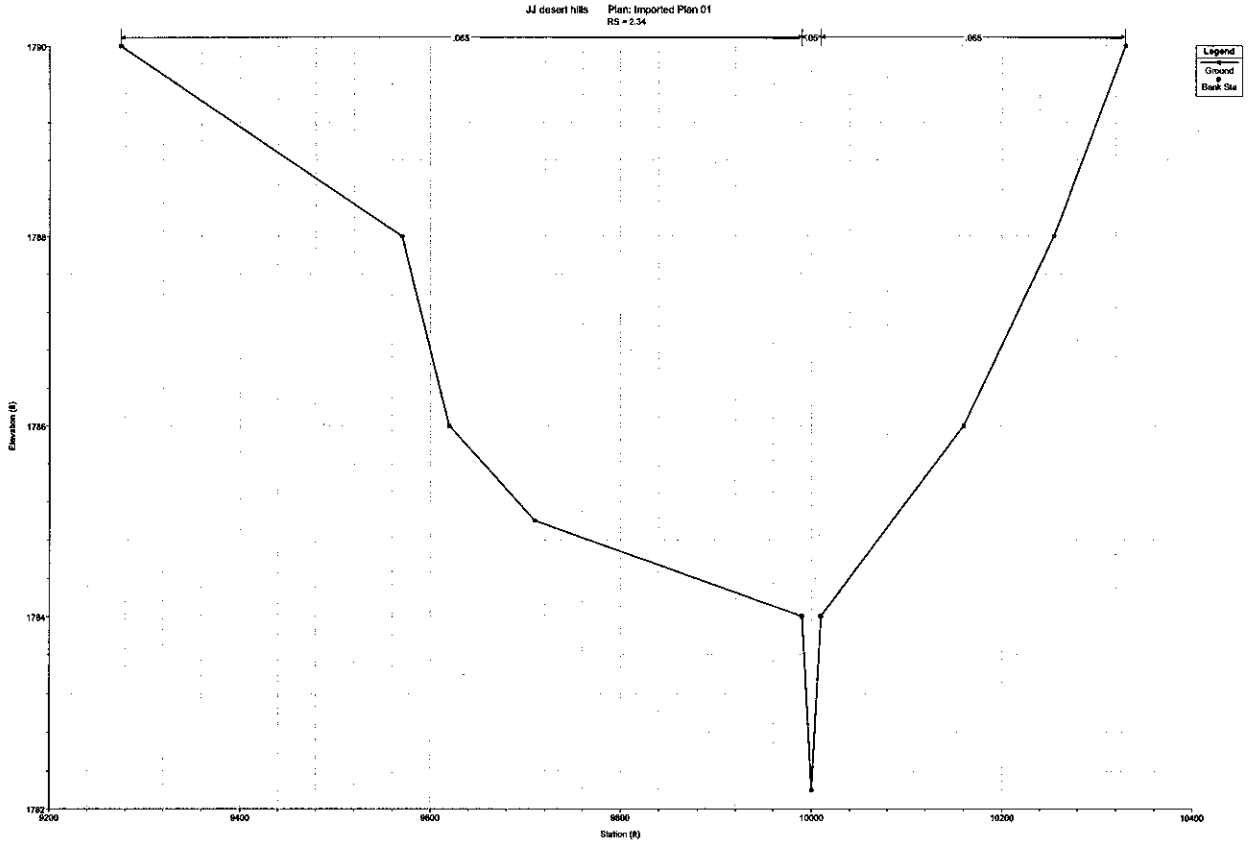
FDS cross section used as basis for routing reach 109116 (Jerry Jones, 1992).
XS 3.81 from DTHL.DAT.



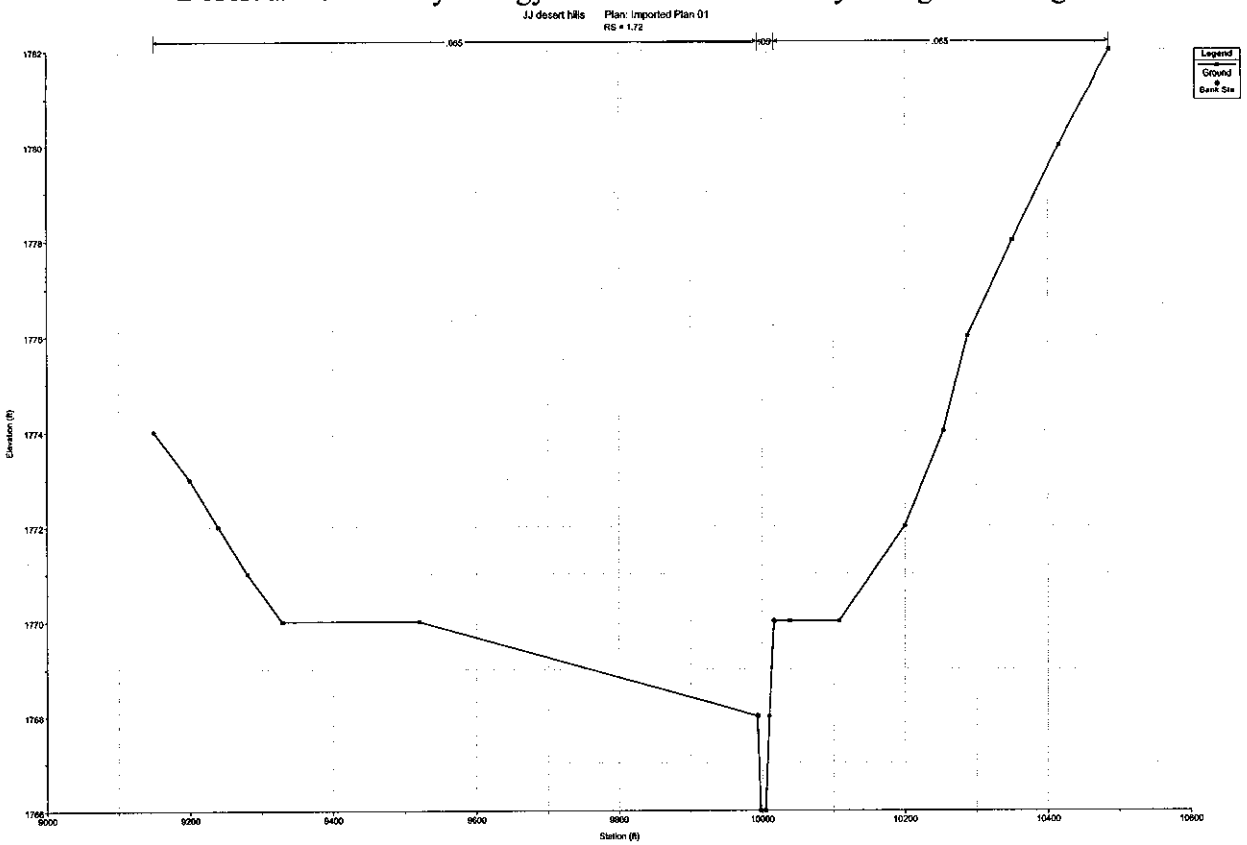
FDS cross section used as basis for routing reach 118119 (Stanley Consultants, 1999)
XS 0.36 from DTHL-T3.PRJ



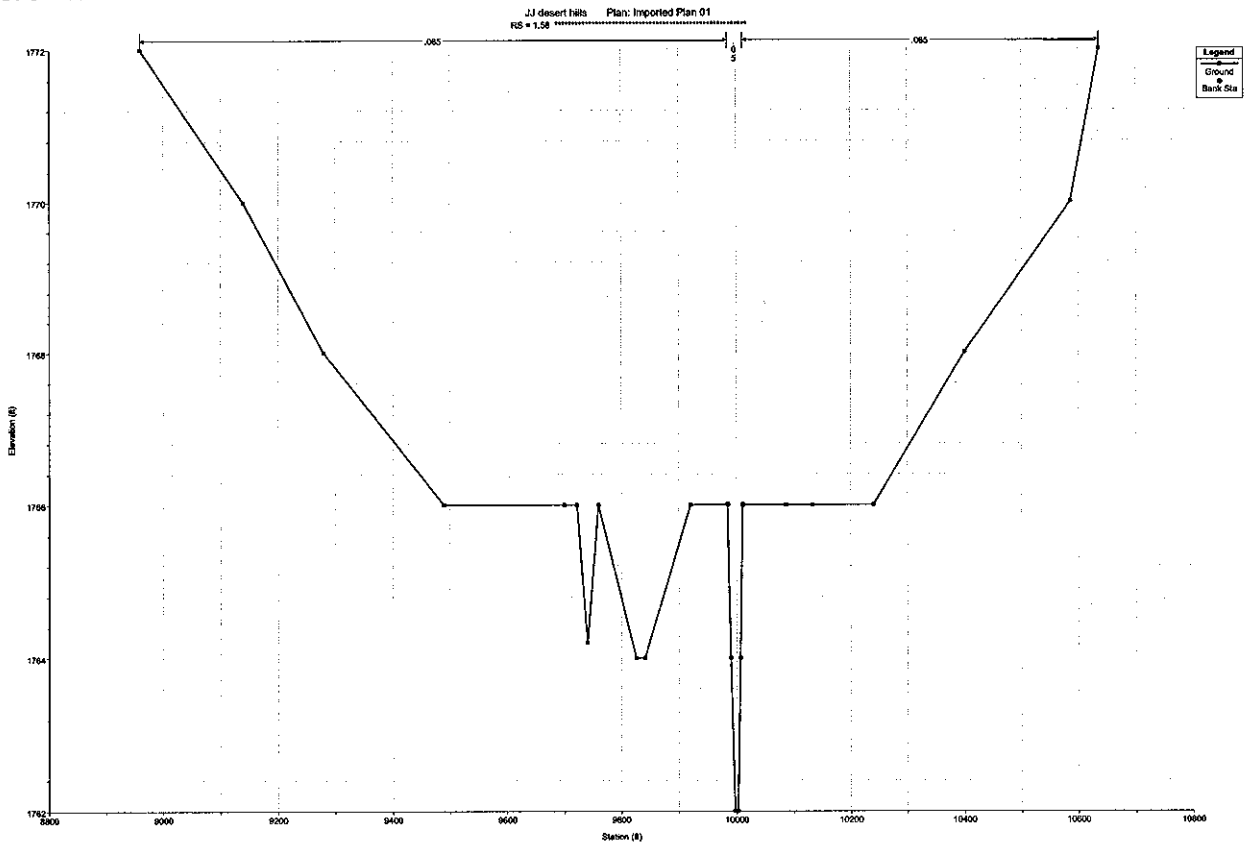
FDS cross section used as basis for routing reach 116120 (Jerry Jones, 1992).
XS 2.61 from DTHL.DAT.



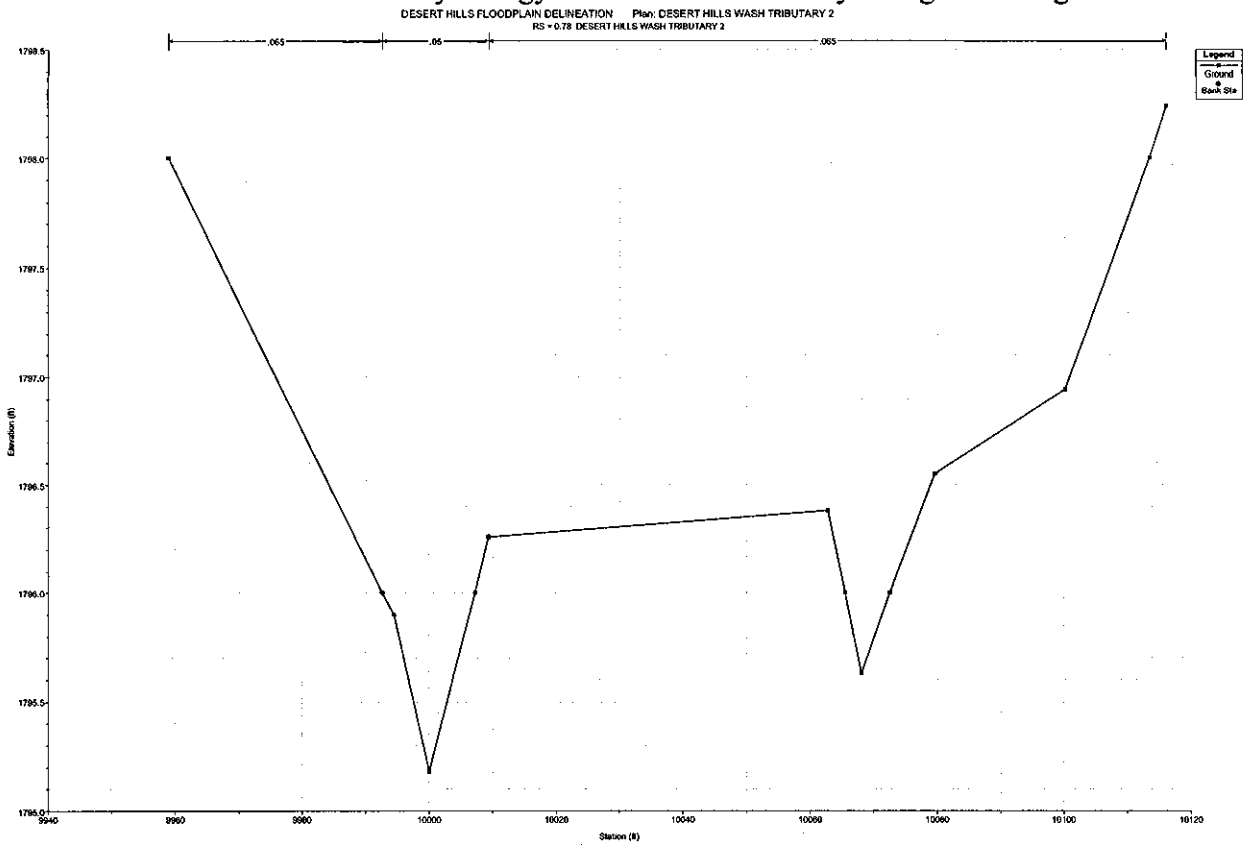
FDS cross section used as basis for routing reach 120127 (Jerry Jones, 1992).
XS 2.34 from DTHL.DAT.



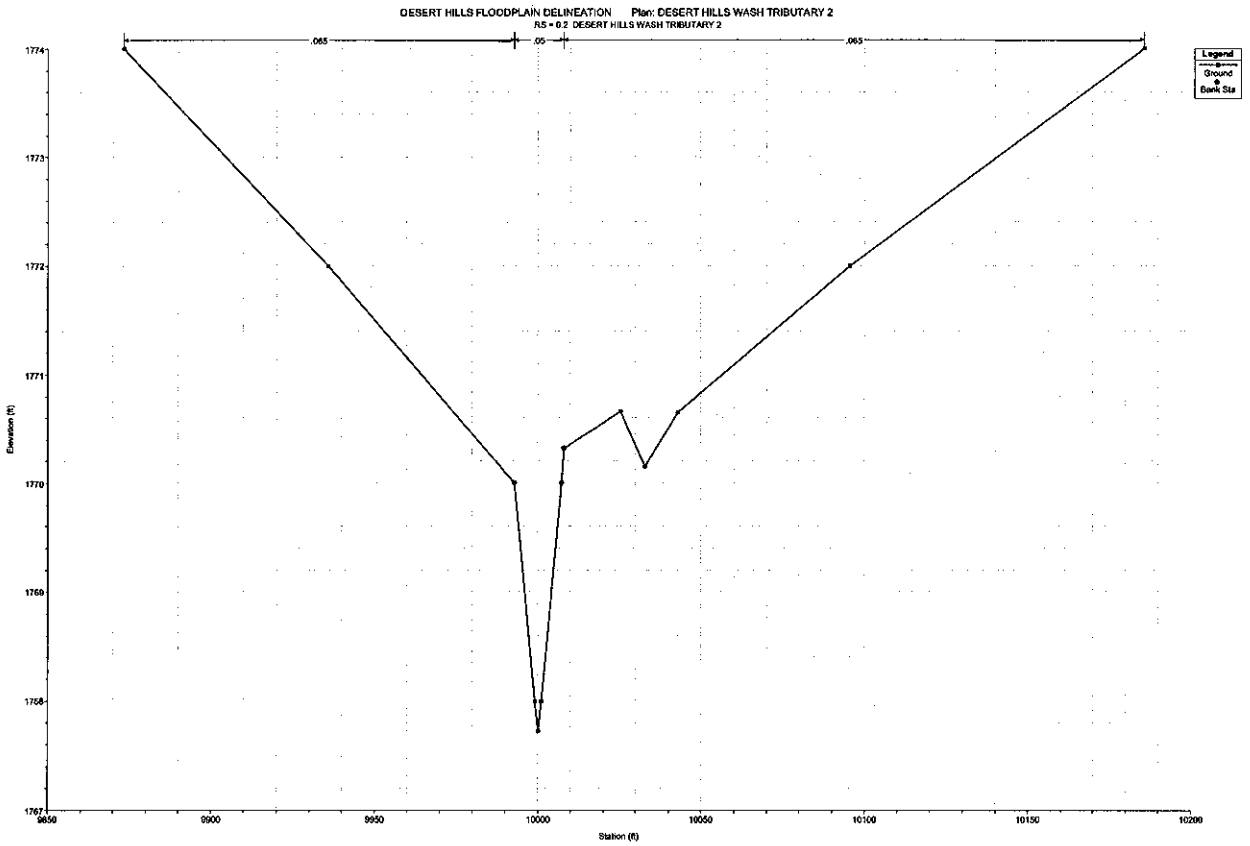
FDS cross section used as basis for routing reach 127129 and 128129 (Jerry Jones, 1992).
XS 1.72 from DTHL.DAT.



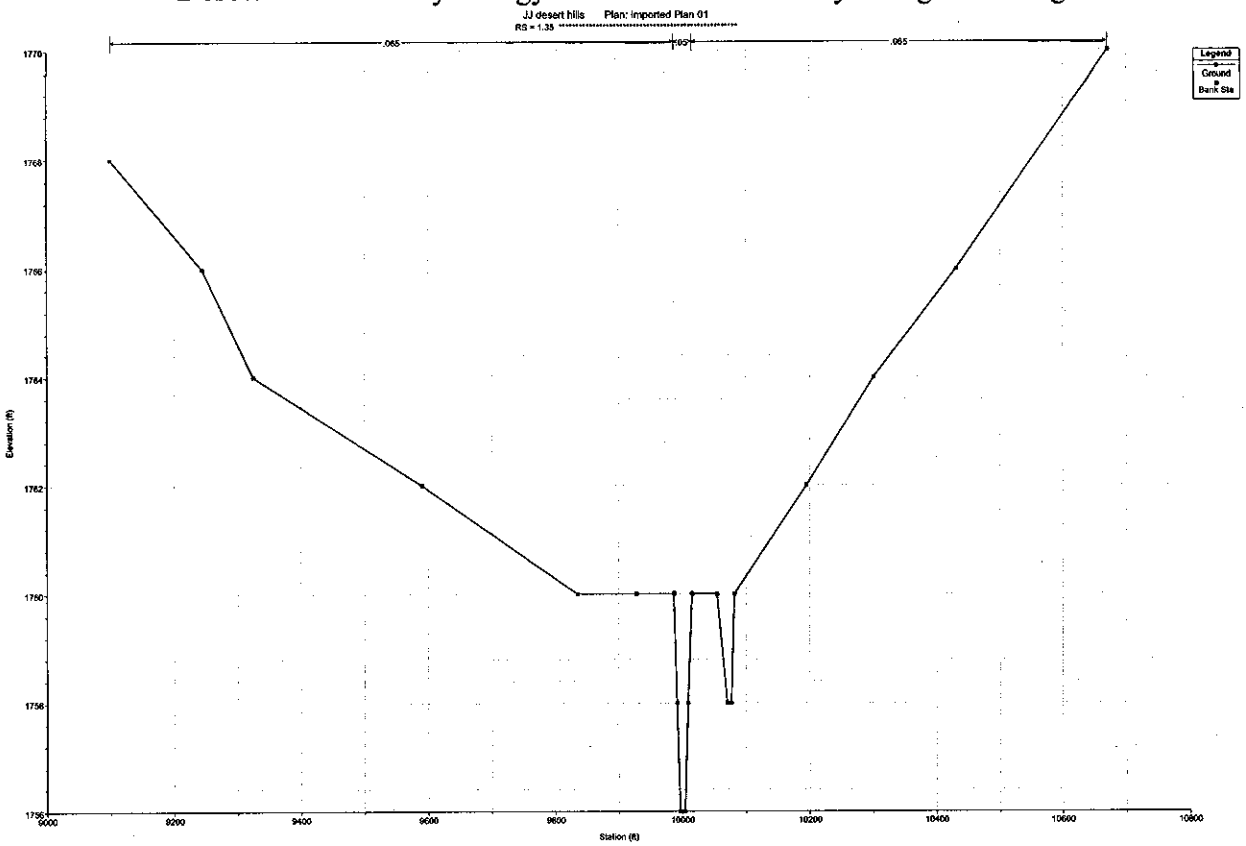
FDS cross section used as basis for routing reach 129134 (Jerry Jones, 1992).
XS 1.58 from DTHL.DAT.



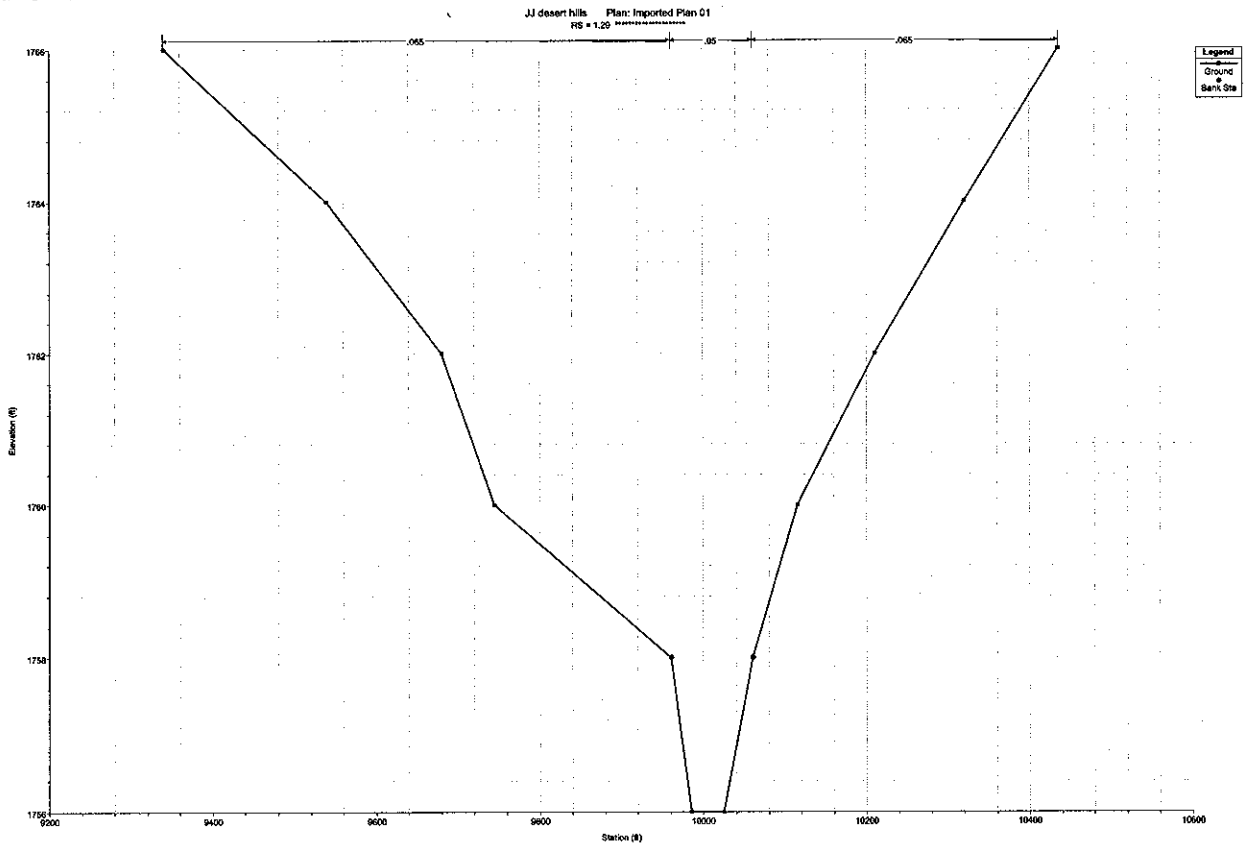
FDS cross section used as basis for routing reach 132133 (Stanley Consultants, 1999)
XS 0.78 from DTHL-T2.PRJ



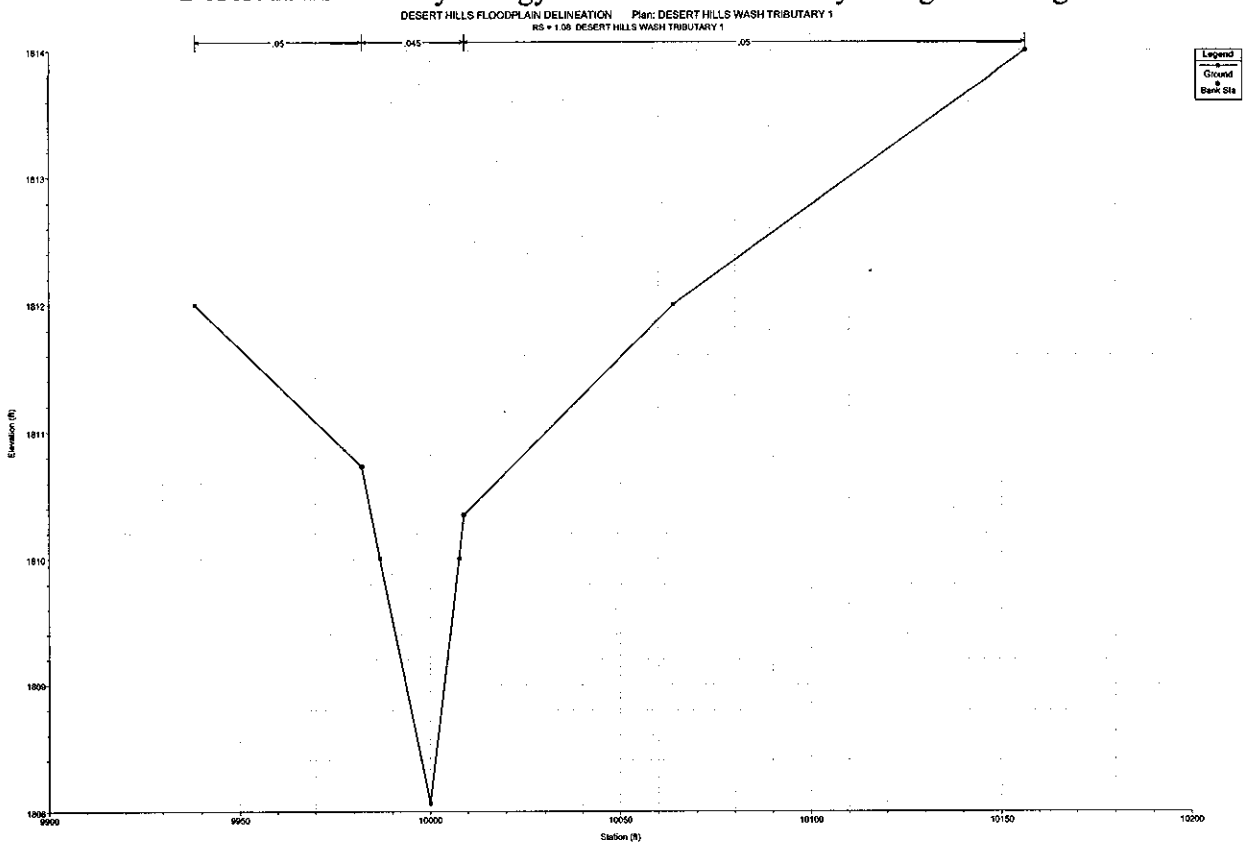
FDS cross section used as basis for routing reach 133134 (Stanley Consultants, 1999)
XS 0.20 from DTHL-T2.PRJ



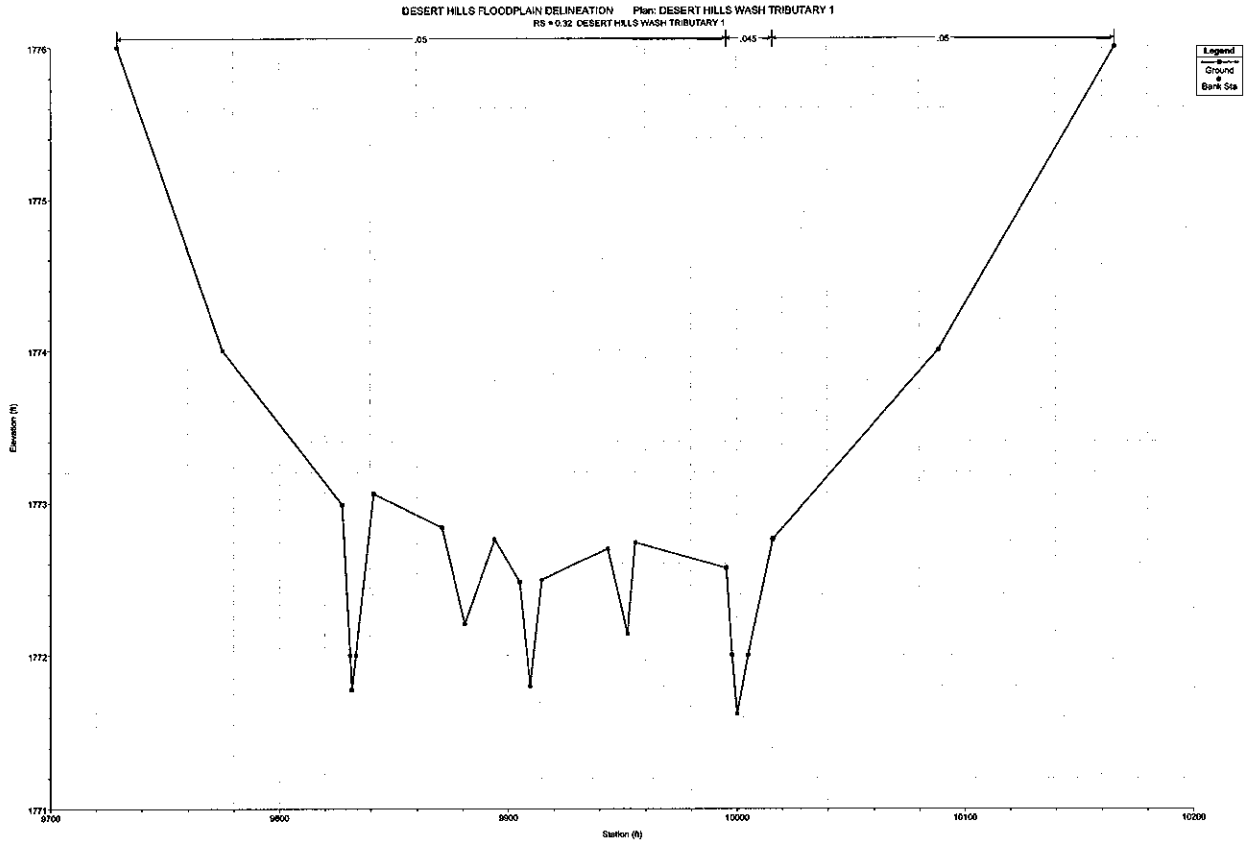
FDS cross section used as basis for routing reach 134139 (Jerry Jones, 1992).
XS 1.35 from DTHL.DAT.



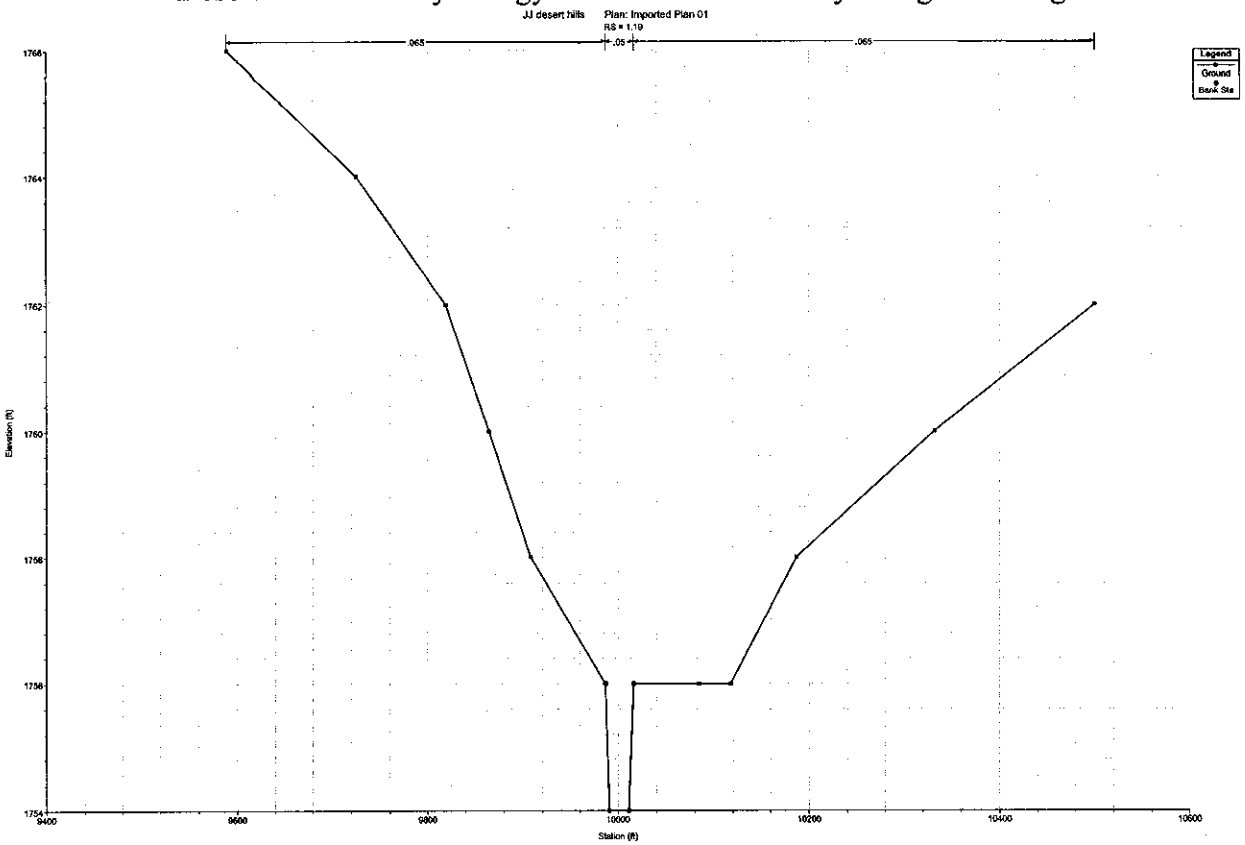
FDS cross section used as basis for routing reach 135139 (Jerry Jones, 1992).
XS 1.29 from DTHL.DAT.



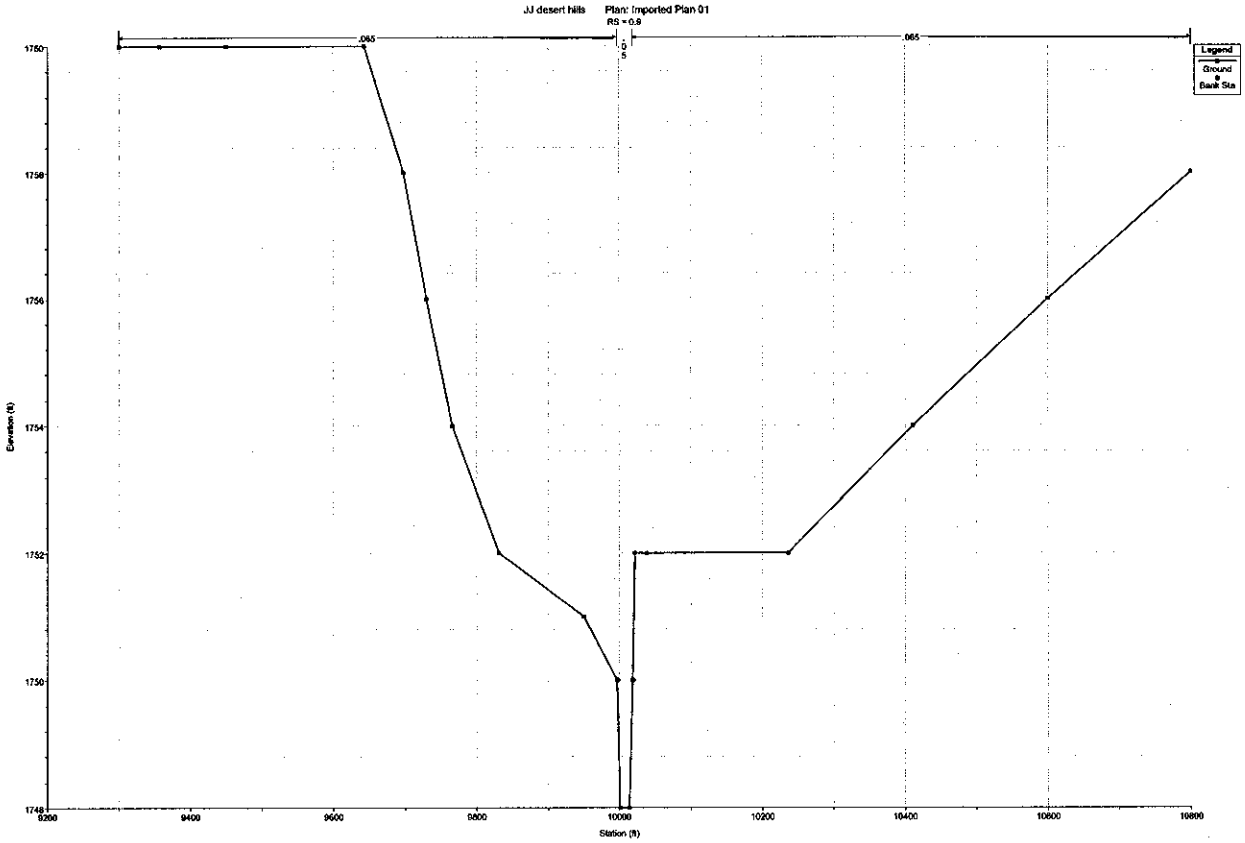
FDS cross section used as basis for routing reach 137138 (Stanley Consultants, 1999)
XS 1.08 from DTHL-T1.PRJ



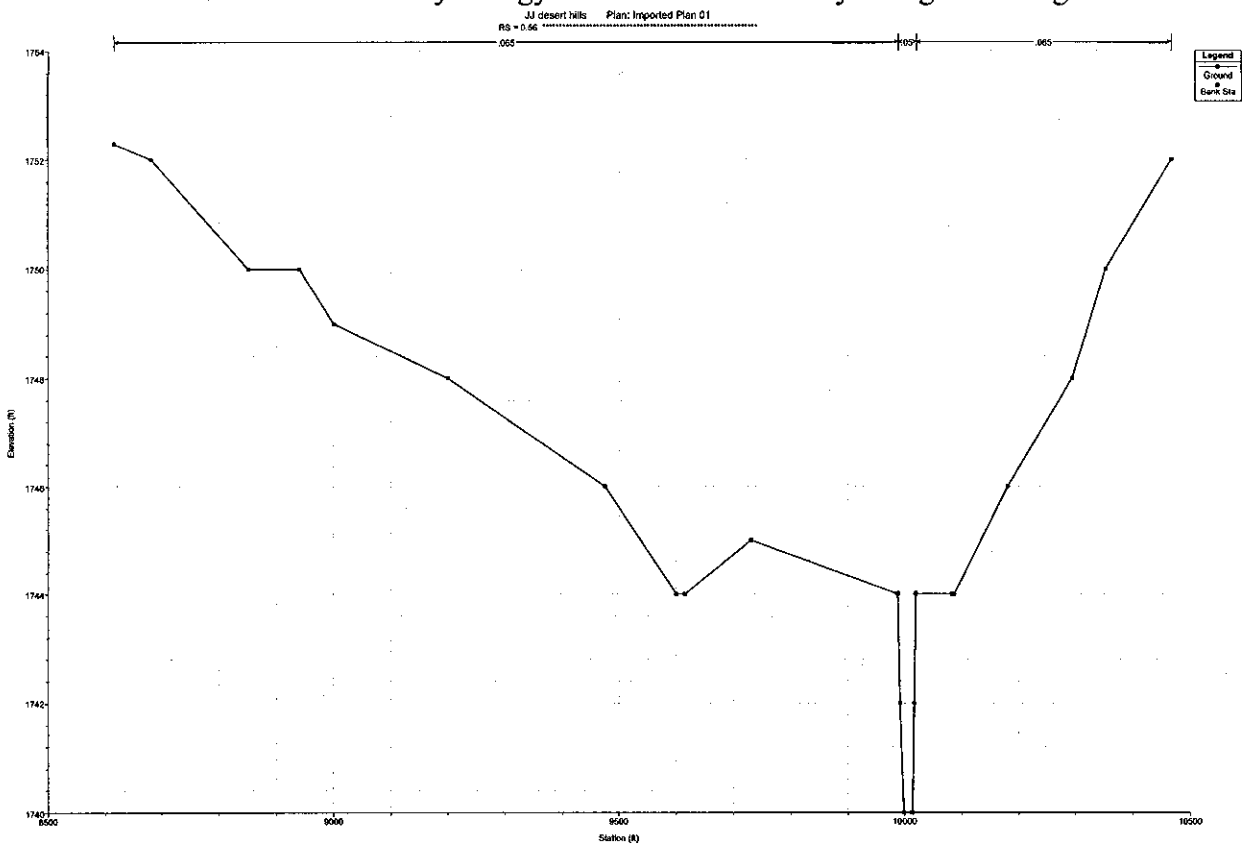
FDS cross section used as basis for routing reach 138139 (Stanley Consultants, 1999)
XS 0.32 from DTHL-T1.PRJ



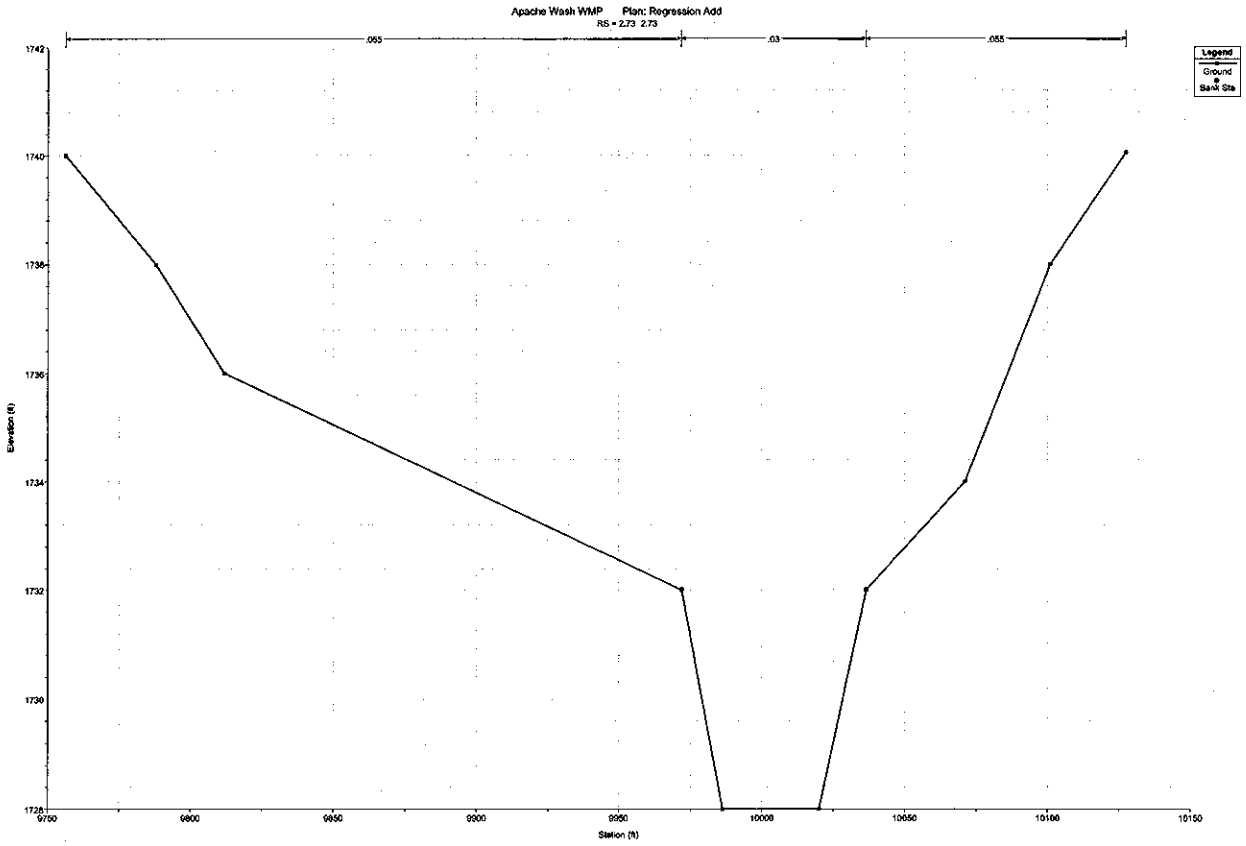
FDS cross section used as basis for routing reach 139141 (Jerry Jones, 1992).
XS 1.19 from DTHL.DAT.



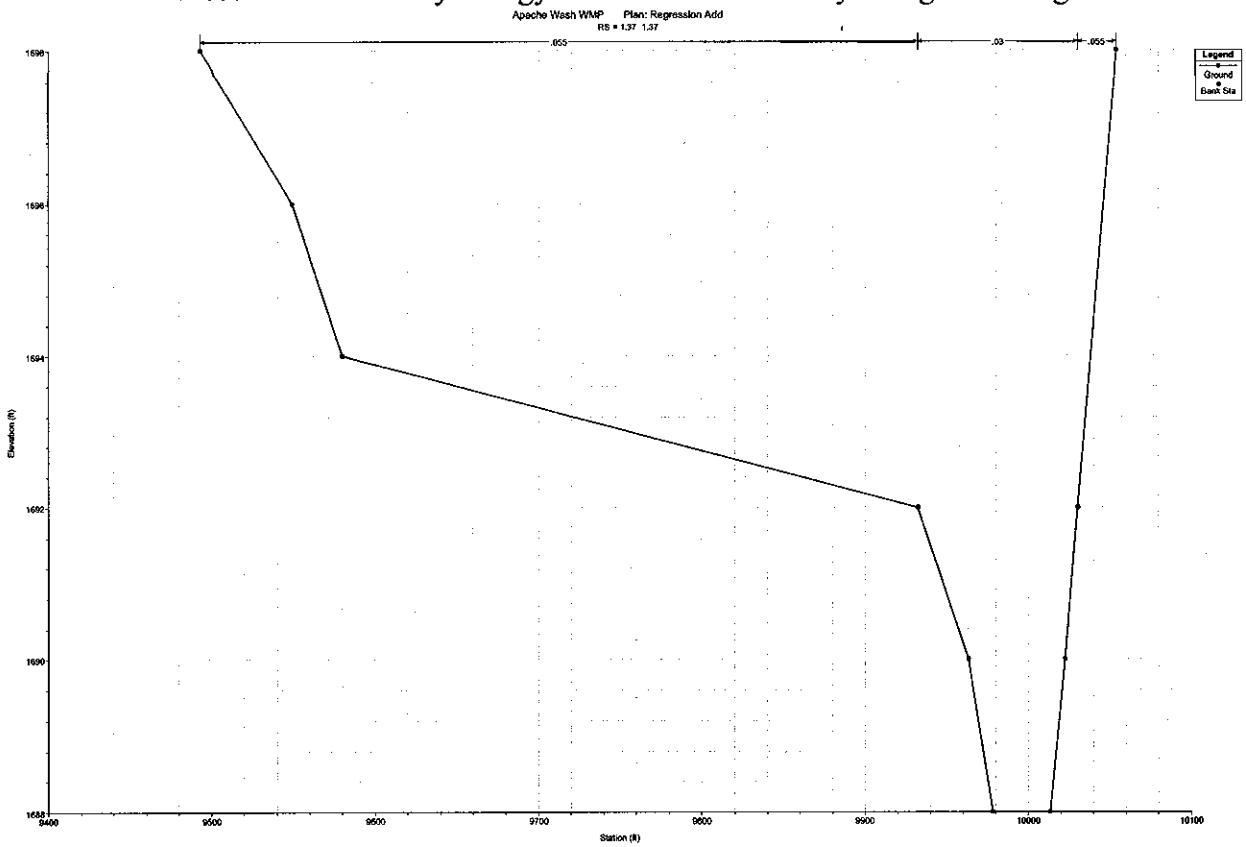
FDS cross section used as basis for routing reach 141I145 (Jerry Jones, 1992).
XS 0.90 from DTHL.DAT.



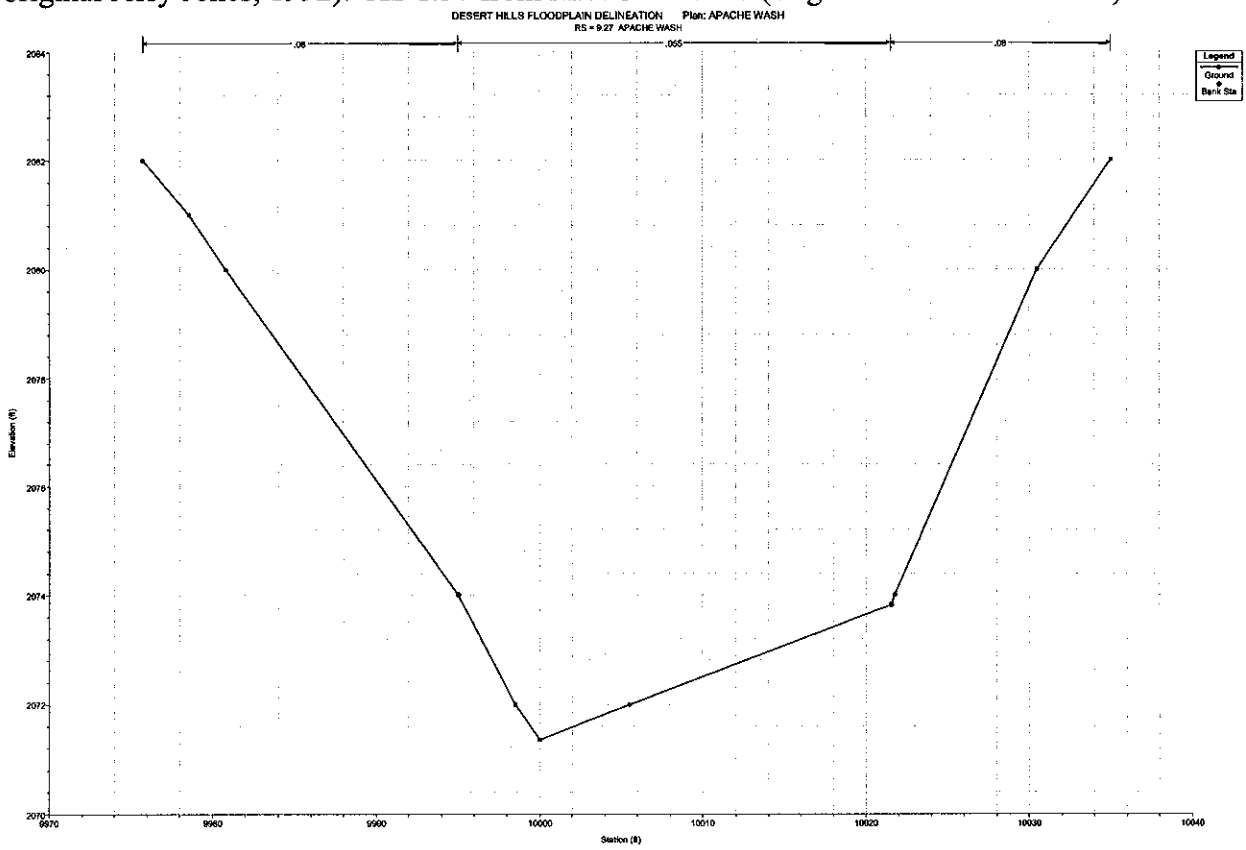
FDS cross section used as basis for routing reach 145147 (Jerry Jones, 1992).
XS 0.56 from DTHL.DAT.



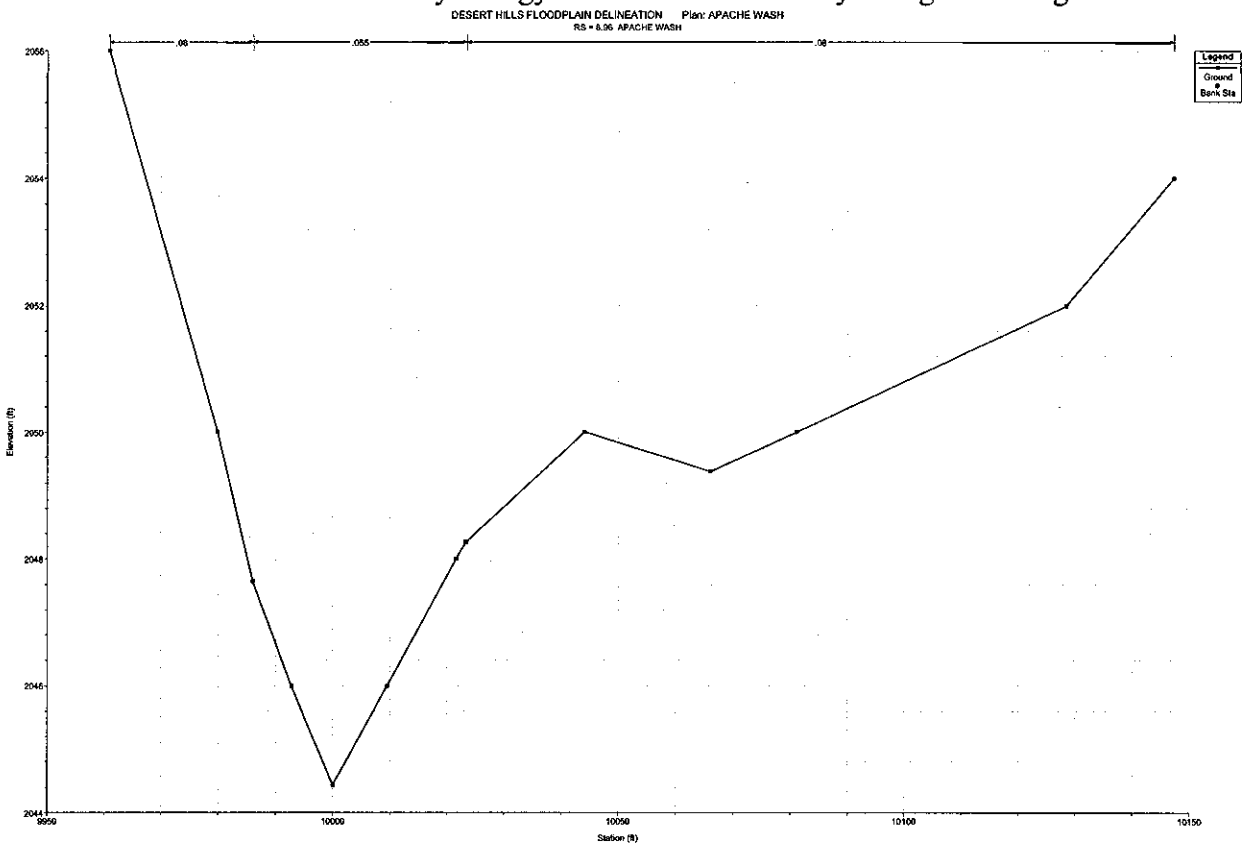
Cross section used as basis for routing reach 147319 (ASL, 1999 converted for WMP from original Jerry Jones, 1992). XS 2.73 from APACHE1.PRJ (original JJ APACHE.DAT).



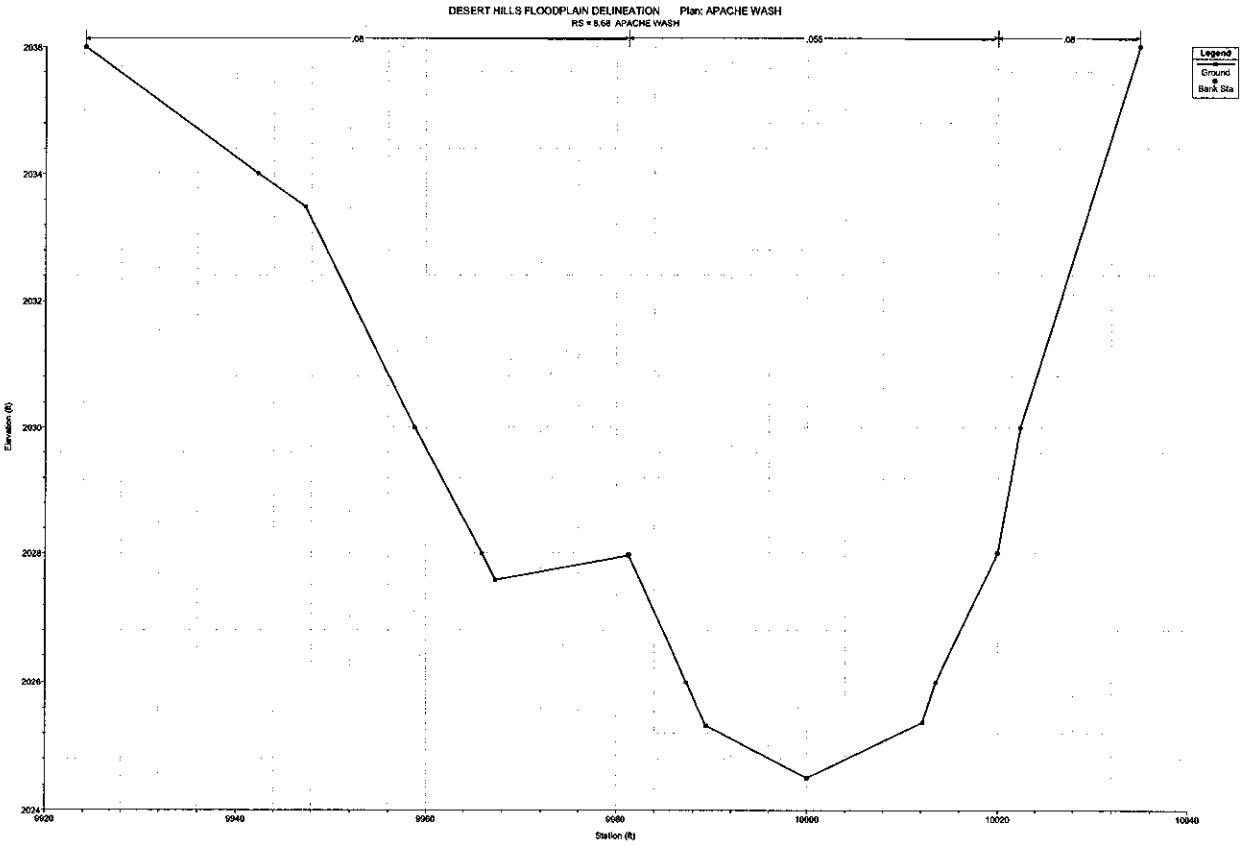
Cross section used as basis for routing reach 319400 (ASL, 1999 converted for WMP from original Jerry Jones, 1992). XS 1.37 from APACHE1.PRJ (original JJ APACHE.DAT).



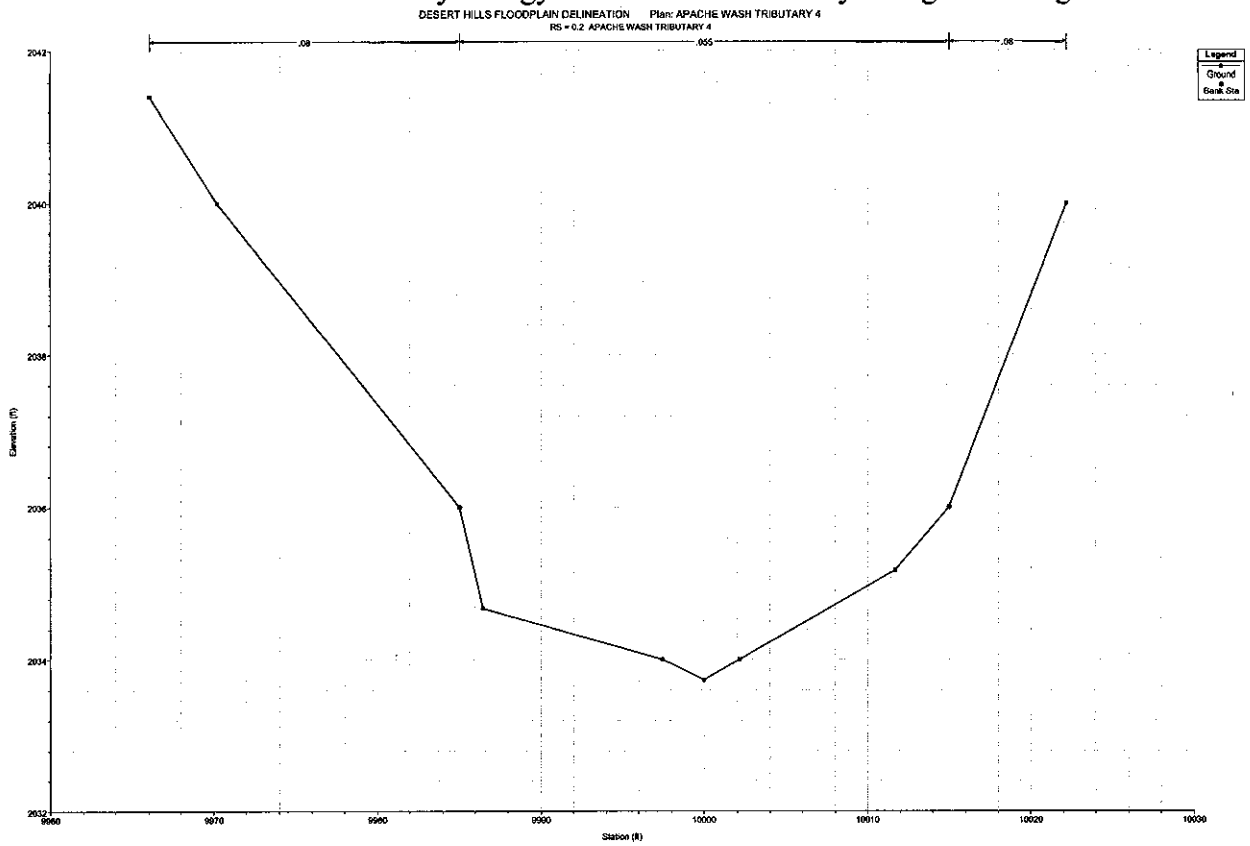
FDS cross section used as basis for routing reach 201204 (Stanley Consultants, 1999) XS 9.27 from APCH.PRJ



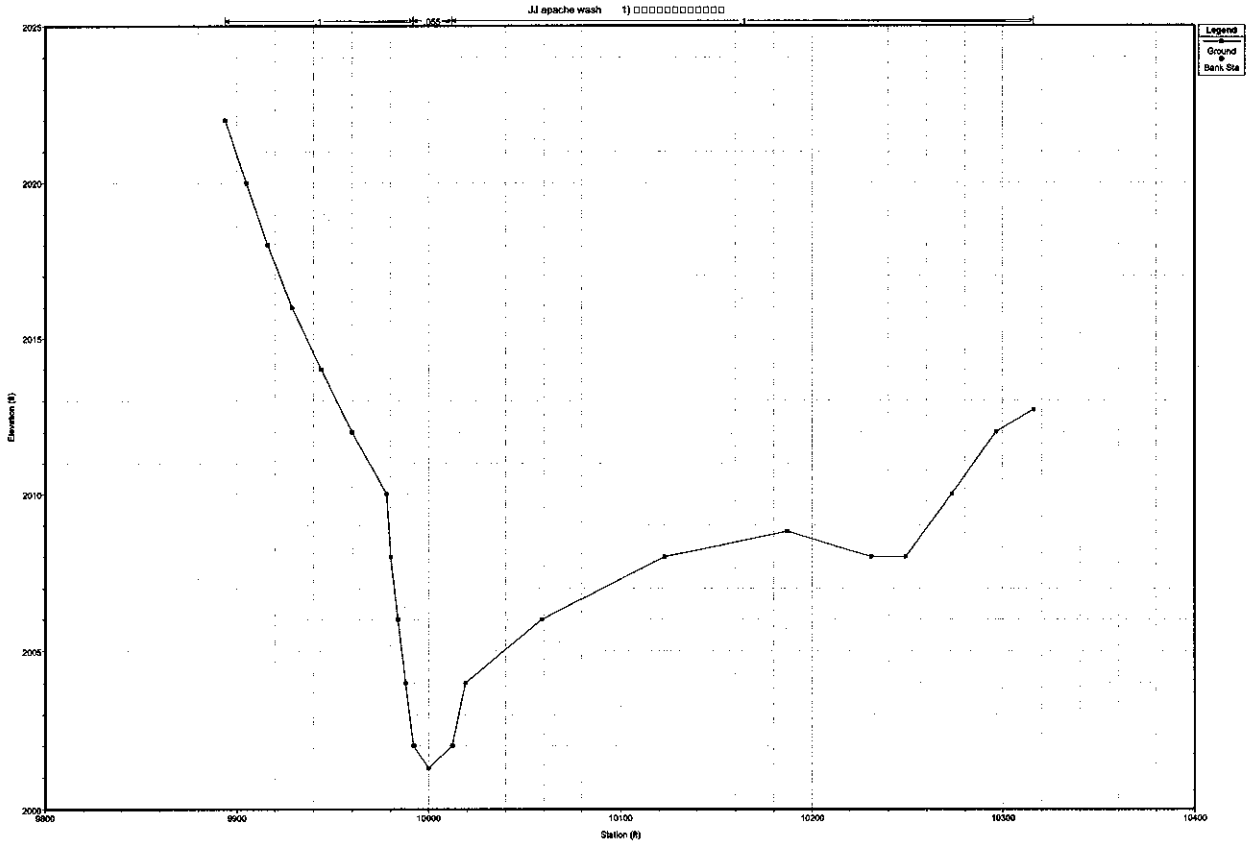
FDS cross section used as basis for routing reach 204206 (Stanley Consultants, 1999)
XS 8.96 from APCH.PRJ



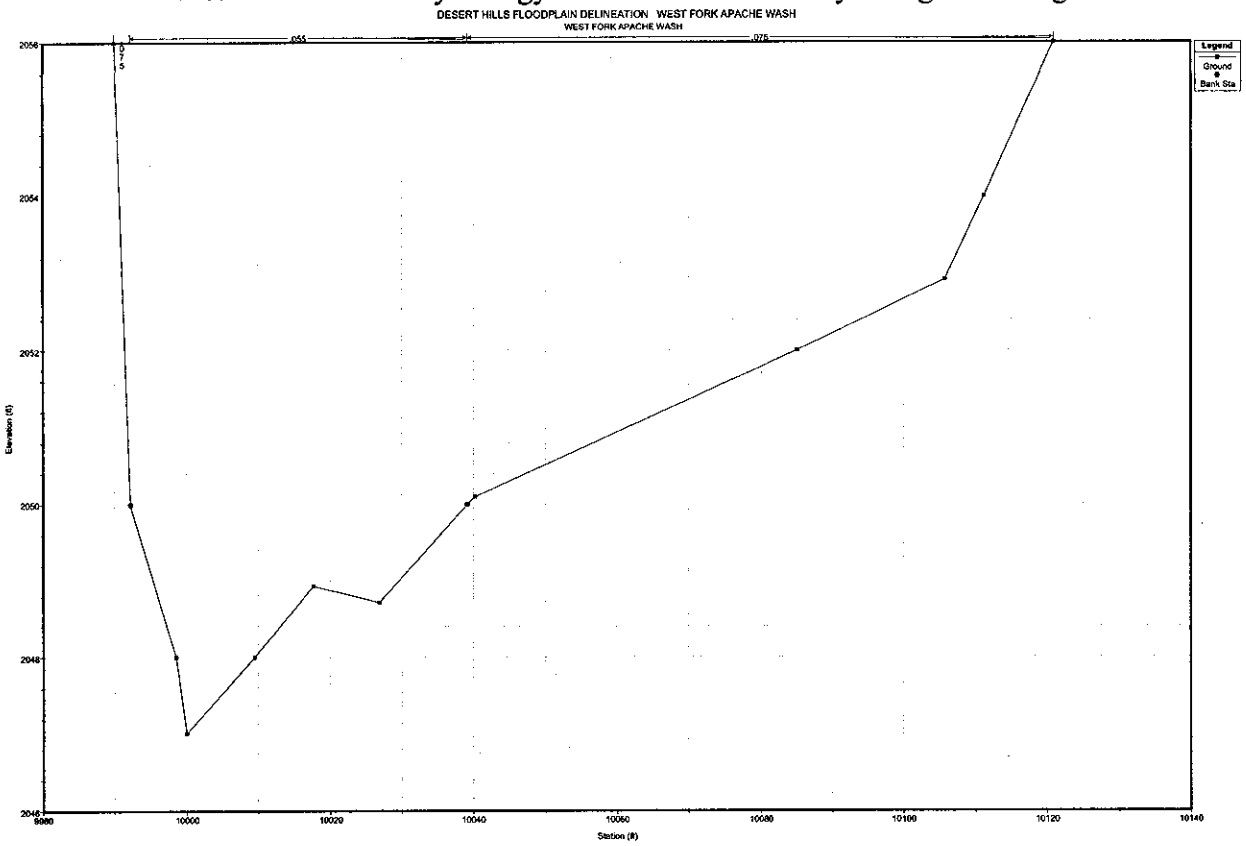
FDS cross section used as basis for routing reach 206209 (Stanley Consultants, 1999)
XS 8.68 from APCH.PRJ



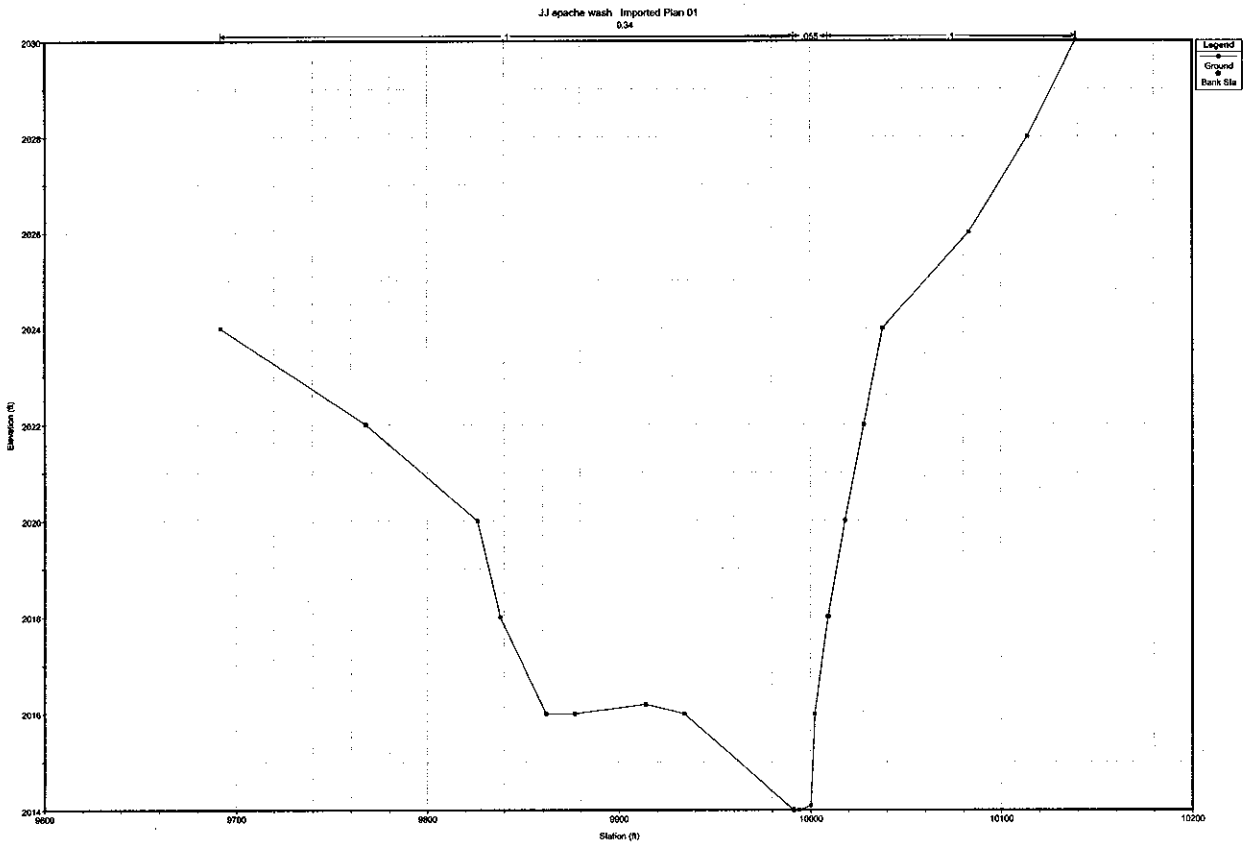
FDS cross section used as basis for routing reach 206209 (Stanley Consultants, 1999)
XS 8.68 from APCH.PRJ



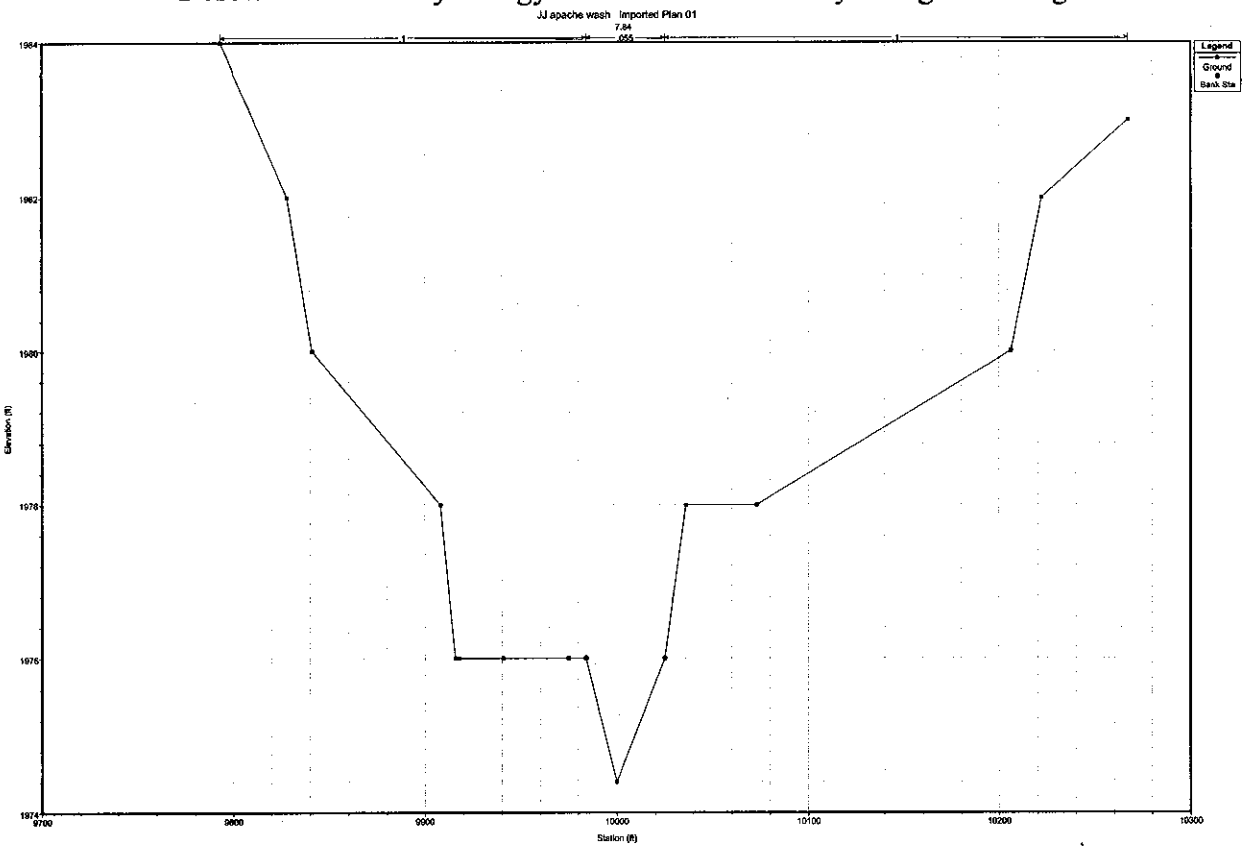
FDS cross section used as basis for routing reach 209215 (Jerry Jones, 1992).
XS 8.31 from APACHE.DAT.



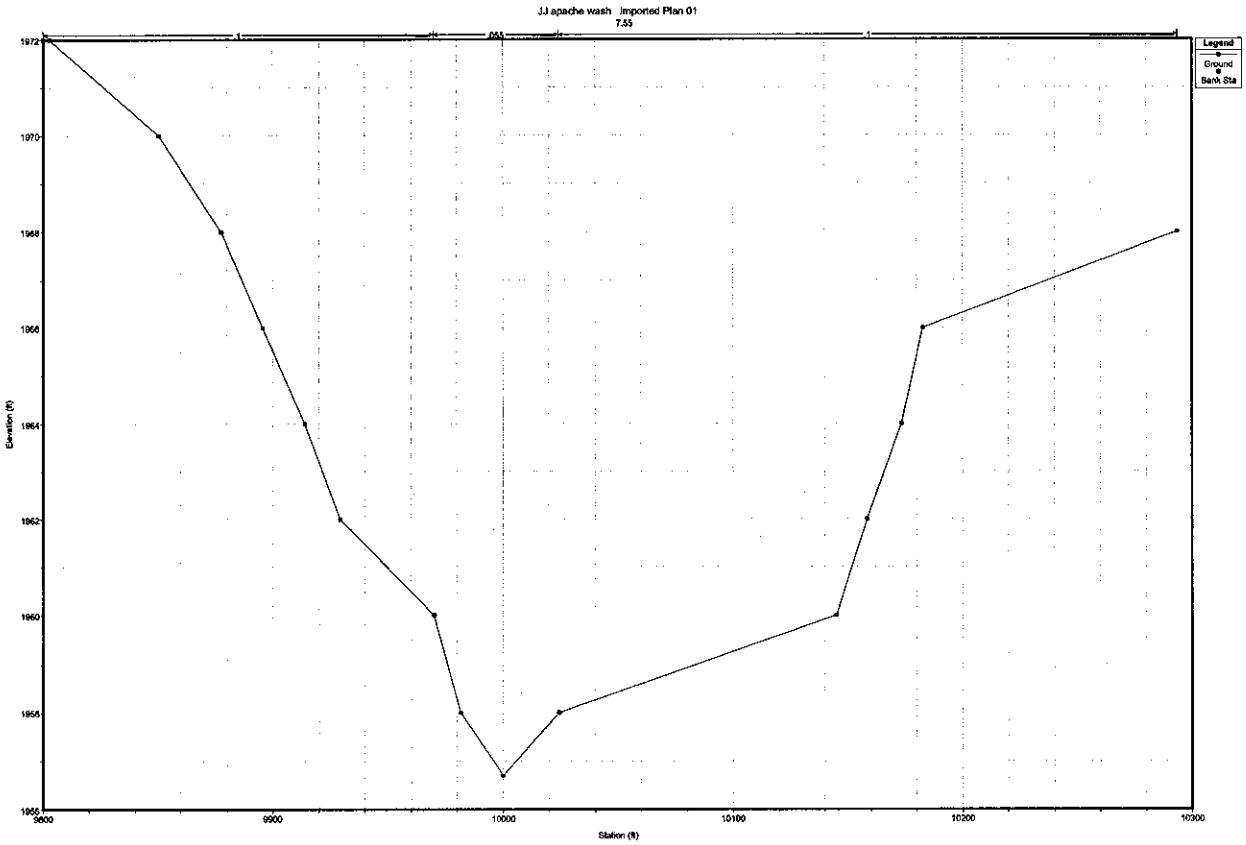
FDS cross section used as basis for routing reach 211214 (Stanley Consultants, 1999)
XS 0.68 from WAPCH.PRJ



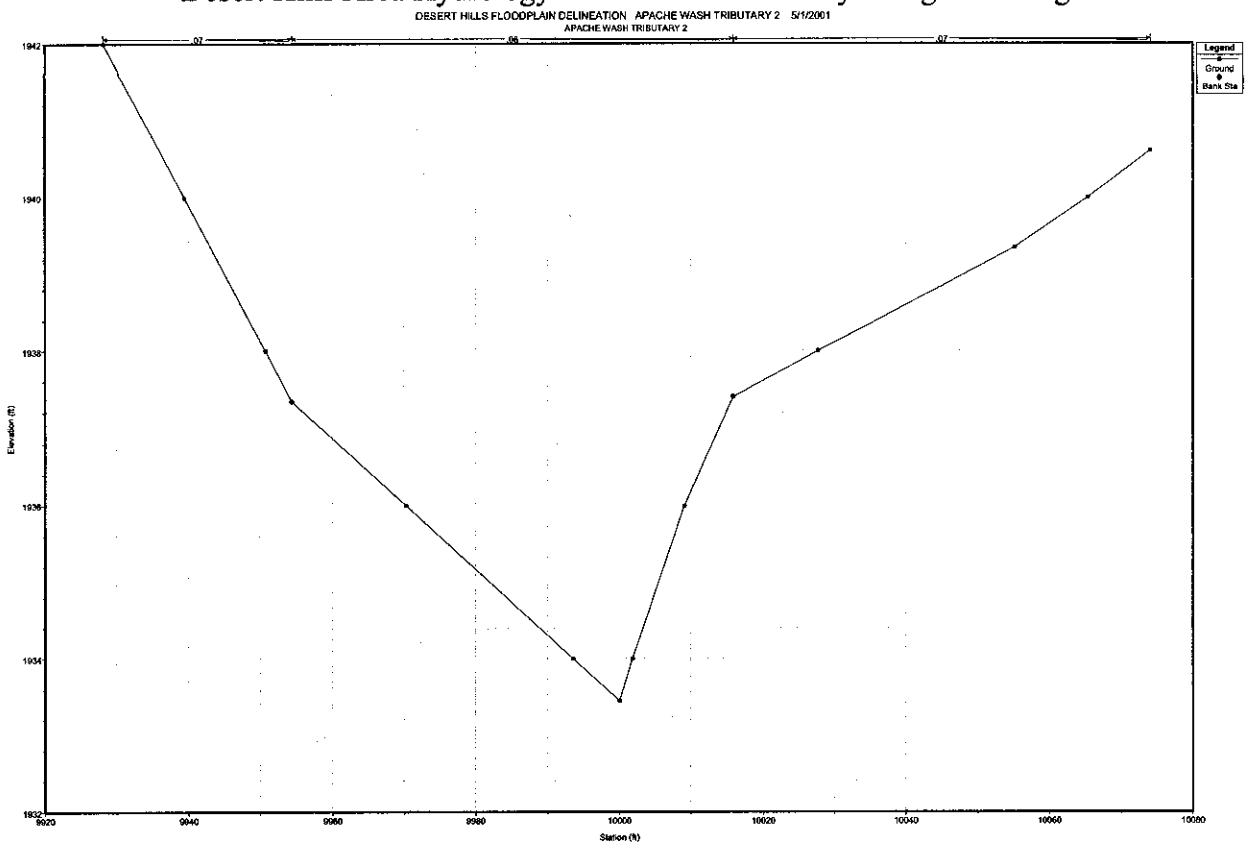
FDS cross section used as basis for routing reach 214215 (Jerry Jones, 1992).
XS 0.34 on the West Branch of Apache Wash from APACHE.DAT.



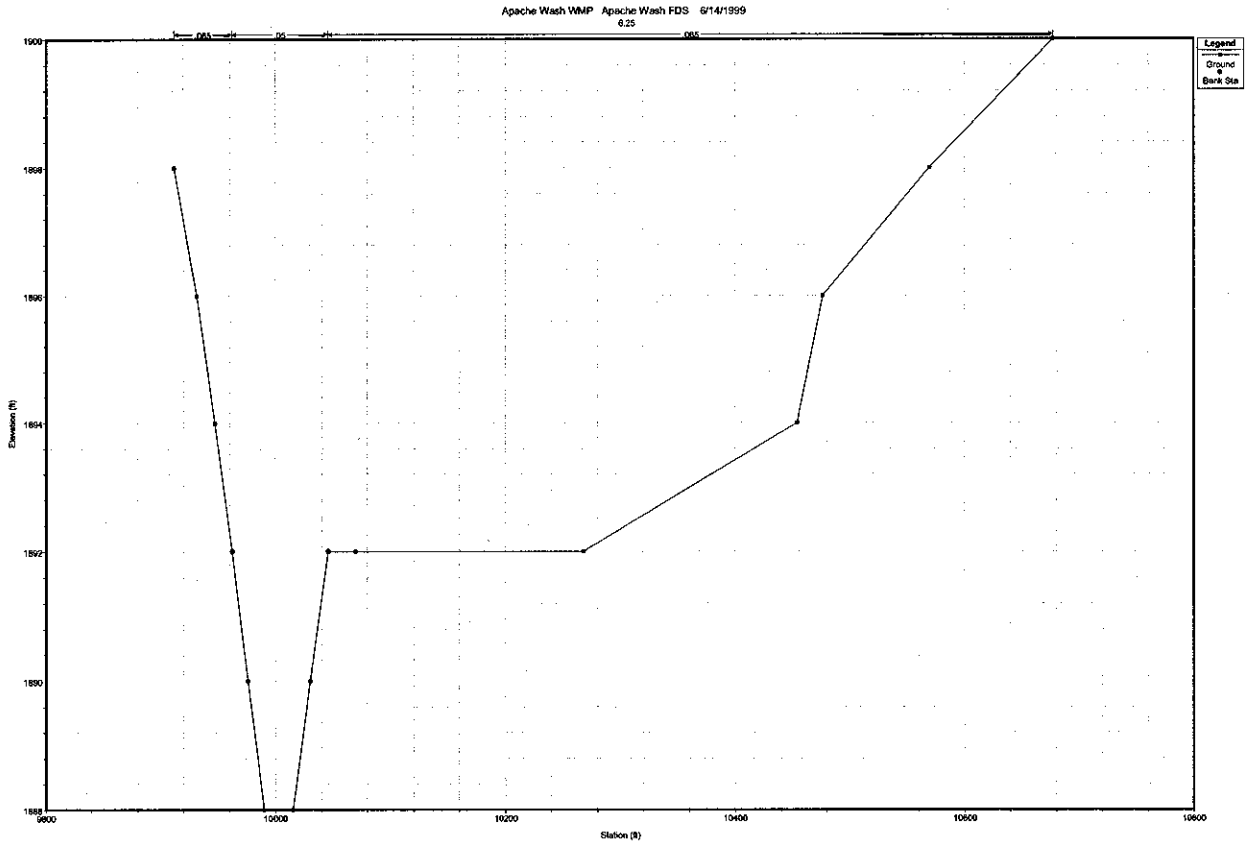
FDS cross section used as basis for routing reach 215216 (Jerry Jones, 1992).
XS 7.84 from APACHE.DAT.



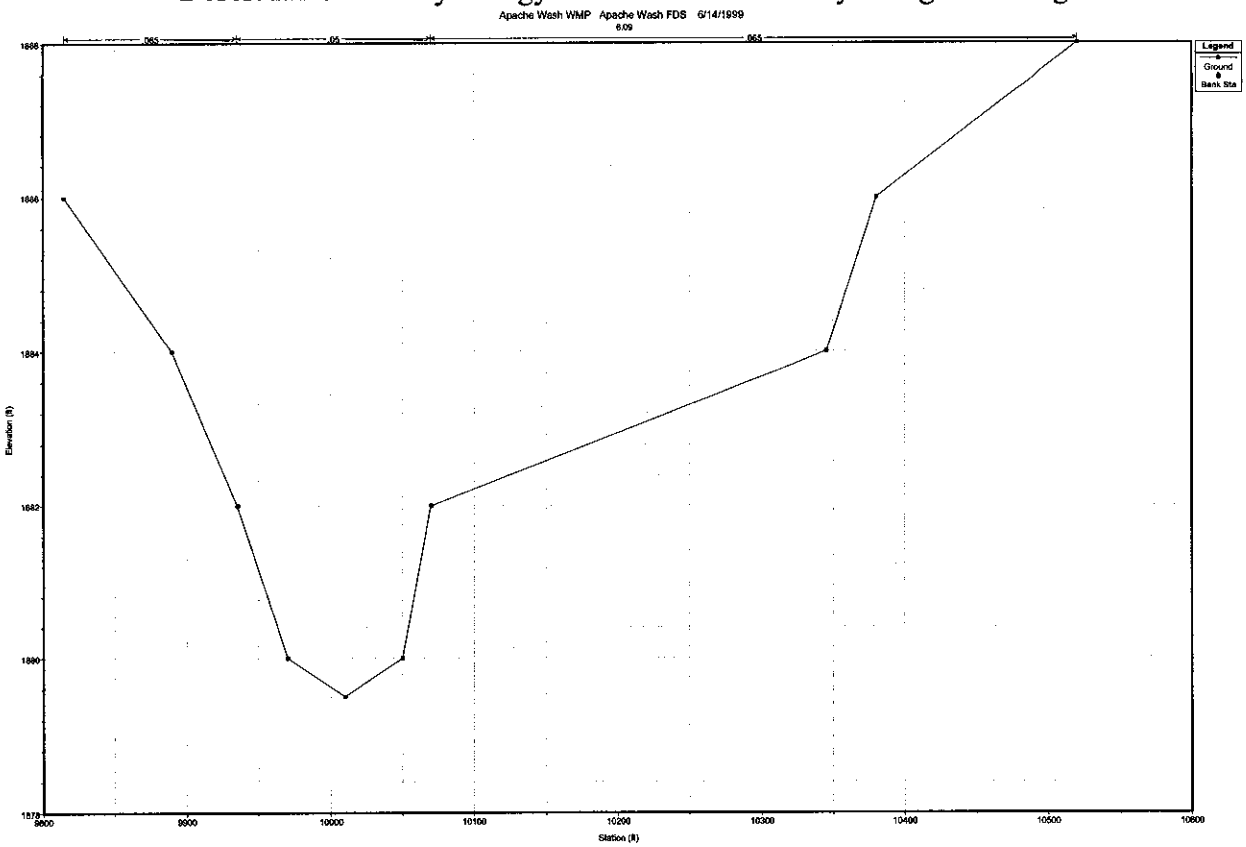
FDS cross section used as basis for routing reach 216217 (Jerry Jones, 1992).
XS 7.55 from APACHE.DAT.



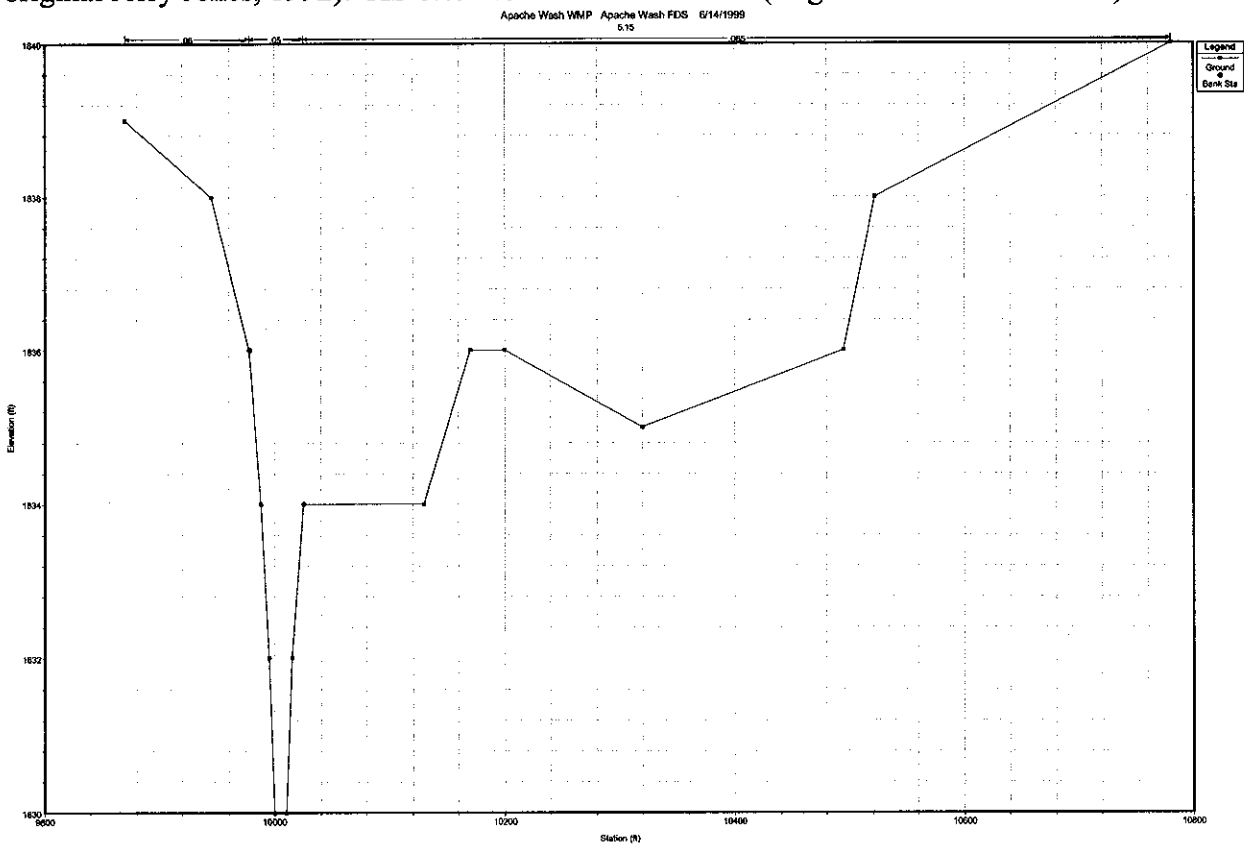
FDS cross section used as basis for routing reach 218219 (Stanley Consultants, 1999)
XS 0.55 from APCH-T2.PRJ



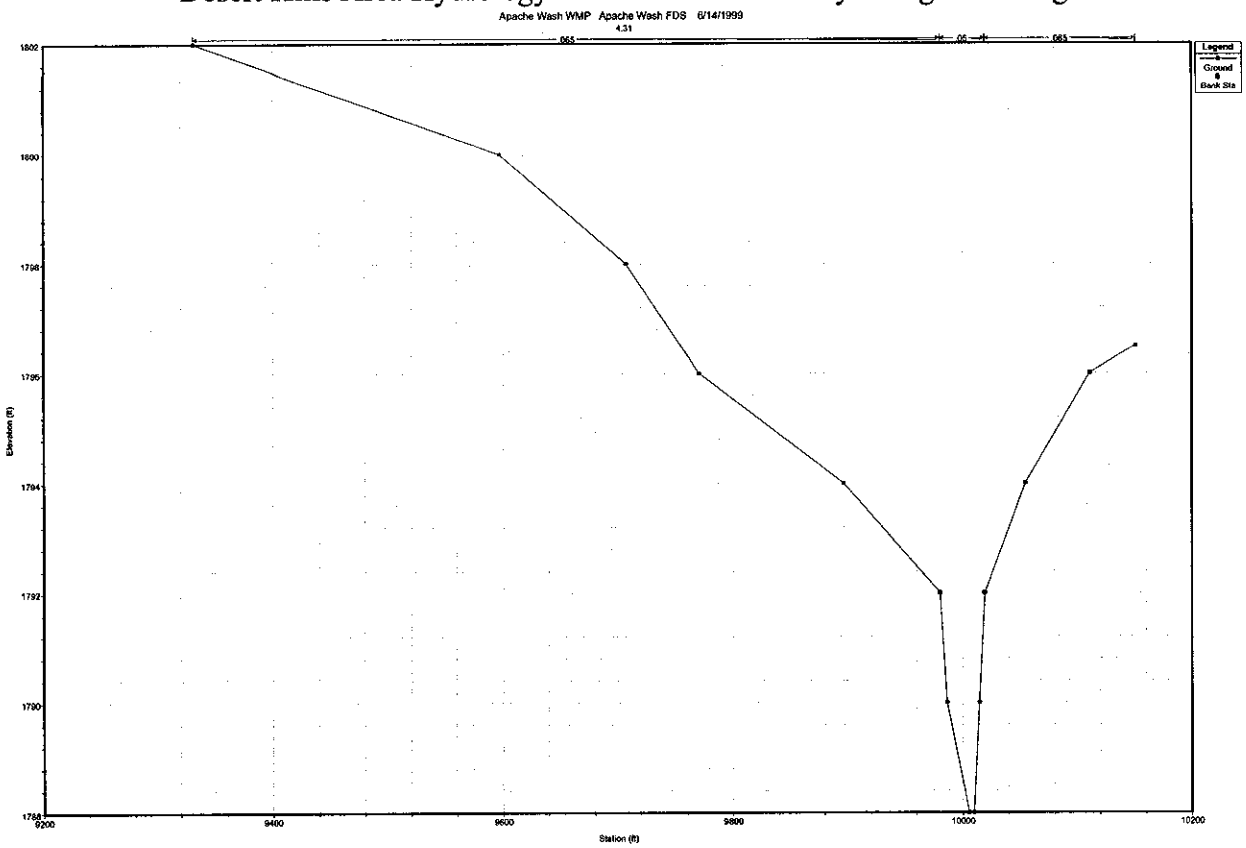
Cross section used as basis for routing reach 220217 (ASL, 1999 converted for WMP from original Jerry Jones, 1992). XS 6.25 from APACHE1.PRJ (original JJ APACHE.DAT).



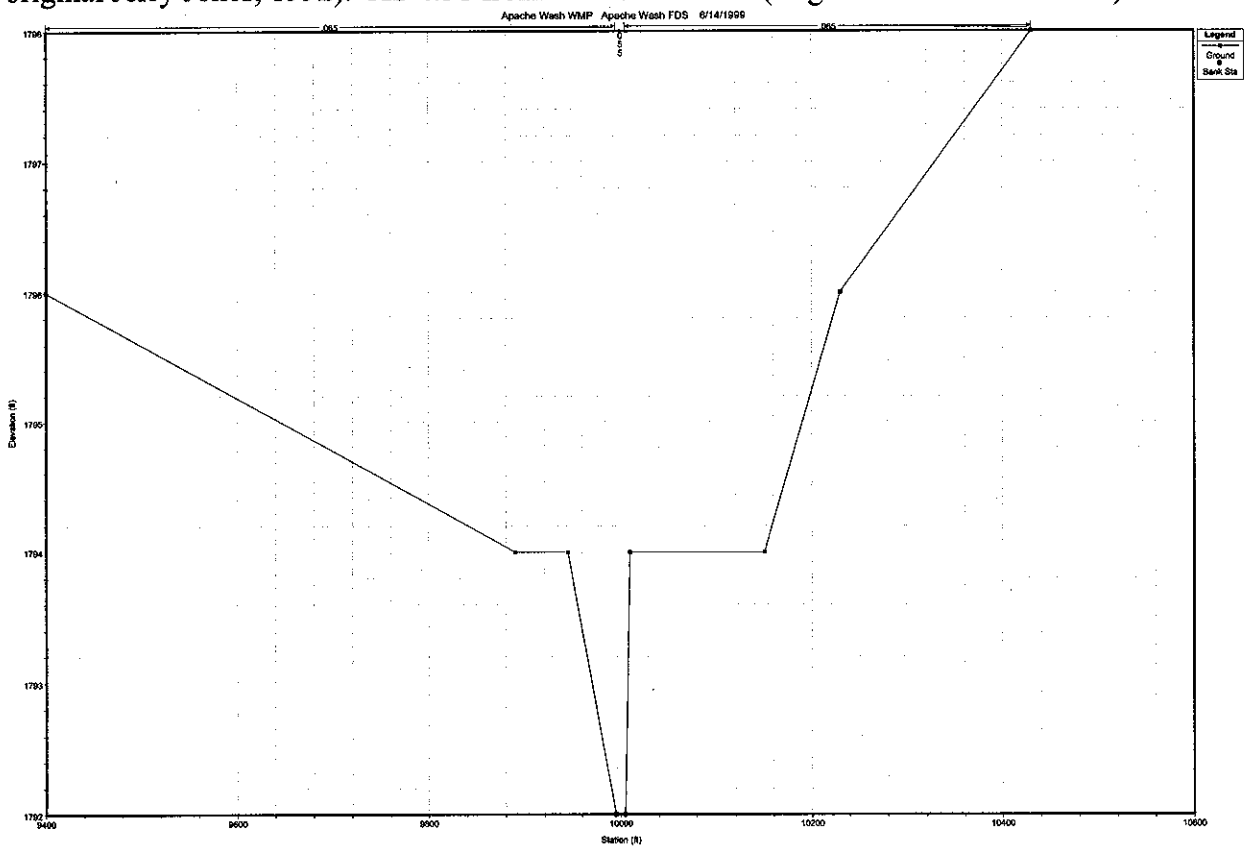
Cross section used as basis for routing reach 217221 (ASL, 1999 converted for WMP from original Jerry Jones, 1992). XS 6.09 from APACHE1.PRJ (original JJ APACHE.DAT).



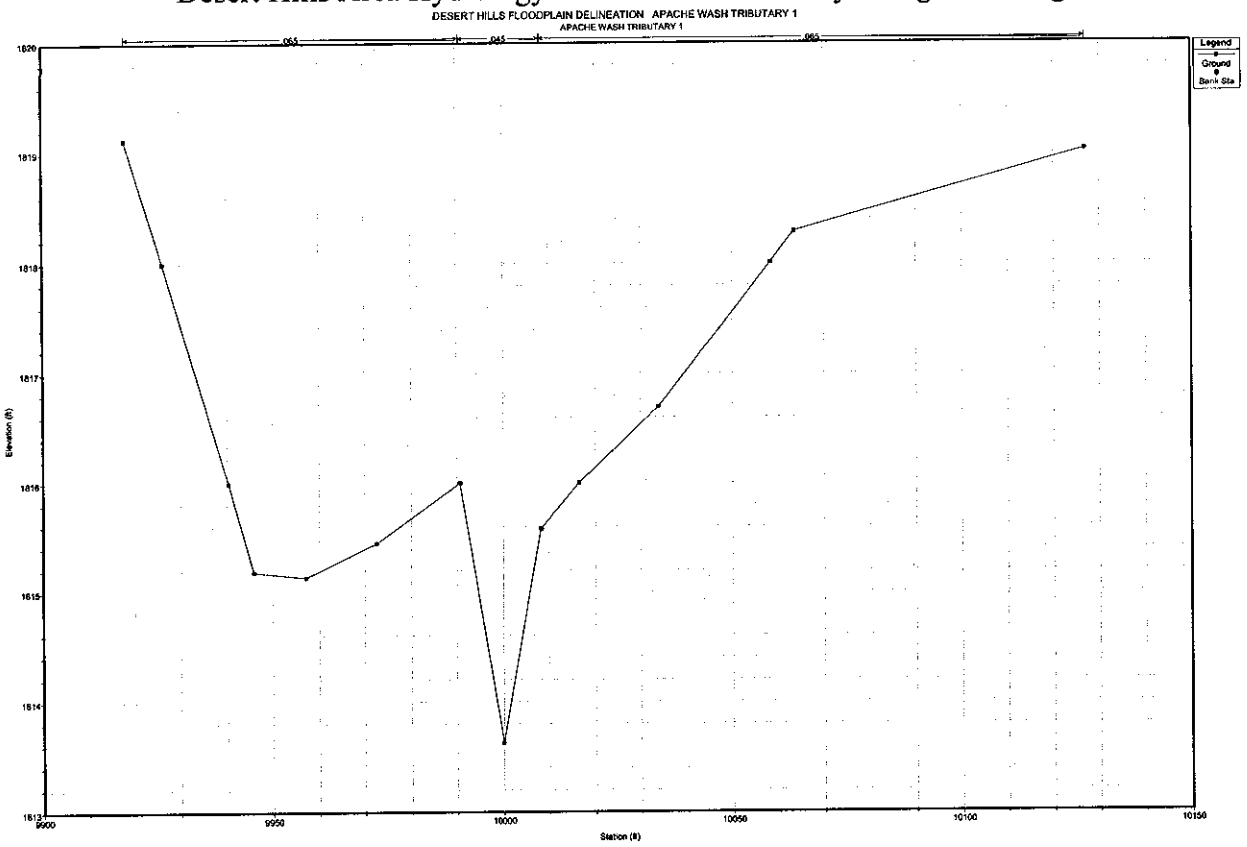
Cross section used as basis for routing reach 221222 (ASL, 1999 converted for WMP from original Jerry Jones, 1992). XS 5.15 from APACHE1.PRJ (original JJ APACHE.DAT).



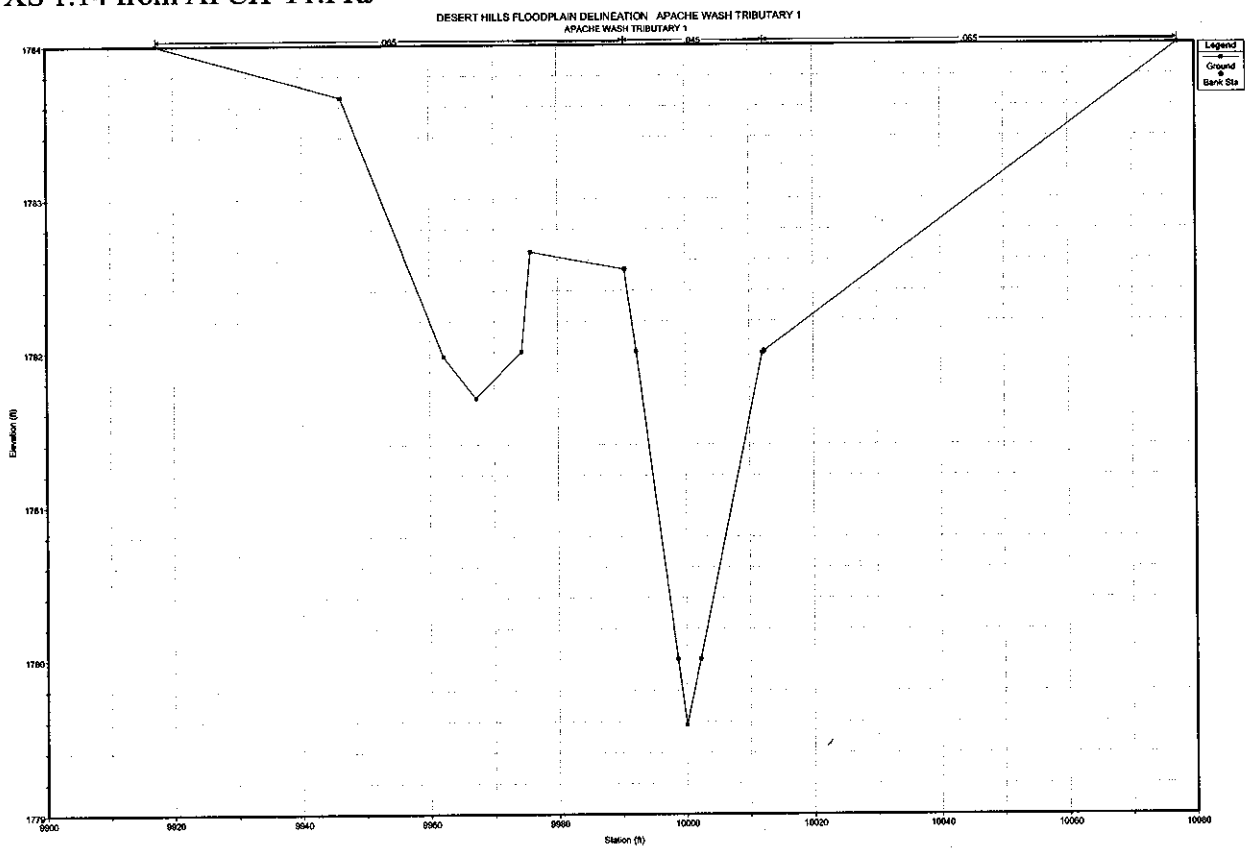
Cross section used as basis for routing reach 222227 (ASL, 1999 converted for WMP from original Jerry Jones, 1992). XS 4.31 from APACHE1.PRJ (original JJ APACHE.DAT).



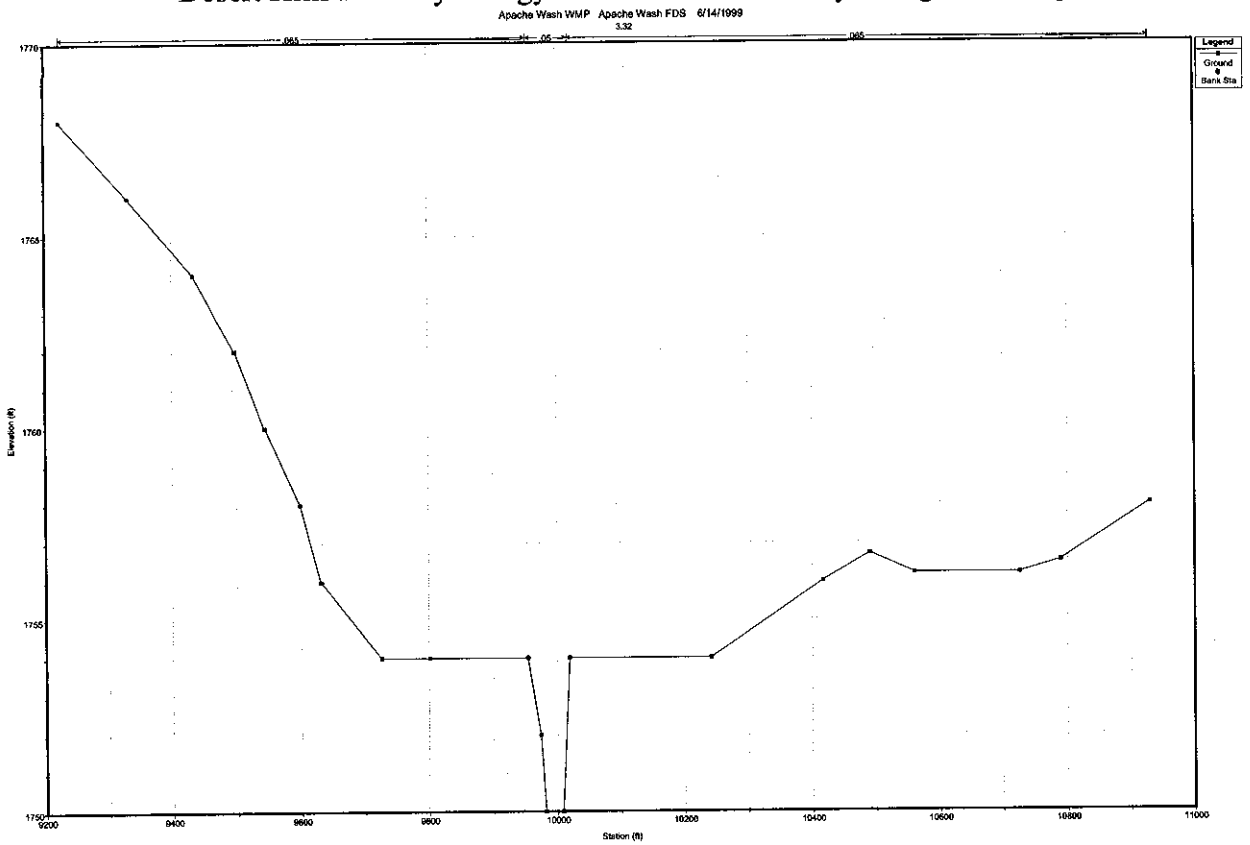
Cross section used as basis for routing reach 223227 (ASL, 1999 converted for WMP from original Jerry Jones, 1992). XS 4.311 from APACHE1.PRJ (original JJ APACHE.DAT).



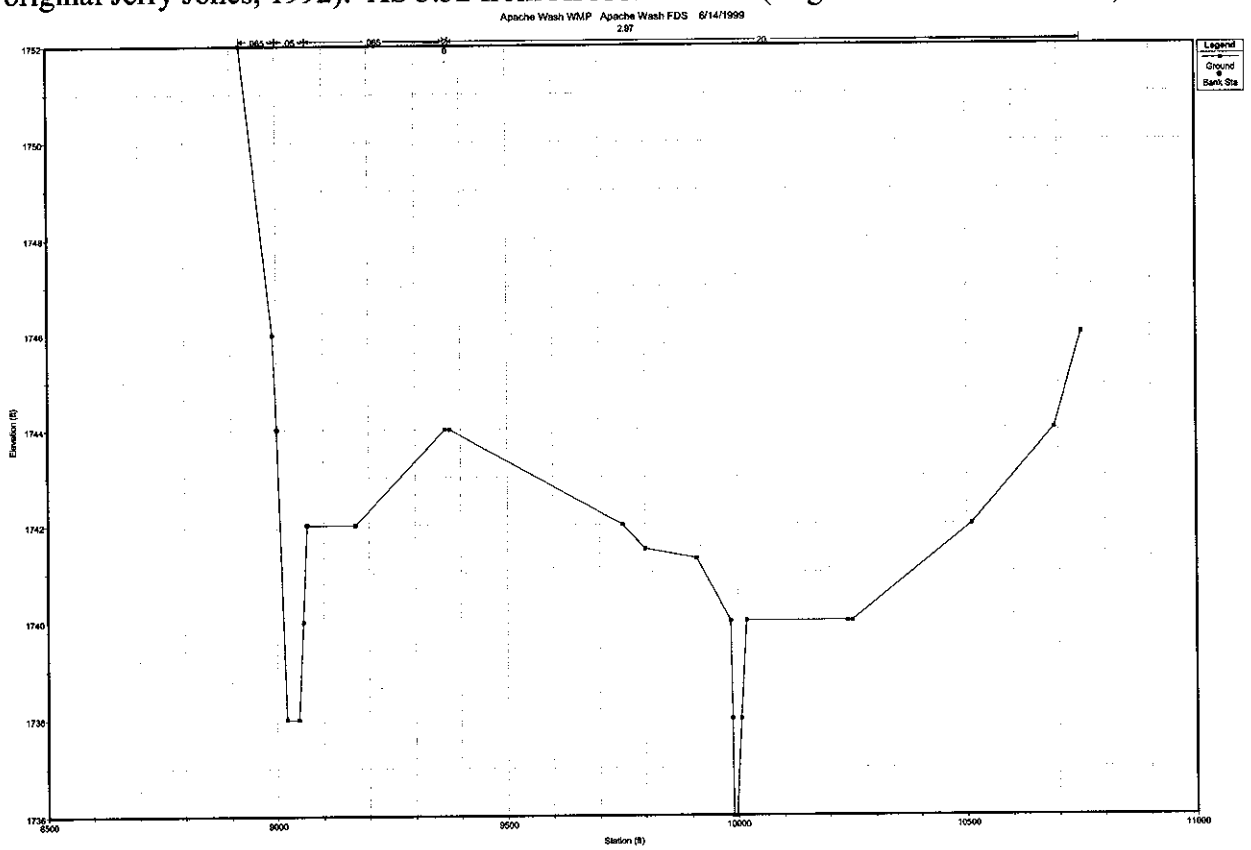
FDS cross section used as basis for routing reach 225226 (Stanley Consultants, 1999)
XS 1.14 from APCH-T1.PRJ



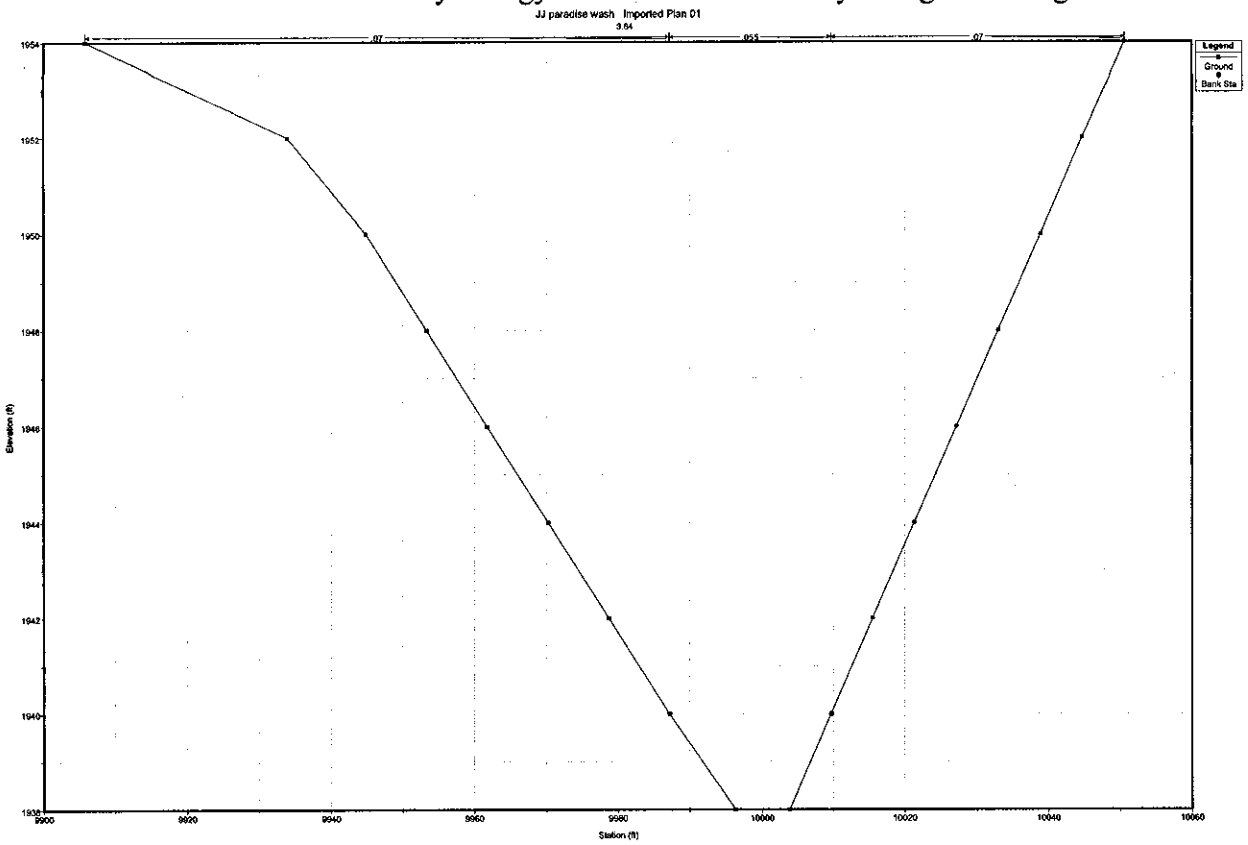
FDS cross section used as basis for routing reach 226227 (Stanley Consultants, 1999)
XS 0.42 from APCH-T1.PRJ



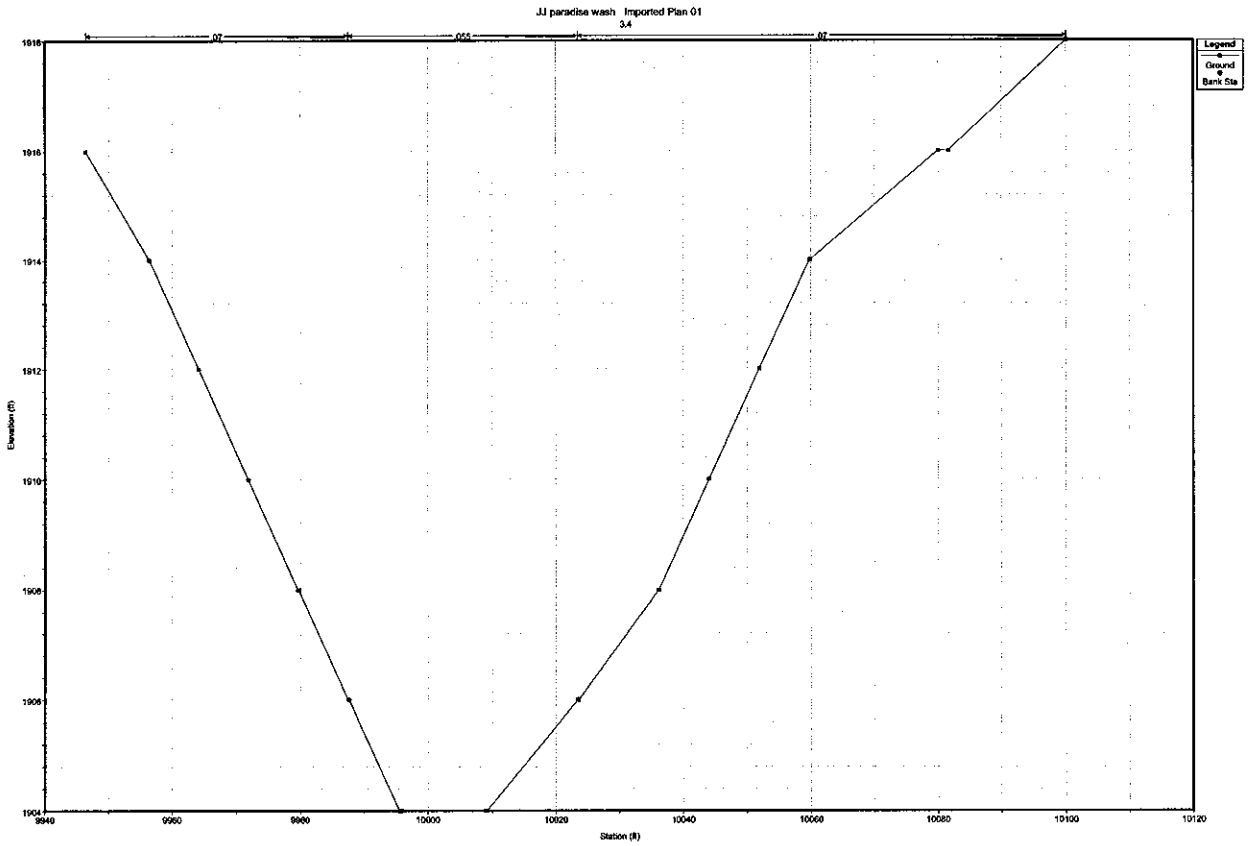
Cross section used as basis for routing reach 223227 (ASL, 1999 converted for WMP from original Jerry Jones, 1992). XS 3.32 from APACHE1.PRJ (original JJ APACHE.DAT).



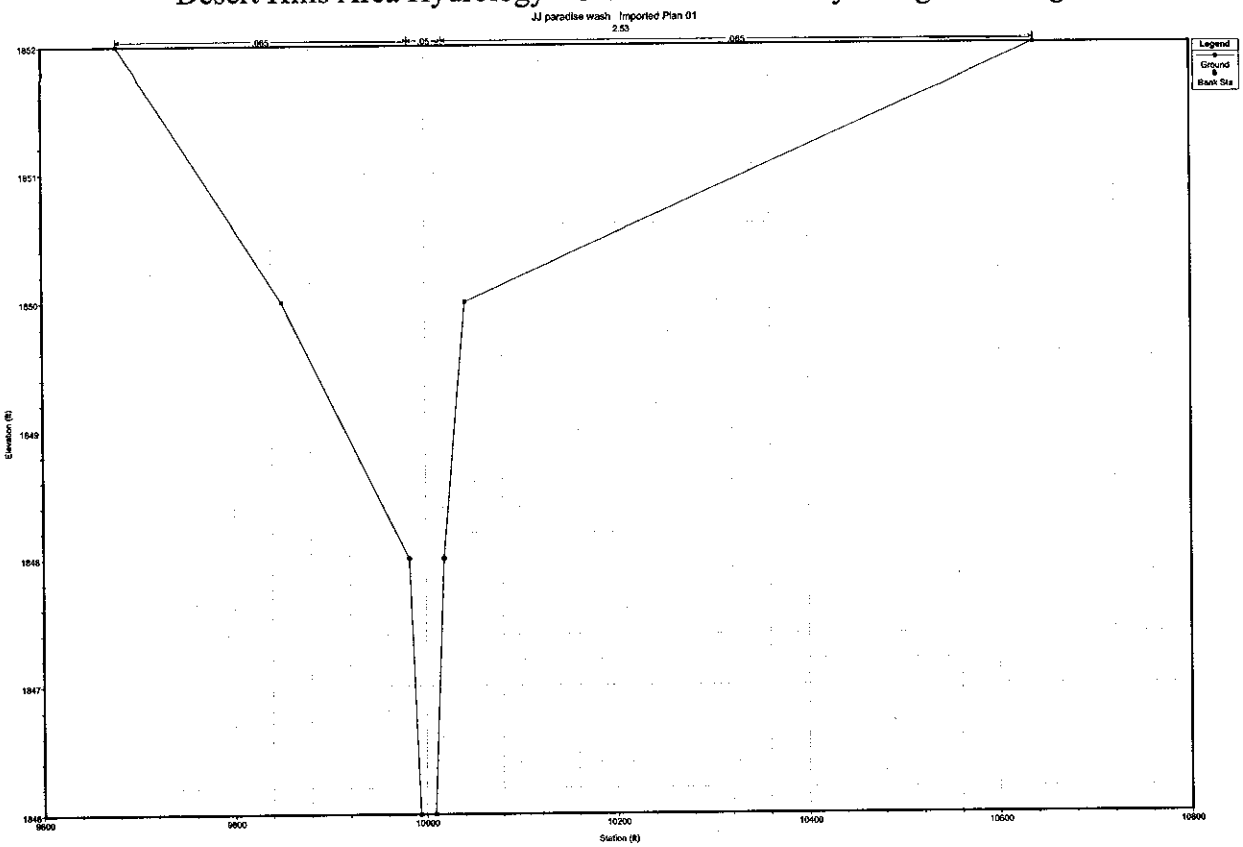
Cross section used as basis for routing reach 228147 (ASL, 1999 converted for WMP from original Jerry Jones, 1992). XS 2.97 (left half) from APACHE1.PRJ (original JJ APACHE.DAT).



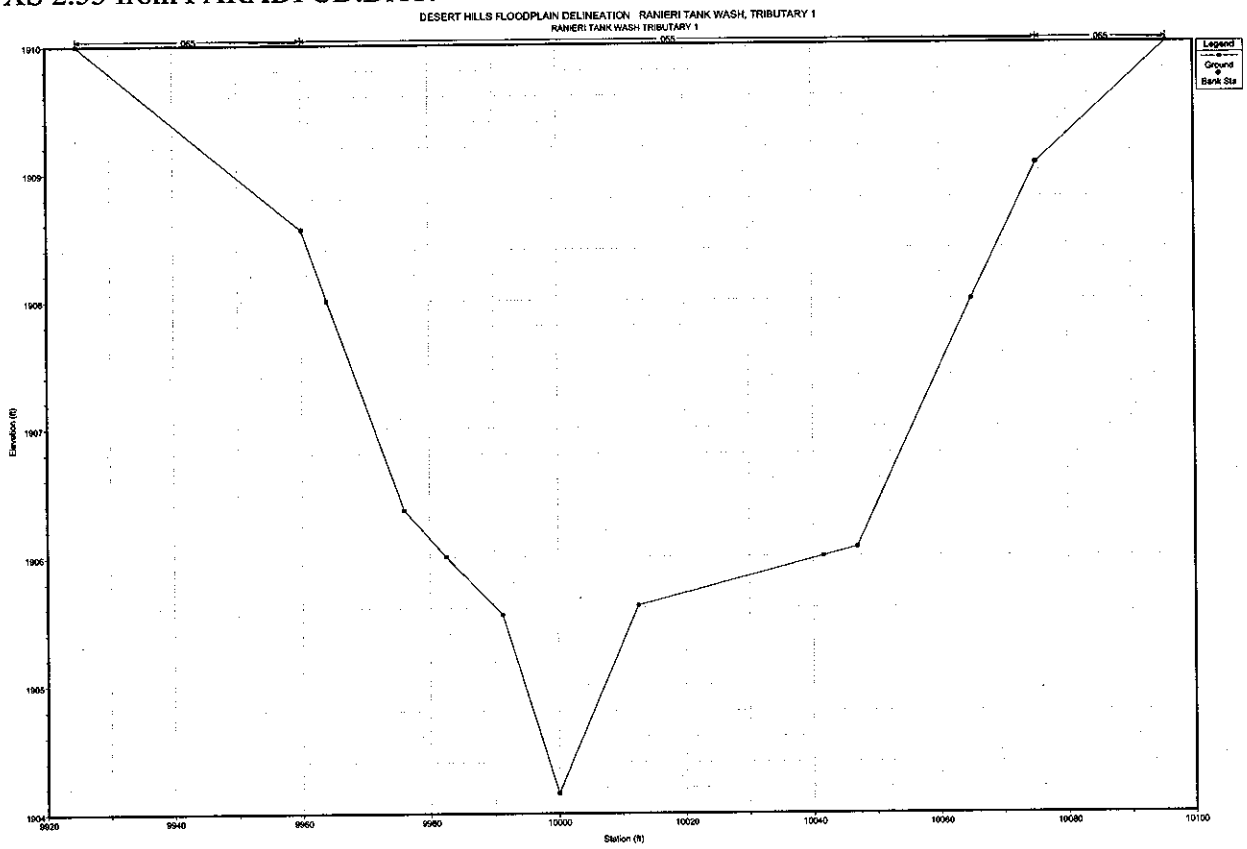
FDS cross section used as basis for routing reach 301302 (Jerry Jones, 1992).
XS 3.84 from PARADFCD.DAT.



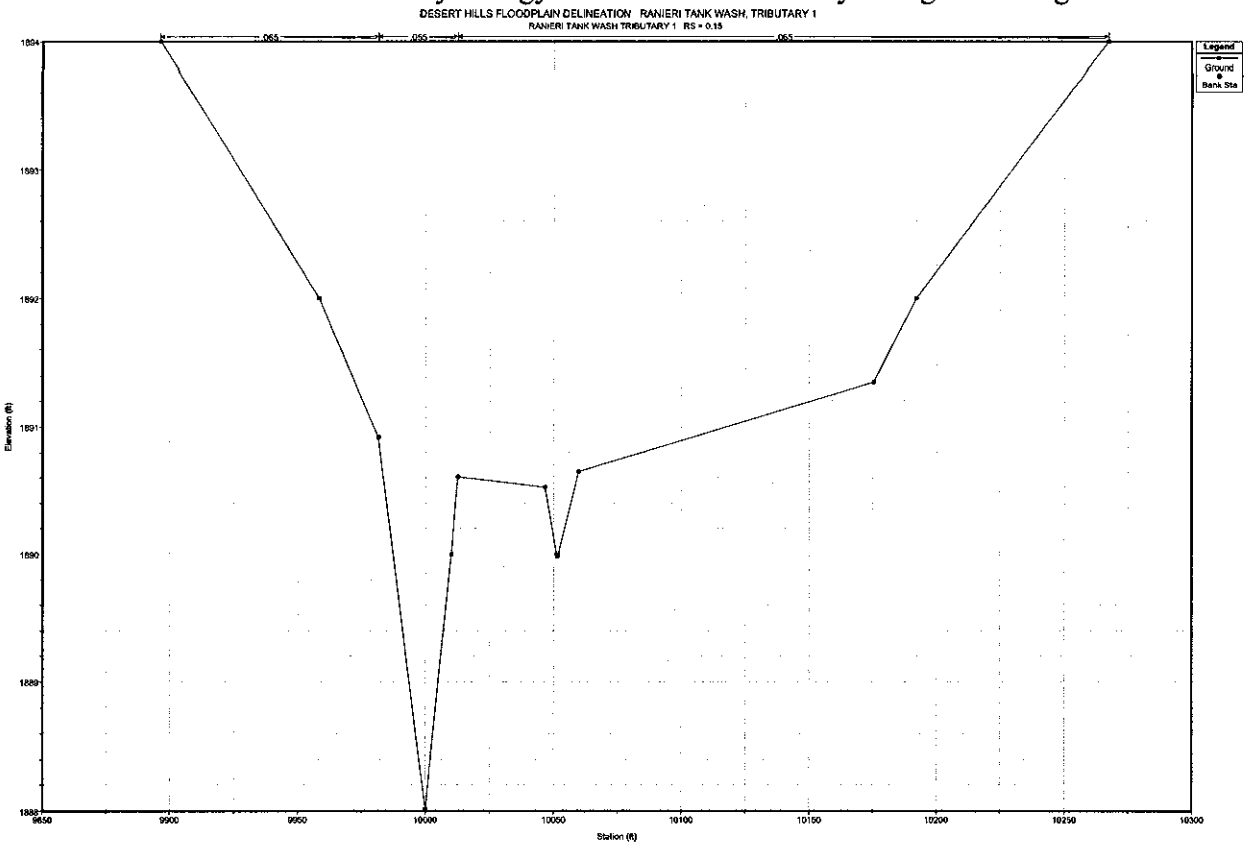
FDS cross section used as basis for routing reach 302303 (Jerry Jones, 1992).
XS 3.40 from PARADFCD.DAT.



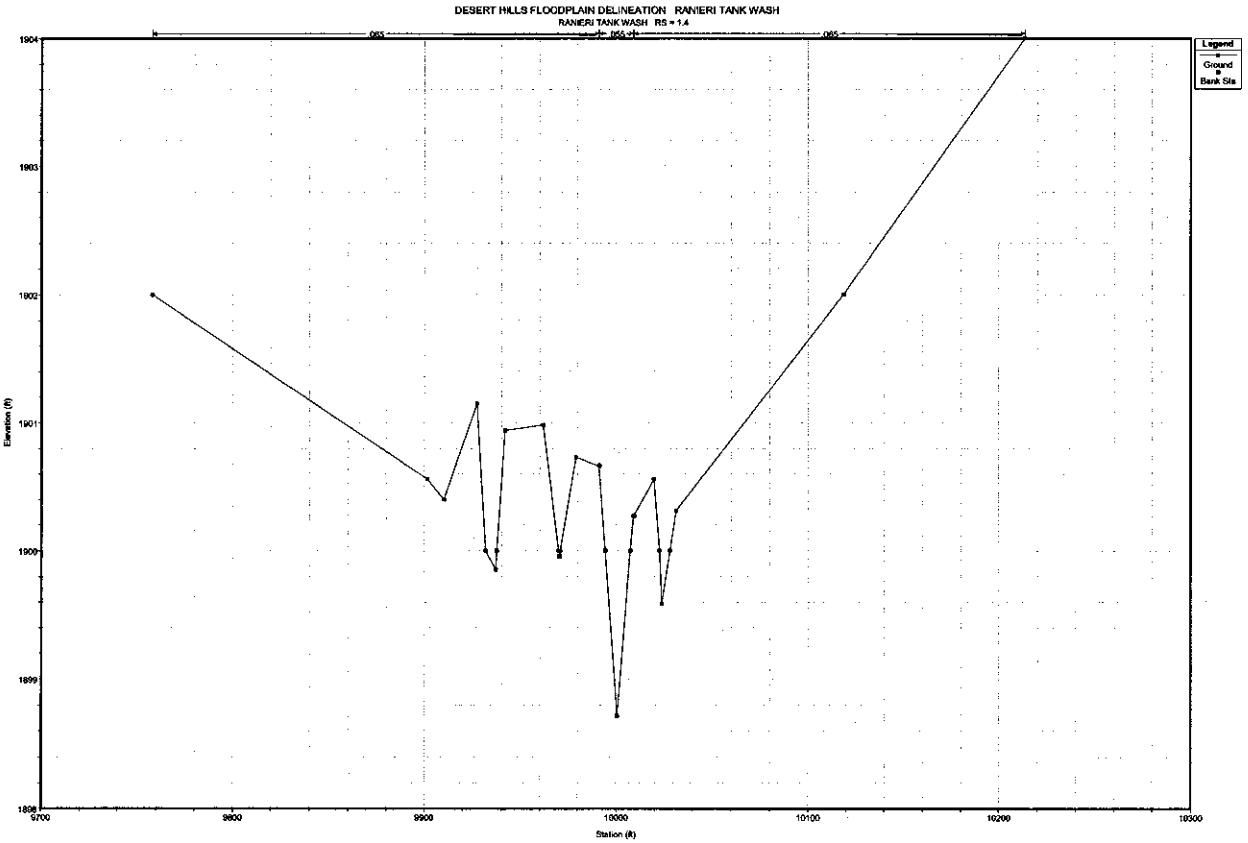
FDS cross section used as basis for routing reach 302303 (Jerry Jones, 1992).
XS 2.53 from PARADFCD.DAT.



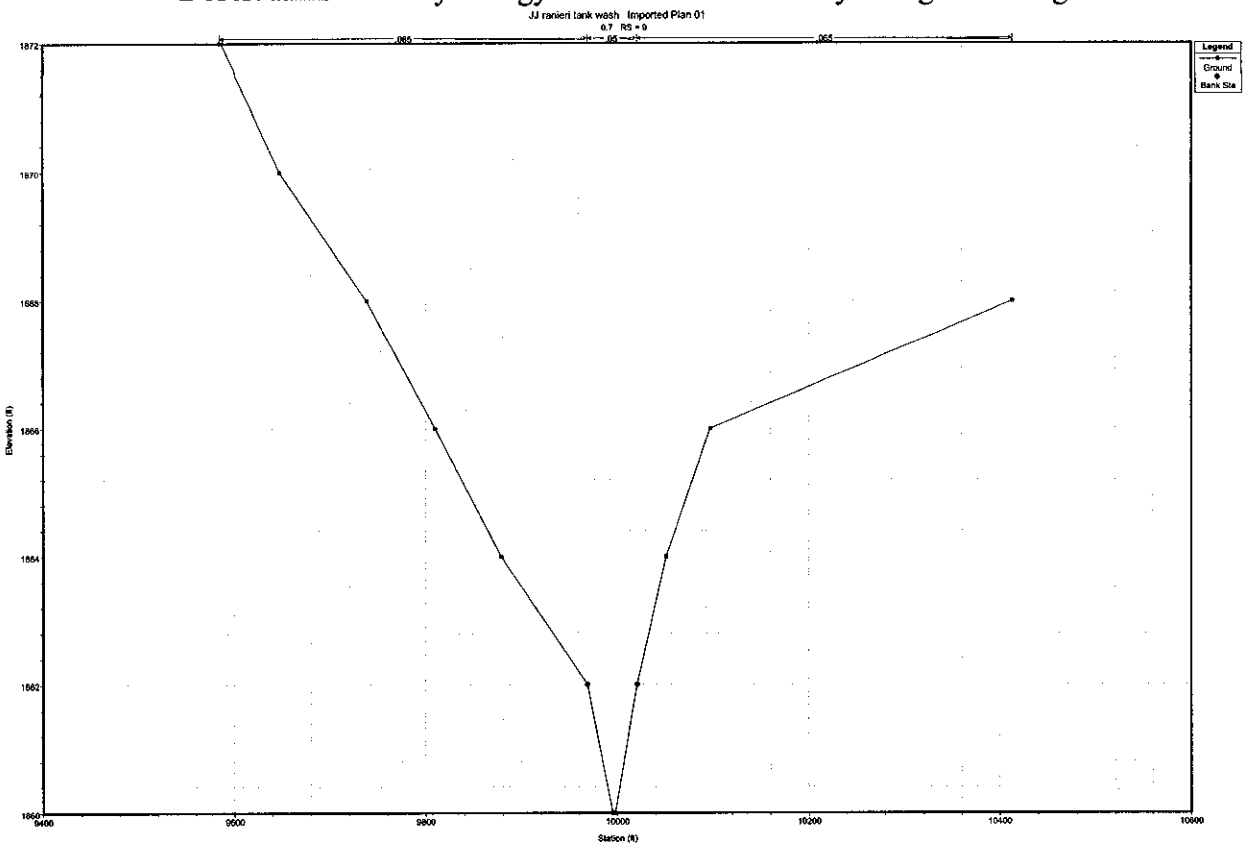
FDS cross section used as basis for routing reach 305309 (Stanley Consultants, 1999)
XS 0.34 from RANR-T1.PRJ



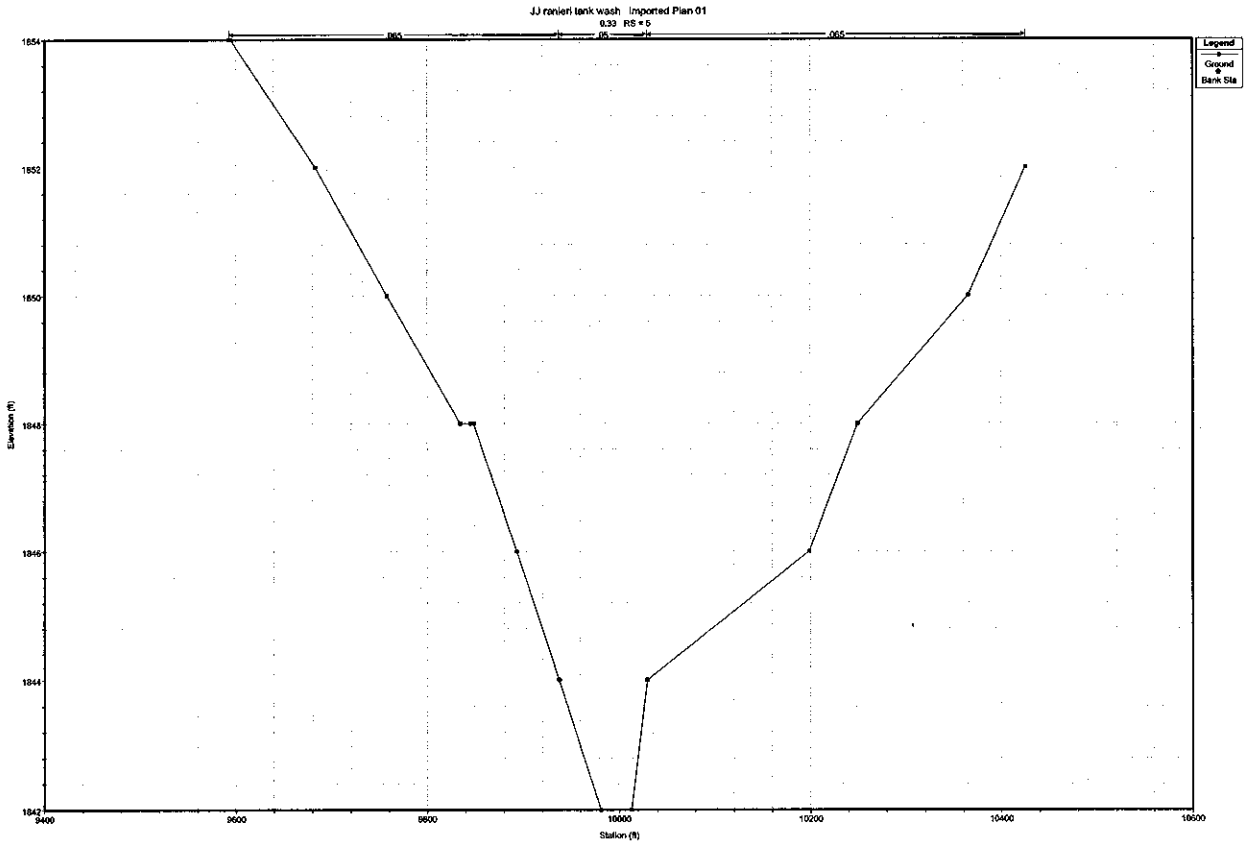
FDS cross section used as basis for routing reach 307309 (Stanley Consultants, 1999)
XS 0.15 from RANR-T1.PRJ



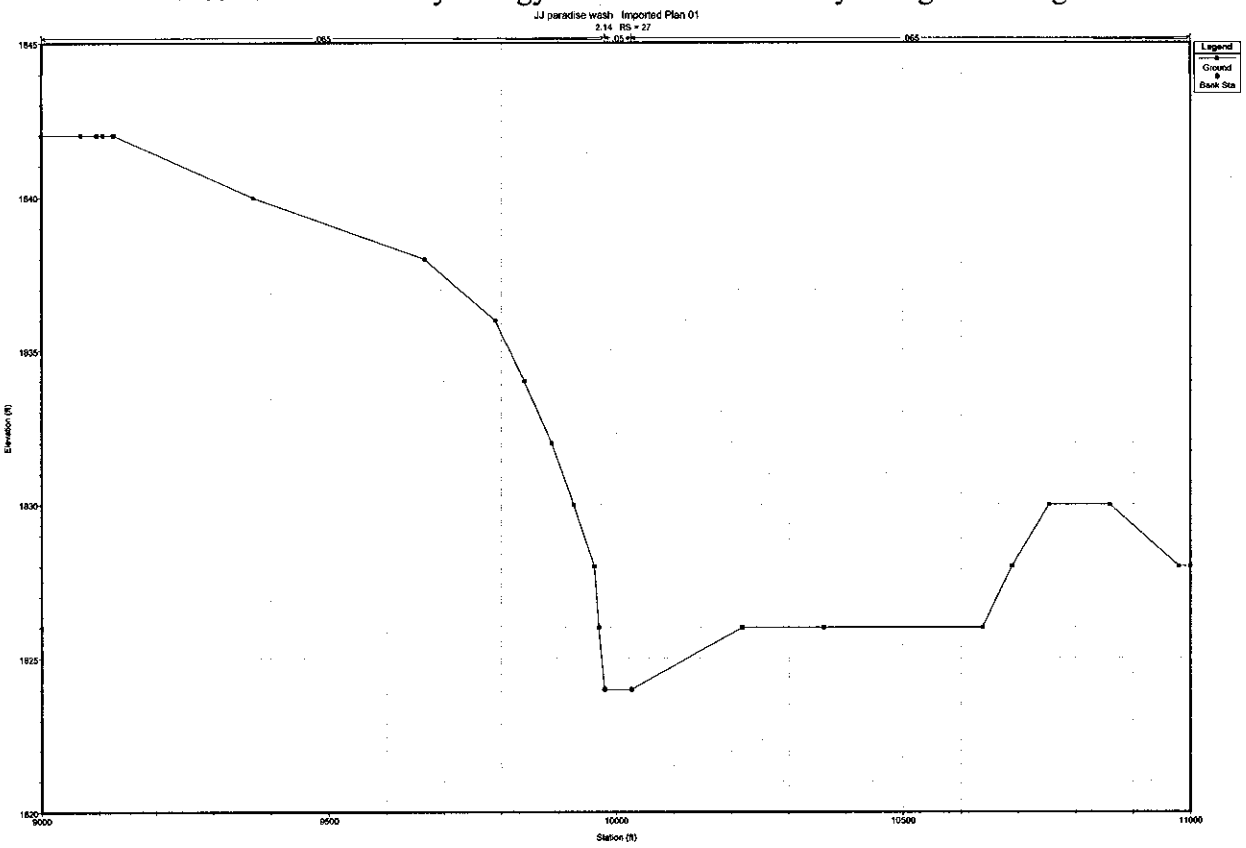
FDS cross section used as basis for routing reach 308309 (Stanley Consultants, 1999)
XS 1.40 from RANR.PRJ



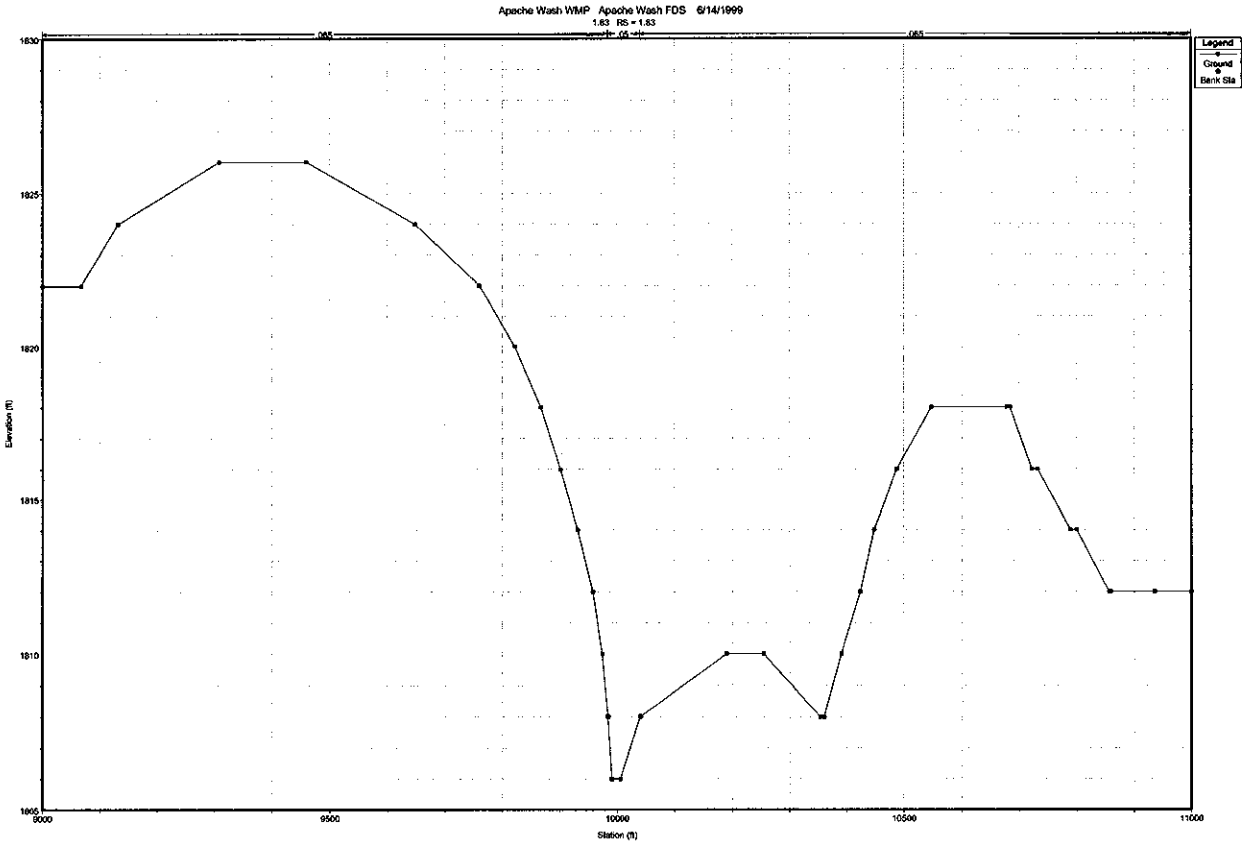
FDS cross section used as basis for routing reach 309310 (Jerry Jones, 1992).
XS 0.70 from RANI.DAT.



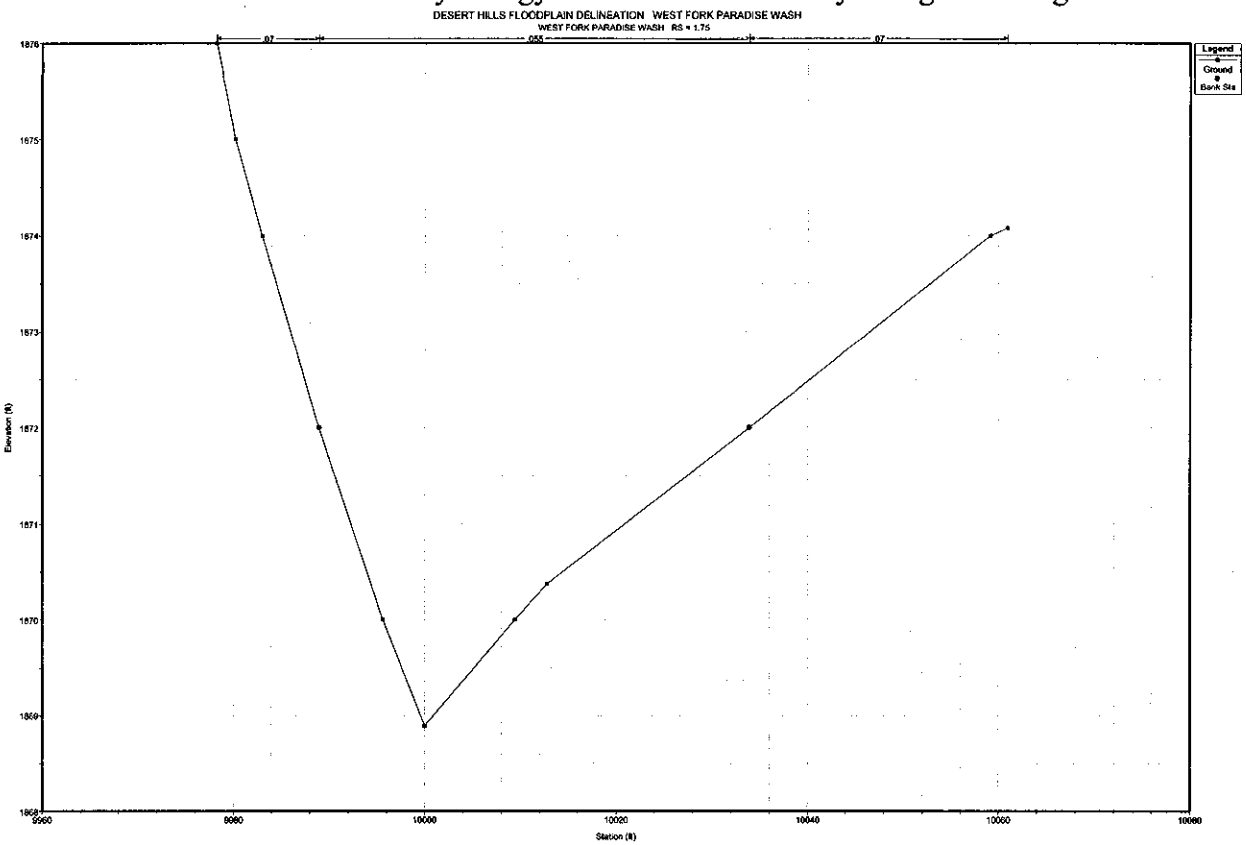
FDS cross section used as basis for routing reach 310312 (Jerry Jones, 1992).
XS 0.33 from RANI.DAT.



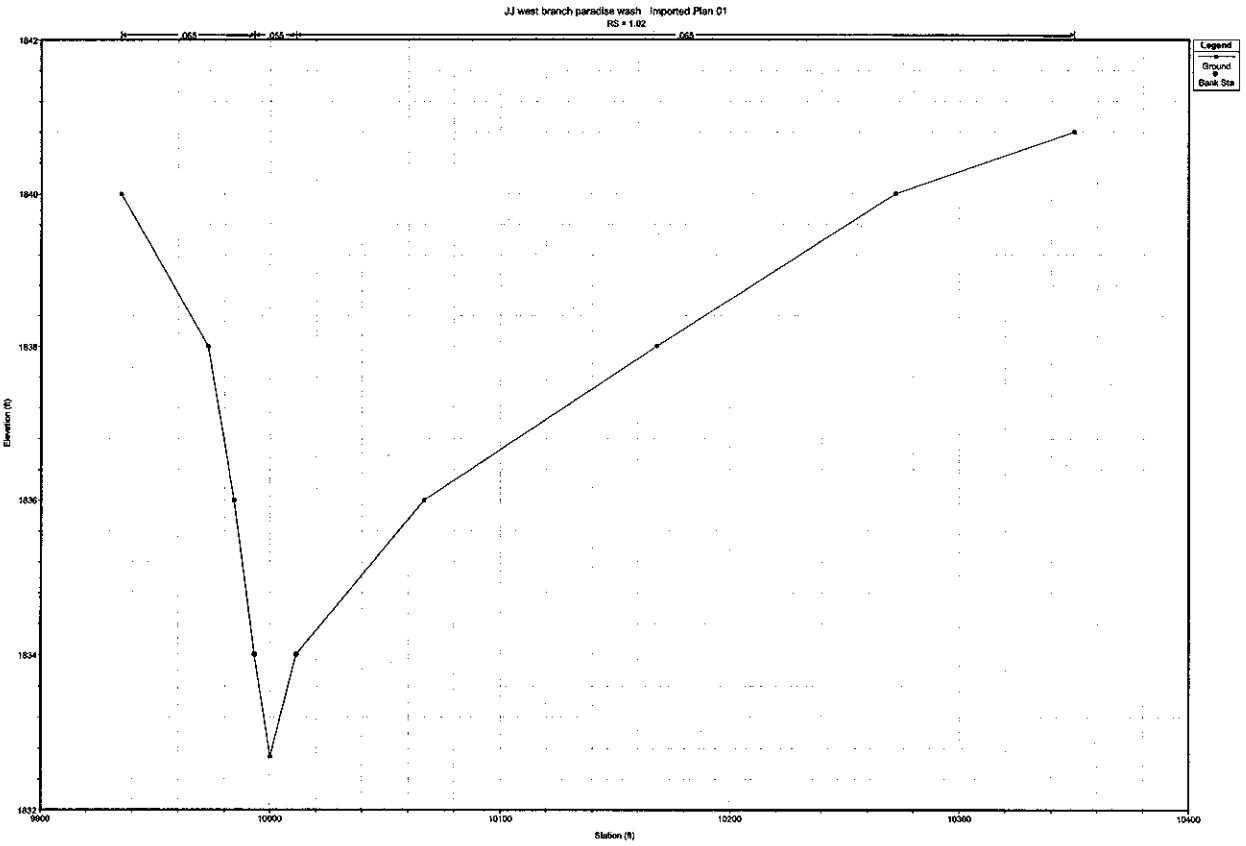
FDS cross section used as basis for routing reach 312314 (Jerry Jones, 1992).
XS 2.14 from PARADFCD.DAT.



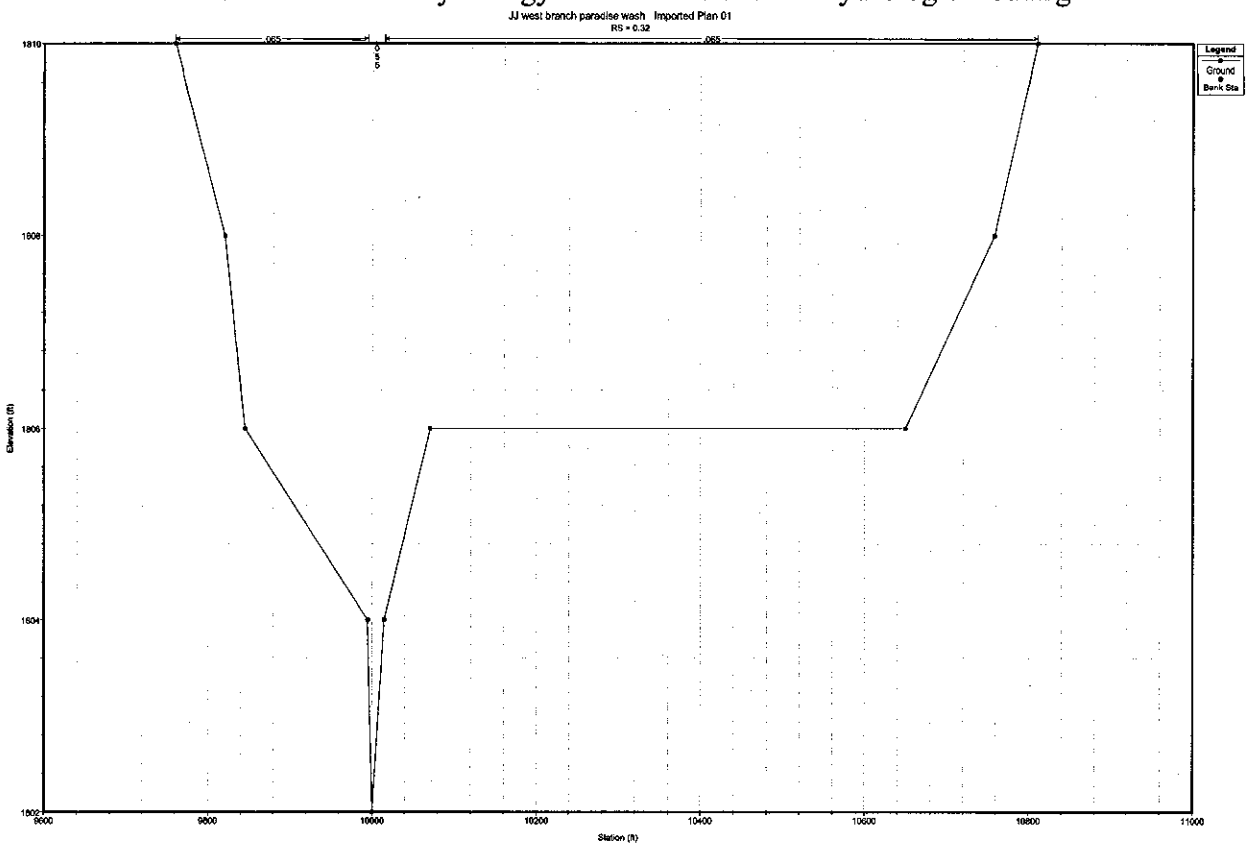
Cross section used as basis for routing reach 314318 (ASL, 1999 converted for WMP from original Jerry Jones, 1992). XS 1.83 from APACHE1.PRJ (original JJ PARADFCD.DAT).



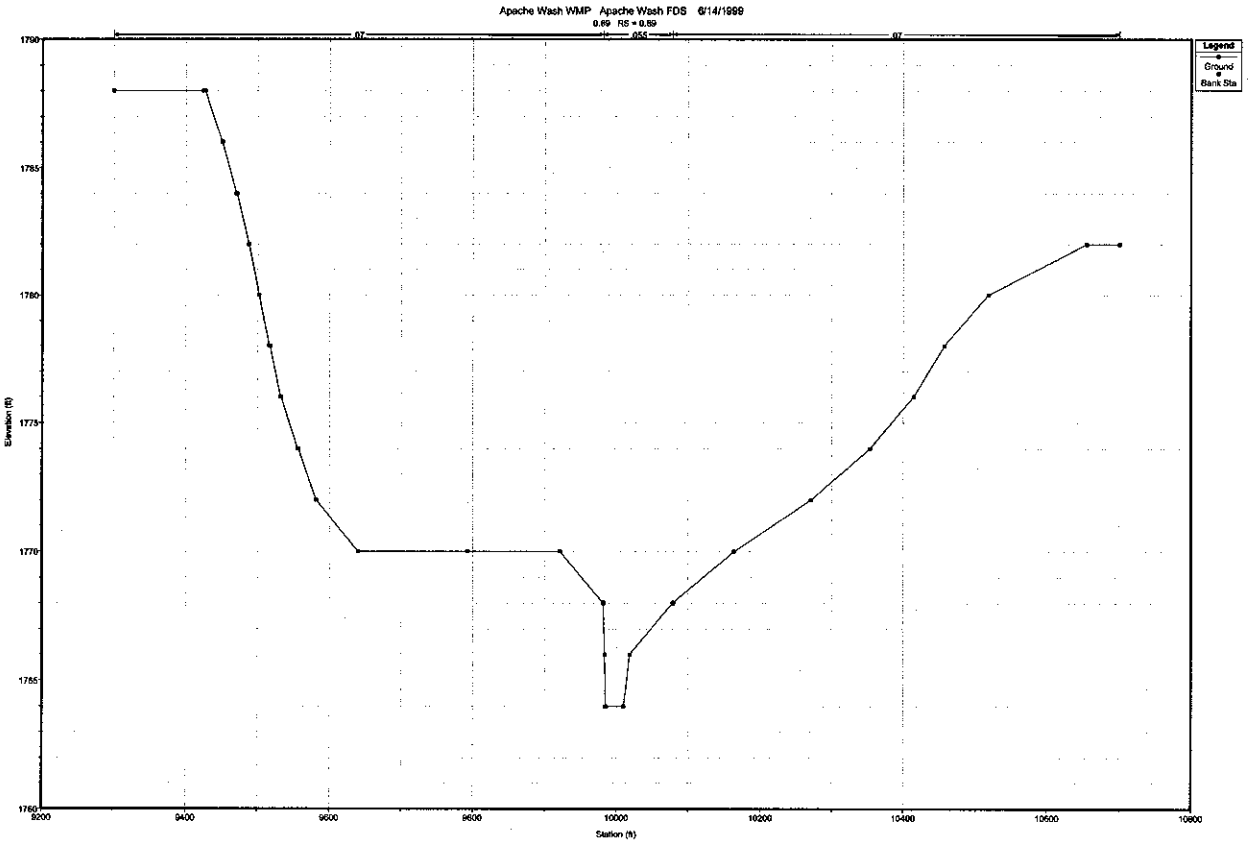
FDS cross section used as basis for routing reach 315316 (Stanley Consultants, 1999)
XS 1.75 from PARADS-WF.PRJ



FDS cross section used as basis for routing reach 316317 (Jerry Jones, 1992).
XS 1.02 from PRDWST.DAT.



FDS cross section used as basis for routing reach 317318 (Jerry Jones, 1992).
XS 0.32 from PRDWST.DAT.



Cross section used as basis for routing reach 318319 (ASL, 1999 converted for WMP from original Jerry Jones, 1992). XS 0.89 from APACHE1.PRJ (original JJ PARADFCD.DAT).

HY8 Analysis for diversion at D152

CURRENT DATE: 02-25-2003
CURRENT TIME: 16:06:11

FILE DATE: 02-25-2003
FILE NAME: RR152

FHWA CULVERT ANALYSIS
HY-8, VERSION 6.0

CULV NO.	SITE DATA: INLET ELEV. (ft)	OUTLET ELEV. (ft)	CULVERT LENGTH (ft)	CULVERT SHAPE, MATERIAL, INLET: BARRELS SHAPE MATERIAL	SPAN (ft)	RISE (ft)	MANNING n	INLET TYPE
1	100.00	99.00	171.00	2 CSP	2.00	2.00	.024	IMPR SDT CIR
2								
3								
4								
5								
6								

SUMMARY OF CULVERT FLOWS (cfs) FILE: RR152 DATE: 02-25-2003

ELEV (ft)	TOTAL	1	2	3	4	5	6	ROADWAY	ITR
100.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	1
101.93	20.0	20.0	0.0	0.0	0.0	0.0	0.0	0.00	1
103.46	60.0	30.1	0.0	0.0	0.0	0.0	0.0	29.43	7
103.66	90.0	30.7	0.0	0.0	0.0	0.0	0.0	58.71	6
103.82	120.0	29.9	0.0	0.0	0.0	0.0	0.0	89.00	5
103.85	150.0	56.0	0.0	0.0	0.0	0.0	0.0	95.39	8
103.96	180.0	56.7	0.0	0.0	0.0	0.0	0.0	121.58	4
104.06	210.0	57.3	0.0	0.0	0.0	0.0	0.0	150.92	4
104.16	240.0	57.7	0.0	0.0	0.0	0.0	0.0	180.43	4
104.24	270.0	58.0	0.0	0.0	0.0	0.0	0.0	209.72	4
104.40	300.0	26.4	0.0	0.0	0.0	0.0	0.0	272.36	6
103.00	28.0	28.0	0.0	0.0	0.0	0.0	0.0	OVERTOPPING	

SUMMARY OF ITERATIVE SOLUTION ERRORS FILE: RR152 DATE: 02-25-2003

HEAD ELEV (ft)	HEAD ERROR (ft)	TOTAL FLOW (cfs)	FLOW ERROR (cfs)	% FLOW ERROR
100.00	0.000	0.00	0.00	0.00
101.93	0.000	20.00	0.00	0.00
103.46	-0.008	60.00	0.49	0.82
103.66	-0.004	90.00	0.57	0.63
103.82	-0.007	120.00	1.09	0.91
103.85	0.001	150.00	-1.37	-0.91
103.96	-0.004	180.00	1.74	0.97
104.06	-0.004	210.00	1.81	0.86
104.16	-0.010	240.00	1.88	0.78
104.24	-0.009	270.00	2.26	0.84
104.40	-0.004	300.00	1.21	0.40

<1> TOLERANCE (ft) = 0.010 <2> TOLERANCE (%) = 1.000

CURRENT DATE: 02-25-2003 FILE DATE: 02-25-2003
CURRENT TIME: 16:06:11 FILE NAME: RR152

PERFORMANCE CURVE FOR CULVERT 1 - 2(2.00 (ft) BY 2.00 (ft)) CSP

DIS-CHARGE FLOW (cfs)	HEAD-WATER ELEV. (ft)	INLET CONTROL DEPTH (ft)	OUTLET CONTROL DEPTH (ft)	FLOW TYPE <F4>	NORMAL DEPTH (ft)	CRIT. DEPTH (ft)	OUTLET DEPTH (ft)	TW DEPTH (ft)	OUTLET VEL. (fps)	TW VEL. (fps)
0.00	100.00	0.00	-1.00	0-NF	0.00	0.00	0.00	0.00	0.00	0.00
20.00	101.93	1.64	1.93	2-M2c	2.00	1.13	1.13	0.68	5.48	2.61
30.08	103.45	2.14	3.45	2-M2c	2.00	1.40	1.40	1.27	6.42	3.76
30.72	103.66	2.17	3.66	3-M2t	2.00	1.41	1.60	1.60	5.70	4.27
29.91	103.81	2.13	3.81	3-M2t	2.00	1.39	1.88	1.88	4.92	4.66
55.98	103.48	3.46	3.48	3-M1f	2.00	1.84	2.00	2.12	8.91	4.97
56.68	103.52	3.50	3.52	3-M1f	2.00	1.85	2.00	2.34	9.02	5.25
57.26	103.55	3.53	3.55	3-M1f	2.00	1.86	2.00	2.54	9.11	5.48
57.69	103.57	3.56	3.57	3-M1f	2.00	1.87	2.00	2.73	9.18	5.70
58.02	103.59	3.58	3.59	3-M1f	2.00	1.87	2.00	2.90	9.23	5.89
26.43	104.40	1.97	4.40	4-FFt	2.00	1.30	2.00	3.07	4.21	6.07

El. inlet face invert 100.00 ft El. outlet invert 99.00 ft
El. inlet throat invert 99.98 ft El. inlet crest 0.00 ft

```
***** SITE DATA ***** CULVERT INVERT **************
      INLET STATION                          100.00 ft
      INLET ELEVATION                        100.00 ft
      OUTLET STATION                         275.00 ft
      OUTLET ELEVATION                        99.00 ft
      NUMBER OF BARRELS                        2
      SLOPE (V/H)                              0.0057
      CULVERT LENGTH ALONG SLOPE             171.00 ft

***** CULVERT DATA SUMMARY ************************
      BARREL SHAPE          CIRCULAR
      BARREL DIAMETER         2.00 ft
      BARREL MATERIAL       CORRUGATED STEEL
      BARREL MANNING'S n    0.024
      INLET TYPE            IMPR SDT CIRC
      INLET EDGE AND WALL   SQUARE EDGE TOP (26-90 DEG WINGWALL)
      INLET DEPRESSION      NONE

***** SIDE-TAPERED CIRCULAR IMPROVED INLET *******
      FACE WIDTH                             4.00 ft
      SIDE TAPER (4:1 TO 6:1) (X:1)          4.00
      FACE HEIGHT                            2.00 ft
```

CURRENT DATE: 02-25-2003 FILE DATE: 02-25-2003
CURRENT TIME: 16:06:11 FILE NAME: RR152

TAILWATER

******* REGULAR CHANNEL CROSS SECTION ****************

BOTTOM WIDTH	10.00 ft
SIDE SLOPE H/V (X:1)	2.0
CHANNEL SLOPE V/H (ft/ft)	0.010
MANNING'S n (.01-0.1)	0.040
CHANNEL INVERT ELEVATION	99.00 ft
CULVERT NO.1 OUTLET INVERT ELEVATION	99.00 ft

******* UNIFORM FLOW RATING CURVE FOR DOWNSTREAM CHANNEL

FLOW (cfs)	W.S.E. (ft)	FROUDE NUMBER	DEPTH (ft)	VEL. (f/s)	SHEAR (psf)
0.00	99.00	0.000	0.00	0.00	0.00
20.00	99.68	0.559	0.68	2.61	0.42
60.00	100.27	0.587	1.27	3.76	0.79
90.00	100.60	0.595	1.60	4.27	1.00
120.00	100.88	0.599	1.88	4.66	1.17
150.00	101.12	0.602	2.12	4.97	1.32
180.00	101.34	0.605	2.34	5.25	1.46
210.00	101.54	0.606	2.54	5.48	1.59
240.00	101.73	0.608	2.73	5.70	1.70
270.00	101.90	0.609	2.90	5.89	1.81
300.00	102.07	0.610	3.07	6.07	1.91

ROADWAY OVERTOPPING DATA

ROADWAY SURFACE	GRAVEL
EMBANKMENT TOP WIDTH	105.00 ft

***** USER DEFINED ROADWAY PROFILE

CROSS-SECTION COORD. NO.	X ft	Y ft
1	0.00	105.00
2	200.00	105.00
3	230.00	104.00
4	245.00	103.00
5	270.00	103.00
6	370.00	105.00

HY8 Analysis for reservoir routing at RR310
Anaylsis of Right Set of Pipes

CURRENT DATE: 07-24-2003
CURRENT TIME: 08:41:12

FILE DATE: 07-24-2003
FILE NAME: RR310R

FHWA CULVERT ANALYSIS
HY-8, VERSION 6.0

CULV NO.	SITE DATA: INLET ELEV. (ft)	OUTLET ELEV. (ft)	CULVERT LENGTH (ft)	CULVERT SHAPE, MATERIAL, INLET: BARRELS SHAPE MATERIAL	SPAN (ft)	RISE (ft)	MANNING n	INLET TYPE
1	1850.00	1849.00	50.01	2 CSP	6.00	6.00	.021	CONVENTIONAL
2	1850.00	1849.00	50.01	4 CSP	2.50	2.50	.017	CONVENTIONAL
3								
4								
5								
6								

SUMMARY OF CULVERT FLOWS (cfs) FILE: RR310R DATE: 07-24-2003

ELEV (ft)	TOTAL	1	2	3	4	5	6	ROADWAY	ITR
1853.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0
1853.58	260.0	183.3	78.7	0.0	0.0	0.0	0.0	0.00	8
1855.45	520.0	357.6	163.0	0.0	0.0	0.0	0.0	0.00	3
1857.73	780.0	553.4	226.6	0.0	0.0	0.0	0.0	0.00	5
1857.94	800.0	569.2	231.7	0.0	0.0	0.0	0.0	0.00	2
1860.05	1300.0	708.1	276.6	0.0	0.0	0.0	0.0	308.51	7
1860.19	1560.0	716.5	279.4	0.0	0.0	0.0	0.0	549.04	4
1860.31	1820.0	723.8	281.7	0.0	0.0	0.0	0.0	802.82	4
1860.42	2080.0	730.0	283.9	0.0	0.0	0.0	0.0	1056.92	4
1860.51	2340.0	735.7	285.7	0.0	0.0	0.0	0.0	1311.13	4
1860.60	2600.0	740.5	287.3	0.0	0.0	0.0	0.0	1549.44	3
1859.60	949.0	681.3	267.7	0.0	0.0	0.0	0.0	OVERTOPPING	

SUMMARY OF ITERATIVE SOLUTION ERRORS FILE: RR310R DATE: 07-24-2003

HEAD ELEV (ft)	HEAD ERROR (ft)	TOTAL FLOW (cfs)	FLOW ERROR (cfs)	% FLOW ERROR
1853.00	0.000	0.00	0.00	0.00
1853.58	0.004	260.00	-1.97	-0.76
1855.45	0.005	520.00	-0.63	-0.12
1857.73	0.000	780.00	-0.03	-0.00
1857.94	0.009	800.00	-0.92	-0.12
1860.05	-0.006	1300.00	6.81	0.52
1860.19	-0.005	1560.00	15.09	0.97
1860.31	-0.003	1820.00	11.73	0.64
1860.42	-0.008	2080.00	9.19	0.44
1860.51	-0.006	2340.00	7.53	0.32
1860.60	-0.005	2600.00	22.83	0.88

<1> TOLERANCE (ft) = 0.010 <2> TOLERANCE (%) = 1.000

CURRENT DATE: 07-24-2003 FILE DATE: 07-24-2003
CURRENT TIME: 08:41:12 FILE NAME: RR310R

PERFORMANCE CURVE FOR CULVERT 1 - 2(6.00 (ft) BY 6.00 (ft)) CSP

DIS-CHARGE FLOW (cfs)	HEAD-WATER ELEV. (ft)	INLET CONTROL DEPTH (ft)	OUTLET CONTROL DEPTH (ft)	FLOW TYPE <F4>	NORMAL DEPTH (ft)	CRIT. DEPTH (ft)	OUTLET DEPTH (ft)	TW DEPTH (ft)	OUTLET VEL. (fps)	TW VEL. (fps)
0.00	1853.00	0.00	3.00	0-NF	0.00	0.00	0.00	4.00	0.00	0.00
183.28	1853.58	3.58	3.56	1-S2n	2.02	2.56	1.96	4.00	11.40	0.00
357.64	1855.45	5.45	4.90	1-S2n	2.93	3.64	2.90	4.00	13.19	0.00
553.40	1857.73	7.73	6.86	5-S2n	3.86	4.54	3.77	4.00	14.83	0.00
569.22	1857.94	7.94	7.04	5-S2n	3.94	4.60	3.83	4.00	14.96	0.00
708.07	1860.04	10.04	8.77	5-S2n	4.70	5.05	4.38	4.00	16.02	0.00
716.52	1860.18	10.18	8.89	5-S2n	4.74	5.08	4.42	4.00	16.09	0.00
723.76	1860.30	10.30	8.99	5-S2n	4.79	5.10	4.44	4.00	16.17	0.00
730.04	1860.41	10.41	9.07	5-S2n	4.83	5.12	4.47	4.00	16.21	0.00
735.65	1860.51	10.51	9.15	5-S2n	4.89	5.13	4.49	4.00	16.24	0.00
740.46	1860.59	10.59	9.22	5-S2n	4.93	5.15	4.51	4.00	16.29	0.00

El. inlet face invert 1850.00 ft El. outlet invert 1849.00 ft
El. inlet throat invert 0.00 ft El. inlet crest 0.00 ft

```
***** SITE DATA ***** CULVERT INVERT **************
      INLET STATION                          100.00 ft
      INLET ELEVATION                       1850.00 ft
      OUTLET STATION                         150.00 ft
      OUTLET ELEVATION                      1849.00 ft
      NUMBER OF BARRELS                        2
      SLOPE (V/H)                              0.0200
      CULVERT LENGTH ALONG SLOPE              50.01 ft

***** CULVERT DATA SUMMARY ************************
      BARREL SHAPE          CIRCULAR
      BARREL DIAMETER         6.00 ft
      BARREL MATERIAL       CORRUGATED STEEL
      BARREL MANNING'S n    0.021
      INLET TYPE            CONVENTIONAL
      INLET EDGE AND WALL   SQUARE EDGE WITH HEADWALL
      INLET DEPRESSION      NONE
```

CURRENT DATE: 07-24-2003 FILE DATE: 07-24-2003
CURRENT TIME: 08:41:12 FILE NAME: RR310R

PERFORMANCE CURVE FOR CULVERT 2 - 4(2.50 (ft) BY 2.50 (ft)) CSP

DIS-CHARGE FLOW (cfs)	HEAD-WATER ELEV. (ft)	INLET CONTROL DEPTH (ft)	OUTLET CONTROL DEPTH (ft)	FLOW TYPE <F4>	NORMAL DEPTH (ft)	CRIT. DEPTH (ft)	OUTLET DEPTH (ft)	TW DEPTH (ft)	OUTLET VEL. (fps)	TW VEL. (fps)
0.00	1853.00	0.00	3.00	0-NF	0.00	0.00	0.00	4.00	0.00	0.00
78.68	1853.57	2.24	3.57	4-FFt	1.16	1.50	2.50	4.00	4.01	0.00
162.98	1855.44	4.32	5.44	4-FFt	1.89	2.13	2.50	4.00	8.30	0.00
226.62	1857.73	6.79	7.73	4-FFt	2.50	2.46	2.50	4.00	11.54	0.00
231.71	1857.94	7.02	7.94	4-FFt	2.50	2.49	2.50	4.00	11.80	0.00
276.61	1860.04	9.31	10.04	4-FFt	2.50	2.50	2.50	4.00	14.09	0.00
279.35	1860.18	9.46	10.18	4-FFt	2.50	2.50	2.50	4.00	14.23	0.00
281.70	1860.30	9.60	10.30	4-FFt	2.50	2.50	2.50	4.00	14.35	0.00
283.85	1860.41	9.72	10.41	4-FFt	2.50	2.50	2.50	4.00	14.46	0.00
285.69	1860.51	9.82	10.51	4-FFt	2.50	2.50	2.50	4.00	14.55	0.00
287.27	1860.59	9.91	10.59	4-FFt	2.50	2.50	2.50	4.00	14.63	0.00

El. inlet face invert 1850.00 ft El. outlet invert 1849.00 ft
El. inlet throat invert 0.00 ft El. inlet crest 0.00 ft

```
***** SITE DATA ***** CULVERT INVERT **************
      INLET STATION                          100.00 ft
      INLET ELEVATION                       1850.00 ft
      OUTLET STATION                         150.00 ft
      OUTLET ELEVATION                      1849.00 ft
      NUMBER OF BARRELS                        4
      SLOPE (V/H)                              0.0200
      CULVERT LENGTH ALONG SLOPE              50.01 ft

***** CULVERT DATA SUMMARY ************************
      BARREL SHAPE          CIRCULAR
      BARREL DIAMETER         2.50 ft
      BARREL MATERIAL       CORRUGATED STEEL
      BARREL MANNING'S n    0.017
      INLET TYPE            CONVENTIONAL
      INLET EDGE AND WALL   SQUARE EDGE WITH HEADWALL
      INLET DEPRESSION      NONE
```

CURRENT DATE: 07-24-2003
CURRENT TIME: 08:41:12

FILE DATE: 07-24-2003
FILE NAME: RR310R

TAILWATER

CONSTANT WATER SURFACE ELEVATION
1853.00

ROADWAY OVERTOPPING DATA

ROADWAY SURFACE PAVED
EMBANKMENT TOP WIDTH 36.00 ft
***** USER DEFINED ROADWAY PROFILE

CROSS-SECTION COORD. NO.	X ft	Y ft
1	0.00	1861.00
2	240.00	1860.00
3	365.00	1859.80
4	490.00	1859.60
5	615.00	1859.60
6	740.00	1859.80
7	865.00	1860.00
8	1390.00	1870.00

HY8 Analysis for reservoir routing at RR310
Anaylsis of Left Set of Pipes

CURRENT DATE: 07-24-2003
CURRENT TIME: 08:45:24

FILE DATE: 07-24-2003
FILE NAME: RR310L

FHWA CULVERT ANALYSIS
HY-8, VERSION 6.0

CULV NO.	SITE DATA: INLET ELEV. (ft)	OUTLET ELEV. (ft)	CULVERT LENGTH (ft)	CULVERT SHAPE, MATERIAL, INLET: BARRELS SHAPE MATERIAL	SPAN (ft)	RISE (ft)	MANNING n	INLET TYPE
1	1850.00	1849.00	50.01	3 CSP	6.00	6.00	.021	CONVENTIONAL
2								
3								
4								
5								
6								

SUMMARY OF CULVERT FLOWS (cfs) FILE: RR310L DATE: 07-24-2003

ELEV (ft)	TOTAL	1	2	3	4	5	6	ROADWAY	ITR
1850.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	1
1853.77	300.0	300.0	0.0	0.0	0.0	0.0	0.0	0.00	1
1855.90	600.0	600.0	0.0	0.0	0.0	0.0	0.0	0.00	1
1858.37	900.0	900.0	0.0	0.0	0.0	0.0	0.0	0.00	1
1859.91	1200.0	1049.7	0.0	0.0	0.0	0.0	0.0	140.48	8
1860.12	1500.0	1068.6	0.0	0.0	0.0	0.0	0.0	422.59	5
1860.27	1800.0	1081.7	0.0	0.0	0.0	0.0	0.0	704.82	4
1860.39	2100.0	1092.8	0.0	0.0	0.0	0.0	0.0	996.50	4
1860.51	2400.0	1102.7	0.0	0.0	0.0	0.0	0.0	1289.04	4
1860.60	2700.0	1111.0	0.0	0.0	0.0	0.0	0.0	1563.56	3
1860.70	3000.0	1119.1	0.0	0.0	0.0	0.0	0.0	1854.32	3
1859.60	1021.2	1021.2	0.0	0.0	0.0	0.0	0.0	OVERTOPPING	

SUMMARY OF ITERATIVE SOLUTION ERRORS FILE: RR310L DATE: 07-24-2003

HEAD ELEV (ft)	HEAD ERROR (ft)	TOTAL FLOW (cfs)	FLOW ERROR (cfs)	% FLOW ERROR
1850.00	0.000	0.00	0.00	0.00
1853.77	0.000	300.00	0.00	0.00
1855.90	0.000	600.00	0.00	0.00
1858.37	0.000	900.00	0.00	0.00
1859.91	-0.005	1200.00	9.83	0.82
1860.12	-0.009	1500.00	8.84	0.59
1860.27	-0.004	1800.00	13.53	0.75
1860.39	-0.010	2100.00	10.64	0.51
1860.51	-0.008	2400.00	8.27	0.34
1860.60	-0.006	2700.00	25.44	0.94
1860.70	-0.006	3000.00	26.62	0.89

<1> TOLERANCE (ft) = 0.010 <2> TOLERANCE (%) = 1.000

CURRENT DATE: 07-24-2003
CURRENT TIME: 08:45:24

FILE DATE: 07-24-2003
FILE NAME: RR310L

PERFORMANCE CURVE FOR CULVERT 1 - 3(6.00 (ft) BY 6.00 (ft)) CSP

DIS-CHARGE FLOW (cfs)	HEAD-WATER ELEV. (ft)	INLET CONTROL DEPTH (ft)	OUTLET CONTROL DEPTH (ft)	FLOW TYPE <F4>	NORMAL DEPTH (ft)	CRIT. DEPTH (ft)	OUTLET DEPTH (ft)	TW DEPTH (ft)	OUTLET VEL. (fps)	TW VEL. (fps)
0.00	1850.00	0.00	-1.00	0-NF	0.00	0.00	0.00	0.00	0.00	0.00
300.00	1853.77	3.77	3.70	1-S2n	2.11	2.68	2.20	1.56	10.64	4.96
600.00	1855.90	5.90	5.38	1-S2n	3.13	3.85	3.27	2.28	12.69	6.13
900.00	1858.37	8.37	7.64	5-S2n	4.09	4.72	4.21	2.83	14.13	6.92
1049.69	1859.90	9.90	8.97	5-S2n	4.65	5.03	4.71	3.29	14.71	7.51
1068.57	1860.11	10.11	9.15	5-S2n	4.72	5.07	4.67	3.69	15.12	8.00
1081.65	1860.26	10.26	9.27	5-S2n	4.77	5.09	4.80	4.04	14.85	8.42
1092.85	1860.39	10.39	9.38	5-S2n	4.82	5.11	4.86	4.33	14.86	8.81
1102.69	1860.50	10.50	9.48	5-S2n	4.88	5.13	4.83	4.59	15.06	9.14
1110.99	1860.60	10.60	9.56	5-S2n	4.93	5.15	4.96	4.83	14.84	9.44
1119.05	1860.69	10.69	9.64	5-S2n	4.98	5.16	5.01	5.05	14.84	9.71

El. inlet face invert 1850.00 ft El. outlet invert 1849.00 ft
El. inlet throat invert 0.00 ft El. inlet crest 0.00 ft

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***** SITE DATA ***** CULVERT INVERT ***************
      INLET STATION                          100.00 ft
      INLET ELEVATION                       1850.00 ft
      OUTLET STATION                         150.00 ft
      OUTLET ELEVATION                      1849.00 ft
      NUMBER OF BARRELS                        3
      SLOPE (V/H)                              0.0200
      CULVERT LENGTH ALONG SLOPE              50.01 ft

***** CULVERT DATA SUMMARY ************************
      BARREL SHAPE          CIRCULAR
      BARREL DIAMETER         6.00 ft
      BARREL MATERIAL       CORRUGATED STEEL
      BARREL MANNING'S n    0.021
      INLET TYPE            CONVENTIONAL
      INLET EDGE AND WALL   SQUARE EDGE WITH HEADWALL
      INLET DEPRESSION      NONE
```

CURRENT DATE: 07-24-2003 FILE DATE: 07-24-2003
CURRENT TIME: 08:45:24 FILE NAME: RR310L

TAILWATER

***** USER DEFINED CHANNEL CROSS-SECTION FILE NAME: RR310L
MAIN CHANNEL AND RIGHT OVER BANK FILE DATE: 01-27-2003
LEFT CHANNEL BOUNDARY 0
RIGHT CHANNEL BOUNDARY 4
MANNING n LEFT OVER BANK 0.000
MANNING n MAIN CHANNEL 0.035
MANNING n RIGHT OVER BANK 0.055
SLOPE OF CHANNEL 0.0100 ft/ft

CROSS-SECTION COORD. NO.	X (ft)	Y (ft)
1	0.00	1855.00
2	50.00	1849.00
3	80.00	1849.00
4	92.00	1853.00
5	142.00	1853.00
6	150.00	1855.00

******* UNIFORM FLOW RATING CURVE FOR DOWNSTREAM CHANNEL

FLOW (cfs)	W.S.E. (ft)	FROUDE NUMBER	DEPTH (ft)	VEL. (f/s)	SHEAR (psf)
0.00	1849.00	0.000	0.00	0.00	0.00
300.00	1850.56	0.775	1.56	4.96	0.79
600.00	1851.28	0.817	2.28	6.13	1.08
900.00	1851.83	0.841	2.83	6.92	1.30
1200.00	1852.29	0.858	3.29	7.51	1.47
1500.00	1852.69	0.872	3.69	8.00	1.61
1800.00	1853.04	0.883	4.04	8.42	1.74
2100.00	1853.33	0.893	4.33	8.81	1.87
2400.00	1853.59	0.901	4.59	9.14	1.97
2700.00	1853.83	0.908	4.83	9.44	2.07
3000.00	1854.05	0.915	5.05	9.71	2.16

Note: Shear stress was calculated using R.

ROADWAY OVERTOPPING DATA

ROADWAY SURFACE PAVED
EMBANKMENT TOP WIDTH 36.00 ft
***** USER DEFINED ROADWAY PROFILE

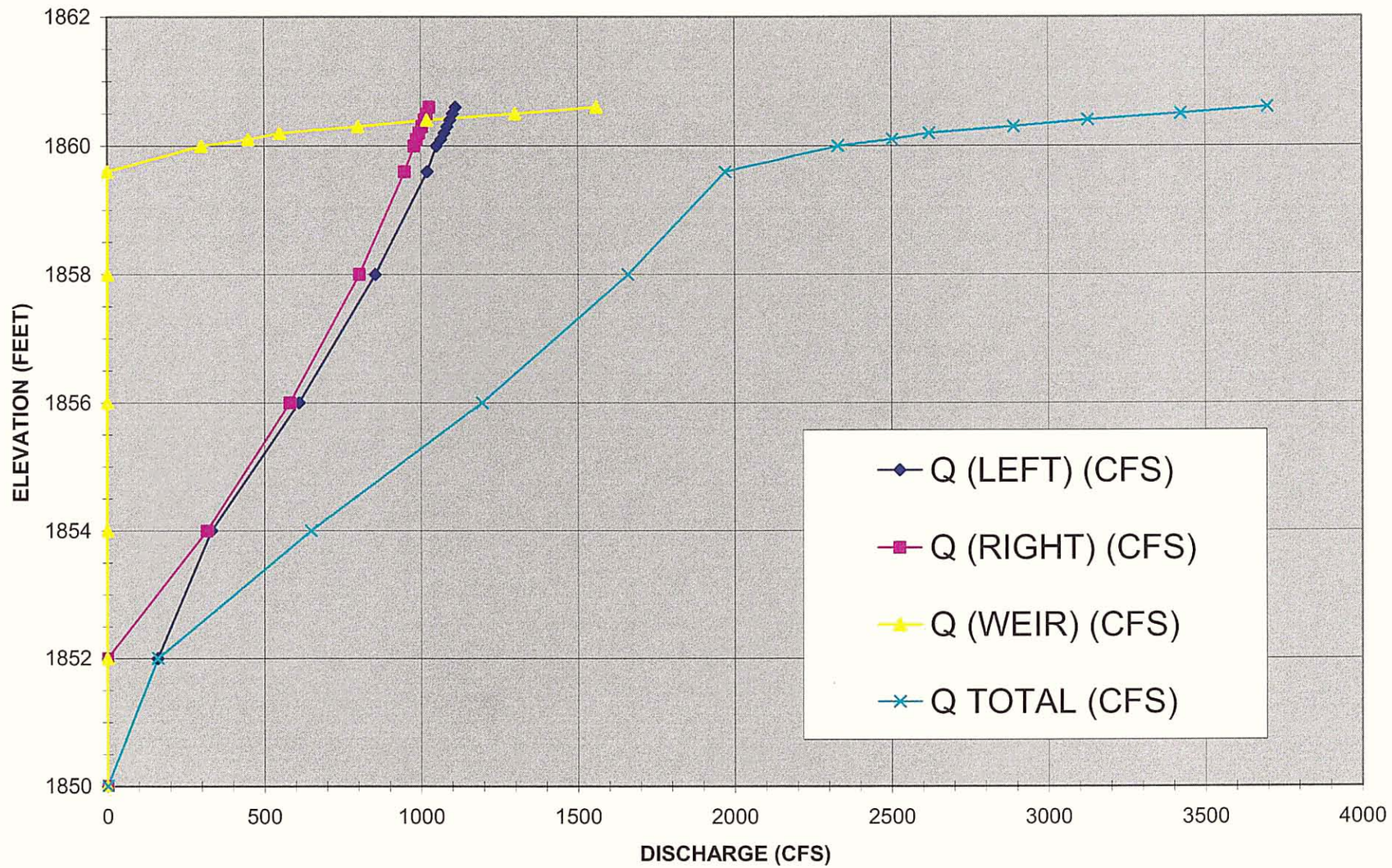
CROSS-SECTION COORD. NO.	X ft	Y ft
1	0.00	1861.00
2	240.00	1860.00
3	365.00	1859.80
4	490.00	1859.60
5	615.00	1859.60
6	740.00	1859.80
7	865.00	1860.00
8	1390.00	1870.00

Rating Table from HY8 Calculations for RR310

(Ranieri Tank Wash at 32nd Street)

ELEV	Q (LEFT)	Q (RIGHT)	Q (WEIR)	Q TOTAL
(FT)	(CFS)	(CFS)	(CFS)	(CFS)
1850	0	0	0	0
1852	160	0	0	160
1854	332	318	0	650
1856	612	583	0	1195
1858	855	805	0	1660
1859.6	1021	949	0	1970
1860	1050	980	300	2330
1860.1	1065	988	450	2503
1860.2	1075	996	550	2621
1860.3	1085	1005	800	2890
1860.4	1094	1012	1020	3126
1860.5	1102	1020	1300	3422
1860.6	1111	1028	1560	3699
Discharge ratings computed using HY8				

RANIERI TANK WASH - DISCHARGE RATING AT 32ND STREET



Stage-storage data for RR310

DATA FROM POLYGONS

ROADWAY RESERVOIR UPSTREAM OF 32ND ST DIGITIZED IN ARCVIEW

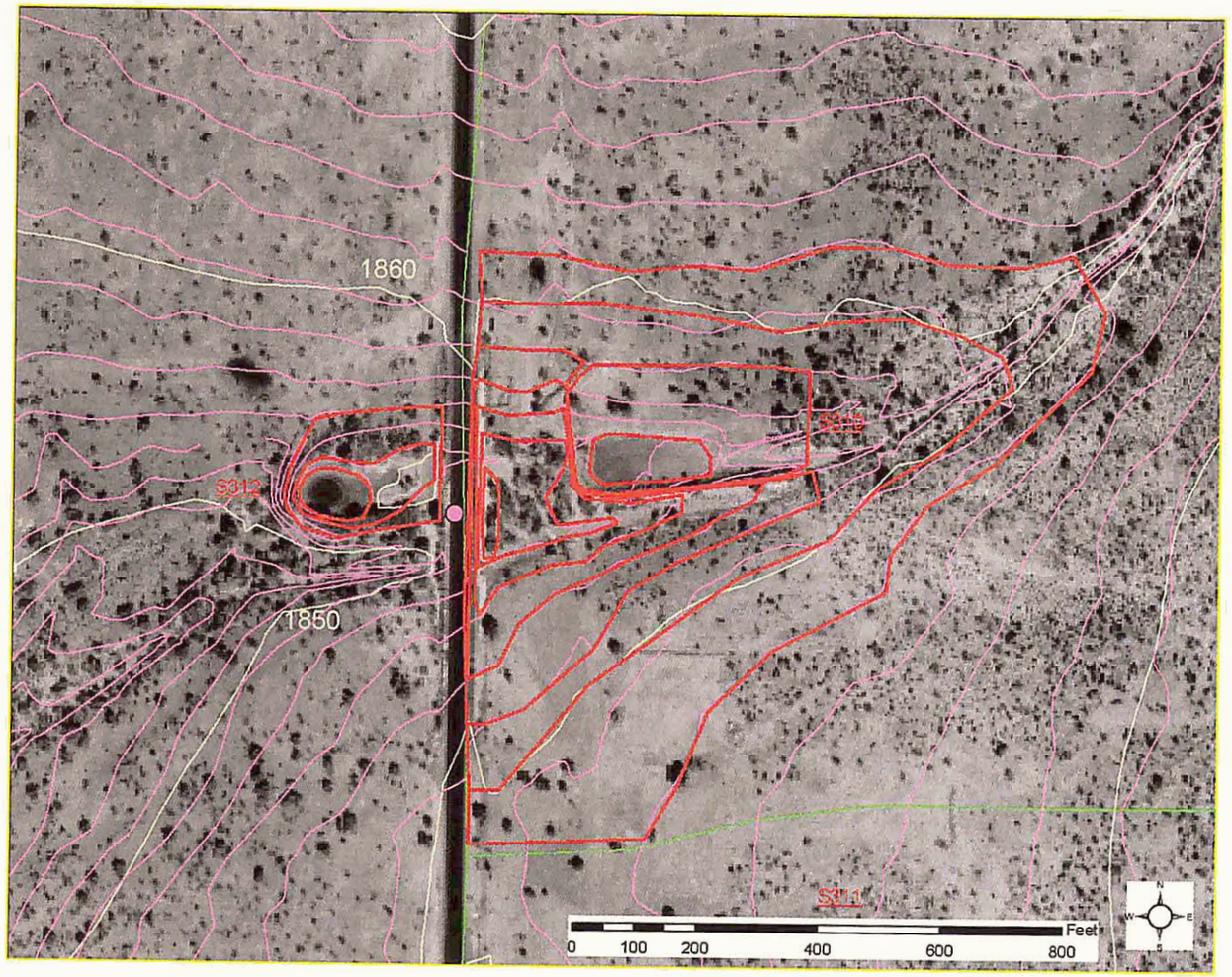
ELEV (FT)	AREA (ACRES)
1850	0.08
1852	0.58
1854	1.23
1856	2.11
1858	3.44
1860	7.22
1862	13.22

STOCK TANK U/S

ELEV (FT)	AREA (ACRES)	VOLUME (AC-FT)
1848	0.3	
1858	1.7	10

STOCK TANK D/S

ELEV (FT)	AREA (ACRES)	VOLUME (AC-FT)
1846	0.18	0.18
1848	0.49	0.67
1850	1.05	1.54
		2.39



D.6. HEC-1 Output Files

- **D.6.1. 100-year 6-hour Existing Conditions**
- **D.6.2. 10-year 6-hour Existing Conditions**
- **D.6.3. 2-year 6-hour Existing Conditions**
- **D.6.4. 100-year 6-hour Future Conditions**
- **D.6.5. 10-year 6-hour Future Conditions**
- **D.6.6. 2-year 6-hour Future Conditions**

Desert Hills Area Hydrology
Existing Conditions Results

		100-year			10-year			2-year		
KK	Area	Peak Flow	Time to	Volume	Peak Flow	Time to	Volume	Peak Flow	Time to	Volume
ID	sq.mi.	cfs	Peak(hrs)	ac-ft	cfs	Peak(hrs)	ac-ft	cfs	Peak(hrs)	ac-ft
S100	0.34	917	4.08	43	321	4.08	15	92	4.08	4
100101	0.34	690	4.33	43	234	4.42	15	65	4.42	4
S101	0.3	653	4.17	37	228	4.17	13	65	4.17	4
C101	0.64	1187	4.33	80	410	4.25	28	110	4.33	8
101CFH	0.64	690	5.92	80	207	6.58	28	55	6.5	8
S102	0.3	943	4.08	37	330	4.08	13	94	4.08	4
102103	0.3	858	4.17	37	285	4.17	13	74	4.25	4
S103	0.14	355	4.08	16	124	4.08	5	35	4.08	2
C103	0.44	1197	4.17	52	404	4.17	18	105	4.17	5
103104	0.44	1150	4.17	52	378	4.25	18	97	4.25	5
S104	0.08	214	4.08	10	75	4.08	4	21	4.08	1
C104	0.52	1331	4.17	63	431	4.17	22	112	4.25	6
104CFH	0.52	606	5.67	63	179	6.33	22	46	6.33	6
S105	0.16	342	4.17	24	120	4.17	8	34	4.17	2
105106	0.16	321	4.33	24	108	4.33	8	32	4.33	2
S106	0.11	224	4.17	16	78	4.17	6	22	4.17	2
C106	0.27	525	4.25	40	176	4.25	14	53	4.25	4
106107	0.27	451	4.58	40	151	4.58	14	48	4.5	4
S107	0.19	366	4.17	26	128	4.17	9	37	4.17	3
C107	0.45	673	4.42	66	234	4.33	23	73	4.42	7
107CFH	0.45	577	5.08	66	189	5.42	23	54	5.33	7
S150	0.01	38	4	1	13	4	0	4	4	0
S151	0.02	49	4	2	17	4	1	5	4	0
S152	0.09	260	4.08	9	91	4.08	3	26	4.08	1
D152	0.09	201	4.08	6	52	4.08	1	2	4.08	0
152153	0.09	199	4.08	6	51	4.08	1	1	4.17	0
S153	0.01	33	4.08	2	12	4.08	1	3	4.08	0
C153	0.1	232	4.08	7	63	4.08	2	5	4.08	0
DR152	0.09	59	4.08	3	38	4.08	2	24	4.08	1
C155	0.13	368	4.08	14	128	4.08	5	37	4.08	1
DUMMY	1.74	1451	5.83	215	390	6.33	75	110	6.42	22
S122	0.16	358	4.17	18	125	4.17	6	36	4.17	2
S123	0.14	363	4.08	16	127	4.08	5	36	4.08	2
S124	0.06	195	4.08	7	68	4.08	3	19	4.08	1
124125	0.06	171	4.17	7	54	4.25	3	12	4.33	1
S125	0.15	354	4.08	18	124	4.08	6	35	4.08	2
C125	0.21	497	4.17	25	164	4.17	9	41	4.08	2
DUMMY	0.34	855	4.08	41	287	4.08	14	78	4.08	4
DUMMY	2.24	1445	5.83	270	384	6.33	94	108	6.42	27
FLO2D	5.47	2034	5.5	631	674	6.08	312	137	7.25	99
CFH127	5.47	2010	5.58	629	666	6.25	310	137	7.58	98
S108	0.33	1075	4.08	41	376	4.08	14	107	4.08	4
108109	0.33	952	4.25	41	323	4.25	14	82	4.33	4
S109	0.37	817	4.17	42	286	4.17	15	82	4.17	4
C109R	0.69	1633	4.17	82	563	4.25	29	139	4.33	8
S110	0.13	354	4.08	16	124	4.08	5	35	4.08	2
110111	0.13	273	4.33	16	86	4.42	5	23	4.5	2
S111	0.25	711	4.08	29	249	4.08	10	71	4.08	3
C111	0.38	803	4.08	45	274	4.08	16	74	4.08	4
111109	0.38	632	4.5	45	159	4.83	16	26	5.58	4
S112	0.57	1309	4.17	69	458	4.17	24	131	4.17	7
C109C	0.95	1290	4.25	112	411	4.17	39	117	4.17	11
S113	0.11	196	4.17	11	69	4.17	4	20	4.17	1
113114	0.11	171	4.33	11	57	4.42	4	14	4.5	1
S114	0.11	242	4.17	12	85	4.17	4	24	4.17	1
C114	0.22	371	4.17	23	121	4.25	8	29	4.25	2

Desert Hills Area Hydrology
Existing Conditions Results

		100-year			10-year			2-year		
KK	Area	Peak Flow	Time to	Volume	Peak Flow	Time to	Volume	Peak Flow	Time to	Volume
ID	sq.mi.	cfs	Peak(hrs)	ac-ft	cfs	Peak(hrs)	ac-ft	cfs	Peak(hrs)	ac-ft
114115	0.22	346	4.42	23	106	4.5	8	22	4.75	2
S115	0.16	278	4.25	20	97	4.25	7	28	4.25	2
C115	0.37	596	4.33	43	180	4.42	15	38	4.5	4
115109	0.37	566	4.42	43	173	4.5	15	37	4.58	4
C109	2.02	2676	4.25	229	851	4.25	80	217	4.25	23
109116	2.02	2484	4.58	229	746	4.58	80	190	4.67	23
S116	0.22	277	4.33	22	97	4.33	8	28	4.33	2
C116R	2.24	2621	4.58	248	795	4.58	87	203	4.67	25
S117	0.23	427	4.25	31	149	4.25	11	43	4.25	3
S118	0.12	210	4.25	18	74	4.25	6	21	4.25	2
118119	0.12	199	4.5	18	67	4.58	6	18	4.67	2
S119	0.31	483	4.33	38	169	4.33	13	48	4.33	4
C116L	0.67	1012	4.33	87	342	4.33	30	92	4.33	9
C116	2.91	3217	4.58	329	1006	4.58	115	260	4.67	33
116120	2.91	3029	4.83	329	908	5.08	115	253	4.83	33
S120	0.28	364	4.25	32	127	4.25	11	36	4.25	3
C120	3.18	3181	4.83	357	951	5	125	270	4.83	36
120127	3.18	3047	5.08	357	891	5.42	125	231	5.33	36
S121	0.32	322	4.5	37	113	4.5	13	32	4.5	4
C127L	3.5	3191	5.08	389	928	5.33	136	243	5.33	39
S126	0.13	407	4.08	15	142	4.08	5	41	4.08	1
126127	0.13	351	4.17	15	111	4.17	5	28	4.25	1
S127	0.09	230	4.08	10	81	4.08	3	23	4.08	1
C127R	0.22	553	4.17	24	182	4.17	8	44	4.17	2
C127	9.19	4405	5.33	1011	1255	5.83	444	282	5.17	136
127129	9.19	4372	5.42	1010	1238	5.92	443	265	5.5	136
S128	0.12	309	4.08	14	108	4.08	5	31	4.08	1
128129	0.12	238	4.33	14	100	4.17	5	27	4.25	1
S129	0.12	394	4.08	15	138	4.08	5	39	4.08	1
C129	9.43	4379	5.42	1034	1238	5.92	451	266	5.5	138
129134	9.43	4364	5.42	1033	1234	6	451	262	5.67	138
S130	0.05	89	4.17	5	31	4.17	2	9	4.17	1
130134	0.05	83	4.33	5	27	4.42	2	6	4.58	1
S131	0.11	205	4.17	14	72	4.17	5	20	4.17	1
131132	0.11	175	4.58	14	66	4.42	5	17	4.5	1
S132	0.14	340	4.17	19	119	4.17	7	34	4.17	2
C132	0.25	450	4.17	34	157	4.25	12	39	4.25	3
132133	0.25	395	4.42	34	129	4.58	12	36	4.5	3
S133	0.1	235	4.17	12	82	4.17	4	23	4.17	1
C133	0.35	521	4.33	46	155	4.5	16	46	4.42	5
133134	0.35	487	4.58	46	150	4.67	16	45	4.5	5
S134	0.07	185	4.17	8	65	4.17	3	18	4.17	1
C134L	0.48	610	4.42	60	196	4.33	21	57	4.42	6
C134	9.91	4527	5.42	1085	1251	6	469	275	5.58	143
134139	9.91	4507	5.5	1084	1246	6.08	468	273	5.75	142
S135	0.07	216	4.08	9	76	4.08	3	22	4.08	1
135139	0.07	191	4.08	9	63	4.17	3	17	4.17	1
S136	0.08	176	4.17	8	61	4.17	3	18	4.17	1
C139R	10.05	4509	5.5	1097	1246	6.08	472	273	5.75	144
S137	0.08	171	4.17	10	60	4.17	4	17	4.17	1
137138	0.08	146	4.5	10	47	4.67	4	11	4.83	1
S138	0.27	375	4.33	35	131	4.33	12	38	4.33	3
C138	0.35	501	4.42	45	160	4.5	16	39	4.42	5
138139	0.35	470	4.67	45	144	4.83	16	36	4.83	5
S139	0.07	123	4.17	6	43	4.17	2	12	4.17	1
C139L	0.42	503	4.58	51	151	4.75	18	38	4.75	5

Desert Hills Area Hydrology
Existing Conditions Results

		100-year			10-year			2-year		
KK	Area	Peak Flow	Time to	Volume	Peak Flow	Time to	Volume	Peak Flow	Time to	Volume
ID	sq.mi.	cfs	Peak(hrs)	ac-ft	cfs	Peak(hrs)	ac-ft	cfs	Peak(hrs)	ac-ft
C139	10.47	4679	5.5	1140	1278	6.08	487	287	5.67	148
139141	10.47	4665	5.5	1139	1277	6.08	487	286	5.75	148
S140	0.25	432	4.17	33	151	4.17	11	43	4.17	3
140141	0.25	389	4.42	33	138	4.42	11	40	4.42	3
S141	0.1	215	4.17	15	75	4.17	5	21	4.17	1
C141L	0.35	542	4.42	48	195	4.33	17	56	4.33	5
S142	0.14	324	4.17	17	113	4.17	6	32	4.17	2
142141	0.14	321	4.17	17	111	4.17	6	32	4.17	2
C141I	10.96	4753	5.5	1195	1292	5.75	506	294	5.67	153
141145	10.96	4716	5.67	1193	1287	6.17	504	293	5.83	152
S143	0.14	410	4.08	17	144	4.08	6	41	4.08	2
143144	0.14	328	4.17	17	112	4.17	6	35	4.17	2
S144	0.15	293	4.25	18	103	4.25	6	29	4.25	2
C145R	11.25	4722	5.67	1223	1287	6.17	515	294	5.83	155
S145	0.2	406	4.25	30	142	4.25	10	41	4.25	3
C145	11.46	4751	5.67	1249	1292	6.17	524	297	5.75	158
145147	11.46	4627	6	1246	1264	6.75	520	294	6	156
S147	0.67	1421	4.25	77	497	4.25	27	142	4.25	8
C147R	12.13	4618	6	1308	1263	6.75	543	294	6	162
S200	0.58	1256	4.08	67	440	4.08	24	126	4.08	7
S201	0.79	2002	4.08	99	701	4.08	35	200	4.08	10
C201	1.37	2727	4.08	163	954	4.08	57	273	4.08	16
201204	1.37	2739	4.17	163	954	4.17	57	266	4.17	16
S203	0.17	546	4	19	191	4	7	55	4	2
C204L	1.54	2910	4.17	181	1015	4.17	63	284	4.17	18
S204	0.3	852	4.08	38	298	4.08	13	85	4.08	4
C204	1.84	3300	4.17	216	1151	4.17	75	323	4.17	22
204206	1.84	3302	4.17	216	1138	4.17	75	314	4.17	22
S205	0.04	112	4.08	4	39	4.08	1	11	4.08	0
C206L	1.88	3340	4.17	219	1152	4.17	77	318	4.17	22
S206	0.15	404	4.08	16	141	4.08	5	40	4.08	2
C206	2.02	3489	4.17	232	1205	4.17	81	334	4.17	23
206209	2.02	3409	4.17	232	1183	4.25	81	324	4.25	23
S207	0.25	712	4.08	24	249	4.08	9	71	4.08	2
C209L	2.27	3652	4.17	252	1241	4.17	88	342	4.25	25
S208	0.31	927	4.08	34	325	4.08	12	93	4.08	3
208209	0.31	869	4.17	34	298	4.17	12	74	4.25	3
S209	0.07	169	4.08	8	59	4.08	3	17	4.08	1
C209R	0.38	1029	4.17	42	354	4.17	15	89	4.17	4
C209	2.65	4059	4.17	289	1387	4.17	101	380	4.25	29
209215	2.65	3993	4.25	289	1376	4.25	101	373	4.33	29
S210	0.31	820	4.08	33	287	4.08	12	82	4.08	3
C215L	2.96	4288	4.25	316	1480	4.25	111	399	4.33	32
S211	0.27	894	4.08	33	313	4.08	12	89	4.08	3
211214	0.27	747	4.17	33	235	4.25	12	54	4.33	3
S212	0.18	384	4.17	18	134	4.17	6	38	4.17	2
C214L	0.45	1129	4.17	51	349	4.25	18	81	4.25	5
S213	0.24	620	4.08	25	217	4.08	9	62	4.08	3
S214	0.33	823	4.08	40	288	4.08	14	82	4.08	4
C214	1.02	2094	4.17	111	690	4.17	39	180	4.17	11
214215	1.02	1928	4.25	111	612	4.25	39	156	4.25	11
S215	0.06	148	4.08	7	52	4.08	2	15	4.08	1
C215R	1.08	1994	4.25	117	637	4.25	41	164	4.25	12
C215	4.05	5533	4.25	417	1882	4.25	146	506	4.33	42
215216	4.05	5461	4.33	417	1867	4.33	146	494	4.42	42
S216	0.37	1158	4.08	44	405	4.08	16	116	4.08	4

Desert Hills Area Hydrology
Existing Conditions Results

		100-year			10-year			2-year		
KK	Area	Peak Flow	Time to	Volume	Peak Flow	Time to	Volume	Peak Flow	Time to	Volume
ID	sq.mi.	cfs	Peak(hrs)	ac-ft	cfs	Peak(hrs)	ac-ft	cfs	Peak(hrs)	ac-ft
C216	4.41	5782	4.33	455	1979	4.33	159	519	4.42	45
216217	4.41	5516	4.58	455	1752	4.75	159	462	4.92	45
S217	0.36	741	4.25	43	259	4.25	15	74	4.25	4
C217R	4.77	5771	4.58	490	1811	4.75	172	473	4.92	49
S218	0.39	1267	4.08	48	443	4.08	17	127	4.08	5
218219	0.39	1081	4.25	48	331	4.33	17	79	4.42	5
S219	0.28	719	4.17	35	252	4.17	12	72	4.17	3
C219	0.67	1550	4.25	82	463	4.25	29	105	4.33	8
S220	0.17	404	4.17	20	141	4.17	7	40	4.17	2
C220	0.84	1790	4.17	101	547	4.25	35	126	4.25	10
220217	0.84	1759	4.25	101	544	4.25	35	126	4.33	10
C217	5.61	6369	4.58	576	1964	4.75	202	517	4.83	58
217221	5.61	6222	4.67	576	1910	4.92	202	507	5	58
S221	0.23	450	4.25	30	157	4.25	10	45	4.25	3
C221	5.85	6376	4.67	602	1943	4.92	211	515	5	60
221222	5.85	5914	5	602	1743	5.33	211	501	5.25	60
S222	0.27	559	4.25	34	196	4.25	12	56	4.25	3
C222	6.12	5984	5	631	1748	5.33	221	505	5.17	63
222227	6.12	5683	5.17	631	1711	5.5	221	495	5.33	63
S223	0.09	200	4.17	11	70	4.17	4	20	4.17	1
223227	0.09	155	4.42	11	48	4.58	4	11	4.67	1
S224	0.21	470	4.17	21	164	4.17	7	47	4.17	2
C227L	6.42	5706	5.17	655	1713	5.5	229	498	5.33	66
S225	0.31	543	4.33	47	190	4.33	16	54	4.33	5
225226	0.31	471	4.67	47	151	4.83	16	46	4.67	5
S226	0.25	474	4.25	29	166	4.25	10	47	4.25	3
C226	0.56	693	4.5	76	232	4.33	27	67	4.5	8
226227	0.56	670	4.75	76	224	4.58	27	65	4.75	8
S227	0.11	210	4.17	14	73	4.17	5	21	4.17	1
C227R	0.67	735	4.67	89	262	4.5	31	72	4.67	9
C227	7.09	6100	5.17	733	1803	5.5	256	531	5.33	73
227228	7.09	5808	5.42	733	1728	5.75	256	521	5.5	73
S228	0.22	421	4.25	27	147	4.25	9	42	4.25	3
C228	7.32	5815	5.42	755	1727	5.75	264	521	5.5	75
228147	7.32	5757	5.5	755	1711	5.83	264	517	5.58	75
C147	19.45	8574	5.75	1968	2475	6	773	727	5.67	228
147319	19.45	8576	5.75	1967	2470	6.08	772	725	5.67	227
S300	0.5	1283	4.17	62	449	4.17	22	128	4.17	6
S301	0.5	1393	4.08	61	488	4.08	21	139	4.08	6
C301	1.01	2201	4.08	120	770	4.08	42	220	4.08	12
301302	1.01	2153	4.17	120	733	4.25	42	207	4.25	12
S302	0.24	621	4.08	26	217	4.08	9	62	4.08	3
C302	1.25	2489	4.17	144	852	4.17	50	232	4.25	14
302303	1.25	2413	4.25	144	810	4.25	50	216	4.33	14
S303	0.13	360	4.08	15	126	4.08	5	36	4.08	1
C303	1.37	2525	4.25	157	852	4.25	55	224	4.33	16
303312	1.37	2091	4.58	157	740	4.58	55	200	4.58	16
S304	0.13	194	4.17	11	68	4.17	4	19	4.17	1
C312R	1.5	2139	4.58	166	756	4.58	58	205	4.58	17
S305	0.23	654	4.08	25	229	4.08	9	65	4.08	3
305309	0.23	502	4.25	25	153	4.33	9	43	4.33	3
S306	0.05	94	4.17	5	33	4.17	2	9	4.17	0
S307	0.21	526	4.08	23	184	4.08	8	53	4.08	2
307309	0.21	489	4.17	23	175	4.17	8	50	4.17	2
C309R	0.49	1023	4.17	53	334	4.17	18	93	4.25	5
S308	0.47	1279	4.08	48	448	4.08	17	128	4.08	5

Desert Hills Area Hydrology
Existing Conditions Results

		100-year			10-year			2-year		
KK	Area	Peak Flow	Time to	Volume	Peak Flow	Time to	Volume	Peak Flow	Time to	Volume
ID	sq.mi.	cfs	Peak(hrs)	ac-ft	cfs	Peak(hrs)	ac-ft	cfs	Peak(hrs)	ac-ft
308309	0.47	956	4.25	48	299	4.33	17	89	4.33	5
S309	0.19	456	4.08	21	160	4.08	8	46	4.08	2
C309L	0.66	1238	4.25	69	384	4.25	24	121	4.17	7
C309	1.14	1926	4.25	116	617	4.25	41	185	4.17	12
309310	1.14	1703	4.42	116	546	4.5	41	163	4.5	12
S310	0.55	1298	4.17	73	454	4.17	25	130	4.17	7
C310	1.7	2260	4.42	184	741	4.33	65	218	4.42	18
D310U	1.7	2260	4.42	174	741	4.33	55	109	4.42	9
RR310	1.7	2074	4.5	174	725	4.5	55	107	4.42	9
D310D	1.7	2074	4.5	172	725	4.5	52	107	4.42	7
310312	1.7	2009	4.58	172	700	4.58	52	91	4.75	7
S311	0.08	191	4.08	11	67	4.08	4	19	4.08	1
311312	0.08	161	4.33	11	51	4.42	4	11	4.67	1
S312	0.14	346	4.08	18	121	4.08	6	35	4.08	2
C312L	1.91	2164	4.58	199	762	4.58	62	105	4.75	10
C312	3.42	3795	4.58	351	1347	4.58	115	267	4.67	25
312314	3.42	3761	4.67	351	1292	4.67	115	253	4.75	25
S313	0.05	113	4.17	7	39	4.17	3	11	4.17	1
313314	0.05	109	4.25	7	38	4.25	3	10	4.25	1
S314	0.09	242	4.08	10	85	4.08	4	24	4.08	1
C314	3.56	3828	4.67	366	1315	4.67	120	259	4.75	27
314318	3.56	3734	4.75	366	1250	4.83	120	232	5.08	27
S315	0.24	699	4.08	30	244	4.08	11	70	4.08	3
315316	0.24	641	4.17	30	209	4.25	11	54	4.25	3
S316	0.22	508	4.17	27	178	4.17	9	51	4.17	3
C316	0.46	1148	4.17	57	377	4.17	20	101	4.25	6
316317	0.46	827	4.58	57	273	4.58	20	73	4.67	6
S317	0.6	1210	4.25	71	424	4.25	25	121	4.25	7
C317	1.07	1589	4.33	125	523	4.33	44	136	4.42	13
317318	1.07	1461	4.67	125	501	4.58	44	131	4.58	13
S318	0.16	325	4.17	17	114	4.17	6	32	4.17	2
C318	4.78	4858	4.75	490	1601	4.83	164	314	5	39
318319	4.78	4458	5.25	490	1530	5.17	164	287	5.5	39
S319	0.89	1057	4.5	115	370	4.5	40	106	4.5	12
C319L	5.66	4864	5.17	593	1695	5.08	199	318	5.42	50
C319	25.11	11078	5.5	2436	3134	5.33	929	932	5.67	266
319400	25.11	10714	6	2424	3037	6.25	917	881	6.25	259
S400	1.68	1369	4.75	207	479	4.75	73	137	4.75	21
C400	26.79	11050	6	2583	3146	6.17	972	908	6.25	274
S500	0.04	105	4.08	6	37	4.08	2	11	4.08	1

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1****************************************                                                    ****************************************
 *                                      *                                                    *                                      *
 *   FLOOD HYDROGRAPH PACKAGE  (HEC-1)  *                                                    *   U.S. ARMY CORPS OF ENGINEERS       *
 *              JUN   1998              *                                                    *   HYDROLOGIC ENGINEERING CENTER      *
 *            VERSION 4.1               *                                                    *         609 SECOND STREET            *
 *                                      *                                                    *      DAVIS, CALIFORNIA 95616         *
 *  RUN DATE   14AUG03  TIME  15:56:02  *                                                    *          (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    DESERT HILLS AREA HYDROLOGY
          2           ID
          3           ID     JE FULLER / HYDROLOGY & GEOMORPHOLOGY, INC.
          4           ID     ADOBE DAM / DESERT HILLS ADMP
          5           ID     APRIL 2003  - KK RR310 revised 08-14-03
          6           ID
          7           ID     THIS IS THE 100-YEAR  6-HOUR MODEL FOR EXISTING CONDITIONS LAND USE
          8           ID
          9           ID    MODEL BASIS:
         10           ID     * DDMSW PROJECT NAME: DHA_EX6
         11           ID     * HYDROLOGY DEVELOPED FOR THE DESERT HILLS AREA FOR THE ADMP
         12           ID     * EXISTING CONDITIONS LAND USE BASED ON MAG LAND USE FILES PROVIDED
         13           ID       BY FCDMC AND UPDATED TO REFLECT EXTENT OF DEVELOPMENT AS SHOWN IN
         14           ID       THE FEB. 2002 AERIAL PHOTOGRAPHS FROM THE FCDMC
         15           ID     * PREFRE RAINFALL STATISTICS FROM NOAA ATLAS II
         16           ID     * MULTIPLE STORM (JD RECORDS) USED FOR CRITICAL STORM CENTERING
         17           ID     * RAINFALL LOSS COMPUTED USING GREEN & AMPT METHOD
         18           ID     * CLARK METHOD WAS USED FOR DEVELOPMENT OF UNIT HYDROGRAPHS
         19           ID     * MODIFIED PULS NORMAL-DEPTH ROUTING USED FOR CHANNEL ROUTINGS
         20           ID
         21           ID     * A PORTION OF THE AREA WAS MODELED EXTERNALLY USING FLO-2D.
         22           ID
                      *DIAGRAM
         23           IT       5 21FEB03    0000     300
         24           IO       5
         25           IN      15
         26           JD    3.35    0.01
         27           PC   0.000   0.008   0.016   0.025   0.033   0.041   0.050   0.058   0.066   0.074
         28           PC   0.087   0.099   0.118   0.138   0.216   0.377   0.834   0.911   0.931   0.950
         29           PC   0.962   0.972   0.983   0.991   1.000
         30           JD   3.328    0.50
         31           PC   0.000   0.008   0.016   0.025   0.033   0.041   0.050   0.058   0.066   0.074
         32           PC   0.087   0.099   0.118   0.138   0.216   0.377   0.834   0.911   0.931   0.950
         33           PC   0.962   0.972   0.983   0.991   1.000
         34           JD   3.266    2.80
         35           PC   0.000   0.009   0.016   0.025   0.034   0.042   0.051   0.059   0.067   0.076
         36           PC   0.087   0.100   0.120   0.163   0.252   0.451   0.694   0.837   0.900   0.938
         37           PC   0.950   0.963   0.975   0.988   1.000
         38           JD   3.089    16.0
         39           PC   0.000   0.015   0.020   0.030   0.048   0.063   0.076   0.090   0.105   0.119
         40           PC   0.135   0.152   0.175   0.222   0.304   0.472   0.670   0.796   0.868   0.912
         41           PC   0.946   0.960   0.973   0.987   1.000
         42           JD   2.720    90.0
         43           PC   0.000   0.021   0.035   0.051   0.071   0.087   0.105   0.125   0.143   0.160
         44           PC   0.179   0.201   0.232   0.281   0.364   0.500   0.658   0.773   0.841   0.888
         45           PC   0.927   0.945   0.964   0.982   1.000
                      *

         46           KK    S100   BASIN
         47           KM    THIS IS THE FLOW IN DESERT LAKE WASH AT NEW RIVER ROAD ABOUT 900 FT NORTH
         48           KM    OF SADDLE MOUNTAIN ROAD
         49           BA   0.341
         50           LG    0.34    0.15    7.30    0.12      25
         51           UC   0.242   0.177
         52           UA       0     3.0     5.0     8.0    12.0    20.0    43.0    75.0    90.0    96.0
1                                                   HEC-1 INPUT                                                          PAGE  2
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 53           UA     100
              *

 54           KK  100101   ROUTE   REACH
 55           KM    ROUTE RUNOFF FROM SUBBASIN S100 TO C101
 56           KM    SLOPE = (1990-1910)/4970 = 0.016
 57           KM     XS based on Desert Lake Wash XS 4.37 (Stanley Consultants, 1999)
 58           RS       3    FLOW      -1
 59           RC   0.075   0.055   0.075    4970  0.0160    0.00
 60           RX  9930.4  9950.2  9992.1 10000.0 10017.0 10022.0 10078.0 10122.0
 61           RY  1936.0  1932.6  1930.6  1928.5  1929.2  1930.7  1930.7  1936.0
              *

 62           KK    S101   BASIN
 63           BA   0.298
 64           LG    0.32    0.15    9.70    0.05       4
 65           UC   0.342   0.285
 66           UA       0     3.0     5.0     8.0    12.0    20.0    43.0    75.0    90.0    96.0
 67           UA     100
              *

 68           KK    C101
 69           KM   COMBINE RUNOFF FROM S101 WITH ROUTED FLOW FROM S100
 70           KM   THIS IS THE TOTAL FLOW IN DESERT LAKE WASH AT DESERT HILLS DRIVE
 71           KM    INFLOW TO FLO-2D AREA
 72           HC       2
              *

 73           KK  101CFH   ROUTE   REACH
 74           KM    ROUTE COMBINED FLOW AT C101 TO CAREFREE HIGHWAY
 75           KM    SLOPE = (1910-1775)/18272 = 0.0074
 76           KM     XS IS HYPOTHETICAL; EVENTUALLY WILL BE REPLACED BY FLO-2D RESULTS
 77           RS      19    FLOW      -1
 78           RC   0.060   0.050   0.060   18272  0.0074    0.00
 79           RX     0.0    10.0   110.0   120.0   135.0   145.0   245.0   255.0
 80           RY   100.0    90.0    89.0    88.0    88.0    89.0    90.0   100.0
              *

 81           KK    S102   BASIN
 82           BA   0.298
 83           LG    0.35    0.15    7.00    0.14      22
 84           UC   0.196   0.114
 85           UA       0     3.0     5.0     8.0    12.0    20.0    43.0    75.0    90.0    96.0
 86           UA     100
              *

 87           KK  102103   ROUTE   REACH
 88           KM    ROUTE RUNOFF FROM SUBBASIN S102 TO C103
 89           KM    SLOPE = (1995-1941)/2635 = 0.0205
 90           KM     XS based on Desert Lake Wash Trib 2 XS 2.68 (Stanley Consultants, 1999)
 91           RS       2    FLOW      -1
 92           RC   0.075   0.055   0.075    2635  0.0205    0.00
 93           RX  9989.2  9991.6  9995.7 10000.0 10019.0 10066.0 10119.0 10146.0
 94           RY  1978.6  1976.0  1972.0  1968.0  1968.9  1972.0  1976.0  1978.5
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 95           KK    S103   BASIN
 96           BA   0.139
 97           LG    0.33    0.15    7.00    0.13       4
 98           UC   0.233   0.195
 99           UA       0     3.0     5.0     8.0    12.0    20.0    43.0    75.0    90.0    96.0
100           UA     100
              *

101           KK    C103
102           KM    COMBINE RUNOFF FROM S103 WITH ROUTED FLOW FROM S102
103           KM    THIS IS THE FLOW IN DESERT LAKE WASH TRIB 2 AT DESERT HILLS DRIVE
104           HC       2
              *

105           KK  103104   ROUTE   REACH
106           KM    ROUTE COMBINED FLOW FROM C103 TO C104
107           KM    INFLOW TO FLO-2D AREA
108           KM    SLOPE = (1941-1920)/1290 = 0.016
109           KM     XS based on Desert Lake Wash Trib 2 XS 2.19 (Stanley Consultants, 1999)
110           RS       1    FLOW      -1
111           RC   0.075   0.055   0.075    1290  0.0160    0.00
112           RX  9842.3  9939.1  9975.0 10000.0 10010.0 10019.0 10029.0 10035.0
113           RY  1928.0  1924.9  1923.1  1920.2  1919.1  1923.0  1926.0  1928.0
              *

114           KK    S104   BASIN
115           BA   0.082
116           LG    0.31    0.15    8.80    0.06       8
117           UC   0.221   0.201
118           UA       0     4.5    12.6    23.2    35.8    50.0    64.2    76.8    87.4    95.5
119           UA     100
              *
```

```
120          KK    C104
121          KM    COMBINE RUNOFF FROM S104 WITH ROUTED FLOW FROM C103
122          KM    THIS IS THE TOTAL FLOW IN DESERT LAKE WASH TRIB 2 AT 10TH STREET
123          KM    INFLOW TO FLO-2D AREA
124          HC       2
             *

125          KK  104CFH   ROUTE   REACH
126          KM    ROUTE COMBINED FLOW AT C104 TO CAREFREE HIGHWAY
127          KM    SLOPE = (1920-1775)/17795 = 0.0081
128          KM     XS IS HYPOTHETICAL; EVENTUALLY WILL BE REPLACED BY FLO-2D RESULTS
129          RS      18    FLOW      -1
130          RC   0.060   0.050   0.060   17795  0.0081    0.00
131          RX     0.0    10.0   110.0   120.0   135.0   145.0   245.0   255.0
132          RY   100.0    90.0    89.0    88.0    88.0    89.0    90.0   100.0
             *
1                                          HEC-1 INPUT                                          PAGE  4

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

133          KK    S105   BASIN
134          KM    THIS IS THE RUNOFF IN THE EAST FORK OF DESERT LAKE WASH AT 12TH STREET.
135          BA   0.162
136          LG    0.34    0.05   12.40    0.01       1
137          UC   0.338   0.335
138          UA       0     4.5    12.6    23.2    35.8    50.0    64.2    76.8    87.4    95.5
139          UA     100
             *

140          KK  105106   ROUTE   REACH
141          KM    ROUTE RUNOFF FROM S105 TO C106
142          KM    SLOPE = (1875-1855)/1600 = 0.0125
143          KM     XS based on East Fork Desert Lake Wash XS 2.47 (Stanley Consultants, 1999)
144          RS       2    FLOW      -1
145          RC   0.060   0.050   0.060    1600  0.0125    0.00
146          RX  9805.6  9964.1  9995.6 10000.0 10005.0 10010.0 10036.0 10140.0
147          RY  1868.0  1864.0  1863.6  1862.2  1862.2  1863.3  1864.0  1868.0
             *

148          KK    S106   BASIN
149          BA   0.107
150          LG    0.31    0.05   12.40    0.01       4
151          UC   0.325   0.349
152          UA       0     4.5    12.6    23.2    35.8    50.0    64.2    76.8    87.4    95.5
153          UA     100
             *

154          KK    C106
155          KM    COMBINE RUNOFF FROM S106 WITH ROUTED FLOW FROM C105
156          KM    THIS IS THE FLOW IN THE EAST FORK OF DESERT LAKE WASH AT JOY RANCH ROAD
157          HC       2
             *

158          KK  106107   ROUTE   REACH
159          KM    ROUTE COMBINED FLOW FROM C106 TO C107
160          KM    SLOPE = (1855-1831)/2882 = 0.0083
161          KM     XS based on East Fork Desert Lake Wash XS 2.14 (Stanley Consultants, 1999)
162          RS       3    FLOW      -1
163          RC   0.075   0.055   0.075    2882  0.0083    0.00
164          RX  9799.6  9956.2  9992.2 10000.0 10005.0 10010.0 10078.0 10191.0
165          RY  1850.0  1848.0  1846.7  1844.0  1844.0  1846.6  1847.0  1850.0
             *

166          KK    S107   BASIN
167          BA   0.186
168          LG    0.31    0.10   11.20    0.02       4
169          UC   0.413   0.370
170          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
171          UA     100
             *
1                                          HEC-1 INPUT                                          PAGE  5

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

172          KK    C107
173          KM     COMBINE RUNOFF FROM S107 WITH ROUTED FLOW FROM C106
174          KM     THIS IS THE FLOW IN THE EAST FORK OF DESERT LAKE WASH AT MADDOCK ROAD
175          KM    INFLOW TO FLO-2D AREA
176          HC       2
             *

177          KK  107CFH   ROUTE   REACH
178          KM    ROUTE COMBINED FLOW AT C107 TO CAREFREE HIGHWAY
179          KM    SLOPE = (1831-1775)/8801 = 0.0064
180          KM     XS IS HYPOTHETICAL; EVENTUALLY WILL BE REPLACED BY FLO-2D RESULTS
181          RS       8    FLOW      -1
182          RC   0.050   0.040   0.050    8801  0.0064    0.00
183          RX     0.0    10.0   110.0   120.0   135.0   145.0   245.0   255.0
184          RY   100.0    90.0    89.0    88.0    88.0    89.0    90.0   100.0
             *

185          KK    S150   BASIN
186          KM     INFLOW TO FLO-2D AREA
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```
 187          BA   0.011
 188          LG    0.35    0.13   10.10    0.04       2
 189          UC   0.104   0.104
 190          UA       0     4.5    12.6    23.2    35.8    50.0    64.2    76.8    87.4    95.5
 191          UA     100
              *

 192          KK    S151   BASIN
 193          KM     INFLOW TO FLO-2D AREA
 194          BA   0.017
 195          LG    0.35    0.15    7.60    0.11       8
 196          UC   0.129   0.149
 197          UA       0     4.5    12.6    23.2    35.8    50.0    64.2    76.8    87.4    95.5
 198          UA     100
              *

 199          KK    S152   BASIN
 200          BA   0.087
 201          LG    0.35    0.19    6.60    0.17       5
 202          UC   0.167   0.126
 203          UA       0     3.0     5.0     8.0    12.0    20.0    43.0    75.0    90.0    96.0
 204          UA     100
              *

 205          KK    D152DIVERT
 206          KM     DIVERT FLOW TO FLO-2D AREA UNDER CAREFREE HWY
 207          KM     RATING BASED ON HY8 ANALYSIS (FILE: D152.INP)
 208          DT    1520
 209          DI       0      30     200     300
 210          DQ       0      28      57      60
              *
1                                          HEC-1 INPUT                                          PAGE  6

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

 211          KK  152153   ROUTE   REACH
 212          KM    ROUTE RUNOFF FROM S152 TO C153 ALONG CAREFREE HWY
 213          KM    SLOPE = (1846-1838)/616 = 0.013
 214          KM    XS based on examination of 2002 FCD orthophotos and available 10 ft (FCD)
 215          KM    and 2 ft contour data from Jerry Jones FDS and Stanley FDS mapping
 216          RS       1    FLOW      -1
 217          RC   0.030   0.030   0.060     616  0.0130    0.00
 218          RX     0.0     1.0    31.0    43.0    48.0    60.0    80.0   100.0
 219          RY   100.0    99.5    99.0    96.0    96.0    99.0    99.5   100.0
              *

 220          KK    S153   BASIN
 221          BA   0.012
 222          LG    0.35    0.13   10.10    0.04       0
 223          UC   0.158   0.177
 224          UA       0     4.5    12.6    23.2    35.8    50.0    64.2    76.8    87.4    95.5
 225          UA     100
              *

 226          KK    C153
 227          KM    COMBINE RUNOFF FROM S153 WITH ROUTED FLOW FROM S152
 228          KM     INFLOW TO FLO-2D AREA
 229          HC       2
              *

 230          KK   DR152
 231          KM    RETRIEVE DIVERTED FLOW INTO FLO-2D AREA AT D152
 232          DR    1520
              *

 233          KK    C155
 234          KM    DUMMY COMBINATION OF ALL 150 SERIES SUBBASINS FOR ROUTING THROUGH
 235          KM    FLO-2D AREA IN HEC-1 AND PRESERVATION OF TOTAL WATERSHED AREA
 236          HC       4
              *

 237          KK   DUMMY
 238          KM    COMBINE 150 SERIES FLO-2D INFLOW HYDROGRAPHS WITH 100 SERIES FLO-2D
 239          KM    INFLOW HYDROGRAPHS
 240          HC       4
              *

 241          KK    S122   BASIN
 242          KM    THIS IS THE RUNOFF TO CENTRAL AVE JUST SOUTH OF CAREFREE HWY
 243          KM    THIS IS INFLOW TO FLO-2D MODEL
 244          BA   0.158
 245          LG    0.35    0.15    7.30    0.13       9
 246          UC   0.288   0.257
 247          UA       0     3.0     5.0     8.0    12.0    20.0    43.0    75.0    90.0    96.0
 248          UA     100
              *
              *  THE FOLLOWING ROUTING REACH REMOVED AS S122 RUNOFF IS NOW IMPORTED
              *  INTO FLO-2D MODEL TO ROUTE TO C127
              *
              * KK122125   ROUTE   REACH
              * KM  ROUTE RUNOFF FROM S122 TO C125
              * KM  SLOPE = (1815-1788)/2616 = 0.010
              * KM  ROUTE ALONG SOUTH SIDE OF CAREFREE HWY
              * KM  XS based on examination of 2002 FCD orthophotos and available 10 ft (FCD)
```

```
* KM  and 2 ft contour data from Jerry Jones FDS and Stanley FDS mapping
* RS     2    FLOW      -1
* RC 0.030   0.035   0.050    2616  0.0100    0.00
* RX   0.0     1.0    31.0    46.0    56.0    64.0   100.0   200.0
* RY 100.0    99.5    99.0    95.0    95.0    99.0    99.5   100.0
*
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LINE        ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 249        KK    S123   BASIN
 250        KM    THIS IS THE RUNOFF TO CENTRAL AVENUE ABOUT 300 FT SOUTH OF CAREFREE HWY
 251        KM    THIS IS INFLOW TO FLO-2D MODEL
 252        BA   0.135
 253        LG    0.35    0.15    8.00    0.10       6
 254        UC   0.217   0.183
 255        UA       0     3.0     5.0     8.0    12.0    20.0    43.0    75.0    90.0    96.0
 256        UA     100
            *
            *  FOLLWING ROUTING REMOVED AND RUNOFF IMPORTED INTO FLO-2D MODEL
            *  TO ROUTE TO C127
            *
            * KK123125   ROUTE   REACH
            * KM  ROUTE RUNOFF FROM S123 TO C125
            * KM  SLOPE = (1813-1788)/2704 = 0.009
            * KM  XS based on examination of 2002 FCD orthophotos and available 10 ft (FCD)
            * KM  and 2 ft contour data from Jerry Jones FDS and Stanley FDS mapping
            * RS     2    FLOW      -1
            * RC 0.030   0.035   0.050    2704  0.0090    0.00
            * RX   0.0     1.0    31.0    46.0    56.0    64.0   100.0   200.0
            * RY 100.0    99.5    99.0    95.0    95.0    99.0    99.5   100.0
            *

 257        KK    S124   BASIN
 258        KM    THIS IS THE RUNOFF TO CENTRAL AVENUE IN A WASH CROSSING ABOUT 1400 FT SOUTH
 259        KM    OF CAREFEE HWY
 260        BA   0.059
 261        LG    0.34    0.15    8.80    0.07       9
 262        UC   0.158   0.087
 263        UA       0     3.0     5.0     8.0    12.0    20.0    43.0    75.0    90.0    96.0
 264        UA     100
            *

 265        KK  124125   ROUTE   REACH
 266        KM    ROUTE RUNOFF FROM S124 TO C125
 267        KM    SLOPE = (1820-1788)/3289 = 0.0097
 268        KM    XS based on examination of 2002 FCD orthophotos and available 10 ft (FCD)
 269        KM    and 2 ft contour data from Jerry Jones FDS and Stanley FDS mapping
 270        RS       3    FLOW      -1
 271        RC   0.050   0.040   0.050    3289  0.0097    0.00
 272        RX     0.0    40.0    80.0    88.0    98.0   106.0   146.0   186.0
 273        RY   100.0    96.0    92.0    90.0    90.0    92.0    96.0   100.0
            *

 274        KK    S125   BASIN
 275        BA   0.151
 276        LG    0.33    0.15    7.30    0.12       9
 277        UC   0.263   0.240
 278        UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
 279        UA     100
            *
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LINE        ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 280        KK    C125
 281        KM    COMBINE RUNOFF FROM S125 WITH ROUTED FLOW FROM S124
 282        KM    THIS FLOW IS INFLOW TO FLO2D MODEL
 283        HC       2
            *

 284        KK   DUMMY
 285        KM     COMBINE 120 SERIES HYDROGRAPHS WHICH WERE IMPORTED TO FLO-2D MODEL
 286        HC       2
            *
            * KK125127   ROUTE   REACH
            * KM  ROUTE COMBINED FLOW FROM C125 TO C127 THROUGH SUBBASIN S127
            * KM  SLOPE = (1788-1770)/2429 = 0.0074
            * KM   XS based on "Jonathan Wash" XS 0.12 from Jerry Jones (JONA.DAT)
            * RS     2    FLOW      -1
            * RC 0.065   0.050   0.065    2429  0.0074    0.00
            * RX 10560 10620.0 10660.0 10670.0 10680.0 10810.0 11000.0 11200.0
            * RY1776.0  1774.0  1774.0  1770.0  1772.0  1774.0  1776.0  1778.0
            *
            *  Above routing removed based on revisions to FLO-2D model which import
            *  flow from S122 - S125
            *

 287        KK   DUMMY
 288        KM    COMBINE ALL DUMMY INFLOW HYDROGRAPHS TO FLO-2D AREA
 289        HC       3
            *
            * KK FLO2D   BASIN
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* KM  DUMMY BASIN FOR HEC-1 MODEL CONTINUITY OF FLO-2D AREA
* KM  WILL BE REPLACED WITH INFLOW HYDROGRAPH FROM FINAL FLO-2D ANALYSIS
* BA 3.231
* LG  0.32    0.15    8.80    0.06       4
* UC 0.904   0.515
* UA     0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97
* UA   100
*

KK   FLO2D
KM    THIS IS THE OUTFLOW HYDROGRAPH FROM THE FLO-2D MODELING OF THE DESERT LAKE
KM    WATERSHED AT CAREFREE HWY.
KM    THIS IS THE TOTAL FLOW IMMEDIATELY DOWNSTREAM OF CAREFREE HWY INCLUDING
KM    DESERT LAKE WASH AND THE EAST FORK OF DESERT LAKE WASH.
IN       5
BA    5.47
QI       0       0       0       0       0       0       0       0       0       0
QI       0       0       0       0       0       0       0       0       0       0
QI       0       0       0       0       0       0       0       0       0       0
QI       0       0       0       0       0       0       0       0       0       0
QI       1       2       3       8      16      23      35      62      90     129
QI     201     252     334     540     798     992    1144    1262    1338    1387
QI    1439    1548    1700    1859    1961    2015    2034    2020    1984    1932
QI    1866    1796    1734    1689    1669    1673    1690    1690    1681    1660
QI    1612    1556    1490    1427    1360    1291    1226    1163    1093    1024
QI     965     905     851     801     754     709     667     630     597     569
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1 HEC-1 INPUT PAGE 9

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

QI     539     514     491     469     448     429     408     389     372     355
QI     339     324     310     299     287     276     266     256     246     236
QI     228     221     215     210     196     192     184     177     172     165
QI     158     153     147     143     140     136     132     129     129     125
QI     124     102     102     119     100       0       0       0       0       0
*

KK  CFH127   ROUTE   REACH
KM    ROUTE COMBINED FLOWS AT CAREFREE HIGHWAY TO C127
KM    SLOPE = (1775-1770)/1234 = 0.004
KM     XS based on "Jonathan Wash" XS 0.12 from Jerry Jones (JONA.DAT)
RS       1    FLOW      -1
RC   0.065   0.050   0.065    1234  0.0040    0.00
RX   10560 10620.0 10660.0 10670.0 10680.0 10810.0 11000.0 11200.0
RY  1776.0  1774.0  1774.0  1770.0  1772.0  1774.0  1776.0  1778.0
*

KK    S108   BASIN
BA   0.329
LG    0.35    0.15    8.80    0.07      12
UC   0.196   0.105
UA       0     3.0     5.0     8.0    12.0    20.0    43.0    75.0    90.0    96.0
UA     100
*

KK  108109   ROUTE   REACH
KM    ROUTE RUNOFF FROM S108 TO C109
KM    SLOPE = (1915-1844)/5783 = 0.0123
KM     XS based on Desert Hills Wash Trib 5 XS 0.74 (Stanley Consultants, 1999)
RS       5    FLOW      -1
RC   0.050   0.040   0.050    5783  0.0123    0.00
RX     0.0    10.0   110.0   120.0   135.0   145.0   245.0   255.0
RY   100.0    90.0    89.0    84.0    84.0    89.0    90.0   100.0
*

KK    S109   BASIN
BA   0.366
LG    0.34    0.15    8.40    0.08       1
UC   0.346   0.258
UA       0     3.0     5.0     8.0    12.0    20.0    43.0    75.0    90.0    96.0
UA     100
*

KK   C109R
KM    COMBINE RUNOFF FROM S109 WITH ROUTED FLOW FROM S108
KM    THIS IS THE FLOW IN DESERT HILLS WASH TRIB 5 ABOUT 900 FT DOWNSTREAM
KM    OF JOY RANCH ROAD.
HC       2
*
```

1 HEC-1 INPUT PAGE 10

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

KK    S110   BASIN
BA   0.132
LG    0.34    0.19    6.60    0.16      21
UC   0.208   0.182
UA       0     3.0     5.0     8.0    12.0    20.0    43.0    75.0    90.0    96.0
UA     100
*

KK  110111   ROUTE   REACH
KM    ROUTE RUNOFF FROM S110 TO C111
KM    SLOPE = (1965-1895)/4457 = 0.0157
```

```
354          KM     XS based on Desert Hills Wash XS 5.57 (Stanley Consultants, 1999)
355          RS       4    FLOW      -1
356          RC   0.075   0.055   0.075    4457  0.0157    0.00
357          RX  9972.7  9988.0  9989.0 10000.0 10016.0 10061.0 10075.0 10092.0
358          RY  1926.0  1922.0  1921.7  1919.2  1920.8  1922.4  1924.0  1926.0
             *

359          KK    S111   BASIN
360          BA   0.248
361          LG    0.35    0.15    8.00    0.10       7
362          UC   0.217   0.155
363          UA       0     3.0     5.0     8.0    12.0    20.0    43.0    75.0    90.0    96.0
364          UA     100
             *

365          KK    C111
366          KM    COMBINE RUNOFF FROM S111 WITH ROUTED FLOW FROM S110
367          KM    THIS IS THE FLOW IN DESERT HILLS WASH AT 20TH STREET
368          HC       2
             *

369          KK  111109   ROUTE   REACH
370          KM    ROUTE COMBINED FLOW FROM C111 THROUGH S112 TO C109
371          KM    SLOPE = (1895-1844)/5694 = 0.009
372          KM     XS based on Desert Hills Wash XS 4.68 (Jerry Jones, 1992)
373          RS       5    FLOW      -1
374          RC   0.070   0.055   0.070    5694  0.0090    0.00
375          RX  9938.7  9951.1  9979.0 10000.0100010.0 10054.0 10101.0 10114.0
376          RY  1872.0  1870.0  1868.0  1867.0  1867.0  1868.0  1870.0  1872.0
             *

377          KK    S112   BASIN
378          BA   0.567
379          LG    0.32    0.15    8.40    0.07       7
380          UC   0.325   0.243
381          UA       0     3.0     5.0     8.0    12.0    20.0    43.0    75.0    90.0    96.0
382          UA     100
             *
```



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

383          KK   C109C
384          KM     COMBINE RUNOFF FROM S112 WITH ROUTED FLOW FROM C111
385          KM    THIS IS THE FLOW IN DESERT HILLS WASH AT JOY RANCH ROAD
386          HC       2
             *

387          KK    S113   BASIN
388          BA   0.110
389          LG    0.33    0.23    6.20    0.18       2
390          UC   0.308   0.339
391          UA       0     4.5    12.6    23.2    35.8    50.0    64.2    76.8    87.4    95.5
392          UA     100
             *

393          KK  113114   ROUTE   REACH
394          KM    ROUTE RUNOFF FROM S113 TO C114
395          KM    SLOPE = (1950-1904)/3220 = 0.0143
396          KM     XS based on Desert Hills Wash Trib 6 XS 1.04 (Stanley Consultants, 1999)
397          RS       2    FLOW      -1
398          RC   0.075   0.055   0.075    3220  0.0143    0.00
399          RX  9888.8  9957.5  9990.9  9995.0 10005.0 10011.0 10030.0 10105.0
400          RY  1928.0  1926.0  1925.0  1923.0  1923.0  1925.0  1926.0  1928.0
             *

401          KK    S114   BASIN
402          BA   0.109
403          LG    0.35    0.15    8.00    0.10       0
404          UC   0.283   0.245
405          UA       0     4.5    12.6    23.2    35.8    50.0    64.2    76.8    87.4    95.5
406          UA     100
             *

407          KK    C114
408          KM    COMBINE RUNOFF S114 WITH ROUTED FLOW FROM S113
409          KM    THIS IS THE FLOW IN DESRT HILLS WASH TRIB 6 AT 20TH STREET
410          HC       2
             *

411          KK  114115   ROUTE   REACH
412          KM    ROUTE COMBINED FLOW FROM C114 TO C115
413          KM    SLOPE = (1904-1856)/3565 = 0.0135
414          KM     XS based on Desert Hills Wash Trib 6 XS 0.44 (Stanley Consultants, 1999)
415          RS       3    FLOW      -1
416          RC   0.075   0.055   0.075    3565  0.0135    0.00
417          RX  9896.0  9910.0  9953.8  9964.0 10000.0 10010.0 10023.0 10036.0
418          RY  1888.0  1886.5  1884.6  1882.9  1881.9  1884.0  1886.0  1888.0
             *

419          KK    S115   BASIN
420          BA   0.155
421          LG    0.32    0.13   10.10    0.04       3
422          UC   0.392   0.405
```

```
 423          UA       0     4.5    12.6    23.2    35.8    50.0    64.2    76.8    87.4    95.5
 424          UA     100
              *
1                                          HEC-1 INPUT                                          PAGE 12

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

 425          KK    C115
 426          KM    COMBINE RUNOFF FROM S115 WITH ROUTED FLOWS FROM C114
 427          KM    THIS IS THE FLOW IN DESERT HILLS WASH TRIB 6 AT 16TH STREET
 428          HC       2
              *

 429          KK  115109   ROUTE   REACH
 430          KM    ROUTE COMBINED FLOW FROM C115 TO C109
 431          KM    SLOPE = (1856-1844)/1415 = 0.0085
 432          KM     XS based on Desert Hills Wash XS 4.23 (Jerry Jones, 1992)
 433          RS       1    FLOW      -1
 434          RC   0.065   0.050   0.065    1415  0.0085    0.00
 435          RX  9824.9  9915.7  9966.2  9995.0 10005.0 10012.0 10018.0 10024.0
 436          RY  1854.0  1850.0  1850.0  1846.4  1846.4  1850.0  1852.0  1854.0
              *

 437          KK    C109
 438          KM    COMBINE ROUTED FLOW FROM C115 WITH C109R AND C109C
 439          KM    THIS IS THE TOTAL FLOW IN DESERT HILLS WASH ABOUT 900 FEET DOWNSTREAM
 440          KM    OF JOY RANCH ROAD.
 441          HC       3
              *

 442          KK  109116   ROUTE   REACH
 443          KM    ROUTE COMBINED FLOW FROM C109 TO C116
 444          KM    SLOPE = (1844-1810)/4849 = 0.0070
 445          KM     XS based on Desert Hills Wash XS 3.81 (Jerry Jones, 1992)
 446          RS       4    FLOW      -1
 447          RC   0.065   0.050   0.065    4849  0.0070    0.00
 448          RX  9780.0  9808.0  9977.0  9988.0 10012.0 10042.0 10073.0 10110.0
 449          RY  1838.0  1836.0  1834.0  1832.0  1832.0  1834.0  1836.0  1838.0
              *

 450          KK    S116   BASIN
 451          BA   0.224
 452          LG    0.31    0.25    5.40    0.23       4
 453          UC   0.533   0.523
 454          UA       0     4.5    12.6    23.2    35.8    50.0    64.2    76.8    87.4    95.5
 455          UA     100
              *

 456          KK   C116R
 457          KM    COMBINE RUNOFFF FROM S116 WITH ROUTED FLOW FROM C109
 458          HC       2
              *

 459          KK    S117   BASIN
 460          BA   0.232
 461          LG    0.31    0.13   10.10    0.03       4
 462          UC   0.421   0.389
 463          UA       0     4.5    12.6    23.2    35.8    50.0    64.2    76.8    87.4    95.5
 464          UA     100
              *
1                                          HEC-1 INPUT                                          PAGE 13

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

 465          KK    S118   BASIN
 466          KM    THIS IS THE RUNOFF TO 20TH STREET IN AN UNNAMED TRIB TO DESERT HILLS WASH
 467          BA   0.124
 468          LG    0.32    0.05   12.40    0.01       3
 469          UC   0.421   0.498
 470          UA       0     4.5    12.6    23.2    35.8    50.0    64.2    76.8    87.4    95.5
 471          UA     100
              *

 472          KK  118119   ROUTE   REACH
 473          KM    ROUTE RUNOFF FROM S118 TO C116
 474          KM    SLOPE = (1887-1810)/5989 = 0.013
 475          KM     XS based on Desert Hills Wash XS 4.23 (Jerry Jones, 1992)
 476          RS       5    FLOW      -1
 477          RC   0.050   0.040   0.050    5989  0.0130    0.00
 478          RX  9955.6  9971.9  9990.8  9998.0 10002.0 10010.0 10064.0 10096.0
 479          RY  1834.0  1832.0  1829.7  1827.5  1827.5  1830.4  1831.7  1834.0
              *

 480          KK    S119   BASIN
 481          BA   0.312
 482          LG    0.31    0.15    8.80    0.06       4
 483          UC   0.496   0.478
 484          UA       0     4.5    12.6    23.2    35.8    50.0    64.2    76.8    87.4    95.5
 485          UA     100
              *

 486          KK   C116L
 487          KM    COMBINE RUNOFF FROM S117 AND S119 WITH ROUTED FLOW FROM S118
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488          HC       3
             *

489          KK    C116
490          KM     COMBINE C116L AND C116R.
491          KM    THIS IS THE TOTAL FLOW IN DESERT HILLS WASH AT CLOUD ROAD.
492          HC       2
             *

493          KK  116120   ROUTE   REACH
494          KM    ROUTE COMBINED FLOW FROM C116 TO C120
495          KM    SLOPE = (1810-1786)/3945 = 0.006
496          KM     XS based on Desert Hills Wash XS 2.61 (Jerry Jones, 1992)
497          RS       4    FLOW      -1
498          RC   0.065   0.050   0.065    3945  0.0060    0.00
499          RX  9919.5  9983.3  9986.9  9995.0 10010.0 10020.0 10173.0 10556.0
500          RY  1798.0  1796.0  1794.0  1790.0  1790.0  1794.0  1794.0  1796.0
             *

501          KK    S120   BASIN
502          BA   0.277
503          LG    0.30    0.15    7.00    0.11       5
504          UC   0.588   0.593
505          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
506          UA     100
             *
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LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

507          KK    C120
508          KM    COMBINE RUNOFF FROM S120 WITH ROUTED FLOW FROM C116
509          HC       2
             *

510          KK  120127   ROUTE   REACH
511          KM    ROUTE COMBINED FLOW FROM C120 TO C127 THROUGH SUBBASIN S121
512          KM    SLOPE = (1786-1770)/2909 = 0.0055
513          KM     XS based on Desert Hills Wash XS 2.34 (Jerry Jones, 1992)
514          RS       3    FLOW      -1
515          RC   0.065   0.050   0.065    2909  0.0055    0.00
516          RX  9570.0  9620.0  9990.0  9994.0 10006.0 10010.0 10160.0 10255.0
517          RY  1788.0  1786.0  1784.0  1782.2  1782.2  1784.0  1786.0  1788.0
             *

518          KK    S121   BASIN
519          BA   0.316
520          LG    0.31    0.15    7.30    0.11       5
521          UC   0.700   0.823
522          UA       0     4.5    12.6    23.2    35.8    50.0    64.2    76.8    87.4    95.5
523          UA     100
             *

524          KK   C127L
525          KM    COMBINE ROUTED FLOW FROM C120 WITH RUNOFF FROM S121
526          HC       2
             *

527          KK    S126   BASIN
528          KM    THIS IS THE RUNOFF AT 7TH STREET AT A CROSSING ABOUT 1000 FT SOUTH OF
529          KM    CAREFREE HWY.
530          BA   0.131
531          LG    0.34    0.23    6.20    0.19      17
532          UC   0.196   0.107
533          UA       0     3.0     5.0     8.0    12.0    20.0    43.0    75.0    90.0    96.0
534          UA     100
             *

535          KK  126127   ROUTE   REACH
536          KM    ROUTE RUNOFF FROM S126 TO C127
537          KM    SLOPE = (1798-1770)/2974 = 0.0094
538          KM    XS based on examination of 2002 FCD orthophotos and available 10 ft (FCD)
539          KM    and 2 ft contour data from Jerry Jones FDS and Stanley FDS mapping
540          RS       2    FLOW      -1
541          RC   0.050   0.040   0.050    2974  0.0094    0.00
542          RX     0.0    40.0    80.0    88.0    98.0   106.0   146.0   186.0
543          RY   100.0    96.0    92.0    90.0    90.0    92.0    96.0   100.0
             *
```



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

544          KK    S127   BASIN
545          BA   0.091
546          LG    0.33    0.23    6.20    0.19       8
547          UC   0.225   0.172
548          UA       0     4.5    12.6    23.2    35.8    50.0    64.2    76.8    87.4    95.5
549          UA     100
             *

550          KK   C127R
551          KM    COMBINE RUNOFF FROM S127 WITH ROUTED FLOWS FROM S126
552          HC       2
```

```
                *
553             KK    C127
554             KM    COMBINE C127R & C127L WITH ROUTED FLOWS FROM CAREFREE HIGHWAY (FLO-2D AREA)
555             KM    THIS IS THE TOTAL FLOW IN DESERT HILLS WASH COMBINED WITH DESERT LAKE WASH
556             KM    AND THE EAST FORK OF DESERT LAKE WASH.
557             HC       3
                *

558             KK  127129   ROUTE   REACH
559             KM    ROUTE COMBINED FLOW FROM C127 TO C129 THROUGH SUBBASIN S129
560             KM    SLOPE = (1770-1764)/1296 = 0.0046
561             KM     XS based on Desert Hills Wash XS 1.72 from Jerry Jones (DTHL.DAT)
562             RS       1    FLOW      -1
563             RC   0.065   0.050   0.065    1296  0.0046    0.00
564             RX  9150.0  9330.0  9993.0  9995.0 10005.0 10016.0 10108.0 10255.0
565             RY  1774.0  1770.0  1768.0  1766.0  1766.0  1770.0  1770.0  1774.0
                *

566             KK    S128   BASIN
567             KM    THIS IS THE RUNOFF AT 10TH STREET IN A CROSSING ABOUT 1400 FT SOUTH OF
568             KM    CAREFREE HWY.
569             BA   0.116
570             LG    0.33    0.15    7.60    0.11      18
571             UC   0.213   0.195
572             UA       0     3.0     5.0     8.0    12.0    20.0    43.0    75.0    90.0    96.0
573             UA     100
                *

574             KK  128129   ROUTE   REACH
575             KM    ROUTE RUNOFF FROM S128 TO C129
576             KM    SLOPE = (1794-1764)/1924 = 0.0156
577             KM     XS based on Desert Hills Wash XS 1.72 from Jerry Jones (DTHL.DAT)
578             RS       2    FLOW      -1
579             RC   0.065   0.050   0.065    1924  0.0156    0.00
580             RX  9150.0  9330.0  9993.0  9995.0 10005.0 10016.0 10108.0 10255.0
581             RY  1774.0  1770.0  1768.0  1766.0  1766.0  1770.0  1770.0  1774.0
                *
1                                          HEC-1 INPUT                                          PAGE 16

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

582             KK    S129   BASIN
583             BA   0.122
584             LG    0.33    0.15    7.30    0.12      13
585             UC   0.167   0.103
586             UA       0     3.0     5.0     8.0    12.0    20.0    43.0    75.0    90.0    96.0
587             UA     100
                *

588             KK    C129
589             KM    COMBINE RUNOFF FROM S129 WITH ROUTED FLOWS FROM S128 AND C127
590             KM    THIS IS THE TOTAL FLOW IN DESERT HILLS WASH AT 12TH STREET
591             HC       3
                *

592             KK  129134   ROUTE   REACH
593             KM    ROUTE COMBINED FLOW FROM C129 TO C134 THROUGH SUBBASIN S134
594             KM    SLOPE = (1764-1762)/579 = 0.00345
595             KM     XS based on Desert Hills Wash XS 1.58 from Jerry Jones (DTHL.DAT)
596             RS       1    FLOW      -1
597             RC   0.065   0.050   0.065     579  0.0035    0.00
598             RX  9140.0  9490.0  9985.0  9993.0 10005.0 10013.0 10240.0 10585.0
599             RY  1770.0  1766.0  1766.0  1762.0  1762.0  1766.0  1766.0  1770.0
                *

600             KK    S130   BASIN
601             KM    THIS IS THE RUNOFF TO CAREFREE HWY FROM AN UNNAMED TRIB OF DESERT HILLS WASH
602             BA   0.052
603             LG    0.32    0.21    6.40    0.16       3
604             UC   0.333   0.376
605             UA       0     4.5    12.6    23.2    35.8    50.0    64.2    76.8    87.4    95.5
606             UA     100
                *

607             KK  130134   ROUTE   REACH
608             KM    ROUTE RUNOFF FROM S130 TO C134
609             KM    SLOPE = (1783-1762)/2075 = 0.010
610             KM    XS based on examination of 2002 FCD orthophotos and available 10 ft (FCD)
611             KM    and 2 ft contour data from Jerry Jones FDS and Stanley FDS mapping
612             RS       2    FLOW      -1
613             RC   0.050   0.040   0.050    2075  0.0100    0.00
614             RX     0.0    55.0   110.0   115.0   135.0   140.0   195.0   250.0
615             RY   100.0    98.0    96.0    95.0    95.0    96.0    98.0   100.0
                *

616             KK    S131   BASIN
617             KM    THIS IS THE RUNOFF TO CLOUD ROAD IN DESERT HILLS WASH TRIB 2
618             BA   0.108
619             LG    0.33    0.10   11.20    0.03       2
620             UC   0.358   0.377
621             UA       0     4.5    12.6    23.2    35.8    50.0    64.2    76.8    87.4    95.5
622             UA     100
                *
```

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

  623         KK  131132   ROUTE   REACH
  624         KM    ROUTE RUNOFF FROM S131 TO C132
  625         KM    SLOPE = (1845-1808)/3449 = 0.0107
  626         KM    XS based on examination of 2002 FCD orthophotos and available 10 ft (FCD)
  627         KM    and 2 ft contour data from Jerry Jones FDS and Stanley FDS mapping
  628         RS       4    FLOW      -1
  629         RC   0.065   0.050   0.065    3449  0.0107    0.00
  630         RX     0.0    70.0   140.0   147.0   153.0   160.0   230.0   300.0
  631         RY   100.0    99.0    98.0    96.0    96.0    98.0    99.0   100.0
              *

  632         KK    S132   BASIN
  633         BA   0.145
  634         LG    0.34    0.10   11.20    0.03       1
  635         UC   0.321   0.245
  636         UA       0     4.5    12.6    23.2    35.8    50.0    64.2    76.8    87.4    95.5
  637         UA     100
              *

  638         KK    C132
  639         KM    COMBINE RUNOFF FROM S132 WITH ROUTED FLOW FROM S131
  640         KM    THIS IS THE FLOW AT GALVIN STREET IN DESERT HILLS TRIB 2
  641         HC       2
              *

  642         KK  132133   ROUTE   REACH
  643         KM    ROUTE COMBINED FLOW FROM C132 TO C133
  644         KM    SLOPE = (1808-1780)/2909 = 0.0096
  645         KM     XS based on Desert Hills Wash Trib 2 XS 0.78 (Stanley Consultants, 1999)
  646         RS       3    FLOW      -1
  647         RC   0.065   0.050   0.065    2909  0.0096    0.00
  648         RX  9959.0  9976.0  9993.0  9999.0 10004.0 10010.0 10080.0 10115.0
  649         RY  1798.0  1797.0  1796.0  1795.0  1795.0  1796.3  1796.6  1798.0
              *

  650         KK    S133   BASIN
  651         BA   0.100
  652         LG    0.32    0.15    9.70    0.05       3
  653         UC   0.296   0.230
  654         UA       0     4.5    12.6    23.2    35.8    50.0    64.2    76.8    87.4    95.5
  655         UA     100
              *

  656         KK    C133
  657         KM    COMBINE RUNOFF FROM S133 WITH ROUTED FLOWS FROM C132 AT CAREFREE HWY
  658         KM    IN DESERT HILLS WASH TRIB 2
  659         HC       2
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

  660         KK  133134   ROUTE   REACH
  661         KM    ROUTE COMBINED FLOW FROM C133 TO C134
  662         KM    SLOPE = (1780-1762)/2076 = 0.0087
  663         KM     XS based on Desert Hills Wash Trib 2 XS 0.20 (Stanley Consultants, 1999)
  664         RS       2    FLOW      -1
  665         RC   0.065   0.050   0.065    2076  0.0087    0.00
  666         RX  9873.0  9936.0  9993.0  9998.0 10004.0 10009.0 10043.0 10186.0
  667         RY  1774.0  1772.0  1770.0  1767.7  1767.7  1770.0  1770.7  1774.0
              *

  668         KK    S134   BASIN
  669         BA   0.073
  670         LG    0.33    0.15    7.30    0.12       5
  671         UC   0.258   0.190
  672         UA       0     3.0     5.0     8.0    12.0    20.0    43.0    75.0    90.0    96.0
  673         UA     100
              *

  674         KK   C134L
  675         KM    COMBINE RUNOFF FROM S134 WITH ROUTED FLOWS FROM S130 AND C133
  676         HC       3
              *

  677         KK    C134
  678         KM    COMBINE C134L WITH ROUTED FLOWS FROM C129
  679         KM    THIS IS THE TOTAL FLOW IN DESERT HILLS WASH ABOUT 600 FT DOWNSTEAM OF 12TH
  680         KM    STREET
  681         HC       2
              *

  682         KK  134139   ROUTE   REACH
  683         KM    ROUTE COMBINED FLOW FROM C134 TO C139 THROUGH S136
  684         KM    SLOPE = (1762-1757)/1214 = 0.0041
  685         KM     XS based on Desert Hills Wash XS 1.35 from Jerry Jones (DTHL.DAT)
  686         RS       2    FLOW      -1
  687         RC   0.065   0.050   0.065    1214  0.0041    0.00
  688         RX  9100.0  9325.0  9835.0  9845.0  9855.0  9865.0 10080.0 10670.0
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689          RY  1768.0  1764.0  1760.0  1756.0  1756.0  1760.0  1760.0  1770.0
             *

690          KK    S135   BASIN
691          KM    THIS IS THE RUNOFF TO PAINT YOUR WAGON TRAIL.
692          BA   0.068
693          LG    0.32    0.15    8.00    0.09      19
694          UC   0.158   0.113
695          UA       0     3.0     5.0     8.0    12.0    20.0    43.0    75.0    90.0    96.0
696          UA     100
             *
1                                        HEC-1 INPUT                                          PAGE 19

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

697          KK  135139   ROUTE   REACH
698          KM    ROUTE RUNOFF FROM S135 TO C139
699          KM    SLOPE = (1771-1757)/1106 = 0.0127
700          KM     XS based on Desert Hills Wash XS 1.29 from Jerry Jones (DTHL.DAT)
701          RS       1    FLOW      -1
702          RC   0.065   0.050   0.065    1106  0.0127    0.00
703          RX  9340.0  9745.0  9960.0  9985.0 10025.0 10060.0 10115.0 10435.0
704          RY  1766.0  1760.0  1758.0  1756.0  1756.0  1758.0  1760.0  1766.0
             *

705          KK    S136   BASIN
706          BA   0.078
707          LG    0.31    0.25    5.70    0.21      13
708          UC   0.292   0.232
709          UA       0     3.0     5.0     8.0    12.0    20.0    43.0    75.0    90.0    96.0
710          UA     100
             *

711          KK   C139R
712          KM    COMBINE RUNOFF FROM S136 WITH ROUTED FLOWS FROM S135 AND C134
713          KM    THIS THE FLOW IN DESERT HILLS WASH AT 14TH STREET
714          HC       3
             *

715          KK    S137   BASIN
716          KM    THIS IS THE RUNOFF IN DESERT HILLS WASH TRIB 1 AT CLOUD ROAD
717          BA   0.084
718          LG    0.33    0.15    9.70    0.05       2
719          UC   0.321   0.323
720          UA       0     4.5    12.6    23.2    35.8    50.0    64.2    76.8    87.4    95.5
721          UA     100
             *

722          KK  137138   ROUTE   REACH
723          KM    ROUTE RUNOFF FROM S137 TO C138
724          KM    SLOPE = (1856-1786)/6568 = 0.0107
725          KM     XS based on Desert Hills Wash Trib 1 XS 1.08 (Stanley Consultants, 1999)
726          RS       6    FLOW      -1
727          RC   0.050   0.045   0.050    6568  0.0107    0.00
728          RX  9938.0  9960.0  9982.0  9993.0  9998.0 10009.0 10030.0 10064.0
729          RY  1812.0  1811.4  1810.7  1808.0  1808.0  1810.3  1811.0  1812.0
             *

730          KK    S138   BASIN
731          BA   0.266
732          LG    0.35    0.10   11.20    0.03       0
733          UC   0.533   0.590
734          UA       0     4.5    12.6    23.2    35.8    50.0    64.2    76.8    87.4    95.5
735          UA     100
             *
1                                        HEC-1 INPUT                                          PAGE 20

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

736          KK    C138
737          KM    COMBINE RUNOFF FROM S138 WITH ROUTED FLOWS FROM S137
738          KM    THIS IS THE FLOW IN DESERT HILLS WASH TRIB 1 AT CAREFREE HWY
739          HC       2
             *

740          KK  138139   ROUTE   REACH
741          KM    ROUTE COMBINED FLOWS FROM C138 TO C139
742          KM    SLOPE = (1786-1757)/2696 = 0.0108
743          KM     XS based on Desert Hills Wash Trib 1 XS 0.32 (Stanley Consultants, 1999)
744          RS       3    FLOW      -1
745          RC   0.050   0.045   0.050    2696  0.0108    0.00
746          RX  9729.0  9827.0  9996.0 10003.0 10009.0 10016.0 10088.0 10166.0
747          RY  1776.0  1773.0  1772.6  1771.6  1771.6  1772.8  1774.0  1776.0
             *

748          KK    S139   BASIN
749          BA   0.069
750          LG    0.35    0.25    4.65    0.38       0
751          UC   0.304   0.293
752          UA       0     3.0     5.0     8.0    12.0    20.0    43.0    75.0    90.0    96.0
753          UA     100
             *
```

```
 754          KK   C139L
 755          KM    COMBINE RUNOFF FROM S139 WITH ROUTED FLOW FROM C138
 756          HC       2
              *

 757          KK    C139
 758          KM    COMBINE C139L AND C139R.  THIS IS THE TOTAL FLOW IN DESERT HILLS WASH
 759          KM    AT C139 JUST DOWNSTREAM OF 14TH STREET
 760          HC       2
              *

 761          KK  139141   ROUTE   REACH
 762          KM    ROUTE COMBINED FLOWS FROM C139 TO C141I
 763          KM    SLOPE = (1757-1754)/696 = 0.0043
 764          KM     XS based on Desert Hills Wash XS 1.19 from Jerry Jones (DTHL.DAT)
 765          RS       1    FLOW      -1
 766          RC   0.065   0.050   0.065     696  0.0043    0.00
 767          RX  9820.0  9910.0  9986.0  9990.0 10012.0 10016.0 10120.0 10500.0
 768          RY  1762.0  1758.0  1756.0  1754.0  1754.0  1756.0  1756.0  1762.0
              *

 769          KK    S140   BASIN
 770          KM    THIS IS THE RUNOFF FROM AN UNNAMED TRIB OF DESERT HILLS WASH AT
 771          KM    CAREFREE HWY
 772          BA   0.249
 773          LG    0.35    0.10   11.20    0.03       0
 774          UC   0.458   0.432
 775          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
 776          UA     100
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 777          KK  140141   ROUTE   REACH
 778          KM    ROUTE RUNOFF FROM S140 TO C141
 779          KM    SLOPE = (1790-1754)/3458 = 0.0104
 780          KM    XS based on examination of 2002 FCD orthophotos and available 10 ft (FCD)
 781          KM    and 2 ft contour data from Jerry Jones FDS and Stanley FDS mapping
 782          RS       3    FLOW      -1
 783          RC   0.050   0.040   0.050    3458  0.0104    0.00
 784          RX     0.0    45.0    85.0    90.0    95.0   100.0   140.0   185.0
 785          RY   100.0    98.0    97.0    95.0    95.0    97.0    98.0   100.0
              *

 786          KK    S141   BASIN
 787          BA   0.102
 788          LG    0.35    0.05   12.40    0.01       0
 789          UC   0.342   0.335
 790          UA       0     4.5    12.6    23.2    35.8    50.0    64.2    76.8    87.4    95.5
 791          UA     100
              *

 792          KK   C141L
 793          KM    COMBINE RUNOFF FROM S141 WITH ROUTED FLOWS FROM S140
 794          HC       2
              *

 795          KK    S142   BASIN
 796          BA   0.139
 797          LG    0.34    0.15    7.30    0.12      16
 798          UC   0.246   0.248
 799          UA       0     3.0     5.0     8.0    12.0    20.0    43.0    75.0    90.0    96.0
 800          UA     100
              *

 801          KK  142141   ROUTE   REACH
 802          KM    ROUTE RUNOFF FROM S141 TO C141I
 803          KM    SLOPE = (1766-1754)/611 = 0.0196
 804          KM    XS based on examination of 2002 FCD orthophotos and available 10 ft (FCD)
 805          KM    and 2 ft contour data from Jerry Jones FDS and Stanley FDS mapping
 806          RS       1    FLOW      -1
 807          RC   0.050   0.050   0.050     611  0.0196    0.00
 808          RX     0.0    50.0   100.0   103.0   107.0   110.0   160.0   210.0
 809          RY   100.0    99.0    98.0    96.0    96.0    98.0    99.0   100.0
              *

 810          KK   C141I
 811          KM    COMBINE ROUTED FLOW FROM S142 WITH C141L AND ROUTED FLOW FROM C139
 812          HC       3
              *

 813          KK  141145   ROUTE   REACH
 814          KM    ROUTE COMBINED FLOWS FROM C141I TO C145
 815          KM    SLOPE = (1754-1745)/1969 = 0.0046
 816          KM     XS based on Desert Hills Wash XS 0.90 from Jerry Jones (DTHL.DAT)
 817          RS       2    FLOW      -1
 818          RC   0.065   0.050   0.065    1969  0.0046    0.00
```



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

 819          RX  9698.3  9831.5  9950.5 10001.0 10012.0 10022.0 10235.0 10800.0
 820          RY  1758.0  1752.0  1751.0  1748.0  1748.0  1752.0  1752.0  1758.0
```

```
                *

 821            KK    S143   BASIN
 822            BA   0.138
 823            LG    0.33    0.15    8.80    0.07      13
 824            UC   0.221   0.146
 825            UA       0     3.0     5.0     8.0    12.0    20.0    43.0    75.0    90.0    96.0
 826            UA     100
                *

 827            KK  143144   ROUTE   REACH
 828            KM    ROUTE RUNOFF FROM S143 TO C145
 829            KM    SLOPE = (1767-1745)/1750 = 0.0126
 830            KM    XS based on examination of 2002 FCD orthophotos and available 10 ft (FCD)
 831            KM    and 2 ft contour data from Jerry Jones FDS and Stanley FDS mapping
 832            RS       1    FLOW      -1
 833            RC   0.050   0.050   0.050    1750  0.0126    0.00
 834            RX     0.0    50.0   100.0   103.0   107.0   110.0   160.0   210.0
 835            RY   100.0    99.0    98.0    96.0    96.0    98.0    99.0   100.0
                *

 836            KK    S144   BASIN
 837            BA   0.152
 838            LG    0.32    0.15    8.00    0.09       8
 839            UC   0.400   0.311
 840            UA       0     4.5    12.6    23.2    35.8    50.0    64.2    76.8    87.4    95.5
 841            UA     100
                *

 842            KK   C145R
 843            KM    COMBINE RUNOFF FROM S144 WITH ROUTED FLOWS FROM S143 AND C141I
 844            HC       3
                *

 845            KK    S145   BASIN
 846            BA   0.204
 847            LG    0.35    0.05   12.40    0.01       0
 848            UC   0.408   0.355
 849            UA       0     4.5    12.6    23.2    35.8    50.0    64.2    76.8    87.4    95.5
 850            UA     100
                *

 851            KK    C145
 852            KM    COMBINE RUNOFF FROM S145 WITH C145L.
 853            KM    THIS IS THE TOTAL FLOW IN DESERT HILLS WASH AT APPROX. 16TH ST ALIGNMENT
 854            HC       2
                *
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LINE            ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 855            KK  145147   ROUTE   REACH
 856            KM    ROUTE COMBINED FLOWS FROM C145 TO C147
 857            KM    SLOPE = (1745-1732)/3886 = 0.0033
 858            KM     XS based on Desert Hills Wash XS 0.56 from Jerry Jones (DTHL.DAT)
 859            RS       4    FLOW      -1
 860            RC   0.065   0.050   0.065    3886  0.0033    0.00
 861            RX  8680.0  9475.0  9987.0  9996.0 10011.0 10020.0 10085.0 10465.0
 862            RY  1752.0  1746.0  1744.0  1740.0  1740.0  1744.0  1744.0  1752.0
                *

 863            KK    S147   BASIN
 864            BA   0.673
 865            LG    0.35    0.15    7.60    0.11       7
 866            UC   0.371   0.241
 867            UA       0     3.0     5.0     8.0    12.0    20.0    43.0    75.0    90.0    96.0
 868            UA     100
                *

 869            KK   C147R
 870            KM    COMBINE RUNOFF FROM S147 WITH ROUTED FLOWS FROM C145
 871            KM    THIS IS THE TOTAL FLOW IN DESERT HILLS WASH UPSTREAM OF APACHE WASH
 872            HC       2
 873            ZW      A=DHW  C=FLOW  F=EXISTING
                *

 874            KK    S200   BASIN
 875            BA   0.579
 876            LG    0.35    0.15    7.60    0.11       9
 877            UC   0.329   0.247
 878            UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
 879            UA     100
                *

 880            KK    S201   BASIN
 881            BA   0.793
 882            LG    0.35    0.15    7.00    0.14      28
 883            UC   0.263   0.136
 884            UA       0     3.0     5.0     8.0    12.0    20.0    43.0    75.0    90.0    96.0
 885            UA     100
                *

 886            KK    C201
 887            KM    COMBINE RUNOFF FROM S200 AND S201
```

```
888          HC       2
             *

889          KK  201204   ROUTE   REACH
890          KM    ROUTE COMBINED FLOWS FROM C201 TO C204
891          KM    SLOPE = (2108-2060)/2164 = 0.0222
892          KM     XS based on Apache Wash XS 9.27 (Stanley Consultants, 1999)
893          RS       2    FLOW      -1
894          RC   0.080   0.055   0.080    2164  0.0222    0.00
895          RX  9976.0  9981.0  9995.0 10000.0 10005.0 10022.0 10030.0 10035.0
896          RY  2082.0  2080.0  2074.0  2071.4  2072.0  2074.0  2080.0  2082.0
             *
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LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

897          KK    S203   BASIN
898          BA   0.167
899          LG    0.35    0.19    6.60    0.17      19
900          UC   0.154   0.075
901          UA       0     3.0     5.0     8.0    12.0    20.0    43.0    75.0    90.0    96.0
902          UA     100
             *

903          KK   C204L
904          KM    COMBINE RUNOFF FROM S203 WITH ROUTED FLOW FROM C201
905          KM    THIS IS THE FLOW IN APACHE WASH JUST DOWNSTREAM OF 32ND STREET ALIGNMENT
906          HC       2
             *

907          KK    S204   BASIN
908          BA   0.298
909          LG    0.35    0.15    7.00    0.14      27
910          UC   0.229   0.154
911          UA       0     3.0     5.0     8.0    12.0    20.0    43.0    75.0    90.0    96.0
912          UA     100
             *

913          KK    C204
914          KM    COMBINE RUNOFF FROM S204 WITH C203L
915          HC       2
             *

916          KK  204206   ROUTE   REACH
917          KM    ROUTE COMBINED FLOWS FROM C204 TO C206
918          KM    SLOPE = (2060-2042)/1209 = 0.0149
919          KM     XS based on Apache Wash XS 9.27 (Stanley Consultants, 1999)
920          RS       1    FLOW      -1
921          RC   0.080   0.055   0.080    1209  0.0149    0.00
922          RX  9961.0  9980.0  9986.0  9995.0 10010.0 10022.0 10080.0 10150.0
923          RY  2056.0  2050.0  2047.6  2044.4  2044.4  2048.0  2050.0  2054.0
             *

924          KK    S205   BASIN
925          BA   0.041
926          LG    0.35    0.25    5.70    0.24       2
927          UC   0.163   0.143
928          UA       0     3.0     5.0     8.0    12.0    20.0    43.0    75.0    90.0    96.0
929          UA     100
             *

930          KK   C206L
931          KM    COMBINE RUNOFF FROM S205 WITH ROUTED FLOWS FROM C204
932          HC       2
             *
```



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

933          KK    S206   BASIN
934          BA   0.146
935          LG    0.35    0.25    5.80    0.22      15
936          UC   0.196   0.150
937          UA       0     3.0     5.0     8.0    12.0    20.0    43.0    75.0    90.0    96.0
938          UA     100
             *

939          KK    C206
940          KM     COMBINE RUNOFF FROM S206 WITH COMBINED FLOWS AT C206L
941          HC       2
             *

942          KK  206209   ROUTE   REACH
943          KM    ROUTE COMBINED FLOWS FROM C206 TO C209
944          KM    SLOPE = (2042-2020)/1939 = 0.0113
945          KM     XS based on Apache Wash XS 8.68 (Stanley Consultants, 1999)
946          RS       2    FLOW      -1
947          RC   0.080   0.055   0.080    1939  0.0113    0.00
948          RX  9942.0  9966.0  9980.0  9990.0 10010.0 10020.0 10022.0 10035.0
949          RY  2034.0  2028.0  2028.0  2024.5  2024.5  2028.0  2030.0  2036.0
             *

950          KK    S207   BASIN
```

```
951          BA   0.251
952          LG    0.35    0.25    5.70    0.24       6
953          UC   0.204   0.128
954          UA       0     3.0     5.0     8.0    12.0    20.0    43.0    75.0    90.0    96.0
955          UA     100
             *

956          KK   C209L
957          KM    COMBINE RUNOFF FROM S207 WITH ROUTED FLOW FROM C206
958          HC       2
             *

959          KK    S208   BASIN
960          BA   0.308
961          LG    0.35    0.23    6.20    0.19      16
962          UC   0.204   0.119
963          UA       0     3.0     5.0     8.0    12.0    20.0    43.0    75.0    90.0    96.0
964          UA     100
             *

965          KK  208209   ROUTE   REACH
966          KM    ROUTE RUNOFF FROM S208 TO C209
967          KM    SLOPE = (2078-2020)/2633 = 0.022
968          KM     XS based on Apache Wash Trib 4 XS 0.20 (Stanley Consultants, 1999)
969          RS       2    FLOW      -1
970          RC   0.080   0.055   0.080    2633  0.0220    0.00
971          RX  9970.0  9978.0  9985.0  9987.0 10000.0 10015.0 10018.0 10022.0
972          RY  2040.0  2038.0  2036.0  2034.7  2033.7  2036.0  2038.0  2040.0
             *
1                                          HEC-1 INPUT                                          PAGE 26

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

973          KK    S209   BASIN
974          BA   0.067
975          LG    0.32    0.15    8.00    0.08       3
976          UC   0.217   0.221
977          UA       0     3.0     5.0     8.0    12.0    20.0    43.0    75.0    90.0    96.0
978          UA     100
             *

979          KK   C209R
980          KM    COMBINE RUNOFF FROM S209 WITH ROUTED FLOW FROM S208
981          HC       2
             *

982          KK    C209
983          KM    COMBINE C209R AND C209L,  TOTAL FLOW IN APACHE WASH JUST DOWNSTREAM
984          KM    OF SADDLE MOUNTAIN ROAD
985          HC       2
             *

986          KK  209215   ROUTE   REACH
987          KM    ROUTE COMBINED FLOWS FROM C209 TO C215
988          KM    SLOPE = (2020-1992)/2036 = 0.0138
989          KM     XS based on Apache Wash XS 8.31 (Stanley Consultants, 1999)
990          RS       2    FLOW      -1
991          RC   0.100   0.055   0.100    2036  0.0138    0.00
992          RX  9960.0  9978.0  9984.0  9992.0 10012.0 10060.0 10260.0 10275.0
993          RY  2012.0  2010.0  2006.0  2001.0  2001.0  2006.0  2010.0  2012.0
             *

994          KK    S210   BASIN
995          BA   0.315
996          LG    0.34    0.21    6.40    0.17       6
997          UC   0.238   0.169
998          UA       0     3.0     5.0     8.0    12.0    20.0    43.0    75.0    90.0    96.0
999          UA     100
             *

1000         KK   C215L
1001         KM     COMBINE RUNOFF FROM S210 WITH ROUTED FLOW FROM C209
1002         HC       2
             *

1003         KK    S211   BASIN
1004         BA   0.270
1005         LG    0.35    0.17    6.80    0.15      25
1006         UC   0.175   0.087
1007         UA       0     3.0     5.0     8.0    12.0    20.0    43.0    75.0    90.0    96.0
1008         UA     100
             *
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LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1009         KK  211214   ROUTE   REACH
1010         KM    ROUTE RUNOFF FROM S211 TO C214 THROUGH S212
1011         KM    SLOPE = (2144-2019)/5218 = 0.024
1012         KM     XS based on West Fork Apache Wash XS 0.68 (Stanley Consultants, 1999)
1013         RS       3    FLOW      -1
1014         RC   0.075   0.055   0.075    5218   0.024    0.00
1015         RX  9990.0  9991.0  9992.0 10000.0 10027.0 10040.0 10106.0 10120.0
```

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1016          RY  2056.0  2053.0  2050.0  2047.0  2048.7  2050.0  2052.9  2056.0
              *

1017          KK    S212   BASIN
1018          BA   0.182
1019          LG    0.34    0.25    5.70    0.22       2
1020          UC   0.263   0.249
1021          UA       0     3.0     5.0     8.0    12.0    20.0    43.0    75.0    90.0    96.0
1022          UA     100
              *

1023          KK   C214L
1024          KM     COMBINE RUNOFF FROM S212 WITH ROUTED FLOWS FROM S211
1025          HC       2
              *

1026          KK    S213   BASIN
1027          BA   0.243
1028          LG    0.35    0.25    6.00    0.21      11
1029          UC   0.225   0.173
1030          UA       0     3.0     5.0     8.0    12.0    20.0    43.0    75.0    90.0    96.0
1031          UA     100
              *

1032          KK    S214   BASIN
1033          BA   0.328
1034          LG    0.35    0.17    6.80    0.15      22
1035          UC   0.246   0.196
1036          UA       0     3.0     5.0     8.0    12.0    20.0    43.0    75.0    90.0    96.0
1037          UA     100
              *

1038          KK    C214
1039          KM    COMBINE RUNOFF FROM S213 & S214 WITH C214L
1040          KM    THIS IS THE TOTAL FLOW IN THE WEST BRANCH OF APACHE WASH JUST UPSTREAM
1041          KM    OF 26TH STREET
1042          HC       3
              *

1043          KK  214215   ROUTE   REACH
1044          KM    ROUTE COMBINED FLOWS FROM C214 TO C215
1045          KM    SLOPE = (2019-1992)/1801 = 0.0150
1046          KM     XS based on West Fork Apache Wash XS 0.34 (Jerry Jones, 1992) (APACHE.DAT)
1047          RS       1    FLOW      -1
1048          RC   0.100   0.055   0.100    1801  0.0150    0.00
1049          RX  9692.0  9862.0  9934.0  9991.0 10000.0 10002.0 10018.0 10038.0
1050          RY  2024.0  2016.0  2016.0  2014.0  2014.0  2016.0  2020.0  2024.0
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1051          KK    S215   BASIN
1052          BA   0.058
1053          LG    0.32    0.15    7.60    0.10       3
1054          UC   0.213   0.211
1055          UA       0     3.0     5.0     8.0    12.0    20.0    43.0    75.0    90.0    96.0
1056          UA     100
              *

1057          KK   C215R
1058          KM    COMBINE RUNOFF FROM S215 WITH ROUTED FLOW FROM C214
1059          KM    THIS IS THE TOTAL FLOW OF THE (WEST BRANCH) AT ITS CONFLUENCE WITH
1060          KM    APACHE WASH.
1061          HC       2
              *

1062          KK    C215
1063          KM    COMBINE C215R AND C215L.  THIS IS THE TOTAL FLOW IN APACHE WASH
1064          KM    DOWNSTREAM OF THE (WEST BRANCH)
1065          HC       2
              *

1066          KK  215216   ROUTE   REACH
1067          KM    ROUTE COMBINED FLOWS FROM C215 TO C216
1068          KM    SLOPE = (1992-1965)/2088 = 0.0129
1069          KM     XS based on Apache Wash XS 7.84 (Jerry Jones, 1992) (APACHE.DAT)
1070          RS       2    FLOW      -1
1071          RC   0.050   0.040   0.050    2088  0.0129    0.00
1072          RX  9828.0  9916.0  9984.0  9995.0 10025.0 10036.0 10206.0 10222.0
1073          RY  1982.0  1976.0  1976.0  1974.0  1974.0  1978.0  1980.0  1982.0
              *

1074          KK    S216   BASIN
1075          BA   0.365
1076          LG    0.34    0.15    7.00    0.13      18
1077          UC   0.213   0.111
1078          UA       0     3.0     5.0     8.0    12.0    20.0    43.0    75.0    90.0    96.0
1079          UA     100
              *

1080          KK    C216
1081          KM     COMBINE RUNOFF FROM S216 WITH ROUTED FLOW FROM C215
1082          KM    THIS IS THE FLOW IN APACHE WASH AT BENTLEY MINE ROAD
```

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1083          HC       2
              *

1084          KK  216217   ROUTE   REACH
1085          KM    ROUTE COMBINED FLOWS FROM C216 TO C217
1086          KM    SLOPE = (1965-1888)/7706 = 0.010
1087          KM     XS based on Apache Wash XS 7.55 (Jerry Jones, 1992) (APACHE.DAT)
1088          RS       7    FLOW      -1
1089          RC   0.100   0.055   0.100    7706  0.0100    0.00
1090          RX  9896.0  9930.0  9970.0  9992.0 10022.0 10025.0 10145.0 10183.0
1091          RY  1966.0  1962.0  1960.0  1956.0  1956.0  1958.0  1960.0  1966.0
              *
1                                          HEC-1 INPUT                                                    PAGE 29

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


1092          KK    S217   BASIN
1093          BA   0.363
1094          LG    0.34    0.15    7.60    0.11      10
1095          UC   0.342   0.312
1096          UA       0     3.0     5.0     8.0    12.0    20.0    43.0    75.0    90.0    96.0
1097          UA     100
              *

1098          KK   C217R
1099          KM    COMBINE RUNOFF FROM S217 WITH ROUTED FLOW FROM C216
1100          HC       2
              *

1101          KK    S218   BASIN
1102          BA   0.388
1103          LG    0.35    0.17    6.80    0.15      26
1104          UC   0.196   0.097
1105          UA       0     3.0     5.0     8.0    12.0    20.0    43.0    75.0    90.0    96.0
1106          UA     100
              *

1107          KK  218219   ROUTE   REACH
1108          KM    ROUTE RUNOFF FROM S218 TO C219
1109          KM    SLOPE = (2006-1899)/5923 = 0.0181
1110          KM     XS based on Apache Wash Trib 2 XS 0.55 (Stanley Consultants, 1999)
1111          RS       5    FLOW      -1
1112          RC   0.070   0.060   0.070    5923  0.0181    0.00
1113          RX  9940.0  9951.0  9954.0  9993.0 10000.0 10016.0 10028.0 10065.0
1114          RY  1940.0  1938.0  1937.4  1934.0  1933.5  1937.4  1938.0  1940.0
              *

1115          KK    S219   BASIN
1116          BA   0.284
1117          LG    0.35    0.17    6.80    0.15      23
1118          UC   0.258   0.190
1119          UA       0     3.0     5.0     8.0    12.0    20.0    43.0    75.0    90.0    96.0
1120          UA     100
              *

1121          KK    C219
1122          KM    COMBINE RUNOFF FROM S219 WITH ROUTED FLOW FROM S218
1123          HC       2
              *

1124          KK    S220   BASIN
1125          BA   0.168
1126          LG    0.34    0.15    7.60    0.11      14
1127          UC   0.242   0.225
1128          UA       0     3.0     5.0     8.0    12.0    20.0    43.0    75.0    90.0    96.0
1129          UA     100
              *
1                                          HEC-1 INPUT                                                    PAGE 30

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


1130          KK    C220
1131          KM     COMBINE RUNOFF FROM S220 WITH COMBINED FLOWS AT C219.
1132          KM     (FLOWS FROM C219 NOT ROUTED DUE TO VERY SHORT DISTANCE)
1133          HC       2
              *

1134          KK  220217   ROUTE   REACH
1135          KM    ROUTE COMBINED FLOWS FROM C220 TO C217
1136          KM    SLOPE = (1896-1888)/788 = 0.010
1137          KM     XS based on Apache Wash XS 6.25 (Jerry Jones, 1992) (APACHE.DAT)
1138          RS       1    FLOW      -1
1139          RC   0.065   0.050   0.065     788  0.0100    0.00
1140          RX  9911.0  9932.0  9962.0  9990.0 10015.0 10045.0 10268.0 10570.0
1141          RY  1898.0  1896.0  1892.0  1888.0  1888.0  1892.0  1892.0  1898.0
              *

1142          KK    C217
1143          KM     COMBINE ROUTED FLOWS FROM C220 WITH C217R
1144          KM     THIS IS THE TOTAL FLOW IN APACHE WASH AT MADDOCK ROAD.
1145          HC       2
              *
```

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1146          KK  217221   ROUTE   REACH
1147          KM    ROUTE COMBINED FLOWS FROM C217 TO C221
1148          KM    SLOPE = (1888-1856)/3118 = 0.010
1149          KM     XS based on Apache Wash XS 6.09 (Jerry Jones, 1992) (APACHE.DAT)
1150          RS       3    FLOW      -1
1151          RC   0.065   0.050   0.065    3118  0.0100    0.00
1152          RX  9815.0  9890.0  9935.0  9972.0 10048.0 10070.0 10345.0 10380.0
1153          RY  1886.0  1884.0  1882.0  1879.5  1879.5  1882.0  1884.0  1886.0
              *

1154          KK    S221   BASIN
1155          BA   0.232
1156          LG    0.32    0.13   10.10    0.04       3
1157          UC   0.404   0.338
1158          UA       0     4.5    12.6    23.2    35.8    50.0    64.2    76.8    87.4    95.5
1159          UA     100
              *

1160          KK    C221
1161          KM    COMBINE RUNOFF FROM S211 WITH ROUTED FLOWS FROM C217
1162          KM    THIS IS THE TOTAL FLOW IN APACHE WASH AT CLOUD ROAD.
1163          HC       2
1164          ZW      A=AW@CLOUD   C=FLOW   F=EXISTING
              *

1165          KK  221222   ROUTE   REACH
1166          KM    ROUTE COMBINED FLOWS FROM C221 TO C222
1167          KM    SLOPE = (1856-1805)/5489 = 0.0093
1168          KM     XS based on Apache Wash XS 5.15 (Jerry Jones, 1992) (APACHE.DAT)
1169          RS       4    FLOW      -1
1170          RC   0.065   0.050   0.065    5489  0.0093    0.00
1171          RX  9870.0  9945.0  9978.0  9987.0 10017.0 10025.0 10495.0 10522.0
1                                          HEC-1 INPUT                                          PAGE 31

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

1172          RY  1839.0  1838.0  1836.0  1830.0  1830.0  1834.0  1836.0  1838.0
              *

1173          KK    S222   BASIN
1174          BA   0.272
1175          LG    0.35    0.13   10.10    0.04       0
1176          UC   0.404   0.284
1177          UA       0     4.5    12.6    23.2    35.8    50.0    64.2    76.8    87.4    95.5
1178          UA     100
              *

1179          KK    C222
1180          KM     COMBINE RUNOFF FROM S222 WITH ROUTED FLOW FROM C221
1181          KM     THIS IS THE TOTAL FLOW IN APACHE WASH AT CAREFREE HWY
1182          HC       2
1183          ZW      A=AW@CFH   C=FLOW   F=EXISTING
              *

1184          KK  222227   ROUTE   REACH
1185          KM    ROUTE COMBINED FLOWS FROM C222 TO C227 THROUGH S224
1186          KM    SLOPE = (1805-1764)/4913 = 0.0083
1187          KM     XS based on Apache Wash XS 4.31 (Jerry Jones, 1992) (APACHE.DAT)
1188          RS       3    FLOW      -1
1189          RC   0.065   0.050   0.065    3886  0.0083    0.00
1190          RX  9771.0  9896.0  9980.0  9990.0 10010.0 10020.0 10055.0 10111.0
1191          RY  1796.0  1794.0  1792.0  1788.0  1788.0  1792.0  1794.0  1796.0
              *

1192          KK    S223   BASIN
1193          BA   0.091
1194          LG    0.35    0.15    8.80    0.07       0
1195          UC   0.304   0.261
1196          UA       0     4.5    12.6    23.2    35.8    50.0    64.2    76.8    87.4    95.5
1197          UA     100
              *

1198          KK  223227   ROUTE   REACH
1199          KM    ROUTE RUNOFF FROM S223 TO C227 THROUGH S224
1200          KM    SLOPE = (1804-1764)/3813 = 0.0105
1201          KM     XS based on Apache Wash West Chl XS 4.311 (Jerry Jones, 1992) (APACHE.DAT)
1202          RS       3    FLOW      -1
1203          RC   0.065   0.055   0.065    3813  0.0105    0.00
1204          RX  9400.0  9890.0  9945.0  9995.0 10005.0 10010.0 10150.0 10230.0
1205          RY  1796.0  1794.0  1794.0  1792.0  1792.0  1794.0  1794.0  1796.0
              *

1206          KK    S224   BASIN
1207          BA   0.214
1208          LG    0.35    0.21    6.40    0.18       0
1209          UC   0.346   0.227
1210          UA       0     3.0     5.0     8.0    12.0    20.0    43.0    75.0    90.0    96.0
1211          UA     100
              *
1                                          HEC-1 INPUT                                          PAGE 32

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

1212          KK   C227L
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1213          KM    COMBINE RUNOFF FROM S224 WITH ROUTED FLOW FROM S223 AND C222
1214          HC       3
              *

1215          KK    S225   BASIN
1216          BA   0.315
1217          LG    0.31    0.05   12.40    0.01       4
1218          UC   0.483   0.453
1219          UA       0     4.5    12.6    23.2    35.8    50.0    64.2    76.8    87.4    95.5
1220          UA     100
              *

1221          KK  225226   ROUTE   REACH
1222          KM    ROUTE RUNOFF FROM S225 TO C226
1223          KM    SLOPE = (1856-1798)/5803 = 0.010
1224          KM     XS based on Apache Wash Trib 1 XS 1.14 (Stanley Consultants, 1999)
1225          RS       4    FLOW      -1
1226          RC   0.065   0.045   0.065    5803  0.0100    0.00
1227          RX  9926.0  9946.0  9990.0  9997.0 10005.0 10012.0 10034.0 10058.0
1228          RY  1818.0  1815.0  1816.0  1813.6  1813.6  1816.0  1816.7  1818.0
              *

1229          KK    S226   BASIN
1230          BA   0.248
1231          LG    0.35    0.15    8.80    0.07       0
1232          UC   0.400   0.317
1233          UA       0     4.5    12.6    23.2    35.8    50.0    64.2    76.8    87.4    95.5
1234          UA     100
              *

1235          KK    C226
1236          KM     COMBINE RUNOFF FROM S226 WITH ROUTED FLOWS FROM S225
1237          HC       2
              *

1238          KK  226227   ROUTE   REACH
1239          KM    ROUTE COMBINED FLOWS FROM C226 TO C227
1240          KM    SLOPE = (1798-1764)/3752 = 0.0091
1241          KM     XS based on Apache Wash Trib 1 XS 0.42 (Stanley Consultants, 1999)
1242          RS       4    FLOW      -1
1243          RC   0.065   0.045   0.065    3752  0.0091    0.00
1244          RX  9917.0  9976.0  9990.0  9998.0 10004.0 10012.0 10045.0 10078.0
1245          RY  1784.0  1782.7  1782.5  1779.6  1779.6  1782.0  1783.0  1784.0
              *

1246          KK    S227   BASIN
1247          BA   0.106
1248          LG    0.35    0.10   11.20    0.03       0
1249          UC   0.358   0.345
1250          UA       0     4.5    12.6    23.2    35.8    50.0    64.2    76.8    87.4    95.5
1251          UA     100
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1252          KK   C227R
1253          KM    COMBINE RUNOFF FROM S227 WITH ROUTED FLOWS FROM C226
1254          HC       2
              *

1255          KK    C227
1256          KM     COMBINE FLOWS FROM C227R AND C227L
1257          KM     THIS IS THE TOTAL FLOW IN APACHE WASH AT C227.
1258          HC       2
              *

1259          KK  227228   ROUTE   REACH
1260          KM    ROUTE COMBINED FLOWS FROM C227 TO C228
1261          KM    SLOPE = (1764-1740)/3336 = 0.0072
1262          KM     XS based on Apache Wash XS 3.32 (Jerry Jones, 1992) (APACHE.DAT)
1263          RS       3    FLOW      -1
1264          RC   0.065   0.050   0.065    3336  0.0072    0.00
1265          RX  9600.0  9725.0  9955.0  9972.0 10002.0 10020.0 10240.0 10900.0
1266          RY  1758.0  1754.0  1754.0  1750.0  1750.0  1754.0  1754.0  1758.0
              *

1267          KK    S228   BASIN
1268          BA   0.225
1269          LG    0.35    0.15    9.70    0.06       0
1270          UC   0.413   0.339
1271          UA       0     4.5    12.6    23.2    35.8    50.0    64.2    76.8    87.4    95.5
1272          UA     100
              *

1273          KK    C228
1274          KM     COMBINE RUNOFF FROM S228 WITH ROUTED FLOWS FROM C227
1275          KM     THIS IS THE TOTAL FLOW IN APACHE WASH UPSTREAM OF ITS CONFLUENCE
1276          KM     WITH DESERT HILLS WASH.
1277          HC       2
1278          ZW       A=AWUSDHW   C=FLOW   F=EXISTING
              *

1279          KK  228147   ROUTE   REACH
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```
1280          KM    ROUTE COMBINED FLOWS FROM C228 TO C147
1281          KM    SLOPE = (1740-1732)/1190 = 0.0067
1282          KM     XS based on Apache Wash XS 2.97 (Jerry Jones, 1992) (APACHE.DAT)
1283          RS       1    FLOW      -1
1284          RC   0.065   0.050   0.065    1190  0.0067    0.00
1285          RX  8920.0  8990.0  9000.0  9040.0  9060.0  9065.0  9170.0  9365.0
1286          RY  1752.0  1746.0  1744.0  1738.0  1738.0  1742.0  1742.0  1744.0
              *

1287          KK    C147
1288          KM     COMBINE FLOWS FROM DESERT HILLS WASH WITH FLOWS FROM APACHE WASH
1289          HC       2
1290          ZW      A=DHW+AW   C=FLOW    F=EXISTING
              *
1                                          HEC-1 INPUT                                          PAGE 34

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


1291          KK  147319   ROUTE   REACH
1292          KM    ROUTE COMBINED FLOWS FROM DESERT HILLS AND APACHE WASHES
1293          KM    TO CONFLUENCE WITH PARADISE WASH
1294          KM    SLOPE = (1732-1727)/939 = 0.0053
1295          KM     XS based on Apache Wash XS 2.73 from Jerry Jones (APACHE.DAT)
1296          RS       1    FLOW      -1
1297          RC   0.065   0.050   0.065     939  0.0053    0.00
1298          RX  9756.0  9812.0  9972.0  9986.0 10020.0 10036.0 10071.0 10130.0
1299          RY  1740.0  1736.0  1732.0  1728.0  1728.0  1732.0  1734.0  1740.0
              *

1300          KK    S300   BASIN
1301          BA   0.503
1302          LG    0.35    0.17    6.80    0.15      24
1303          UC   0.267   0.188
1304          UA       0     3.0     5.0     8.0    12.0    20.0    43.0    75.0    90.0    96.0
1305          UA     100
              *

1306          KK    S301   BASIN
1307          BA   0.504
1308          LG    0.35    0.17    6.80    0.15      23
1309          UC   0.250   0.151
1310          UA       0     3.0     5.0     8.0    12.0    20.0    43.0    75.0    90.0    96.0
1311          UA     100
              *

1312          KK    C301
1313          KM     COMBINE RUNOFF FROM S300 AND S301
1314          HC       2
              *

1315          KK  301302   ROUTE   REACH
1316          KM    ROUTE COMBINED FLOWS FROM C301 TO C302
1317          KM    SLOPE = (1980-1926)/2988 = 0.018
1318          KM     XS based on Paradise Wash XS 3.84 from Jerry Jones (PARADFCD.DAT)
1319          RS       2    FLOW      -1
1320          RC   0.070   0.055   0.070    2988  0.0180    0.00
1321          RX  9934.0  9962.0  9987.0  9996.0 10004.0 10010.0 10027.0 10045.0
1322          RY  1952.0  1946.0  1940.0  1938.0  1938.0  1940.0  1946.0  1952.0
              *

1323          KK    S302   BASIN
1324          BA   0.239
1325          LG    0.35    0.23    6.20    0.20      17
1326          UC   0.242   0.166
1327          UA       0     3.0     5.0     8.0    12.0    20.0    43.0    75.0    90.0    96.0
1328          UA     100
              *
1                                          HEC-1 INPUT                                          PAGE 35

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


1329          KK    C302
1330          KM     COMBINE RUNOFF FROM S302 WITH ROUTED FLOWS FROM C301
1331          HC       2
              *

1332          KK  302303   ROUTE   REACH
1333          KM    ROUTE COMBINED FLOWS FROM C302 TO C303
1334          KM    SLOPE = (1926-1895)/2671 = 0.0116
1335          KM     XS based on Paradise Wash XS 3.40 from Jerry Jones (PARADFCD.DAT)
1336          RS       2    FLOW      -1
1337          RC   0.070   0.055   0.070    2671  0.0116    0.00
1338          RX  9956.0  9972.0  9988.0  9995.0 10010.0 10024.0 10044.0 10060.0
1339          RY  1914.0  1910.0  1906.0  1904.0  1904.0  1906.0  1910.0  1914.0
              *

1340          KK    S303   BASIN
1341          BA   0.127
1342          LG    0.35    0.15    7.60    0.11       6
1343          UC   0.204   0.144
1344          UA       0     4.5    12.6    23.2    35.8    50.0    64.2    76.8    87.4    95.5
1345          UA     100
              *
```

```
1346          KK    C303
1347          KM     COMBINE RUNOFF FROM S303 WITH ROUTED FLOW SFROM C302
1348          HC       2
              *

1349          KK  303312   ROUTE   REACH
1350          KM    ROUTE COMBINED FLOWS FROM C303 TO C312 THROUGH S304
1351          KM    SLOPE = (1895-1828)/5007 = 0.0134
1352          KM     XS based on Paradise Wash XS 2.53 from Jerry Jones (PARADFCD.DAT)
1353          RS       4    FLOW      -1
1354          RC   0.065   0.050   0.065    5007  0.0134    0.00
1355          RX  9678.0  9850.0  9982.0  9993.0 10009.0 10018.0 10041.0 10637.0
1356          RY  1852.0  1850.0  1848.0  1846.0  1846.0  1848.0  1850.0  1852.0
              *

1357          KK    S304   BASIN
1358          BA   0.132
1359          LG    0.35    0.25    4.90    0.34       0
1360          UC   0.363   0.365
1361          UA       0     4.5    12.6    23.2    35.8    50.0    64.2    76.8    87.4    95.5
1362          UA     100
              *

1363          KK   C312R
1364          KM    COMBINE RUNOFF FROM S304 WITH ROUTED FLOWS FROM C303.
1365          KM    THIS IS THE TOTAL FLOW IN PARADISE WASH UPSTREAM OF RANIERI TANK WASH
1366          HC       2
1367          ZW      A=PWUSRTW   C=FLOW    F=EXISTING
              *
1                                          HEC-1 INPUT                                          PAGE 36

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

1368          KK    S305   BASIN
1369          BA   0.230
1370          LG    0.35    0.23    6.20    0.19      16
1371          UC   0.208   0.144
1372          UA       0     3.0     5.0     8.0    12.0    20.0    43.0    75.0    90.0    96.0
1373          UA     100
              *

1374          KK  305309   ROUTE   REACH
1375          KM    ROUTE RUNOFF FROM S305 TO C309 THROUGH C306
1376          KM    SLOPE = (1938-1885)/3517 = 0.0151
1377          KM     XS based on Ranieri Tank Wash Trib 1 XS 0.34 (Stanley Consultants, 1999)
1378          RS       2    FLOW      -1
1379          RC   0.065   0.055   0.065    3517  0.0151    0.00
1380          RX  9956.0  9976.0  9991.0  9999.0 10005.0 10013.0 10047.0 10075.0
1381          RY  1908.6  1906.4  1905.6  1904.2  1904.2  1905.6  1906.0  1909.0
              *

1382          KK    S306   BASIN
1383          BA   0.052
1384          LG    0.34    0.25    5.00    0.31       1
1385          UC   0.254   0.286
1386          UA       0     4.5    12.6    23.2    35.8    50.0    64.2    76.8    87.4    95.5
1387          UA     100
              *

1388          KK    S307   BASIN
1389          BA   0.206
1390          LG    0.34    0.23    6.20    0.19      17
1391          UC   0.225   0.184
1392          UA       0     3.0     5.0     8.0    12.0    20.0    43.0    75.0    90.0    96.0
1393          UA     100
              *

1394          KK  307309   ROUTE   REACH
1395          KM    ROUTE RUNOFF FROM S307 TO C309 THROUGH S306
1396          KM    SLOPE = (1892-1885)/723 = 0.0097
1397          KM     XS based on Ranieri Tank Wash Trib 1 XS 0.15 (Stanley Consultants, 1999)
1398          RS       1    FLOW      -1
1399          RC   0.065   0.055   0.065     723  0.0097    0.00
1400          RX  9896.0  9958.0  9981.0  9994.0  9999.0 10012.0 10175.0 10267.0
1401          RY  1894.0  1892.0  1891.0  1888.0  1888.0  1890.6  1891.4  1894.0
              *

1402          KK   C309R
1403          KM     COMBINE RUNOFF FROM S306 WITH ROUTED FLOWS FROM S305 & S307
1404          HC       3
              *
1                                          HEC-1 INPUT                                          PAGE 37

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

1405          KK    S308   BASIN
1406          BA   0.466
1407          LG    0.35    0.23    6.20    0.20       9
1408          UC   0.242   0.138
1409          UA       0     3.0     5.0     8.0    12.0    20.0    43.0    75.0    90.0    96.0
1410          UA     100
              *
```

```
1411          KK  308309   ROUTE   REACH
1412          KM    ROUTE RUNOFF FROM S308 TO C309
1413          KM    SLOPE = (1908-1885)/2133 = 0.0108
1414          KM     XS based on Ranieri Tank Wash XS 1.40 (Stanley Consultants, 1999)
1415          RS       2    FLOW      -1
1416          RC   0.065   0.055   0.065    2133  0.0108    0.00
1417          RX  9758.0  9901.0  9991.0  9997.0 10003.0 10009.0 10031.0 10213.0
1418          RY  1902.0  1900.6  1900.6  1898.6  1898.6  1900.6  1900.6  1902.0
              *

1419          KK    S309   BASIN
1420          BA   0.190
1421          LG    0.35    0.15    7.00    0.14       7
1422          UC   0.238   0.219
1423          UA       0     3.0     5.0     8.0    12.0    20.0    43.0    75.0    90.0    96.0
1424          UA     100
              *

1425          KK   C309L
1426          KM     COMBINE RUNOFF FROM S309 WITH ROUTED FLOWS FROM S308
1427          HC       2
              *

1428          KK    C309
1429          KM     COMBINE FLOWS FROM C309R AND C309L.
1430          HC       2
              *

1431          KK  309310   ROUTE   REACH
1432          KM    ROUTE COMBINED FLOWS FROM C309 TO C310
1433          KM    SLOPE = (1885-1850)/3609 = 0.0097
1434          KM     XS based on Ranieri Tank Wash XS 0.70 (Jerry Jones, 1992)
1435          RS       3    FLOW      -1
1436          RC   0.065   0.050   0.065    3609  0.0097    0.00
1437          RX  9738.0  9778.0  9968.0  9992.0 10000.0 10020.0 10100.0 10412.0
1438          RY  1868.0  1864.0  1862.0  1860.0  1860.0  1862.0  1866.0  1868.0
              *

1439          KK    S310   BASIN
1440          BA   0.553
1441          LG    0.35    0.10   11.20    0.03       0
1442          UC   0.367   0.214
1443          UA       0     4.5    12.6    23.2    35.8    50.0    64.2    76.8    87.4    95.5
1444          UA     100
              *
1                                        HEC-1 INPUT                                          PAGE 38

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

1445          KK    C310
1446          KM     COMBINE RUNOFF FROM S310 WITH ROUTED FLOWS FROM C309
1447          KM     THIS IS THE INFLOW TO RANIERI TANK(S) AT 32ND STREET
1448          HC       2
              *

1449          KK   D310UDIVERT
1450          KM    DIVERT FLOW INTO UPSTREAM (NEW) TANK.  ASSUME A 50/50 SPLIT INTO
1451          KM    TANK UP TO ITS VOLUME.
1452          DT  D310UO      10
1453          DI       0     100
1454          DQ       0      50
              *

1455          KK   RR310STORAGE
1456          KM     ROUTE HYDROGRAPH THROUGH CULVERTS UNDER 32ND STREET
1457          KM     THERE ARE TWO SETS OF CULVERTS ONE ON THE MAIN CHANNEL ON THE
1458          KM     LEFT COMPOSED OF 3 6' CMPS AND A SET ON THE RIGHT BETWEEN THE
1459          KM     TANKS THAT IS COMPOSED OF 2 6' CMPS AND 4 2.5' CMPS
1460          KM     OUTFLOW HYDRAULICS COMPUTED USING HY8 (FILES: RR310L.INP &
1461          KM     RR310R.INP).  STAGE-AREA DATA ESTIMATED FROM JERRY JONES 2 FT CONTOURS
1462          KM     AND FCDMC 10 FT 2001 CONTOURS.
1463          RS       1    STOR      -1
1464          SA    0.08    0.58    1.23    2.11    3.44    7.22   13.22
1465          SE    1850    1852    1854    1856    1858    1860    1862
1466          SQ       0     160     650    1195    1660    1970    2330    2503    2621    2890
1467          SQ    3126    3422    3699
1468          SE    1850    1852    1854    1856    1858  1859.6    1860  1860.1  1860.2  1860.3
1469          SE  1860.4  1860.5  1860.6
              *

1470          KK   D310DDIVERT
1471          KM    DIVERT VOLUME OF STOCK TANK DOWNSTREAM OF 32ND STREET
1472          KM    ASSUMED THAT ALL FLOW UP TO TOTAL VOLUME DIVERTED BEFORE OVERFLOW
1473          DT  D310DO    2.39
1474          DI       0     100
1475          DQ       0     100
              *

1476          KK  310312   ROUTE   REACH
1477          KM    ROUTE (TANK OUTFLOWS) FROM RR310 TO C312
1478          KM    SLOPE = (1850-1828)/2221 = 0.0099
1479          KM     XS based on Ranieri Tank Wash XS 0.33 (Jerry Jones, 1992)
1480          RS       2    FLOW      -1
```

```
1481          RC   0.065   0.050   0.065    2221  0.0099    0.00
1482          RX  9683.0  9834.0  9938.0  9981.0 10013.0 10030.0 10200.0 10425.0
1483          RY  1852.0  1848.0  1844.0  1842.0  1842.0  1844.0  1846.0  1852.0
              *
```



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

1484          KK    S311   BASIN
1485          BA   0.076
1486          LG    0.35    0.05   12.40    0.01       0
1487          UC   0.279   0.224
1488          UA       0     4.5    12.6    23.2    35.8    50.0    64.2    76.8    87.4    95.5
1489          UA     100
              *

1490          KK  311312   ROUTE   REACH
1491          KM    ROUTE RUNOFF FROM S311 TO C312
1492          KM    SLOPE = (1859-1828)/2280 = 0.0136
1493          KM    XS based on examination of 2002 FCD orthophotos and available 10 ft (FCD)
1494          KM    and 2 ft contour data from Jerry Jones FDS and Stanley FDS mapping
1495          RS       3    FLOW      -1
1496          RC   0.065   0.055   0.065    2280  0.0136    0.00
1497          RX     0.0    40.0    80.0   120.0   160.0   200.0   240.0   280.0
1498          RY   100.0    99.7    99.3    99.0    99.0    99.3    99.7   100.0
              *

1499          KK    S312   BASIN
1500          BA   0.140
1501          LG    0.35    0.13   10.10    0.04       0
1502          UC   0.275   0.210
1503          UA       0     4.5    12.6    23.2    35.8    50.0    64.2    76.8    87.4    95.5
1504          UA     100
              *

1505          KK   C312L
1506          KM     COMBINE RUNOFF FROM S312 WITH ROUTED FLOWS FROM S311 AND RR310
1507          HC       3
1508          ZW     A=RTWUSPW   C=FLOW   F=EXISTING
              *

1509          KK    C312
1510          KM     COMBINE PARADISE WASH (C312R) AND RANIERI TANK WASH (C312L)
1511          HC       2
1512          ZW     A=PW+RTW   C=FLOW   F=EXISTING
              *

1513          KK  312314   ROUTE   REACH
1514          KM    ROUTE COMBINED FLOWS FROM C312 TO C314 (CAREFREE HWY)
1515          KM    SLOPE = (1828-1820)/1024 = 0.0078
1516          KM     XS based on Paradise Wash XS 2.14 (Jerry Jones, 1992) (PARADFCD.DAT)
1517          RS       1    FLOW      -1
1518          RC   0.065   0.050   0.065    1024  0.0078    0.00
1519          RX  9926.0  9962.0  9970.0  9979.0 10026.0 10219.0 10638.0 10754.0
1520          RY  1830.0  1828.0  1826.0  1824.0  1824.0  1826.0  1826.0  1830.0
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1521          KK    S313   BASIN
1522          BA   0.049
1523          LG    0.35    0.05   12.40    0.01       0
1524          UC   0.279   0.288
1525          UA       0     4.5    12.6    23.2    35.8    50.0    64.2    76.8    87.4    95.5
1526          UA     100
              *

1527          KK  313314   ROUTE   REACH
1528          KM    ROUTE RUNOFF FROM S313 TO C314
1529          KM    SLOPE = (1856-1820)/2487 = 0.0145
1530          KM    XS based on examination of 2002 FCD orthophotos and available 10 ft (FCD)
1531          KM    and 2 ft contour data from Jerry Jones FDS and Stanley FDS mapping
1532          RS       2    FLOW      -1
1533          RC   0.030   0.030   0.055    2487  0.0145    0.00
1534          RX     0.0     1.0    31.0    43.0    48.0    60.0   245.0   355.0
1535          RY   100.0    99.0    98.0    92.0    92.0    98.0    99.0   100.0
              *

1536          KK    S314   BASIN
1537          BA   0.089
1538          LG    0.35    0.15    8.00    0.10       0
1539          UC   0.233   0.160
1540          UA       0     4.5    12.6    23.2    35.8    50.0    64.2    76.8    87.4    95.5
1541          UA     100
              *

1542          KK    C314
1543          KM    COMBINE RUNOFF FROM S314 WITH ROUTED FLOW FROM S313 AND C312
1544          KM    THIS IS THE TOTAL FLOW IN PARADISE WASH AT CAREFREE HWY
1545          HC       3
1546          ZW      A=PW@CFH   C=FLOW   F=EXISTING
              *
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1547          KK  314318   ROUTE   REACH
1548          KM    ROUTE COMBINED FLOWS FROM C314 TO C318
1549          KM    SLOPE = (1820-1788)/3277 = 0.0098
1550          KM     XS based on Paradise Wash XS 1.83 (Jerry Jones, 1992) (PARADFCD.DAT)
1551          RS       2    FLOW      -1
1552          RC   0.065   0.050   0.065    3277  0.0098    0.00
1553          RX  9866.0  9975.0  9984.0  9990.0 10005.0 10190.0 10390.0 10550.0
1554          RY  1818.0  1810.0  1808.0  1806.0  1806.0  1810.0  1810.0  1818.0
              *

1555          KK    S315   BASIN
1556          BA   0.239
1557          LG    0.34    0.15    8.80    0.07      15
1558          UC   0.225   0.152
1559          UA       0     3.0     5.0     8.0    12.0    20.0    43.0    75.0    90.0    96.0
1560          UA     100
              *
1                                          HEC-1 INPUT                                          PAGE 41

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

1561          KK  315316   ROUTE   REACH
1562          KM    ROUTE RUNOFF FROM S315 TO C316
1563          KM    SLOPE = (1885-1860)/2328 = 0.0107
1564          KM     XS based on West Fork Paradise Wash XS 1.75 (Stanley Consultants, 1999)
1565          RS       2    FLOW      -1
1566          RC   0.070   0.055   0.070    2328  0.0107    0.00
1567          RX  9983.0  9986.0  9989.0  9996.0 10004.0 10034.0 10047.0 10060.0
1568          RY  1874.0  1873.0  1872.0  1869.0  1869.0  1872.0  1873.0  1874.0
              *

1569          KK    S316   BASIN
1570          BA   0.223
1571          LG    0.32    0.15    8.80    0.07       4
1572          UC   0.333   0.236
1573          UA       0     4.5    12.6    23.2    35.8    50.0    64.2    76.8    87.4    95.5
1574          UA     100
              *

1575          KK    C316
1576          KM     COMBINE RUNOFF FROM S316 WITH ROUTED FLOW FROM S315
1577          HC       2
              *

1578          KK  316317   ROUTE   REACH
1579          KM    ROUTE COMBINED FLOWS FROM C316 TO C317 (CFH)
1580          KM    SLOPE = (1860-1806)/5852 = 0.0092
1581          KM     XS based on West Fork Paradise Wash XS 1.02 (Jerry Jones,1992) (PRDWST.DAT)
1582          RS       4    FLOW      -1
1583          RC   0.065   0.055   0.065    5852  0.0092    0.00
1584          RX  9973.0  9984.0  9993.0  9997.0 10007.0 10011.0 10067.0 10168.0
1585          RY  1838.0  1836.0  1834.0  1832.7  1832.7  1834.0  1836.0  1838.0
              *

1586          KK    S317   BASIN
1587          BA   0.603
1588          LG    0.35    0.15    9.70    0.06       0
1589          UC   0.446   0.292
1590          UA       0     3.0     5.0     8.0    12.0    20.0    43.0    75.0    90.0    96.0
1591          UA     100
              *

1592          KK    C317
1593          KM     COMBINE RUNOFF FROM S317 WITH ROUTED FLOW FROM C316
1594          KM     THIS IS THE TOTAL FLOW IN THE WEST BRANCH OF PARADISE WASH
1595          KM     AT CAREFREE HWY
1596          HC       2
1597          ZW      A=WBPW@CFH   C=FLOW   F=EXISTING
              *
1                                          HEC-1 INPUT                                          PAGE 42

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

1598          KK  317318   ROUTE   REACH
1599          KM    ROUTE COMBINED FLOWS FROM C317 TO C318
1600          KM    SLOPE = (1806-1788)/2279 = 0.0079
1601          KM     XS based on West Fork Paradise Wash XS 0.32 (Jerry Jones,1992) (PRDWST.DAT)
1602          RS       3    FLOW      -1
1603          RC   0.065   0.055   0.065    2279  0.0079    0.00
1604          RX  9820.0  9845.0  9995.0  9999.0 10015.0 10070.0 10650.0 10760.0
1605          RY  1808.0  1806.0  1804.0  1802.0  1802.0  1806.0  1806.0  1808.0
              *

1606          KK    S318   BASIN
1607          BA   0.157
1608          LG    0.35    0.15    7.30    0.13       0
1609          UC   0.333   0.271
1610          UA       0     4.5    12.6    23.2    35.8    50.0    64.2    76.8    87.4    95.5
1611          UA     100
              *

1612          KK    C318
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1613          KM     COMBINE RUNOFF FROM S318 WITH ROUTED FLOWS FROM C317 & C314
1614          HC       3
1615          ZW      A=PW+WBPW   C=FLOW   F=EXISTING
              *

1616          KK  318319   ROUTE   REACH
1617          KM    ROUTE COMBINED FLOWS FROM C318 TO C319
1618          KM    SLOPE = (1788-1729)/7226 = 0.0082
1619          KM     XS based on Paradise Wash XS 0.89 (Jerry Jones, 1992) (PARADFCD.DAT)
1620          RS       6    FLOW      -1
1621          RC   0.070   0.055   0.070    7226  0.0082    0.00
1622          RX  9500.0  9640.0  9980.0  9985.0 10010.0 10078.0 10352.0 10520.0
1623          RY  1780.0  1770.0  1770.0  1764.0  1764.0  1768.0  1774.0  1780.0
              *

1624          KK    S319   BASIN
1625          BA   0.886
1626          LG    0.35    0.10   11.20    0.03       0
1627          UC   0.721   0.632
1628          UA       0     4.5    12.6    23.2    35.8    50.0    64.2    76.8    87.4    95.5
1629          UA     100
              *

1630          KK   C319L
1631          KM     COMBINE RUNOFF FROM S319 WITH ROUTED FLOW FROM C318
1632          KM     THIS IS THE TOTAL FLOW IN PARADISE WASH UPSTREAM
1633          KM     OF APACHE WASH
1634          HC       2
1635          ZW      A=PWUSAW    C=FLOW   F=EXISTING
              *
1                                                HEC-1 INPUT                                                PAGE 43

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


1636          KK    C319
1637          KM     COMBINE PARADISE WASH WITH ROUTED FLOWS FROM C147
1638          KM     THIS IS THE TOTAL FLOW IN APACHE WASH DOWNSTREAM OF
1639          KM     PARADISE WASH
1640          HC       2
1641          ZW      A=AW+PW    C=FLOW   F=EXISTING
              *

1642          KK  319400   ROUTE   REACH
1643          KM    ROUTE COMBINED FLOWS FROM C319 TO C400
1644          KM    SLOPE = (1728-1661)/11176 = 0.0060
1645          KM     XS based on Apache Wash XS 1.37 from Jerry Jones (APACHE.DAT)
1646          RS       9    FLOW      -1
1647          RC   0.070   0.055   0.070   11176  0.0060    0.00
1648          RX  9493.0  9580.0  9932.0  9978.0 10013.0 10030.0 10042.0 10054.0
1649          RY  1698.0  1694.0  1692.0  1688.0  1688.0  1692.0  1695.0  1698.0
              *

1650          KK    S400   BASIN
1651          BA   1.676
1652          LG    0.35    0.13   10.10    0.04       3
1653          UC   1.017   0.947
1654          UA       0     4.5    12.6    23.2    35.8    50.0    64.2    76.8    87.4    95.5
1655          UA     100
              *

1656          KK    C400
1657          KM     COMBINE RUNOFF FROM S400 WITH ROUTED FLOWS FROM C319
1658          HC       2
1659          ZW       A=AW@POOL    C=FLOW    F=EXISTING
              *

1660          KK    S500   BASIN
1661          KM    THIS IS THE INFLOW TO THE SKUNK TANK WASH PORTION OF THE FLO-2D AREA
1662          KM    CALLED FLO2D2 AT DESERT HILLS DRIVE.
1663          BA   0.039
1664          LG    0.32    0.05   12.40    0.01       3
1665          UC   0.217   0.211
1666          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
1667          UA     100
              *
1668          ZZ
1
              SCHEMATIC DIAGRAM OF STREAM NETWORK
 INPUT
  LINE      (V) ROUTING          (--->) DIVERSION OR PUMP FLOW

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

    46        S100
                 V
                 V
    54      100101
                 .
                 .
    62           .        S101
                 .           .
                 .           .
    68        C101...........
                 V
```

```
                V
 73        101CFH
                .
                .
 81             .        S102
                .           V
                .           V
 87             .      102103
                .           .
                .           .
 95             .           .        S103
                .           .           .
                .           .           .
101             .        C103............
                .           V
                .           V
105             .      103104
                .           .
                .           .
114             .           .        S104
                .           .           .
                .           .           .
120             .        C104............
                .           V
                .           V
125             .      104CFH
                .           .
                .           .
133             .           .        S105
                .           .           V
                .           .           V
140             .           .      105106
                .           .           .
                .           .           .
148             .           .           .        S106
                .           .           .           .
                .           .           .           .
154             .           .        C106............
                .           .           V
                .           .           V
158             .           .      106107
                .           .           .
                .           .           .
166             .           .           .        S107
                .           .           .           .
                .           .           .           .
172             .           .        C107............
                .           .           V
                .           .           V
177             .           .      107CFH
                .           .           .
                .           .           .
185             .           .           .        S150
                .           .           .           .
                .           .           .           .
192             .           .           .           .        S151
                .           .           .           .           .
                .           .           .           .           .
199             .           .           .           .           .        S152
                .           .           .           .           .           .
                .           .           .           .           .           .
208             .           .           .           .           .           .-------->    1520
205             .           .           .           .           .        D152
                .           .           .           .           .           V
                .           .           .           .           .           V
211             .           .           .           .           .     152153
                .           .           .           .           .           .
                .           .           .           .           .           .
220             .           .           .           .           .           .        S153
                .           .           .           .           .           .           .
                .           .           .           .           .           .           .
226             .           .           .           .           .        C153............
                .           .           .           .           .           .
                .           .           .           .           .           .
232             .           .           .           .           .           .           .<-------    1520
230             .           .           .           .           .           .        DR152
                .           .           .           .           .           .           .
                .           .           .           .           .           .           .
233             .           .           .        C155.................................
                .           .           .           .
                .           .           .           .
237        DUMMY...................................
                .
                .
241             .        S122
                .           .
                .           .
249             .           .        S123
                .           .           .
                .           .           .
257             .           .           .        S124
                .           .           .           V
                .           .           .           V
265             .           .           .      124125
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274          .          .          .          .       S125
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             .          .          .          .          .
280          .          .          .      C125............
             .          .          .          .
             .          .          .          .
284          .          .     DUMMY............
             .          .          .
             .          .          .
287     DUMMY........................
             .
             .
290          .     FLO2D
             .         V
             .         V
312          .    CFH127
             .          .
             .          .
320          .          .      S108
             .          .         V
             .          .         V
326          .          .    108109
             .          .          .
             .          .          .
334          .          .          .      S109
             .          .          .          .
             .          .          .          .
340          .          .    C109R............
             .          .          .
             .          .          .
345          .          .          .      S110
             .          .          .         V
             .          .          .         V
351          .          .          .    110111
             .          .          .          .
             .          .          .          .
359          .          .          .          .       S111
             .          .          .          .          .
             .          .          .          .          .
365          .          .          .      C111............
             .          .          .         V
             .          .          .         V
369          .          .          .    111109
             .          .          .          .
             .          .          .          .
377          .          .          .          .       S112
             .          .          .          .          .
             .          .          .          .          .
383          .          .          .     C109C............
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387          .          .          .          .       S113
             .          .          .          .          V
             .          .          .          .          V
393          .          .          .          .    113114
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401          .          .          .          .          .       S114
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407          .          .          .          .       C114............
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             .          .          .          .          V
411          .          .          .          .    114115
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419          .          .          .          .          .       S115
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425          .          .          .          .       C115............
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             .          .          .          .          V
429          .          .          .          .    115109
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437          .          .      C109........................
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             .          .         V
442          .          .    109116
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450          .          .          .      S116
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456          .          .    C116R............
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             .          .          .
459          .          .          .      S117
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465          .          .          .          .       S118
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             .          .          .          .          V
472          .          .          .          .    118119
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480             .         .         .         .         .       S119
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486             .         .         .      C116L.......................
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489             .         .       C116............
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                .         .          V
493             .         .     116120
                .         .         .
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501             .         .         .       S120
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507             .         .       C120............
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510             .         .     120127
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518             .         .         .       S121
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524             .         .      C127L............
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527             .         .         .       S126
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535             .         .         .     126127
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544             .         .         .         .       S127
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550             .         .         .      C127R............
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553             .       C127........................
                .          V
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558             .     127129
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                .         .
566             .         .       S128
                .         .          V
                .         .          V
574             .         .     128129
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582             .         .         .       S129
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588             .       C129........................
                .          V
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592             .     129134
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600             .         .       S130
                .         .          V
                .         .          V
607             .         .     130134
                .         .         .
                .         .         .
616             .         .         .       S131
                .         .         .          V
                .         .         .          V
623             .         .         .     131132
                .         .         .         .
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632             .         .         .         .       S132
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638             .         .         .       C132............
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642             .         .         .     132133
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650             .         .         .         .       S133
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656             .         .         .       C133............
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660             .         .         .     133134
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668             .         .         .         .       S134
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674          .          .      C134L.......................
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677          .     C134............
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682          .   134139
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690          .          .      S135
             .          .         V
             .          .         V
697          .          .    135139
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705          .          .          .        S136
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711          .    C139R.......................
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715          .          .      S137
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722          .          .    137138
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730          .          .          .        S138
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736          .          .      C138............
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740          .          .    138139
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748          .          .          .        S139
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754          .          .     C139L............
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             .          .          .
757          .     C139............
             .        V
             .        V
761          .   139141
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769          .          .      S140
             .          .         V
             .          .         V
777          .          .    140141
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786          .          .          .        S141
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792          .          .     C141L............
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795          .          .          .        S142
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             .          .          .          V
801          .          .          .     142141
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810          .    C141I.......................
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             .        V
813          .   141145
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821          .          .      S143
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             .          .         V
827          .          .    143144
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836          .          .          .        S144
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842          .    C145R.......................
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845          .          .      S145
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851          .     C145............
             .        V
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855          .   145147
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863          .          .      S147
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869          .      C147R............
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874          .          S200
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880          .                  S201
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886          .          C201............
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             .             V
889          .        201204
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897          .                  S203
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903          .         C204L............
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907          .                  S204
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913          .          C204............
             .             V
             .             V
916          .        204206
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924          .                  S205
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930          .         C206L............
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933          .                  S206
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939          .          C206............
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             .             V
942          .        206209
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950          .                  S207
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956          .         C209L............
             .
959          .                  S208
             .                     V
             .                     V
965          .                208209
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973          .                         S209
             .
979          .               C209R............
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982          .          C209............
             .             V
             .             V
986          .        209215
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994          .                  S210
             .
1000         .         C215L............
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1003         .                  S211
             .                     V
             .                     V
1009         .                211214
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1017         .                         S212
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1023         .               C214L............
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1026         .                         S213
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1032         .                                  S214
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1038         .               C214........................
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1043             .         .         .    214215
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1051             .         .         .         .        S215
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1057             .         .         .    C215R............
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1062             .         .     C215............
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1066             .         .  215216
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1074             .         .         .      S216
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1080             .         .     C216............
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1084             .         .  216217
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1092             .         .         .      S217
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1098             .         .   C217R............
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1101             .         .         .      S218
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1107             .         .         .    218219
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1121             .         .         .     C219............
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1124             .         .         .         .        S220
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1160             .         .     C221............
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1165             .         .  221222
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1173             .         .         .      S222
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1179             .         .     C222............
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1184             .         .  222227
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1192             .         .         .      S223
                 .         .         .         V
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1198             .         .         .    223227
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1206             .         .         .         .        S224
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1212             .         .   C227L.......................
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1215             .         .         .      S225
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1221             .         .         .    225226
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1229          .          .          .          .       S226
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1235          .          .          .       C226............
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1238          .          .          .     226227
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1246          .          .          .          .       S227
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1252          .          .          .      C227R...........
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1255          .          .       C227............
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1259          .          .     227228
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1267          .          .          .       S228
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1273          .          .       C228............
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1279          .          .     228147
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1287          .       C147............
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              .          V
1291          .     147319
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1300          .          .       S300
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1306          .          .          .       S301
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1312          .          .       C301............
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              .          .          V
1315          .          .     301302
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1323          .          .          .       S302
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1329          .          .       C302............
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1332          .          .     302303
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1340          .          .          .       S303
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1346          .          .       C303............
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1349          .          .     303312
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1357          .          .          .       S304
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1363          .          .      C312R............
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1368          .          .          .       S305
              .          .          .          V
              .          .          .          V
1374          .          .          .     305309
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1382          .          .          .          .       S306
              .          .          .          .          .
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1388          .          .          .          .          .       S307
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1394          .          .          .          .          .     307309
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1402          .          .          .      C309R........................
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1405          .          .          .          .       S308
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1411          .          .          .          .     308309
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1419                                                  S309
1425                                        C309L............
1428                                  C309............
                                         V
                                         V
1431                                309310
1439                                                S310
1445                                  C310............
1452                                         -------> D310UO
1449                                 D310U
                                         V
                                         V
1455                                RR310
1473                                         -------> D310DO
1470                                 D310D
                                         V
                                         V
1476                                310312
1484                                                S311
                                                       V
                                                       V
1490                                              311312
1499                                                          S312
1505                                 C312L......................
1509                           C312............
                                  V
                                  V
1513                          312314
1521                                  S313
                                         V
                                         V
1527                                313314
1536                                                S314
1542                           C314......................
                                  V
                                  V
1547                          314318
1555                                  S315
                                         V
                                         V
1561                                315316
1569                                                S316
1575                                  C316............
                                         V
                                         V
1578                                316317
1586                                                S317
1592                                  C317............
                                         V
                                         V
1598                                317318
1606                                                S318
1612                           C318......................
                                  V
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 1616           .          .     318319
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 1624           .          .          .        S319
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 1630           .          .     C319L............
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 1636           .       C319............
                .          V
                .          V
 1642           .     319400
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 1650           .          .       S400
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                .          .          .
 1656           .       C400............
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                .          .
 1660           .          .       S500

 (***) RUNOFF ALSO COMPUTED AT THIS LOCATION
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   14AUG03  TIME  15:56:02  *                                    *           (916) 756-1104             *
 *                                      *                                    *                                      *
 ****************************************                                    ****************************************
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DESERT HILLS AREA HYDROLOGY

JE FULLER / HYDROLOGY & GEOMORPHOLOGY, INC.
ADOBE DAM / DESERT HILLS ADMP
APRIL 2003 - KK RR310 revised 08-14-03

THIS IS THE 100-YEAR 6-HOUR MODEL FOR EXISTING CONDITIONS LAND USE

MODEL BASIS:
* DDMSW PROJECT NAME: DHA_EX6
* HYDROLOGY DEVELOPED FOR THE DESERT HILLS AREA FOR THE ADMP
* EXISTING CONDITIONS LAND USE BASED ON MAG LAND USE FILES PROVIDED BY FCDMC AND UPDATED TO REFLECT EXTENT OF DEVELOPMENT AS SHOWN IN THE FEB. 2002 AERIAL PHOTOGRAPHS FROM THE FCDMC
* PREFRE RAINFALL STATISTICS FROM NOAA ATLAS II
* MULTIPLE STORM (JD RECORDS) USED FOR CRITICAL STORM CENTERING
* RAINFALL LOSS COMPUTED USING GREEN & AMPT METHOD
* CLARK METHOD WAS USED FOR DEVELOPMENT OF UNIT HYDROGRAPHS
* MODIFIED PULS NORMAL-DEPTH ROUTING USED FOR CHANNEL ROUTINGS

* A PORTION OF THE AREA WAS MODELED EXTERNALLY USING FLO-2D.

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

    IT          HYDROGRAPH TIME DATA
                       NMIN           5  MINUTES IN COMPUTATION INTERVAL
                      IDATE     21FEB 3  STARTING DATE
                      ITIME        0000  STARTING TIME
                         NQ         300  NUMBER OF HYDROGRAPH ORDINATES
                     NDDATE     22FEB 3  ENDING DATE
                     NDTIME        0055  ENDING TIME
                      ICENT          19  CENTURY MARK

                 COMPUTATION INTERVAL     .08 HOURS
                      TOTAL TIME BASE   24.92 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

 26 JD          INDEX STORM NO. 1
                       STRM        3.35  PRECIPITATION DEPTH
                       TRDA         .01  TRANSPOSITION DRAINAGE AREA

 27 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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                .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                .00       .00       .00       .01       .01       .01       .01       .01       .01       .03
                .03       .03       .05       .05       .05       .15       .15       .15       .03       .03
                .03       .01       .01       .01       .01       .01       .01       .00       .00       .00
                .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                .00       .00

 30 JD        INDEX STORM NO. 2
                STRM        3.33  PRECIPITATION DEPTH
                TRDA         .50  TRANSPOSITION DRAINAGE AREA

 31 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       .01       .01       .01       .01       .01       .01       .03
                .03       .03       .05       .05       .05       .15       .15       .15       .03       .03
                .03       .01       .01       .01       .01       .01       .01       .00       .00       .00
                .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                .00       .00

 34 JD        INDEX STORM NO. 3
                STRM        3.27  PRECIPITATION DEPTH
                TRDA        2.80  TRANSPOSITION DRAINAGE AREA

 35 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       .01       .01       .01       .01       .01       .01       .03
                .03       .03       .07       .07       .07       .08       .08       .08       .05       .05
                .05       .02       .02       .02       .01       .01       .01       .00       .00       .00
                .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                .00       .00

 38 JD        INDEX STORM NO. 4
                STRM        3.09  PRECIPITATION DEPTH
                TRDA       16.00  TRANSPOSITION DRAINAGE AREA

 39 PI          PRECIPITATION PATTERN
                .01       .01       .00       .00       .00       .00       .00       .00       .00       .01
                .01       .01       .00       .01       .00       .00       .00       .00       .00       .00
                .00       .00       .01       .00       .00       .00       .00       .01       .01       .01
                .01       .01       .01       .01       .01       .01       .02       .02       .02       .03
                .03       .03       .06       .06       .06       .07       .07       .07       .04       .04
                .04       .02       .02       .02       .01       .01       .01       .01       .01       .01
                .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                .00       .00

 42 JD        INDEX STORM NO. 5
                STRM        2.72  PRECIPITATION DEPTH
                TRDA       90.00  TRANSPOSITION DRAINAGE AREA

 43 PI          PRECIPITATION PATTERN
                .01       .01       .01       .00       .00       .00       .01       .01       .01       .01
                .01       .01       .01       .01       .01       .01       .01       .01       .01       .01
                .01       .01       .01       .01       .01       .01       .01       .01       .01       .01
                .01       .01       .01       .01       .01       .01       .02       .02       .02       .03
                .03       .03       .05       .05       .05       .05       .05       .05       .04       .04
                .04       .02       .02       .02       .02       .02       .02       .01       .01       .01
                .01       .01       .01       .01       .01       .01       .01       .01       .01       .01
                .01       .01
  -----DSS---ZOPEN:  Existing File Opened,  File: DH1006E.DSS
                    Unit:  71;  DSS Version: 6-JG
-----DSS---ZWRITE Unit  71; Vers.    8:  /DHW/C147R/FLOW/20FEB1903/5MIN/EXISTING/
-----DSS---ZWRITE Unit  71; Vers.    8:  /DHW/C147R/FLOW/21FEB1903/5MIN/EXISTING/
-----DSS---ZWRITE Unit  71; Vers.    8:  /DHW/C147R/FLOW/22FEB1903/5MIN/EXISTING/
-----DSS---ZWRITE Unit  71; Vers.    8:  /AW@CLOUD/C221/FLOW/20FEB1903/5MIN/EXISTING/
-----DSS---ZWRITE Unit  71; Vers.    8:  /AW@CLOUD/C221/FLOW/21FEB1903/5MIN/EXISTING/
-----DSS---ZWRITE Unit  71; Vers.    8:  /AW@CLOUD/C221/FLOW/22FEB1903/5MIN/EXISTING/
-----DSS---ZWRITE Unit  71; Vers.    8:  /AW@CFH/C222/FLOW/20FEB1903/5MIN/EXISTING/
-----DSS---ZWRITE Unit  71; Vers.    8:  /AW@CFH/C222/FLOW/21FEB1903/5MIN/EXISTING/
-----DSS---ZWRITE Unit  71; Vers.    8:  /AW@CFH/C222/FLOW/22FEB1903/5MIN/EXISTING/

WARNING --- ROUTED OUTFLOW (   4458.) IS GREATER THAN MAXIMUM OUTFLOW (   4369.) IN STORAGE-OUTFLOW TABLE

WARNING --- ROUTED OUTFLOW (   6387.) IS GREATER THAN MAXIMUM OUTFLOW (   4369.) IN STORAGE-OUTFLOW TABLE

WARNING --- ROUTED OUTFLOW (   8015.) IS GREATER THAN MAXIMUM OUTFLOW (   4369.) IN STORAGE-OUTFLOW TABLE

WARNING --- ROUTED OUTFLOW (   8772.) IS GREATER THAN MAXIMUM OUTFLOW (   4369.) IN STORAGE-OUTFLOW TABLE

WARNING --- ROUTED OUTFLOW (   8630.) IS GREATER THAN MAXIMUM OUTFLOW (   4369.) IN STORAGE-OUTFLOW TABLE

WARNING --- ROUTED OUTFLOW (   7934.) IS GREATER THAN MAXIMUM OUTFLOW (   4369.) IN STORAGE-OUTFLOW TABLE

WARNING --- ROUTED OUTFLOW (   7014.) IS GREATER THAN MAXIMUM OUTFLOW (   4369.) IN STORAGE-OUTFLOW TABLE

WARNING --- ROUTED OUTFLOW (   6073.) IS GREATER THAN MAXIMUM OUTFLOW (   4369.) IN STORAGE-OUTFLOW TABLE

WARNING --- ROUTED OUTFLOW (   5211.) IS GREATER THAN MAXIMUM OUTFLOW (   4369.) IN STORAGE-OUTFLOW TABLE

WARNING --- ROUTED OUTFLOW (   4459.) IS GREATER THAN MAXIMUM OUTFLOW (   4369.) IN STORAGE-OUTFLOW TABLE

WARNING --- ROUTED OUTFLOW (   4945.) IS GREATER THAN MAXIMUM OUTFLOW (   4369.) IN STORAGE-OUTFLOW TABLE
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WARNING --- ROUTED OUTFLOW (   6673.) IS GREATER THAN MAXIMUM OUTFLOW (   4369.) IN STORAGE-OUTFLOW TABLE
WARNING --- ROUTED OUTFLOW (   7991.) IS GREATER THAN MAXIMUM OUTFLOW (   4369.) IN STORAGE-OUTFLOW TABLE
WARNING --- ROUTED OUTFLOW (   8535.) IS GREATER THAN MAXIMUM OUTFLOW (   4369.) IN STORAGE-OUTFLOW TABLE
WARNING --- ROUTED OUTFLOW (   8341.) IS GREATER THAN MAXIMUM OUTFLOW (   4369.) IN STORAGE-OUTFLOW TABLE
WARNING --- ROUTED OUTFLOW (   7677.) IS GREATER THAN MAXIMUM OUTFLOW (   4369.) IN STORAGE-OUTFLOW TABLE
WARNING --- ROUTED OUTFLOW (   6809.) IS GREATER THAN MAXIMUM OUTFLOW (   4369.) IN STORAGE-OUTFLOW TABLE
WARNING --- ROUTED OUTFLOW (   5915.) IS GREATER THAN MAXIMUM OUTFLOW (   4369.) IN STORAGE-OUTFLOW TABLE
WARNING --- ROUTED OUTFLOW (   5088.) IS GREATER THAN MAXIMUM OUTFLOW (   4369.) IN STORAGE-OUTFLOW TABLE
WARNING --- ROUTED OUTFLOW (   5341.) IS GREATER THAN MAXIMUM OUTFLOW (   4369.) IN STORAGE-OUTFLOW TABLE
WARNING --- ROUTED OUTFLOW (   6866.) IS GREATER THAN MAXIMUM OUTFLOW (   4369.) IN STORAGE-OUTFLOW TABLE
WARNING --- ROUTED OUTFLOW (   7936.) IS GREATER THAN MAXIMUM OUTFLOW (   4369.) IN STORAGE-OUTFLOW TABLE
WARNING --- ROUTED OUTFLOW (   8321.) IS GREATER THAN MAXIMUM OUTFLOW (   4369.) IN STORAGE-OUTFLOW TABLE
WARNING --- ROUTED OUTFLOW (   8082.) IS GREATER THAN MAXIMUM OUTFLOW (   4369.) IN STORAGE-OUTFLOW TABLE
WARNING --- ROUTED OUTFLOW (   7439.) IS GREATER THAN MAXIMUM OUTFLOW (   4369.) IN STORAGE-OUTFLOW TABLE
WARNING --- ROUTED OUTFLOW (   6614.) IS GREATER THAN MAXIMUM OUTFLOW (   4369.) IN STORAGE-OUTFLOW TABLE
WARNING --- ROUTED OUTFLOW (   5762.) IS GREATER THAN MAXIMUM OUTFLOW (   4369.) IN STORAGE-OUTFLOW TABLE
WARNING --- ROUTED OUTFLOW (   4968.) IS GREATER THAN MAXIMUM OUTFLOW (   4369.) IN STORAGE-OUTFLOW TABLE
WARNING --- ROUTED OUTFLOW (   6269.) IS GREATER THAN MAXIMUM OUTFLOW (   4369.) IN STORAGE-OUTFLOW TABLE
WARNING --- ROUTED OUTFLOW (   7895.) IS GREATER THAN MAXIMUM OUTFLOW (   4369.) IN STORAGE-OUTFLOW TABLE
WARNING --- ROUTED OUTFLOW (   8673.) IS GREATER THAN MAXIMUM OUTFLOW (   4369.) IN STORAGE-OUTFLOW TABLE
WARNING --- ROUTED OUTFLOW (   8557.) IS GREATER THAN MAXIMUM OUTFLOW (   4369.) IN STORAGE-OUTFLOW TABLE
WARNING --- ROUTED OUTFLOW (   7882.) IS GREATER THAN MAXIMUM OUTFLOW (   4369.) IN STORAGE-OUTFLOW TABLE
WARNING --- ROUTED OUTFLOW (   6976.) IS GREATER THAN MAXIMUM OUTFLOW (   4369.) IN STORAGE-OUTFLOW TABLE
WARNING --- ROUTED OUTFLOW (   6045.) IS GREATER THAN MAXIMUM OUTFLOW (   4369.) IN STORAGE-OUTFLOW TABLE
WARNING --- ROUTED OUTFLOW (   5190.) IS GREATER THAN MAXIMUM OUTFLOW (   4369.) IN STORAGE-OUTFLOW TABLE
WARNING --- ROUTED OUTFLOW (   4442.) IS GREATER THAN MAXIMUM OUTFLOW (   4369.) IN STORAGE-OUTFLOW TABLE
WARNING --- ROUTED OUTFLOW (   4850.) IS GREATER THAN MAXIMUM OUTFLOW (   4369.) IN STORAGE-OUTFLOW TABLE
WARNING --- ROUTED OUTFLOW (   6560.) IS GREATER THAN MAXIMUM OUTFLOW (   4369.) IN STORAGE-OUTFLOW TABLE
WARNING --- ROUTED OUTFLOW (   7881.) IS GREATER THAN MAXIMUM OUTFLOW (   4369.) IN STORAGE-OUTFLOW TABLE
WARNING --- ROUTED OUTFLOW (   8443.) IS GREATER THAN MAXIMUM OUTFLOW (   4369.) IN STORAGE-OUTFLOW TABLE
WARNING --- ROUTED OUTFLOW (   8272.) IS GREATER THAN MAXIMUM OUTFLOW (   4369.) IN STORAGE-OUTFLOW TABLE
WARNING --- ROUTED OUTFLOW (   7626.) IS GREATER THAN MAXIMUM OUTFLOW (   4369.) IN STORAGE-OUTFLOW TABLE
WARNING --- ROUTED OUTFLOW (   6772.) IS GREATER THAN MAXIMUM OUTFLOW (   4369.) IN STORAGE-OUTFLOW TABLE
WARNING --- ROUTED OUTFLOW (   5887.) IS GREATER THAN MAXIMUM OUTFLOW (   4369.) IN STORAGE-OUTFLOW TABLE
WARNING --- ROUTED OUTFLOW (   5067.) IS GREATER THAN MAXIMUM OUTFLOW (   4369.) IN STORAGE-OUTFLOW TABLE
WARNING --- ROUTED OUTFLOW (   5245.) IS GREATER THAN MAXIMUM OUTFLOW (   4369.) IN STORAGE-OUTFLOW TABLE
WARNING --- ROUTED OUTFLOW (   6758.) IS GREATER THAN MAXIMUM OUTFLOW (   4369.) IN STORAGE-OUTFLOW TABLE
WARNING --- ROUTED OUTFLOW (   7833.) IS GREATER THAN MAXIMUM OUTFLOW (   4369.) IN STORAGE-OUTFLOW TABLE
WARNING --- ROUTED OUTFLOW (   8235.) IS GREATER THAN MAXIMUM OUTFLOW (   4369.) IN STORAGE-OUTFLOW TABLE
WARNING --- ROUTED OUTFLOW (   8016.) IS GREATER THAN MAXIMUM OUTFLOW (   4369.) IN STORAGE-OUTFLOW TABLE
WARNING --- ROUTED OUTFLOW (   7390.) IS GREATER THAN MAXIMUM OUTFLOW (   4369.) IN STORAGE-OUTFLOW TABLE
WARNING --- ROUTED OUTFLOW (   6578.) IS GREATER THAN MAXIMUM OUTFLOW (   4369.) IN STORAGE-OUTFLOW TABLE
WARNING --- ROUTED OUTFLOW (   5735.) IS GREATER THAN MAXIMUM OUTFLOW (   4369.) IN STORAGE-OUTFLOW TABLE
WARNING --- ROUTED OUTFLOW (   4947.) IS GREATER THAN MAXIMUM OUTFLOW (   4369.) IN STORAGE-OUTFLOW TABLE
WARNING --- ROUTED OUTFLOW (   4400.) IS GREATER THAN MAXIMUM OUTFLOW (   4369.) IN STORAGE-OUTFLOW TABLE
WARNING --- ROUTED OUTFLOW (   5547.) IS GREATER THAN MAXIMUM OUTFLOW (   4369.) IN STORAGE-OUTFLOW TABLE
WARNING --- ROUTED OUTFLOW (   6331.) IS GREATER THAN MAXIMUM OUTFLOW (   4369.) IN STORAGE-OUTFLOW TABLE
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WARNING --- ROUTED OUTFLOW (   6615.) IS GREATER THAN MAXIMUM OUTFLOW (   4369.) IN STORAGE-OUTFLOW TABLE
WARNING --- ROUTED OUTFLOW (   6484.) IS GREATER THAN MAXIMUM OUTFLOW (   4369.) IN STORAGE-OUTFLOW TABLE
WARNING --- ROUTED OUTFLOW (   6111.) IS GREATER THAN MAXIMUM OUTFLOW (   4369.) IN STORAGE-OUTFLOW TABLE
WARNING --- ROUTED OUTFLOW (   5609.) IS GREATER THAN MAXIMUM OUTFLOW (   4369.) IN STORAGE-OUTFLOW TABLE
WARNING --- ROUTED OUTFLOW (   5057.) IS GREATER THAN MAXIMUM OUTFLOW (   4369.) IN STORAGE-OUTFLOW TABLE
WARNING --- ROUTED OUTFLOW (   4524.) IS GREATER THAN MAXIMUM OUTFLOW (   4369.) IN STORAGE-OUTFLOW TABLE
WARNING --- ROUTED OUTFLOW (   4638.) IS GREATER THAN MAXIMUM OUTFLOW (   4369.) IN STORAGE-OUTFLOW TABLE
WARNING --- ROUTED OUTFLOW (   5635.) IS GREATER THAN MAXIMUM OUTFLOW (   4369.) IN STORAGE-OUTFLOW TABLE
WARNING --- ROUTED OUTFLOW (   6277.) IS GREATER THAN MAXIMUM OUTFLOW (   4369.) IN STORAGE-OUTFLOW TABLE
WARNING --- ROUTED OUTFLOW (   6486.) IS GREATER THAN MAXIMUM OUTFLOW (   4369.) IN STORAGE-OUTFLOW TABLE
WARNING --- ROUTED OUTFLOW (   6342.) IS GREATER THAN MAXIMUM OUTFLOW (   4369.) IN STORAGE-OUTFLOW TABLE
WARNING --- ROUTED OUTFLOW (   5973.) IS GREATER THAN MAXIMUM OUTFLOW (   4369.) IN STORAGE-OUTFLOW TABLE
WARNING --- ROUTED OUTFLOW (   5483.) IS GREATER THAN MAXIMUM OUTFLOW (   4369.) IN STORAGE-OUTFLOW TABLE
WARNING --- ROUTED OUTFLOW (   4952.) IS GREATER THAN MAXIMUM OUTFLOW (   4369.) IN STORAGE-OUTFLOW TABLE
WARNING --- ROUTED OUTFLOW (   4431.) IS GREATER THAN MAXIMUM OUTFLOW (   4369.) IN STORAGE-OUTFLOW TABLE
WARNING --- ROUTED OUTFLOW (   4823.) IS GREATER THAN MAXIMUM OUTFLOW (   4369.) IN STORAGE-OUTFLOW TABLE
WARNING --- ROUTED OUTFLOW (   5691.) IS GREATER THAN MAXIMUM OUTFLOW (   4369.) IN STORAGE-OUTFLOW TABLE
WARNING --- ROUTED OUTFLOW (   6220.) IS GREATER THAN MAXIMUM OUTFLOW (   4369.) IN STORAGE-OUTFLOW TABLE
WARNING --- ROUTED OUTFLOW (   6368.) IS GREATER THAN MAXIMUM OUTFLOW (   4369.) IN STORAGE-OUTFLOW TABLE
WARNING --- ROUTED OUTFLOW (   6207.) IS GREATER THAN MAXIMUM OUTFLOW (   4369.) IN STORAGE-OUTFLOW TABLE
WARNING --- ROUTED OUTFLOW (   5840.) IS GREATER THAN MAXIMUM OUTFLOW (   4369.) IN STORAGE-OUTFLOW TABLE
WARNING --- ROUTED OUTFLOW (   5363.) IS GREATER THAN MAXIMUM OUTFLOW (   4369.) IN STORAGE-OUTFLOW TABLE
WARNING --- ROUTED OUTFLOW (   4849.) IS GREATER THAN MAXIMUM OUTFLOW (   4369.) IN STORAGE-OUTFLOW TABLE
WARNING --- ROUTED OUTFLOW (   4445.) IS GREATER THAN MAXIMUM OUTFLOW (   4369.) IN STORAGE-OUTFLOW TABLE
WARNING --- ROUTED OUTFLOW (   4920.) IS GREATER THAN MAXIMUM OUTFLOW (   4369.) IN STORAGE-OUTFLOW TABLE
WARNING --- ROUTED OUTFLOW (   5085.) IS GREATER THAN MAXIMUM OUTFLOW (   4369.) IN STORAGE-OUTFLOW TABLE
WARNING --- ROUTED OUTFLOW (   4992.) IS GREATER THAN MAXIMUM OUTFLOW (   4369.) IN STORAGE-OUTFLOW TABLE
WARNING --- ROUTED OUTFLOW (   4749.) IS GREATER THAN MAXIMUM OUTFLOW (   4369.) IN STORAGE-OUTFLOW TABLE
WARNING --- ROUTED OUTFLOW (   4425.) IS GREATER THAN MAXIMUM OUTFLOW (   4369.) IN STORAGE-OUTFLOW TABLE
WARNING --- ROUTED OUTFLOW (   4486.) IS GREATER THAN MAXIMUM OUTFLOW (   4369.) IN STORAGE-OUTFLOW TABLE
WARNING --- ROUTED OUTFLOW (   4882.) IS GREATER THAN MAXIMUM OUTFLOW (   4369.) IN STORAGE-OUTFLOW TABLE
WARNING --- ROUTED OUTFLOW (   5002.) IS GREATER THAN MAXIMUM OUTFLOW (   4369.) IN STORAGE-OUTFLOW TABLE
WARNING --- ROUTED OUTFLOW (   4901.) IS GREATER THAN MAXIMUM OUTFLOW (   4369.) IN STORAGE-OUTFLOW TABLE
WARNING --- ROUTED OUTFLOW (   4661.) IS GREATER THAN MAXIMUM OUTFLOW (   4369.) IN STORAGE-OUTFLOW TABLE
WARNING --- ROUTED OUTFLOW (   4511.) IS GREATER THAN MAXIMUM OUTFLOW (   4369.) IN STORAGE-OUTFLOW TABLE
WARNING --- ROUTED OUTFLOW (   4841.) IS GREATER THAN MAXIMUM OUTFLOW (   4369.) IN STORAGE-OUTFLOW TABLE
WARNING --- ROUTED OUTFLOW (   4926.) IS GREATER THAN MAXIMUM OUTFLOW (   4369.) IN STORAGE-OUTFLOW TABLE
WARNING --- ROUTED OUTFLOW (   4815.) IS GREATER THAN MAXIMUM OUTFLOW (   4369.) IN STORAGE-OUTFLOW TABLE
WARNING --- ROUTED OUTFLOW (   4573.) IS GREATER THAN MAXIMUM OUTFLOW (   4369.) IN STORAGE-OUTFLOW TABLE
-----DSS---ZWRITE Unit  71; Vers.    8:  /AWUSDHW/C228/FLOW/20FEB1903/5MIN/EXISTING/
-----DSS---ZWRITE Unit  71; Vers.    8:  /AWUSDHW/C228/FLOW/21FEB1903/5MIN/EXISTING/
-----DSS---ZWRITE Unit  71; Vers.    8:  /AWUSDHW/C228/FLOW/22FEB1903/5MIN/EXISTING/
-----DSS---ZWRITE Unit  71; Vers.    8:  /DHW+AW/C147/FLOW/20FEB1903/5MIN/EXISTING/
-----DSS---ZWRITE Unit  71; Vers.    8:  /DHW+AW/C147/FLOW/21FEB1903/5MIN/EXISTING/
-----DSS---ZWRITE Unit  71; Vers.    8:  /DHW+AW/C147/FLOW/22FEB1903/5MIN/EXISTING/
-----DSS---ZWRITE Unit  71; Vers.    8:  /PWUSRTW/C312R/FLOW/20FEB1903/5MIN/EXISTING/
-----DSS---ZWRITE Unit  71; Vers.    8:  /PWUSRTW/C312R/FLOW/21FEB1903/5MIN/EXISTING/
-----DSS---ZWRITE Unit  71; Vers.    8:  /PWUSRTW/C312R/FLOW/22FEB1903/5MIN/EXISTING/
-----DSS---ZWRITE Unit  71; Vers.    8:  /RTWUSPW/C312L/FLOW/20FEB1903/5MIN/EXISTING/
-----DSS---ZWRITE Unit  71; Vers.    8:  /RTWUSPW/C312L/FLOW/21FEB1903/5MIN/EXISTING/
-----DSS---ZWRITE Unit  71; Vers.    8:  /RTWUSPW/C312L/FLOW/22FEB1903/5MIN/EXISTING/
-----DSS---ZWRITE Unit  71; Vers.    8:  /PW+RTW/C312/FLOW/20FEB1903/5MIN/EXISTING/
-----DSS---ZWRITE Unit  71; Vers.    8:  /PW+RTW/C312/FLOW/21FEB1903/5MIN/EXISTING/
-----DSS---ZWRITE Unit  71; Vers.    8:  /PW+RTW/C312/FLOW/22FEB1903/5MIN/EXISTING/
-----DSS---ZWRITE Unit  71; Vers.    8:  /PW@CFH/C314/FLOW/20FEB1903/5MIN/EXISTING/
-----DSS---ZWRITE Unit  71; Vers.    8:  /PW@CFH/C314/FLOW/21FEB1903/5MIN/EXISTING/
-----DSS---ZWRITE Unit  71; Vers.    8:  /PW@CFH/C314/FLOW/22FEB1903/5MIN/EXISTING/
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-----DSS---ZWRITE Unit  71; Vers.    8:  /WBPW@CFH/C317/FLOW/20FEB1903/5MIN/EXISTING/
-----DSS---ZWRITE Unit  71; Vers.    8:  /WBPW@CFH/C317/FLOW/21FEB1903/5MIN/EXISTING/
-----DSS---ZWRITE Unit  71; Vers.    8:  /WBPW@CFH/C317/FLOW/22FEB1903/5MIN/EXISTING/
-----DSS---ZWRITE Unit  71; Vers.    8:  /PW+WBPW/C318/FLOW/20FEB1903/5MIN/EXISTING/
-----DSS---ZWRITE Unit  71; Vers.    8:  /PW+WBPW/C318/FLOW/21FEB1903/5MIN/EXISTING/
-----DSS---ZWRITE Unit  71; Vers.    8:  /PW+WBPW/C318/FLOW/22FEB1903/5MIN/EXISTING/
-----DSS---ZWRITE Unit  71; Vers.    8:  /PWUSAW/C319L/FLOW/20FEB1903/5MIN/EXISTING/
-----DSS---ZWRITE Unit  71; Vers.    8:  /PWUSAW/C319L/FLOW/21FEB1903/5MIN/EXISTING/
-----DSS---ZWRITE Unit  71; Vers.    8:  /PWUSAW/C319L/FLOW/22FEB1903/5MIN/EXISTING/
-----DSS---ZWRITE Unit  71; Vers.    8:  /AW+PW/C319/FLOW/20FEB1903/5MIN/EXISTING/
-----DSS---ZWRITE Unit  71; Vers.    8:  /AW+PW/C319/FLOW/21FEB1903/5MIN/EXISTING/
-----DSS---ZWRITE Unit  71; Vers.    8:  /AW+PW/C319/FLOW/22FEB1903/5MIN/EXISTING/

WARNING --- ROUTED OUTFLOW (  17198.) IS GREATER THAN MAXIMUM OUTFLOW (  16371.) IN STORAGE-OUTFLOW TABLE

WARNING --- ROUTED OUTFLOW (  17845.) IS GREATER THAN MAXIMUM OUTFLOW (  16371.) IN STORAGE-OUTFLOW TABLE

WARNING --- ROUTED OUTFLOW (  17902.) IS GREATER THAN MAXIMUM OUTFLOW (  16371.) IN STORAGE-OUTFLOW TABLE

WARNING --- ROUTED OUTFLOW (  17516.) IS GREATER THAN MAXIMUM OUTFLOW (  16371.) IN STORAGE-OUTFLOW TABLE

WARNING --- ROUTED OUTFLOW (  16872.) IS GREATER THAN MAXIMUM OUTFLOW (  16371.) IN STORAGE-OUTFLOW TABLE

WARNING --- ROUTED OUTFLOW (  16559.) IS GREATER THAN MAXIMUM OUTFLOW (  16371.) IN STORAGE-OUTFLOW TABLE

WARNING --- ROUTED OUTFLOW (  17496.) IS GREATER THAN MAXIMUM OUTFLOW (  16371.) IN STORAGE-OUTFLOW TABLE

WARNING --- ROUTED OUTFLOW (  17863.) IS GREATER THAN MAXIMUM OUTFLOW (  16371.) IN STORAGE-OUTFLOW TABLE

WARNING --- ROUTED OUTFLOW (  17713.) IS GREATER THAN MAXIMUM OUTFLOW (  16371.) IN STORAGE-OUTFLOW TABLE

WARNING --- ROUTED OUTFLOW (  17207.) IS GREATER THAN MAXIMUM OUTFLOW (  16371.) IN STORAGE-OUTFLOW TABLE

WARNING --- ROUTED OUTFLOW (  16438.) IS GREATER THAN MAXIMUM OUTFLOW (  16371.) IN STORAGE-OUTFLOW TABLE

WARNING --- ROUTED OUTFLOW (  16995.) IS GREATER THAN MAXIMUM OUTFLOW (  16371.) IN STORAGE-OUTFLOW TABLE

WARNING --- ROUTED OUTFLOW (  17662.) IS GREATER THAN MAXIMUM OUTFLOW (  16371.) IN STORAGE-OUTFLOW TABLE

WARNING --- ROUTED OUTFLOW (  17785.) IS GREATER THAN MAXIMUM OUTFLOW (  16371.) IN STORAGE-OUTFLOW TABLE

WARNING --- ROUTED OUTFLOW (  17468.) IS GREATER THAN MAXIMUM OUTFLOW (  16371.) IN STORAGE-OUTFLOW TABLE

WARNING --- ROUTED OUTFLOW (  16839.) IS GREATER THAN MAXIMUM OUTFLOW (  16371.) IN STORAGE-OUTFLOW TABLE

WARNING --- ROUTED OUTFLOW (  17303.) IS GREATER THAN MAXIMUM OUTFLOW (  16371.) IN STORAGE-OUTFLOW TABLE

WARNING --- ROUTED OUTFLOW (  17712.) IS GREATER THAN MAXIMUM OUTFLOW (  16371.) IN STORAGE-OUTFLOW TABLE

WARNING --- ROUTED OUTFLOW (  17629.) IS GREATER THAN MAXIMUM OUTFLOW (  16371.) IN STORAGE-OUTFLOW TABLE

WARNING --- ROUTED OUTFLOW (  17166.) IS GREATER THAN MAXIMUM OUTFLOW (  16371.) IN STORAGE-OUTFLOW TABLE

WARNING --- ROUTED OUTFLOW (  16394.) IS GREATER THAN MAXIMUM OUTFLOW (  16371.) IN STORAGE-OUTFLOW TABLE

WARNING --- ROUTED OUTFLOW (  16800.) IS GREATER THAN MAXIMUM OUTFLOW (  16371.) IN STORAGE-OUTFLOW TABLE

WARNING --- ROUTED OUTFLOW (  17489.) IS GREATER THAN MAXIMUM OUTFLOW (  16371.) IN STORAGE-OUTFLOW TABLE

WARNING --- ROUTED OUTFLOW (  17666.) IS GREATER THAN MAXIMUM OUTFLOW (  16371.) IN STORAGE-OUTFLOW TABLE

WARNING --- ROUTED OUTFLOW (  17405.) IS GREATER THAN MAXIMUM OUTFLOW (  16371.) IN STORAGE-OUTFLOW TABLE

WARNING --- ROUTED OUTFLOW (  16797.) IS GREATER THAN MAXIMUM OUTFLOW (  16371.) IN STORAGE-OUTFLOW TABLE

WARNING --- ROUTED OUTFLOW (  17119.) IS GREATER THAN MAXIMUM OUTFLOW (  16371.) IN STORAGE-OUTFLOW TABLE

WARNING --- ROUTED OUTFLOW (  17565.) IS GREATER THAN MAXIMUM OUTFLOW (  16371.) IN STORAGE-OUTFLOW TABLE

WARNING --- ROUTED OUTFLOW (  17536.) IS GREATER THAN MAXIMUM OUTFLOW (  16371.) IN STORAGE-OUTFLOW TABLE

WARNING --- ROUTED OUTFLOW (  17112.) IS GREATER THAN MAXIMUM OUTFLOW (  16371.) IN STORAGE-OUTFLOW TABLE

WARNING --- ROUTED OUTFLOW (  16608.) IS GREATER THAN MAXIMUM OUTFLOW (  16371.) IN STORAGE-OUTFLOW TABLE

WARNING --- ROUTED OUTFLOW (  17323.) IS GREATER THAN MAXIMUM OUTFLOW (  16371.) IN STORAGE-OUTFLOW TABLE

WARNING --- ROUTED OUTFLOW (  17545.) IS GREATER THAN MAXIMUM OUTFLOW (  16371.) IN STORAGE-OUTFLOW TABLE

WARNING --- ROUTED OUTFLOW (  17330.) IS GREATER THAN MAXIMUM OUTFLOW (  16371.) IN STORAGE-OUTFLOW TABLE

WARNING --- ROUTED OUTFLOW (  16749.) IS GREATER THAN MAXIMUM OUTFLOW (  16371.) IN STORAGE-OUTFLOW TABLE

WARNING --- ROUTED OUTFLOW (  16939.) IS GREATER THAN MAXIMUM OUTFLOW (  16371.) IN STORAGE-OUTFLOW TABLE

WARNING --- ROUTED OUTFLOW (  17421.) IS GREATER THAN MAXIMUM OUTFLOW (  16371.) IN STORAGE-OUTFLOW TABLE

WARNING --- ROUTED OUTFLOW (  17437.) IS GREATER THAN MAXIMUM OUTFLOW (  16371.) IN STORAGE-OUTFLOW TABLE

WARNING --- ROUTED OUTFLOW (  17050.) IS GREATER THAN MAXIMUM OUTFLOW (  16371.) IN STORAGE-OUTFLOW TABLE

WARNING --- ROUTED OUTFLOW (  16415.) IS GREATER THAN MAXIMUM OUTFLOW (  16371.) IN STORAGE-OUTFLOW TABLE

WARNING --- ROUTED OUTFLOW (  17160.) IS GREATER THAN MAXIMUM OUTFLOW (  16371.) IN STORAGE-OUTFLOW TABLE
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WARNING --- ROUTED OUTFLOW (  17422.) IS GREATER THAN MAXIMUM OUTFLOW (  16371.) IN STORAGE-OUTFLOW TABLE
WARNING --- ROUTED OUTFLOW (  17248.) IS GREATER THAN MAXIMUM OUTFLOW (  16371.) IN STORAGE-OUTFLOW TABLE
WARNING --- ROUTED OUTFLOW (  16700.) IS GREATER THAN MAXIMUM OUTFLOW (  16371.) IN STORAGE-OUTFLOW TABLE
WARNING --- ROUTED OUTFLOW (  16992.) IS GREATER THAN MAXIMUM OUTFLOW (  16371.) IN STORAGE-OUTFLOW TABLE
WARNING --- ROUTED OUTFLOW (  17648.) IS GREATER THAN MAXIMUM OUTFLOW (  16371.) IN STORAGE-OUTFLOW TABLE
WARNING --- ROUTED OUTFLOW (  17725.) IS GREATER THAN MAXIMUM OUTFLOW (  16371.) IN STORAGE-OUTFLOW TABLE
WARNING --- ROUTED OUTFLOW (  17366.) IS GREATER THAN MAXIMUM OUTFLOW (  16371.) IN STORAGE-OUTFLOW TABLE
WARNING --- ROUTED OUTFLOW (  16744.) IS GREATER THAN MAXIMUM OUTFLOW (  16371.) IN STORAGE-OUTFLOW TABLE
WARNING --- ROUTED OUTFLOW (  17295.) IS GREATER THAN MAXIMUM OUTFLOW (  16371.) IN STORAGE-OUTFLOW TABLE
WARNING --- ROUTED OUTFLOW (  17677.) IS GREATER THAN MAXIMUM OUTFLOW (  16371.) IN STORAGE-OUTFLOW TABLE
WARNING --- ROUTED OUTFLOW (  17549.) IS GREATER THAN MAXIMUM OUTFLOW (  16371.) IN STORAGE-OUTFLOW TABLE
WARNING --- ROUTED OUTFLOW (  17068.) IS GREATER THAN MAXIMUM OUTFLOW (  16371.) IN STORAGE-OUTFLOW TABLE
WARNING --- ROUTED OUTFLOW (  16792.) IS GREATER THAN MAXIMUM OUTFLOW (  16371.) IN STORAGE-OUTFLOW TABLE
WARNING --- ROUTED OUTFLOW (  17467.) IS GREATER THAN MAXIMUM OUTFLOW (  16371.) IN STORAGE-OUTFLOW TABLE
WARNING --- ROUTED OUTFLOW (  17609.) IS GREATER THAN MAXIMUM OUTFLOW (  16371.) IN STORAGE-OUTFLOW TABLE
WARNING --- ROUTED OUTFLOW (  17317.) IS GREATER THAN MAXIMUM OUTFLOW (  16371.) IN STORAGE-OUTFLOW TABLE
WARNING --- ROUTED OUTFLOW (  16708.) IS GREATER THAN MAXIMUM OUTFLOW (  16371.) IN STORAGE-OUTFLOW TABLE
WARNING --- ROUTED OUTFLOW (  17104.) IS GREATER THAN MAXIMUM OUTFLOW (  16371.) IN STORAGE-OUTFLOW TABLE
WARNING --- ROUTED OUTFLOW (  17527.) IS GREATER THAN MAXIMUM OUTFLOW (  16371.) IN STORAGE-OUTFLOW TABLE
WARNING --- ROUTED OUTFLOW (  17465.) IS GREATER THAN MAXIMUM OUTFLOW (  16371.) IN STORAGE-OUTFLOW TABLE
WARNING --- ROUTED OUTFLOW (  17024.) IS GREATER THAN MAXIMUM OUTFLOW (  16371.) IN STORAGE-OUTFLOW TABLE
WARNING --- ROUTED OUTFLOW (  16598.) IS GREATER THAN MAXIMUM OUTFLOW (  16371.) IN STORAGE-OUTFLOW TABLE
WARNING --- ROUTED OUTFLOW (  17297.) IS GREATER THAN MAXIMUM OUTFLOW (  16371.) IN STORAGE-OUTFLOW TABLE
WARNING --- ROUTED OUTFLOW (  17490.) IS GREATER THAN MAXIMUM OUTFLOW (  16371.) IN STORAGE-OUTFLOW TABLE
WARNING --- ROUTED OUTFLOW (  17251.) IS GREATER THAN MAXIMUM OUTFLOW (  16371.) IN STORAGE-OUTFLOW TABLE
WARNING --- ROUTED OUTFLOW (  16662.) IS GREATER THAN MAXIMUM OUTFLOW (  16371.) IN STORAGE-OUTFLOW TABLE
WARNING --- ROUTED OUTFLOW (  16921.) IS GREATER THAN MAXIMUM OUTFLOW (  16371.) IN STORAGE-OUTFLOW TABLE
WARNING --- ROUTED OUTFLOW (  17381.) IS GREATER THAN MAXIMUM OUTFLOW (  16371.) IN STORAGE-OUTFLOW TABLE
WARNING --- ROUTED OUTFLOW (  17371.) IS GREATER THAN MAXIMUM OUTFLOW (  16371.) IN STORAGE-OUTFLOW TABLE
WARNING --- ROUTED OUTFLOW (  16967.) IS GREATER THAN MAXIMUM OUTFLOW (  16371.) IN STORAGE-OUTFLOW TABLE
WARNING --- ROUTED OUTFLOW (  16405.) IS GREATER THAN MAXIMUM OUTFLOW (  16371.) IN STORAGE-OUTFLOW TABLE
WARNING --- ROUTED OUTFLOW (  17132.) IS GREATER THAN MAXIMUM OUTFLOW (  16371.) IN STORAGE-OUTFLOW TABLE
WARNING --- ROUTED OUTFLOW (  17370.) IS GREATER THAN MAXIMUM OUTFLOW (  16371.) IN STORAGE-OUTFLOW TABLE
WARNING --- ROUTED OUTFLOW (  17174.) IS GREATER THAN MAXIMUM OUTFLOW (  16371.) IN STORAGE-OUTFLOW TABLE
WARNING --- ROUTED OUTFLOW (  16612.) IS GREATER THAN MAXIMUM OUTFLOW (  16371.) IN STORAGE-OUTFLOW TABLE
WARNING --- ROUTED OUTFLOW (  16742.) IS GREATER THAN MAXIMUM OUTFLOW (  16371.) IN STORAGE-OUTFLOW TABLE
WARNING --- ROUTED OUTFLOW (  17237.) IS GREATER THAN MAXIMUM OUTFLOW (  16371.) IN STORAGE-OUTFLOW TABLE
WARNING --- ROUTED OUTFLOW (  17271.) IS GREATER THAN MAXIMUM OUTFLOW (  16371.) IN STORAGE-OUTFLOW TABLE
WARNING --- ROUTED OUTFLOW (  16903.) IS GREATER THAN MAXIMUM OUTFLOW (  16371.) IN STORAGE-OUTFLOW TABLE
WARNING --- ROUTED OUTFLOW (  16969.) IS GREATER THAN MAXIMUM OUTFLOW (  16371.) IN STORAGE-OUTFLOW TABLE
WARNING --- ROUTED OUTFLOW (  17247.) IS GREATER THAN MAXIMUM OUTFLOW (  16371.) IN STORAGE-OUTFLOW TABLE
WARNING --- ROUTED OUTFLOW (  17091.) IS GREATER THAN MAXIMUM OUTFLOW (  16371.) IN STORAGE-OUTFLOW TABLE
WARNING --- ROUTED OUTFLOW (  16561.) IS GREATER THAN MAXIMUM OUTFLOW (  16371.) IN STORAGE-OUTFLOW TABLE
-----DSS---ZWRITE Unit  71; Vers.    8:  /AW@POOL/C400/FLOW/20FEB1903/5MIN/EXISTING/
-----DSS---ZWRITE Unit  71; Vers.    8:  /AW@POOL/C400/FLOW/21FEB1903/5MIN/EXISTING/
-----DSS---ZWRITE Unit  71; Vers.    8:  /AW@POOL/C400/FLOW/22FEB1903/5MIN/EXISTING/
1
                                    RUNOFF SUMMARY
                              FLOW IN CUBIC FEET PER SECOND
                           TIME IN HOURS,  AREA IN SQUARE MILES

                                  PEAK   TIME OF     AVERAGE FLOW FOR MAXIMUM PERIOD      BASIN     MAXIMUM     TIME OF
        OPERATION        STATION   FLOW    PEAK                                          AREA      STAGE     MAX STAGE
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					6-HOUR	24-HOUR	72-HOUR	
+	HYDROGRAPH AT	S100	917.	4.08	87.	22.	21.	.34
+	ROUTED TO	100101	690.	4.33	87.	22.	21.	.34
+	HYDROGRAPH AT	S101	653.	4.17	75.	19.	18.	.30
+	2 COMBINED AT	C101	1187.	4.33	160.	40.	39.	.64
+	ROUTED TO	101CFH	690.	5.92	160.	40.	39.	.64
+	HYDROGRAPH AT	S102	943.	4.08	74.	19.	18.	.30
+	ROUTED TO	102103	858.	4.17	74.	19.	18.	.30
+	HYDROGRAPH AT	S103	355.	4.08	32.	8.	8.	.14
+	2 COMBINED AT	C103	1197.	4.17	105.	26.	25.	.44
+	ROUTED TO	103104	1150.	4.17	105.	26.	25.	.44
+	HYDROGRAPH AT	S104	214.	4.08	21.	5.	5.	.08
+	2 COMBINED AT	C104	1331.	4.17	126.	32.	30.	.52
+	ROUTED TO	104CFH	606.	5.67	125.	32.	30.	.52
+	HYDROGRAPH AT	S105	342.	4.17	48.	12.	12.	.16
+	ROUTED TO	105106	321.	4.33	48.	12.	12.	.16
+	HYDROGRAPH AT	S106	224.	4.17	32.	8.	8.	.11
+	2 COMBINED AT	C106	525.	4.25	80.	20.	19.	.27
+	ROUTED TO	106107	451.	4.58	80.	20.	19.	.27
+	HYDROGRAPH AT	S107	366.	4.17	52.	13.	13.	.19
+	2 COMBINED AT	C107	673.	4.42	132.	33.	32.	.45
+	ROUTED TO	107CFH	577.	5.08	132.	33.	32.	.45
+	HYDROGRAPH AT	S150	38.	4.00	3.	1.	1.	.01
+	HYDROGRAPH AT	S151	49.	4.00	4.	1.	1.	.02
+	HYDROGRAPH AT	S152	260.	4.08	19.	5.	4.	.09
+	DIVERSION TO	152O	59.	4.08	7.	2.	2.	.09
+	HYDROGRAPH AT	D152	201.	4.08	12.	3.	3.	.09
+	ROUTED TO	152153	199.	4.08	12.	3.	3.	.09
+	HYDROGRAPH AT	S153	33.	4.08	3.	1.	1.	.01
+	2 COMBINED AT	C153	232.	4.08	15.	4.	4.	.10
+	HYDROGRAPH AT	DR152	59.	4.08	7.	2.	2.	.09
+	4 COMBINED AT	C155	368.	4.08	28.	7.	7.	.13

+	4 COMBINED AT	DUMMY	1451.	5.83	430.	109.	105.	1.74
+	HYDROGRAPH AT	S122	358.	4.17	37.	9.	9.	.16
+	HYDROGRAPH AT	S123	363.	4.08	32.	8.	8.	.14
+	HYDROGRAPH AT	S124	195.	4.08	15.	4.	4.	.06
+	ROUTED TO	124125	171.	4.17	15.	4.	4.	.06
+	HYDROGRAPH AT	S125	354.	4.08	36.	9.	9.	.15
+	2 COMBINED AT	C125	497.	4.17	50.	13.	12.	.21
+	2 COMBINED AT	DUMMY	855.	4.08	82.	20.	20.	.34
+	3 COMBINED AT	DUMMY	1445.	5.83	540.	136.	131.	2.24
+	HYDROGRAPH AT	FLO2D	2034.	5.50	1004.	318.	306.	5.47
+	ROUTED TO	CFH127	2010.	5.58	1003.	317.	305.	5.47
+	HYDROGRAPH AT	S108	1075.	4.08	82.	21.	20.	.33
+	ROUTED TO	108109	952.	4.25	82.	21.	20.	.33
+	HYDROGRAPH AT	S109	817.	4.17	86.	21.	21.	.37
+	2 COMBINED AT	C109R	1633.	4.17	166.	42.	40.	.69
+	HYDROGRAPH AT	S110	354.	4.08	32.	8.	8.	.13
+	ROUTED TO	110111	273.	4.33	32.	8.	8.	.13
+	HYDROGRAPH AT	S111	711.	4.08	58.	15.	14.	.25
+	2 COMBINED AT	C111	803.	4.08	90.	22.	22.	.38
+	ROUTED TO	111109	632.	4.50	89.	22.	22.	.38
+	HYDROGRAPH AT	S112	1309.	4.17	140.	35.	34.	.57
+	2 COMBINED AT	C109C	1290.	4.25	224.	56.	54.	.95
+	HYDROGRAPH AT	S113	196.	4.17	22.	6.	5.	.11
+	ROUTED TO	113114	171.	4.33	22.	6.	5.	.11
+	HYDROGRAPH AT	S114	242.	4.17	25.	6.	6.	.11
+	2 COMBINED AT	C114	371.	4.17	47.	12.	11.	.22
+	ROUTED TO	114115	346.	4.42	47.	12.	11.	.22
+	HYDROGRAPH AT	S115	278.	4.25	40.	10.	10.	.16
+	2 COMBINED AT	C115	596.	4.33	87.	22.	21.	.37
+	ROUTED TO	115109	566.	4.42	87.	22.	21.	.37
+	3 COMBINED AT	C109	2676.	4.25	460.	116.	111.	2.02
+	ROUTED TO	109116	2484.	4.58	460.	116.	111.	2.02

+	HYDROGRAPH AT	S116	277.	4.33	44.	11.	11.	.22
+	2 COMBINED AT	C116R	2621.	4.58	497.	125.	120.	2.24
+	HYDROGRAPH AT	S117	427.	4.25	62.	16.	15.	.23
+	HYDROGRAPH AT	S118	210.	4.25	37.	9.	9.	.12
+	ROUTED TO	118119	199.	4.50	37.	9.	9.	.12
+	HYDROGRAPH AT	S119	483.	4.33	77.	19.	19.	.31
+	3 COMBINED AT	C116L	1012.	4.33	175.	44.	42.	.67
+	2 COMBINED AT	C116	3217.	4.58	660.	166.	160.	2.91
+	ROUTED TO	116120	3029.	4.83	660.	166.	160.	2.91
+	HYDROGRAPH AT	S120	364.	4.25	65.	16.	16.	.28
+	2 COMBINED AT	C120	3181.	4.83	716.	180.	174.	3.18
+	ROUTED TO	120127	3047.	5.08	716.	180.	174.	3.18
+	HYDROGRAPH AT	S121	322.	4.50	74.	19.	18.	.32
+	2 COMBINED AT	C127L	3191.	5.08	779.	196.	189.	3.50
+	HYDROGRAPH AT	S126	407.	4.08	29.	7.	7.	.13
+	ROUTED TO	126127	351.	4.17	29.	7.	7.	.13
+	HYDROGRAPH AT	S127	230.	4.08	19.	5.	5.	.09
+	2 COMBINED AT	C127R	553.	4.17	49.	12.	12.	.22
+	3 COMBINED AT	C127	4405.	5.33	1747.	510.	491.	9.19
+	ROUTED TO	127129	4372.	5.42	1742.	509.	490.	9.19
+	HYDROGRAPH AT	S128	309.	4.08	29.	7.	7.	.12
+	ROUTED TO	128129	238.	4.33	29.	7.	7.	.12
+	HYDROGRAPH AT	S129	394.	4.08	29.	7.	7.	.12
+	3 COMBINED AT	C129	4379.	5.42	1778.	521.	502.	9.43
+	ROUTED TO	129134	4364.	5.42	1776.	521.	502.	9.43
+	HYDROGRAPH AT	S130	89.	4.17	11.	3.	3.	.05
+	ROUTED TO	130134	83.	4.33	11.	3.	3.	.05
+	HYDROGRAPH AT	S131	205.	4.17	29.	7.	7.	.11
+	ROUTED TO	131132	175.	4.58	29.	7.	7.	.11
+	HYDROGRAPH AT	S132	340.	4.17	39.	10.	9.	.14
+	2 COMBINED AT	C132	450.	4.17	68.	17.	16.	.25
	ROUTED TO							

+		132133	395.	4.42	68.	17.	16.	.25
+	HYDROGRAPH AT	S133	235.	4.17	25.	6.	6.	.10
+	2 COMBINED AT	C133	521.	4.33	93.	23.	22.	.35
+	ROUTED TO	133134	487.	4.58	93.	23.	22.	.35
+	HYDROGRAPH AT	S134	185.	4.17	17.	4.	4.	.07
+	3 COMBINED AT	C134L	610.	4.42	120.	30.	29.	.48
+	2 COMBINED AT	C134	4527.	5.42	1875.	547.	527.	9.91
+	ROUTED TO	134139	4507.	5.50	1873.	546.	526.	9.91
+	HYDROGRAPH AT	S135	216.	4.08	17.	4.	4.	.07
+	ROUTED TO	135139	191.	4.08	17.	4.	4.	.07
+	HYDROGRAPH AT	S136	176.	4.17	17.	4.	4.	.08
+	3 COMBINED AT	C139R	4509.	5.50	1895.	553.	533.	10.05
+	HYDROGRAPH AT	S137	171.	4.17	21.	5.	5.	.08
+	ROUTED TO	137138	146.	4.50	21.	5.	5.	.08
+	HYDROGRAPH AT	S138	375.	4.33	71.	18.	17.	.27
+	2 COMBINED AT	C138	501.	4.42	91.	23.	22.	.35
+	ROUTED TO	138139	470.	4.67	91.	23.	22.	.35
+	HYDROGRAPH AT	S139	123.	4.17	12.	3.	3.	.07
+	2 COMBINED AT	C139L	503.	4.58	103.	26.	25.	.42
+	2 COMBINED AT	C139	4679.	5.50	1980.	575.	554.	10.47
+	ROUTED TO	139141	4665.	5.50	1979.	574.	553.	10.47
+	HYDROGRAPH AT	S140	432.	4.17	66.	17.	16.	.25
+	ROUTED TO	140141	389.	4.42	66.	17.	16.	.25
+	HYDROGRAPH AT	S141	215.	4.17	30.	8.	7.	.10
+	2 COMBINED AT	C141L	542.	4.42	96.	24.	23.	.35
+	HYDROGRAPH AT	S142	324.	4.17	34.	9.	8.	.14
+	ROUTED TO	142141	321.	4.17	34.	9.	8.	.14
+	3 COMBINED AT	C141I	4753.	5.50	2082.	603.	580.	10.96
+	ROUTED TO	141145	4716.	5.67	2080.	602.	579.	10.96
+	HYDROGRAPH AT	S143	410.	4.08	35.	9.	8.	.14
+	ROUTED TO	143144	328.	4.17	35.	9.	8.	.14
+	HYDROGRAPH AT	S144	293.	4.25	37.	9.	9.	.15

+	3 COMBINED AT	C145R	4722.	5.67	2131.	616.	594.	11.25
+	HYDROGRAPH AT	S145	406.	4.25	60.	15.	15.	.20
+	2 COMBINED AT	C145	4751.	5.67	2179.	630.	607.	11.46
+	ROUTED TO	145147	4627.	6.00	2170.	628.	605.	11.46
+	HYDROGRAPH AT	S147	1421.	4.25	155.	39.	37.	.67
+	2 COMBINED AT	C147R	4618.	6.00	2269.	659.	635.	12.13
+	HYDROGRAPH AT	S200	1256.	4.08	136.	34.	33.	.58
+	HYDROGRAPH AT	S201	2002.	4.08	200.	50.	48.	.79
+	2 COMBINED AT	C201	2727.	4.08	328.	82.	79.	1.37
+	ROUTED TO	201204	2739.	4.17	328.	82.	79.	1.37
+	HYDROGRAPH AT	S203	546.	4.00	39.	10.	9.	.17
+	2 COMBINED AT	C204L	2910.	4.17	364.	91.	88.	1.54
+	HYDROGRAPH AT	S204	852.	4.08	76.	19.	18.	.30
+	2 COMBINED AT	C204	3300.	4.17	434.	109.	105.	1.84
+	ROUTED TO	204206	3302.	4.17	434.	109.	105.	1.84
+	HYDROGRAPH AT	S205	112.	4.08	8.	2.	2.	.04
+	2 COMBINED AT	C206L	3340.	4.17	440.	110.	106.	1.88
+	HYDROGRAPH AT	S206	404.	4.08	31.	8.	8.	.15
+	2 COMBINED AT	C206	3489.	4.17	467.	117.	113.	2.02
+	ROUTED TO	206209	3409.	4.17	467.	117.	113.	2.02
+	HYDROGRAPH AT	S207	712.	4.08	49.	12.	12.	.25
+	2 COMBINED AT	C209L	3652.	4.17	507.	127.	123.	2.27
+	HYDROGRAPH AT	S208	927.	4.08	68.	17.	16.	.31
+	ROUTED TO	208209	869.	4.17	68.	17.	16.	.31
+	HYDROGRAPH AT	S209	169.	4.08	16.	4.	4.	.07
+	2 COMBINED AT	C209R	1029.	4.17	84.	21.	20.	.38
+	2 COMBINED AT	C209	4059.	4.17	580.	146.	140.	2.65
+	ROUTED TO	209215	3993.	4.25	580.	146.	140.	2.65
+	HYDROGRAPH AT	S210	820.	4.08	67.	17.	16.	.31
+	2 COMBINED AT	C215L	4288.	4.25	636.	160.	154.	2.96
+	HYDROGRAPH AT	S211	894.	4.08	67.	17.	16.	.27
+	ROUTED TO	211214	747.	4.17	67.	17.	16.	.27

+	HYDROGRAPH AT	S212	384.	4.17	35.	9.	9.	.18
+	2 COMBINED AT	C214L	1129.	4.17	102.	26.	25.	.45
+	HYDROGRAPH AT	S213	620.	4.08	51.	13.	12.	.24
+	HYDROGRAPH AT	S214	823.	4.08	80.	20.	19.	.33
+	3 COMBINED AT	C214	2094.	4.17	224.	56.	54.	1.02
+	ROUTED TO	214215	1928.	4.25	223.	56.	54.	1.02
+	HYDROGRAPH AT	S215	148.	4.08	14.	3.	3.	.06
+	2 COMBINED AT	C215R	1994.	4.25	236.	59.	57.	1.08
+	2 COMBINED AT	C215	5533.	4.25	838.	210.	202.	4.05
+	ROUTED TO	215216	5461.	4.33	837.	210.	202.	4.05
+	HYDROGRAPH AT	S216	1158.	4.08	90.	22.	22.	.37
+	2 COMBINED AT	C216	5782.	4.33	912.	229.	221.	4.41
+	ROUTED TO	216217	5516.	4.58	911.	229.	221.	4.41
+	HYDROGRAPH AT	S217	741.	4.25	86.	22.	21.	.36
+	2 COMBINED AT	C217R	5771.	4.58	983.	247.	238.	4.77
+	HYDROGRAPH AT	S218	1267.	4.08	97.	24.	23.	.39
+	ROUTED TO	218219	1081.	4.25	97.	24.	23.	.39
+	HYDROGRAPH AT	S219	719.	4.17	70.	17.	17.	.28
+	2 COMBINED AT	C219	1550.	4.25	164.	41.	40.	.67
+	HYDROGRAPH AT	S220	404.	4.17	41.	10.	10.	.17
+	2 COMBINED AT	C220	1790.	4.17	203.	51.	49.	.84
+	ROUTED TO	220217	1759.	4.25	203.	51.	49.	.84
+	2 COMBINED AT	C217	6369.	4.58	1152.	290.	280.	5.61
+	ROUTED TO	217221	6222.	4.67	1152.	290.	280.	5.61
+	HYDROGRAPH AT	S221	450.	4.25	60.	15.	14.	.23
+	2 COMBINED AT	C221	6376.	4.67	1203.	303.	292.	5.85
+	ROUTED TO	221222	5914.	5.00	1202.	303.	292.	5.85
+	HYDROGRAPH AT	S222	559.	4.25	69.	17.	17.	.27
+	2 COMBINED AT	C222	5984.	5.00	1261.	318.	306.	6.12
+	ROUTED TO	222227	5683.	5.17	1261.	318.	306.	6.12
+	HYDROGRAPH AT	S223	200.	4.17	22.	5.	5.	.09
	ROUTED TO							

+		223227	155.	4.42	22.	5.	5.	.09
+	HYDROGRAPH AT	S224	470.	4.17	43.	11.	10.	.21
+	3 COMBINED AT	C227L	5706.	5.17	1310.	330.	318.	6.42
+	HYDROGRAPH AT	S225	543.	4.33	95.	24.	23.	.31
+	ROUTED TO	225226	471.	4.67	95.	24.	23.	.31
+	HYDROGRAPH AT	S226	474.	4.25	58.	15.	14.	.25
+	2 COMBINED AT	C226	693.	4.50	153.	38.	37.	.56
+	ROUTED TO	226227	670.	4.75	153.	38.	37.	.56
+	HYDROGRAPH AT	S227	210.	4.17	28.	7.	7.	.11
+	2 COMBINED AT	C227R	735.	4.67	180.	45.	43.	.67
+	2 COMBINED AT	C227	6100.	5.17	1466.	369.	356.	7.09
+	ROUTED TO	227228	5808.	5.42	1465.	369.	356.	7.09
+	HYDROGRAPH AT	S228	421.	4.25	54.	13.	13.	.22
+	2 COMBINED AT	C228	5815.	5.42	1509.	380.	366.	7.32
+	ROUTED TO	228147	5757.	5.50	1509.	380.	366.	7.32
+	2 COMBINED AT	C147	8574.	5.75	3577.	992.	956.	19.45
+	ROUTED TO	147319	8576.	5.75	3577.	992.	955.	19.45
+	HYDROGRAPH AT	S300	1283.	4.17	124.	31.	30.	.50
+	HYDROGRAPH AT	S301	1393.	4.08	124.	31.	30.	.50
+	2 COMBINED AT	C301	2201.	4.08	241.	60.	58.	1.01
+	ROUTED TO	301302	2153.	4.17	241.	60.	58.	1.01
+	HYDROGRAPH AT	S302	621.	4.08	53.	13.	13.	.24
+	2 COMBINED AT	C302	2489.	4.17	289.	72.	70.	1.25
+	ROUTED TO	302303	2413.	4.25	288.	72.	70.	1.25
+	HYDROGRAPH AT	S303	360.	4.08	30.	7.	7.	.13
+	2 COMBINED AT	C303	2525.	4.25	315.	79.	76.	1.37
+	ROUTED TO	303312	2091.	4.58	315.	79.	76.	1.37
+	HYDROGRAPH AT	S304	194.	4.17	23.	6.	6.	.13
+	2 COMBINED AT	C312R	2139.	4.58	334.	84.	81.	1.50
+	HYDROGRAPH AT	S305	654.	4.08	51.	13.	12.	.23
+	ROUTED TO	305309	502.	4.25	51.	13.	12.	.23
+	HYDROGRAPH AT	S306	94.	4.17	9.	2.	2.	.05

+	HYDROGRAPH AT	S307	526.	4.08	46.	12.	11.	.21
+	ROUTED TO	307309	489.	4.17	46.	12.	11.	.21
+	3 COMBINED AT	C309R	1023.	4.17	106.	27.	26.	.49
+	HYDROGRAPH AT	S308	1279.	4.08	97.	24.	23.	.47
+	ROUTED TO	308309	956.	4.25	97.	24.	23.	.47
+	HYDROGRAPH AT	S309	456.	4.08	43.	11.	10.	.19
+	2 COMBINED AT	C309L	1238.	4.25	138.	35.	33.	.66
+	2 COMBINED AT	C309	1926.	4.25	234.	59.	56.	1.14
+	ROUTED TO	309310	1703.	4.42	234.	59.	56.	1.14
+	HYDROGRAPH AT	S310	1298.	4.17	146.	37.	35.	.55
+	2 COMBINED AT	C310	2260.	4.42	371.	93.	90.	1.70
+	DIVERSION TO	D310UO	375.	3.92	20.	5.	5.	1.70
+	HYDROGRAPH AT	D310U	2260.	4.42	351.	88.	85.	1.70
+	ROUTED TO	RR310	2074.	4.50	351.	88.	85.	1.70
+	DIVERSION TO	D310DO	79.	3.58	5.	1.	1.	1.70
+	HYDROGRAPH AT	D310D	2074.	4.50	347.	87.	84.	1.70
+	ROUTED TO	310312	2009.	4.58	347.	87.	84.	1.70
+	HYDROGRAPH AT	S311	191.	4.08	23.	6.	5.	.08
+	ROUTED TO	311312	161.	4.33	23.	6.	5.	.08
+	HYDROGRAPH AT	S312	346.	4.08	36.	9.	9.	.14
+	3 COMBINED AT	C312L	2164.	4.58	401.	100.	97.	1.91
+	2 COMBINED AT	C312	3795.	4.58	706.	177.	171.	3.42
+	ROUTED TO	312314	3761.	4.67	705.	177.	171.	3.42
+	HYDROGRAPH AT	S313	113.	4.17	15.	4.	4.	.05
+	ROUTED TO	313314	109.	4.25	15.	4.	4.	.05
+	HYDROGRAPH AT	S314	242.	4.08	20.	5.	5.	.09
+	3 COMBINED AT	C314	3828.	4.67	736.	185.	178.	3.56
+	ROUTED TO	314318	3734.	4.75	735.	185.	178.	3.56
+	HYDROGRAPH AT	S315	699.	4.08	61.	15.	15.	.24
+	ROUTED TO	315316	641.	4.17	61.	15.	15.	.24
+	HYDROGRAPH AT	S316	508.	4.17	54.	14.	13.	.22
+	2 COMBINED AT	C316	1148.	4.17	115.	29.	28.	.46

```
          ROUTED TO
+                        316317      827.   4.58        115.        29.        28.       .46
          HYDROGRAPH AT
+                          S317     1210.   4.25        143.        36.        34.       .60
          2 COMBINED AT
+                          C317     1589.   4.33        252.        63.        61.      1.07
          ROUTED TO
+                        317318     1461.   4.67        252.        63.        61.      1.07
          HYDROGRAPH AT
+                          S318      325.   4.17         35.         9.         8.       .16
          3 COMBINED AT
+                          C318     4858.   4.75        985.       247.       238.      4.78
          ROUTED TO
+                        318319     4458.   5.25        984.       247.       238.      4.78
          HYDROGRAPH AT
+                          S319     1057.   4.50        232.        58.        56.       .89
          2 COMBINED AT
+                         C319L     4864.   5.17       1190.       299.       288.      5.66
          2 COMBINED AT
+                          C319    11078.   5.50       4508.      1228.      1183.     25.11
          ROUTED TO
+                        319400    10714.   6.00       4494.      1222.      1177.     25.11
          HYDROGRAPH AT
+                          S400     1369.   4.75        416.       104.       101.      1.68
          2 COMBINED AT
+                          C400    11050.   6.00       4774.      1302.      1254.     26.79
          HYDROGRAPH AT
+                          S500      105.   4.08         12.         3.         3.       .04

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


   -----DSS---ZCLOSE Unit:  71,   File: DH1006E.DSS
            Pointer Utilization:   .25
            Number of Records:     45
            File Size:     89.1  Kbytes
            Percent Inactive:    .0
```

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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   14AUG03  TIME  15:56:15  *                    *          (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    DESERT HILLS AREA HYDROLOGY
          2           ID
          3           ID     JE FULLER / HYDROLOGY & GEOMORPHOLOGY, INC.
          4           ID     ADOBE DAM / DESERT HILLS ADMP
          5           ID     APRIL 2003  - KK RR310 revised 08-14-03
          6           ID
          7           ID     THIS IS THE 10-YEAR  6-HOUR MODEL FOR EXISTING CONDITIONS LAND USE
          8           ID
          9           ID    MODEL BASIS:
         10           ID     * DDMSW PROJECT NAME: DHA_EX6
         11           ID     * HYDROLOGY DEVELOPED FOR THE DESERT HILLS AREA FOR THE ADMP
         12           ID     * EXISTING CONDITIONS LAND USE BASED ON MAG LAND USE FILES PROVIDED
         13           ID       BY FCDMC AND UPDATED TO REFLECT EXTENT OF DEVELOPMENT AS SHOWN IN
         14           ID       THE FEB. 2002 AERIAL PHOTOGRAPHS FROM THE FCDMC
         15           ID     * PREFRE RAINFALL STATISTICS FROM NOAA ATLAS II
         16           ID     * MULTIPLE STORM (JD RECORDS) USED FOR CRITICAL STORM CENTERING
         17           ID     * RAINFALL LOSS COMPUTED USING GREEN & AMPT METHOD
         18           ID     * CLARK METHOD WAS USED FOR DEVELOPMENT OF UNIT HYDROGRAPHS
         19           ID     * MODIFIED PULS NORMAL-DEPTH ROUTING USED FOR CHANNEL ROUTINGS
         20           ID     * 10-YR COMPUTED BASED ON 0.35 RATIO OF 100-YEAR PER
         21           ID       DRAFT HYDROLOGY MANUAL (2003)
         22           ID
         23           ID     * A PORTION OF THE AREA WAS MODELED EXTERNALLY USING FLO-2D.
         24           ID
                      *DIAGRAM
         25           IT       5 21FEB03    0000     300
         26           IO       5
         27           IN      15
         28           JD    3.35    0.01
         29           PC   0.000   0.008   0.016   0.025   0.033   0.041   0.050   0.058   0.066   0.074
         30           PC   0.087   0.099   0.118   0.138   0.216   0.377   0.834   0.911   0.931   0.950
         31           PC   0.962   0.972   0.983   0.991   1.000
         32           JD   3.328    0.50
         33           PC   0.000   0.008   0.016   0.025   0.033   0.041   0.050   0.058   0.066   0.074
         34           PC   0.087   0.099   0.118   0.138   0.216   0.377   0.834   0.911   0.931   0.950
         35           PC   0.962   0.972   0.983   0.991   1.000
         36           JD   3.266    2.80
         37           PC   0.000   0.009   0.016   0.025   0.034   0.042   0.051   0.059   0.067   0.076
         38           PC   0.087   0.100   0.120   0.163   0.252   0.451   0.694   0.837   0.900   0.938
         39           PC   0.950   0.963   0.975   0.988   1.000
         40           JD   3.089    16.0
         41           PC   0.000   0.015   0.020   0.030   0.048   0.063   0.076   0.090   0.105   0.119
         42           PC   0.135   0.152   0.175   0.222   0.304   0.472   0.670   0.796   0.868   0.912
         43           PC   0.946   0.960   0.973   0.987   1.000
         44           JD   2.720    90.0
         45           PC   0.000   0.021   0.035   0.051   0.071   0.087   0.105   0.125   0.143   0.160
         46           PC   0.179   0.201   0.232   0.281   0.364   0.500   0.658   0.773   0.841   0.888
         47           PC   0.927   0.945   0.964   0.982   1.000
                      *

1                                          HEC-1 INPUT                                                PAGE  2

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

         48           KK    S100   BASIN
         49           KM    THIS IS THE FLOW IN DESERT LAKE WASH AT NEW RIVER ROAD ABOUT 900 FT NORTH
         50           KM    OF SADDLE MOUNTAIN ROAD
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51          BA   0.341            0.35
52          LG    0.34    0.15    7.30    0.12      25
53          UC   0.242   0.177
54          UA       0     3.0     5.0     8.0    12.0    20.0    43.0    75.0    90.0    96.0
55          UA     100
            *

56          KK  100101   ROUTE   REACH
57          KM    ROUTE RUNOFF FROM SUBBASIN S100 TO C101
58          KM    SLOPE = (1990-1910)/4970 = 0.016
59          KM     XS based on Desert Lake Wash XS 4.37 (Stanley Consultants, 1999)
60          RS       3    FLOW      -1
61          RC   0.075   0.055   0.075    4970  0.0160    0.00
62          RX  9930.4  9950.2  9992.1 10000.0 10017.0 10022.0 10078.0 10122.0
63          RY  1936.0  1932.6  1930.6  1928.5  1929.2  1930.7  1930.7  1936.0
            *

64          KK    S101   BASIN
65          BA   0.298            0.35
66          LG    0.32    0.15    9.70    0.05       4
67          UC   0.342   0.285
68          UA       0     3.0     5.0     8.0    12.0    20.0    43.0    75.0    90.0    96.0
69          UA     100
            *

70          KK    C101
71          KM   COMBINE RUNOFF FROM S101 WITH ROUTED FLOW FROM S100
72          KM   THIS IS THE TOTAL FLOW IN DESERT LAKE WASH AT DESERT HILLS DRIVE
73          KM    INFLOW TO FLO-2D AREA
74          HC       2
            *

75          KK  101CFH   ROUTE   REACH
76          KM    ROUTE COMBINED FLOW AT C101 TO CAREFREE HIGHWAY
77          KM    SLOPE = (1910-1775)/18272 = 0.0074
78          KM     XS IS HYPOTHETICAL; EVENTUALLY WILL BE REPLACED BY FLO-2D RESULTS
79          RS      19    FLOW      -1
80          RC   0.060   0.050   0.060   18272  0.0074    0.00
81          RX     0.0    10.0   110.0   120.0   135.0   145.0   245.0   255.0
82          RY   100.0    90.0    89.0    88.0    88.0    89.0    90.0   100.0
            *

83          KK    S102   BASIN
84          BA   0.298            0.35
85          LG    0.35    0.15    7.00    0.14      22
86          UC   0.196   0.114
87          UA       0     3.0     5.0     8.0    12.0    20.0    43.0    75.0    90.0    96.0
88          UA     100
            *
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LINE        ID.......1.......2.......3.......4.......5.......6.......7.......8.......9.......10

89          KK  102103   ROUTE   REACH
90          KM    ROUTE RUNOFF FROM SUBBASIN S102 TO C103
91          KM    SLOPE = (1995-1941)/2635 = 0.0205
92          KM     XS based on Desert Lake Wash Trib 2 XS 2.68 (Stanley Consultants, 1999)
93          RS       2    FLOW      -1
94          RC   0.075   0.055   0.075    2635  0.0205    0.00
95          RX  9989.2  9991.6  9995.7 10000.0 10019.0 10066.0 10119.0 10146.0
96          RY  1978.6  1976.0  1972.0  1968.0  1968.9  1972.0  1976.0  1978.5
            *

97          KK    S103   BASIN
98          BA   0.139            0.35
99          LG    0.33    0.15    7.00    0.13       4
100         UC   0.233   0.195
101         UA       0     3.0     5.0     8.0    12.0    20.0    43.0    75.0    90.0    96.0
102         UA     100
            *

103         KK    C103
104         KM    COMBINE RUNOFF FROM S103 WITH ROUTED FLOW FROM S102
105         KM    THIS IS THE FLOW IN DESERT LAKE WASH TRIB 2 AT DESERT HILLS DRIVE
106         HC       2
            *

107         KK  103104   ROUTE   REACH
108         KM    ROUTE COMBINED FLOW FROM C103 TO C104
109         KM    INFLOW TO FLO-2D AREA
110         KM    SLOPE = (1941-1920)/1290 = 0.016
111         KM     XS based on Desert Lake Wash Trib 2 XS 2.19 (Stanley Consultants, 1999)
112         RS       1    FLOW      -1
113         RC   0.075   0.055   0.075    1290  0.0160    0.00
114         RX  9842.3  9939.1  9975.0 10000.0 10010.0 10019.0 10029.0 10035.0
115         RY  1928.0  1924.9  1923.1  1920.2  1919.1  1923.0  1926.0  1928.0
            *

116         KK    S104   BASIN
117         BA   0.082            0.35
118         LG    0.31    0.15    8.80    0.06       8
119         UC   0.221   0.201
120         UA       0     4.5    12.6    23.2    35.8    50.0    64.2    76.8    87.4    95.5
121         UA     100
```

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                *
 122            KK    C104
 123            KM    COMBINE RUNOFF FROM S104 WITH ROUTED FLOW FROM C103
 124            KM    THIS IS THE TOTAL FLOW IN DESERT LAKE WASH TRIB 2 AT 10TH STREET
 125            KM    INFLOW TO FLO-2D AREA
 126            HC       2
                *
1                                          HEC-1 INPUT                                                    PAGE  4

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


 127            KK  104CFH   ROUTE   REACH
 128            KM    ROUTE COMBINED FLOW AT C104 TO CAREFREE HIGHWAY
 129            KM    SLOPE = (1920-1775)/17795 = 0.0081
 130            KM     XS IS HYPOTHETICAL; EVENTUALLY WILL BE REPLACED BY FLO-2D RESULTS
 131            RS      18    FLOW      -1
 132            RC   0.060   0.050   0.060   17795  0.0081    0.00
 133            RX     0.0    10.0   110.0   120.0   135.0   145.0   245.0   255.0
 134            RY   100.0    90.0    89.0    88.0    88.0    89.0    90.0   100.0
                *

 135            KK    S105   BASIN
 136            KM    THIS IS THE RUNOFF IN THE EAST FORK OF DESERT LAKE WASH AT 12TH STREET.
 137            BA   0.162            0.35
 138            LG    0.34    0.05   12.40    0.01       1
 139            UC   0.338   0.335
 140            UA       0     4.5    12.6    23.2    35.8    50.0    64.2    76.8    87.4    95.5
 141            UA     100
                *

 142            KK  105106   ROUTE   REACH
 143            KM    ROUTE RUNOFF FROM S105 TO C106
 144            KM    SLOPE = (1875-1855)/1600 = 0.0125
 145            KM     XS based on East Fork Desert Lake Wash XS 2.47 (Stanley Consultants, 1999)
 146            RS       2    FLOW      -1
 147            RC   0.060   0.050   0.060    1600  0.0125    0.00
 148            RX  9805.6  9964.1  9995.6 10000.0 10005.0 10010.0 10036.0 10140.0
 149            RY  1868.0  1864.0  1863.6  1862.2  1862.2  1863.3  1864.0  1868.0
                *

 150            KK    S106   BASIN
 151            BA   0.107            0.35
 152            LG    0.31    0.05   12.40    0.01       4
 153            UC   0.325   0.349
 154            UA       0     4.5    12.6    23.2    35.8    50.0    64.2    76.8    87.4    95.5
 155            UA     100
                *

 156            KK    C106
 157            KM    COMBINE RUNOFF FROM S106 WITH ROUTED FLOW FROM C105
 158            KM    THIS IS THE FLOW IN THE EAST FORK OF DESERT LAKE WASH AT JOY RANCH ROAD
 159            HC       2
                *

 160            KK  106107   ROUTE   REACH
 161            KM    ROUTE COMBINED FLOW FROM C106 TO C107
 162            KM    SLOPE = (1855-1831)/2882 = 0.0083
 163            KM     XS based on East Fork Desert Lake Wash XS 2.14 (Stanley Consultants, 1999)
 164            RS       3    FLOW      -1
 165            RC   0.075   0.055   0.075    2882  0.0083    0.00
 166            RX  9799.6  9956.2  9992.2 10000.0 10005.0 10010.0 10078.0 10191.0
 167            RY  1850.0  1848.0  1846.7  1844.0  1844.0  1846.6  1847.0  1850.0
                *
1                                          HEC-1 INPUT                                                    PAGE  5

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


 168            KK    S107   BASIN
 169            BA   0.186            0.35
 170            LG    0.31    0.10   11.20    0.02       4
 171            UC   0.413   0.370
 172            UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
 173            UA     100
                *

 174            KK    C107
 175            KM     COMBINE RUNOFF FROM S107 WITH ROUTED FLOW FROM C106
 176            KM     THIS IS THE FLOW IN THE EAST FORK OF DESERT LAKE WASH AT MADDOCK ROAD
 177            KM    INFLOW TO FLO-2D AREA
 178            HC       2
                *

 179            KK  107CFH   ROUTE   REACH
 180            KM    ROUTE COMBINED FLOW AT C107 TO CAREFREE HIGHWAY
 181            KM    SLOPE = (1831-1775)/8801 = 0.0064
 182            KM     XS IS HYPOTHETICAL; EVENTUALLY WILL BE REPLACED BY FLO-2D RESULTS
 183            RS       8    FLOW      -1
 184            RC   0.050   0.040   0.050    8801  0.0064    0.00
 185            RX     0.0    10.0   110.0   120.0   135.0   145.0   245.0   255.0
 186            RY   100.0    90.0    89.0    88.0    88.0    89.0    90.0   100.0
                *
```

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187          KK    S150   BASIN
188          KM     INFLOW TO FLO-2D AREA
189          BA   0.011            0.35
190          LG    0.35    0.13   10.10    0.04       2
191          UC   0.104   0.104
192          UA       0     4.5    12.6    23.2    35.8    50.0    64.2    76.8    87.4    95.5
193          UA     100
             *

194          KK    S151   BASIN
195          KM     INFLOW TO FLO-2D AREA
196          BA   0.017            0.35
197          LG    0.35    0.15    7.60    0.11       8
198          UC   0.129   0.149
199          UA       0     4.5    12.6    23.2    35.8    50.0    64.2    76.8    87.4    95.5
200          UA     100
             *

201          KK    S152   BASIN
202          BA   0.087            0.35
203          LG    0.35    0.19    6.60    0.17       5
204          UC   0.167   0.126
205          UA       0     3.0     5.0     8.0    12.0    20.0    43.0    75.0    90.0    96.0
206          UA     100
             *
1                                          HEC-1 INPUT                                          PAGE  6

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

207          KK    D152DIVERT
208          KM     DIVERT FLOW TO FLO-2D AREA UNDER CAREFREE HWY
209          KM     RATING BASED ON HY8 ANALYSIS (FILE: D152.INP)
210          DT    1520
211          DI       0      30     200     300
212          DQ       0      28      57      60
             *

213          KK  152153   ROUTE   REACH
214          KM    ROUTE RUNOFF FROM S152 TO C153 ALONG CAREFREE HWY
215          KM    SLOPE = (1846-1838)/616 = 0.013
216          KM    XS based on examination of 2002 FCD orthophotos and available 10 ft (FCD)
217          KM    and 2 ft contour data from Jerry Jones FDS and Stanley FDS mapping
218          RS       1    FLOW     -1
219          RC   0.030   0.030   0.060     616  0.0130    0.00
220          RX     0.0     1.0    31.0    43.0    48.0    60.0    80.0   100.0
221          RY   100.0    99.5    99.0    96.0    96.0    99.0    99.5   100.0
             *

222          KK    S153   BASIN
223          BA   0.012            0.35
224          LG    0.35    0.13   10.10    0.04       0
225          UC   0.158   0.177
226          UA       0     4.5    12.6    23.2    35.8    50.0    64.2    76.8    87.4    95.5
227          UA     100
             *

228          KK    C153
229          KM    COMBINE RUNOFF FROM S153 WITH ROUTED FLOW FROM S152
230          KM     INFLOW TO FLO-2D AREA
231          HC       2
             *

232          KK   DR152
233          KM    RETRIEVE DIVERTED FLOW INTO FLO-2D AREA AT D152
234          DR    1520
             *

235          KK    C155
236          KM    DUMMY COMBINATION OF ALL 150 SERIES SUBBASINS FOR ROUTING THROUGH
237          KM    FLO-2D AREA IN HEC-1 AND PRESERVATION OF TOTAL WATERSHED AREA
238          HC       4
             *

239          KK   DUMMY
240          KM    COMBINE 150 SERIES FLO-2D INFLOW HYDROGRAPHS WITH 100 SERIES FLO-2D
241          KM    INFLOW HYDROGRAPHS
242          HC       4
             *
1                                          HEC-1 INPUT                                          PAGE  7

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

243          KK    S122   BASIN
244          KM    THIS IS THE RUNOFF TO CENTRAL AVE JUST SOUTH OF CAREFREE HWY
245          BA   0.158            0.35
246          LG    0.35    0.15    7.30    0.13       9
247          UC   0.288   0.257
248          UA       0     3.0     5.0     8.0    12.0    20.0    43.0    75.0    90.0    96.0
249          UA     100
             *
             *  THE FOLLOWING ROUTING REACH REMOVED AS S122 RUNOFF IS NOW IMPORTED
             *  INTO FLO-2D MODEL TO ROUTE TO C127
             *
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```
                * KK122125   ROUTE   REACH
                * KM  ROUTE RUNOFF FROM S122 TO C125
                * KM  SLOPE = (1815-1788)/2616 = 0.010
                * KM  ROUTE ALONG SOUTH SIDE OF CAREFREE HWY
                * KM  XS based on examination of 2002 FCD orthophotos and available 10 ft (FCD)
                * KM  and 2 ft contour data from Jerry Jones FDS and Stanley FDS mapping
                * RS     2    FLOW      -1
                * RC 0.030   0.035   0.050    2616  0.0100    0.00
                * RX   0.0     1.0    31.0    46.0    56.0    64.0   100.0   200.0
                * RY 100.0    99.5    99.0    95.0    95.0    99.0    99.5   100.0
                *

250             KK    S123   BASIN
251             KM    THIS IS THE RUNOFF TO CENTRAL AVENUE ABOUT 300 FT SOUTH OF CAREFREE HWY
252             BA   0.135            0.35
253             LG    0.35    0.15    8.00    0.10       6
254             UC   0.217   0.183
255             UA       0     3.0     5.0     8.0    12.0    20.0    43.0    75.0    90.0    96.0
256             UA     100
                *
                *  FOLLWING ROUTING REMOVED AND RUNOFF IMPORTED INTO FLO-2D MODEL
                *  TO ROUTE TO C127
                *
                * KK123125   ROUTE   REACH
                * KM  ROUTE RUNOFF FROM S123 TO C125
                * KM  SLOPE = (1813-1788)/2704 = 0.009
                * KM  XS based on examination of 2002 FCD orthophotos and available 10 ft (FCD)
                * KM  and 2 ft contour data from Jerry Jones FDS and Stanley FDS mapping
                * RS     2    FLOW      -1
                * RC 0.030   0.035   0.050    2704  0.0090    0.00
                * RX   0.0     1.0    31.0    46.0    56.0    64.0   100.0   200.0
                * RY 100.0    99.5    99.0    95.0    95.0    99.0    99.5   100.0
                *

257             KK    S124   BASIN
258             KM    THIS IS THE RUNOFF TO CENTRAL AVENUE IN A WASH CROSSING ABOUT 1400 FT SOUTH
259             KM    OF CAREFEE HWY
260             BA   0.059            0.35
261             LG    0.34    0.15    8.80    0.07       9
262             UC   0.158   0.087
263             UA       0     3.0     5.0     8.0    12.0    20.0    43.0    75.0    90.0    96.0
264             UA     100
                *
1                                          HEC-1 INPUT                                          PAGE  8

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

265             KK  124125   ROUTE   REACH
266             KM    ROUTE RUNOFF FROM S124 TO C125
267             KM    SLOPE = (1820-1788)/3289 = 0.0097
268             KM    XS based on examination of 2002 FCD orthophotos and available 10 ft (FCD)
269             KM    and 2 ft contour data from Jerry Jones FDS and Stanley FDS mapping
270             RS       3    FLOW      -1
271             RC   0.050   0.040   0.050    3289  0.0097    0.00
272             RX     0.0    40.0    80.0    88.0    98.0   106.0   146.0   186.0
273             RY   100.0    96.0    92.0    90.0    90.0    92.0    96.0   100.0
                *

274             KK    S125   BASIN
275             BA   0.151            0.35
276             LG    0.33    0.15    7.30    0.12       9
277             UC   0.263   0.240
278             UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
279             UA     100
                *

280             KK    C125
281             KM     COMBINE RUNOFF FROM S125 WITH ROUTED FLOWS FROM S124.
282             KM    THIS FLOW IS INFLOW TO FLO-2D MODEL
283             HC       2
                *

284             KK   DUMMY
285             KM     COMBINE 120 SERIES HYDROGRAPHS WHICH WERE IMPORTED TO FLO-2D MODEL
286             HC       2
                *
                * KK125127   ROUTE   REACH
                * KM  ROUTE COMBINED FLOW FROM C125 TO C127 THROUGH SUBBASIN S127
                * KM  SLOPE = (1788-1770)/2429 = 0.0074
                * KM   XS based on "Jonathan Wash" XS 0.12 from Jerry Jones (JONA.DAT)
                * RS     2    FLOW      -1
                * RC 0.065   0.050   0.065    2429  0.0074    0.00
                * RX 10560 10620.0 10660.0 10670.0 10680.0 10810.0 11000.0 11200.0
                * RY1776.0  1774.0  1774.0  1770.0  1772.0  1774.0  1776.0  1778.0
                *
                *  Above routing removed based on revisions to FLO-2D model which import
                *  flow from S122 - S125
                *

287             KK   DUMMY
288             KM    COMBINE ALL DUMMY INFLOW HYDROGRAPHS TO FLO-2D AREA
289             HC       3
                *
```

```
290          KK   FLO2D
291          KM    THIS IS THE OUTFLOW HYDROGRAPH FROM THE FLO-2D MODELING OF THE DESERT LAKE
292          KM    WATERSHED AT CAREFREE HWY.
293          KM    THIS IS THE TOTAL FLOW IMMEDIATELY DOWNSTREAM OF CAREFREE HWY INCLUDING
294          KM    DESERT LAKE WASH AND THE EAST FORK OF DESERT LAKE WASH.
295          IN       5
296          BA    5.47
1                                        HEC-1 INPUT                                                    PAGE  9

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

297          QI       0       0       0       0       0       0       0       0       0       0
298          QI       0       0       0       0       0       0       0       0       0       0
299          QI       0       0       0       0       0       0       0       0       0       0
300          QI       0       0       0       0       0       0       0       0       0       0
301          QI       0       0       0       0       1       2       5      17      25      31
302          QI      64      88     128     163     196     233     279     335     391     416
303          QI     413     389     367     355     358     372     394     448     524     587
304          QI     631     658     671     674     671     663     650     636     620     602
305          QI     583     563     542     520     502     486     472     461     456     455
306          QI     457     459     461     458     452     443     432     419     404     389
307          QI     376     363     349     336     323     310     299     288     278     268
308          QI     258     248     240     231     223     219     213     199     194     188
309          QI     180     175     168     162     156     151     146     142     138     135
310          QI     131     128     106     125     104     121     101     119     118     110
311          QI      97      94      82      92      92       0       0       0       0       0
             *

312          KK  CFH127   ROUTE   REACH
313          KM    ROUTE COMBINED FLOWS AT CAREFREE HIGHWAY TO C127
314          KM    SLOPE = (1775-1770)/1234 = 0.004
315          KM     XS based on "Jonathan Wash" XS 0.12 from Jerry Jones (JONA.DAT)
316          RS       1    FLOW      -1
317          RC   0.065   0.050   0.065    1234  0.0040    0.00
318          RX   10560 10620.0 10660.0 10670.0 10680.0 10810.0 11000.0 11200.0
319          RY  1776.0  1774.0  1774.0  1770.0  1772.0  1774.0  1776.0  1778.0
             *

320          KK    S108   BASIN
321          BA   0.329            0.35
322          LG    0.35    0.15    8.80    0.07      12
323          UC   0.196   0.105
324          UA       0     3.0     5.0     8.0    12.0    20.0    43.0    75.0    90.0    96.0
325          UA     100
             *

326          KK  108109   ROUTE   REACH
327          KM    ROUTE RUNOFF FROM S108 TO C109
328          KM    SLOPE = (1915-1844)/5783 = 0.0123
329          KM     XS based on Desert Hills Wash Trib 5 XS 0.74 (Stanley Consultants, 1999)
330          RS       5    FLOW      -1
331          RC   0.050   0.040   0.050    5783  0.0123    0.00
332          RX     0.0    10.0   110.0   120.0   135.0   145.0   245.0   255.0
333          RY   100.0    90.0    89.0    84.0    84.0    89.0    90.0   100.0
             *

334          KK    S109   BASIN
335          BA   0.366            0.35
336          LG    0.34    0.15    8.40    0.08       1
337          UC   0.346   0.258
338          UA       0     3.0     5.0     8.0    12.0    20.0    43.0    75.0    90.0    96.0
339          UA     100
             *
1                                        HEC-1 INPUT                                                    PAGE 10

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

340          KK   C109R
341          KM    COMBINE RUNOFF FROM S109 WITH ROUTED FLOW FROM S108
342          KM    THIS IS THE FLOW IN DESERT HILLS WASH TRIB 5 ABOUT 900 FT DOWNSTREAM
343          KM    OF JOY RANCH ROAD.
344          HC       2
             *

345          KK    S110   BASIN
346          BA   0.132            0.35
347          LG    0.34    0.19    6.60    0.16      21
348          UC   0.208   0.182
349          UA       0     3.0     5.0     8.0    12.0    20.0    43.0    75.0    90.0    96.0
350          UA     100
             *

351          KK  110111   ROUTE   REACH
352          KM    ROUTE RUNOFF FROM S110 TO C111
353          KM    SLOPE = (1965-1895)/4457 = 0.0157
354          KM     XS based on Desert Hills Wash XS 5.57 (Stanley Consultants, 1999)
355          RS       4    FLOW      -1
356          RC   0.075   0.055   0.075    4457  0.0157    0.00
357          RX  9972.7  9988.0  9989.0 10000.0 10016.0 10061.0 10075.0 10092.0
358          RY  1926.0  1922.0  1921.7  1919.2  1920.8  1922.4  1924.0  1926.0
             *

359          KK    S111   BASIN
360          BA   0.248            0.35
```

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361          LG    0.35    0.15    8.00    0.10       7
362          UC   0.217   0.155
363          UA       0     3.0     5.0     8.0    12.0    20.0    43.0    75.0    90.0    96.0
364          UA     100
             *

365          KK    C111
366          KM    COMBINE RUNOFF FROM S111 WITH ROUTED FLOW FROM S110
367          KM    THIS IS THE FLOW IN DESERT HILLS WASH AT 20TH STREET
368          HC       2
             *

369          KK  111109   ROUTE   REACH
370          KM    ROUTE COMBINED FLOW FROM C111 THROUGH S112 TO C109
371          KM    SLOPE = (1895-1844)/5694 = 0.009
372          KM     XS based on Desert Hills Wash XS 4.68 (Jerry Jones, 1992)
373          RS       5    FLOW      -1
374          RC   0.070   0.055   0.070    5694  0.0090    0.00
375          RX  9938.7  9951.1  9979.0 10000.0100010.0 10054.0 10101.0 10114.0
376          RY  1872.0  1870.0  1868.0  1867.0  1867.0  1868.0  1870.0  1872.0
             *
1                                          HEC-1 INPUT                                          PAGE 11

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

377          KK    S112   BASIN
378          BA   0.567            0.35
379          LG    0.32    0.15    8.40    0.07       7
380          UC   0.325   0.243
381          UA       0     3.0     5.0     8.0    12.0    20.0    43.0    75.0    90.0    96.0
382          UA     100
             *

383          KK   C109C
384          KM     COMBINE RUNOFF FROM S112 WITH ROUTED FLOW FROM C111
385          KM    THIS IS THE FLOW IN DESERT HILLS WASH AT JOY RANCH ROAD
386          HC       2
             *

387          KK    S113   BASIN
388          BA   0.110            0.35
389          LG    0.33    0.23    6.20    0.18       2
390          UC   0.308   0.339
391          UA       0     4.5    12.6    23.2    35.8    50.0    64.2    76.8    87.4    95.5
392          UA     100
             *

393          KK  113114   ROUTE   REACH
394          KM    ROUTE RUNOFF FROM S113 TO C114
395          KM    SLOPE = (1950-1904)/3220 = 0.0143
396          KM     XS based on Desert Hills Wash Trib 6 XS 1.04 (Stanley Consultants, 1999)
397          RS       2    FLOW      -1
398          RC   0.075   0.055   0.075    3220  0.0143    0.00
399          RX  9888.8  9957.5  9990.9  9995.0 10005.0 10011.0 10030.0 10105.0
400          RY  1928.0  1926.0  1925.0  1923.0  1923.0  1925.0  1926.0  1928.0
             *

401          KK    S114   BASIN
402          BA   0.109            0.35
403          LG    0.35    0.15    8.00    0.10       0
404          UC   0.283   0.245
405          UA       0     4.5    12.6    23.2    35.8    50.0    64.2    76.8    87.4    95.5
406          UA     100
             *

407          KK    C114
408          KM    COMBINE RUNOFF S114 WITH ROUTED FLOW FROM S113
409          KM    THIS IS THE FLOW IN DESRT HILLS WASH TRIB 6 AT 20TH STREET
410          HC       2
             *

411          KK  114115   ROUTE   REACH
412          KM    ROUTE COMBINED FLOW FROM C114 TO C115
413          KM    SLOPE = (1904-1856)/3565 = 0.0135
414          KM     XS based on Desert Hills Wash Trib 6 XS 0.44 (Stanley Consultants, 1999)
415          RS       3    FLOW      -1
416          RC   0.075   0.055   0.075    3565  0.0135    0.00
417          RX  9896.0  9910.0  9953.8  9964.0 10000.0 10010.0 10023.0 10036.0
418          RY  1888.0  1886.5  1884.6  1882.9  1881.9  1884.0  1886.0  1888.0
             *
1                                          HEC-1 INPUT                                          PAGE 12

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

419          KK    S115   BASIN
420          BA   0.155            0.35
421          LG    0.32    0.13   10.10    0.04       3
422          UC   0.392   0.405
423          UA       0     4.5    12.6    23.2    35.8    50.0    64.2    76.8    87.4    95.5
424          UA     100
             *

425          KK    C115
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426          KM    COMBINE RUNOFF FROM S115 WITH ROUTED FLOWS FROM C114
427          KM    THIS IS THE FLOW IN DESERT HILLS WASH TRIB 6 AT 16TH STREET
428          HC       2
             *

429          KK  115109   ROUTE   REACH
430          KM    ROUTE COMBINED FLOW FROM C115 TO C109
431          KM    SLOPE = (1856-1844)/1415 = 0.0085
432          KM     XS based on Desert Hills Wash XS 4.23 (Jerry Jones, 1992)
433          RS       1    FLOW      -1
434          RC   0.065   0.050   0.065    1415  0.0085    0.00
435          RX  9824.9  9915.7  9966.2  9995.0 10005.0 10012.0 10018.0 10024.0
436          RY  1854.0  1850.0  1850.0  1846.4  1846.4  1850.0  1852.0  1854.0
             *

437          KK    C109
438          KM    COMBINE ROUTED FLOW FROM C115 WITH C109R AND C109C
439          KM    THIS IS THE TOTAL FLOW IN DESERT HILLS WASH ABOUT 900 FEET DOWNSTREAM
440          KM    OF JOY RANCH ROAD.
441          HC       3
             *

442          KK  109116   ROUTE   REACH
443          KM    ROUTE COMBINED FLOW FROM C109 TO C116
444          KM    SLOPE = (1844-1810)/4849 = 0.0070
445          KM     XS based on Desert Hills Wash XS 3.81 (Jerry Jones, 1992)
446          RS       4    FLOW      -1
447          RC   0.065   0.050   0.065    4849  0.0070    0.00
448          RX  9780.0  9808.0  9977.0  9988.0 10012.0 10042.0 10073.0 10110.0
449          RY  1838.0  1836.0  1834.0  1832.0  1832.0  1834.0  1836.0  1838.0
             *

450          KK    S116   BASIN
451          BA   0.224            0.35
452          LG    0.31    0.25    5.40    0.23       4
453          UC   0.533   0.523
454          UA       0     4.5    12.6    23.2    35.8    50.0    64.2    76.8    87.4    95.5
455          UA     100
             *
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LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

456          KK   C116R
457          KM    COMBINE RUNOFFF FROM S116 WITH ROUTED FLOW FROM C109
458          HC       2
             *

459          KK    S117   BASIN
460          BA   0.232            0.35
461          LG    0.31    0.13   10.10    0.03       4
462          UC   0.421   0.389
463          UA       0     4.5    12.6    23.2    35.8    50.0    64.2    76.8    87.4    95.5
464          UA     100
             *

465          KK    S118   BASIN
466          KM    THIS IS THE RUNOFF TO 20TH STREET IN AN UNNAMED TRIB TO DESERT HILLS WASH
467          BA   0.124            0.35
468          LG    0.32    0.05   12.40    0.01       3
469          UC   0.421   0.498
470          UA       0     4.5    12.6    23.2    35.8    50.0    64.2    76.8    87.4    95.5
471          UA     100
             *

472          KK  118119   ROUTE   REACH
473          KM    ROUTE RUNOFF FROM S118 TO C116
474          KM    SLOPE = (1887-1810)/5989 = 0.013
475          KM     XS based on Desert Hills Wash XS 4.23 (Jerry Jones, 1992)
476          RS       5    FLOW      -1
477          RC   0.050   0.040   0.050    5989  0.0130    0.00
478          RX  9955.6  9971.9  9990.8  9998.0 10002.0 10010.0 10064.0 10096.0
479          RY  1834.0  1832.0  1829.7  1827.5  1827.5  1830.4  1831.7  1834.0
             *

480          KK    S119   BASIN
481          BA   0.312            0.35
482          LG    0.31    0.15    8.80    0.06       4
483          UC   0.496   0.478
484          UA       0     4.5    12.6    23.2    35.8    50.0    64.2    76.8    87.4    95.5
485          UA     100
             *

486          KK   C116L
487          KM    COMBINE RUNOFF FROM S117 AND S119 WITH ROUTED FLOW FROM S118
488          HC       3
             *

489          KK    C116
490          KM     COMBINE C116L AND C116R.
491          KM    THIS IS THE TOTAL FLOW IN DESERT HILLS WASH AT CLOUD ROAD.
492          HC       2
             *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 493          KK  116120   ROUTE   REACH
 494          KM    ROUTE COMBINED FLOW FROM C116 TO C120
 495          KM    SLOPE = (1810-1786)/3945 = 0.006
 496          KM     XS based on Desert Hills Wash XS 2.61 (Jerry Jones, 1992)
 497          RS       4    FLOW      -1
 498          RC   0.065   0.050   0.065    3945  0.0060    0.00
 499          RX  9919.5  9983.3  9986.9  9995.0 10010.0 10020.0 10173.0 10556.0
 500          RY  1798.0  1796.0  1794.0  1790.0  1790.0  1794.0  1794.0  1796.0
              *

 501          KK    S120   BASIN
 502          BA   0.277            0.35
 503          LG    0.30    0.15    7.00    0.11       5
 504          UC   0.588   0.593
 505          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
 506          UA     100
              *

 507          KK    C120
 508          KM    COMBINE RUNOFF FROM S120 WITH ROUTED FLOW FROM C116
 509          HC       2
              *

 510          KK  120127   ROUTE   REACH
 511          KM    ROUTE COMBINED FLOW FROM C120 TO C127 THROUGH SUBBASIN S121
 512          KM    SLOPE = (1786-1770)/2909 = 0.0055
 513          KM     XS based on Desert Hills Wash XS 2.34 (Jerry Jones, 1992)
 514          RS       3    FLOW      -1
 515          RC   0.065   0.050   0.065    2909  0.0055    0.00
 516          RX  9570.0  9620.0  9990.0  9994.0 10006.0 10010.0 10160.0 10255.0
 517          RY  1788.0  1786.0  1784.0  1782.2  1782.2  1784.0  1786.0  1788.0
              *

 518          KK    S121   BASIN
 519          BA   0.316            0.35
 520          LG    0.31    0.15    7.30    0.11       5
 521          UC   0.700   0.823
 522          UA       0     4.5    12.6    23.2    35.8    50.0    64.2    76.8    87.4    95.5
 523          UA     100
              *

 524          KK   C127L
 525          KM    COMBINE ROUTED FLOW FROM C120 WITH RUNOFF FROM S121
 526          HC       2
              *

 527          KK    S126   BASIN
 528          KM    THIS IS THE RUNOFF AT 7TH STREET AT A CROSSINB ABOUT 1000 FT SOUTH OF
 529          KM    CAREFREE HWY.
 530          BA   0.131            0.35
 531          LG    0.34    0.23    6.20    0.19      17
 532          UC   0.196   0.107
 533          UA       0     3.0     5.0     8.0    12.0    20.0    43.0    75.0    90.0    96.0
 534          UA     100
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 535          KK  126127   ROUTE   REACH
 536          KM    ROUTE RUNOFF FROM S126 TO C127
 537          KM    SLOPE = (1798-1770)/2974 = 0.0094
 538          KM    XS based on examination of 2002 FCD orthophotos and available 10 ft (FCD)
 539          KM    and 2 ft contour data from Jerry Jones FDS and Stanley FDS mapping
 540          RS       2    FLOW      -1
 541          RC   0.050   0.040   0.050    2974  0.0094    0.00
 542          RX     0.0    40.0    80.0    88.0    98.0   106.0   146.0   186.0
 543          RY   100.0    96.0    92.0    90.0    90.0    92.0    96.0   100.0
              *

 544          KK    S127   BASIN
 545          BA   0.091            0.35
 546          LG    0.33    0.23    6.20    0.19       8
 547          UC   0.225   0.172
 548          UA       0     4.5    12.6    23.2    35.8    50.0    64.2    76.8    87.4    95.5
 549          UA     100
              *

 550          KK   C127R
 551          KM    COMBINE RUNOFF FROM S127 WITH ROUTED FLOWS FROM S126
 552          HC       2
              *

 553          KK    C127
 554          KM    COMBINE C127R & C127L WITH ROUTED FLOWS FROM CAREFREE HIGHWAY (FLO-2D AREA)
 555          KM    THIS IS THE TOTAL FLOW IN DESERT HILLS WASH COMBINED WITH DESERT LAKE WASH
 556          KM    AND THE EAST FORK OF DESERT LAKE WASH.
 557          HC       3
              *
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558          KK  127129   ROUTE   REACH
559          KM    ROUTE COMBINED FLOW FROM C127 TO C129 THROUGH SUBBASIN S129
560          KM    SLOPE = (1770-1764)/1296 = 0.0046
561          KM     XS based on Desert Hills Wash XS 1.72 from Jerry Jones (DTHL.DAT)
562          RS       1    FLOW      -1
563          RC   0.065   0.050   0.065    1296  0.0046    0.00
564          RX  9150.0  9330.0  9993.0  9995.0 10005.0 10016.0 10108.0 10255.0
565          RY  1774.0  1770.0  1768.0  1766.0  1766.0  1770.0  1770.0  1774.0
             *

566          KK    S128   BASIN
567          KM    THIS IS THE RUNOFF AT 10TH STREET IN A CROSSING ABOUT 1400 FT SOUTH OF
568          KM    CAREFREE HWY.
569          BA   0.116            0.35
570          LG    0.33    0.15    7.60    0.11      18
571          UC   0.213   0.195
572          UA       0     3.0     5.0     8.0    12.0    20.0    43.0    75.0    90.0    96.0
573          UA     100
             *
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LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

574          KK  128129   ROUTE   REACH
575          KM    ROUTE RUNOFF FROM S128 TO C129
576          KM    SLOPE = (1794-1764)/1924 = 0.0156
577          KM     XS based on Desert Hills Wash XS 1.72 from Jerry Jones (DTHL.DAT)
578          RS       2    FLOW      -1
579          RC   0.065   0.050   0.065    1924  0.0156    0.00
580          RX  9150.0  9330.0  9993.0  9995.0 10005.0 10016.0 10108.0 10255.0
581          RY  1774.0  1770.0  1768.0  1766.0  1766.0  1770.0  1770.0  1774.0
             *

582          KK    S129   BASIN
583          BA   0.122            0.35
584          LG    0.33    0.15    7.30    0.12      13
585          UC   0.167   0.103
586          UA       0     3.0     5.0     8.0    12.0    20.0    43.0    75.0    90.0    96.0
587          UA     100
             *

588          KK    C129
589          KM    COMBINE RUNOFF FROM S129 WITH ROUTED FLOWS FROM S128 AND C127
590          KM    THIS IS THE TOTAL FLOW IN DESERT HILLS WASH AT 12TH STREET
591          HC       3
             *

592          KK  129134   ROUTE   REACH
593          KM    ROUTE COMBINED FLOW FROM C129 TO C134 THROUGH SUBBASIN S134
594          KM    SLOPE = (1764-1762)/579 = 0.00345
595          KM     XS based on Desert Hills Wash XS 1.58 from Jerry Jones (DTHL.DAT)
596          RS       1    FLOW      -1
597          RC   0.065   0.050   0.065     579  0.0035    0.00
598          RX  9140.0  9490.0  9985.0  9993.0 10005.0 10013.0 10240.0 10585.0
599          RY  1770.0  1766.0  1766.0  1762.0  1762.0  1766.0  1766.0  1770.0
             *

600          KK    S130   BASIN
601          KM    THIS IS THE RUNOFF TO CAREFREE HWY FROM AN UNNAMED TRIB OF DESERT HILLS WASH
602          BA   0.052            0.35
603          LG    0.32    0.21    6.40    0.16       3
604          UC   0.333   0.376
605          UA       0     4.5    12.6    23.2    35.8    50.0    64.2    76.8    87.4    95.5
606          UA     100
             *

607          KK  130134   ROUTE   REACH
608          KM    ROUTE RUNOFF FROM S130 TO C134
609          KM    SLOPE = (1783-1762)/2075 = 0.010
610          KM    XS based on examination of 2002 FCD orthophotos and available 10 ft (FCD)
611          KM    and 2 ft contour data from Jerry Jones FDS and Stanley FDS mapping
612          RS       2    FLOW      -1
613          RC   0.050   0.040   0.050    2075  0.0100    0.00
614          RX     0.0    55.0   110.0   115.0   135.0   140.0   195.0   250.0
615          RY   100.0    98.0    96.0    95.0    95.0    96.0    98.0   100.0
             *
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LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

616          KK    S131   BASIN
617          KM    THIS IS THE RUNOFF TO CLOUD ROAD IN DESERT HILLS WASH TRIB 2
618          BA   0.108            0.35
619          LG    0.33    0.10   11.20    0.03       2
620          UC   0.358   0.377
621          UA       0     4.5    12.6    23.2    35.8    50.0    64.2    76.8    87.4    95.5
622          UA     100
             *

623          KK  131132   ROUTE   REACH
624          KM    ROUTE RUNOFF FROM S131 TO C132
625          KM    SLOPE = (1845-1808)/3449 = 0.0107
626          KM    XS based on examination of 2002 FCD orthophotos and available 10 ft (FCD)
```

```
 627          KM    and 2 ft contour data from Jerry Jones FDS and Stanley FDS mapping
 628          RS       4    FLOW      -1
 629          RC   0.065   0.050   0.065    3449  0.0107    0.00
 630          RX     0.0    70.0   140.0   147.0   153.0   160.0   230.0   300.0
 631          RY   100.0    99.0    98.0    96.0    96.0    98.0    99.0   100.0
              *

 632          KK    S132   BASIN
 633          BA   0.145            0.35
 634          LG    0.34    0.10   11.20    0.03       1
 635          UC   0.321   0.245
 636          UA       0     4.5    12.6    23.2    35.8    50.0    64.2    76.8    87.4    95.5
 637          UA     100
              *

 638          KK    C132
 639          KM    COMBINE RUNOFF FROM S132 WITH ROUTED FLOW FROM S131
 640          KM    THIS IS THE FLOW AT GALVIN STREET IN DESERT HILLS TRIB 2
 641          HC       2
              *

 642          KK  132133   ROUTE   REACH
 643          KM    ROUTE COMBINED FLOW FROM C132 TO C133
 644          KM    SLOPE = (1808-1780)/2909 = 0.0096
 645          KM     XS based on Desert Hills Wash Trib 2 XS 0.78 (Stanley Consultants, 1999)
 646          RS       3    FLOW      -1
 647          RC   0.065   0.050   0.065    2909  0.0096    0.00
 648          RX  9959.0  9976.0  9993.0  9999.0 10004.0 10010.0 10080.0 10115.0
 649          RY  1798.0  1797.0  1796.0  1795.0  1795.0  1796.3  1796.6  1798.0
              *

 650          KK    S133   BASIN
 651          BA   0.100            0.35
 652          LG    0.32    0.15    9.70    0.05       3
 653          UC   0.296   0.230
 654          UA       0     4.5    12.6    23.2    35.8    50.0    64.2    76.8    87.4    95.5
 655          UA     100
              *
1                                          HEC-1 INPUT                                          PAGE 18

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

 656          KK    C133
 657          KM    COMBINE RUNOFF FROM S133 WITH ROUTED FLOWS FROM C132 AT CAREFREE HWY
 658          KM    IN DESERT HILLS WASH TRIB 2
 659          HC       2
              *

 660          KK  133134   ROUTE   REACH
 661          KM    ROUTE COMBINED FLOW FROM C133 TO C134
 662          KM    SLOPE = (1780-1762)/2076 = 0.0087
 663          KM     XS based on Desert Hills Wash Trib 2 XS 0.20 (Stanley Consultants, 1999)
 664          RS       2    FLOW      -1
 665          RC   0.065   0.050   0.065    2076  0.0087    0.00
 666          RX  9873.0  9936.0  9993.0  9998.0 10004.0 10009.0 10043.0 10186.0
 667          RY  1774.0  1772.0  1770.0  1767.7  1767.7  1770.0  1770.7  1774.0
              *

 668          KK    S134   BASIN
 669          BA   0.073            0.35
 670          LG    0.33    0.15    7.30    0.12       5
 671          UC   0.258   0.190
 672          UA       0     3.0     5.0     8.0    12.0    20.0    43.0    75.0    90.0    96.0
 673          UA     100
              *

 674          KK   C134L
 675          KM    COMBINE RUNOFF FROM S134 WITH ROUTED FLOWS FROM S130 AND C133
 676          HC       3
              *

 677          KK    C134
 678          KM    COMBINE C134L WITH ROUTED FLOWS FROM C129
 679          KM    THIS IS THE TOTAL FLOW IN DESERT HILLS WASH ABOUT 600 FT DOWNSTEAM OF 12TH
 680          KM    STREET
 681          HC       2
              *

 682          KK  134139   ROUTE   REACH
 683          KM    ROUTE COMBINED FLOW FROM C134 TO C139 THROUGH S136
 684          KM    SLOPE = (1762-1757)/1214 = 0.0041
 685          KM     XS based on Desert Hills Wash XS 1.35 from Jerry Jones (DTHL.DAT)
 686          RS       2    FLOW      -1
 687          RC   0.065   0.050   0.065    1214  0.0041    0.00
 688          RX  9100.0  9325.0  9835.0  9845.0  9855.0  9865.0 10080.0 10670.0
 689          RY  1768.0  1764.0  1760.0  1756.0  1756.0  1760.0  1760.0  1770.0
              *

 690          KK    S135   BASIN
 691          KM    THIS IS THE RUNOFF TO PAINT YOUR WAGON TRAIL.
 692          BA   0.068            0.35
 693          LG    0.32    0.15    8.00    0.09      19
 694          UC   0.158   0.113
 695          UA       0     3.0     5.0     8.0    12.0    20.0    43.0    75.0    90.0    96.0
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696          UA     100
             *
1                                        HEC-1 INPUT                                                PAGE 19

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

697          KK  135139   ROUTE   REACH
698          KM    ROUTE RUNOFF FROM S135 TO C139
699          KM    SLOPE = (1771-1757)/1106 = 0.0127
700          KM     XS based on Desert Hills Wash XS 1.29 from Jerry Jones (DTHL.DAT)
701          RS       1    FLOW      -1
702          RC   0.065   0.050   0.065    1106  0.0127    0.00
703          RX  9340.0  9745.0  9960.0  9985.0 10025.0 10060.0 10115.0 10435.0
704          RY  1766.0  1760.0  1758.0  1756.0  1756.0  1758.0  1760.0  1766.0
             *

705          KK    S136   BASIN
706          BA   0.078            0.35
707          LG    0.31    0.25    5.70    0.21      13
708          UC   0.292   0.232
709          UA       0     3.0     5.0     8.0    12.0    20.0    43.0    75.0    90.0    96.0
710          UA     100
             *

711          KK   C139R
712          KM    COMBINE RUNOFF FROM S136 WITH ROUTED FLOWS FROM S135 AND C134
713          KM    THIS THE FLOW IN DESERT HILLS WASH AT 14TH STREET
714          HC       3
             *

715          KK    S137   BASIN
716          KM    THIS IS THE RUNOFF IN DESERT HILLS WASH TRIB 1 AT CLOUD ROAD
717          BA   0.084            0.35
718          LG    0.33    0.15    9.70    0.05       2
719          UC   0.321   0.323
720          UA       0     4.5    12.6    23.2    35.8    50.0    64.2    76.8    87.4    95.5
721          UA     100
             *

722          KK  137138   ROUTE   REACH
723          KM    ROUTE RUNOFF FROM S137 TO C138
724          KM    SLOPE = (1856-1786)/6568 = 0.0107
725          KM     XS based on Desert Hills Wash Trib 1 XS 1.08 (Stanley Consultants, 1999)
726          RS       6    FLOW      -1
727          RC   0.050   0.045   0.050    6568  0.0107    0.00
728          RX  9938.0  9960.0  9982.0  9993.0  9998.0 10009.0 10030.0 10064.0
729          RY  1812.0  1811.4  1810.7  1808.0  1808.0  1810.3  1811.0  1812.0
             *

730          KK    S138   BASIN
731          BA   0.266            0.35
732          LG    0.35    0.10   11.20    0.03       0
733          UC   0.533   0.590
734          UA       0     4.5    12.6    23.2    35.8    50.0    64.2    76.8    87.4    95.5
735          UA     100
             *
1                                        HEC-1 INPUT                                                PAGE 20

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

736          KK    C138
737          KM    COMBINE RUNOFF FROM S138 WITH ROUTED FLOWS FROM S137
738          KM    THIS IS THE FLOW IN DESERT HILLS WASH TRIB 1 AT CAREFREE HWY
739          HC       2
             *

740          KK  138139   ROUTE   REACH
741          KM    ROUTE COMBINED FLOWS FROM C138 TO C139
742          KM    SLOPE = (1786-1757)/2696 = 0.0108
743          KM     XS based on Desert Hills Wash Trib 1 XS 0.32 (Stanley Consultants, 1999)
744          RS       3    FLOW      -1
745          RC   0.050   0.045   0.050    2696  0.0108    0.00
746          RX  9729.0  9827.0  9996.0 10003.0 10009.0 10016.0 10088.0 10166.0
747          RY  1776.0  1773.0  1772.6  1771.6  1771.6  1772.8  1774.0  1776.0
             *

748          KK    S139   BASIN
749          BA   0.069            0.35
750          LG    0.35    0.25    4.65    0.38       0
751          UC   0.304   0.293
752          UA       0     3.0     5.0     8.0    12.0    20.0    43.0    75.0    90.0    96.0
753          UA     100
             *

754          KK   C139L
755          KM    COMBINE RUNOFF FROM S139 WITH ROUTED FLOW FROM C138
756          HC       2
             *

757          KK    C139
758          KM    COMBINE C139L AND C139R.  THIS IS THE TOTAL FLOW IN DESERT HILLS WASH
759          KM    AT C139 JUST DOWNSTREAM OF 14TH STREET
760          HC       2
```

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                *
 761            KK  139141   ROUTE   REACH
 762            KM    ROUTE COMBINED FLOWS FROM C139 TO C141I
 763            KM    SLOPE = (1757-1754)/696 = 0.0043
 764            KM     XS based on Desert Hills Wash XS 1.19 from Jerry Jones (DTHL.DAT)
 765            RS       1    FLOW      -1
 766            RC   0.065   0.050   0.065     696  0.0043    0.00
 767            RX  9820.0  9910.0  9986.0  9990.0 10012.0 10016.0 10120.0 10500.0
 768            RY  1762.0  1758.0  1756.0  1754.0  1754.0  1756.0  1756.0  1762.0
                *

 769            KK    S140   BASIN
 770            KM    THIS IS THE RUNOFF FROM AN UNNAMED TRIB OF DESERT HILLS WASH AT
 771            KM    CAREFREE HWY
 772            BA   0.249            0.35
 773            LG    0.35    0.10   11.20    0.03       0
 774            UC   0.458   0.432
 775            UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
 776            UA     100
                *
1                                          HEC-1 INPUT                                          PAGE 21

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

 777            KK  140141   ROUTE   REACH
 778            KM    ROUTE RUNOFF FROM S140 TO C141
 779            KM    SLOPE = (1790-1754)/3458 = 0.0104
 780            KM    XS based on examination of 2002 FCD orthophotos and available 10 ft (FCD)
 781            KM    and 2 ft contour data from Jerry Jones FDS and Stanley FDS mapping
 782            RS       3    FLOW      -1
 783            RC   0.050   0.040   0.050    3458  0.0104    0.00
 784            RX     0.0    45.0    85.0    90.0    95.0   100.0   140.0   185.0
 785            RY   100.0    98.0    97.0    95.0    95.0    97.0    98.0   100.0
                *

 786            KK    S141   BASIN
 787            BA   0.102            0.35
 788            LG    0.35    0.05   12.40    0.01       0
 789            UC   0.342   0.335
 790            UA       0     4.5    12.6    23.2    35.8    50.0    64.2    76.8    87.4    95.5
 791            UA     100
                *

 792            KK   C141L
 793            KM    COMBINE RUNOFF FROM S141 WITH ROUTED FLOWS FROM S140
 794            HC       2
                *

 795            KK    S142   BASIN
 796            BA   0.139            0.35
 797            LG    0.34    0.15    7.30    0.12      16
 798            UC   0.246   0.248
 799            UA       0     3.0     5.0     8.0    12.0    20.0    43.0    75.0    90.0    96.0
 800            UA     100
                *

 801            KK  142141   ROUTE   REACH
 802            KM    ROUTE RUNOFF FROM S141 TO C141I
 803            KM    SLOPE = (1766-1754)/611 = 0.0196
 804            KM    XS based on examination of 2002 FCD orthophotos and available 10 ft (FCD)
 805            KM    and 2 ft contour data from Jerry Jones FDS and Stanley FDS mapping
 806            RS       1    FLOW      -1
 807            RC   0.050   0.050   0.050     611  0.0196    0.00
 808            RX     0.0    50.0   100.0   103.0   107.0   110.0   160.0   210.0
 809            RY   100.0    99.0    98.0    96.0    96.0    98.0    99.0   100.0
                *

 810            KK   C141I
 811            KM    COMBINE ROUTED FLOW FROM S142 WITH C141L AND ROUTED FLOW FROM C139
 812            HC       3
                *

 813            KK  141145   ROUTE   REACH
 814            KM    ROUTE COMBINED FLOWS FROM C141I TO C145
 815            KM    SLOPE = (1754-1745)/1969 = 0.0046
 816            KM     XS based on Desert Hills Wash XS 0.90 from Jerry Jones (DTHL.DAT)
 817            RS       2    FLOW      -1
 818            RC   0.065   0.050   0.065    1969  0.0046    0.00
1                                          HEC-1 INPUT                                          PAGE 22

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

 819            RX  9698.3  9831.5  9950.5 10001.0 10012.0 10022.0 10235.0 10800.0
 820            RY  1758.0  1752.0  1751.0  1748.0  1748.0  1752.0  1752.0  1758.0
                *

 821            KK    S143   BASIN
 822            BA   0.138            0.35
 823            LG    0.33    0.15    8.80    0.07      13
 824            UC   0.221   0.146
 825            UA       0     3.0     5.0     8.0    12.0    20.0    43.0    75.0    90.0    96.0
 826            UA     100
                *
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827          KK  143144   ROUTE   REACH
828          KM    ROUTE RUNOFF FROM S143 TO C145
829          KM    SLOPE = (1767-1745)/1750 = 0.0126
830          KM    XS based on examination of 2002 FCD orthophotos and available 10 ft (FCD)
831          KM    and 2 ft contour data from Jerry Jones FDS and Stanley FDS mapping
832          RS       1    FLOW      -1
833          RC   0.050   0.050   0.050    1750  0.0126    0.00
834          RX     0.0    50.0   100.0   103.0   107.0   110.0   160.0   210.0
835          RY   100.0    99.0    98.0    96.0    96.0    98.0    99.0   100.0
             *

836          KK    S144   BASIN
837          BA   0.152            0.35
838          LG    0.32    0.15    8.00    0.09       8
839          UC   0.400   0.311
840          UA       0     4.5    12.6    23.2    35.8    50.0    64.2    76.8    87.4    95.5
841          UA     100
             *

842          KK   C145R
843          KM    COMBINE RUNOFF FROM S144 WITH ROUTED FLOWS FROM S143 AND C141I
844          HC       3
             *

845          KK    S145   BASIN
846          BA   0.204            0.35
847          LG    0.35    0.05   12.40    0.01       0
848          UC   0.408   0.355
849          UA       0     4.5    12.6    23.2    35.8    50.0    64.2    76.8    87.4    95.5
850          UA     100
             *

851          KK    C145
852          KM    COMBINE RUNOFF FROM S145 WITH C145L.
853          KM    THIS IS THE TOTAL FLOW IN DESERT HILLS WASH AT APPROX. 16TH ST ALIGNMENT
854          HC       2
             *
1                                          HEC-1 INPUT                                          PAGE 23

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

855          KK  145147   ROUTE   REACH
856          KM    ROUTE COMBINED FLOWS FROM C145 TO C147
857          KM    SLOPE = (1745-1732)/3886 = 0.0033
858          KM     XS based on Desert Hills Wash XS 0.56 from Jerry Jones (DTHL.DAT)
859          RS       4    FLOW      -1
860          RC   0.065   0.050   0.065    3886  0.0033    0.00
861          RX  8680.0  9475.0  9987.0  9996.0 10011.0 10020.0 10085.0 10465.0
862          RY  1752.0  1746.0  1744.0  1740.0  1740.0  1744.0  1744.0  1752.0
             *

863          KK    S147   BASIN
864          BA   0.673            0.35
865          LG    0.35    0.15    7.60    0.11       7
866          UC   0.371   0.241
867          UA       0     3.0     5.0     8.0    12.0    20.0    43.0    75.0    90.0    96.0
868          UA     100
             *

869          KK   C147R
870          KM    COMBINE RUNOFF FROM S147 WITH ROUTED FLOWS FROM C145
871          KM    THIS IS THE TOTAL FLOW IN DESERT HILLS WASH UPSTREAM OF APACHE WASH
872          HC       2
873          ZW      A=DHW  C=FLOW  F=EXISTING
             *

874          KK    S200   BASIN
875          BA   0.579            0.35
876          LG    0.35    0.15    7.60    0.11       9
877          UC   0.329   0.247
878          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
879          UA     100
             *

880          KK    S201   BASIN
881          BA   0.793            0.35
882          LG    0.35    0.15    7.00    0.14      28
883          UC   0.263   0.136
884          UA       0     3.0     5.0     8.0    12.0    20.0    43.0    75.0    90.0    96.0
885          UA     100
             *

886          KK    C201
887          KM    COMBINE RUNOFF FROM S200 AND S201
888          HC       2
             *

889          KK  201204   ROUTE   REACH
890          KM    ROUTE COMBINED FLOWS FROM C201 TO C204
891          KM    SLOPE = (2108-2060)/2164 = 0.0222
892          KM     XS based on Apache Wash XS 9.27 (Stanley Consultants, 1999)
893          RS       2    FLOW      -1
894          RC   0.080   0.055   0.080    2164  0.0222    0.00
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895          RX  9976.0  9981.0  9995.0 10000.0 10005.0 10022.0 10030.0 10035.0
896          RY  2082.0  2080.0  2074.0  2071.4  2072.0  2074.0  2080.0  2082.0
             *
1                                        HEC-1 INPUT                                                PAGE 24

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


897          KK    S203   BASIN
898          BA   0.167            0.35
899          LG    0.35    0.19    6.60    0.17      19
900          UC   0.154   0.075
901          UA       0     3.0     5.0     8.0    12.0    20.0    43.0    75.0    90.0    96.0
902          UA     100
             *

903          KK   C204L
904          KM    COMBINE RUNOFF FROM S203 WITH ROUTED FLOW FROM C201
905          KM    THIS IS THE FLOW IN APACHE WASH JUST DOWNSTREAM OF 32ND STREET ALIGNMENT
906          HC       2
             *

907          KK    S204   BASIN
908          BA   0.298            0.35
909          LG    0.35    0.15    7.00    0.14      27
910          UC   0.229   0.154
911          UA       0     3.0     5.0     8.0    12.0    20.0    43.0    75.0    90.0    96.0
912          UA     100
             *

913          KK    C204
914          KM    COMBINE RUNOFF FROM S204 WITH C203L
915          HC       2
             *

916          KK  204206   ROUTE   REACH
917          KM    ROUTE COMBINED FLOWS FROM C204 TO C206
918          KM    SLOPE = (2060-2042)/1209 = 0.0149
919          KM     XS based on Apache Wash XS 9.27 (Stanley Consultants, 1999)
920          RS       1    FLOW      -1
921          RC   0.080   0.055   0.080    1209  0.0149    0.00
922          RX  9961.0  9980.0  9986.0  9995.0 10010.0 10022.0 10080.0 10150.0
923          RY  2056.0  2050.0  2047.6  2044.4  2044.4  2048.0  2050.0  2054.0
             *

924          KK    S205   BASIN
925          BA   0.041            0.35
926          LG    0.35    0.25    5.70    0.24       2
927          UC   0.163   0.143
928          UA       0     3.0     5.0     8.0    12.0    20.0    43.0    75.0    90.0    96.0
929          UA     100
             *

930          KK   C206L
931          KM    COMBINE RUNOFF FROM S205 WITH ROUTED FLOWS FROM C204
932          HC       2
             *
1                                        HEC-1 INPUT                                                PAGE 25

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


933          KK    S206   BASIN
934          BA   0.146            0.35
935          LG    0.35    0.25    5.80    0.22      15
936          UC   0.196   0.150
937          UA       0     3.0     5.0     8.0    12.0    20.0    43.0    75.0    90.0    96.0
938          UA     100
             *

939          KK    C206
940          KM     COMBINE RUNOFF FROM S206 WITH COMBINED FLOWS AT C206L
941          HC       2
             *

942          KK  206209   ROUTE   REACH
943          KM    ROUTE COMBINED FLOWS FROM C206 TO C209
944          KM    SLOPE = (2042-2020)/1939 = 0.0113
945          KM     XS based on Apache Wash XS 8.68 (Stanley Consultants, 1999)
946          RS       2    FLOW      -1
947          RC   0.080   0.055   0.080    1939  0.0113    0.00
948          RX  9942.0  9966.0  9980.0  9990.0 10010.0 10020.0 10022.0 10035.0
949          RY  2034.0  2028.0  2028.0  2024.5  2024.5  2028.0  2030.0  2036.0
             *

950          KK    S207   BASIN
951          BA   0.251            0.35
952          LG    0.35    0.25    5.70    0.24       6
953          UC   0.204   0.128
954          UA       0     3.0     5.0     8.0    12.0    20.0    43.0    75.0    90.0    96.0
955          UA     100
             *

956          KK   C209L
957          KM    COMBINE RUNOFF FROM S207 WITH ROUTED FLOW FROM C206
```

```
 958          HC       2
              *

 959          KK    S208   BASIN
 960          BA   0.308            0.35
 961          LG    0.35    0.23    6.20    0.19      16
 962          UC   0.204   0.119
 963          UA       0     3.0     5.0     8.0    12.0    20.0    43.0    75.0    90.0    96.0
 964          UA     100
              *

 965          KK  208209   ROUTE   REACH
 966          KM    ROUTE RUNOFF FROM S208 TO C209
 967          KM    SLOPE = (2078-2020)/2633 = 0.022
 968          KM     XS based on Apache Wash Trib 4 XS 0.20 (Stanley Consultants, 1999)
 969          RS       2    FLOW      -1
 970          RC   0.080   0.055   0.080    2633  0.0220    0.00
 971          RX  9970.0  9978.0  9985.0  9987.0 10000.0 10015.0 10018.0 10022.0
 972          RY  2040.0  2038.0  2036.0  2034.7  2033.7  2036.0  2038.0  2040.0
              *
1                                          HEC-1 INPUT                                          PAGE 26

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

 973          KK    S209   BASIN
 974          BA   0.067            0.35
 975          LG    0.32    0.15    8.00    0.08       3
 976          UC   0.217   0.221
 977          UA       0     3.0     5.0     8.0    12.0    20.0    43.0    75.0    90.0    96.0
 978          UA     100
              *

 979          KK   C209R
 980          KM    COMBINE RUNOFF FROM S209 WITH ROUTED FLOW FROM S208
 981          HC       2
              *

 982          KK    C209
 983          KM    COMBINE C209R AND C209L.  TOTAL FLOW IN APACHE WASH JUST DOWNSTREAM
 984          KM    OF SADDLE MOUNTAIN ROAD
 985          HC       2
              *

 986          KK  209215   ROUTE   REACH
 987          KM    ROUTE COMBINED FLOWS FROM C209 TO C215
 988          KM    SLOPE = (2020-1992)/2036 = 0.0138
 989          KM     XS based on Apache Wash XS 8.31 (Stanley Consultants, 1999)
 990          RS       2    FLOW      -1
 991          RC   0.100   0.055   0.100    2036  0.0138    0.00
 992          RX  9960.0  9978.0  9984.0  9992.0 10012.0 10060.0 10260.0 10275.0
 993          RY  2012.0  2010.0  2006.0  2001.0  2001.0  2006.0  2010.0  2012.0
              *

 994          KK    S210   BASIN
 995          BA   0.315            0.35
 996          LG    0.34    0.21    6.40    0.17       6
 997          UC   0.238   0.169
 998          UA       0     3.0     5.0     8.0    12.0    20.0    43.0    75.0    90.0    96.0
 999          UA     100
              *

1000          KK   C215L
1001          KM     COMBINE RUNOFF FROM S210 WITH ROUTED FLOW FROM C209
1002          HC       2
              *

1003          KK    S211   BASIN
1004          BA   0.270            0.35
1005          LG    0.35    0.17    6.80    0.15      25
1006          UC   0.175   0.087
1007          UA       0     3.0     5.0     8.0    12.0    20.0    43.0    75.0    90.0    96.0
1008          UA     100
              *
1                                          HEC-1 INPUT                                          PAGE 27

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

1009          KK  211214   ROUTE   REACH
1010          KM    ROUTE RUNOFF FROM S211 TO C214 THROUGH S212
1011          KM    SLOPE = (2144-2019)/5218 = 0.024
1012          KM     XS based on West Fork Apache Wash XS 0.68 (Stanley Consultants, 1999)
1013          RS       3    FLOW      -1
1014          RC   0.075   0.055   0.075    5218   0.024    0.00
1015          RX  9990.0  9991.0  9992.0 10000.0 10027.0 10040.0 10106.0 10120.0
1016          RY  2056.0  2053.0  2050.0  2047.0  2048.7  2050.0  2052.9  2056.0
              *

1017          KK    S212   BASIN
1018          BA   0.182            0.35
1019          LG    0.34    0.25    5.70    0.22       2
1020          UC   0.263   0.249
1021          UA       0     3.0     5.0     8.0    12.0    20.0    43.0    75.0    90.0    96.0
1022          UA     100
```

```
                *
1023            KK   C214L
1024            KM     COMBINE RUNOFF FROM S212 WITH ROUTED FLOWS FROM S211
1025            HC       2
                *

1026            KK    S213   BASIN
1027            BA   0.243            0.35
1028            LG    0.35    0.25    6.00    0.21      11
1029            UC   0.225   0.173
1030            UA       0     3.0     5.0     8.0    12.0    20.0    43.0    75.0    90.0    96.0
1031            UA     100
                *

1032            KK    S214   BASIN
1033            BA   0.328            0.35
1034            LG    0.35    0.17    6.80    0.15      22
1035            UC   0.246   0.196
1036            UA       0     3.0     5.0     8.0    12.0    20.0    43.0    75.0    90.0    96.0
1037            UA     100
                *

1038            KK    C214
1039            KM    COMBINE RUNOFF FROM S213 & S214 WITH C214L
1040            KM    THIS IS THE TOTAL FLOW IN THE WEST BRANCH OF APACHE WASH JUST UPSTREAM
1041            KM    OF 26TH STREET
1042            HC       3
                *

1043            KK  214215   ROUTE   REACH
1044            KM    ROUTE COMBINED FLOWS FROM C214 TO C215
1045            KM    SLOPE = (2019-1992)/1801 = 0.0150
1046            KM     XS based on West Fork Apache Wash XS 0.34 (Jerry Jones, 1992) (APACHE.DAT)
1047            RS       1    FLOW      -1
1048            RC   0.100   0.055   0.100    1801  0.0150    0.00
1049            RX  9692.0  9862.0  9934.0  9991.0 10000.0 10002.0 10018.0 10038.0
1050            RY  2024.0  2016.0  2016.0  2014.0  2014.0  2016.0  2020.0  2024.0
                *
1                                          HEC-1 INPUT                                                    PAGE 28

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

1051            KK    S215   BASIN
1052            BA   0.058            0.35
1053            LG    0.32    0.15    7.60    0.10       3
1054            UC   0.213   0.211
1055            UA       0     3.0     5.0     8.0    12.0    20.0    43.0    75.0    90.0    96.0
1056            UA     100
                *

1057            KK   C215R
1058            KM    COMBINE RUNOFF FROM S215 WITH ROUTED FLOW FROM C214
1059            KM    THIS IS THE TOTAL FLOW OF THE (WEST BRANCH) AT ITS CONFLUENCE WITH
1060            KM    APACHE WASH.
1061            HC       2
                *

1062            KK    C215
1063            KM    COMBINE C215R AND C215L.  THIS IS THE TOTAL FLOW IN APACHE WASH
1064            KM    DOWNSTREAM OF THE (WEST BRANCH)
1065            HC       2
                *

1066            KK  215216   ROUTE   REACH
1067            KM    ROUTE COMBINED FLOWS FROM C215 TO C216
1068            KM    SLOPE = (1992-1965)/2088 = 0.0129
1069            KM     XS based on Apache Wash XS 7.84 (Jerry Jones, 1992) (APACHE.DAT)
1070            RS       2    FLOW      -1
1071            RC   0.050   0.040   0.050    2088  0.0129    0.00
1072            RX  9828.0  9916.0  9984.0  9995.0 10025.0 10036.0 10206.0 10222.0
1073            RY  1982.0  1976.0  1976.0  1974.0  1974.0  1978.0  1980.0  1982.0
                *

1074            KK    S216   BASIN
1075            BA   0.365            0.35
1076            LG    0.34    0.15    7.00    0.13      18
1077            UC   0.213   0.111
1078            UA       0     3.0     5.0     8.0    12.0    20.0    43.0    75.0    90.0    96.0
1079            UA     100
                *

1080            KK    C216
1081            KM     COMBINE RUNOFF FROM S216 WITH ROUTED FLOW FROM C215
1082            KM    THIS IS THE FLOW IN APACHE WASH AT BENTLEY MINE ROAD
1083            HC       2
                *

1084            KK  216217   ROUTE   REACH
1085            KM    ROUTE COMBINED FLOWS FROM C216 TO C217
1086            KM    SLOPE = (1965-1888)/7706 = 0.010
1087            KM     XS based on Apache Wash XS 7.55 (Jerry Jones, 1992) (APACHE.DAT)
1088            RS       7    FLOW      -1
1089            RC   0.100   0.055   0.100    7706  0.0100    0.00
```

```
1090          RX  9896.0  9930.0  9970.0  9992.0 10022.0 10025.0 10145.0 10183.0
1091          RY  1966.0  1962.0  1960.0  1956.0  1956.0  1958.0  1960.0  1966.0
              *
1                                        HEC-1 INPUT                                                    PAGE 29

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

1092          KK    S217   BASIN
1093          BA   0.363            0.35
1094          LG    0.34    0.15    7.60    0.11      10
1095          UC   0.342   0.312
1096          UA       0     3.0     5.0     8.0    12.0    20.0    43.0    75.0    90.0    96.0
1097          UA     100
              *

1098          KK   C217R
1099          KM    COMBINE RUNOFF FROM S217 WITH ROUTED FLOW FROM C216
1100          HC       2
              *

1101          KK    S218   BASIN
1102          BA   0.388            0.35
1103          LG    0.35    0.17    6.80    0.15      26
1104          UC   0.196   0.097
1105          UA       0     3.0     5.0     8.0    12.0    20.0    43.0    75.0    90.0    96.0
1106          UA     100
              *

1107          KK  218219   ROUTE   REACH
1108          KM    ROUTE RUNOFF FROM S218 TO C219
1109          KM    SLOPE = (2006-1899)/5923 = 0.0181
1110          KM     XS based on Apache Wash Trib 2 XS 0.55 (Stanley Consultants, 1999)
1111          RS       5    FLOW      -1
1112          RC   0.070   0.060   0.070    5923  0.0181    0.00
1113          RX  9940.0  9951.0  9954.0  9993.0 10000.0 10016.0 10028.0 10065.0
1114          RY  1940.0  1938.0  1937.4  1934.0  1933.5  1937.4  1938.0  1940.0
              *

1115          KK    S219   BASIN
1116          BA   0.284            0.35
1117          LG    0.35    0.17    6.80    0.15      23
1118          UC   0.258   0.190
1119          UA       0     3.0     5.0     8.0    12.0    20.0    43.0    75.0    90.0    96.0
1120          UA     100
              *

1121          KK    C219
1122          KM    COMBINE RUNOFF FROM S219 WITH ROUTED FLOW FROM S218
1123          HC       2
              *

1124          KK    S220   BASIN
1125          BA   0.168            0.35
1126          LG    0.34    0.15    7.60    0.11      14
1127          UC   0.242   0.225
1128          UA       0     3.0     5.0     8.0    12.0    20.0    43.0    75.0    90.0    96.0
1129          UA     100
              *
1                                        HEC-1 INPUT                                                    PAGE 30

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

1130          KK    C220
1131          KM     COMBINE RUNOFF FROM S220 WITH COMBINED FLOWS AT C219.
1132          KM     (FLOWS FROM C219 NOT ROUTED DUE TO VERY SHORT DISTANCE)
1133          HC       2
              *

1134          KK  220217   ROUTE   REACH
1135          KM    ROUTE COMBINED FLOWS FROM C220 TO C217
1136          KM    SLOPE = (1896-1888)/788 = 0.010
1137          KM     XS based on Apache Wash XS 6.25 (Jerry Jones, 1992) (APACHE.DAT)
1138          RS       1    FLOW      -1
1139          RC   0.065   0.050   0.065     788  0.0100    0.00
1140          RX  9911.0  9932.0  9962.0  9990.0 10015.0 10045.0 10268.0 10570.0
1141          RY  1898.0  1896.0  1892.0  1888.0  1888.0  1892.0  1892.0  1898.0
              *

1142          KK    C217
1143          KM     COMBINE ROUTED FLOWS FROM C220 WITH C217R
1144          KM     THIS IS THE TOTAL FLOW IN APACHE WASH AT MADDOCK ROAD.
1145          HC       2
              *

1146          KK  217221   ROUTE   REACH
1147          KM    ROUTE COMBINED FLOWS FROM C217 TO C221
1148          KM    SLOPE = (1888-1856)/3118 = 0.010
1149          KM     XS based on Apache Wash XS 6.09 (Jerry Jones, 1992) (APACHE.DAT)
1150          RS       3    FLOW      -1
1151          RC   0.065   0.050   0.065    3118  0.0100    0.00
1152          RX  9815.0  9890.0  9935.0  9972.0 10048.0 10070.0 10345.0 10380.0
1153          RY  1886.0  1884.0  1882.0  1879.5  1879.5  1882.0  1884.0  1886.0
              *
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```
1154          KK    S221   BASIN
1155          BA   0.232            0.35
1156          LG    0.32    0.13   10.10    0.04       3
1157          UC   0.404   0.338
1158          UA       0     4.5    12.6    23.2    35.8    50.0    64.2    76.8    87.4    95.5
1159          UA     100
              *

1160          KK    C221
1161          KM    COMBINE RUNOFF FROM S211 WITH ROUTED FLOWS FROM C217
1162          KM    THIS IS THE TOTAL FLOW IN APACHE WASH AT CLOUD ROAD.
1163          HC       2
1164          ZW      A=AW@CLOUD   C=FLOW   F=EXISTING
              *

1165          KK  221222   ROUTE   REACH
1166          KM    ROUTE COMBINED FLOWS FROM C221 TO C222
1167          KM    SLOPE = (1856-1805)/5489 = 0.0093
1168          KM     XS based on Apache Wash XS 5.15 (Jerry Jones, 1992) (APACHE.DAT)
1169          RS       4    FLOW      -1
1170          RC   0.065   0.050   0.065    5489  0.0093    0.00
1171          RX  9870.0  9945.0  9978.0  9987.0 10017.0 10025.0 10495.0 10522.0
1                                          HEC-1 INPUT                                          PAGE 31

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

1172          RY  1839.0  1838.0  1836.0  1830.0  1830.0  1834.0  1836.0  1838.0
              *

1173          KK    S222   BASIN
1174          BA   0.272            0.35
1175          LG    0.35    0.13   10.10    0.04       0
1176          UC   0.404   0.284
1177          UA       0     4.5    12.6    23.2    35.8    50.0    64.2    76.8    87.4    95.5
1178          UA     100
              *

1179          KK    C222
1180          KM     COMBINE RUNOFF FROM S222 WITH ROUTED FLOW FROM C221
1181          KM     THIS IS THE TOTAL FLOW IN APACHE WASH AT CAREFREE HWY
1182          HC       2
1183          ZW      A=AW@CFH   C=FLOW   F=EXISTING
              *

1184          KK  222227   ROUTE   REACH
1185          KM    ROUTE COMBINED FLOWS FROM C222 TO C227 THROUGH S224
1186          KM    SLOPE = (1805-1764)/4913 = 0.0083
1187          KM     XS based on Apache Wash XS 4.31 (Jerry Jones, 1992) (APACHE.DAT)
1188          RS       3    FLOW      -1
1189          RC   0.065   0.050   0.065    3886  0.0083    0.00
1190          RX  9771.0  9896.0  9980.0  9990.0 10010.0 10020.0 10055.0 10111.0
1191          RY  1796.0  1794.0  1792.0  1788.0  1788.0  1792.0  1794.0  1796.0
              *

1192          KK    S223   BASIN
1193          BA   0.091            0.35
1194          LG    0.35    0.15    8.80    0.07       0
1195          UC   0.304   0.261
1196          UA       0     4.5    12.6    23.2    35.8    50.0    64.2    76.8    87.4    95.5
1197          UA     100
              *

1198          KK  223227   ROUTE   REACH
1199          KM    ROUTE RUNOFF FROM S223 TO C227 THROUGH S224
1200          KM    SLOPE = (1804-1764)/3813 = 0.0105
1201          KM     XS based on Apache Wash West Chl XS 4.311 (Jerry Jones, 1992) (APACHE.DAT)
1202          RS       3    FLOW      -1
1203          RC   0.065   0.055   0.065    3813  0.0105    0.00
1204          RX  9400.0  9890.0  9945.0  9995.0 10005.0 10010.0 10150.0 10230.0
1205          RY  1796.0  1794.0  1794.0  1792.0  1792.0  1794.0  1794.0  1796.0
              *

1206          KK    S224   BASIN
1207          BA   0.214            0.35
1208          LG    0.35    0.21    6.40    0.18       0
1209          UC   0.346   0.227
1210          UA       0     3.0     5.0     8.0    12.0    20.0    43.0    75.0    90.0    96.0
1211          UA     100
              *
1                                          HEC-1 INPUT                                          PAGE 32

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

1212          KK   C227L
1213          KM    COMBINE RUNOFF FROM S224 WITH ROUTED FLOW FROM S223 AND C222
1214          HC       3
              *

1215          KK    S225   BASIN
1216          BA   0.315            0.35
1217          LG    0.31    0.05   12.40    0.01       4
1218          UC   0.483   0.453
1219          UA       0     4.5    12.6    23.2    35.8    50.0    64.2    76.8    87.4    95.5
```

```
1220          UA     100
              *

1221          KK  225226   ROUTE   REACH
1222          KM    ROUTE RUNOFF FROM S225 TO C226
1223          KM    SLOPE = (1856-1798)/5803 = 0.010
1224          KM     XS based on Apache Wash Trib 1 XS 1.14 (Stanley Consultants, 1999)
1225          RS       4    FLOW      -1
1226          RC   0.065   0.045   0.065    5803  0.0100    0.00
1227          RX  9926.0  9946.0  9990.0  9997.0 10005.0 10012.0 10034.0 10058.0
1228          RY  1818.0  1815.0  1816.0  1813.6  1813.6  1816.0  1816.7  1818.0
              *

1229          KK    S226   BASIN
1230          BA   0.248            0.35
1231          LG    0.35    0.15    8.80    0.07       0
1232          UC   0.400   0.317
1233          UA       0     4.5    12.6    23.2    35.8    50.0    64.2    76.8    87.4    95.5
1234          UA     100
              *

1235          KK    C226
1236          KM     COMBINE RUNOFF FROM S226 WITH ROUTED FLOWS FROM S225
1237          HC       2
              *

1238          KK  226227   ROUTE   REACH
1239          KM    ROUTE COMBINED FLOWS FROM C226 TO C227
1240          KM    SLOPE = (1798-1764)/3752 = 0.0091
1241          KM     XS based on Apache Wash Trib 1 XS 0.42 (Stanley Consultants, 1999)
1242          RS       4    FLOW      -1
1243          RC   0.065   0.045   0.065    3752  0.0091    0.00
1244          RX  9917.0  9976.0  9990.0  9998.0 10004.0 10012.0 10045.0 10078.0
1245          RY  1784.0  1782.7  1782.5  1779.6  1779.6  1782.0  1783.0  1784.0
              *

1246          KK    S227   BASIN
1247          BA   0.106            0.35
1248          LG    0.35    0.10   11.20    0.03       0
1249          UC   0.358   0.345
1250          UA       0     4.5    12.6    23.2    35.8    50.0    64.2    76.8    87.4    95.5
1251          UA     100
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1252          KK   C227R
1253          KM    COMBINE RUNOFF FROM S227 WITH ROUTED FLOWS FROM C226
1254          HC       2
              *

1255          KK    C227
1256          KM     COMBINE FLOWS FROM C227R AND C227L
1257          KM     THIS IS THE TOTAL FLOW IN APACHE WASH AT C227.
1258          HC       2
              *

1259          KK  227228   ROUTE   REACH
1260          KM    ROUTE COMBINED FLOWS FROM C227 TO C228
1261          KM    SLOPE = (1764-1740)/3336 = 0.0072
1262          KM     XS based on Apache Wash XS 3.32 (Jerry Jones, 1992) (APACHE.DAT)
1263          RS       3    FLOW      -1
1264          RC   0.065   0.050   0.065    3336  0.0072    0.00
1265          RX  9600.0  9725.0  9955.0  9972.0 10002.0 10020.0 10240.0 10900.0
1266          RY  1758.0  1754.0  1754.0  1750.0  1750.0  1754.0  1754.0  1758.0
              *

1267          KK    S228   BASIN
1268          BA   0.225            0.35
1269          LG    0.35    0.15    9.70    0.06       0
1270          UC   0.413   0.339
1271          UA       0     4.5    12.6    23.2    35.8    50.0    64.2    76.8    87.4    95.5
1272          UA     100
              *

1273          KK    C228
1274          KM     COMBINE RUNOFF FROM S228 WITH ROUTED FLOWS FROM C227
1275          KM     THIS IS THE TOTAL FLOW IN APACHE WASH UPSTREAM OF ITS CONFLUENCE
1276          KM     WITH DESERT HILLS WASH.
1277          HC       2
1278          ZW       A=AWUSDHW   C=FLOW   F=EXISTING
              *

1279          KK  228147   ROUTE   REACH
1280          KM    ROUTE COMBINED FLOWS FROM C228 TO C147
1281          KM    SLOPE = (1740-1732)/1190 = 0.0067
1282          KM     XS based on Apache Wash XS 2.97 (Jerry Jones, 1992) (APACHE.DAT)
1283          RS       1    FLOW      -1
1284          RC   0.065   0.050   0.065    1190  0.0067    0.00
1285          RX  8920.0  8990.0  9000.0  9040.0  9060.0  9065.0  9170.0  9365.0
1286          RY  1752.0  1746.0  1744.0  1738.0  1738.0  1742.0  1742.0  1744.0
              *
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```
1287          KK    C147
1288          KM     COMBINE FLOWS FROM DESERT HILLS WASH WITH FLOWS FROM APACHE WASH
1289          HC       2
1290          ZW      A=DHW+AW    C=FLOW     F=EXISTING
              *
1                                          HEC-1 INPUT                                                    PAGE 34

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


1291          KK  147319   ROUTE   REACH
1292          KM    ROUTE COMBINED FLOWS FROM DESERT HILLS AND APACHE WASHES
1293          KM    TO CONFLUENCE WITH PARADISE WASH
1294          KM    SLOPE = (1732-1727)/939 = 0.0053
1295          KM     XS based on Apache Wash XS 2.73 from Jerry Jones (APACHE.DAT)
1296          RS       1    FLOW      -1
1297          RC   0.065   0.050   0.065     939  0.0053    0.00
1298          RX  9756.0  9812.0  9972.0  9986.0 10020.0 10036.0 10071.0 10130.0
1299          RY  1740.0  1736.0  1732.0  1728.0  1728.0  1732.0  1734.0  1740.0
              *

1300          KK    S300   BASIN
1301          BA   0.503            0.35
1302          LG    0.35    0.17    6.80    0.15      24
1303          UC   0.267   0.188
1304          UA       0     3.0     5.0     8.0    12.0    20.0    43.0    75.0    90.0    96.0
1305          UA     100
              *

1306          KK    S301   BASIN
1307          BA   0.504            0.35
1308          LG    0.35    0.17    6.80    0.15      23
1309          UC   0.250   0.151
1310          UA       0     3.0     5.0     8.0    12.0    20.0    43.0    75.0    90.0    96.0
1311          UA     100
              *

1312          KK    C301
1313          KM     COMBINE RUNOFF FROM S300 AND S301
1314          HC       2
              *

1315          KK  301302   ROUTE   REACH
1316          KM    ROUTE COMBINED FLOWS FROM C301 TO C302
1317          KM    SLOPE = (1980-1926)/2988 = 0.018
1318          KM     XS based on Paradise Wash XS 3.84 from Jerry Jones (PARADFCD.DAT)
1319          RS       2    FLOW      -1
1320          RC   0.070   0.055   0.070    2988  0.0180    0.00
1321          RX  9934.0  9962.0  9987.0  9996.0 10004.0 10010.0 10027.0 10045.0
1322          RY  1952.0  1946.0  1940.0  1938.0  1938.0  1940.0  1946.0  1952.0
              *

1323          KK    S302   BASIN
1324          BA   0.239            0.35
1325          LG    0.35    0.23    6.20    0.20      17
1326          UC   0.242   0.166
1327          UA       0     3.0     5.0     8.0    12.0    20.0    43.0    75.0    90.0    96.0
1328          UA     100
              *
1                                          HEC-1 INPUT                                                    PAGE 35

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


1329          KK    C302
1330          KM     COMBINE RUNOFF FROM S302 WITH ROUTED FLOWS FROM C301
1331          HC       2
              *

1332          KK  302303   ROUTE   REACH
1333          KM    ROUTE COMBINED FLOWS FROM C302 TO C303
1334          KM    SLOPE = (1926-1895)/2671 = 0.0116
1335          KM     XS based on Paradise Wash XS 3.40 from Jerry Jones (PARADFCD.DAT)
1336          RS       2    FLOW      -1
1337          RC   0.070   0.055   0.070    2671  0.0116    0.00
1338          RX  9956.0  9972.0  9988.0  9995.0 10010.0 10024.0 10044.0 10060.0
1339          RY  1914.0  1910.0  1906.0  1904.0  1904.0  1906.0  1910.0  1914.0
              *

1340          KK    S303   BASIN
1341          BA   0.127            0.35
1342          LG    0.35    0.15    7.60    0.11       6
1343          UC   0.204   0.144
1344          UA       0     4.5    12.6    23.2    35.8    50.0    64.2    76.8    87.4    95.5
1345          UA     100
              *

1346          KK    C303
1347          KM     COMBINE RUNOFF FROM S303 WITH ROUTED FLOW SFROM C302
1348          HC       2
              *

1349          KK  303312   ROUTE   REACH
1350          KM    ROUTE COMBINED FLOWS FROM C303 TO C312 THROUGH S304
1351          KM    SLOPE = (1895-1828)/5007 = 0.0134
```

```
1352          KM     XS based on Paradise Wash XS 2.53 from Jerry Jones (PARADFCD.DAT)
1353          RS       4    FLOW      -1
1354          RC   0.065   0.050   0.065    5007  0.0134    0.00
1355          RX  9678.0  9850.0  9982.0  9993.0 10009.0 10018.0 10041.0 10637.0
1356          RY  1852.0  1850.0  1848.0  1846.0  1846.0  1848.0  1850.0  1852.0
              *

1357          KK    S304   BASIN
1358          BA   0.132            0.35
1359          LG    0.35    0.25    4.90    0.34       0
1360          UC   0.363   0.365
1361          UA       0     4.5    12.6    23.2    35.8    50.0    64.2    76.8    87.4    95.5
1362          UA     100
              *

1363          KK   C312R
1364          KM    COMBINE RUNOFF FROM S304 WITH ROUTED FLOWS FROM C303.
1365          KM    THIS IS THE TOTAL FLOW IN PARADISE WASH UPSTREAM OF RANIERI TANK WASH
1366          HC       2
1367          ZW      A=PWUSRTW   C=FLOW    F=EXISTING
              *
1                                          HEC-1 INPUT                                          PAGE 36

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

1368          KK    S305   BASIN
1369          BA   0.230            0.35
1370          LG    0.35    0.23    6.20    0.19      16
1371          UC   0.208   0.144
1372          UA       0     3.0     5.0     8.0    12.0    20.0    43.0    75.0    90.0    96.0
1373          UA     100
              *

1374          KK  305309   ROUTE   REACH
1375          KM    ROUTE RUNOFF FROM S305 TO C309 THROUGH C306
1376          KM    SLOPE = (1938-1885)/3517 = 0.0151
1377          KM     XS based on Ranieri Tank Wash Trib 1 XS 0.34 (Stanley Consultants, 1999)
1378          RS       2    FLOW      -1
1379          RC   0.065   0.055   0.065    3517  0.0151    0.00
1380          RX  9956.0  9976.0  9991.0  9999.0 10005.0 10013.0 10047.0 10075.0
1381          RY  1908.6  1906.4  1905.6  1904.2  1904.2  1905.6  1906.0  1909.0
              *

1382          KK    S306   BASIN
1383          BA   0.052            0.35
1384          LG    0.34    0.25    5.00    0.31       1
1385          UC   0.254   0.286
1386          UA       0     4.5    12.6    23.2    35.8    50.0    64.2    76.8    87.4    95.5
1387          UA     100
              *

1388          KK    S307   BASIN
1389          BA   0.206            0.35
1390          LG    0.34    0.23    6.20    0.19      17
1391          UC   0.225   0.184
1392          UA       0     3.0     5.0     8.0    12.0    20.0    43.0    75.0    90.0    96.0
1393          UA     100
              *

1394          KK  307309   ROUTE   REACH
1395          KM    ROUTE RUNOFF FROM S307 TO C309 THROUGH S306
1396          KM    SLOPE = (1892-1885)/723 = 0.0097
1397          KM     XS based on Ranieri Tank Wash Trib 1 XS 0.15 (Stanley Consultants, 1999)
1398          RS       1    FLOW      -1
1399          RC   0.065   0.055   0.065     723  0.0097    0.00
1400          RX  9896.0  9958.0  9981.0  9994.0  9999.0 10012.0 10175.0 10267.0
1401          RY  1894.0  1892.0  1891.0  1888.0  1888.0  1890.6  1891.4  1894.0
              *

1402          KK   C309R
1403          KM     COMBINE RUNOFF FROM S306 WITH ROUTED FLOWS FROM S305 & S307
1404          HC       3
              *
1                                          HEC-1 INPUT                                          PAGE 37

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

1405          KK    S308   BASIN
1406          BA   0.466            0.35
1407          LG    0.35    0.23    6.20    0.20       9
1408          UC   0.242   0.138
1409          UA       0     3.0     5.0     8.0    12.0    20.0    43.0    75.0    90.0    96.0
1410          UA     100
              *

1411          KK  308309   ROUTE   REACH
1412          KM    ROUTE RUNOFF FROM S308 TO C309
1413          KM    SLOPE = (1908-1885)/2133 = 0.0108
1414          KM     XS based on Ranieri Tank Wash XS 1.40 (Stanley Consultants, 1999)
1415          RS       2    FLOW      -1
1416          RC   0.065   0.055   0.065    2133  0.0108    0.00
1417          RX  9758.0  9901.0  9991.0  9997.0 10003.0 10009.0 10031.0 10213.0
1418          RY  1902.0  1900.6  1900.6  1898.6  1898.6  1900.6  1900.6  1902.0
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                *
1419            KK    S309   BASIN
1420            BA   0.190            0.35
1421            LG    0.35     0.15    7.00    0.14       7
1422            UC   0.238   0.219
1423            UA       0     3.0     5.0     8.0    12.0    20.0    43.0    75.0    90.0    96.0
1424            UA     100
                *

1425            KK   C309L
1426            KM     COMBINE RUNOFF FROM S309 WITH ROUTED FLOWS FROM S308
1427            HC       2
                *

1428            KK    C309
1429            KM     COMBINE FLOWS FROM C309R AND C309L.
1430            HC       2
                *

1431            KK  309310   ROUTE   REACH
1432            KM    ROUTE COMBINED FLOWS FROM C309 TO C310
1433            KM    SLOPE = (1885-1850)/3609 = 0.0097
1434            KM     XS based on Ranieri Tank Wash XS 0.70 (Jerry Jones, 1992)
1435            RS       3    FLOW      -1
1436            RC   0.065   0.050   0.065    3609  0.0097    0.00
1437            RX  9738.0  9778.0  9968.0  9992.0 10000.0 10020.0 10100.0 10412.0
1438            RY  1868.0  1864.0  1862.0  1860.0  1860.0  1862.0  1866.0  1868.0
                *

1439            KK    S310   BASIN
1440            BA   0.553            0.35
1441            LG    0.35     0.10   11.20    0.03       0
1442            UC   0.367   0.214
1443            UA       0     4.5    12.6    23.2    35.8    50.0    64.2    76.8    87.4    95.5
1444            UA     100
                *
1                                          HEC-1 INPUT                                          PAGE 38

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

1445            KK    C310
1446            KM     COMBINE RUNOFF FROM S310 WITH ROUTED FLOWS FROM C309
1447            KM     THIS IS THE INFLOW TO RANIERI TANK(S) AT 32ND STREET
1448            HC       2
                *

1449            KK   D310UDIVERT
1450            KM    DIVERT FLOW INTO UPSTREAM (NEW) TANK.  ASSUME A 50/50 SPLIT INTO
1451            KM    TANK UP TO ITS VOLUME.
1452            DT  D310UO      10
1453            DI       0     100
1454            DQ       0      50
                *

1455            KK   RR310STORAGE
1456            KM     ROUTE HYDROGRAPH THROUGH CULVERTS UNDER 32ND STREET
1457            KM     THERE ARE TWO SETS OF CULVERTS ONE ON THE MAIN CHANNEL ON THE
1458            KM     LEFT COMPOSED OF 3 6' CMPS AND A SET ON THE RIGHT BETWEEN THE
1459            KM     TANKS THAT IS COMPOSED OF 2 6' CMPS AND 4 2.5' CMPS
1460            KM     OUTFLOW HYDRAULICS COMPUTED USING HY8 (FILES: RR310L.INP &
1461            KM     RR310R.INP).  STAGE-AREA DATA ESTIMATED FROM JERRY JONES 2 FT CONTOURS
1462            KM     AND FCDMC 10 FT 2001 CONTOURS.
1463            RS       1    STOR      -1
1464            SA    0.08    0.58    1.23    2.11    3.44    7.22   13.22
1465            SE    1850    1852    1854    1856    1858    1860    1862
1466            SQ       0     160     650    1195    1660    1970    2330    2503    2621    2890
1467            SQ    3126    3422    3699
1468            SE    1850    1852    1854    1856    1858  1859.6    1860  1860.1  1860.2  1860.3
1469            SE  1860.4  1860.5  1860.6
                *

1470            KK   D310DDIVERT
1471            KM    DIVERT VOLUME OF STOCK TANK DOWNSTREAM OF 32ND STREET
1472            KM    ASSUMED THAT ALL FLOW UP TO TOTAL VOLUME DIVERTED BEFORE OVERFLOW
1473            DT  D310DO    2.39
1474            DI       0     100
1475            DQ       0     100
                *

1476            KK  310312   ROUTE   REACH
1477            KM    ROUTE (TANK OUTFLOWS) FROM RR310 TO C312
1478            KM    SLOPE = (1850-1828)/2221 = 0.0099
1479            KM     XS based on Ranieri Tank Wash XS 0.33 (Jerry Jones, 1992)
1480            RS       2    FLOW      -1
1481            RC   0.065   0.050   0.065    2221  0.0099    0.00
1482            RX  9683.0  9834.0  9938.0  9981.0 10013.0 10030.0 10200.0 10425.0
1483            RY  1852.0  1848.0  1844.0  1842.0  1842.0  1844.0  1846.0  1852.0
                *
1                                          HEC-1 INPUT                                          PAGE 39

LINE            ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10
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1484          KK    S311   BASIN
1485          BA   0.076            0.35
1486          LG    0.35    0.05   12.40    0.01       0
1487          UC   0.279   0.224
1488          UA       0     4.5    12.6    23.2    35.8    50.0    64.2    76.8    87.4    95.5
1489          UA     100
              *

1490          KK  311312   ROUTE   REACH
1491          KM    ROUTE RUNOFF FROM S311 TO C312
1492          KM    SLOPE = (1859-1828)/2280 = 0.0136
1493          KM    XS based on examination of 2002 FCD orthophotos and available 10 ft (FCD)
1494          KM    and 2 ft contour data from Jerry Jones FDS and Stanley FDS mapping
1495          RS       3    FLOW      -1
1496          RC   0.065   0.055   0.065    2280  0.0136    0.00
1497          RX     0.0    40.0    80.0   120.0   160.0   200.0   240.0   280.0
1498          RY   100.0    99.7    99.3    99.0    99.0    99.3    99.7   100.0
              *

1499          KK    S312   BASIN
1500          BA   0.140            0.35
1501          LG    0.35    0.13   10.10    0.04       0
1502          UC   0.275   0.210
1503          UA       0     4.5    12.6    23.2    35.8    50.0    64.2    76.8    87.4    95.5
1504          UA     100
              *

1505          KK   C312L
1506          KM     COMBINE RUNOFF FROM S312 WITH ROUTED FLOWS FROM S311 AND RR310
1507          HC       3
1508          ZW     A=RTWUSPW   C=FLOW   F=EXISTING
              *

1509          KK    C312
1510          KM     COMBINE PARADISE WASH (C312R) AND RANIERI TANK WASH (C312L)
1511          HC       2
1512          ZW     A=PW+RTW   C=FLOW   F=EXISTING
              *

1513          KK  312314   ROUTE   REACH
1514          KM    ROUTE COMBINED FLOWS FROM C312 TO C314 (CAREFREE HWY)
1515          KM    SLOPE = (1828-1820)/1024 = 0.0078
1516          KM     XS based on Paradise Wash XS 2.14 (Jerry Jones, 1992) (PARADFCD.DAT)
1517          RS       1    FLOW      -1
1518          RC   0.065   0.050   0.065    1024  0.0078    0.00
1519          RX  9926.0  9962.0  9970.0  9979.0 10026.0 10219.0 10638.0 10754.0
1520          RY  1830.0  1828.0  1826.0  1824.0  1824.0  1826.0  1826.0  1830.0
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1521          KK    S313   BASIN
1522          BA   0.049            0.35
1523          LG    0.35    0.05   12.40    0.01       0
1524          UC   0.279   0.288
1525          UA       0     4.5    12.6    23.2    35.8    50.0    64.2    76.8    87.4    95.5
1526          UA     100
              *

1527          KK  313314   ROUTE   REACH
1528          KM    ROUTE RUNOFF FROM S313 TO C314
1529          KM    SLOPE = (1856-1820)/2487 = 0.0145
1530          KM    XS based on examination of 2002 FCD orthophotos and available 10 ft (FCD)
1531          KM    and 2 ft contour data from Jerry Jones FDS and Stanley FDS mapping
1532          RS       2    FLOW      -1
1533          RC   0.030   0.030   0.055    2487  0.0145    0.00
1534          RX     0.0     1.0    31.0    43.0    48.0    60.0   245.0   355.0
1535          RY   100.0    99.0    98.0    92.0    92.0    98.0    99.0   100.0
              *

1536          KK    S314   BASIN
1537          BA   0.089            0.35
1538          LG    0.35    0.15    8.00    0.10       0
1539          UC   0.233   0.160
1540          UA       0     4.5    12.6    23.2    35.8    50.0    64.2    76.8    87.4    95.5
1541          UA     100
              *

1542          KK    C314
1543          KM    COMBINE RUNOFF FROM S314 WITH ROUTED FLOW FROM S313 AND C312
1544          KM    THIS IS THE TOTAL FLOW IN PARADISE WASH AT CAREFREE HWY
1545          HC       3
1546          ZW      A=PW@CFH   C=FLOW   F=EXISTING
              *

1547          KK  314318   ROUTE   REACH
1548          KM    ROUTE COMBINED FLOWS FROM C314 TO C318
1549          KM    SLOPE = (1820-1788)/3277 = 0.0098
1550          KM     XS based on Paradise Wash XS 1.83 (Jerry Jones, 1992) (PARADFCD.DAT)
1551          RS       2    FLOW      -1
1552          RC   0.065   0.050   0.065    3277  0.0098    0.00
1553          RX  9866.0  9975.0  9984.0  9990.0 10005.0 10190.0 10390.0 10550.0
1554          RY  1818.0  1810.0  1808.0  1806.0  1806.0  1810.0  1810.0  1818.0
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                *
1555            KK    S315   BASIN
1556            BA   0.239            0.35
1557            LG    0.34    0.15    8.80    0.07      15
1558            UC   0.225   0.152
1559            UA       0     3.0     5.0     8.0    12.0    20.0    43.0    75.0    90.0    96.0
1560            UA     100
                *
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LINE            ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


1561            KK  315316   ROUTE   REACH
1562            KM    ROUTE RUNOFF FROM S315 TO C316
1563            KM    SLOPE = (1885-1860)/2328 = 0.0107
1564            KM     XS based on West Fork Paradise Wash XS 1.75 (Stanley Consultants, 1999)
1565            RS       2    FLOW      -1
1566            RC   0.070   0.055   0.070    2328  0.0107    0.00
1567            RX  9983.0  9986.0  9989.0  9996.0 10004.0 10034.0 10047.0 10060.0
1568            RY  1874.0  1873.0  1872.0  1869.0  1869.0  1872.0  1873.0  1874.0
                *

1569            KK    S316   BASIN
1570            BA   0.223            0.35
1571            LG    0.32    0.15    8.80    0.07       4
1572            UC   0.333   0.236
1573            UA       0     4.5    12.6    23.2    35.8    50.0    64.2    76.8    87.4    95.5
1574            UA     100
                *

1575            KK    C316
1576            KM     COMBINE RUNOFF FROM S316 WITH ROUTED FLOW FROM S315
1577            HC       2
                *

1578            KK  316317   ROUTE   REACH
1579            KM    ROUTE COMBINED FLOWS FROM C316 TO C317 (CFH)
1580            KM    SLOPE = (1860-1806)/5852 = 0.0092
1581            KM     XS based on West Fork Paradise Wash XS 1.02 (Jerry Jones,1992) (PRDWST.DAT)
1582            RS       4    FLOW      -1
1583            RC   0.065   0.055   0.065    5852  0.0092    0.00
1584            RX  9973.0  9984.0  9993.0  9997.0 10007.0 10011.0 10067.0 10168.0
1585            RY  1838.0  1836.0  1834.0  1832.7  1832.7  1834.0  1836.0  1838.0
                *

1586            KK    S317   BASIN
1587            BA   0.603            0.35
1588            LG    0.35    0.15    9.70    0.06       0
1589            UC   0.446   0.292
1590            UA       0     3.0     5.0     8.0    12.0    20.0    43.0    75.0    90.0    96.0
1591            UA     100
                *

1592            KK    C317
1593            KM     COMBINE RUNOFF FROM S317 WITH ROUTED FLOW FROM C316
1594            KM     THIS IS THE TOTAL FLOW IN THE WEST BRANCH OF PARADISE WASH
1595            KM     AT CAREFREE HWY
1596            HC       2
1597            ZW      A=WBPW@CFH   C=FLOW   F=EXISTING
                *
1                                          HEC-1 INPUT                                          PAGE 42

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


1598            KK  317318   ROUTE   REACH
1599            KM    ROUTE COMBINED FLOWS FROM C317 TO C318
1600            KM    SLOPE = (1806-1788)/2279 = 0.0079
1601            KM     XS based on West Fork Paradise Wash XS 0.32 (Jerry Jones,1992) (PRDWST.DAT)
1602            RS       3    FLOW      -1
1603            RC   0.065   0.055   0.065    2279  0.0079    0.00
1604            RX  9820.0  9845.0  9995.0  9999.0 10015.0 10070.0 10650.0 10760.0
1605            RY  1808.0  1806.0  1804.0  1802.0  1802.0  1806.0  1806.0  1808.0
                *

1606            KK    S318   BASIN
1607            BA   0.157            0.35
1608            LG    0.35    0.15    7.30    0.13       0
1609            UC   0.333   0.271
1610            UA       0     4.5    12.6    23.2    35.8    50.0    64.2    76.8    87.4    95.5
1611            UA     100
                *

1612            KK    C318
1613            KM     COMBINE RUNOFF FROM S318 WITH ROUTED FLOWS FROM C317 & C314
1614            HC       3
1615            ZW      A=PW+WBPW   C=FLOW   F=EXISTING
                *

1616            KK  318319   ROUTE   REACH
1617            KM    ROUTE COMBINED FLOWS FROM C318 TO C319
1618            KM    SLOPE = (1788-1729)/7226 = 0.0082
1619            KM     XS based on Paradise Wash XS 0.89 (Jerry Jones, 1992) (PARADFCD.DAT)
```

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1620          RS       6    FLOW      -1
1621          RC   0.070   0.055   0.070    7226  0.0082    0.00
1622          RX  9500.0  9640.0  9980.0  9985.0 10010.0 10078.0 10352.0 10520.0
1623          RY  1780.0  1770.0  1770.0  1764.0  1764.0  1768.0  1774.0  1780.0
              *

1624          KK    S319   BASIN
1625          BA   0.886            0.35
1626          LG    0.35    0.10   11.20    0.03       0
1627          UC   0.721   0.632
1628          UA       0     4.5    12.6    23.2    35.8    50.0    64.2    76.8    87.4    95.5
1629          UA     100
              *

1630          KK   C319L
1631          KM     COMBINE RUNOFF FROM S319 WITH ROUTED FLOW FROM C318
1632          KM     THIS IS THE TOTAL FLOW IN PARADISE WASH UPSTREAM
1633          KM     OF APACHE WASH
1634          HC       2
1635          ZW      A=PWUSAW    C=FLOW   F=EXISTING
              *
1                                                HEC-1 INPUT                                                PAGE 43

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


1636          KK    C319
1637          KM     COMBINE PARADISE WASH WITH ROUTED FLOWS FROM C147
1638          KM     THIS IS THE TOTAL FLOW IN APACHE WASH DOWNSTREAM OF
1639          KM     PARADISE WASH
1640          HC       2
1641          ZW      A=AW+PW    C=FLOW   F=EXISTING
              *

1642          KK  319400   ROUTE   REACH
1643          KM    ROUTE COMBINED FLOWS FROM C319 TO C400
1644          KM    SLOPE = (1728-1661)/11176 = 0.0060
1645          KM     XS based on Apache Wash XS 1.37 from Jerry Jones (APACHE.DAT)
1646          RS       9    FLOW      -1
1647          RC   0.070   0.055   0.070   11176  0.0060    0.00
1648          RX  9493.0  9580.0  9932.0  9978.0 10013.0 10030.0 10042.0 10054.0
1649          RY  1698.0  1694.0  1692.0  1688.0  1688.0  1692.0  1695.0  1698.0
              *

1650          KK    S400   BASIN
1651          BA   1.676            0.35
1652          LG    0.35    0.13   10.10    0.04       3
1653          UC   1.017   0.947
1654          UA       0     4.5    12.6    23.2    35.8    50.0    64.2    76.8    87.4    95.5
1655          UA     100
              *

1656          KK    C400
1657          KM     COMBINE RUNOFF FROM S400 WITH ROUTED FLOWS FROM C319
1658          HC       2
1659          ZW       A=AW@POOL    C=FLOW    F=EXISTING
              *

1660          KK    S500   BASIN
1661          KM    THIS IS THE INFLOW TO THE SKUNK TANK WASH PORTION OF THE FLO-2D AREA
1662          KM    CALLED FLO2D2 AT DESERT HILLS DRIVE.
1663          BA   0.039            0.35
1664          LG    0.32    0.05   12.40    0.01       3
1665          UC   0.217   0.211
1666          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
1667          UA     100
              *
1668          ZZ
1
            SCHEMATIC DIAGRAM OF STREAM NETWORK
 INPUT
  LINE      (V) ROUTING          (--->) DIVERSION OR PUMP FLOW

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

    48        S100
                 V
                 V
    56      100101
                 .
                 .
    64           .        S101
                 .           .
                 .           .
    70        C101............
                 V
                 V
    75      101CFH
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    83           .        S102
                 .           V
                 .           V
    89           .      102103
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 97          .           .        S103
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             .           .           .
103          .       C103............
             .          V
             .          V
107          .     103104
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             .           .
116          .           .        S104
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122          .       C104............
             .          V
             .          V
127          .     104CFH
             .           .
             .           .
135          .           .        S105
             .           .           V
             .           .           V
142          .           .      105106
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150          .           .           .        S106
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156          .           .        C106............
             .           .           V
             .           .           V
160          .           .      106107
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168          .           .           .        S107
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174          .           .        C107............
             .           .           V
             .           .           V
179          .           .      107CFH
             .           .           .
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187          .           .           .        S150
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194          .           .           .           .        S151
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201          .           .           .           .           .        S152
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210          .           .           .           .           .           .-------->    1520
207          .           .           .           .           .        D152
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213          .           .           .           .           .     152153
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222          .           .           .           .           .           .        S153
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228          .           .           .           .           .        C153............
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234          .           .           .           .           .           .          .<-------    1520
232          .           .           .           .           .           .      DR152
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235          .           .           .        C155...................................
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239       DUMMY...................................
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243          .       S122
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250          .           .        S123
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257          .           .           .        S124
             .           .           .           V
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265          .           .           .     124125
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274          .           .           .           .        S125
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280          .           .           .        C125............
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284          .           .       DUMMY............
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287        DUMMY.......................
290                FLO2D
                      V
                      V
312               CFH127
320                          S108
                                V
                                V
326                        108109
334                                        S109
340                          C109R............
345                                        S110
                                           V
                                           V
351                                      110111
359                                                   S111
365                                        C111............
                                           V
                                           V
369                                      111109
377                                                   S112
383                                      C109C............
387                                                   S113
                                                      V
                                                      V
393                                                 113114
401                                                           S114
407                                                   C114............
                                                      V
                                                      V
411                                                 114115
419                                                           S115
425                                                   C115............
                                                      V
                                                      V
429                                                 115109
437                          C109........................
                                V
                                V
442                        109116
450                                        S116
456                          C116R............
459                                        S117
465                                                   S118
                                                      V
                                                      V
472                                                 118119
480                                                           S119
486                                      C116L........................
489                          C116............
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493              .          .     116120
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501              .          .          .       S120
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507              .          .       C120............
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510              .          .     120127
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518              .          .          .       S121
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524              .          .      C127L...........
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527              .          .          .       S126
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535              .          .          .     126127
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544              .          .          .          .       S127
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550              .          .          .      C127R...........
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553              .       C127......................
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558              .     127129
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566              .          .       S128
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574              .          .     128129
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582              .          .          .       S129
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588              .       C129......................
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592              .     129134
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600              .          .       S130
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607              .          .     130134
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616              .          .          .       S131
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623              .          .          .     131132
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632              .          .          .          .       S132
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638              .          .          .       C132...........
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642              .          .          .     132133
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650              .          .          .          .       S133
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656              .          .          .       C133...........
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660              .          .          .     133134
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668              .          .          .          .       S134
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674              .          .      C134L......................
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677              .       C134...........
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682              .     134139
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690          .           .        S135
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697          .           .      135139
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705          .           .           .        S136
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711          .      C139R.......................
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715          .           .        S137
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722          .           .      137138
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730          .           .           .        S138
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736          .           .       C138............
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740          .           .      138139
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748          .           .           .        S139
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754          .           .      C139L............
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757          .       C139............
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761          .      139141
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769          .           .        S140
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777          .           .      140141
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786          .           .           .        S141
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792          .           .      C141L............
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795          .           .           .        S142
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801          .           .           .      142141
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810          .      C141I.......................
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813          .      141145
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821          .           .        S143
             .           .           V
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827          .           .      143144
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836          .           .           .        S144
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842          .      C145R.......................
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845          .           .        S145
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851          .       C145............
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855          .      145147
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863          .           .        S147
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869          .      C147R............
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874          .           .        S200
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880          .           .           .        S201
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886                 C201............
                       V
                       V
889               201204
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897                    .        S203
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903                C204L............
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907                    .        S204
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913                 C204............
                       V
                       V
916               204206
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924                    .        S205
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930                C206L............
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933                    .        S206
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939                 C206............
                       V
                       V
942               206209
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950                    .        S207
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956                C209L............
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959                    .        S208
                       .           V
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965                    .      208209
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973                    .           .        S209
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979                    .      C209R............
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982                 C209............
                       V
                       V
986               209215
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994                    .        S210
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1000               C215L............
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1003                   .        S211
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1009                   .      211214
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1017                   .           .        S212
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1023                   .      C214L............
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1026                   .           .        S213
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1032                   .           .           .        S214
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1038                   .      C214........................
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1043                   .      214215
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1051                   .           .        S215
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1057                   .      C215R............
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1062             .          .     C215............
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1066             .          .   215216
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1074             .          .          .       S216
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1080             .          .     C216............
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1084             .          .   216217
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1092             .          .          .       S217
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1098             .          .    C217R............
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1101             .          .          .       S218
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1107             .          .          .     218219
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1115             .          .          .          .       S219
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1121             .          .          .       C219............
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1124             .          .          .          .       S220
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1130             .          .          .       C220............
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1134             .          .          .     220217
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1142             .          .     C217............
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1146             .          .   217221
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1154             .          .          .       S221
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1160             .          .     C221............
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1165             .          .   221222
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1173             .          .          .       S222
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1179             .          .     C222............
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1184             .          .   222227
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1192             .          .          .       S223
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1198             .          .          .     223227
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1206             .          .          .          .       S224
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1212             .          .    C227L.......................
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1215             .          .          .       S225
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1221             .          .          .     225226
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1229             .          .          .          .       S226
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1235             .          .          .       C226............
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1238             .          .          .     226227
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1246          .          .          .          .       S227
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1252          .          .          .     C227R...........
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1255          .          .      C227...........
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1259          .          .    227228
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1267          .          .          .       S228
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1273          .          .      C228...........
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1279          .          .    228147
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1287          .      C147...........
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1291          .    147319
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1300          .          .      S300
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1306          .          .          .       S301
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1312          .          .      C301...........
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1315          .          .    301302
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1323          .          .          .       S302
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1329          .          .      C302...........
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1332          .          .    302303
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1340          .          .          .       S303
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1346          .          .      C303...........
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1349          .          .    303312
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1357          .          .          .       S304
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1363          .          .     C312R...........
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1368          .          .          .       S305
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1374          .          .          .     305309
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1382          .          .          .          .       S306
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1388          .          .          .          .          .       S307
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1394          .          .          .          .          .     307309
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1402          .          .          .     C309R......................
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1405          .          .          .          .       S308
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1411          .          .          .          .     308309
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1419          .          .          .          .          .       S309
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1425          .          .          .          .     C309L...........
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1428          .          .          .      C309...........
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1431                         309310
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1439                              .        S310
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1445                           C310............
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1452                              .-------> D310UO
1449                         D310U
                                  V
                                  V
1455                         RR310
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1473                              .-------> D310DO
1470                         D310D
                                  V
                                  V
1476                         310312
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1484                              .        S311
                                  .          V
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1490                              .      311312
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1499                              .          .        S312
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1505                         C312L........................
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1509                      C312............
                             V
                             V
1513                      312314
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1521                           S313
                                  V
                                  V
1527                         313314
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1536                              .        S314
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1542                      C314........................
                             V
                             V
1547                      314318
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1555                           S315
                                  V
                                  V
1561                         315316
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1569                              .        S316
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1575                           C316............
                                  V
                                  V
1578                         316317
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1586                              .        S317
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1592                           C317............
                                  V
                                  V
1598                         317318
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1606                              .        S318
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1612                      C318........................
                             V
                             V
1616                      318319
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1624                           S319
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1630                      C319L............
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 1636           .       C319...........
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 1660           .          .       S500

 (***) RUNOFF ALSO COMPUTED AT THIS LOCATION
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 *   FLOOD HYDROGRAPH PACKAGE  (HEC-1)  *
 *              JUN   1998              *
 *            VERSION 4.1               *
 *                                      *
 *  RUN DATE   14AUG03  TIME  15:56:15  *
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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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DESERT HILLS AREA HYDROLOGY

 JE FULLER / HYDROLOGY & GEOMORPHOLOGY, INC.
 ADOBE DAM / DESERT HILLS ADMP
 APRIL 2003  - KK RR310 revised 08-14-03

 THIS IS THE 10-YEAR  6-HOUR MODEL FOR EXISTING CONDITIONS LAND USE

MODEL BASIS:
 * DDMSW PROJECT NAME: DHA_EX6
 * HYDROLOGY DEVELOPED FOR THE DESERT HILLS AREA FOR THE ADMP
 * EXISTING CONDITIONS LAND USE BASED ON MAG LAND USE FILES PROVIDED
   BY FCDMC AND UPDATED TO REFLECT EXTENT OF DEVELOPMENT AS SHOWN IN
   THE FEB. 2002 AERIAL PHOTOGRAPHS FROM THE FCDMC
 * PREFRE RAINFALL STATISTICS FROM NOAA ATLAS II
 * MULTIPLE STORM (JD RECORDS) USED FOR CRITICAL STORM CENTERING
 * RAINFALL LOSS COMPUTED USING GREEN & AMPT METHOD
 * CLARK METHOD WAS USED FOR DEVELOPMENT OF UNIT HYDROGRAPHS
 * MODIFIED PULS NORMAL-DEPTH ROUTING USED FOR CHANNEL ROUTINGS
 * 10-YR COMPUTED BASED ON 0.35 RATIO OF 100-YEAR PER
   DRAFT HYDROLOGY MANUAL (2003)

 * A PORTION OF THE AREA WAS MODELED EXTERNALLY USING FLO-2D.

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

    IT          HYDROGRAPH TIME DATA
                       NMIN           5  MINUTES IN COMPUTATION INTERVAL
                      IDATE     21FEB 3  STARTING DATE
                      ITIME        0000  STARTING TIME
                         NQ         300  NUMBER OF HYDROGRAPH ORDINATES
                     NDDATE     22FEB 3  ENDING DATE
                     NDTIME        0055  ENDING TIME
                      ICENT          19  CENTURY MARK

                 COMPUTATION INTERVAL     .08 HOURS
                      TOTAL TIME BASE   24.92 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

 28 JD          INDEX STORM NO. 1
                       STRM        3.35  PRECIPITATION DEPTH
                       TRDA         .01  TRANSPOSITION DRAINAGE AREA

 29 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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32 JD          INDEX STORM NO. 2
                    STRM        3.33  PRECIPITATION DEPTH
                    TRDA         .50  TRANSPOSITION DRAINAGE AREA

33 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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                  .03       .01       .01       .01       .01       .01       .01       .00       .00       .00
                  .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                  .00       .00

36 JD          INDEX STORM NO. 3
                    STRM        3.27  PRECIPITATION DEPTH
                    TRDA        2.80  TRANSPOSITION DRAINAGE AREA

37 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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                  .03       .03       .07       .07       .07       .08       .08       .08       .05       .05
                  .05       .02       .02       .02       .01       .01       .01       .00       .00       .00
                  .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                  .00       .00

40 JD          INDEX STORM NO. 4
                    STRM        3.09  PRECIPITATION DEPTH
                    TRDA       16.00  TRANSPOSITION DRAINAGE AREA

41 PI            PRECIPITATION PATTERN
                  .01       .01       .00       .00       .00       .00       .00       .00       .00       .01
                  .01       .01       .00       .01       .00       .00       .00       .00       .00       .00
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                  .01       .01       .01       .01       .01       .01       .02       .02       .02       .03
                  .03       .03       .06       .06       .06       .07       .07       .07       .04       .04
                  .04       .02       .02       .02       .01       .01       .01       .01       .01       .01
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44 JD          INDEX STORM NO. 5
                    STRM        2.72  PRECIPITATION DEPTH
                    TRDA       90.00  TRANSPOSITION DRAINAGE AREA

45 PI            PRECIPITATION PATTERN
                  .01       .01       .01       .00       .00       .00       .01       .01       .01       .01
                  .01       .01       .01       .01       .01       .01       .01       .01       .01       .01
                  .01       .01       .01       .01       .01       .01       .01       .01       .01       .01
                  .01       .01       .01       .01       .01       .01       .02       .02       .02       .03
                  .03       .03       .05       .05       .05       .05       .05       .05       .04       .04
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 -----DSS---ZOPEN:  Existing File Opened,  File: DH106E.DSS
                    Unit:  71;  DSS Version: 6-JG
-----DSS---ZWRITE Unit  71; Vers.    7:  /DHW/C147R/FLOW/20FEB1903/5MIN/EXISTING/
-----DSS---ZWRITE Unit  71; Vers.    7:  /DHW/C147R/FLOW/21FEB1903/5MIN/EXISTING/
-----DSS---ZWRITE Unit  71; Vers.    7:  /DHW/C147R/FLOW/22FEB1903/5MIN/EXISTING/
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-----DSS---ZWRITE Unit  71; Vers.    7:  /AW@CLOUD/C221/FLOW/20FEB1903/5MIN/EXISTING/
-----DSS---ZWRITE Unit  71; Vers.    7:  /AW@CLOUD/C221/FLOW/21FEB1903/5MIN/EXISTING/
-----DSS---ZWRITE Unit  71; Vers.    7:  /AW@CLOUD/C221/FLOW/22FEB1903/5MIN/EXISTING/

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-----DSS---ZWRITE Unit  71; Vers.    7:  /AW@CFH/C222/FLOW/20FEB1903/5MIN/EXISTING/
-----DSS---ZWRITE Unit  71; Vers.    7:  /AW@CFH/C222/FLOW/21FEB1903/5MIN/EXISTING/
-----DSS---ZWRITE Unit  71; Vers.    7:  /AW@CFH/C222/FLOW/22FEB1903/5MIN/EXISTING/

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-----DSS---ZWRITE Unit  71; Vers.    7:  /AWUSDHW/C228/FLOW/20FEB1903/5MIN/EXISTING/
-----DSS---ZWRITE Unit  71; Vers.    7:  /AWUSDHW/C228/FLOW/21FEB1903/5MIN/EXISTING/
-----DSS---ZWRITE Unit  71; Vers.    7:  /AWUSDHW/C228/FLOW/22FEB1903/5MIN/EXISTING/
-----DSS---ZWRITE Unit  71; Vers.    7:  /DHW+AW/C147/FLOW/20FEB1903/5MIN/EXISTING/
-----DSS---ZWRITE Unit  71; Vers.    7:  /DHW+AW/C147/FLOW/21FEB1903/5MIN/EXISTING/
-----DSS---ZWRITE Unit  71; Vers.    7:  /DHW+AW/C147/FLOW/22FEB1903/5MIN/EXISTING/

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-----DSS---ZWRITE Unit  71; Vers.    7:  /PWUSRTW/C312R/FLOW/20FEB1903/5MIN/EXISTING/
-----DSS---ZWRITE Unit  71; Vers.    7:  /PWUSRTW/C312R/FLOW/21FEB1903/5MIN/EXISTING/
-----DSS---ZWRITE Unit  71; Vers.    7:  /PWUSRTW/C312R/FLOW/22FEB1903/5MIN/EXISTING/

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-----DSS---ZWRITE Unit  71; Vers.   7:  /RTWUSPW/C312L/FLOW/20FEB1903/5MIN/EXISTING/
-----DSS---ZWRITE Unit  71; Vers.   7:  /RTWUSPW/C312L/FLOW/21FEB1903/5MIN/EXISTING/
-----DSS---ZWRITE Unit  71; Vers.   7:  /RTWUSPW/C312L/FLOW/22FEB1903/5MIN/EXISTING/
-----DSS---ZWRITE Unit  71; Vers.   7:  /PW+RTW/C312/FLOW/20FEB1903/5MIN/EXISTING/
-----DSS---ZWRITE Unit  71; Vers.   7:  /PW+RTW/C312/FLOW/21FEB1903/5MIN/EXISTING/
-----DSS---ZWRITE Unit  71; Vers.   7:  /PW+RTW/C312/FLOW/22FEB1903/5MIN/EXISTING/
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-----DSS---ZWRITE Unit  71; Vers.   7:  /PW@CFH/C314/FLOW/20FEB1903/5MIN/EXISTING/
-----DSS---ZWRITE Unit  71; Vers.   7:  /PW@CFH/C314/FLOW/21FEB1903/5MIN/EXISTING/
-----DSS---ZWRITE Unit  71; Vers.   7:  /PW@CFH/C314/FLOW/22FEB1903/5MIN/EXISTING/
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 -----DSS---ZWRITE Unit  71; Vers.    7:  /WBPW@CFH/C317/FLOW/20FEB1903/5MIN/EXISTING/
 -----DSS---ZWRITE Unit  71; Vers.    7:  /WBPW@CFH/C317/FLOW/21FEB1903/5MIN/EXISTING/
 -----DSS---ZWRITE Unit  71; Vers.    7:  /WBPW@CFH/C317/FLOW/22FEB1903/5MIN/EXISTING/

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 -----DSS---ZWRITE Unit  71; Vers.    7:  /PW+WBPW/C318/FLOW/20FEB1903/5MIN/EXISTING/
 -----DSS---ZWRITE Unit  71; Vers.    7:  /PW+WBPW/C318/FLOW/21FEB1903/5MIN/EXISTING/
 -----DSS---ZWRITE Unit  71; Vers.    7:  /PW+WBPW/C318/FLOW/22FEB1903/5MIN/EXISTING/

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 -----DSS---ZWRITE Unit  71; Vers.    7:  /PWUSAW/C319L/FLOW/20FEB1903/5MIN/EXISTING/
 -----DSS---ZWRITE Unit  71; Vers.    7:  /PWUSAW/C319L/FLOW/21FEB1903/5MIN/EXISTING/
 -----DSS---ZWRITE Unit  71; Vers.    7:  /PWUSAW/C319L/FLOW/22FEB1903/5MIN/EXISTING/
 -----DSS---ZWRITE Unit  71; Vers.    7:  /AW+PW/C319/FLOW/20FEB1903/5MIN/EXISTING/
 -----DSS---ZWRITE Unit  71; Vers.    7:  /AW+PW/C319/FLOW/21FEB1903/5MIN/EXISTING/
 -----DSS---ZWRITE Unit  71; Vers.    7:  /AW+PW/C319/FLOW/22FEB1903/5MIN/EXISTING/

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 -----DSS---ZWRITE Unit  71; Vers.    7:  /AW@POOL/C400/FLOW/20FEB1903/5MIN/EXISTING/
 -----DSS---ZWRITE Unit  71; Vers.    7:  /AW@POOL/C400/FLOW/21FEB1903/5MIN/EXISTING/
 -----DSS---ZWRITE Unit  71; Vers.    7:  /AW@POOL/C400/FLOW/22FEB1903/5MIN/EXISTING/

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

                                   PEAK   TIME OF     AVERAGE FLOW FOR MAXIMUM PERIOD      BASIN    MAXIMUM    TIME OF
        OPERATION        STATION   FLOW    PEAK                                           AREA     STAGE    MAX STAGE
+                                                     6-HOUR     24-HOUR     72-HOUR

        HYDROGRAPH AT
+                          S100    321.    4.08        31.         8.          7.        .34

        ROUTED TO
+                        100101    234.    4.42        30.         8.          7.        .34

        HYDROGRAPH AT
+                          S101    228.    4.17        26.         7.          6.        .30

        2 COMBINED AT
+                          C101    410.    4.25        56.        14.         14.        .64

        ROUTED TO
+                        101CFH    207.    6.58        56.        14.         14.        .64

        HYDROGRAPH AT
+                          S102    330.    4.08        26.         6.          6.        .30

        ROUTED TO
+                        102103    285.    4.17        26.         6.          6.        .30

        HYDROGRAPH AT
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+		S103	124.	4.08	11.	3.	3.	.14
	2 COMBINED AT							
+		C103	404.	4.17	37.	9.	9.	.44
	ROUTED TO							
+		103104	378.	4.25	37.	9.	9.	.44
	HYDROGRAPH AT							
+		S104	75.	4.08	7.	2.	2.	.08
	2 COMBINED AT							
+		C104	431.	4.17	44.	11.	11.	.52
	ROUTED TO							
+		104CFH	179.	6.33	44.	11.	11.	.52
	HYDROGRAPH AT							
+		S105	120.	4.17	17.	4.	4.	.16
	ROUTED TO							
+		105106	108.	4.33	17.	4.	4.	.16
	HYDROGRAPH AT							
+		S106	78.	4.17	11.	3.	3.	.11
	2 COMBINED AT							
+		C106	176.	4.25	28.	7.	7.	.27
	ROUTED TO							
+		106107	151.	4.58	28.	7.	7.	.27
	HYDROGRAPH AT							
+		S107	128.	4.17	18.	5.	4.	.19
	2 COMBINED AT							
+		C107	234.	4.33	46.	12.	11.	.45
	ROUTED TO							
+		107CFH	189.	5.42	46.	12.	11.	.45
	HYDROGRAPH AT							
+		S150	13.	4.00	1.	0.	0.	.01
	HYDROGRAPH AT							
+		S151	17.	4.00	1.	0.	0.	.02
	HYDROGRAPH AT							
+		S152	91.	4.08	7.	2.	2.	.09
	DIVERSION TO							
+		1520	38.	4.08	4.	1.	1.	.09
	HYDROGRAPH AT							
+		D152	52.	4.08	2.	1.	1.	.09
	ROUTED TO							
+		152153	51.	4.08	2.	1.	1.	.09
	HYDROGRAPH AT							
+		S153	12.	4.08	1.	0.	0.	.01
	2 COMBINED AT							
+		C153	63.	4.08	3.	1.	1.	.10
	HYDROGRAPH AT							
+		DR152	38.	4.08	4.	1.	1.	.09
	4 COMBINED AT							
+		C155	128.	4.08	10.	2.	2.	.13
	4 COMBINED AT							
+		DUMMY	390.	6.33	150.	38.	37.	1.74
	HYDROGRAPH AT							
+		S122	125.	4.17	13.	3.	3.	.16
	HYDROGRAPH AT							
+		S123	127.	4.08	11.	3.	3.	.14
	HYDROGRAPH AT							
+		S124	68.	4.08	5.	1.	1.	.06
	ROUTED TO							
+		124125	54.	4.25	5.	1.	1.	.06
	HYDROGRAPH AT							
+		S125	124.	4.08	12.	3.	3.	.15
	2 COMBINED AT							
+		C125	164.	4.17	18.	4.	4.	.21
	2 COMBINED AT							
+		DUMMY	287.	4.08	29.	7.	7.	.34

+	3 COMBINED AT DUMMY	384.	6.33	187.	48.	46.	2.24
+	HYDROGRAPH AT FLO2D	674.	6.08	394.	157.	151.	5.47
+	ROUTED TO CFH127	666.	6.25	393.	156.	151.	5.47
+	HYDROGRAPH AT S108	376.	4.08	29.	7.	7.	.33
+	ROUTED TO 108109	323.	4.25	29.	7.	7.	.33
+	HYDROGRAPH AT S109	286.	4.17	30.	7.	7.	.37
+	2 COMBINED AT C109R	563.	4.25	58.	15.	14.	.69
+	HYDROGRAPH AT S110	124.	4.08	11.	3.	3.	.13
+	ROUTED TO 110111	86.	4.42	11.	3.	3.	.13
+	HYDROGRAPH AT S111	249.	4.08	20.	5.	5.	.25
+	2 COMBINED AT C111	274.	4.08	31.	8.	8.	.38
+	ROUTED TO 111109	159.	4.83	31.	8.	8.	.38
+	HYDROGRAPH AT S112	458.	4.17	49.	12.	12.	.57
+	2 COMBINED AT C109C	411.	4.17	78.	20.	19.	.95
+	HYDROGRAPH AT S113	69.	4.17	8.	2.	2.	.11
+	ROUTED TO 113114	57.	4.42	8.	2.	2.	.11
+	HYDROGRAPH AT S114	85.	4.17	9.	2.	2.	.11
+	2 COMBINED AT C114	121.	4.25	16.	4.	4.	.22
+	ROUTED TO 114115	106.	4.50	16.	4.	4.	.22
+	HYDROGRAPH AT S115	97.	4.25	14.	4.	3.	.16
+	2 COMBINED AT C115	180.	4.42	30.	8.	7.	.37
+	ROUTED TO 115109	173.	4.50	30.	8.	7.	.37
+	3 COMBINED AT C109	851.	4.25	161.	40.	39.	2.02
+	ROUTED TO 109116	746.	4.58	161.	40.	39.	2.02
+	HYDROGRAPH AT S116	97.	4.33	16.	4.	4.	.22
+	2 COMBINED AT C116R	795.	4.58	173.	44.	42.	2.24
+	HYDROGRAPH AT S117	149.	4.25	22.	5.	5.	.23
+	HYDROGRAPH AT S118	74.	4.25	13.	3.	3.	.12
+	ROUTED TO 118119	67.	4.58	13.	3.	3.	.12
+	HYDROGRAPH AT S119	169.	4.33	27.	7.	7.	.31
+	3 COMBINED AT C116L	342.	4.33	61.	15.	15.	.67
+	2 COMBINED AT C116	1006.	4.58	231.	58.	56.	2.91

+	ROUTED TO	116120	908.	5.08	230.	58.	56.	2.91
+	HYDROGRAPH AT	S120	127.	4.25	23.	6.	6.	.28
+	2 COMBINED AT	C120	951.	5.00	250.	63.	61.	3.18
+	ROUTED TO	120127	891.	5.42	249.	63.	61.	3.18
+	HYDROGRAPH AT	S121	113.	4.50	26.	6.	6.	.32
+	2 COMBINED AT	C127L	928.	5.33	271.	69.	66.	3.50
+	HYDROGRAPH AT	S126	142.	4.08	10.	3.	2.	.13
+	ROUTED TO	126127	111.	4.17	10.	3.	2.	.13
+	HYDROGRAPH AT	S127	81.	4.08	7.	2.	2.	.09
+	2 COMBINED AT	C127R	182.	4.17	17.	4.	4.	.22
+	3 COMBINED AT	C127	1255.	5.83	644.	224.	216.	9.19
+	ROUTED TO	127129	1238.	5.92	641.	223.	215.	9.19
+	HYDROGRAPH AT	S128	108.	4.08	10.	3.	2.	.12
+	ROUTED TO	128129	100.	4.17	10.	3.	2.	.12
+	HYDROGRAPH AT	S129	138.	4.08	10.	3.	2.	.12
+	3 COMBINED AT	C129	1238.	5.92	649.	227.	219.	9.43
+	ROUTED TO	129134	1234.	6.00	649.	227.	219.	9.43
+	HYDROGRAPH AT	S130	31.	4.17	4.	1.	1.	.05
+	ROUTED TO	130134	27.	4.42	4.	1.	1.	.05
+	HYDROGRAPH AT	S131	72.	4.17	10.	3.	2.	.11
+	ROUTED TO	131132	66.	4.42	10.	3.	2.	.11
+	HYDROGRAPH AT	S132	119.	4.17	14.	3.	3.	.14
+	2 COMBINED AT	C132	157.	4.25	24.	6.	6.	.25
+	ROUTED TO	132133	129.	4.58	24.	6.	6.	.25
+	HYDROGRAPH AT	S133	82.	4.17	9.	2.	2.	.10
+	2 COMBINED AT	C133	155.	4.50	32.	8.	8.	.35
+	ROUTED TO	133134	150.	4.67	32.	8.	8.	.35
+	HYDROGRAPH AT	S134	65.	4.17	6.	1.	1.	.07
+	3 COMBINED AT	C134L	196.	4.33	42.	11.	10.	.48
+	2 COMBINED AT	C134	1251.	6.00	681.	236.	228.	9.91
+	ROUTED TO	134139	1246.	6.08	681.	236.	227.	9.91
	HYDROGRAPH AT							

+	S135	76.	4.08	6.	2.	1.	.07
+ ROUTED TO	135139	63.	4.17	6.	2.	1.	.07
+ HYDROGRAPH AT	S136	61.	4.17	6.	1.	1.	.08
+ 3 COMBINED AT	C139R	1246.	6.08	687.	238.	229.	10.05
+ HYDROGRAPH AT	S137	60.	4.17	7.	2.	2.	.08
+ ROUTED TO	137138	47.	4.67	7.	2.	2.	.08
+ HYDROGRAPH AT	S138	131.	4.33	25.	6.	6.	.27
+ 2 COMBINED AT	C138	160.	4.50	32.	8.	8.	.35
+ ROUTED TO	138139	144.	4.83	32.	8.	8.	.35
+ HYDROGRAPH AT	S139	43.	4.17	4.	1.	1.	.07
+ 2 COMBINED AT	C139L	151.	4.75	36.	9.	9.	.42
+ 2 COMBINED AT	C139	1278.	6.08	716.	246.	237.	10.47
+ ROUTED TO	139141	1277.	6.08	715.	245.	236.	10.47
+ HYDROGRAPH AT	S140	151.	4.17	23.	6.	6.	.25
+ ROUTED TO	140141	138.	4.42	23.	6.	6.	.25
+ HYDROGRAPH AT	S141	75.	4.17	11.	3.	3.	.10
+ 2 COMBINED AT	C141L	195.	4.33	34.	8.	8.	.35
+ HYDROGRAPH AT	S142	113.	4.17	12.	3.	3.	.14
+ ROUTED TO	142141	111.	4.17	12.	3.	3.	.14
+ 3 COMBINED AT	C141I	1292.	5.75	748.	255.	246.	10.96
+ ROUTED TO	141145	1287.	6.17	747.	254.	245.	10.96
+ HYDROGRAPH AT	S143	144.	4.08	12.	3.	3.	.14
+ ROUTED TO	143144	112.	4.17	12.	3.	3.	.14
+ HYDROGRAPH AT	S144	103.	4.25	13.	3.	3.	.15
+ 3 COMBINED AT	C145R	1287.	6.17	762.	259.	250.	11.25
+ HYDROGRAPH AT	S145	142.	4.25	21.	5.	5.	.20
+ 2 COMBINED AT	C145	1292.	6.17	777.	264.	254.	11.46
+ ROUTED TO	145147	1264.	6.75	774.	262.	253.	11.46
+ HYDROGRAPH AT	S147	497.	4.25	54.	14.	13.	.67
+ 2 COMBINED AT	C147R	1263.	6.75	804.	274.	264.	12.13
+ HYDROGRAPH AT	S200	440.	4.08	48.	12.	11.	.58
+ HYDROGRAPH AT	S201	701.	4.08	70.	18.	17.	.79

+	2 COMBINED AT	C201	954.	4.08	115.	29.	28.	1.37
+	ROUTED TO	201204	954.	4.17	115.	29.	28.	1.37
+	HYDROGRAPH AT	S203	191.	4.00	14.	3.	3.	.17
+	2 COMBINED AT	C204L	1015.	4.17	127.	32.	31.	1.54
+	HYDROGRAPH AT	S204	298.	4.08	27.	7.	6.	.30
+	2 COMBINED AT	C204	1151.	4.17	152.	38.	37.	1.84
+	ROUTED TO	204206	1138.	4.17	152.	38.	37.	1.84
+	HYDROGRAPH AT	S205	39.	4.08	3.	1.	1.	.04
+	2 COMBINED AT	C206L	1152.	4.17	154.	39.	37.	1.88
+	HYDROGRAPH AT	S206	141.	4.08	11.	3.	3.	.15
+	2 COMBINED AT	C206	1205.	4.17	163.	41.	39.	2.02
+	ROUTED TO	206209	1183.	4.25	163.	41.	39.	2.02
+	HYDROGRAPH AT	S207	249.	4.08	17.	4.	4.	.25
+	2 COMBINED AT	C209L	1241.	4.17	178.	45.	43.	2.27
+	HYDROGRAPH AT	S208	325.	4.08	24.	6.	6.	.31
+	ROUTED TO	208209	298.	4.17	24.	6.	6.	.31
+	HYDROGRAPH AT	S209	59.	4.08	6.	1.	1.	.07
+	2 COMBINED AT	C209R	354.	4.17	29.	7.	7.	.38
+	2 COMBINED AT	C209	1387.	4.17	203.	51.	49.	2.65
+	ROUTED TO	209215	1376.	4.25	203.	51.	49.	2.65
+	HYDROGRAPH AT	S210	287.	4.08	23.	6.	6.	.31
+	2 COMBINED AT	C215L	1480.	4.25	222.	56.	54.	2.96
+	HYDROGRAPH AT	S211	313.	4.08	23.	6.	6.	.27
+	ROUTED TO	211214	235.	4.25	23.	6.	6.	.27
+	HYDROGRAPH AT	S212	134.	4.17	12.	3.	3.	.18
+	2 COMBINED AT	C214L	349.	4.25	36.	9.	9.	.45
+	HYDROGRAPH AT	S213	217.	4.08	18.	4.	4.	.24
+	HYDROGRAPH AT	S214	288.	4.08	28.	7.	7.	.33
+	3 COMBINED AT	C214	690.	4.17	78.	20.	19.	1.02
+	ROUTED TO	214215	612.	4.25	78.	20.	19.	1.02
+	HYDROGRAPH AT	S215	52.	4.08	5.	1.	1.	.06
+	2 COMBINED AT	C215R	637.	4.25	82.	21.	20.	1.08

+	2 COMBINED AT	C215	1882.	4.25	293.	74.	71.	4.05
+	ROUTED TO	215216	1867.	4.33	293.	74.	71.	4.05
+	HYDROGRAPH AT	S216	405.	4.08	31.	8.	8.	.37
+	2 COMBINED AT	C216	1979.	4.33	319.	80.	77.	4.41
+	ROUTED TO	216217	1752.	4.75	318.	80.	77.	4.41
+	HYDROGRAPH AT	S217	259.	4.25	30.	8.	7.	.36
+	2 COMBINED AT	C217R	1811.	4.75	343.	87.	83.	4.77
+	HYDROGRAPH AT	S218	443.	4.08	34.	8.	8.	.39
+	ROUTED TO	218219	331.	4.33	34.	8.	8.	.39
+	HYDROGRAPH AT	S219	252.	4.17	24.	6.	6.	.28
+	2 COMBINED AT	C219	463.	4.25	57.	14.	14.	.67
+	HYDROGRAPH AT	S220	141.	4.17	14.	4.	3.	.17
+	2 COMBINED AT	C220	547.	4.25	71.	18.	17.	.84
+	ROUTED TO	220217	544.	4.25	71.	18.	17.	.84
+	2 COMBINED AT	C217	1964.	4.75	402.	102.	98.	5.61
+	ROUTED TO	217221	1910.	4.92	402.	102.	98.	5.61
+	HYDROGRAPH AT	S221	157.	4.25	21.	5.	5.	.23
+	2 COMBINED AT	C221	1943.	4.92	420.	106.	102.	5.85
+	ROUTED TO	221222	1743.	5.33	419.	106.	102.	5.85
+	HYDROGRAPH AT	S222	196.	4.25	24.	6.	6.	.27
+	2 COMBINED AT	C222	1748.	5.33	440.	111.	107.	6.12
+	ROUTED TO	222227	1711.	5.50	439.	111.	107.	6.12
+	HYDROGRAPH AT	S223	70.	4.17	8.	2.	2.	.09
+	ROUTED TO	223227	48.	4.58	8.	2.	2.	.09
+	HYDROGRAPH AT	S224	164.	4.17	15.	4.	4.	.21
+	3 COMBINED AT	C227L	1713.	5.50	456.	116.	111.	6.42
+	HYDROGRAPH AT	S225	190.	4.33	33.	8.	8.	.31
+	ROUTED TO	225226	151.	4.83	33.	8.	8.	.31
+	HYDROGRAPH AT	S226	166.	4.25	20.	5.	5.	.25
+	2 COMBINED AT	C226	232.	4.33	53.	13.	13.	.56
+	ROUTED TO	226227	224.	4.58	53.	13.	13.	.56
	HYDROGRAPH AT							

+		S227	73.	4.17	10.	2.	2.	.11
+	2 COMBINED AT	C227R	262.	4.50	63.	16.	15.	.67
+	2 COMBINED AT	C227	1803.	5.50	510.	129.	125.	7.09
+	ROUTED TO	227228	1728.	5.75	509.	129.	125.	7.09
+	HYDROGRAPH AT	S228	147.	4.25	19.	5.	5.	.22
+	2 COMBINED AT	C228	1727.	5.75	524.	133.	128.	7.32
+	ROUTED TO	228147	1711.	5.83	524.	133.	128.	7.32
+	2 COMBINED AT	C147	2475.	6.00	1258.	390.	376.	19.45
+	ROUTED TO	147319	2470.	6.08	1257.	389.	375.	19.45
+	HYDROGRAPH AT	S300	449.	4.17	43.	11.	10.	.50
+	HYDROGRAPH AT	S301	488.	4.08	43.	11.	10.	.50
+	2 COMBINED AT	C301	770.	4.08	84.	21.	20.	1.01
+	ROUTED TO	301302	733.	4.25	84.	21.	20.	1.01
+	HYDROGRAPH AT	S302	217.	4.08	19.	5.	4.	.24
+	2 COMBINED AT	C302	852.	4.17	101.	25.	24.	1.25
+	ROUTED TO	302303	810.	4.25	101.	25.	24.	1.25
+	HYDROGRAPH AT	S303	126.	4.08	10.	3.	2.	.13
+	2 COMBINED AT	C303	852.	4.25	110.	28.	27.	1.37
+	ROUTED TO	303312	740.	4.58	110.	28.	27.	1.37
+	HYDROGRAPH AT	S304	68.	4.17	8.	2.	2.	.13
+	2 COMBINED AT	C312R	756.	4.58	117.	29.	28.	1.50
+	HYDROGRAPH AT	S305	229.	4.08	18.	4.	4.	.23
+	ROUTED TO	305309	153.	4.33	18.	4.	4.	.23
+	HYDROGRAPH AT	S306	33.	4.17	3.	1.	1.	.05
+	HYDROGRAPH AT	S307	184.	4.08	16.	4.	4.	.21
+	ROUTED TO	307309	175.	4.17	16.	4.	4.	.21
+	3 COMBINED AT	C309R	334.	4.17	37.	9.	9.	.49
+	HYDROGRAPH AT	S308	448.	4.08	34.	9.	8.	.47
+	ROUTED TO	308309	299.	4.33	34.	9.	8.	.47
+	HYDROGRAPH AT	S309	160.	4.08	15.	4.	4.	.19
+	2 COMBINED AT	C309L	384.	4.25	48.	12.	12.	.66
+	2 COMBINED AT	C309	617.	4.25	82.	21.	20.	1.14

+	ROUTED TO	309310	546.	4.50	82.	21.	20.	1.14
+	HYDROGRAPH AT	S310	454.	4.17	51.	13.	12.	.55
+	2 COMBINED AT	C310	741.	4.33	130.	33.	31.	1.70
+	DIVERSION TO	D310UO	325.	4.17	20.	5.	5.	1.70
+	HYDROGRAPH AT	D310U	741.	4.33	110.	28.	26.	1.70
+	ROUTED TO	RR310	725.	4.50	110.	28.	26.	1.70
+	DIVERSION TO	D310DO	87.	3.83	5.	1.	1.	1.70
+	HYDROGRAPH AT	D310D	725.	4.50	105.	26.	25.	1.70
+	ROUTED TO	310312	700.	4.58	105.	26.	25.	1.70
+	HYDROGRAPH AT	S311	67.	4.08	8.	2.	2.	.08
+	ROUTED TO	311312	51.	4.42	8.	2.	2.	.08
+	HYDROGRAPH AT	S312	121.	4.08	12.	3.	3.	.14
+	3 COMBINED AT	C312L	762.	4.58	124.	31.	30.	1.91
+	2 COMBINED AT	C312	1347.	4.58	231.	58.	56.	3.42
+	ROUTED TO	312314	1292.	4.67	231.	58.	56.	3.42
+	HYDROGRAPH AT	S313	39.	4.17	5.	1.	1.	.05
+	ROUTED TO	313314	38.	4.25	5.	1.	1.	.05
+	HYDROGRAPH AT	S314	85.	4.08	7.	2.	2.	.09
+	3 COMBINED AT	C314	1315.	4.67	241.	61.	58.	3.56
+	ROUTED TO	314318	1250.	4.83	241.	61.	58.	3.56
+	HYDROGRAPH AT	S315	244.	4.08	21.	5.	5.	.24
+	ROUTED TO	315316	209.	4.25	21.	5.	5.	.24
+	HYDROGRAPH AT	S316	178.	4.17	19.	5.	5.	.22
+	2 COMBINED AT	C316	377.	4.17	40.	10.	10.	.46
+	ROUTED TO	316317	273.	4.58	40.	10.	10.	.46
+	HYDROGRAPH AT	S317	424.	4.25	50.	12.	12.	.60
+	2 COMBINED AT	C317	523.	4.33	88.	22.	21.	1.07
+	ROUTED TO	317318	501.	4.58	88.	22.	21.	1.07
+	HYDROGRAPH AT	S318	114.	4.17	12.	3.	3.	.16
+	3 COMBINED AT	C318	1601.	4.83	328.	82.	79.	4.78
+	ROUTED TO	318319	1530.	5.17	328.	82.	79.	4.78
+	HYDROGRAPH AT	S319	370.	4.50	81.	20.	20.	.89

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          2 COMBINED AT
+                        C319L     1695.    5.08        399.       101.        97.      5.66

          2 COMBINED AT
+                         C319     3134.    5.33       1564.       468.       451.     25.11

          ROUTED TO
+                       319400     3037.    6.25       1553.       462.       445.     25.11

          HYDROGRAPH AT
+                         S400      479.    4.75        146.        37.        35.      1.68

          2 COMBINED AT
+                         C400     3146.    6.17       1634.       490.       472.     26.79

          HYDROGRAPH AT
+                         S500       37.    4.08          4.         1.         1.       .04


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


    -----DSS---ZCLOSE Unit:  71,   File: DH106E.DSS
              Pointer Utilization:   .25
              Number of Records:     42
              File Size:     84.0  Kbytes
              Percent Inactive:    .0
```

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1****************************************
*                                      *
*   FLOOD HYDROGRAPH PACKAGE  (HEC-1)  *
*              JUN  1998               *
*            VERSION 4.1               *
*                                      *
*  RUN DATE   14AUG03  TIME  15:56:31  *
*                                      *
****************************************
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```
****************************************
*                                      *
*    U.S. ARMY CORPS OF ENGINEERS      *
*    HYDROLOGIC ENGINEERING CENTER     *
*          609 SECOND STREET           *
*       DAVIS, CALIFORNIA 95616        *
*           (916) 756-1104             *
*                                      *
****************************************
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X     X  XXXXXXX   XXXXX          X
X     X  X        X     X        XX
X     X  X        X              X
XXXXXXX  XXXX     X        XXXXX X
X     X  X        X              X
X     X  X        X     X        X
X     X  XXXXXXX   XXXXX        XXX
```

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

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

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1                                    HEC-1 INPUT                                    PAGE  1

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

  1           ID    DESERT HILLS AREA HYDROLOGY
  2           ID
  3           ID     JE FULLER / HYDROLOGY & GEOMORPHOLOGY, INC.
  4           ID     ADOBE DAM / DESERT HILLS ADMP
  5           ID     APRIL 2003 - KK RR310 revised 08-14-03
  6           ID
  7           ID     THIS IS THE 2-YEAR  6-HOUR MODEL FOR EXISTING CONDITIONS LAND USE
  8           ID
  9           ID    MODEL BASIS:
 10           ID     * DDMSW PROJECT NAME: DHA_EX6
 11           ID     * HYDROLOGY DEVELOPED FOR THE DESERT HILLS AREA FOR THE ADMP
 12           ID     * EXISTING CONDITIONS LAND USE BASED ON MAG LAND USE FILES PROVIDED
 13           ID       BY FCDMC AND UPDATED TO REFLECT EXTENT OF DEVELOPMENT AS SHOWN IN
 14           ID       THE FEB. 2002 AERIAL PHOTOGRAPHS FROM THE FCDMC
 15           ID     * PREFRE RAINFALL STATISTICS FROM NOAA ATLAS II
 16           ID     * MULTIPLE STORM (JD RECORDS) USED FOR CRITICAL STORM CENTERING
 17           ID     * RAINFALL LOSS COMPUTED USING GREEN & AMPT METHOD
 18           ID     * CLARK METHOD WAS USED FOR DEVELOPMENT OF UNIT HYDROGRAPHS
 19           ID     * MODIFIED PULS NORMAL-DEPTH ROUTING USED FOR CHANNEL ROUTINGS
 20           ID     * 2-YEAR VALUES COMPUTED BY 0.10 RATIO OF 100-YEAR RESULTS
 21           ID       PER DRAFT HYDROLOGY MANUAL (2003)
 22           ID
 23           ID     * A PORTION OF THE AREA WAS MODELED EXTERNALLY USING FLO-2D.
 24           ID
              *DIAGRAM
 25           IT       5 21FEB03    0000     300
 26           IO       5
 27           IN      15
 28           JD    3.35    0.01
 29           PC   0.000   0.008   0.016   0.025   0.033   0.041   0.050   0.058   0.066   0.074
 30           PC   0.087   0.099   0.118   0.138   0.216   0.377   0.834   0.911   0.931   0.950
 31           PC   0.962   0.972   0.983   0.991   1.000
 32           JD   3.328    0.50
 33           PC   0.000   0.008   0.016   0.025   0.033   0.041   0.050   0.058   0.066   0.074
 34           PC   0.087   0.099   0.118   0.138   0.216   0.377   0.834   0.911   0.931   0.950
 35           PC   0.962   0.972   0.983   0.991   1.000
 36           JD   3.266    2.80
 37           PC   0.000   0.009   0.016   0.025   0.034   0.042   0.051   0.059   0.067   0.076
 38           PC   0.087   0.100   0.120   0.163   0.252   0.451   0.694   0.837   0.900   0.938
 39           PC   0.950   0.963   0.975   0.988   1.000
 40           JD   3.089    16.0
 41           PC   0.000   0.015   0.020   0.030   0.048   0.063   0.076   0.090   0.105   0.119
 42           PC   0.135   0.152   0.175   0.222   0.304   0.472   0.670   0.796   0.868   0.912
 43           PC   0.946   0.960   0.973   0.987   1.000
 44           JD   2.720    90.0
 45           PC   0.000   0.021   0.035   0.051   0.071   0.087   0.105   0.125   0.143   0.160
 46           PC   0.179   0.201   0.232   0.281   0.364   0.500   0.658   0.773   0.841   0.888
 47           PC   0.927   0.945   0.964   0.982   1.000
              *
1                                    HEC-1 INPUT                                    PAGE  2

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

 48           KK    S100   BASIN
 49           KM    THIS IS THE FLOW IN DESERT LAKE WASH AT NEW RIVER ROAD ABOUT 900 FT NORTH
 50           KM    OF SADDLE MOUNTAIN ROAD
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 51          BA   0.341            0.10
 52          LG    0.34    0.15    7.30    0.12      25
 53          UC   0.242   0.177
 54          UA       0     3.0     5.0     8.0    12.0    20.0    43.0    75.0    90.0    96.0
 55          UA     100
             *

 56          KK  100101   ROUTE   REACH
 57          KM    ROUTE RUNOFF FROM SUBBASIN S100 TO C101
 58          KM    SLOPE = (1990-1910)/4970 = 0.016
 59          KM     XS based on Desert Lake Wash XS 4.37 (Stanley Consultants, 1999)
 60          RS       3    FLOW      -1
 61          RC   0.075   0.055   0.075    4970  0.0160    0.00
 62          RX  9930.4  9950.2  9992.1 10000.0 10017.0 10022.0 10078.0 10122.0
 63          RY  1936.0  1932.6  1930.6  1928.5  1929.2  1930.7  1930.7  1936.0
             *

 64          KK    S101   BASIN
 65          BA   0.298            0.10
 66          LG    0.32    0.15    9.70    0.05       4
 67          UC   0.342   0.285
 68          UA       0     3.0     5.0     8.0    12.0    20.0    43.0    75.0    90.0    96.0
 69          UA     100
             *

 70          KK    C101
 71          KM   COMBINE RUNOFF FROM S101 WITH ROUTED FLOW FROM S100
 72          KM   THIS IS THE TOTAL FLOW IN DESERT LAKE WASH AT DESERT HILLS DRIVE
 73          KM    INFLOW TO FLO-2D AREA
 74          HC       2
             *

 75          KK  101CFH   ROUTE   REACH
 76          KM    ROUTE COMBINED FLOW AT C101 TO CAREFREE HIGHWAY
 77          KM    SLOPE = (1910-1775)/18272 = 0.0074
 78          KM     XS IS HYPOTHETICAL; EVENTUALLY WILL BE REPLACED BY FLO-2D RESULTS
 79          RS      19    FLOW      -1
 80          RC   0.060   0.050   0.060   18272  0.0074    0.00
 81          RX     0.0    10.0   110.0   120.0   135.0   145.0   245.0   255.0
 82          RY   100.0    90.0    89.0    88.0    88.0    89.0    90.0   100.0
             *

 83          KK    S102   BASIN
 84          BA   0.298            0.10
 85          LG    0.35    0.15    7.00    0.14      22
 86          UC   0.196   0.114
 87          UA       0     3.0     5.0     8.0    12.0    20.0    43.0    75.0    90.0    96.0
 88          UA     100
             *
```

1 HEC-1 INPUT PAGE 3

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

 89          KK  102103   ROUTE   REACH
 90          KM    ROUTE RUNOFF FROM SUBBASIN S102 TO C103
 91          KM    SLOPE = (1995-1941)/2635 = 0.0205
 92          KM     XS based on Desert Lake Wash Trib 2 XS 2.68 (Stanley Consultants, 1999)
 93          RS       2    FLOW      -1
 94          RC   0.075   0.055   0.075    2635  0.0205    0.00
 95          RX  9989.2  9991.6  9995.7 10000.0 10019.0 10066.0 10119.0 10146.0
 96          RY  1978.6  1976.0  1972.0  1968.0  1968.9  1972.0  1976.0  1978.5
             *

 97          KK    S103   BASIN
 98          BA   0.139            0.10
 99          LG    0.33    0.15    7.00    0.13       4
100          UC   0.233   0.195
101          UA       0     3.0     5.0     8.0    12.0    20.0    43.0    75.0    90.0    96.0
102          UA     100
             *

103          KK    C103
104          KM    COMBINE RUNOFF FROM S103 WITH ROUTED FLOW FROM S102
105          KM    THIS IS THE FLOW IN DESERT LAKE WASH TRIB 2 AT DESERT HILLS DRIVE
106          HC       2
             *

107          KK  103104   ROUTE   REACH
108          KM    ROUTE COMBINED FLOW FROM C103 TO C104
109          KM    INFLOW TO FLO-2D AREA
110          KM    SLOPE = (1941-1920)/1290 = 0.016
111          KM     XS based on Desert Lake Wash Trib 2 XS 2.19 (Stanley Consultants, 1999)
112          RS       1    FLOW      -1
113          RC   0.075   0.055   0.075    1290  0.0160    0.00
114          RX  9842.3  9939.1  9975.0 10000.0 10010.0 10019.0 10029.0 10035.0
115          RY  1928.0  1924.9  1923.1  1920.2  1919.1  1923.0  1926.0  1928.0
             *

116          KK    S104   BASIN
117          BA   0.082            0.10
118          LG    0.31    0.15    8.80    0.06       8
119          UC   0.221   0.201
120          UA       0     4.5    12.6    23.2    35.8    50.0    64.2    76.8    87.4    95.5
121          UA     100
```

```
                *
 122            KK    C104
 123            KM    COMBINE RUNOFF FROM S104 WITH ROUTED FLOW FROM C103
 124            KM    THIS IS THE TOTAL FLOW IN DESERT LAKE WASH TRIB 2 AT 10TH STREET
 125            KM    INFLOW TO FLO-2D AREA
 126            HC       2
                *
1                                          HEC-1 INPUT                                                    PAGE  4

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


 127            KK  104CFH   ROUTE   REACH
 128            KM    ROUTE COMBINED FLOW AT C104 TO CAREFREE HIGHWAY
 129            KM    SLOPE = (1920-1775)/17795 = 0.0081
 130            KM     XS IS HYPOTHETICAL; EVENTUALLY WILL BE REPLACED BY FLO-2D RESULTS
 131            RS      18    FLOW      -1
 132            RC   0.060   0.050   0.060   17795  0.0081    0.00
 133            RX     0.0    10.0   110.0   120.0   135.0   145.0   245.0   255.0
 134            RY   100.0    90.0    89.0    88.0    88.0    89.0    90.0   100.0
                *

 135            KK    S105   BASIN
 136            KM    THIS IS THE RUNOFF IN THE EAST FORK OF DESERT LAKE WASH AT 12TH STREET.
 137            BA   0.162            0.10
 138            LG    0.34    0.05   12.40    0.01       1
 139            UC   0.338   0.335
 140            UA       0     4.5    12.6    23.2    35.8    50.0    64.2    76.8    87.4    95.5
 141            UA     100
                *

 142            KK  105106   ROUTE   REACH
 143            KM    ROUTE RUNOFF FROM S105 TO C106
 144            KM    SLOPE = (1875-1855)/1600 = 0.0125
 145            KM     XS based on East Fork Desert Lake Wash XS 2.47 (Stanley Consultants, 1999)
 146            RS       2    FLOW      -1
 147            RC   0.060   0.050   0.060    1600  0.0125    0.00
 148            RX  9805.6  9964.1  9995.6 10000.0 10005.0 10010.0 10036.0 10140.0
 149            RY  1868.0  1864.0  1863.6  1862.2  1862.2  1863.3  1864.0  1868.0
                *

 150            KK    S106   BASIN
 151            BA   0.107            0.10
 152            LG    0.31    0.05   12.40    0.01       4
 153            UC   0.325   0.349
 154            UA       0     4.5    12.6    23.2    35.8    50.0    64.2    76.8    87.4    95.5
 155            UA     100
                *

 156            KK    C106
 157            KM    COMBINE RUNOFF FROM S106 WITH ROUTED FLOW FROM C105
 158            KM    THIS IS THE FLOW IN THE EAST FORK OF DESERT LAKE WASH AT JOY RANCH ROAD
 159            HC       2
                *

 160            KK  106107   ROUTE   REACH
 161            KM    ROUTE COMBINED FLOW FROM C106 TO C107
 162            KM    SLOPE = (1855-1831)/2882 = 0.0083
 163            KM     XS based on East Fork Desert Lake Wash XS 2.14 (Stanley Consultants, 1999)
 164            RS       3    FLOW      -1
 165            RC   0.075   0.055   0.075    2882  0.0083    0.00
 166            RX  9799.6  9956.2  9992.2 10000.0 10005.0 10010.0 10078.0 10191.0
 167            RY  1850.0  1848.0  1846.7  1844.0  1844.0  1846.6  1847.0  1850.0
                *
1                                          HEC-1 INPUT                                                    PAGE  5

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


 168            KK    S107   BASIN
 169            BA   0.186            0.10
 170            LG    0.31    0.10   11.20    0.02       4
 171            UC   0.413   0.370
 172            UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
 173            UA     100
                *

 174            KK    C107
 175            KM     COMBINE RUNOFF FROM S107 WITH ROUTED FLOW FROM C106
 176            KM     THIS IS THE FLOW IN THE EAST FORK OF DESERT LAKE WASH AT MADDOCK ROAD
 177            KM    INFLOW TO FLO-2D AREA
 178            HC       2
                *

 179            KK  107CFH   ROUTE   REACH
 180            KM    ROUTE COMBINED FLOW AT C107 TO CAREFREE HIGHWAY
 181            KM    SLOPE = (1831-1775)/8801 = 0.0064
 182            KM     XS IS HYPOTHETICAL; EVENTUALLY WILL BE REPLACED BY FLO-2D RESULTS
 183            RS       8    FLOW      -1
 184            RC   0.050   0.040   0.050    8801  0.0064    0.00
 185            RX     0.0    10.0   110.0   120.0   135.0   145.0   245.0   255.0
 186            RY   100.0    90.0    89.0    88.0    88.0    89.0    90.0   100.0
                *
```

```
 187          KK    S150   BASIN
 188          KM     INFLOW TO FLO-2D AREA
 189          BA   0.011            0.10
 190          LG    0.35    0.13   10.10    0.04       2
 191          UC   0.104   0.104
 192          UA       0     4.5    12.6    23.2    35.8    50.0    64.2    76.8    87.4    95.5
 193          UA     100
              *

 194          KK    S151   BASIN
 195          KM     INFLOW TO FLO-2D AREA
 196          BA   0.017            0.10
 197          LG    0.35    0.15    7.60    0.11       8
 198          UC   0.129   0.149
 199          UA       0     4.5    12.6    23.2    35.8    50.0    64.2    76.8    87.4    95.5
 200          UA     100
              *

 201          KK    S152   BASIN
 202          BA   0.087            0.10
 203          LG    0.35    0.19    6.60    0.17       5
 204          UC   0.167   0.126
 205          UA       0     3.0     5.0     8.0    12.0    20.0    43.0    75.0    90.0    96.0
 206          UA     100
              *
1                                          HEC-1 INPUT                                          PAGE  6

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

 207          KK    D152DIVERT
 208          KM     DIVERT FLOW TO FLO-2D AREA UNDER CAREFREE HWY
 209          KM     RATING BASED ON HY8 ANALYSIS (FILE: D152.INP)
 210          DT    152O
 211          DI       0      30     200     300
 212          DQ       0      28      57      60
              *

 213          KK  152153   ROUTE   REACH
 214          KM    ROUTE RUNOFF FROM S152 TO C153 ALONG CAREFREE HWY
 215          KM    SLOPE = (1846-1838)/616 = 0.013
 216          KM    XS based on examination of 2002 FCD orthophotos and available 10 ft (FCD)
 217          KM    and 2 ft contour data from Jerry Jones FDS and Stanley FDS mapping
 218          RS       1    FLOW      -1
 219          RC   0.030   0.030   0.060     616  0.0130    0.00
 220          RX     0.0     1.0    31.0    43.0    48.0    60.0    80.0   100.0
 221          RY   100.0    99.5    99.0    96.0    96.0    99.0    99.5   100.0
              *

 222          KK    S153   BASIN
 223          BA   0.012            0.10
 224          LG    0.35    0.13   10.10    0.04       0
 225          UC   0.158   0.177
 226          UA       0     4.5    12.6    23.2    35.8    50.0    64.2    76.8    87.4    95.5
 227          UA     100
              *

 228          KK    C153
 229          KM    COMBINE RUNOFF FROM S153 WITH ROUTED FLOW FROM S152
 230          KM     INFLOW TO FLO-2D AREA
 231          HC       2
              *

 232          KK   DR152
 233          KM    RETRIEVE DIVERTED FLOW INTO FLO-2D AREA AT D152
 234          DR    152O
              *

 235          KK    C155
 236          KM    DUMMY COMBINATION OF ALL 150 SERIES SUBBASINS FOR ROUTING THROUGH
 237          KM    FLO-2D AREA IN HEC-1 AND PRESERVATION OF TOTAL WATERSHED AREA
 238          HC       4
              *

 239          KK   DUMMY
 240          KM    COMBINE 150 SERIES FLO-2D INFLOW HYDROGRAPHS WITH 100 SERIES FLO-2D
 241          KM    INFLOW HYDROGRAPHS
 242          HC       4
              *
1                                          HEC-1 INPUT                                          PAGE  7

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

 243          KK    S122   BASIN
 244          KM    THIS IS THE RUNOFF TO CENTRAL AVE JUST SOUTH OF CAREFREE HWY
 245          BA   0.158            0.10
 246          LG    0.35    0.15    7.30    0.13       9
 247          UC   0.288   0.257
 248          UA       0     3.0     5.0     8.0    12.0    20.0    43.0    75.0    90.0    96.0
 249          UA     100
              *
              *  THE FOLLOWING ROUTING REACH REMOVED AS S122 RUNOFF IS NOW IMPORTED
              *  INTO FLO-2D MODEL TO ROUTE TO C127
              *
```

```
* KK122125   ROUTE   REACH
* KM  ROUTE RUNOFF FROM S122 TO C125
* KM  SLOPE = (1815-1788)/2616 = 0.010
* KM  ROUTE ALONG SOUTH SIDE OF CAREFREE HWY
* KM  XS based on examination of 2002 FCD orthophotos and available 10 ft (FCD)
* KM  and 2 ft contour data from Jerry Jones FDS and Stanley FDS mapping
* RS     2    FLOW      -1
* RC 0.030   0.035   0.050    2616  0.0100    0.00
* RX   0.0     1.0    31.0    46.0    56.0    64.0   100.0   200.0
* RY 100.0    99.5    99.0    95.0    95.0    99.0    99.5   100.0
*

KK    S123   BASIN
KM    THIS IS THE RUNOFF TO CENTRAL AVENUE ABOUT 300 FT SOUTH OF CAREFREE HWY
BA   0.135            0.10
LG    0.35    0.15    8.00    0.10       6
UC   0.217   0.183
UA       0     3.0     5.0     8.0    12.0    20.0    43.0    75.0    90.0    96.0
UA     100
*
*  FOLLWING ROUTING REMOVED AND RUNOFF IMPORTED INTO FLO-2D MODEL
*  TO ROUTE TO C127
*
* KK123125   ROUTE   REACH
* KM  ROUTE RUNOFF FROM S123 TO C125
* KM  SLOPE = (1813-1788)/2704 = 0.009
* KM  XS based on examination of 2002 FCD orthophotos and available 10 ft (FCD)
* KM  and 2 ft contour data from Jerry Jones FDS and Stanley FDS mapping
* RS     2    FLOW      -1
* RC 0.030   0.035   0.050    2704  0.0090    0.00
* RX   0.0     1.0    31.0    46.0    56.0    64.0   100.0   200.0
* RY 100.0    99.5    99.0    95.0    95.0    99.0    99.5   100.0
*

KK    S124   BASIN
KM    THIS IS THE RUNOFF TO CENTRAL AVENUE IN A WASH CROSSING ABOUT 1400 FT SOUTH
KM    OF CAREFEE HWY
BA   0.059            0.10
LG    0.34    0.15    8.80    0.07       9
UC   0.158   0.087
UA       0     3.0     5.0     8.0    12.0    20.0    43.0    75.0    90.0    96.0
UA     100
*
```



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

KK  124125   ROUTE   REACH
KM    ROUTE RUNOFF FROM S124 TO C125
KM    SLOPE = (1820-1788)/3289 = 0.0097
KM    XS based on examination of 2002 FCD orthophotos and available 10 ft (FCD)
KM    and 2 ft contour data from Jerry Jones FDS and Stanley FDS mapping
RS       3    FLOW      -1
RC   0.050   0.040   0.050    3289  0.0097    0.00
RX     0.0    40.0    80.0    88.0    98.0   106.0   146.0   186.0
RY   100.0    96.0    92.0    90.0    90.0    92.0    96.0   100.0
*

KK    S125   BASIN
BA   0.151            0.10
LG    0.33    0.15    7.30    0.12       9
UC   0.263   0.240
UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
UA     100
*

KK    C125
KM     COMBINE RUNOFF FROM S125 WITH ROUTED FLOWS FROM S124.
KM    THIS FLOW IS INFLOW TO FLO-2D MODEL
HC       2
*

KK   DUMMY
KM     COMBINE 120 SERIES HYDROGRAPHS WHICH WERE IMPORTED TO FLO-2D MODEL
HC       2
*
* KK125127   ROUTE   REACH
* KM  ROUTE COMBINED FLOW FROM C125 TO C127 THROUGH SUBBASIN S127
* KM  SLOPE = (1788-1770)/2429 = 0.0074
* KM   XS based on "Jonathan Wash" XS 0.12 from Jerry Jones (JONA.DAT)
* RS     2    FLOW      -1
* RC 0.065   0.050   0.065    2429  0.0074    0.00
* RX 10560 10620.0 10660.0 10670.0 10680.0 10810.0 11000.0 11200.0
* RY1776.0  1774.0  1774.0  1770.0  1772.0  1774.0  1776.0  1778.0
*
*  Above routing removed based on revisions to FLO-2D model which import
*  flow from S122 - S125
*

KK   DUMMY
KM    COMBINE ALL DUMMY INFLOW HYDROGRAPHS TO FLO-2D AREA
HC       3
*
* KK FLO2D   BASIN
```

```
                * KM  DUMMY BASIN FOR HEC-1 MODEL CONTINUITY OF FLO-2D AREA
                * KM  WILL BE REPLACED WITH INFLOW HYDROGRAPH FROM FINAL FLO-2D ANALYSIS
                * BA 3.231
                * LG  0.32    0.15    8.80    0.06       4
                * UC 0.904   0.515
                * UA     0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97
                * UA   100
                *
1                                          HEC-1 INPUT                                                    PAGE  9

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

           290          KK   FLO2D
           291          KM    THIS IS THE OUTFLOW HYDROGRAPH FROM THE FLO-2D MODELING OF THE DESERT LAKE
           292          KM    WATERSHED AT CAREFREE HWY.
           293          KM    THIS IS THE TOTAL FLOW IMMEDIATELY DOWNSTREAM OF CAREFREE HWY INCLUDING
           294          KM    DESERT LAKE WASH AND THE EAST FORK OF DESERT LAKE WASH.
           295          IN       5
           296          BA    5.47
           297          QI       0       0       0       0       0       0       0       0       0       0
           298          QI       0       0       0       0       0       0       0       0       0       0
           299          QI       0       0       0       0       0       0       0       0       0       0
           300          QI       0       0       0       0       0       0       0       0       0       0
           301          QI       0       0       0       0       0       0       1       1       2       3
           302          QI       7      14      20      38      54      77      87      90      89      80
           303          QI      78      69      56      50      48      49      51      57      56      58
           304          QI      61      64      67      70      75      72      77      83      92      97
           305          QI     114     127     130     134     135     136     136     137     137     137
           306          QI     137     137     136     134     132     130     128     127     124     124
           307          QI     124     114     100      98      97      97      95      93      93      90
           308          QI      79      74      77      72      71      71      70      68      66      65
           309          QI      63      62      60      59      58      57      56      55      55      54
           310          QI      54      53      53      53      52      51      51      50      48      48
           311          QI      46      47      46      45      44       0       0       0       0       0
                        *

           312          KK  CFH127   ROUTE   REACH
           313          KM    ROUTE COMBINED FLOWS AT CAREFREE HIGHWAY TO C127
           314          KM    SLOPE = (1775-1770)/1234 = 0.004
           315          KM     XS based on "Jonathan Wash" XS 0.12 from Jerry Jones (JONA.DAT)
           316          RS       1    FLOW      -1
           317          RC   0.065   0.050   0.065    1234  0.0040    0.00
           318          RX   10560 10620.0 10660.0 10670.0 10680.0 10810.0 11000.0 11200.0
           319          RY  1776.0  1774.0  1774.0  1770.0  1772.0  1774.0  1776.0  1778.0
                        *

           320          KK    S108   BASIN
           321          BA   0.329            0.10
           322          LG    0.35    0.15    8.80    0.07      12
           323          UC   0.196   0.105
           324          UA       0     3.0     5.0     8.0    12.0    20.0    43.0    75.0    90.0    96.0
           325          UA     100
                        *

           326          KK  108109   ROUTE   REACH
           327          KM    ROUTE RUNOFF FROM S108 TO C109
           328          KM    SLOPE = (1915-1844)/5783 = 0.0123
           329          KM     XS based on Desert Hills Wash Trib 5 XS 0.74 (Stanley Consultants, 1999)
           330          RS       5    FLOW      -1
           331          RC   0.050   0.040   0.050    5783  0.0123    0.00
           332          RX     0.0    10.0   110.0   120.0   135.0   145.0   245.0   255.0
           333          RY   100.0    90.0    89.0    84.0    84.0    89.0    90.0   100.0
                        *
1                                          HEC-1 INPUT                                                    PAGE 10

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

           334          KK    S109   BASIN
           335          BA   0.366            0.10
           336          LG    0.34    0.15    8.40    0.08       1
           337          UC   0.346   0.258
           338          UA       0     3.0     5.0     8.0    12.0    20.0    43.0    75.0    90.0    96.0
           339          UA     100
                        *

           340          KK   C109R
           341          KM    COMBINE RUNOFF FROM S109 WITH ROUTED FLOW FROM S108
           342          KM    THIS IS THE FLOW IN DESERT HILLS WASH TRIB 5 ABOUT 900 FT DOWNSTREAM
           343          KM    OF JOY RANCH ROAD.
           344          HC       2
                        *

           345          KK    S110   BASIN
           346          BA   0.132            0.10
           347          LG    0.34    0.19    6.60    0.16      21
           348          UC   0.208   0.182
           349          UA       0     3.0     5.0     8.0    12.0    20.0    43.0    75.0    90.0    96.0
           350          UA     100
                        *

           351          KK  110111   ROUTE   REACH
           352          KM    ROUTE RUNOFF FROM S110 TO C111
           353          KM    SLOPE = (1965-1895)/4457 = 0.0157
```

```
 354          KM     XS based on Desert Hills Wash XS 5.57 (Stanley Consultants, 1999)
 355          RS       4    FLOW      -1
 356          RC   0.075   0.055   0.075    4457  0.0157    0.00
 357          RX  9972.7  9988.0  9989.0 10000.0 10016.0 10061.0 10075.0 10092.0
 358          RY  1926.0  1922.0  1921.7  1919.2  1920.8  1922.4  1924.0  1926.0
              *

 359          KK    S111   BASIN
 360          BA   0.248            0.10
 361          LG    0.35    0.15    8.00    0.10       7
 362          UC   0.217   0.155
 363          UA       0     3.0     5.0     8.0    12.0    20.0    43.0    75.0    90.0    96.0
 364          UA     100
              *

 365          KK    C111
 366          KM    COMBINE RUNOFF FROM S111 WITH ROUTED FLOW FROM S110
 367          KM    THIS IS THE FLOW IN DESERT HILLS WASH AT 20TH STREET
 368          HC       2
              *

 369          KK  111109   ROUTE   REACH
 370          KM    ROUTE COMBINED FLOW FROM C111 THROUGH S112 TO C109
 371          KM    SLOPE = (1895-1844)/5694 = 0.009
 372          KM     XS based on Desert Hills Wash XS 4.68 (Jerry Jones, 1992)
 373          RS       5    FLOW      -1
 374          RC   0.070   0.055   0.070    5694  0.0090    0.00
 375          RX  9938.7  9951.1  9979.0 10000.0100010.0 10054.0 10101.0 10114.0
1                                          HEC-1 INPUT                                          PAGE 11

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

 376          RY  1872.0  1870.0  1868.0  1867.0  1867.0  1868.0  1870.0  1872.0
              *

 377          KK    S112   BASIN
 378          BA   0.567            0.10
 379          LG    0.32    0.15    8.40    0.07       7
 380          UC   0.325   0.243
 381          UA       0     3.0     5.0     8.0    12.0    20.0    43.0    75.0    90.0    96.0
 382          UA     100
              *

 383          KK   C109C
 384          KM     COMBINE RUNOFF FROM S112 WITH ROUTED FLOW FROM C111
 385          KM    THIS IS THE FLOW IN DESERT HILLS WASH AT JOY RANCH ROAD
 386          HC       2
              *

 387          KK    S113   BASIN
 388          BA   0.110            0.10
 389          LG    0.33    0.23    6.20    0.18       2
 390          UC   0.308   0.339
 391          UA       0     4.5    12.6    23.2    35.8    50.0    64.2    76.8    87.4    95.5
 392          UA     100
              *

 393          KK  113114   ROUTE   REACH
 394          KM    ROUTE RUNOFF FROM S113 TO C114
 395          KM    SLOPE = (1950-1904)/3220 = 0.0143
 396          KM     XS based on Desert Hills Wash Trib 6 XS 1.04 (Stanley Consultants, 1999)
 397          RS       2    FLOW      -1
 398          RC   0.075   0.055   0.075    3220  0.0143    0.00
 399          RX  9888.8  9957.5  9990.9  9995.0 10005.0 10011.0 10030.0 10105.0
 400          RY  1928.0  1926.0  1925.0  1923.0  1923.0  1925.0  1926.0  1928.0
              *

 401          KK    S114   BASIN
 402          BA   0.109            0.10
 403          LG    0.35    0.15    8.00    0.10       0
 404          UC   0.283   0.245
 405          UA       0     4.5    12.6    23.2    35.8    50.0    64.2    76.8    87.4    95.5
 406          UA     100
              *

 407          KK    C114
 408          KM    COMBINE RUNOFF S114 WITH ROUTED FLOW FROM S113
 409          KM    THIS IS THE FLOW IN DESRT HILLS WASH TRIB 6 AT 20TH STREET
 410          HC       2
              *

 411          KK  114115   ROUTE   REACH
 412          KM    ROUTE COMBINED FLOW FROM C114 TO C115
 413          KM    SLOPE = (1904-1856)/3565 = 0.0135
 414          KM     XS based on Desert Hills Wash Trib 6 XS 0.44 (Stanley Consultants, 1999)
 415          RS       3    FLOW      -1
 416          RC   0.075   0.055   0.075    3565  0.0135    0.00
1                                          HEC-1 INPUT                                          PAGE 12

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

 417          RX  9896.0  9910.0  9953.8  9964.0 10000.0 10010.0 10023.0 10036.0
 418          RY  1888.0  1886.5  1884.6  1882.9  1881.9  1884.0  1886.0  1888.0
              *
```

```
419          KK    S115   BASIN
420          BA   0.155            0.10
421          LG    0.32    0.13   10.10    0.04       3
422          UC   0.392   0.405
423          UA       0     4.5    12.6    23.2    35.8    50.0    64.2    76.8    87.4    95.5
424          UA     100
             *

425          KK    C115
426          KM    COMBINE RUNOFF FROM S115 WITH ROUTED FLOWS FROM C114
427          KM    THIS IS THE FLOW IN DESERT HILLS WASH TRIB 6 AT 16TH STREET
428          HC       2
             *

429          KK  115109   ROUTE   REACH
430          KM    ROUTE COMBINED FLOW FROM C115 TO C109
431          KM    SLOPE = (1856-1844)/1415 = 0.0085
432          KM     XS based on Desert Hills Wash XS 4.23 (Jerry Jones, 1992)
433          RS       1    FLOW      -1
434          RC   0.065   0.050   0.065    1415  0.0085    0.00
435          RX  9824.9  9915.7  9966.2  9995.0 10005.0 10012.0 10018.0 10024.0
436          RY  1854.0  1850.0  1850.0  1846.4  1846.4  1850.0  1852.0  1854.0
             *

437          KK    C109
438          KM    COMBINE ROUTED FLOW FROM C115 WITH C109R AND C109C
439          KM    THIS IS THE TOTAL FLOW IN DESERT HILLS WASH ABOUT 900 FEET DOWNSTREAM
440          KM    OF JOY RANCH ROAD.
441          HC       3
             *

442          KK  109116   ROUTE   REACH
443          KM    ROUTE COMBINED FLOW FROM C109 TO C116
444          KM    SLOPE = (1844-1810)/4849 = 0.0070
445          KM     XS based on Desert Hills Wash XS 3.81 (Jerry Jones, 1992)
446          RS       4    FLOW      -1
447          RC   0.065   0.050   0.065    4849  0.0070    0.00
448          RX  9780.0  9808.0  9977.0  9988.0 10012.0 10042.0 10073.0 10110.0
449          RY  1838.0  1836.0  1834.0  1832.0  1832.0  1834.0  1836.0  1838.0
             *

450          KK    S116   BASIN
451          BA   0.224            0.10
452          LG    0.31    0.25    5.40    0.23       4
453          UC   0.533   0.523
454          UA       0     4.5    12.6    23.2    35.8    50.0    64.2    76.8    87.4    95.5
455          UA     100
             *
1                                          HEC-1 INPUT                                          PAGE 13

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

456          KK   C116R
457          KM    COMBINE RUNOFFF FROM S116 WITH ROUTED FLOW FROM C109
458          HC       2
             *

459          KK    S117   BASIN
460          BA   0.232            0.10
461          LG    0.31    0.13   10.10    0.03       4
462          UC   0.421   0.389
463          UA       0     4.5    12.6    23.2    35.8    50.0    64.2    76.8    87.4    95.5
464          UA     100
             *

465          KK    S118   BASIN
466          KM    THIS IS THE RUNOFF TO 20TH STREET IN AN UNNAMED TRIB TO DESERT HILLS WASH
467          BA   0.124            0.10
468          LG    0.32    0.05   12.40    0.01       3
469          UC   0.421   0.498
470          UA       0     4.5    12.6    23.2    35.8    50.0    64.2    76.8    87.4    95.5
471          UA     100
             *

472          KK  118119   ROUTE   REACH
473          KM    ROUTE RUNOFF FROM S118 TO C116
474          KM    SLOPE = (1887-1810)/5989 = 0.013
475          KM     XS based on Desert Hills Wash XS 4.23 (Jerry Jones, 1992)
476          RS       5    FLOW      -1
477          RC   0.050   0.040   0.050    5989  0.0130    0.00
478          RX  9955.6  9971.9  9990.8  9998.0 10002.0 10010.0 10064.0 10096.0
479          RY  1834.0  1832.0  1829.7  1827.5  1827.5  1830.4  1831.7  1834.0
             *

480          KK    S119   BASIN
481          BA   0.312            0.10
482          LG    0.31    0.15    8.80    0.06       4
483          UC   0.496   0.478
484          UA       0     4.5    12.6    23.2    35.8    50.0    64.2    76.8    87.4    95.5
485          UA     100
             *

486          KK   C116L
487          KM    COMBINE RUNOFF FROM S117 AND S119 WITH ROUTED FLOW FROM S118
```

```
488          HC       3
             *

489          KK    C116
490          KM     COMBINE C116L AND C116R.
491          KM    THIS IS THE TOTAL FLOW IN DESERT HILLS WASH AT CLOUD ROAD.
492          HC       2
             *
1                                          HEC-1 INPUT                                                    PAGE 14

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


493          KK  116120   ROUTE   REACH
494          KM    ROUTE COMBINED FLOW FROM C116 TO C120
495          KM    SLOPE = (1810-1786)/3945 = 0.006
496          KM     XS based on Desert Hills Wash XS 2.61 (Jerry Jones, 1992)
497          RS       4    FLOW      -1
498          RC   0.065   0.050   0.065    3945  0.0060    0.00
499          RX  9919.5  9983.3  9986.9  9995.0 10010.0 10020.0 10173.0 10556.0
500          RY  1798.0  1796.0  1794.0  1790.0  1790.0  1794.0  1794.0  1796.0
             *

501          KK    S120   BASIN
502          BA   0.277           0.10
503          LG    0.30    0.15    7.00    0.11       5
504          UC   0.588   0.593
505          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
506          UA     100
             *

507          KK    C120
508          KM    COMBINE RUNOFF FROM S120 WITH ROUTED FLOW FROM C116
509          HC       2
             *

510          KK  120127   ROUTE   REACH
511          KM    ROUTE COMBINED FLOW FROM C120 TO C127 THROUGH SUBBASIN S121
512          KM    SLOPE = (1786-1770)/2909 = 0.0055
513          KM     XS based on Desert Hills Wash XS 2.34 (Jerry Jones, 1992)
514          RS       3    FLOW      -1
515          RC   0.065   0.050   0.065    2909  0.0055    0.00
516          RX  9570.0  9620.0  9990.0  9994.0 10006.0 10010.0 10160.0 10255.0
517          RY  1788.0  1786.0  1784.0  1782.2  1782.2  1784.0  1786.0  1788.0
             *

518          KK    S121   BASIN
519          BA   0.316           0.10
520          LG    0.31    0.15    7.30    0.11       5
521          UC   0.700   0.823
522          UA       0     4.5    12.6    23.2    35.8    50.0    64.2    76.8    87.4    95.5
523          UA     100
             *

524          KK   C127L
525          KM    COMBINE ROUTED FLOW FROM C120 WITH RUNOFF FROM S121
526          HC       2
             *

527          KK    S126   BASIN
528          KM    THIS IS THE RUNOFF AT 7TH STREET AT A CROSSINB ABOUT 1000 FT SOUTH OF
529          KM    CAREFREE HWY.
530          BA   0.131           0.10
531          LG    0.34    0.23    6.20    0.19      17
532          UC   0.196   0.107
533          UA       0     3.0     5.0     8.0    12.0    20.0    43.0    75.0    90.0    96.0
534          UA     100
             *
1                                          HEC-1 INPUT                                                    PAGE 15

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


535          KK  126127   ROUTE   REACH
536          KM    ROUTE RUNOFF FROM S126 TO C127
537          KM    SLOPE = (1798-1770)/2974 = 0.0094
538          KM    XS based on examination of 2002 FCD orthophotos and available 10 ft (FCD)
539          KM    and 2 ft contour data from Jerry Jones FDS and Stanley FDS mapping
540          RS       2    FLOW      -1
541          RC   0.050   0.040   0.050    2974  0.0094    0.00
542          RX     0.0    40.0    80.0    88.0    98.0   106.0   146.0   186.0
543          RY   100.0    96.0    92.0    90.0    90.0    92.0    96.0   100.0
             *

544          KK    S127   BASIN
545          BA   0.091           0.10
546          LG    0.33    0.23    6.20    0.19       8
547          UC   0.225   0.172
548          UA       0     4.5    12.6    23.2    35.8    50.0    64.2    76.8    87.4    95.5
549          UA     100
             *

550          KK   C127R
551          KM    COMBINE RUNOFF FROM S127 WITH ROUTED FLOWS FROM S126
552          HC       2
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                *

553             KK    C127
554             KM    COMBINE C127R & C127L WITH ROUTED FLOWS FROM CAREFREE HIGHWAY (FLOW-2D AREA)
555             KM    THIS IS THE TOTAL FLOW IN DESERT HILLS WASH COMBINED WITH DESERT LAKE WASH
556             KM    AND THE EAST FORK OF DESERT LAKE WASH.
557             HC       3
                *

558             KK  127129   ROUTE   REACH
559             KM    ROUTE COMBINED FLOW FROM C127 TO C129 THROUGH SUBBASIN S129
560             KM    SLOPE = (1770-1764)/1296 = 0.0046
561             KM     XS based on Desert Hills Wash XS 1.72 from Jerry Jones (DTHL.DAT)
562             RS       1    FLOW      -1
563             RC   0.065   0.050   0.065    1296  0.0046    0.00
564             RX  9150.0  9330.0  9993.0  9995.0 10005.0 10016.0 10108.0 10255.0
565             RY  1774.0  1770.0  1768.0  1766.0  1766.0  1770.0  1770.0  1774.0
                *

566             KK    S128   BASIN
567             KM    THIS IS THE RUNOFF AT 10TH STREET IN A CROSSING ABOUT 1400 FT SOUTH OF
568             KM    CAREFREE HWY.
569             BA   0.116            0.10
570             LG    0.33    0.15    7.60    0.11      18
571             UC   0.213   0.195
572             UA       0     3.0     5.0     8.0    12.0    20.0    43.0    75.0    90.0    96.0
573             UA     100
                *
1                                          HEC-1 INPUT                                          PAGE 16

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

574             KK  128129   ROUTE   REACH
575             KM    ROUTE RUNOFF FROM S128 TO C129
576             KM    SLOPE = (1794-1764)/1924 = 0.0156
577             KM     XS based on Desert Hills Wash XS 1.72 from Jerry Jones (DTHL.DAT)
578             RS       2    FLOW      -1
579             RC   0.065   0.050   0.065    1924  0.0156    0.00
580             RX  9150.0  9330.0  9993.0  9995.0 10005.0 10016.0 10108.0 10255.0
581             RY  1774.0  1770.0  1768.0  1766.0  1766.0  1770.0  1770.0  1774.0
                *

582             KK    S129   BASIN
583             BA   0.122            0.10
584             LG    0.33    0.15    7.30    0.12      13
585             UC   0.167   0.103
586             UA       0     3.0     5.0     8.0    12.0    20.0    43.0    75.0    90.0    96.0
587             UA     100
                *

588             KK    C129
589             KM    COMBINE RUNOFF FROM S129 WITH ROUTED FLOWS FROM S128 AND C127
590             KM    THIS IS THE TOTAL FLOW IN DESERT HILLS WASH AT 12TH STREET
591             HC       3
                *

592             KK  129134   ROUTE   REACH
593             KM    ROUTE COMBINED FLOW FROM C129 TO C134 THROUGH SUBBASIN S134
594             KM    SLOPE = (1764-1762)/579 = 0.00345
595             KM     XS based on Desert Hills Wash XS 1.58 from Jerry Jones (DTHL.DAT)
596             RS       1    FLOW      -1
597             RC   0.065   0.050   0.065     579  0.0035    0.00
598             RX  9140.0  9490.0  9985.0  9993.0 10005.0 10013.0 10240.0 10585.0
599             RY  1770.0  1766.0  1766.0  1762.0  1762.0  1766.0  1766.0  1770.0
                *

600             KK    S130   BASIN
601             KM    THIS IS THE RUNOFF TO CAREFREE HWY FROM AN UNNAMED TRIB OF DESERT HILLS WASH
602             BA   0.052            0.10
603             LG    0.32    0.21    6.40    0.16       3
604             UC   0.333   0.376
605             UA       0     4.5    12.6    23.2    35.8    50.0    64.2    76.8    87.4    95.5
606             UA     100
                *

607             KK  130134   ROUTE   REACH
608             KM    ROUTE RUNOFF FROM S130 TO C134
609             KM    SLOPE = (1783-1762)/2075 = 0.010
610             KM    XS based on examination of 2002 FCD orthophotos and available 10 ft (FCD)
611             KM    and 2 ft contour data from Jerry Jones FDS and Stanley FDS mapping
612             RS       2    FLOW      -1
613             RC   0.050   0.040   0.050    2075  0.0100    0.00
614             RX     0.0    55.0   110.0   115.0   135.0   140.0   195.0   250.0
615             RY   100.0    98.0    96.0    95.0    95.0    96.0    98.0   100.0
                *
1                                          HEC-1 INPUT                                          PAGE 17

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

616             KK    S131   BASIN
617             KM    THIS IS THE RUNOFF TO CLOUD ROAD IN DESERT HILLS WASH TRIB 2
618             BA   0.108            0.10
619             LG    0.33    0.10   11.20    0.03       2
```

```
620          UC   0.358   0.377
621          UA       0     4.5    12.6    23.2    35.8    50.0    64.2    76.8    87.4    95.5
622          UA     100
             *

623          KK  131132   ROUTE   REACH
624          KM    ROUTE RUNOFF FROM S131 TO C132
625          KM    SLOPE = (1845-1808)/3449 = 0.0107
626          KM    XS based on examination of 2002 FCD orthophotos and available 10 ft (FCD)
627          KM    and 2 ft contour data from Jerry Jones FDS and Stanley FDS mapping
628          RS       4    FLOW      -1
629          RC   0.065   0.050   0.065    3449  0.0107    0.00
630          RX     0.0    70.0   140.0   147.0   153.0   160.0   230.0   300.0
631          RY   100.0    99.0    98.0    96.0    96.0    98.0    99.0   100.0
             *

632          KK    S132   BASIN
633          BA   0.145            0.10
634          LG    0.34    0.10   11.20    0.03       1
635          UC   0.321   0.245
636          UA       0     4.5    12.6    23.2    35.8    50.0    64.2    76.8    87.4    95.5
637          UA     100
             *

638          KK    C132
639          KM    COMBINE RUNOFF FROM S132 WITH ROUTED FLOW FROM S131
640          KM    THIS IS THE FLOW AT GALVIN STREET IN DESERT HILLS TRIB 2
641          HC       2
             *

642          KK  132133   ROUTE   REACH
643          KM    ROUTE COMBINED FLOW FROM C132 TO C133
644          KM    SLOPE = (1808-1780)/2909 = 0.0096
645          KM     XS based on Desert Hills Wash Trib 2 XS 0.78 (Stanley Consultants, 1999)
646          RS       3    FLOW      -1
647          RC   0.065   0.050   0.065    2909  0.0096    0.00
648          RX  9959.0  9976.0  9993.0  9999.0 10004.0 10010.0 10080.0 10115.0
649          RY  1798.0  1797.0  1796.0  1795.0  1795.0  1796.3  1796.6  1798.0
             *

650          KK    S133   BASIN
651          BA   0.100            0.10
652          LG    0.32    0.15    9.70    0.05       3
653          UC   0.296   0.230
654          UA       0     4.5    12.6    23.2    35.8    50.0    64.2    76.8    87.4    95.5
655          UA     100
             *
```



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

656          KK    C133
657          KM    COMBINE RUNOFF FROM S133 WITH ROUTED FLOWS FROM C132 AT CAREFREE HWY
658          KM    IN DESERT HILLS WASH TRIB 2
659          HC       2
             *

660          KK  133134   ROUTE   REACH
661          KM    ROUTE COMBINED FLOW FROM C133 TO C134
662          KM    SLOPE = (1780-1762)/2076 = 0.0087
663          KM     XS based on Desert Hills Wash Trib 2 XS 0.20 (Stanley Consultants, 1999)
664          RS       2    FLOW      -1
665          RC   0.065   0.050   0.065    2076  0.0087    0.00
666          RX  9873.0  9936.0  9993.0  9998.0 10004.0 10009.0 10043.0 10186.0
667          RY  1774.0  1772.0  1770.0  1767.7  1767.7  1770.0  1770.7  1774.0
             *

668          KK    S134   BASIN
669          BA   0.073            0.10
670          LG    0.33    0.15    7.30    0.12       5
671          UC   0.258   0.190
672          UA       0     3.0     5.0     8.0    12.0    20.0    43.0    75.0    90.0    96.0
673          UA     100
             *

674          KK   C134L
675          KM    COMBINE RUNOFF FROM S134 WITH ROUTED FLOWS FROM S130 AND C133
676          HC       3
             *

677          KK    C134
678          KM    COMBINE C134L WITH ROUTED FLOWS FROM C129
679          KM    THIS IS THE TOTAL FLOW IN DESERT HILLS WASH ABOUT 600 FT DOWNSTEAM OF 12TH
680          KM    STREET
681          HC       2
             *

682          KK  134139   ROUTE   REACH
683          KM    ROUTE COMBINED FLOW FROM C134 TO C139 THROUGH S136
684          KM    SLOPE = (1762-1757)/1214 = 0.0041
685          KM     XS based on Desert Hills Wash XS 1.35 from Jerry Jones (DTHL.DAT)
686          RS       2    FLOW      -1
687          RC   0.065   0.050   0.065    1214  0.0041    0.00
688          RX  9100.0  9325.0  9835.0  9845.0  9855.0  9865.0 10080.0 10670.0
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689          RY  1768.0  1764.0  1760.0  1756.0  1756.0  1760.0  1760.0  1770.0
             *

690          KK    S135   BASIN
691          KM    THIS IS THE RUNOFF TO PAINT YOUR WAGON TRAIL.
692          BA   0.068            0.10
693          LG    0.32    0.15    8.00    0.09      19
694          UC   0.158   0.113
695          UA       0     3.0     5.0     8.0    12.0    20.0    43.0    75.0    90.0    96.0
696          UA     100
             *
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LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

697          KK  135139   ROUTE   REACH
698          KM    ROUTE RUNOFF FROM S135 TO C139
699          KM    SLOPE = (1771-1757)/1106 = 0.0127
700          KM     XS based on Desert Hills Wash XS 1.29 from Jerry Jones (DTHL.DAT)
701          RS       1    FLOW      -1
702          RC   0.065   0.050   0.065    1106  0.0127    0.00
703          RX  9340.0  9745.0  9960.0  9985.0 10025.0 10060.0 10115.0 10435.0
704          RY  1766.0  1760.0  1758.0  1756.0  1756.0  1758.0  1760.0  1766.0
             *

705          KK    S136   BASIN
706          BA   0.078            0.10
707          LG    0.31    0.25    5.70    0.21      13
708          UC   0.292   0.232
709          UA       0     3.0     5.0     8.0    12.0    20.0    43.0    75.0    90.0    96.0
710          UA     100
             *

711          KK   C139R
712          KM    COMBINE RUNOFF FROM S136 WITH ROUTED FLOWS FROM S135 AND C134
713          KM    THIS THE FLOW IN DESERT HILLS WASH AT 14TH STREET
714          HC       3
             *

715          KK    S137   BASIN
716          KM    THIS IS THE RUNOFF IN DESERT HILLS WASH TRIB 1 AT CLOUD ROAD
717          BA   0.084            0.10
718          LG    0.33    0.15    9.70    0.05       2
719          UC   0.321   0.323
720          UA       0     4.5    12.6    23.2    35.8    50.0    64.2    76.8    87.4    95.5
721          UA     100
             *

722          KK  137138   ROUTE   REACH
723          KM    ROUTE RUNOFF FROM S137 TO C138
724          KM    SLOPE = (1856-1786)/6568 = 0.0107
725          KM     XS based on Desert Hills Wash Trib 1 XS 1.08 (Stanley Consultants, 1999)
726          RS       6    FLOW      -1
727          RC   0.050   0.045   0.050    6568  0.0107    0.00
728          RX  9938.0  9960.0  9982.0  9993.0  9998.0 10009.0 10030.0 10064.0
729          RY  1812.0  1811.4  1810.7  1808.0  1808.0  1810.3  1811.0  1812.0
             *

730          KK    S138   BASIN
731          BA   0.266            0.10
732          LG    0.35    0.10   11.20    0.03       0
733          UC   0.533   0.590
734          UA       0     4.5    12.6    23.2    35.8    50.0    64.2    76.8    87.4    95.5
735          UA     100
             *
1                                          HEC-1 INPUT                                          PAGE 20

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

736          KK    C138
737          KM    COMBINE RUNOFF FROM S138 WITH ROUTED FLOWS FROM S137
738          KM    THIS IS THE FLOW IN DESERT HILLS WASH TRIB 1 AT CAREFREE HWY
739          HC       2
             *

740          KK  138139   ROUTE   REACH
741          KM    ROUTE COMBINED FLOWS FROM C138 TO C139
742          KM    SLOPE = (1786-1757)/2696 = 0.0108
743          KM     XS based on Desert Hills Wash Trib 1 XS 0.32 (Stanley Consultants, 1999)
744          RS       3    FLOW      -1
745          RC   0.050   0.045   0.050    2696  0.0108    0.00
746          RX  9729.0  9827.0  9996.0 10003.0 10009.0 10016.0 10088.0 10166.0
747          RY  1776.0  1773.0  1772.6  1771.6  1771.6  1772.8  1774.0  1776.0
             *

748          KK    S139   BASIN
749          BA   0.069            0.10
750          LG    0.35    0.25    4.65    0.38       0
751          UC   0.304   0.293
752          UA       0     3.0     5.0     8.0    12.0    20.0    43.0    75.0    90.0    96.0
753          UA     100
             *
```

```
 754          KK   C139L
 755          KM    COMBINE RUNOFF FROM S139 WITH ROUTED FLOW FROM C138
 756          HC       2
              *

 757          KK    C139
 758          KM    COMBINE C139L AND C139R.  THIS IS THE TOTAL FLOW IN DESERT HILLS WASH
 759          KM    AT C139 JUST DOWNSTREAM OF 14TH STREET
 760          HC       2
              *

 761          KK  139141   ROUTE   REACH
 762          KM    ROUTE COMBINED FLOWS FROM C139 TO C141I
 763          KM    SLOPE = (1757-1754)/696 = 0.0043
 764          KM     XS based on Desert Hills Wash XS 1.19 from Jerry Jones (DTHL.DAT)
 765          RS       1    FLOW      -1
 766          RC   0.065   0.050   0.065     696  0.0043    0.00
 767          RX  9820.0  9910.0  9986.0  9990.0 10012.0 10016.0 10120.0 10500.0
 768          RY  1762.0  1758.0  1756.0  1754.0  1754.0  1756.0  1756.0  1762.0
              *

 769          KK    S140   BASIN
 770          KM    THIS IS THE RUNOFF FROM AN UNNAMED TRIB OF DESERT HILLS WASH AT
 771          KM    CAREFREE HWY
 772          BA   0.249            0.10
 773          LG    0.35    0.10   11.20    0.03       0
 774          UC   0.458   0.432
 775          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
 776          UA     100
              *
1                                          HEC-1 INPUT                                          PAGE 21

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

 777          KK  140141   ROUTE   REACH
 778          KM    ROUTE RUNOFF FROM S140 TO C141
 779          KM    SLOPE = (1790-1754)/3458 = 0.0104
 780          KM    XS based on examination of 2002 FCD orthophotos and available 10 ft (FCD)
 781          KM    and 2 ft contour data from Jerry Jones FDS and Stanley FDS mapping
 782          RS       3    FLOW      -1
 783          RC   0.050   0.040   0.050    3458  0.0104    0.00
 784          RX     0.0    45.0    85.0    90.0    95.0   100.0   140.0   185.0
 785          RY   100.0    98.0    97.0    95.0    95.0    97.0    98.0   100.0
              *

 786          KK    S141   BASIN
 787          BA   0.102            0.10
 788          LG    0.35    0.05   12.40    0.01       0
 789          UC   0.342   0.335
 790          UA       0     4.5    12.6    23.2    35.8    50.0    64.2    76.8    87.4    95.5
 791          UA     100
              *

 792          KK   C141L
 793          KM    COMBINE RUNOFF FROM S141 WITH ROUTED FLOWS FROM S140
 794          HC       2
              *

 795          KK    S142   BASIN
 796          BA   0.139            0.10
 797          LG    0.34    0.15    7.30    0.12      16
 798          UC   0.246   0.248
 799          UA       0     3.0     5.0     8.0    12.0    20.0    43.0    75.0    90.0    96.0
 800          UA     100
              *

 801          KK  142141   ROUTE   REACH
 802          KM    ROUTE RUNOFF FROM S141 TO C141I
 803          KM    SLOPE = (1766-1754)/611 = 0.0196
 804          KM    XS based on examination of 2002 FCD orthophotos and available 10 ft (FCD)
 805          KM    and 2 ft contour data from Jerry Jones FDS and Stanley FDS mapping
 806          RS       1    FLOW      -1
 807          RC   0.050   0.050   0.050     611  0.0196    0.00
 808          RX     0.0    50.0   100.0   103.0   107.0   110.0   160.0   210.0
 809          RY   100.0    99.0    98.0    96.0    96.0    98.0    99.0   100.0
              *

 810          KK   C141I
 811          KM    COMBINE ROUTED FLOW FROM S142 WITH C141L AND ROUTED FLOW FROM C139
 812          HC       3
              *

 813          KK  141145   ROUTE   REACH
 814          KM    ROUTE COMBINED FLOWS FROM C141I TO C145
 815          KM    SLOPE = (1754-1745)/1969 = 0.0046
 816          KM     XS based on Desert Hills Wash XS 0.90 from Jerry Jones (DTHL.DAT)
 817          RS       2    FLOW      -1
 818          RC   0.065   0.050   0.065    1969  0.0046    0.00
1                                          HEC-1 INPUT                                          PAGE 22

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

 819          RX  9698.3  9831.5  9950.5 10001.0 10012.0 10022.0 10235.0 10800.0
 820          RY  1758.0  1752.0  1751.0  1748.0  1748.0  1752.0  1752.0  1758.0
```

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                *

 821            KK    S143   BASIN
 822            BA   0.138            0.10
 823            LG    0.33    0.15    8.80    0.07      13
 824            UC   0.221   0.146
 825            UA       0     3.0     5.0     8.0    12.0    20.0    43.0    75.0    90.0    96.0
 826            UA     100
                *

 827            KK  143144   ROUTE   REACH
 828            KM    ROUTE RUNOFF FROM S143 TO C145
 829            KM    SLOPE = (1767-1745)/1750 = 0.0126
 830            KM    XS based on examination of 2002 FCD orthophotos and available 10 ft (FCD)
 831            KM    and 2 ft contour data from Jerry Jones FDS and Stanley FDS mapping
 832            RS       1    FLOW      -1
 833            RC   0.050   0.050   0.050    1750  0.0126    0.00
 834            RX     0.0    50.0   100.0   103.0   107.0   110.0   160.0   210.0
 835            RY   100.0    99.0    98.0    96.0    96.0    98.0    99.0   100.0
                *

 836            KK    S144   BASIN
 837            BA   0.152            0.10
 838            LG    0.32    0.15    8.00    0.09       8
 839            UC   0.400   0.311
 840            UA       0     4.5    12.6    23.2    35.8    50.0    64.2    76.8    87.4    95.5
 841            UA     100
                *

 842            KK   C145R
 843            KM    COMBINE RUNOFF FROM S144 WITH ROUTED FLOWS FROM S143 AND C141I
 844            HC       3
                *

 845            KK    S145   BASIN
 846            BA   0.204            0.10
 847            LG    0.35    0.05   12.40    0.01       0
 848            UC   0.408   0.355
 849            UA       0     4.5    12.6    23.2    35.8    50.0    64.2    76.8    87.4    95.5
 850            UA     100
                *

 851            KK    C145
 852            KM    COMBINE RUNOFF FROM S145 WITH C145L.
 853            KM    THIS IS THE TOTAL FLOW IN DESERT HILLS WASH AT APPROX. 16TH ST ALIGNMENT
 854            HC       2
                *
1                                          HEC-1 INPUT                                          PAGE 23

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

 855            KK  145147   ROUTE   REACH
 856            KM    ROUTE COMBINED FLOWS FROM C145 TO C147
 857            KM    SLOPE = (1745-1732)/3886 = 0.0033
 858            KM     XS based on Desert Hills Wash XS 0.56 from Jerry Jones (DTHL.DAT)
 859            RS       4    FLOW      -1
 860            RC   0.065   0.050   0.065    3886  0.0033    0.00
 861            RX  8680.0  9475.0  9987.0  9996.0 10011.0 10020.0 10085.0 10465.0
 862            RY  1752.0  1746.0  1744.0  1740.0  1740.0  1744.0  1744.0  1752.0
                *

 863            KK    S147   BASIN
 864            BA   0.673            0.10
 865            LG    0.35    0.15    7.60    0.11       7
 866            UC   0.371   0.241
 867            UA       0     3.0     5.0     8.0    12.0    20.0    43.0    75.0    90.0    96.0
 868            UA     100
                *

 869            KK   C147R
 870            KM    COMBINE RUNOFF FROM S147 WITH ROUTED FLOWS FROM C145
 871            KM    THIS IS THE TOTAL FLOW IN DESERT HILLS WASH UPSTREAM OF APACHE WASH
 872            HC       2
 873            ZW      A=DHW  C=FLOW  F=EXISTING
                *

 874            KK    S200   BASIN
 875            BA   0.579            0.10
 876            LG    0.35    0.15    7.60    0.11       9
 877            UC   0.329   0.247
 878            UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
 879            UA     100
                *

 880            KK    S201   BASIN
 881            BA   0.793            0.10
 882            LG    0.35    0.15    7.00    0.14      28
 883            UC   0.263   0.136
 884            UA       0     3.0     5.0     8.0    12.0    20.0    43.0    75.0    90.0    96.0
 885            UA     100
                *

 886            KK    C201
 887            KM    COMBINE RUNOFF FROM S200 AND S201
```

```
 888          HC       2
              *

 889          KK  201204   ROUTE   REACH
 890          KM    ROUTE COMBINED FLOWS FROM C201 TO C204
 891          KM    SLOPE = (2108-2060)/2164 = 0.0222
 892          KM     XS based on Apache Wash XS 9.27 (Stanley Consultants, 1999)
 893          RS       2    FLOW      -1
 894          RC   0.080   0.055   0.080    2164  0.0222    0.00
 895          RX  9976.0  9981.0  9995.0 10000.0 10005.0 10022.0 10030.0 10035.0
 896          RY  2082.0  2080.0  2074.0  2071.4  2072.0  2074.0  2080.0  2082.0
              *
1                                          HEC-1 INPUT                                                    PAGE 24

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

 897          KK    S203   BASIN
 898          BA   0.167            0.10
 899          LG    0.35    0.19    6.60    0.17      19
 900          UC   0.154   0.075
 901          UA       0     3.0     5.0     8.0    12.0    20.0    43.0    75.0    90.0    96.0
 902          UA     100
              *

 903          KK   C204L
 904          KM    COMBINE RUNOFF FROM S203 WITH ROUTED FLOW FROM C201
 905          KM    THIS IS THE FLOW IN APACHE WASH JUST DOWNSTREAM OF 32ND STREET ALIGNMENT
 906          HC       2
              *

 907          KK    S204   BASIN
 908          BA   0.298            0.10
 909          LG    0.35    0.15    7.00    0.14      27
 910          UC   0.229   0.154
 911          UA       0     3.0     5.0     8.0    12.0    20.0    43.0    75.0    90.0    96.0
 912          UA     100
              *

 913          KK    C204
 914          KM    COMBINE RUNOFF FROM S204 WITH C203L
 915          HC       2
              *

 916          KK  204206   ROUTE   REACH
 917          KM    ROUTE COMBINED FLOWS FROM C204 TO C206
 918          KM    SLOPE = (2060-2042)/1209 = 0.0149
 919          KM     XS based on Apache Wash XS 9.27 (Stanley Consultants, 1999)
 920          RS       1    FLOW      -1
 921          RC   0.080   0.055   0.080    1209  0.0149    0.00
 922          RX  9961.0  9980.0  9986.0  9995.0 10010.0 10022.0 10080.0 10150.0
 923          RY  2056.0  2050.0  2047.6  2044.4  2044.4  2048.0  2050.0  2054.0
              *

 924          KK    S205   BASIN
 925          BA   0.041            0.10
 926          LG    0.35    0.25    5.70    0.24       2
 927          UC   0.163   0.143
 928          UA       0     3.0     5.0     8.0    12.0    20.0    43.0    75.0    90.0    96.0
 929          UA     100
              *

 930          KK   C206L
 931          KM    COMBINE RUNOFF FROM S205 WITH ROUTED FLOWS FROM C204
 932          HC       2
              *
1                                          HEC-1 INPUT                                                    PAGE 25

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

 933          KK    S206   BASIN
 934          BA   0.146            0.10
 935          LG    0.35    0.25    5.80    0.22      15
 936          UC   0.196   0.150
 937          UA       0     3.0     5.0     8.0    12.0    20.0    43.0    75.0    90.0    96.0
 938          UA     100
              *

 939          KK    C206
 940          KM     COMBINE RUNOFF FROM S206 WITH COMBINED FLOWS AT C206L
 941          HC       2
              *

 942          KK  206209   ROUTE   REACH
 943          KM    ROUTE COMBINED FLOWS FROM C206 TO C209
 944          KM    SLOPE = (2042-2020)/1939 = 0.0113
 945          KM     XS based on Apache Wash XS 8.68 (Stanley Consultants, 1999)
 946          RS       2    FLOW      -1
 947          RC   0.080   0.055   0.080    1939  0.0113    0.00
 948          RX  9942.0  9966.0  9980.0  9990.0 10010.0 10020.0 10022.0 10035.0
 949          RY  2034.0  2028.0  2028.0  2024.5  2024.5  2028.0  2030.0  2036.0
              *

 950          KK    S207   BASIN
```

```
 951          BA   0.251            0.10
 952          LG    0.35    0.25    5.70    0.24       6
 953          UC   0.204   0.128
 954          UA       0     3.0     5.0     8.0    12.0    20.0    43.0    75.0    90.0    96.0
 955          UA     100
              *

 956          KK   C209L
 957          KM    COMBINE RUNOFF FROM S207 WITH ROUTED FLOW FROM C206
 958          HC       2
              *

 959          KK    S208   BASIN
 960          BA   0.308            0.10
 961          LG    0.35    0.23    6.20    0.19      16
 962          UC   0.204   0.119
 963          UA       0     3.0     5.0     8.0    12.0    20.0    43.0    75.0    90.0    96.0
 964          UA     100
              *

 965          KK  208209   ROUTE   REACH
 966          KM    ROUTE RUNOFF FROM S208 TO C209
 967          KM    SLOPE = (2078-2020)/2633 = 0.022
 968          KM     XS based on Apache Wash Trib 4 XS 0.20 (Stanley Consultants, 1999)
 969          RS       2    FLOW      -1
 970          RC   0.080   0.055   0.080    2633  0.0220    0.00
 971          RX  9970.0  9978.0  9985.0  9987.0 10000.0 10015.0 10018.0 10022.0
 972          RY  2040.0  2038.0  2036.0  2034.7  2033.7  2036.0  2038.0  2040.0
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 973          KK    S209   BASIN
 974          BA   0.067            0.10
 975          LG    0.32    0.15    8.00    0.08       3
 976          UC   0.217   0.221
 977          UA       0     3.0     5.0     8.0    12.0    20.0    43.0    75.0    90.0    96.0
 978          UA     100
              *

 979          KK   C209R
 980          KM    COMBINE RUNOFF FROM S209 WITH ROUTED FLOW FROM S208
 981          HC       2
              *

 982          KK    C209
 983          KM    COMBINE C209R AND C209L.  TOTAL FLOW IN APACHE WASH JUST DOWNSTREAM
 984          KM    OF SADDLE MOUNTAIN ROAD
 985          HC       2
              *

 986          KK  209215   ROUTE   REACH
 987          KM    ROUTE COMBINED FLOWS FROM C209 TO C215
 988          KM    SLOPE = (2020-1992)/2036 = 0.0138
 989          KM     XS based on Apache Wash XS 8.31 (Stanley Consultants, 1999)
 990          RS       2    FLOW      -1
 991          RC   0.100   0.055   0.100    2036  0.0138    0.00
 992          RX  9960.0  9978.0  9984.0  9992.0 10012.0 10060.0 10260.0 10275.0
 993          RY  2012.0  2010.0  2006.0  2001.0  2001.0  2006.0  2010.0  2012.0
              *

 994          KK    S210   BASIN
 995          BA   0.315            0.10
 996          LG    0.34    0.21    6.40    0.17       6
 997          UC   0.238   0.169
 998          UA       0     3.0     5.0     8.0    12.0    20.0    43.0    75.0    90.0    96.0
 999          UA     100
              *

1000          KK   C215L
1001          KM     COMBINE RUNOFF FROM S210 WITH ROUTED FLOW FROM C209
1002          HC       2
              *

1003          KK    S211   BASIN
1004          BA   0.270            0.10
1005          LG    0.35    0.17    6.80    0.15      25
1006          UC   0.175   0.087
1007          UA       0     3.0     5.0     8.0    12.0    20.0    43.0    75.0    90.0    96.0
1008          UA     100
              *
```



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

1009          KK  211214   ROUTE   REACH
1010          KM    ROUTE RUNOFF FROM S211 TO C214 THROUGH S212
1011          KM    SLOPE = (2144-2019)/5218 = 0.024
1012          KM     XS based on West Fork Apache Wash XS 0.68 (Stanley Consultants, 1999)
1013          RS       3    FLOW      -1
1014          RC   0.075   0.055   0.075    5218   0.024    0.00
1015          RX  9990.0  9991.0  9992.0 10000.0 10027.0 10040.0 10106.0 10120.0
```

```
1016          RY  2056.0  2053.0  2050.0  2047.0  2048.7  2050.0  2052.9  2056.0
              *

1017          KK    S212   BASIN
1018          BA   0.182            0.10
1019          LG    0.34    0.25    5.70    0.22       2
1020          UC   0.263   0.249
1021          UA       0     3.0     5.0     8.0    12.0    20.0    43.0    75.0    90.0    96.0
1022          UA     100
              *

1023          KK   C214L
1024          KM     COMBINE RUNOFF FROM S212 WITH ROUTED FLOWS FROM S211
1025          HC       2
              *

1026          KK    S213   BASIN
1027          BA   0.243            0.10
1028          LG    0.35    0.25    6.00    0.21      11
1029          UC   0.225   0.173
1030          UA       0     3.0     5.0     8.0    12.0    20.0    43.0    75.0    90.0    96.0
1031          UA     100
              *

1032          KK    S214   BASIN
1033          BA   0.328            0.10
1034          LG    0.35    0.17    6.80    0.15      22
1035          UC   0.246   0.196
1036          UA       0     3.0     5.0     8.0    12.0    20.0    43.0    75.0    90.0    96.0
1037          UA     100
              *

1038          KK    C214
1039          KM    COMBINE RUNOFF FROM S213 & S214 WITH C214L
1040          KM    THIS IS THE TOTAL FLOW IN THE WEST BRANCH OF APACHE WASH JUST UPSTREAM
1041          KM    OF 26TH STREET
1042          HC       3
              *

1043          KK  214215   ROUTE   REACH
1044          KM    ROUTE COMBINED FLOWS FROM C214 TO C215
1045          KM    SLOPE = (2019-1992)/1801 = 0.0150
1046          KM     XS based on West Fork Apache Wash XS 0.34 (Jerry Jones, 1992) (APACHE.DAT)
1047          RS       1    FLOW      -1
1048          RC   0.100   0.055   0.100    1801  0.0150    0.00
1049          RX  9692.0  9862.0  9934.0  9991.0 10000.0 10002.0 10018.0 10038.0
1050          RY  2024.0  2016.0  2016.0  2014.0  2014.0  2016.0  2020.0  2024.0
              *
1                                          HEC-1 INPUT                                          PAGE 28

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

1051          KK    S215   BASIN
1052          BA   0.058            0.10
1053          LG    0.32    0.15    7.60    0.10       3
1054          UC   0.213   0.211
1055          UA       0     3.0     5.0     8.0    12.0    20.0    43.0    75.0    90.0    96.0
1056          UA     100
              *

1057          KK   C215R
1058          KM    COMBINE RUNOFF FROM S215 WITH ROUTED FLOW FROM C214
1059          KM    THIS IS THE TOTAL FLOW OF THE (WEST BRANCH) AT ITS CONFLUENCE WITH
1060          KM    APACHE WASH.
1061          HC       2
              *

1062          KK    C215
1063          KM    COMBINE C215R AND C215L.  THIS IS THE TOTAL FLOW IN APACHE WASH
1064          KM    DOWNSTREAM OF THE (WEST BRANCH)
1065          HC       2
              *

1066          KK  215216   ROUTE   REACH
1067          KM    ROUTE COMBINED FLOWS FROM C215 TO C216
1068          KM    SLOPE = (1992-1965)/2088 = 0.0129
1069          KM     XS based on Apache Wash XS 7.84 (Jerry Jones, 1992) (APACHE.DAT)
1070          RS       2    FLOW      -1
1071          RC   0.050   0.040   0.050    2088  0.0129    0.00
1072          RX  9828.0  9916.0  9984.0  9995.0 10025.0 10036.0 10206.0 10222.0
1073          RY  1982.0  1976.0  1976.0  1974.0  1974.0  1978.0  1980.0  1982.0
              *

1074          KK    S216   BASIN
1075          BA   0.365            0.10
1076          LG    0.34    0.15    7.00    0.13      18
1077          UC   0.213   0.111
1078          UA       0     3.0     5.0     8.0    12.0    20.0    43.0    75.0    90.0    96.0
1079          UA     100
              *

1080          KK    C216
1081          KM     COMBINE RUNOFF FROM S216 WITH ROUTED FLOW FROM C215
1082          KM    THIS IS THE FLOW IN APACHE WASH AT BENTLEY MINE ROAD
```

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1083          HC       2
              *

1084          KK  216217   ROUTE   REACH
1085          KM    ROUTE COMBINED FLOWS FROM C216 TO C217
1086          KM    SLOPE = (1965-1888)/7706 = 0.010
1087          KM     XS based on Apache Wash XS 7.55 (Jerry Jones, 1992) (APACHE.DAT)
1088          RS       7    FLOW      -1
1089          RC   0.100   0.055   0.100    7706  0.0100    0.00
1090          RX  9896.0  9930.0  9970.0  9992.0 10022.0 10025.0 10145.0 10183.0
1091          RY  1966.0  1962.0  1960.0  1956.0  1956.0  1958.0  1960.0  1966.0
              *
1                                          HEC-1 INPUT                                                    PAGE 29

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


1092          KK    S217   BASIN
1093          BA   0.363            0.10
1094          LG    0.34    0.15    7.60    0.11      10
1095          UC   0.342   0.312
1096          UA       0     3.0     5.0     8.0    12.0    20.0    43.0    75.0    90.0    96.0
1097          UA     100
              *

1098          KK   C217R
1099          KM    COMBINE RUNOFF FROM S217 WITH ROUTED FLOW FROM C216
1100          HC       2
              *

1101          KK    S218   BASIN
1102          BA   0.388            0.10
1103          LG    0.35    0.17    6.80    0.15      26
1104          UC   0.196   0.097
1105          UA       0     3.0     5.0     8.0    12.0    20.0    43.0    75.0    90.0    96.0
1106          UA     100
              *

1107          KK  218219   ROUTE   REACH
1108          KM    ROUTE RUNOFF FROM S218 TO C219
1109          KM    SLOPE = (2006-1899)/5923 = 0.0181
1110          KM     XS based on Apache Wash Trib 2 XS 0.55 (Stanley Consultants, 1999)
1111          RS       5    FLOW      -1
1112          RC   0.070   0.060   0.070    5923  0.0181    0.00
1113          RX  9940.0  9951.0  9954.0  9993.0 10000.0 10016.0 10028.0 10065.0
1114          RY  1940.0  1938.0  1937.4  1934.0  1933.5  1937.4  1938.0  1940.0
              *

1115          KK    S219   BASIN
1116          BA   0.284            0.10
1117          LG    0.35    0.17    6.80    0.15      23
1118          UC   0.258   0.190
1119          UA       0     3.0     5.0     8.0    12.0    20.0    43.0    75.0    90.0    96.0
1120          UA     100
              *

1121          KK    C219
1122          KM    COMBINE RUNOFF FROM S219 WITH ROUTED FLOW FROM S218
1123          HC       2
              *

1124          KK    S220   BASIN
1125          BA   0.168            0.10
1126          LG    0.34    0.15    7.60    0.11      14
1127          UC   0.242   0.225
1128          UA       0     3.0     5.0     8.0    12.0    20.0    43.0    75.0    90.0    96.0
1129          UA     100
              *
1                                          HEC-1 INPUT                                                    PAGE 30

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


1130          KK    C220
1131          KM     COMBINE RUNOFF FROM S220 WITH COMBINED FLOWS AT C219.
1132          KM     (FLOWS FROM C219 NOT ROUTED DUE TO VERY SHORT DISTANCE)
1133          HC       2
              *

1134          KK  220217   ROUTE   REACH
1135          KM    ROUTE COMBINED FLOWS FROM C220 TO C217
1136          KM    SLOPE = (1896-1888)/788 = 0.010
1137          KM     XS based on Apache Wash XS 6.25 (Jerry Jones, 1992) (APACHE.DAT)
1138          RS       1    FLOW      -1
1139          RC   0.065   0.050   0.065     788  0.0100    0.00
1140          RX  9911.0  9932.0  9962.0  9990.0 10015.0 10045.0 10268.0 10570.0
1141          RY  1898.0  1896.0  1892.0  1888.0  1888.0  1892.0  1892.0  1898.0
              *

1142          KK    C217
1143          KM     COMBINE ROUTED FLOWS FROM C220 WITH C217R
1144          KM     THIS IS THE TOTAL FLOW IN APACHE WASH AT MADDOCK ROAD.
1145          HC       2
              *
```

```
1146          KK  217221   ROUTE   REACH
1147          KM    ROUTE COMBINED FLOWS FROM C217 TO C221
1148          KM    SLOPE = (1888-1856)/3118 = 0.010
1149          KM     XS based on Apache Wash XS 6.09 (Jerry Jones, 1992) (APACHE.DAT)
1150          RS       3    FLOW      -1
1151          RC   0.065   0.050   0.065    3118  0.0100    0.00
1152          RX  9815.0  9890.0  9935.0  9972.0 10048.0 10070.0 10345.0 10380.0
1153          RY  1886.0  1884.0  1882.0  1879.5  1879.5  1882.0  1884.0  1886.0
              *

1154          KK    S221   BASIN
1155          BA   0.232            0.10
1156          LG    0.32    0.13   10.10    0.04       3
1157          UC   0.404   0.338
1158          UA       0     4.5    12.6    23.2    35.8    50.0    64.2    76.8    87.4    95.5
1159          UA     100
              *

1160          KK    C221
1161          KM    COMBINE RUNOFF FROM S211 WITH ROUTED FLOWS FROM C217
1162          KM    THIS IS THE TOTAL FLOW IN APACHE WASH AT CLOUD ROAD.
1163          HC       2
1164          ZW      A=AW@CLOUD   C=FLOW   F=EXISTING
              *

1165          KK  221222   ROUTE   REACH
1166          KM    ROUTE COMBINED FLOWS FROM C221 TO C222
1167          KM    SLOPE = (1856-1805)/5489 = 0.0093
1168          KM     XS based on Apache Wash XS 5.15 (Jerry Jones, 1992) (APACHE.DAT)
1169          RS       4    FLOW      -1
1170          RC   0.065   0.050   0.065    5489  0.0093    0.00
1171          RX  9870.0  9945.0  9978.0  9987.0 10017.0 10025.0 10495.0 10522.0
```



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

1172          RY  1839.0  1838.0  1836.0  1830.0  1830.0  1834.0  1836.0  1838.0
              *

1173          KK    S222   BASIN
1174          BA   0.272            0.10
1175          LG    0.35    0.13   10.10    0.04       0
1176          UC   0.404   0.284
1177          UA       0     4.5    12.6    23.2    35.8    50.0    64.2    76.8    87.4    95.5
1178          UA     100
              *

1179          KK    C222
1180          KM     COMBINE RUNOFF FROM S222 WITH ROUTED FLOW FROM C221
1181          KM     THIS IS THE TOTAL FLOW IN APACHE WASH AT CAREFREE HWY
1182          HC       2
1183          ZW      A=AW@CFH   C=FLOW   F=EXISTING
              *

1184          KK  222227   ROUTE   REACH
1185          KM    ROUTE COMBINED FLOWS FROM C222 TO C227 THROUGH S224
1186          KM    SLOPE = (1805-1764)/4913 = 0.0083
1187          KM     XS based on Apache Wash XS 4.31 (Jerry Jones, 1992) (APACHE.DAT)
1188          RS       3    FLOW      -1
1189          RC   0.065   0.050   0.065    3886  0.0083    0.00
1190          RX  9771.0  9896.0  9980.0  9990.0 10010.0 10020.0 10055.0 10111.0
1191          RY  1796.0  1794.0  1792.0  1788.0  1788.0  1792.0  1794.0  1796.0
              *

1192          KK    S223   BASIN
1193          BA   0.091            0.10
1194          LG    0.35    0.15    8.80    0.07       0
1195          UC   0.304   0.261
1196          UA       0     4.5    12.6    23.2    35.8    50.0    64.2    76.8    87.4    95.5
1197          UA     100
              *

1198          KK  223227   ROUTE   REACH
1199          KM    ROUTE RUNOFF FROM S223 TO C227 THROUGH S224
1200          KM    SLOPE = (1804-1764)/3813 = 0.0105
1201          KM     XS based on Apache Wash West Chl XS 4.311 (Jerry Jones, 1992) (APACHE.DAT)
1202          RS       3    FLOW      -1
1203          RC   0.065   0.055   0.065    3813  0.0105    0.00
1204          RX  9400.0  9890.0  9945.0  9995.0 10005.0 10010.0 10150.0 10230.0
1205          RY  1796.0  1794.0  1794.0  1792.0  1792.0  1794.0  1794.0  1796.0
              *

1206          KK    S224   BASIN
1207          BA   0.214            0.10
1208          LG    0.35    0.21    6.40    0.18       0
1209          UC   0.346   0.227
1210          UA       0     3.0     5.0     8.0    12.0    20.0    43.0    75.0    90.0    96.0
1211          UA     100
              *
```



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

1212          KK   C227L
```

```
1213          KM    COMBINE RUNOFF FROM S224 WITH ROUTED FLOW FROM S223 AND C222
1214          HC       3
              *

1215          KK    S225   BASIN
1216          BA   0.315            0.10
1217          LG    0.31    0.05   12.40    0.01       4
1218          UC   0.483   0.453
1219          UA       0     4.5    12.6    23.2    35.8    50.0    64.2    76.8    87.4    95.5
1220          UA     100
              *

1221          KK  225226   ROUTE   REACH
1222          KM    ROUTE RUNOFF FROM S225 TO C226
1223          KM    SLOPE = (1856-1798)/5803 = 0.010
1224          KM     XS based on Apache Wash Trib 1 XS 1.14 (Stanley Consultants, 1999)
1225          RS       4    FLOW      -1
1226          RC   0.065   0.045   0.065    5803  0.0100    0.00
1227          RX  9926.0  9946.0  9990.0  9997.0 10005.0 10012.0 10034.0 10058.0
1228          RY  1818.0  1815.0  1816.0  1813.6  1813.6  1816.0  1816.7  1818.0
              *

1229          KK    S226   BASIN
1230          BA   0.248            0.10
1231          LG    0.35    0.15    8.80    0.07       0
1232          UC   0.400   0.317
1233          UA       0     4.5    12.6    23.2    35.8    50.0    64.2    76.8    87.4    95.5
1234          UA     100
              *

1235          KK    C226
1236          KM     COMBINE RUNOFF FROM S226 WITH ROUTED FLOWS FROM S225
1237          HC       2
              *

1238          KK  226227   ROUTE   REACH
1239          KM    ROUTE COMBINED FLOWS FROM C226 TO C227
1240          KM    SLOPE = (1798-1764)/3752 = 0.0091
1241          KM     XS based on Apache Wash Trib 1 XS 0.42 (Stanley Consultants, 1999)
1242          RS       4    FLOW      -1
1243          RC   0.065   0.045   0.065    3752  0.0091    0.00
1244          RX  9917.0  9976.0  9990.0  9998.0 10004.0 10012.0 10045.0 10078.0
1245          RY  1784.0  1782.7  1782.5  1779.6  1779.6  1782.0  1783.0  1784.0
              *

1246          KK    S227   BASIN
1247          BA   0.106            0.10
1248          LG    0.35    0.10   11.20    0.03       0
1249          UC   0.358   0.345
1250          UA       0     4.5    12.6    23.2    35.8    50.0    64.2    76.8    87.4    95.5
1251          UA     100
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1252          KK   C227R
1253          KM    COMBINE RUNOFF FROM S227 WITH ROUTED FLOWS FROM C226
1254          HC       2
              *

1255          KK    C227
1256          KM     COMBINE FLOWS FROM C227R AND C227L
1257          KM     THIS IS THE TOTAL FLOW IN APACHE WASH AT C227.
1258          HC       2
              *

1259          KK  227228   ROUTE   REACH
1260          KM    ROUTE COMBINED FLOWS FROM C227 TO C228
1261          KM    SLOPE = (1764-1740)/3336 = 0.0072
1262          KM     XS based on Apache Wash XS 3.32 (Jerry Jones, 1992) (APACHE.DAT)
1263          RS       3    FLOW      -1
1264          RC   0.065   0.050   0.065    3336  0.0072    0.00
1265          RX  9600.0  9725.0  9955.0  9972.0 10002.0 10020.0 10240.0 10900.0
1266          RY  1758.0  1754.0  1754.0  1750.0  1750.0  1754.0  1754.0  1758.0
              *

1267          KK    S228   BASIN
1268          BA   0.225            0.10
1269          LG    0.35    0.15    9.70    0.06       0
1270          UC   0.413   0.339
1271          UA       0     4.5    12.6    23.2    35.8    50.0    64.2    76.8    87.4    95.5
1272          UA     100
              *

1273          KK    C228
1274          KM     COMBINE RUNOFF FROM S228 WITH ROUTED FLOWS FROM C227
1275          KM     THIS IS THE TOTAL FLOW IN APACHE WASH UPSTREAM OF ITS CONFLUENCE
1276          KM     WITH DESERT HILLS WASH.
1277          HC       2
1278          ZW       A=AWUSDHW   C=FLOW   F=EXISTING
              *

1279          KK  228147   ROUTE   REACH
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```
1280          KM    ROUTE COMBINED FLOWS FROM C228 TO C147
1281          KM    SLOPE = (1740-1732)/1190 = 0.0067
1282          KM     XS based on Apache Wash XS 2.97 (Jerry Jones, 1992) (APACHE.DAT)
1283          RS       1    FLOW      -1
1284          RC   0.065   0.050   0.065    1190  0.0067    0.00
1285          RX  8920.0  8990.0  9000.0  9040.0  9060.0  9065.0  9170.0  9365.0
1286          RY  1752.0  1746.0  1744.0  1738.0  1738.0  1742.0  1742.0  1744.0
              *

1287          KK    C147
1288          KM     COMBINE FLOWS FROM DESERT HILLS WASH WITH FLOWS FROM APACHE WASH
1289          HC       2
1290          ZW      A=DHW+AW   C=FLOW    F=EXISTING
              *
1                                          HEC-1 INPUT                                          PAGE 34

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

1291          KK  147319   ROUTE   REACH
1292          KM    ROUTE COMBINED FLOWS FROM DESERT HILLS AND APACHE WASHES
1293          KM    TO CONFLUENCE WITH PARADISE WASH
1294          KM    SLOPE = (1732-1727)/939 = 0.0053
1295          KM     XS based on Apache Wash XS 2.73 from Jerry Jones (APACHE.DAT)
1296          RS       1    FLOW      -1
1297          RC   0.065   0.050   0.065     939  0.0053    0.00
1298          RX  9756.0  9812.0  9972.0  9986.0 10020.0 10036.0 10071.0 10130.0
1299          RY  1740.0  1736.0  1732.0  1728.0  1728.0  1732.0  1734.0  1740.0
              *

1300          KK    S300   BASIN
1301          BA   0.503            0.10
1302          LG    0.35    0.17    6.80    0.15      24
1303          UC   0.267   0.188
1304          UA       0     3.0     5.0     8.0    12.0    20.0    43.0    75.0    90.0    96.0
1305          UA     100
              *

1306          KK    S301   BASIN
1307          BA   0.504            0.10
1308          LG    0.35    0.17    6.80    0.15      23
1309          UC   0.250   0.151
1310          UA       0     3.0     5.0     8.0    12.0    20.0    43.0    75.0    90.0    96.0
1311          UA     100
              *

1312          KK    C301
1313          KM     COMBINE RUNOFF FROM S300 AND S301
1314          HC       2
              *

1315          KK  301302   ROUTE   REACH
1316          KM    ROUTE COMBINED FLOWS FROM C301 TO C302
1317          KM    SLOPE = (1980-1926)/2988 = 0.018
1318          KM     XS based on Paradise Wash XS 3.84 from Jerry Jones (PARADFCD.DAT)
1319          RS       2    FLOW      -1
1320          RC   0.070   0.055   0.070    2988  0.0180    0.00
1321          RX  9934.0  9962.0  9987.0  9996.0 10004.0 10010.0 10027.0 10045.0
1322          RY  1952.0  1946.0  1940.0  1938.0  1938.0  1940.0  1946.0  1952.0
              *

1323          KK    S302   BASIN
1324          BA   0.239            0.10
1325          LG    0.35    0.23    6.20    0.20      17
1326          UC   0.242   0.166
1327          UA       0     3.0     5.0     8.0    12.0    20.0    43.0    75.0    90.0    96.0
1328          UA     100
              *
1                                          HEC-1 INPUT                                          PAGE 35

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

1329          KK    C302
1330          KM     COMBINE RUNOFF FROM S302 WITH ROUTED FLOWS FROM C301
1331          HC       2
              *

1332          KK  302303   ROUTE   REACH
1333          KM    ROUTE COMBINED FLOWS FROM C302 TO C303
1334          KM    SLOPE = (1926-1895)/2671 = 0.0116
1335          KM     XS based on Paradise Wash XS 3.40 from Jerry Jones (PARADFCD.DAT)
1336          RS       2    FLOW      -1
1337          RC   0.070   0.055   0.070    2671  0.0116    0.00
1338          RX  9956.0  9972.0  9988.0  9995.0 10010.0 10024.0 10044.0 10060.0
1339          RY  1914.0  1910.0  1906.0  1904.0  1904.0  1906.0  1910.0  1914.0
              *

1340          KK    S303   BASIN
1341          BA   0.127            0.10
1342          LG    0.35    0.15    7.60    0.11       6
1343          UC   0.204   0.144
1344          UA       0     4.5    12.6    23.2    35.8    50.0    64.2    76.8    87.4    95.5
1345          UA     100
              *
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```
1346          KK    C303
1347          KM     COMBINE RUNOFF FROM S303 WITH ROUTED FLOW SFROM C302
1348          HC       2
              *

1349          KK  303312   ROUTE   REACH
1350          KM    ROUTE COMBINED FLOWS FROM C303 TO C312 THROUGH S304
1351          KM    SLOPE = (1895-1828)/5007 = 0.0134
1352          KM     XS based on Paradise Wash XS 2.53 from Jerry Jones (PARADFCD.DAT)
1353          RS       4    FLOW      -1
1354          RC   0.065   0.050   0.065    5007  0.0134    0.00
1355          RX  9678.0  9850.0  9982.0  9993.0 10009.0 10018.0 10041.0 10637.0
1356          RY  1852.0  1850.0  1848.0  1846.0  1846.0  1848.0  1850.0  1852.0
              *

1357          KK    S304   BASIN
1358          BA   0.132            0.10
1359          LG    0.35    0.25    4.90    0.34       0
1360          UC   0.363   0.365
1361          UA       0     4.5    12.6    23.2    35.8    50.0    64.2    76.8    87.4    95.5
1362          UA     100
              *

1363          KK   C312R
1364          KM    COMBINE RUNOFF FROM S304 WITH ROUTED FLOWS FROM C303.
1365          KM    THIS IS THE TOTAL FLOW IN PARADISE WASH UPSTREAM OF RANIERI TANK WASH
1366          HC       2
1367          ZW      A=PWUSRTW   C=FLOW    F=EXISTING
              *
1                                          HEC-1 INPUT                                          PAGE 36

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

1368          KK    S305   BASIN
1369          BA   0.230            0.10
1370          LG    0.35    0.23    6.20    0.19      16
1371          UC   0.208   0.144
1372          UA       0     3.0     5.0     8.0    12.0    20.0    43.0    75.0    90.0    96.0
1373          UA     100
              *

1374          KK  305309   ROUTE   REACH
1375          KM    ROUTE RUNOFF FROM S305 TO C309 THROUGH C306
1376          KM    SLOPE = (1938-1885)/3517 = 0.0151
1377          KM     XS based on Ranieri Tank Wash Trib 1 XS 0.34 (Stanley Consultants, 1999)
1378          RS       2    FLOW      -1
1379          RC   0.065   0.055   0.065    3517  0.0151    0.00
1380          RX  9956.0  9976.0  9991.0  9999.0 10005.0 10013.0 10047.0 10075.0
1381          RY  1908.6  1906.4  1905.6  1904.2  1904.2  1905.6  1906.0  1909.0
              *

1382          KK    S306   BASIN
1383          BA   0.052            0.10
1384          LG    0.34    0.25    5.00    0.31       1
1385          UC   0.254   0.286
1386          UA       0     4.5    12.6    23.2    35.8    50.0    64.2    76.8    87.4    95.5
1387          UA     100
              *

1388          KK    S307   BASIN
1389          BA   0.206            0.10
1390          LG    0.34    0.23    6.20    0.19      17
1391          UC   0.225   0.184
1392          UA       0     3.0     5.0     8.0    12.0    20.0    43.0    75.0    90.0    96.0
1393          UA     100
              *

1394          KK  307309   ROUTE   REACH
1395          KM    ROUTE RUNOFF FROM S307 TO C309 THROUGH S306
1396          KM    SLOPE = (1892-1885)/723 = 0.0097
1397          KM     XS based on Ranieri Tank Wash Trib 1 XS 0.15 (Stanley Consultants, 1999)
1398          RS       1    FLOW      -1
1399          RC   0.065   0.055   0.065     723  0.0097    0.00
1400          RX  9896.0  9958.0  9981.0  9994.0  9999.0 10012.0 10175.0 10267.0
1401          RY  1894.0  1892.0  1891.0  1888.0  1888.0  1890.6  1891.4  1894.0
              *

1402          KK   C309R
1403          KM     COMBINE RUNOFF FROM S306 WITH ROUTED FLOWS FROM S305 & S307
1404          HC       3
              *
1                                          HEC-1 INPUT                                          PAGE 37

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

1405          KK    S308   BASIN
1406          BA   0.466            0.10
1407          LG    0.35    0.23    6.20    0.20       9
1408          UC   0.242   0.138
1409          UA       0     3.0     5.0     8.0    12.0    20.0    43.0    75.0    90.0    96.0
1410          UA     100
              *
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```
1411          KK  308309   ROUTE   REACH
1412          KM    ROUTE RUNOFF FROM S308 TO C309
1413          KM    SLOPE = (1908-1885)/2133 = 0.0108
1414          KM     XS based on Ranieri Tank Wash XS 1.40 (Stanley Consultants, 1999)
1415          RS       2    FLOW      -1
1416          RC   0.065   0.055   0.065    2133  0.0108    0.00
1417          RX  9758.0  9901.0  9991.0  9997.0 10003.0 10009.0 10031.0 10213.0
1418          RY  1902.0  1900.6  1900.6  1898.6  1898.6  1900.6  1900.6  1902.0
              *

1419          KK    S309   BASIN
1420          BA   0.190            0.10
1421          LG    0.35    0.15    7.00    0.14       7
1422          UC   0.238   0.219
1423          UA       0     3.0     5.0     8.0    12.0    20.0    43.0    75.0    90.0    96.0
1424          UA     100
              *

1425          KK   C309L
1426          KM     COMBINE RUNOFF FROM S309 WITH ROUTED FLOWS FROM S308
1427          HC       2
              *

1428          KK    C309
1429          KM     COMBINE FLOWS FROM C309R AND C309L.
1430          HC       2
              *

1431          KK  309310   ROUTE   REACH
1432          KM    ROUTE COMBINED FLOWS FROM C309 TO C310
1433          KM    SLOPE = (1885-1850)/3609 = 0.0097
1434          KM     XS based on Ranieri Tank Wash XS 0.70 (Jerry Jones, 1992)
1435          RS       3    FLOW      -1
1436          RC   0.065   0.050   0.065    3609  0.0097    0.00
1437          RX  9738.0  9778.0  9968.0  9992.0 10000.0 10020.0 10100.0 10412.0
1438          RY  1868.0  1864.0  1862.0  1860.0  1860.0  1862.0  1866.0  1868.0
              *

1439          KK    S310   BASIN
1440          BA   0.553            0.10
1441          LG    0.35    0.10   11.20    0.03       0
1442          UC   0.367   0.214
1443          UA       0     4.5    12.6    23.2    35.8    50.0    64.2    76.8    87.4    95.5
1444          UA     100
              *
```



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

1445          KK    C310
1446          KM     COMBINE RUNOFF FROM S310 WITH ROUTED FLOWS FROM C309
1447          KM     THIS IS THE INFLOW TO RANIERI TANK(S) AT 32ND STREET
1448          HC       2
              *

1449          KK   D310UDIVERT
1450          KM    DIVERT FLOW INTO UPSTREAM (NEW) TANK.  ASSUME A 50/50 SPLIT INTO
1451          KM    TANK UP TO ITS VOLUME.
1452          DT  D310UO      10
1453          DI       0     100
1454          DQ       0      50
              *

1455          KK   RR310STORAGE
1456          KM     ROUTE HYDROGRAPH THROUGH CULVERTS UNDER 32ND STREET
1457          KM     THERE ARE TWO SETS OF CULVERTS ONE ON THE MAIN CHANNEL ON THE
1458          KM     LEFT COMPOSED OF 3 6' CMPS AND A SET ON THE RIGHT BETWEEN THE
1459          KM     TANKS THAT IS COMPOSED OF 2 6' CMPS AND 4 2.5' CMPS
1460          KM     OUTFLOW HYDRAULICS COMPUTED USING HY8 (FILES: RR310L.INP &
1461          KM     RR310R.INP).  STAGE-AREA DATA ESTIMATED FROM JERRY JONES 2 FT CONTOURS
1462          KM     AND FCDMC 10 FT 2001 CONTOURS.
1463          RS       1    STOR      -1
1464          SA    0.08    0.58    1.23    2.11    3.44    7.22   13.22
1465          SE    1850    1852    1854    1856    1858    1860    1862
1466          SQ       0     160     650    1195    1660    1970    2330    2503    2621    2890
1467          SQ    3126    3422    3699
1468          SE    1850    1852    1854    1856    1858  1859.6    1860  1860.1  1860.2  1860.3
1469          SE  1860.4  1860.5  1860.6
              *

1470          KK   D310DDIVERT
1471          KM    DIVERT VOLUME OF STOCK TANK DOWNSTREAM OF 32ND STREET
1472          KM    ASSUMED THAT ALL FLOW UP TO TOTAL VOLUME DIVERTED BEFORE OVERFLOW
1473          DT  D310DO    2.39
1474          DI       0     100
1475          DQ       0     100
              *

1476          KK  310312   ROUTE   REACH
1477          KM    ROUTE (TANK OUTFLOWS) FROM RR310 TO C312
1478          KM    SLOPE = (1850-1828)/2221 = 0.0099
1479          KM     XS based on Ranieri Tank Wash XS 0.33 (Jerry Jones, 1992)
1480          RS       2    FLOW      -1
```

```
1481          RC   0.065   0.050   0.065    2221  0.0099    0.00
1482          RX  9683.0  9834.0  9938.0  9981.0 10013.0 10030.0 10200.0 10425.0
1483          RY  1852.0  1848.0  1844.0  1842.0  1842.0  1844.0  1846.0  1852.0
              *
1                                          HEC-1 INPUT                                                    PAGE 39

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


1484          KK    S311   BASIN
1485          BA   0.076            0.10
1486          LG    0.35    0.05   12.40    0.01       0
1487          UC   0.279   0.224
1488          UA       0     4.5    12.6    23.2    35.8    50.0    64.2    76.8    87.4    95.5
1489          UA     100
              *

1490          KK  311312   ROUTE   REACH
1491          KM    ROUTE RUNOFF FROM S311 TO C312
1492          KM    SLOPE = (1859-1828)/2280 = 0.0136
1493          KM    XS based on examination of 2002 FCD orthophotos and available 10 ft (FCD)
1494          KM    and 2 ft contour data from Jerry Jones FDS and Stanley FDS mapping
1495          RS       3    FLOW      -1
1496          RC   0.065   0.055   0.065    2280  0.0136    0.00
1497          RX     0.0    40.0    80.0   120.0   160.0   200.0   240.0   280.0
1498          RY   100.0    99.7    99.3    99.0    99.0    99.3    99.7   100.0
              *

1499          KK    S312   BASIN
1500          BA   0.140            0.10
1501          LG    0.35    0.13   10.10    0.04       0
1502          UC   0.275   0.210
1503          UA       0     4.5    12.6    23.2    35.8    50.0    64.2    76.8    87.4    95.5
1504          UA     100
              *

1505          KK   C312L
1506          KM     COMBINE RUNOFF FROM S312 WITH ROUTED FLOWS FROM S311 AND RR310
1507          HC       3
1508          ZW     A=RTWUSPW   C=FLOW   F=EXISTING
              *

1509          KK    C312
1510          KM     COMBINE PARADISE WASH (C312R) AND RANIERI TANK WASH (C312L)
1511          HC       2
1512          ZW     A=PW+RTW   C=FLOW   F=EXISTING
              *

1513          KK  312314   ROUTE   REACH
1514          KM    ROUTE COMBINED FLOWS FROM C312 TO C314 (CAREFREE HWY)
1515          KM    SLOPE = (1828-1820)/1024 = 0.0078
1516          KM     XS based on Paradise Wash XS 2.14 (Jerry Jones, 1992) (PARADFCD.DAT)
1517          RS       1    FLOW      -1
1518          RC   0.065   0.050   0.065    1024  0.0078    0.00
1519          RX  9926.0  9962.0  9970.0  9979.0 10026.0 10219.0 10638.0 10754.0
1520          RY  1830.0  1828.0  1826.0  1824.0  1824.0  1826.0  1826.0  1830.0
              *
1                                          HEC-1 INPUT                                                    PAGE 40

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


1521          KK    S313   BASIN
1522          BA   0.049            0.10
1523          LG    0.35    0.05   12.40    0.01       0
1524          UC   0.279   0.288
1525          UA       0     4.5    12.6    23.2    35.8    50.0    64.2    76.8    87.4    95.5
1526          UA     100
              *

1527          KK  313314   ROUTE   REACH
1528          KM    ROUTE RUNOFF FROM S313 TO C314
1529          KM    SLOPE = (1856-1820)/2487 = 0.0145
1530          KM    XS based on examination of 2002 FCD orthophotos and available 10 ft (FCD)
1531          KM    and 2 ft contour data from Jerry Jones FDS and Stanley FDS mapping
1532          RS       2    FLOW      -1
1533          RC   0.030   0.030   0.055    2487  0.0145    0.00
1534          RX     0.0     1.0    31.0    43.0    48.0    60.0   245.0   355.0
1535          RY   100.0    99.0    98.0    92.0    92.0    98.0    99.0   100.0
              *

1536          KK    S314   BASIN
1537          BA   0.089            0.10
1538          LG    0.35    0.15    8.00    0.10       0
1539          UC   0.233   0.160
1540          UA       0     4.5    12.6    23.2    35.8    50.0    64.2    76.8    87.4    95.5
1541          UA     100
              *

1542          KK    C314
1543          KM    COMBINE RUNOFF FROM S314 WITH ROUTED FLOW FROM S313 AND C312
1544          KM    THIS IS THE TOTAL FLOW IN PARADISE WASH AT CAREFREE HWY
1545          HC       3
1546          ZW     A=PW@CFH   C=FLOW   F=EXISTING
              *
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1547          KK  314318   ROUTE   REACH
1548          KM    ROUTE COMBINED FLOWS FROM C314 TO C318
1549          KM    SLOPE = (1820-1788)/3277 = 0.0098
1550          KM     XS based on Paradise Wash XS 1.83 (Jerry Jones, 1992) (PARADFCD.DAT)
1551          RS       2    FLOW      -1
1552          RC   0.065   0.050   0.065    3277  0.0098    0.00
1553          RX  9866.0  9975.0  9984.0  9990.0 10005.0 10190.0 10390.0 10550.0
1554          RY  1818.0  1810.0  1808.0  1806.0  1806.0  1810.0  1810.0  1818.0
              *

1555          KK    S315   BASIN
1556          BA   0.239            0.10
1557          LG    0.34    0.15    8.80    0.07      15
1558          UC   0.225   0.152
1559          UA       0     3.0     5.0     8.0    12.0    20.0    43.0    75.0    90.0    96.0
1560          UA     100
              *
1                                          HEC-1 INPUT                                          PAGE 41

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


1561          KK  315316   ROUTE   REACH
1562          KM    ROUTE RUNOFF FROM S315 TO C316
1563          KM    SLOPE = (1885-1860)/2328 = 0.0107
1564          KM     XS based on West Fork Paradise Wash XS 1.75 (Stanley Consultants, 1999)
1565          RS       2    FLOW      -1
1566          RC   0.070   0.055   0.070    2328  0.0107    0.00
1567          RX  9983.0  9986.0  9989.0  9996.0 10004.0 10034.0 10047.0 10060.0
1568          RY  1874.0  1873.0  1872.0  1869.0  1869.0  1872.0  1873.0  1874.0
              *

1569          KK    S316   BASIN
1570          BA   0.223            0.10
1571          LG    0.32    0.15    8.80    0.07       4
1572          UC   0.333   0.236
1573          UA       0     4.5    12.6    23.2    35.8    50.0    64.2    76.8    87.4    95.5
1574          UA     100
              *

1575          KK    C316
1576          KM     COMBINE RUNOFF FROM S316 WITH ROUTED FLOW FROM S315
1577          HC       2
              *

1578          KK  316317   ROUTE   REACH
1579          KM    ROUTE COMBINED FLOWS FROM C316 TO C317 (CFH)
1580          KM    SLOPE = (1860-1806)/5852 = 0.0092
1581          KM     XS based on West Fork Paradise Wash XS 1.02 (Jerry Jones,1992) (PRDWST.DAT)
1582          RS       4    FLOW      -1
1583          RC   0.065   0.055   0.065    5852  0.0092    0.00
1584          RX  9973.0  9984.0  9993.0  9997.0 10007.0 10011.0 10067.0 10168.0
1585          RY  1838.0  1836.0  1834.0  1832.7  1832.7  1834.0  1836.0  1838.0
              *

1586          KK    S317   BASIN
1587          BA   0.603            0.10
1588          LG    0.35    0.15    9.70    0.06       0
1589          UC   0.446   0.292
1590          UA       0     3.0     5.0     8.0    12.0    20.0    43.0    75.0    90.0    96.0
1591          UA     100
              *

1592          KK    C317
1593          KM     COMBINE RUNOFF FROM S317 WITH ROUTED FLOW FROM C316
1594          KM     THIS IS THE TOTAL FLOW IN THE WEST BRANCH OF PARADISE WASH
1595          KM     AT CAREFREE HWY
1596          HC       2
1597          ZW      A=WBPW@CFH    C=FLOW    F=EXISTING
              *
1                                          HEC-1 INPUT                                          PAGE 42

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


1598          KK  317318   ROUTE   REACH
1599          KM    ROUTE COMBINED FLOWS FROM C317 TO C318
1600          KM    SLOPE = (1806-1788)/2279 = 0.0079
1601          KM     XS based on West Fork Paradise Wash XS 0.32 (Jerry Jones,1992) (PRDWST.DAT)
1602          RS       3    FLOW      -1
1603          RC   0.065   0.055   0.065    2279  0.0079    0.00
1604          RX  9820.0  9845.0  9995.0  9999.0 10015.0 10070.0 10650.0 10760.0
1605          RY  1808.0  1806.0  1804.0  1802.0  1802.0  1806.0  1806.0  1808.0
              *

1606          KK    S318   BASIN
1607          BA   0.157            0.10
1608          LG    0.35    0.15    7.30    0.13       0
1609          UC   0.333   0.271
1610          UA       0     4.5    12.6    23.2    35.8    50.0    64.2    76.8    87.4    95.5
1611          UA     100
              *

1612          KK    C318
```

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1613          KM     COMBINE RUNOFF FROM S318 WITH ROUTED FLOWS FROM C317 & C314
1614          HC       3
1615          ZW      A=PW+WBPW   C=FLOW   F=EXISTING
              *

1616          KK  318319   ROUTE   REACH
1617          KM    ROUTE COMBINED FLOWS FROM C318 TO C319
1618          KM    SLOPE = (1788-1729)/7226 = 0.0082
1619          KM     XS based on Paradise Wash XS 0.89 (Jerry Jones, 1992) (PARADFCD.DAT)
1620          RS       6    FLOW      -1
1621          RC   0.070   0.055   0.070    7226  0.0082    0.00
1622          RX  9500.0  9640.0  9980.0  9985.0 10010.0 10078.0 10352.0 10520.0
1623          RY  1780.0  1770.0  1770.0  1764.0  1764.0  1768.0  1774.0  1780.0
              *

1624          KK    S319   BASIN
1625          BA   0.886            0.10
1626          LG    0.35    0.10   11.20    0.03       0
1627          UC   0.721   0.632
1628          UA       0     4.5    12.6    23.2    35.8    50.0    64.2    76.8    87.4    95.5
1629          UA     100
              *

1630          KK   C319L
1631          KM     COMBINE RUNOFF FROM S319 WITH ROUTED FLOW FROM C318
1632          KM     THIS IS THE TOTAL FLOW IN PARADISE WASH UPSTREAM
1633          KM     OF APACHE WASH
1634          HC       2
1635          ZW      A=PWUSAW    C=FLOW   F=EXISTING
              *
1                                          HEC-1 INPUT                                          PAGE 43

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


1636          KK    C319
1637          KM     COMBINE PARADISE WASH WITH ROUTED FLOWS FROM C147
1638          KM     THIS IS THE TOTAL FLOW IN APACHE WASH DOWNSTREAM OF
1639          KM     PARADISE WASH
1640          HC       2
1641          ZW      A=AW+PW    C=FLOW   F=EXISTING
              *

1642          KK  319400   ROUTE   REACH
1643          KM    ROUTE COMBINED FLOWS FROM C319 TO C400
1644          KM    SLOPE = (1728-1661)/11176 = 0.0060
1645          KM     XS based on Apache Wash XS 1.37 from Jerry Jones (APACHE.DAT)
1646          RS       9    FLOW      -1
1647          RC   0.070   0.055   0.070   11176  0.0060    0.00
1648          RX  9493.0  9580.0  9932.0  9978.0 10013.0 10030.0 10042.0 10054.0
1649          RY  1698.0  1694.0  1692.0  1688.0  1688.0  1692.0  1695.0  1698.0
              *

1650          KK    S400   BASIN
1651          BA   1.676            0.10
1652          LG    0.35    0.13   10.10    0.04       3
1653          UC   1.017   0.947
1654          UA       0     4.5    12.6    23.2    35.8    50.0    64.2    76.8    87.4    95.5
1655          UA     100
              *

1656          KK    C400
1657          KM     COMBINE RUNOFF FROM S400 WITH ROUTED FLOWS FROM C319
1658          HC       2
1659          ZW       A=AW@POOL    C=FLOW    F=EXISTING
              *

1660          KK    S500   BASIN
1661          KM    THIS IS THE INFLOW TO THE SKUNK TANK WASH PORTION OF THE FLO-2D AREA
1662          KM    CALLED FLO2D2 AT DESERT HILLS DRIVE.
1663          BA   0.039            0.10
1664          LG    0.32    0.05   12.40    0.01       3
1665          UC   0.217   0.211
1666          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
1667          UA     100
              *
1668          ZZ
1
              SCHEMATIC DIAGRAM OF STREAM NETWORK
 INPUT
  LINE      (V) ROUTING          (--->) DIVERSION OR PUMP FLOW

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

    48        S100
                 V
                 V
    56      100101
                 .
                 .
    64           .        S101
                 .           .
                 .           .
    70        C101............
                 V
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                V
 75      101CFH
                .
                .
 83             .        S102
                .           V
                .           V
 89             .      102103
                .           .
                .           .
 97             .           .        S103
                .           .           .
                .           .           .
103             .        C103............
                .           V
                .           V
107             .      103104
                .           .
                .           .
116             .           .        S104
                .           .           .
                .           .           .
122             .        C104............
                .           V
                .           V
127             .      104CFH
                .           .
                .           .
135             .           .        S105
                .           .           V
                .           .           V
142             .           .      105106
                .           .           .
                .           .           .
150             .           .           .        S106
                .           .           .           .
                .           .           .           .
156             .           .        C106............
                .           .           V
                .           .           V
160             .           .      106107
                .           .           .
                .           .           .
168             .           .           .        S107
                .           .           .           .
                .           .           .           .
174             .           .        C107............
                .           .           V
                .           .           V
179             .           .      107CFH
                .           .           .
                .           .           .
187             .           .           .        S150
                .           .           .           .
                .           .           .           .
194             .           .           .           .        S151
                .           .           .           .           .
                .           .           .           .           .
201             .           .           .           .           .        S152
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                .           .           .           .           .           .
210             .           .           .           .           .           .-------->    1520
207             .           .           .           .           .        D152
                .           .           .           .           .           V
                .           .           .           .           .           V
213             .           .           .           .           .     152153
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                .           .           .           .           .           .
222             .           .           .           .           .           .        S153
                .           .           .           .           .           .           .
                .           .           .           .           .           .           .
228             .           .           .           .           .        C153............
                .           .           .           .           .           .
                .           .           .           .           .           .
234             .           .           .           .           .           .          .<-------    1520
232             .           .           .           .           .           .      DR152
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                .           .           .           .           .           .           .
235             .           .           .        C155.................................
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                .           .           .           .
239       DUMMY.................................
                .
                .
243             .        S122
                .           .
                .           .
250             .           .        S123
                .           .           .
                .           .           .
257             .           .           .        S124
                .           .           .           V
                .           .           .           V
265             .           .           .      124125
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274          .           .           .           .       S125
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280          .           .           .       C125............
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             .           .           .           .
284          .           .     DUMMY............
             .           .           .
             .           .           .
287     DUMMY........................
             .
             .
290          .      FLO2D
             .          V
             .          V
312          .     CFH127
             .           .
             .           .
320          .           .      S108
             .           .         V
             .           .         V
326          .           .    108109
             .           .           .
             .           .           .
334          .           .           .       S109
             .           .           .          .
             .           .           .          .
340          .           .    C109R............
             .           .           .
             .           .           .
345          .           .           .       S110
             .           .           .          V
             .           .           .          V
351          .           .           .     110111
             .           .           .          .
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359          .           .           .           .       S111
             .           .           .           .          .
             .           .           .           .          .
365          .           .           .       C111............
             .           .           .          V
             .           .           .          V
369          .           .           .     111109
             .           .           .          .
             .           .           .          .
377          .           .           .           .       S112
             .           .           .           .          .
             .           .           .           .          .
383          .           .           .      C109C............
             .           .           .          .
             .           .           .          .
387          .           .           .           .       S113
             .           .           .           .          V
             .           .           .           .          V
393          .           .           .           .     113114
             .           .           .           .          .
             .           .           .           .          .
401          .           .           .           .           .       S114
             .           .           .           .           .          .
             .           .           .           .           .          .
407          .           .           .           .       C114............
             .           .           .           .          V
             .           .           .           .          V
411          .           .           .           .     114115
             .           .           .           .          .
             .           .           .           .          .
419          .           .           .           .           .       S115
             .           .           .           .           .          .
             .           .           .           .           .          .
425          .           .           .           .       C115............
             .           .           .           .          V
             .           .           .           .          V
429          .           .           .           .     115109
             .           .           .           .          .
             .           .           .           .          .
437          .           .      C109........................
             .           .         V
             .           .         V
442          .           .    109116
             .           .           .
             .           .           .
450          .           .           .       S116
             .           .           .          .
             .           .           .          .
456          .           .    C116R............
             .           .           .
             .           .           .
459          .           .           .       S117
             .           .           .          .
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465          .           .           .           .       S118
             .           .           .           .          V
             .           .           .           .          V
472          .           .           .           .     118119
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480             .         .         .         .         .       S119
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486             .         .         .     C116L.......................
                .         .         .         .
                .         .         .         .
489             .         .       C116............
                .         .         V
                .         .         V
493             .         .    116120
                .         .         .
                .         .         .
501             .         .         .       S120
                .         .         .         .
                .         .         .         .
507             .         .       C120............
                .         .         V
                .         .         V
510             .         .    120127
                .         .         .
                .         .         .
518             .         .         .       S121
                .         .         .         .
                .         .         .         .
524             .         .      C127L............
                .         .         .
                .         .         .
527             .         .         .       S126
                .         .         .         V
                .         .         .         V
535             .         .         .    126127
                .         .         .         .
                .         .         .         .
544             .         .         .         .       S127
                .         .         .         .         .
                .         .         .         .         .
550             .         .         .     C127R............
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553             .       C127........................
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                .         V
558             .    127129
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566             .         .       S128
                .         .         V
                .         .         V
574             .         .    128129
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582             .         .         .       S129
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588             .       C129........................
                .         V
                .         V
592             .    129134
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600             .         .       S130
                .         .         V
                .         .         V
607             .         .    130134
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616             .         .         .       S131
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                .         .         .         V
623             .         .         .    131132
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632             .         .         .         .       S132
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638             .         .         .       C132............
                .         .         .         V
                .         .         .         V
642             .         .         .    132133
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650             .         .         .         .       S133
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656             .         .         .       C133............
                .         .         .         V
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660             .         .         .    133134
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668             .         .         .         .       S134
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674          .           .       C134L.......................
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677          .        C134............
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682          .      134139
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690          .           .        S135
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697          .           .      135139
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705          .           .           .        S136
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711          .      C139R........................
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715          .           .        S137
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722          .           .      137138
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730          .           .           .        S138
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736          .           .        C138............
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740          .           .      138139
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748          .           .           .        S139
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754          .           .       C139L............
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757          .        C139............
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761          .      139141
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769          .           .        S140
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777          .           .      140141
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792          .           .       C141L............
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795          .           .           .        S142
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801          .           .           .      142141
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810          .      C141I........................
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813          .      141145
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821          .           .        S143
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827          .           .      143144
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836          .           .           .        S144
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842          .      C145R........................
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845          .           .        S145
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851          .        C145............
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855          .      145147
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863          .           .        S147
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869          .      C147R............
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874          .          S200
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880          .                 S201
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886          .          C201............
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889          .        201204
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897          .                 S203
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903          .        C204L...........
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907          .                 S204
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913          .          C204...........
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916          .        204206
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924          .                 S205
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930          .        C206L...........
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933          .                 S206
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939          .          C206...........
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942          .        206209
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950          .                 S207
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956          .        C209L...........
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959          .                 S208
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965          .               208209
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973          .                      S209
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979          .               C209R...........
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982          .          C209...........
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986          .        209215
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994          .                 S210
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1000         .        C215L...........
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1003         .                 S211
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1009         .               211214
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1017         .                      S212
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1023         .               C214L...........
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1363          .          .    C312R............
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1368          .          .          .     S305
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1374          .          .          .   305309
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1382          .          .          .          .       S306
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1411          .          .          .          .     308309
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1419                                                  S309
1425                                        C309L............
1428                                  C309............
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1431                                309310
1439                                                  S310
1445                                  C310............
1452                                         -------> D310UO
1449                                 D310U
                                         V
                                         V
1455                                RR310
1473                                         -------> D310DO
1470                                 D310D
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                                         V
1476                                310312
1484                                                  S311
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1490                                               311312
1499                                                                S312
1505                                 C312L......................
1509                            C312............
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                                   V
1513                           312314
1521                                  S313
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                                         V
1527                                313314
1536                                                  S314
1542                            C314......................
                                   V
                                   V
1547                           314318
1555                                  S315
                                         V
                                         V
1561                                315316
1569                                                  S316
1575                                  C316............
                                         V
                                         V
1578                                316317
1586                                                  S317
1592                                  C317............
                                         V
                                         V
1598                                317318
1606                                                  S318
1612                            C318......................
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  1616          .          .     318319
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  1656          .       C400............
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  1660          .          .       S500

 (***) RUNOFF ALSO COMPUTED AT THIS LOCATION
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   14AUG03  TIME  15:56:31  *                                    *           (916) 756-1104             *
 *                                      *                                    *                                      *
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DESERT HILLS AREA HYDROLOGY

JE FULLER / HYDROLOGY & GEOMORPHOLOGY, INC.
ADOBE DAM / DESERT HILLS ADMP
APRIL 2003 - KK RR310 revised 08-14-03

THIS IS THE 2-YEAR 6-HOUR MODEL FOR EXISTING CONDITIONS LAND USE

MODEL BASIS:
* DDMSW PROJECT NAME: DHA_EX6
* HYDROLOGY DEVELOPED FOR THE DESERT HILLS AREA FOR THE ADMP
* EXISTING CONDITIONS LAND USE BASED ON MAG LAND USE FILES PROVIDED BY FCDMC AND UPDATED TO REFLECT EXTENT OF DEVELOPMENT AS SHOWN IN THE FEB. 2002 AERIAL PHOTOGRAPHS FROM THE FCDMC
* PREFRE RAINFALL STATISTICS FROM NOAA ATLAS II
* MULTIPLE STORM (JD RECORDS) USED FOR CRITICAL STORM CENTERING
* RAINFALL LOSS COMPUTED USING GREEN & AMPT METHOD
* CLARK METHOD WAS USED FOR DEVELOPMENT OF UNIT HYDROGRAPHS
* MODIFIED PULS NORMAL-DEPTH ROUTING USED FOR CHANNEL ROUTINGS
* 2-YEAR VALUES COMPUTED BY 0.10 RATIO OF 100-YEAR RESULTS PER DRAFT HYDROLOGY MANUAL (2003)

* A PORTION OF THE AREA WAS MODELED EXTERNALLY USING FLO-2D.

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

    IT          HYDROGRAPH TIME DATA
                       NMIN           5  MINUTES IN COMPUTATION INTERVAL
                      IDATE     21FEB 3  STARTING DATE
                      ITIME        0000  STARTING TIME
                         NQ         300  NUMBER OF HYDROGRAPH ORDINATES
                     NDDATE     22FEB 3  ENDING DATE
                     NDTIME        0055  ENDING TIME
                      ICENT          19  CENTURY MARK

                 COMPUTATION INTERVAL     .08 HOURS
                      TOTAL TIME BASE   24.92 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

 28 JD          INDEX STORM NO. 1
                       STRM        3.35  PRECIPITATION DEPTH
                       TRDA         .01  TRANSPOSITION DRAINAGE AREA

 29 PI            PRECIPITATION PATTERN
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                .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
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                .03       .03       .05       .05       .05       .15       .15       .15       .03       .03
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                .00       .00

32 JD         INDEX STORM NO. 2
                STRM        3.33  PRECIPITATION DEPTH
                TRDA         .50  TRANSPOSITION DRAINAGE AREA

33 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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                .00       .00       .00       .01       .01       .01       .01       .01       .01       .03
                .03       .03       .05       .05       .05       .15       .15       .15       .03       .03
                .03       .01       .01       .01       .01       .01       .01       .00       .00       .00
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36 JD         INDEX STORM NO. 3
                STRM        3.27  PRECIPITATION DEPTH
                TRDA        2.80  TRANSPOSITION DRAINAGE AREA

37 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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                .03       .03       .07       .07       .07       .08       .08       .08       .05       .05
                .05       .02       .02       .02       .01       .01       .01       .00       .00       .00
                .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
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40 JD         INDEX STORM NO. 4
                STRM        3.09  PRECIPITATION DEPTH
                TRDA       16.00  TRANSPOSITION DRAINAGE AREA

41 PI           PRECIPITATION PATTERN
                .01       .01       .00       .00       .00       .00       .00       .00       .00       .01
                .01       .01       .00       .01       .00       .00       .00       .00       .00       .00
                .00       .00       .01       .00       .00       .00       .00       .01       .01       .01
                .01       .01       .01       .01       .01       .01       .02       .02       .02       .03
                .03       .03       .06       .06       .06       .07       .07       .07       .04       .04
                .04       .02       .02       .02       .01       .01       .01       .01       .01       .01
                .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                .00       .00

44 JD         INDEX STORM NO. 5
                STRM        2.72  PRECIPITATION DEPTH
                TRDA       90.00  TRANSPOSITION DRAINAGE AREA

45 PI           PRECIPITATION PATTERN
                .01       .01       .01       .00       .00       .00       .01       .01       .01       .01
                .01       .01       .01       .01       .01       .01       .01       .01       .01       .01
                .01       .01       .01       .01       .01       .01       .01       .01       .01       .01
                .01       .01       .01       .01       .01       .01       .02       .02       .02       .03
                .03       .03       .05       .05       .05       .05       .05       .05       .04       .04
                .04       .02       .02       .02       .02       .02       .02       .01       .01       .01
                .01       .01       .01       .01       .01       .01       .01       .01       .01       .01
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   -----DSS---ZOPEN:  Existing File Opened,  File: DH26E.DSS
                      Unit:  71;  DSS Version: 6-JG
-----DSS---ZWRITE Unit  71; Vers.    8:  /DHW/C147R/FLOW/20FEB1903/5MIN/EXISTING/
-----DSS---ZWRITE Unit  71; Vers.    9:  /DHW/C147R/FLOW/21FEB1903/5MIN/EXISTING/
-----DSS---ZWRITE Unit  71; Vers.    9:  /DHW/C147R/FLOW/22FEB1903/5MIN/EXISTING/

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-----DSS---ZWRITE Unit  71; Vers.    8:  /AW@CLOUD/C221/FLOW/20FEB1903/5MIN/EXISTING/
-----DSS---ZWRITE Unit  71; Vers.    9:  /AW@CLOUD/C221/FLOW/21FEB1903/5MIN/EXISTING/
-----DSS---ZWRITE Unit  71; Vers.    9:  /AW@CLOUD/C221/FLOW/22FEB1903/5MIN/EXISTING/

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-----DSS---ZWRITE Unit  71; Vers.    8:  /AW@CFH/C222/FLOW/20FEB1903/5MIN/EXISTING/
-----DSS---ZWRITE Unit  71; Vers.    9:  /AW@CFH/C222/FLOW/21FEB1903/5MIN/EXISTING/
-----DSS---ZWRITE Unit  71; Vers.    9:  /AW@CFH/C222/FLOW/22FEB1903/5MIN/EXISTING/

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-----DSS---ZWRITE Unit  71; Vers.    9:  /AWUSDHW/C228/FLOW/21FEB1903/5MIN/EXISTING/
-----DSS---ZWRITE Unit  71; Vers.    9:  /AWUSDHW/C228/FLOW/22FEB1903/5MIN/EXISTING/
-----DSS---ZWRITE Unit  71; Vers.    8:  /DHW+AW/C147/FLOW/20FEB1903/5MIN/EXISTING/
-----DSS---ZWRITE Unit  71; Vers.    9:  /DHW+AW/C147/FLOW/21FEB1903/5MIN/EXISTING/
-----DSS---ZWRITE Unit  71; Vers.    9:  /DHW+AW/C147/FLOW/22FEB1903/5MIN/EXISTING/

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-----DSS---ZWRITE Unit  71; Vers.    8:  /PWUSRTW/C312R/FLOW/20FEB1903/5MIN/EXISTING/
-----DSS---ZWRITE Unit  71; Vers.    9:  /PWUSRTW/C312R/FLOW/21FEB1903/5MIN/EXISTING/
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-----DSS---ZWRITE Unit  71; Vers.    9:  /RTWUSPW/C312L/FLOW/21FEB1903/5MIN/EXISTING/
-----DSS---ZWRITE Unit  71; Vers.    9:  /RTWUSPW/C312L/FLOW/22FEB1903/5MIN/EXISTING/
-----DSS---ZWRITE Unit  71; Vers.    8:  /PW+RTW/C312/FLOW/20FEB1903/5MIN/EXISTING/
-----DSS---ZWRITE Unit  71; Vers.    9:  /PW+RTW/C312/FLOW/21FEB1903/5MIN/EXISTING/
-----DSS---ZWRITE Unit  71; Vers.    9:  /PW+RTW/C312/FLOW/22FEB1903/5MIN/EXISTING/

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-----DSS---ZWRITE Unit  71; Vers.    8:  /PW@CFH/C314/FLOW/20FEB1903/5MIN/EXISTING/
-----DSS---ZWRITE Unit  71; Vers.    9:  /PW@CFH/C314/FLOW/21FEB1903/5MIN/EXISTING/
-----DSS---ZWRITE Unit  71; Vers.    9:  /PW@CFH/C314/FLOW/22FEB1903/5MIN/EXISTING/

                                                HYDROGRAPH MULTIPLIED BY   .10

                                                HYDROGRAPH MULTIPLIED BY   .10

                                                HYDROGRAPH MULTIPLIED BY   .10

                                                HYDROGRAPH MULTIPLIED BY   .10

                                                HYDROGRAPH MULTIPLIED BY   .10

                                                HYDROGRAPH MULTIPLIED BY   .10
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                                        HYDROGRAPH MULTIPLIED BY   .10

                                        HYDROGRAPH MULTIPLIED BY   .10

                                        HYDROGRAPH MULTIPLIED BY   .10

                                        HYDROGRAPH MULTIPLIED BY   .10

                                        HYDROGRAPH MULTIPLIED BY   .10

                                        HYDROGRAPH MULTIPLIED BY   .10

                                        HYDROGRAPH MULTIPLIED BY   .10

                                        HYDROGRAPH MULTIPLIED BY   .10

                                        HYDROGRAPH MULTIPLIED BY   .10
-----DSS---ZWRITE Unit  71; Vers.    8:  /WBPW@CFH/C317/FLOW/20FEB1903/5MIN/EXISTING/
-----DSS---ZWRITE Unit  71; Vers.    9:  /WBPW@CFH/C317/FLOW/21FEB1903/5MIN/EXISTING/
-----DSS---ZWRITE Unit  71; Vers.    9:  /WBPW@CFH/C317/FLOW/22FEB1903/5MIN/EXISTING/

                                        HYDROGRAPH MULTIPLIED BY   .10

                                        HYDROGRAPH MULTIPLIED BY   .10

                                        HYDROGRAPH MULTIPLIED BY   .10

                                        HYDROGRAPH MULTIPLIED BY   .10

                                        HYDROGRAPH MULTIPLIED BY   .10
-----DSS---ZWRITE Unit  71; Vers.    8:  /PW+WBPW/C318/FLOW/20FEB1903/5MIN/EXISTING/
-----DSS---ZWRITE Unit  71; Vers.    9:  /PW+WBPW/C318/FLOW/21FEB1903/5MIN/EXISTING/
-----DSS---ZWRITE Unit  71; Vers.    9:  /PW+WBPW/C318/FLOW/22FEB1903/5MIN/EXISTING/

                                        HYDROGRAPH MULTIPLIED BY   .10

                                        HYDROGRAPH MULTIPLIED BY   .10

                                        HYDROGRAPH MULTIPLIED BY   .10

                                        HYDROGRAPH MULTIPLIED BY   .10

                                        HYDROGRAPH MULTIPLIED BY   .10
-----DSS---ZWRITE Unit  71; Vers.    8:  /PWUSAW/C319L/FLOW/20FEB1903/5MIN/EXISTING/
-----DSS---ZWRITE Unit  71; Vers.    9:  /PWUSAW/C319L/FLOW/21FEB1903/5MIN/EXISTING/
-----DSS---ZWRITE Unit  71; Vers.    9:  /PWUSAW/C319L/FLOW/22FEB1903/5MIN/EXISTING/
-----DSS---ZWRITE Unit  71; Vers.    8:  /AW+PW/C319/FLOW/20FEB1903/5MIN/EXISTING/
-----DSS---ZWRITE Unit  71; Vers.    9:  /AW+PW/C319/FLOW/21FEB1903/5MIN/EXISTING/
-----DSS---ZWRITE Unit  71; Vers.    9:  /AW+PW/C319/FLOW/22FEB1903/5MIN/EXISTING/

                                        HYDROGRAPH MULTIPLIED BY   .10

                                        HYDROGRAPH MULTIPLIED BY   .10

                                        HYDROGRAPH MULTIPLIED BY   .10

                                        HYDROGRAPH MULTIPLIED BY   .10

                                        HYDROGRAPH MULTIPLIED BY   .10
-----DSS---ZWRITE Unit  71; Vers.    8:  /AW@POOL/C400/FLOW/20FEB1903/5MIN/EXISTING/
-----DSS---ZWRITE Unit  71; Vers.    9:  /AW@POOL/C400/FLOW/21FEB1903/5MIN/EXISTING/
-----DSS---ZWRITE Unit  71; Vers.    9:  /AW@POOL/C400/FLOW/22FEB1903/5MIN/EXISTING/

                                        HYDROGRAPH MULTIPLIED BY   .10

                                        HYDROGRAPH MULTIPLIED BY   .10

                                        HYDROGRAPH MULTIPLIED BY   .10

                                        HYDROGRAPH MULTIPLIED BY   .10

                                        HYDROGRAPH MULTIPLIED BY   .10
1
                                        RUNOFF SUMMARY
                                   FLOW IN CUBIC FEET PER SECOND
                                TIME IN HOURS,  AREA IN SQUARE MILES

                                PEAK   TIME OF     AVERAGE FLOW FOR MAXIMUM PERIOD      BASIN     MAXIMUM     TIME OF
        OPERATION       STATION FLOW   PEAK                                            AREA      STAGE       MAX STAGE
+                                                   6-HOUR     24-HOUR     72-HOUR

        HYDROGRAPH AT
+                         S100   92.   4.08          9.          2.          2.        .34

        ROUTED TO
+                       100101   65.   4.42          9.          2.          2.        .34

        HYDROGRAPH AT
+                         S101   65.   4.17          7.          2.          2.        .30

        2 COMBINED AT
+                         C101  110.   4.33         16.          4.          4.        .64

        ROUTED TO
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+		101CFH	55.	6.50	16.	4.	4.	.64
	HYDROGRAPH AT							
+		S102	94.	4.08	7.	2.	2.	.30
	ROUTED TO							
+		102103	74.	4.25	7.	2.	2.	.30
	HYDROGRAPH AT							
+		S103	35.	4.08	3.	1.	1.	.14
	2 COMBINED AT							
+		C103	105.	4.17	11.	3.	3.	.44
	ROUTED TO							
+		103104	97.	4.25	11.	3.	3.	.44
	HYDROGRAPH AT							
+		S104	21.	4.08	2.	1.	1.	.08
	2 COMBINED AT							
+		C104	112.	4.25	13.	3.	3.	.52
	ROUTED TO							
+		104CFH	46.	6.33	13.	3.	3.	.52
	HYDROGRAPH AT							
+		S105	34.	4.17	5.	1.	1.	.16
	ROUTED TO							
+		105106	32.	4.33	5.	1.	1.	.16
	HYDROGRAPH AT							
+		S106	22.	4.17	3.	1.	1.	.11
	2 COMBINED AT							
+		C106	53.	4.25	8.	2.	2.	.27
	ROUTED TO							
+		106107	48.	4.50	8.	2.	2.	.27
	HYDROGRAPH AT							
+		S107	37.	4.17	5.	1.	1.	.19
	2 COMBINED AT							
+		C107	73.	4.42	13.	3.	3.	.45
	ROUTED TO							
+		107CFH	54.	5.33	13.	3.	3.	.45
	HYDROGRAPH AT							
+		S150	4.	4.00	0.	0.	0.	.01
	HYDROGRAPH AT							
+		S151	5.	4.00	0.	0.	0.	.02
	HYDROGRAPH AT							
+		S152	26.	4.08	2.	0.	0.	.09
	DIVERSION TO							
+		152O	24.	4.08	2.	0.	0.	.09
	HYDROGRAPH AT							
+		D152	2.	4.08	0.	0.	0.	.09
	ROUTED TO							
+		152153	1.	4.17	0.	0.	0.	.09
	HYDROGRAPH AT							
+		S153	3.	4.08	0.	0.	0.	.01
	2 COMBINED AT							
+		C153	5.	4.08	0.	0.	0.	.10
	HYDROGRAPH AT							
+		DR152	24.	4.08	2.	0.	0.	.09
	4 COMBINED AT							
+		C155	37.	4.08	3.	1.	1.	.13
	4 COMBINED AT							
+		DUMMY	110.	6.42	43.	11.	10.	1.74
	HYDROGRAPH AT							
+		S122	36.	4.17	4.	1.	1.	.16
	HYDROGRAPH AT							
+		S123	36.	4.08	3.	1.	1.	.14
	HYDROGRAPH AT							
+		S124	19.	4.08	1.	0.	0.	.06
	ROUTED TO							
+		124125	12.	4.33	1.	0.	0.	.06

+	HYDROGRAPH AT	S125	35.	4.08	4.	1.	1.	.15
+	2 COMBINED AT	C125	41.	4.08	5.	1.	1.	.21
+	2 COMBINED AT	DUMMY	78.	4.08	8.	2.	2.	.34
+	3 COMBINED AT	DUMMY	108.	6.42	53.	14.	13.	2.24
+	HYDROGRAPH AT	FLO2D	137.	7.25	90.	50.	48.	5.47
+	ROUTED TO	CFH127	137.	7.58	90.	49.	48.	5.47
+	HYDROGRAPH AT	S108	107.	4.08	8.	2.	2.	.33
+	ROUTED TO	108109	82.	4.33	8.	2.	2.	.33
+	HYDROGRAPH AT	S109	82.	4.17	9.	2.	2.	.37
+	2 COMBINED AT	C109R	139.	4.33	17.	4.	4.	.69
+	HYDROGRAPH AT	S110	35.	4.08	3.	1.	1.	.13
+	ROUTED TO	110111	23.	4.50	3.	1.	1.	.13
+	HYDROGRAPH AT	S111	71.	4.08	6.	1.	1.	.25
+	2 COMBINED AT	C111	74.	4.08	9.	2.	2.	.38
+	ROUTED TO	111109	26.	5.58	9.	2.	2.	.38
+	HYDROGRAPH AT	S112	131.	4.17	14.	3.	3.	.57
+	2 COMBINED AT	C109C	117.	4.17	22.	6.	5.	.95
+	HYDROGRAPH AT	S113	20.	4.17	2.	1.	1.	.11
+	ROUTED TO	113114	14.	4.50	2.	1.	1.	.11
+	HYDROGRAPH AT	S114	24.	4.17	2.	1.	1.	.11
+	2 COMBINED AT	C114	29.	4.25	5.	1.	1.	.22
+	ROUTED TO	114115	22.	4.75	5.	1.	1.	.22
+	HYDROGRAPH AT	S115	28.	4.25	4.	1.	1.	.16
+	2 COMBINED AT	C115	38.	4.50	9.	2.	2.	.37
+	ROUTED TO	115109	37.	4.58	9.	2.	2.	.37
+	3 COMBINED AT	C109	217.	4.25	46.	12.	11.	2.02
+	ROUTED TO	109116	190.	4.67	46.	12.	11.	2.02
+	HYDROGRAPH AT	S116	28.	4.33	4.	1.	1.	.22
+	2 COMBINED AT	C116R	203.	4.67	49.	12.	12.	2.24
+	HYDROGRAPH AT	S117	43.	4.25	6.	2.	2.	.23
+	HYDROGRAPH AT	S118	21.	4.25	4.	1.	1.	.12
+	ROUTED TO	118119	18.	4.67	4.	1.	1.	.12

+	HYDROGRAPH AT	S119	48.	4.33	8.	2.	2.	.31
+	3 COMBINED AT	C116L	92.	4.33	18.	4.	4.	.67
+	2 COMBINED AT	C116	260.	4.67	66.	17.	16.	2.91
+	ROUTED TO	116120	253.	4.83	65.	17.	16.	2.91
+	HYDROGRAPH AT	S120	36.	4.25	7.	2.	2.	.28
+	2 COMBINED AT	C120	270.	4.83	71.	18.	17.	3.18
+	ROUTED TO	120127	231.	5.33	70.	18.	17.	3.18
+	HYDROGRAPH AT	S121	32.	4.50	7.	2.	2.	.32
+	2 COMBINED AT	C127L	243.	5.33	76.	20.	19.	3.50
+	HYDROGRAPH AT	S126	41.	4.08	3.	1.	1.	.13
+	ROUTED TO	126127	28.	4.25	3.	1.	1.	.13
+	HYDROGRAPH AT	S127	23.	4.08	2.	0.	0.	.09
+	2 COMBINED AT	C127R	44.	4.17	5.	1.	1.	.22
+	3 COMBINED AT	C127	282.	5.17	160.	69.	66.	9.19
+	ROUTED TO	127129	265.	5.50	159.	68.	66.	9.19
+	HYDROGRAPH AT	S128	31.	4.08	3.	1.	1.	.12
+	ROUTED TO	128129	27.	4.25	3.	1.	1.	.12
+	HYDROGRAPH AT	S129	39.	4.08	3.	1.	1.	.12
+	3 COMBINED AT	C129	266.	5.50	161.	70.	67.	9.43
+	ROUTED TO	129134	262.	5.67	161.	69.	67.	9.43
+	HYDROGRAPH AT	S130	9.	4.17	1.	0.	0.	.05
+	ROUTED TO	130134	6.	4.58	1.	0.	0.	.05
+	HYDROGRAPH AT	S131	20.	4.17	3.	1.	1.	.11
+	ROUTED TO	131132	17.	4.50	3.	1.	1.	.11
+	HYDROGRAPH AT	S132	34.	4.17	4.	1.	1.	.14
+	2 COMBINED AT	C132	39.	4.25	7.	2.	2.	.25
+	ROUTED TO	132133	36.	4.50	7.	2.	2.	.25
+	HYDROGRAPH AT	S133	23.	4.17	3.	1.	1.	.10
+	2 COMBINED AT	C133	46.	4.42	9.	2.	2.	.35
+	ROUTED TO	133134	45.	4.50	9.	2.	2.	.35
+	HYDROGRAPH AT	S134	18.	4.17	2.	0.	0.	.07
	3 COMBINED AT							

+	C134L	57.	4.42	12.	3.	3.	.48
+ 2 COMBINED AT	C134	275.	5.58	170.	72.	69.	9.91
+ ROUTED TO	134139	273.	5.75	170.	72.	69.	9.91
+ HYDROGRAPH AT	S135	22.	4.08	2.	0.	0.	.07
+ ROUTED TO	135139	17.	4.17	2.	0.	0.	.07
+ HYDROGRAPH AT	S136	18.	4.17	2.	0.	0.	.08
+ 3 COMBINED AT	C139R	273.	5.75	172.	72.	70.	10.05
+ HYDROGRAPH AT	S137	17.	4.17	2.	1.	1.	.08
+ ROUTED TO	137138	11.	4.83	2.	1.	1.	.08
+ HYDROGRAPH AT	S138	38.	4.33	7.	2.	2.	.27
+ 2 COMBINED AT	C138	39.	4.42	9.	2.	2.	.35
+ ROUTED TO	138139	36.	4.83	9.	2.	2.	.35
+ HYDROGRAPH AT	S139	12.	4.17	1.	0.	0.	.07
+ 2 COMBINED AT	C139L	38.	4.75	10.	3.	2.	.42
+ 2 COMBINED AT	C139	287.	5.67	180.	75.	72.	10.47
+ ROUTED TO	139141	286.	5.75	180.	74.	72.	10.47
+ HYDROGRAPH AT	S140	43.	4.17	7.	2.	2.	.25
+ ROUTED TO	140141	40.	4.42	7.	2.	2.	.25
+ HYDROGRAPH AT	S141	21.	4.17	3.	1.	1.	.10
+ 2 COMBINED AT	C141L	56.	4.33	10.	2.	2.	.35
+ HYDROGRAPH AT	S142	32.	4.17	3.	1.	1.	.14
+ ROUTED TO	142141	32.	4.17	3.	1.	1.	.14
+ 3 COMBINED AT	C141I	294.	5.67	189.	77.	74.	10.96
+ ROUTED TO	141145	293.	5.83	188.	77.	74.	10.96
+ HYDROGRAPH AT	S143	41.	4.08	3.	1.	1.	.14
+ ROUTED TO	143144	35.	4.17	3.	1.	1.	.14
+ HYDROGRAPH AT	S144	29.	4.25	4.	1.	1.	.15
+ 3 COMBINED AT	C145R	294.	5.83	192.	78.	75.	11.25
+ HYDROGRAPH AT	S145	41.	4.25	6.	2.	1.	.20
+ 2 COMBINED AT	C145	297.	5.75	196.	79.	77.	11.46
+ ROUTED TO	145147	294.	6.00	195.	78.	76.	11.46
+ HYDROGRAPH AT	S147	142.	4.25	16.	4.	4.	.67

+	2 COMBINED AT	C147R	294.	6.00	201.	82.	79.	12.13
+	HYDROGRAPH AT	S200	126.	4.08	14.	3.	3.	.58
+	HYDROGRAPH AT	S201	200.	4.08	20.	5.	5.	.79
+	2 COMBINED AT	C201	273.	4.08	33.	8.	8.	1.37
+	ROUTED TO	201204	266.	4.17	33.	8.	8.	1.37
+	HYDROGRAPH AT	S203	55.	4.00	4.	1.	1.	.17
+	2 COMBINED AT	C204L	284.	4.17	36.	9.	9.	1.54
+	HYDROGRAPH AT	S204	85.	4.08	8.	2.	2.	.30
+	2 COMBINED AT	C204	323.	4.17	43.	11.	10.	1.84
+	ROUTED TO	204206	314.	4.17	43.	11.	10.	1.84
+	HYDROGRAPH AT	S205	11.	4.08	1.	0.	0.	.04
+	2 COMBINED AT	C206L	318.	4.17	44.	11.	11.	1.88
+	HYDROGRAPH AT	S206	40.	4.08	3.	1.	1.	.15
+	2 COMBINED AT	C206	334.	4.17	47.	12.	11.	2.02
+	ROUTED TO	206209	324.	4.25	47.	12.	11.	2.02
+	HYDROGRAPH AT	S207	71.	4.08	5.	1.	1.	.25
+	2 COMBINED AT	C209L	342.	4.25	51.	13.	12.	2.27
+	HYDROGRAPH AT	S208	93.	4.08	7.	2.	2.	.31
+	ROUTED TO	208209	74.	4.25	7.	2.	2.	.31
+	HYDROGRAPH AT	S209	17.	4.08	2.	0.	0.	.07
+	2 COMBINED AT	C209R	89.	4.17	8.	2.	2.	.38
+	2 COMBINED AT	C209	380.	4.25	58.	15.	14.	2.65
+	ROUTED TO	209215	373.	4.33	58.	15.	14.	2.65
+	HYDROGRAPH AT	S210	82.	4.08	7.	2.	2.	.31
+	2 COMBINED AT	C215L	399.	4.33	64.	16.	15.	2.96
+	HYDROGRAPH AT	S211	89.	4.08	7.	2.	2.	.27
+	ROUTED TO	211214	54.	4.33	7.	2.	2.	.27
+	HYDROGRAPH AT	S212	38.	4.17	4.	1.	1.	.18
+	2 COMBINED AT	C214L	81.	4.25	10.	3.	2.	.45
+	HYDROGRAPH AT	S213	62.	4.08	5.	1.	1.	.24
+	HYDROGRAPH AT	S214	82.	4.08	8.	2.	2.	.33
+	3 COMBINED AT	C214	180.	4.17	22.	6.	5.	1.02

+	ROUTED TO	214215	156.	4.25	22.	6.	5.	1.02
+	HYDROGRAPH AT	S215	15.	4.08	1.	0.	0.	.06
+	2 COMBINED AT	C215R	164.	4.25	24.	6.	6.	1.08
+	2 COMBINED AT	C215	506.	4.33	84.	21.	20.	4.05
+	ROUTED TO	215216	494.	4.42	84.	21.	20.	4.05
+	HYDROGRAPH AT	S216	116.	4.08	9.	2.	2.	.37
+	2 COMBINED AT	C216	519.	4.42	91.	23.	22.	4.41
+	ROUTED TO	216217	462.	4.92	91.	23.	22.	4.41
+	HYDROGRAPH AT	S217	74.	4.25	9.	2.	2.	.36
+	2 COMBINED AT	C217R	473.	4.92	98.	25.	24.	4.77
+	HYDROGRAPH AT	S218	127.	4.08	10.	2.	2.	.39
+	ROUTED TO	218219	79.	4.42	10.	2.	2.	.39
+	HYDROGRAPH AT	S219	72.	4.17	7.	2.	2.	.28
+	2 COMBINED AT	C219	105.	4.33	16.	4.	4.	.67
+	HYDROGRAPH AT	S220	40.	4.17	4.	1.	1.	.17
+	2 COMBINED AT	C220	126.	4.25	20.	5.	5.	.84
+	ROUTED TO	220217	126.	4.33	20.	5.	5.	.84
+	2 COMBINED AT	C217	517.	4.83	115.	29.	28.	5.61
+	ROUTED TO	217221	507.	5.00	115.	29.	28.	5.61
+	HYDROGRAPH AT	S221	45.	4.25	6.	2.	1.	.23
+	2 COMBINED AT	C221	515.	5.00	120.	30.	29.	5.85
+	ROUTED TO	221222	501.	5.25	119.	30.	29.	5.85
+	HYDROGRAPH AT	S222	56.	4.25	7.	2.	2.	.27
+	2 COMBINED AT	C222	505.	5.17	125.	32.	31.	6.12
+	ROUTED TO	222227	495.	5.33	124.	32.	31.	6.12
+	HYDROGRAPH AT	S223	20.	4.17	2.	1.	1.	.09
+	ROUTED TO	223227	11.	4.67	2.	1.	1.	.09
+	HYDROGRAPH AT	S224	47.	4.17	4.	1.	1.	.21
+	3 COMBINED AT	C227L	498.	5.33	129.	33.	32.	6.42
+	HYDROGRAPH AT	S225	54.	4.33	9.	2.	2.	.31
+	ROUTED TO	225226	46.	4.67	9.	2.	2.	.31
	HYDROGRAPH AT							

+		S226	47.	4.25	6.	1.	1.	.25
	2 COMBINED AT							
+		C226	67.	4.50	15.	4.	4.	.56
	ROUTED TO							
+		226227	65.	4.75	15.	4.	4.	.56
	HYDROGRAPH AT							
+		S227	21.	4.17	3.	1.	1.	.11
	2 COMBINED AT							
+		C227R	72.	4.67	18.	5.	4.	.67
	2 COMBINED AT							
+		C227	531.	5.33	144.	37.	36.	7.09
	ROUTED TO							
+		227228	521.	5.50	143.	37.	36.	7.09
	HYDROGRAPH AT							
+		S228	42.	4.25	5.	1.	1.	.22
	2 COMBINED AT							
+		C228	521.	5.50	147.	38.	37.	7.32
	ROUTED TO							
+		228147	517.	5.58	146.	38.	37.	7.32
	2 COMBINED AT							
+		C147	727.	5.67	329.	115.	111.	19.45
	ROUTED TO							
+		147319	725.	5.67	329.	115.	110.	19.45
	HYDROGRAPH AT							
+		S300	128.	4.17	12.	3.	3.	.50
	HYDROGRAPH AT							
+		S301	139.	4.08	12.	3.	3.	.50
	2 COMBINED AT							
+		C301	220.	4.08	24.	6.	6.	1.01
	ROUTED TO							
+		301302	207.	4.25	24.	6.	6.	1.01
	HYDROGRAPH AT							
+		S302	62.	4.08	5.	1.	1.	.24
	2 COMBINED AT							
+		C302	232.	4.25	29.	7.	7.	1.25
	ROUTED TO							
+		302303	216.	4.33	29.	7.	7.	1.25
	HYDROGRAPH AT							
+		S303	36.	4.08	3.	1.	1.	.13
	2 COMBINED AT							
+		C303	224.	4.33	32.	8.	8.	1.37
	ROUTED TO							
+		303312	200.	4.58	31.	8.	8.	1.37
	HYDROGRAPH AT							
+		S304	19.	4.17	2.	1.	1.	.13
	2 COMBINED AT							
+		C312R	205.	4.58	33.	8.	8.	1.50
	HYDROGRAPH AT							
+		S305	65.	4.08	5.	1.	1.	.23
	ROUTED TO							
+		305309	43.	4.33	5.	1.	1.	.23
	HYDROGRAPH AT							
+		S306	9.	4.17	1.	0.	0.	.05
	HYDROGRAPH AT							
+		S307	53.	4.08	5.	1.	1.	.21
	ROUTED TO							
+		307309	50.	4.17	5.	1.	1.	.21
	3 COMBINED AT							
+		C309R	93.	4.25	11.	3.	3.	.49
	HYDROGRAPH AT							
+		S308	128.	4.08	10.	2.	2.	.47
	ROUTED TO							
+		308309	89.	4.33	10.	2.	2.	.47

+	HYDROGRAPH AT	S309	46.	4.08	4.	1.	1.	.19
+	2 COMBINED AT	C309L	121.	4.17	14.	3.	3.	.66
+	2 COMBINED AT	C309	185.	4.17	23.	6.	6.	1.14
+	ROUTED TO	309310	163.	4.50	23.	6.	6.	1.14
+	HYDROGRAPH AT	S310	130.	4.17	15.	4.	4.	.55
+	2 COMBINED AT	C310	218.	4.42	37.	9.	9.	1.70
+	DIVERSION TO	D310UO	109.	4.42	19.	5.	4.	1.70
+	HYDROGRAPH AT	D310U	109.	4.42	19.	5.	4.	1.70
+	ROUTED TO	RR310	107.	4.42	19.	5.	4.	1.70
+	DIVERSION TO	D310DO	72.	4.17	5.	1.	1.	1.70
+	HYDROGRAPH AT	D310D	107.	4.42	14.	3.	3.	1.70
+	ROUTED TO	310312	91.	4.75	14.	3.	3.	1.70
+	HYDROGRAPH AT	S311	19.	4.08	2.	1.	1.	.08
+	ROUTED TO	311312	11.	4.67	2.	1.	1.	.08
+	HYDROGRAPH AT	S312	35.	4.08	4.	1.	1.	.14
+	3 COMBINED AT	C312L	105.	4.75	19.	5.	5.	1.91
+	2 COMBINED AT	C312	267.	4.67	50.	13.	12.	3.42
+	ROUTED TO	312314	253.	4.75	50.	13.	12.	3.42
+	HYDROGRAPH AT	S313	11.	4.17	1.	0.	0.	.05
+	ROUTED TO	313314	10.	4.25	1.	0.	0.	.05
+	HYDROGRAPH AT	S314	24.	4.08	2.	1.	0.	.09
+	3 COMBINED AT	C314	259.	4.75	53.	13.	13.	3.56
+	ROUTED TO	314318	232.	5.08	53.	13.	13.	3.56
+	HYDROGRAPH AT	S315	70.	4.08	6.	2.	1.	.24
+	ROUTED TO	315316	54.	4.25	6.	2.	1.	.24
+	HYDROGRAPH AT	S316	51.	4.17	5.	1.	1.	.22
+	2 COMBINED AT	C316	101.	4.25	11.	3.	3.	.46
+	ROUTED TO	316317	73.	4.67	11.	3.	3.	.46
+	HYDROGRAPH AT	S317	121.	4.25	14.	4.	3.	.60
+	2 COMBINED AT	C317	136.	4.42	25.	6.	6.	1.07
+	ROUTED TO	317318	131.	4.58	25.	6.	6.	1.07
+	HYDROGRAPH AT	S318	32.	4.17	3.	1.	1.	.16

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        3 COMBINED AT
+                       C318      314.   5.00        79.       20.       19.      4.78

        ROUTED TO
+                     318319      287.   5.50        78.       20.       19.      4.78

        HYDROGRAPH AT
+                       S319      106.   4.50        23.        6.        6.       .89

        2 COMBINED AT
+                      C319L      318.   5.42        99.       25.       24.      5.66

        2 COMBINED AT
+                       C319      932.   5.67       403.      134.      129.     25.11

        ROUTED TO
+                     319400      881.   6.25       397.      130.      126.     25.11

        HYDROGRAPH AT
+                       S400      137.   4.75        42.       10.       10.      1.68

        2 COMBINED AT
+                       C400      908.   6.25       414.      138.      133.     26.79

        HYDROGRAPH AT
+                       S500       11.   4.08         1.        0.        0.       .04


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


    -----DSS---ZCLOSE Unit:  71,   File: DH26E.DSS
              Pointer Utilization:   .25
              Number of Records:     45
              File Size:     89.6  Kbytes
              Percent Inactive:    .0
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Desert Hills Area Hydrology
Future Condtions Results

		100-year			10-year			2-year		
KK	Area	Peak Flow	Time to	Volume	Peak Flow	Time to	Volume	Peak Flow	Time to	Volume
ID	sq.mi.	cfs	Peak(hrs)	ac-ft	cfs	Peak(hrs)	ac-ft	cfs	Peak(hrs)	ac-ft
S100	0.34	918	4.08	44	349	4.08	17	138	4.08	7
100101	0.34	691	4.33	44	253	4.42	17	102	4.42	7
S101	0.3	695	4.17	39	264	4.17	15	104	4.17	6
C101	0.64	1205	4.25	81	449	4.25	31	177	4.25	12
101CFH	0.64	704	5.83	81	228	6.58	31	90	6.5	12
S102	0.3	937	4.08	37	356	4.08	14	141	4.08	6
102103	0.3	853	4.17	37	308	4.17	14	112	4.25	6
S103	0.14	373	4.08	16	142	4.08	6	56	4.08	2
C103	0.44	1200	4.17	54	440	4.17	20	162	4.17	8
103104	0.44	1154	4.17	54	413	4.25	20	152	4.25	8
S104	0.08	216	4.08	10	82	4.08	4	32	4.08	2
C104	0.52	1335	4.17	64	472	4.17	24	173	4.25	10
104CFH	0.52	618	5.67	64	198	6.25	24	77	6.17	10
S105	0.16	354	4.17	24	135	4.17	9	53	4.17	4
105106	0.16	328	4.33	24	122	4.33	9	49	4.33	4
S106	0.11	230	4.17	16	87	4.17	6	34	4.17	2
C106	0.27	542	4.25	40	199	4.25	15	80	4.25	6
106107	0.27	461	4.5	40	166	4.58	15	74	4.42	6
S107	0.19	379	4.17	26	144	4.17	10	57	4.17	4
C107	0.45	690	4.42	67	255	4.25	25	114	4.33	10
107CFH	0.45	592	5.08	67	207	5.33	25	87	5.25	10
S150	0.01	38	4	1	14	4	1	6	4	0
S151	0.02	49	4	2	19	4	1	7	4	0
S152	0.09	260	4.08	9	99	4.08	4	39	4.08	1
D152	0.09	201	4.08	6	59	4.08	1	9	4.08	0
152153	0.09	199	4.08	6	58	4.08	1	7	4.08	0
S153	0.01	34	4.08	2	13	4.08	1	5	4.08	0
C153	0.1	232	4.08	7	70	4.08	2	12	4.08	0
DR152	0.09	59	4.08	3	40	4.08	2	30	4.08	1
C155	0.13	369	4.08	14	139	4.08	5	53	4.08	2
DUMMY	1.74	1477	5.83	219	431	6.33	83	174	6.33	33
S122	0.16	350	4.17	19	133	4.17	7	52	4.17	3
S123	0.14	366	4.08	17	139	4.08	7	55	4.08	3
S124	0.06	196	4	8	75	4	3	29	4	1
124125	0.06	175	4.17	8	61	4.25	3	21	4.25	1
S125	0.15	373	4.08	19	142	4.08	7	56	4.08	3
C125	0.21	518	4.08	27	185	4.17	10	67	4.17	4
DUMMY	0.34	883	4.08	44	323	4.08	17	121	4.08	7
DUMMY	2.24	1470	5.83	279	425	6.33	106	172	6.33	42
FLO2D	5.47	2972	5.08	654	1030	5.5	307	340	6.17	151
CFH127	5.47	2919	5.17	653	1019	5.67	306	335	6.33	150
S108	0.33	1073	4.08	43	408	4.08	16	161	4.08	6
108109	0.33	958	4.25	43	356	4.25	16	128	4.33	6
S109	0.37	857	4.17	45	326	4.17	17	129	4.17	7
C109R	0.69	1664	4.17	86	623	4.25	33	229	4.25	13
S110	0.13	354	4.08	16	135	4.08	6	53	4.08	2
110111	0.13	273	4.33	16	94	4.42	6	36	4.5	2
S111	0.25	703	4.08	30	267	4.08	11	105	4.08	4
C111	0.38	800	4.17	46	295	4.08	17	112	4.08	7
111109	0.38	641	4.5	46	182	4.75	17	52	5.08	7
S112	0.57	1333	4.17	70	507	4.17	27	200	4.17	10
C109C	0.95	1301	4.25	113	455	4.17	43	179	4.17	17
S113	0.11	197	4.17	11	75	4.17	4	30	4.17	2
113114	0.11	172	4.33	11	62	4.42	4	22	4.42	2
S114	0.11	248	4.17	13	94	4.17	5	37	4.17	2

Desert Hills Area Hydrology
Future Condtions Results

		100-year			10-year			2-year		
KK	Area	Peak Flow	Time to	Volume	Peak Flow	Time to	Volume	Peak Flow	Time to	Volume
ID	sq.mi.	cfs	Peak(hrs)	ac-ft	cfs	Peak(hrs)	ac-ft	cfs	Peak(hrs)	ac-ft
C114	0.22	378	4.17	25	135	4.25	9	48	4.25	4
114115	0.22	353	4.42	25	120	4.5	9	38	4.67	4
S115	0.16	291	4.25	21	111	4.25	8	44	4.25	3
C115	0.37	612	4.33	45	203	4.42	17	63	4.42	7
115109	0.37	582	4.42	45	196	4.5	17	61	4.58	7
C109	2.02	2741	4.25	237	950	4.25	90	357	4.25	36
109116	2.02	2539	4.58	237	836	4.58	90	315	4.58	36
S116	0.22	299	4.33	23	114	4.33	9	45	4.33	3
C116R	2.24	2682	4.58	257	891	4.58	98	337	4.58	39
S117	0.23	438	4.25	31	167	4.25	12	66	4.25	5
S118	0.12	215	4.25	19	82	4.25	7	32	4.25	3
118119	0.12	203	4.5	19	74	4.58	7	28	4.67	3
S119	0.31	499	4.25	39	190	4.25	15	75	4.25	6
C116L	0.67	1038	4.33	88	383	4.33	33	145	4.33	13
C116	2.91	3296	4.5	339	1121	4.58	129	427	4.58	51
116120	2.91	3109	4.83	339	1018	5	129	401	4.83	51
S120	0.28	374	4.25	32	142	4.25	12	56	4.25	5
C120	3.18	3261	4.83	367	1065	5	140	426	4.83	55
120127	3.18	3119	5.08	367	998	5.33	140	379	5.25	55
S121	0.32	342	4.5	38	130	4.5	14	51	4.5	6
C127L	3.5	3267	5.08	400	1040	5.33	152	398	5.25	60
S126	0.13	420	4.08	16	160	4.08	6	63	4.08	2
126127	0.13	366	4.17	16	131	4.17	6	46	4.25	2
S127	0.09	241	4.08	10	92	4.08	4	36	4.08	2
C127R	0.22	573	4.17	27	210	4.17	10	74	4.17	4
C127	9.19	5775	5.17	1049	1911	5.5	457	522	5.25	210
127129	9.19	5687	5.25	1049	1878	5.67	456	509	6.25	209
S128	0.12	321	4.08	15	122	4.08	6	48	4.08	2
128129	0.12	246	4.25	15	112	4.17	6	43	4.17	2
S129	0.12	397	4.08	15	151	4.08	6	60	4.08	2
C129	9.43	5702	5.25	1075	1880	5.67	466	509	6.25	213
129134	9.43	5670	5.25	1074	1870	5.75	466	507	6.33	213
S130	0.05	95	4.17	6	36	4.17	2	14	4.17	1
130134	0.05	88	4.33	6	32	4.33	2	11	4.42	1
S131	0.11	215	4.17	15	82	4.17	6	32	4.17	2
131132	0.11	181	4.5	15	75	4.42	6	28	4.5	2
S132	0.14	352	4.17	20	134	4.17	8	53	4.17	3
C132	0.25	467	4.17	36	177	4.25	14	65	4.25	5
132133	0.25	413	4.42	36	148	4.58	14	55	4.58	5
S133	0.1	242	4.08	13	92	4.08	5	36	4.08	2
C133	0.35	544	4.33	48	178	4.5	18	72	4.25	7
133134	0.35	508	4.5	48	171	4.67	18	70	4.42	7
S134	0.07	194	4.08	9	74	4.08	3	29	4.08	1
C134L	0.48	638	4.42	63	220	4.25	24	92	4.33	9
C134	9.91	5884	5.25	1129	1905	5.67	487	514	6.25	221
134139	9.91	5827	5.33	1129	1891	5.83	486	513	6.42	220
S135	0.07	218	4.08	9	83	4.08	3	33	4.08	1
135139	0.07	196	4.08	9	70	4.17	3	26	4.17	1
S136	0.08	181	4.17	9	69	4.17	3	27	4.17	1
C139R	10.05	5832	5.33	1143	1891	5.83	492	513	6.42	222
S137	0.08	179	4.17	11	68	4.17	4	27	4.17	2
137138	0.08	154	4.5	11	53	4.58	4	19	4.75	2
S138	0.27	399	4.33	37	152	4.33	14	60	4.33	6
C138	0.35	530	4.42	48	186	4.42	18	65	4.42	7
138139	0.35	495	4.58	48	167	4.75	18	59	4.92	7

Desert Hills Area Hydrology
Future Condtions Results

		100-year			10-year			2-year		
KK	Area	Peak Flow	Time to	Volume	Peak Flow	Time to	Volume	Peak Flow	Time to	Volume
ID	sq.mi.	cfs	Peak(hrs)	ac-ft	cfs	Peak(hrs)	ac-ft	cfs	Peak(hrs)	ac-ft
S139	0.07	136	4.17	7	52	4.17	3	20	4.17	1
C139L	0.42	541	4.58	55	177	4.75	21	61	4.83	8
C139	10.47	6038	5.33	1191	1946	5.83	510	525	5.75	230
139141	10.47	6022	5.42	1190	1938	5.92	509	524	5.92	229
S140	0.25	445	4.17	35	169	4.17	13	67	4.17	5
140141	0.25	403	4.42	35	152	4.42	13	63	4.42	5
S141	0.1	216	4.17	16	82	4.17	6	32	4.17	2
C141L	0.35	557	4.42	51	214	4.33	19	89	4.33	8
S142	0.14	335	4.08	18	127	4.08	7	50	4.08	3
142141	0.14	335	4.17	18	126	4.17	7	51	4.17	3
C141I	10.96	6141	5.42	1250	1959	5.83	532	533	5.83	238
141145	10.96	6050	5.5	1249	1934	6.08	531	530	6.08	237
S143	0.14	419	4.08	18	159	4.08	7	63	4.08	3
143144	0.14	337	4.17	18	124	4.17	7	55	4.17	3
S144	0.15	303	4.17	19	115	4.17	7	45	4.17	3
C145R	11.25	6065	5.5	1281	1934	6.08	543	530	6.08	242
S145	0.2	399	4.25	31	152	4.25	12	60	4.25	5
C145	11.46	6107	5.5	1309	1941	6.08	554	533	6.08	246
145147	11.46	5852	5.92	1306	1865	6.5	551	524	7	244
S147	0.67	1445	4.25	82	549	4.25	31	217	4.25	12
C147R	12.13	5850	5.92	1375	1865	6.5	578	523	7	254
S200	0.58	1269	4.08	69	482	4.08	26	190	4.08	10
S201	0.79	1971	4.17	100	749	4.17	38	296	4.17	15
C201	1.37	2701	4.17	166	1026	4.17	63	405	4.17	25
201204	1.37	2733	4.17	166	1034	4.17	63	402	4.17	25
S203	0.17	550	4	20	209	4	8	82	4	3
C204L	1.54	2910	4.17	184	1101	4.17	70	429	4.17	28
S204	0.3	858	4.08	39	326	4.08	15	129	4.08	6
C204	1.84	3307	4.17	220	1253	4.17	84	490	4.17	33
204206	1.84	3295	4.17	220	1234	4.17	84	481	4.17	33
S205	0.04	114	4.08	4	43	4.08	2	17	4.08	1
C206L	1.88	3335	4.17	223	1249	4.17	85	487	4.17	34
S206	0.15	411	4.08	16	156	4.08	6	62	4.08	2
C206	2.02	3489	4.17	237	1309	4.17	90	511	4.17	36
206209	2.02	3410	4.25	237	1288	4.25	90	501	4.25	36
S207	0.25	722	4.08	25	274	4.08	10	108	4.08	4
C209L	2.27	3657	4.17	259	1354	4.25	98	528	4.25	39
S208	0.31	929	4.08	35	353	4.08	13	139	4.08	5
208209	0.31	873	4.17	35	326	4.17	13	117	4.17	5
S209	0.07	169	4.08	8	64	4.08	3	25	4.08	1
C209R	0.38	1034	4.17	43	387	4.17	16	141	4.17	6
C209	2.65	4077	4.17	297	1512	4.17	113	588	4.25	45
209215	2.65	4015	4.25	297	1509	4.25	113	579	4.33	45
S210	0.31	804	4.08	34	306	4.08	13	121	4.08	5
C215L	2.96	4322	4.25	326	1627	4.25	124	620	4.33	49
S211	0.27	894	4.08	33	340	4.08	13	134	4.08	5
211214	0.27	747	4.17	33	258	4.25	13	88	4.33	5
S212	0.18	388	4.17	18	148	4.17	7	58	4.17	3
C214L	0.45	1133	4.17	51	385	4.25	19	134	4.25	8
S213	0.24	615	4.08	26	234	4.08	10	92	4.08	4
S214	0.33	812	4.17	40	308	4.17	15	122	4.17	6
C214	1.02	2104	4.17	113	757	4.17	43	279	4.17	17
214215	1.02	1940	4.25	113	674	4.25	43	244	4.25	17
S215	0.06	152	4.08	7	58	4.08	3	23	4.08	1
C215R	1.08	2007	4.25	119	701	4.25	45	255	4.25	18

Desert Hills Area Hydrology
Future Condtions Results

		100-year			10-year			2-year		
KK	Area	Peak Flow	Time to	Volume	Peak Flow	Time to	Volume	Peak Flow	Time to	Volume
ID	sq.mi.	cfs	Peak(hrs)	ac-ft	cfs	Peak(hrs)	ac-ft	cfs	Peak(hrs)	ac-ft
C215	4.05	5580	4.25	428	2070	4.25	163	786	4.33	64
215216	4.05	5512	4.33	428	2051	4.33	163	773	4.42	64
S216	0.37	1155	4.08	46	439	4.08	17	173	4.08	7
C216	4.41	5842	4.33	468	2177	4.33	178	811	4.42	70
216217	4.41	5573	4.58	468	1958	4.75	178	704	4.92	70
S217	0.36	748	4.25	44	284	4.25	17	112	4.25	7
C217R	4.77	5834	4.58	505	2025	4.75	192	722	4.92	76
S218	0.39	1256	4.08	48	477	4.08	18	188	4.08	7
218219	0.39	1068	4.25	48	359	4.33	18	127	4.42	7
S219	0.28	714	4.17	35	271	4.17	13	107	4.17	5
C219	0.67	1558	4.25	82	511	4.25	31	173	4.33	12
S220	0.17	406	4.17	21	154	4.17	8	61	4.17	3
C220	0.84	1779	4.25	102	603	4.25	39	206	4.25	15
220217	0.84	1751	4.25	102	596	4.25	39	205	4.33	15
C217	5.61	6453	4.58	592	2199	4.75	225	777	4.92	89
217221	5.61	6309	4.67	592	2132	4.83	225	768	5	89
S221	0.23	472	4.17	31	179	4.17	12	71	4.17	5
C221	5.85	6461	4.67	619	2173	4.83	235	779	5	93
221222	5.85	6007	5	619	1935	5.25	235	768	5.17	93
S222	0.27	582	4.17	36	221	4.17	14	87	4.17	5
C222	6.12	6079	5	651	1946	5.25	247	775	5.17	98
222227	6.12	5783	5.17	651	1900	5.5	247	764	5.33	98
S223	0.09	204	4.17	11	77	4.17	4	31	4.17	2
223227	0.09	161	4.42	11	55	4.5	4	19	4.67	2
S224	0.21	495	4.17	24	188	4.17	9	74	4.17	4
C227L	6.42	5815	5.17	679	1904	5.5	258	770	5.33	102
S225	0.31	548	4.25	47	208	4.25	18	82	4.25	7
225226	0.31	476	4.67	47	165	4.83	18	70	4.67	7
S226	0.25	485	4.25	31	184	4.25	12	73	4.25	5
C226	0.56	710	4.5	78	256	4.25	30	107	4.42	12
226227	0.56	687	4.75	78	245	4.58	30	104	4.67	12
S227	0.11	216	4.17	15	82	4.17	6	32	4.17	2
C227R	0.67	755	4.67	92	285	4.5	35	118	4.58	14
C227	7.09	6219	5.17	759	2002	5.5	289	819	5.25	114
227228	7.09	5925	5.42	759	1917	5.75	289	807	5.42	114
S228	0.22	437	4.25	29	166	4.25	11	66	4.25	4
C228	7.32	5938	5.42	784	1916	5.75	298	811	5.42	118
228147	7.32	5875	5.5	784	1900	5.83	298	800	5.5	118
C147	19.45	10119	5.67	2066	3154	6.17	840	1106	5.58	358
147319	19.45	10122	5.75	2065	3147	6.17	839	1104	5.58	358
S300	0.5	1279	4.17	62	486	4.17	23	192	4.17	9
S301	0.5	1350	4.08	61	513	4.08	23	203	4.08	9
C301	1.01	2192	4.17	120	833	4.17	45	329	4.17	18
301302	1.01	2118	4.17	120	795	4.25	45	312	4.25	18
S302	0.24	611	4.08	27	232	4.08	10	92	4.08	4
C302	1.25	2467	4.17	144	918	4.17	55	352	4.25	22
302303	1.25	2398	4.25	144	874	4.25	55	337	4.33	22
S303	0.13	363	4.08	15	138	4.08	6	54	4.08	2
C303	1.37	2513	4.25	158	921	4.25	60	350	4.33	24
303312	1.37	2088	4.58	158	805	4.58	60	313	4.58	24
S304	0.13	193	4.25	12	73	4.25	5	29	4.25	2
C312R	1.5	2144	4.58	168	825	4.58	64	321	4.58	25
S305	0.23	658	4.08	26	250	4.08	10	99	4.08	4
305309	0.23	508	4.25	26	168	4.33	10	67	4.33	4
S306	0.05	96	4.08	5	37	4.08	2	14	4.08	1

Desert Hills Area Hydrology
Future Condtions Results

		100-year			10-year			2-year		
KK	Area	Peak Flow	Time to	Volume	Peak Flow	Time to	Volume	Peak Flow	Time to	Volume
ID	sq.mi.	cfs	Peak(hrs)	ac-ft	cfs	Peak(hrs)	ac-ft	cfs	Peak(hrs)	ac-ft
S307	0.21	530	4.08	23	201	4.08	9	79	4.08	4
307309	0.21	494	4.17	23	192	4.17	9	76	4.17	4
C309R	0.49	1036	4.17	54	367	4.17	21	145	4.17	8
S308	0.47	1271	4.08	49	483	4.08	19	191	4.08	7
308309	0.47	954	4.25	49	329	4.33	19	123	4.33	7
S309	0.19	460	4.08	22	175	4.08	8	69	4.08	3
C309L	0.66	1241	4.25	70	422	4.25	26	161	4.25	10
C309	1.14	1940	4.25	119	678	4.25	45	267	4.25	18
309310	1.14	1722	4.42	119	600	4.5	45	243	4.5	18
S310	0.55	1255	4.17	73	477	4.17	28	188	4.17	11
C310	1.7	2304	4.42	188	817	4.42	71	335	4.42	28
D310U	1.7	2304	4.42	178	817	4.42	61	184	4.83	18
RR310	1.7	2106	4.5	178	801	4.5	61	174	4.83	18
D310D	1.7	2106	4.5	176	801	4.5	59	174	4.83	16
310312	1.7	2034	4.58	176	776	4.58	59	168	4.92	16
S311	0.08	191	4.08	11	73	4.08	4	29	4.08	2
311312	0.08	161	4.33	11	57	4.42	4	18	4.58	2
S312	0.14	335	4.17	18	127	4.17	7	335	4.17	18
C312L	1.91	2196	4.58	203	846	4.58	70	282	4.5	35
C312	3.42	3826	4.58	358	1485	4.58	128	539	4.5	58
312314	3.42	3797	4.67	358	1434	4.67	128	524	4.58	58
S313	0.05	113	4.17	7	43	4.17	3	17	4.17	1
313314	0.05	110	4.25	7	41	4.25	3	16	4.25	1
S314	0.09	242	4.08	11	92	4.08	4	36	4.08	2
C314	3.56	3869	4.67	374	1461	4.67	134	537	4.58	60
314318	3.56	3764	4.83	374	1398	4.83	134	505	4.83	60
S315	0.24	698	4.08	30	265	4.08	11	105	4.08	5
315316	0.24	641	4.17	30	227	4.25	11	85	4.25	5
S316	0.22	516	4.17	28	196	4.17	11	77	4.17	4
C316	0.46	1155	4.17	58	414	4.17	22	155	4.25	9
316317	0.46	832	4.58	58	301	4.58	22	112	4.67	9
S317	0.6	1215	4.25	75	462	4.25	28	182	4.25	11
C317	1.07	1613	4.33	130	580	4.33	49	219	4.42	19
317318	1.07	1488	4.67	130	558	4.58	49	212	4.58	19
S318	0.16	335	4.17	19	127	4.17	7	50	4.17	3
C318	4.78	4921	4.75	505	1791	4.83	184	659	4.75	80
318319	4.78	4528	5.25	505	1716	5.08	184	622	5.17	80
S319	0.89	1048	4.5	124	398	4.5	47	157	4.5	19
C319L	5.66	4966	5.17	616	1915	5.08	227	694	5.17	96
C319	25.11	12667	5.58	2559	3554	6	1020	1546	5.42	434
319400	25.11	12224	6	2550	3522	6.58	1012	1484	6.17	427
S400	1.68	1012	5.25	224	385	5.25	85	152	5.25	34
C400	26.79	12704	6	2726	3674	6.42	1079	1557	6.17	454
S500	0.04	106	4.08	6	40	4.08	2	16	4.08	1

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1****************************************
 *                                      *
 *   FLOOD HYDROGRAPH PACKAGE  (HEC-1)  *
 *              JUN   1998              *
 *           VERSION 4.1                *
 *                                      *
 *  RUN DATE   14AUG03  TIME  15:55:24  *
 *                                      *
 ****************************************
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```
****************************************
*                                      *
*    U.S. ARMY CORPS OF ENGINEERS      *
*    HYDROLOGIC ENGINEERING CENTER     *
*          609 SECOND STREET           *
*       DAVIS, CALIFORNIA 95616        *
*          (916) 756-1104              *
*                                      *
****************************************
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X     X  XXXXXXX   XXXXX          X
X     X  X        X     X        XX
X     X  X        X              X
XXXXXXX  XXXX     X        XXXXX  X
X     X  X        X              X
X     X  X        X     X        X
X     X  XXXXXXX   XXXXX         XXX
```

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

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

1 HEC-1 INPUT PAGE 1

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

  1           ID   DESERT HILLS AREA HYDROLOGY
  2           ID
  3           ID     JE FULLER / HYDROLOGY & GEOMORPHOLOGY, INC.
  4           ID     ADOBE DAM / DESERT HILLS ADMP
  5           ID     APRIL 2003 - KK RR310 revised 08-14-03
  6           ID
  7           ID     THIS IS THE 100-YEAR 6-HOUR MODEL FOR FUTURE CONDITIONS LAND USE
  8           ID
  9           ID    MODEL BASIS:
 10           ID     * DDMSW PROJECT NAME: DHA_FU6
 11           ID     * HYDROLOGY DEVELOPED FOR THE DESERT HILLS AREA FOR THE ADMP
 12           ID     * FUTURE   CONDITIONS LAND USE BASED ON MAG LAND USE FILES PROVIDED
 13           ID       BY FCDMC AND UMODIFIED TO PROVIDE CONSISTENCY WITH EXISTING LAND USE
 14           ID       DESIGNATIONS MADE IN THE EXISTING CONDITIONS FOR THE ADMP
 15           ID     * PREFRE RAINFALL STATISTICS FROM NOAA ATLAS II
 16           ID     * MULTIPLE STORM (JD RECORDS) USED FOR CRITICAL STORM CENTERING
 17           ID     * RAINFALL LOSS COMPUTED USING GREEN & AMPT METHOD
 18           ID     * CLARK METHOD WAS USED FOR DEVELOPMENT OF UNIT HYDROGRAPHS
 19           ID     * MODIFIED PULS NORMAL-DEPTH ROUTING USED FOR CHANNEL ROUTINGS
 20           ID
 21           ID     * A PORTION OF THE AREA WAS MODELED EXTERNALLY USING FLO-2D.
 22           ID
              *DIAGRAM
 23           IT       5 21FEB03    0000     300
 24           IO       5
 25           IN      15
 26           JD    3.35     0.01
 27           PC   0.000    0.008   0.016   0.025   0.033   0.041   0.050   0.058   0.066   0.074
 28           PC   0.087    0.099   0.118   0.138   0.216   0.377   0.834   0.911   0.931   0.950
 29           PC   0.962    0.972   0.983   0.991   1.000
 30           JD   3.328     0.50
 31           PC   0.000    0.008   0.016   0.025   0.033   0.041   0.050   0.058   0.066   0.074
 32           PC   0.087    0.099   0.118   0.138   0.216   0.377   0.834   0.911   0.931   0.950
 33           PC   0.962    0.972   0.983   0.991   1.000
 34           JD   3.266     2.80
 35           PC   0.000    0.009   0.016   0.025   0.034   0.042   0.051   0.059   0.067   0.076
 36           PC   0.087    0.100   0.120   0.163   0.252   0.451   0.694   0.837   0.900   0.938
 37           PC   0.950    0.963   0.975   0.988   1.000
 38           JD   3.089     16.0
 39           PC   0.000    0.015   0.020   0.030   0.048   0.063   0.076   0.090   0.105   0.119
 40           PC   0.135    0.152   0.175   0.222   0.304   0.472   0.670   0.796   0.868   0.912
 41           PC   0.946    0.960   0.973   0.987   1.000
 42           JD   2.720     90.0
 43           PC   0.000    0.021   0.035   0.051   0.071   0.087   0.105   0.125   0.143   0.160
 44           PC   0.179    0.201   0.232   0.281   0.364   0.500   0.658   0.773   0.841   0.888
 45           PC   0.927    0.945   0.964   0.982   1.000
              *

 46           KK    S100    BASIN
 47           BA   0.341
 48           KM    THIS IS THE FLOW IN DESERT LAKE WASH AT NEW RIVER ROAD ABOUT 900 FT NORTH
 49           KM    OF SADDLE MOUNTAIN ROAD
 50           LG    0.34     0.15    7.30    0.12      26
 51           UC   0.242    0.177
 52           UA       0      3.0     5.0     8.0    12.0    20.0    43.0    75.0    90.0    96.0
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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

  53          UA     100
              *

  54          KK  100101   ROUTE   REACH
  55          KM    ROUTE RUNOFF FROM SUBBASIN S100 TO C101
  56          KM    SLOPE = (1990-1910)/4970 = 0.016
  57          KM     XS based on Desert Lake Wash XS 4.37 (Stanley Consultants, 1999)
  58          RS       3    FLOW      -1
  59          RC   0.075   0.055   0.075    4970  0.0160    0.00
  60          RX  9930.4  9950.2  9992.1 10000.0 10017.0 10022.0 10078.0 10122.0
  61          RY  1936.0  1932.6  1930.6  1928.5  1929.2  1930.7  1930.7  1936.0
              *

  62          KK    S101   BASIN
  63          BA   0.298
  64          LG    0.30    0.15    9.70    0.04       6
  65          UC   0.321   0.266
  66          UA       0     3.0     5.0     8.0    12.0    20.0    43.0    75.0    90.0    96.0
  67          UA     100
              *

  68          KK    C101
  69          KM   COMBINE RUNOFF FROM S101 WITH ROUTED FLOW FROM S100
  70          KM   THIS IS THE TOTAL FLOW IN DESERT LAKE WASH AT DESERT HILLS DRIVE
  71          KM    INFLOW TO FLO-2D AREA
  72          HC       2
              *

  73          KK  101CFH   ROUTE   REACH
  74          KM    ROUTE COMBINED FLOW AT C101 TO CAREFREE HIGHWAY
  75          KM    SLOPE = (1910-1775)/18272 = 0.0074
  76          KM     XS IS HYPOTHETICAL; EVENTUALLY WILL BE REPLACED BY FLO-2D RESULTS
  77          RS      19    FLOW      -1
  78          RC   0.060   0.050   0.060   18272  0.0074    0.00
  79          RX     0.0    10.0   110.0   120.0   135.0   145.0   245.0   255.0
  80          RY   100.0    90.0    89.0    88.0    88.0    89.0    90.0   100.0
              *

  81          KK    S102   BASIN
  82          BA   0.298
  83          LG    0.34    0.15    7.00    0.13      23
  84          UC   0.204   0.119
  85          UA       0     3.0     5.0     8.0    12.0    20.0    43.0    75.0    90.0    96.0
  86          UA     100
              *

  87          KK  102103   ROUTE   REACH
  88          KM    ROUTE RUNOFF FROM SUBBASIN S102 TO C103
  89          KM    SLOPE = (1995-1941)/2635 = 0.0205
  90          KM     XS based on Desert Lake Wash Trib 2 XS 2.68 (Stanley Consultants, 1999)
  91          RS       2    FLOW      -1
  92          RC   0.075   0.055   0.075    2635  0.0205    0.00
  93          RX  9989.2  9991.6  9995.7 10000.0 10019.0 10066.0 10119.0 10146.0
  94          RY  1978.6  1976.0  1972.0  1968.0  1968.9  1972.0  1976.0  1978.5
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

  95          KK    S103   BASIN
  96          BA   0.139
  97          LG    0.30    0.15    7.00    0.11       6
  98          UC   0.221   0.184
  99          UA       0     3.0     5.0     8.0    12.0    20.0    43.0    75.0    90.0    96.0
 100          UA     100
              *

 101          KK    C103
 102          KM    COMBINE RUNOFF FROM S103 WITH ROUTED FLOW FROM S102
 103          KM    THIS IS THE FLOW IN DESERT LAKE WASH TRIB 2 AT DESERT HILLS DRIVE
 104          HC       2
              *

 105          KK  103104   ROUTE   REACH
 106          KM    ROUTE COMBINED FLOW FROM C103 TO C104
 107          KM    INFLOW TO FLO-2D AREA
 108          KM    SLOPE = (1941-1920)/1290 = 0.016
 109          KM     XS based on Desert Lake Wash Trib 2 XS 2.19 (Stanley Consultants, 1999)
 110          RS       1    FLOW      -1
 111          RC   0.075   0.055   0.075    1290  0.0160    0.00
 112          RX  9842.3  9939.1  9975.0 10000.0 10010.0 10019.0 10029.0 10035.0
 113          RY  1928.0  1924.9  1923.1  1920.2  1919.1  1923.0  1926.0  1928.0
              *

 114          KK    S104   BASIN
 115          BA   0.082
 116          LG    0.30    0.15    8.80    0.06       8
 117          UC   0.217   0.197
 118          UA       0     4.5    12.6    23.2    35.8    50.0    64.2    76.8    87.4    95.5
 119          UA     100
              *
```

```
 120          KK    C104
 121          KM    COMBINE RUNOFF FROM S104 WITH ROUTED FLOW FROM C103
 122          KM    THIS IS THE TOTAL FLOW IN DESERT LAKE WASH TRIB 2 AT 10TH STREET
 123          KM    INFLOW TO FLO-2D AREA
 124          HC       2
              *

 125          KK  104CFH   ROUTE   REACH
 126          KM    ROUTE COMBINED FLOW AT C104 TO CAREFREE HIGHWAY
 127          KM    SLOPE = (1920-1775)/17795 = 0.0081
 128          KM     XS IS HYPOTHETICAL; EVENTUALLY WILL BE REPLACED BY FLO-2D RESULTS
 129          RS      18    FLOW      -1
 130          RC   0.060   0.050   0.060   17795  0.0081    0.00
 131          RX     0.0    10.0   110.0   120.0   135.0   145.0   245.0   255.0
 132          RY   100.0    90.0    89.0    88.0    88.0    89.0    90.0   100.0
              *
1                                          HEC-1 INPUT                                                    PAGE  4

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

 133          KK    S105   BASIN
 134          KM    THIS IS THE RUNOFF IN THE EAST FORK OF DESERT LAKE WASH AT 12TH STREET.
 135          BA   0.162
 136          LG    0.30    0.05   12.40    0.01       5
 137          UC   0.321   0.317
 138          UA       0     4.5    12.6    23.2    35.8    50.0    64.2    76.8    87.4    95.5
 139          UA     100
              *

 140          KK  105106   ROUTE   REACH
 141          KM    ROUTE RUNOFF FROM S105 TO C106
 142          KM    SLOPE = (1875-1855)/1600 = 0.0125
 143          KM     XS based on East Fork Desert Lake Wash XS 2.47 (Stanley Consultants, 1999)
 144          RS       2    FLOW      -1
 145          RC   0.060   0.050   0.060    1600  0.0125    0.00
 146          RX  9805.6  9964.1  9995.6 10000.0 10005.0 10010.0 10036.0 10140.0
 147          RY  1868.0  1864.0  1863.6  1862.2  1862.2  1863.3  1864.0  1868.0
              *

 148          KK    S106   BASIN
 149          BA   0.107
 150          LG    0.30    0.05   12.40    0.01       5
 151          UC   0.313   0.334
 152          UA       0     4.5    12.6    23.2    35.8    50.0    64.2    76.8    87.4    95.5
 153          UA     100
              *

 154          KK    C106
 155          KM    COMBINE RUNOFF FROM S106 WITH ROUTED FLOW FROM C105
 156          KM    THIS IS THE FLOW IN THE EAST FORK OF DESERT LAKE WASH AT JOY RANCH ROAD
 157          HC       2
              *

 158          KK  106107   ROUTE   REACH
 159          KM    ROUTE COMBINED FLOW FROM C106 TO C107
 160          KM    SLOPE = (1855-1831)/2882 = 0.0083
 161          KM     XS based on East Fork Desert Lake Wash XS 2.14 (Stanley Consultants, 1999)
 162          RS       3    FLOW      -1
 163          RC   0.075   0.055   0.075    2882  0.0083    0.00
 164          RX  9799.6  9956.2  9992.2 10000.0 10005.0 10010.0 10078.0 10191.0
 165          RY  1850.0  1848.0  1846.7  1844.0  1844.0  1846.6  1847.0  1850.0
              *

 166          KK    S107   BASIN
 167          BA   0.186
 168          LG    0.30    0.10   11.20    0.02       5
 169          UC   0.392   0.349
 170          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
 171          UA     100
              *
1                                          HEC-1 INPUT                                                    PAGE  5

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

 172          KK    C107
 173          KM     COMBINE RUNOFF FROM S107 WITH ROUTED FLOW FROM C106
 174          KM     THIS IS THE FLOW IN THE EAST FORK OF DESERT LAKE WASH AT MADDOCK ROAD
 175          KM    INFLOW TO FLO-2D AREA
 176          HC       2
              *

 177          KK  107CFH   ROUTE   REACH
 178          KM    ROUTE COMBINED FLOW AT C107 TO CAREFREE HIGHWAY
 179          KM    SLOPE = (1831-1775)/8801 = 0.0064
 180          KM     XS IS HYPOTHETICAL; EVENTUALLY WILL BE REPLACED BY FLO-2D RESULTS
 181          RS       8    FLOW      -1
 182          RC   0.050   0.040   0.050    8801  0.0064    0.00
 183          RX     0.0    10.0   110.0   120.0   135.0   145.0   245.0   255.0
 184          RY   100.0    90.0    89.0    88.0    88.0    89.0    90.0   100.0
              *

 185          KK    S150   BASIN
 186          KM     INFLOW TO FLO-2D AREA
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```
187          BA   0.011
188          LG    0.35    0.13   10.10    0.04       2
189          UC   0.104   0.104
190          UA       0     4.5    12.6    23.2    35.8    50.0    64.2    76.8    87.4    95.5
191          UA     100
             *

192          KK    S151   BASIN
193          KM     INFLOW TO FLO-2D AREA
194          BA   0.017
195          LG    0.35    0.15    7.60    0.11       8
196          UC   0.129   0.149
197          UA       0     4.5    12.6    23.2    35.8    50.0    64.2    76.8    87.4    95.5
198          UA     100
             *

199          KK    S152   BASIN
200          BA   0.087
201          LG    0.35    0.19    6.60    0.17       5
202          UC   0.167   0.126
203          UA       0     3.0     5.0     8.0    12.0    20.0    43.0    75.0    90.0    96.0
204          UA     100
             *

205          KK    D152DIVERT
206          KM     DIVERT FLOW TO FLO-2D AREA UNDER CAREFREE HWY
207          KM     RATING BASED ON HY8 ANALYSIS (FILE: D152.INP)
208          DT    152O
209          DI       0      30     200     300
210          DQ       0      28      57      60
             *
```



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

211          KK  152153   ROUTE   REACH
212          KM    ROUTE RUNOFF FROM S152 TO C153 ALONG CAREFREE HWY
213          KM    SLOPE = (1846-1838)/616 = 0.013
214          KM    XS based on examination of 2002 FCD orthophotos and available 10 ft (FCD)
215          KM    and 2 ft contour data from Jerry Jones FDS and Stanley FDS mapping
216          RS       1    FLOW      -1
217          RC   0.030   0.030   0.060     616  0.0130    0.00
218          RX     0.0     1.0    31.0    43.0    48.0    60.0    80.0   100.0
219          RY   100.0    99.5    99.0    96.0    96.0    99.0    99.5   100.0
             *

220          KK    S153   BASIN
221          BA   0.012
222          LG    0.32    0.13   10.10    0.04       9
223          UC   0.158   0.177
224          UA       0     4.5    12.6    23.2    35.8    50.0    64.2    76.8    87.4    95.5
225          UA     100
             *

226          KK    C153
227          KM    COMBINE RUNOFF FROM S153 WITH ROUTED FLOW FROM S152
228          KM     INFLOW TO FLO-2D AREA
229          HC       2
             *

230          KK   DR152
231          KM    RETRIEVE DIVERTED FLOW INTO FLO-2D AREA AT D152
232          DR    152O
             *

233          KK    C155
234          KM    DUMMY COMBINATION OF ALL 150 SERIES SUBBASINS FOR ROUTING THROUGH
235          KM    FLO-2D AREA IN HEC-1 AND PRESERVATION OF TOTAL WATERSHED AREA
236          HC       4
             *

237          KK   DUMMY
238          KM    COMBINE 150 SERIES FLO-2D INFLOW HYDROGRAPHS WITH 100 SERIES FLO-2D
239          KM    INFLOW HYDROGRAPHS
240          HC       4
             *

241          KK    S122   BASIN
242          KM    THIS IS THE RUNOFF TO CENTRAL AVE JUST SOUTH OF CAREFREE HWY
243          KM    THIS IS INFLOW TO FLO-2D MODEL
244          BA   0.158
245          LG    0.33    0.15    7.30    0.12      16
246          UC   0.308   0.278
247          UA       0     3.0     5.0     8.0    12.0    20.0    43.0    75.0    90.0    96.0
248          UA     100
             *
             *  THE FOLLOWING ROUTING REACH REMOVED AS S122 RUNOFF IS NOW IMPORTED
             *  INTO FLO-2D MODEL TO ROUTE TO C127
             *
             * KK122125   ROUTE   REACH
             * KM  ROUTE RUNOFF FROM S122 TO C125
             * KM  SLOPE = (1815-1788)/2616 = 0.010
             * KM  ROUTE ALONG SOUTH SIDE OF CAREFREE HWY
             * KM  XS based on examination of 2002 FCD orthophotos and available 10 ft (FCD)
```

```
                    * KM  and 2 ft contour data from Jerry Jones FDS and Stanley FDS mapping
                    * RS     2    FLOW      -1
                    * RC 0.030   0.035   0.050    2616  0.0100    0.00
                    * RX   0.0     1.0    31.0    46.0    56.0    64.0   100.0   200.0
                    * RY 100.0    99.5    99.0    95.0    95.0    99.0    99.5   100.0
                    *
1                                                HEC-1 INPUT                                                    PAGE  7

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

 249                KK    S123   BASIN
 250                KM    THIS IS THE RUNOFF TO CENTRAL AVENUE ABOUT 300 FT SOUTH OF CAREFREE HWY
 251                KM    THIS IS INFLOW TO FLO-2D MODEL
 252                BA   0.135
 253                LG    0.31    0.15    8.00    0.09      19
 254                UC   0.221   0.187
 255                UA       0     3.0     5.0     8.0    12.0    20.0    43.0    75.0    90.0    96.0
 256                UA     100
                    *
                    *  FOLLWING ROUTING REMOVED AND RUNOFF IMPORTED INTO FLO-2D MODEL
                    *  TO ROUTE TO C127
                    *
                    * KK123125   ROUTE   REACH
                    * KM  ROUTE RUNOFF FROM S123 TO C125
                    * KM  SLOPE = (1813-1788)/2704 = 0.009
                    * KM  XS based on examination of 2002 FCD orthophotos and available 10 ft (FCD)
                    * KM  and 2 ft contour data from Jerry Jones FDS and Stanley FDS mapping
                    * RS     2    FLOW      -1
                    * RC 0.030   0.035   0.050    2704  0.0090    0.00
                    * RX   0.0     1.0    31.0    46.0    56.0    64.0   100.0   200.0
                    * RY 100.0    99.5    99.0    95.0    95.0    99.0    99.5   100.0
                    *

 257                KK    S124   BASIN
 258                KM    THIS IS THE RUNOFF TO CENTRAL AVENUE IN A WASH CROSSING ABOUT 1400 FT SOUTH
 259                KM    OF CAREFEE HWY
 260                BA   0.059
 261                LG    0.30    0.15    8.80    0.06      20
 262                UC   0.154   0.084
 263                UA       0     3.0     5.0     8.0    12.0    20.0    43.0    75.0    90.0    96.0
 264                UA     100
                    *

 265                KK  124125   ROUTE   REACH
 266                KM    ROUTE RUNOFF FROM S124 TO C125
 267                KM    SLOPE = (1820-1788)/3289 = 0.0097
 268                KM    XS based on examination of 2002 FCD orthophotos and available 10 ft (FCD)
 269                KM    and 2 ft contour data from Jerry Jones FDS and Stanley FDS mapping
 270                RS       3    FLOW      -1
 271                RC   0.050   0.040   0.050    3289  0.0097    0.00
 272                RX     0.0    40.0    80.0    88.0    98.0   106.0   146.0   186.0
 273                RY   100.0    96.0    92.0    90.0    90.0    92.0    96.0   100.0
                    *

 274                KK    S125   BASIN
 275                BA   0.151
 276                LG    0.28    0.15    7.30    0.11      22
 277                UC   0.250   0.228
 278                UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
 279                UA     100
                    *
1                                                HEC-1 INPUT                                                    PAGE  8

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

 280                KK    C125
 281                KM    COMBINE RUNOFF FROM S125 WITH ROUTED FLOW FROM S124
 282                KM    THIS FLOW IS INFLOW TO FLO2D MODEL
 283                HC       2
                    *

 284                KK   DUMMY
 285                KM     COMBINE 120 SERIES HYDROGRAPHS WHICH WERE IMPORTED TO FLO-2D MODEL
 286                HC       2
                    *
                    * KK125127   ROUTE   REACH
                    * KM  ROUTE COMBINED FLOW FROM C125 TO C127 THROUGH SUBBASIN S127
                    * KM  SLOPE = (1788-1770)/2429 = 0.0074
                    * KM   XS based on "Jonathan Wash" XS 0.12 from Jerry Jones (JONA.DAT)
                    * RS     2    FLOW      -1
                    * RC 0.065   0.050   0.065    2429  0.0074    0.00
                    * RX 10560 10620.0 10660.0 10670.0 10680.0 10810.0 11000.0 11200.0
                    * RY1776.0  1774.0  1774.0  1770.0  1772.0  1774.0  1776.0  1778.0
                    *
                    *  Above routing removed based on revisions to FLO-2D model which import
                    *  flow from S122 - S125
                    *

 287                KK   DUMMY
 288                KM    COMBINE ALL DUMMY INFLOW HYDROGRAPHS TO FLO-2D AREA
 289                HC       3
                    *
                    * KK FLO2D   BASIN
```

```
                * KM  DUMMY BASIN FOR HEC-1 MODEL CONTINUITY OF FLO-2D AREA
                * KM  WILL BE REPLACED WITH INFLOW HYDROGRAPH FROM FINAL FLO-2D ANALYSIS
                * BA 3.231
                * LG  0.32    0.15    8.80    0.06       4
                * UC 0.904   0.515
                * UA     0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97
                * UA   100
                *

 290            KK   FLO2D
 291            KM    THIS IS THE OUTFLOW HYDROGRAPH FROM THE FLO-2D MODELING OF THE DESERT LAKE
 292            KM    WATERSHED AT CAREFREE HWY.
 293            KM    THIS IS THE TOTAL FLOW IMMEDIATELY DOWNSTREAM OF CAREFREE HWY INCLUDING
 294            KM    DESERT LAKE WASH AND THE EAST FORK OF DESERT LAKE WASH.
 295            IN       5
 296            BA    5.47
 297            QI       0       0       0       0       0       0       0       0       0       0
 298            QI       0       0       0       0       0       0       0       0       0       0
 299            QI       0       0       0       0       0       0       0       0       1       4
 300            QI       4       4       4       4       7       4       4       6       6       8
 301            QI      10      13      14      23      33      48      72     105     181     253
 302            QI     382     634     925    1204    1486    1737    1977    2228    2496    2743
 303            QI    2916    2972    2937    2834    2711    2574    2441    2307    2198    2109
 304            QI    2080    2070    2071    2045    1995    1927    1839    1749    1645    1539
 305            QI    1442    1342    1248    1161    1073     988     910     842     780     723
 306            QI     670     625     587     552     521     492     464     440     416     392
1                                          HEC-1 INPUT                                          PAGE  9

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

 307            QI     372     353     336     318     302     288     276     264     252     240
 308            QI     230     222     212     204     195     186     179     172     164     157
 309            QI     150     145     141     137     132     128     124     120     115     111
 310            QI     107     103      99      93      93      88      86      84      81      78
 311            QI      75      73      70      67      66       0       0       0       0       0
                *

 312            KK  CFH127   ROUTE   REACH
 313            KM    ROUTE COMBINED FLOWS AT CAREFREE HIGHWAY TO C127
 314            KM    SLOPE = (1775-1770)/1234 = 0.004
 315            KM     XS based on "Jonathan Wash" XS 0.12 from Jerry Jones (JONA.DAT)
 316            RS       1    FLOW      -1
 317            RC   0.065   0.050   0.065    1234  0.0040    0.00
 318            RX   10560 10620.0 10660.0 10670.0 10680.0 10810.0 11000.0 11200.0
 319            RY  1776.0  1774.0  1774.0  1770.0  1772.0  1774.0  1776.0  1778.0
                *

 320            KK    S108   BASIN
 321            BA   0.329
 322            LG    0.32    0.15    8.80    0.06       15
 323            UC   0.204   0.110
 324            UA       0     3.0     5.0     8.0    12.0    20.0    43.0    75.0    90.0    96.0
 325            UA     100
                *

 326            KK  108109   ROUTE   REACH
 327            KM    ROUTE RUNOFF FROM S108 TO C109
 328            KM    SLOPE = (1915-1844)/5783 = 0.0123
 329            KM     XS based on Desert Hills Wash Trib 5 XS 0.74 (Stanley Consultants, 1999)
 330            RS       5    FLOW      -1
 331            RC   0.050   0.040   0.050    5783  0.0123    0.00
 332            RX     0.0    10.0   110.0   120.0   135.0   145.0   245.0   255.0
 333            RY   100.0    90.0    89.0    84.0    84.0    89.0    90.0   100.0
                *

 334            KK    S109   BASIN
 335            BA   0.366
 336            LG    0.30    0.15    8.40    0.07       5
 337            UC   0.333   0.248
 338            UA       0     3.0     5.0     8.0    12.0    20.0    43.0    75.0    90.0    96.0
 339            UA     100
                *

 340            KK   C109R
 341            KM    COMBINE RUNOFF FROM S109 WITH ROUTED FLOW FROM S108
 342            KM    THIS IS THE FLOW IN DESERT HILLS WASH TRIB 5 ABOUT 900 FT DOWNSTREAM
 343            KM    OF JOY RANCH ROAD.
 344            HC       2
                *
1                                          HEC-1 INPUT                                          PAGE 10

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

 345            KK    S110   BASIN
 346            BA   0.132
 347            LG    0.34    0.19    6.60    0.16       21
 348            UC   0.208   0.182
 349            UA       0     3.0     5.0     8.0    12.0    20.0    43.0    75.0    90.0    96.0
 350            UA     100
                *

 351            KK  110111   ROUTE   REACH
 352            KM    ROUTE RUNOFF FROM S110 TO C111
 353            KM    SLOPE = (1965-1895)/4457 = 0.0157
```

```
354          KM     XS based on Desert Hills Wash XS 5.57 (Stanley Consultants, 1999)
355          RS       4    FLOW      -1
356          RC   0.075   0.055   0.075    4457  0.0157    0.00
357          RX  9972.7  9988.0  9989.0 10000.0 10016.0 10061.0 10075.0 10092.0
358          RY  1926.0  1922.0  1921.7  1919.2  1920.8  1922.4  1924.0  1926.0
             *

359          KK    S111   BASIN
360          BA   0.248
361          LG    0.33    0.15    8.00    0.09      10
362          UC   0.225   0.161
363          UA       0     3.0     5.0     8.0    12.0    20.0    43.0    75.0    90.0    96.0
364          UA     100
             *

365          KK    C111
366          KM    COMBINE RUNOFF FROM S111 WITH ROUTED FLOW FROM S110
367          KM    THIS IS THE FLOW IN DESERT HILLS WASH AT 20TH STREET
368          HC       2
             *

369          KK  111109   ROUTE   REACH
370          KM    ROUTE COMBINED FLOW FROM C111 THROUGH S112 TO C109
371          KM    SLOPE = (1895-1844)/5694 = 0.009
372          KM     XS based on Desert Hills Wash XS 4.68 (Jerry Jones, 1992)
373          RS       5    FLOW      -1
374          RC   0.070   0.055   0.070    5694  0.0090    0.00
375          RX  9938.7  9951.1  9979.0 10000.0100010.0 10054.0 10101.0 10114.0
376          RY  1872.0  1870.0  1868.0  1867.0  1867.0  1868.0  1870.0  1872.0
             *

377          KK    S112   BASIN
378          BA   0.567
379          LG    0.31    0.15    8.40    0.07       8
380          UC   0.317   0.236
381          UA       0     3.0     5.0     8.0    12.0    20.0    43.0    75.0    90.0    96.0
382          UA     100
             *
```



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

383          KK   C109C
384          KM     COMBINE RUNOFF FROM S112 WITH ROUTED FLOW FROM C111
385          KM    THIS IS THE FLOW IN DESERT HILLS WASH AT JOY RANCH ROAD
386          HC       2
             *

387          KK    S113   BASIN
388          BA   0.110
389          LG    0.32    0.23    6.20    0.17       4
390          UC   0.313   0.344
391          UA       0     4.5    12.6    23.2    35.8    50.0    64.2    76.8    87.4    95.5
392          UA     100
             *

393          KK  113114   ROUTE   REACH
394          KM    ROUTE RUNOFF FROM S113 TO C114
395          KM    SLOPE = (1950-1904)/3220 = 0.0143
396          KM     XS based on Desert Hills Wash Trib 6 XS 1.04 (Stanley Consultants, 1999)
397          RS       2    FLOW      -1
398          RC   0.075   0.055   0.075    3220  0.0143    0.00
399          RX  9888.8  9957.5  9990.9  9995.0 10005.0 10011.0 10030.0 10105.0
400          RY  1928.0  1926.0  1925.0  1923.0  1923.0  1925.0  1926.0  1928.0
             *

401          KK    S114   BASIN
402          BA   0.109
403          LG    0.30    0.15    8.00    0.08       5
404          UC   0.283   0.245
405          UA       0     4.5    12.6    23.2    35.8    50.0    64.2    76.8    87.4    95.5
406          UA     100
             *

407          KK    C114
408          KM    COMBINE RUNOFF S114 WITH ROUTED FLOW FROM S113
409          KM    THIS IS THE FLOW IN DESRT HILLS WASH TRIB 6 AT 20TH STREET
410          HC       2
             *

411          KK  114115   ROUTE   REACH
412          KM    ROUTE COMBINED FLOW FROM C114 TO C115
413          KM    SLOPE = (1904-1856)/3565 = 0.0135
414          KM     XS based on Desert Hills Wash Trib 6 XS 0.44 (Stanley Consultants, 1999)
415          RS       3    FLOW      -1
416          RC   0.075   0.055   0.075    3565  0.0135    0.00
417          RX  9896.0  9910.0  9953.8  9964.0 10000.0 10010.0 10023.0 10036.0
418          RY  1888.0  1886.5  1884.6  1882.9  1881.9  1884.0  1886.0  1888.0
             *

419          KK    S115   BASIN
420          BA   0.155
421          LG    0.30    0.13   10.10    0.03       5
422          UC   0.371   0.381
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```
 423          UA       0     4.5    12.6    23.2    35.8    50.0    64.2    76.8    87.4    95.5
 424          UA     100
              *
1                                          HEC-1 INPUT                                          PAGE 12

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

 425          KK    C115
 426          KM    COMBINE RUNOFF FROM S115 WITH ROUTED FLOWS FROM C114
 427          KM    THIS IS THE FLOW IN DESERT HILLS WASH TRIB 6 AT 16TH STREET
 428          HC       2
              *

 429          KK  115109   ROUTE   REACH
 430          KM    ROUTE COMBINED FLOW FROM C115 TO C109
 431          KM    SLOPE = (1856-1844)/1415 = 0.0085
 432          KM     XS based on Desert Hills Wash XS 4.23 (Jerry Jones, 1992)
 433          RS       1    FLOW      -1
 434          RC   0.065   0.050   0.065    1415  0.0085    0.00
 435          RX  9824.9  9915.7  9966.2  9995.0 10005.0 10012.0 10018.0 10024.0
 436          RY  1854.0  1850.0  1850.0  1846.4  1846.4  1850.0  1852.0  1854.0
              *

 437          KK    C109
 438          KM    COMBINE ROUTED FLOW FROM C115 WITH C109R AND C109C
 439          KM    THIS IS THE TOTAL FLOW IN DESERT HILLS WASH ABOUT 900 FEET DOWNSTREAM
 440          KM    OF JOY RANCH ROAD.
 441          HC       3
              *

 442          KK  109116   ROUTE   REACH
 443          KM    ROUTE COMBINED FLOW FROM C109 TO C116
 444          KM    SLOPE = (1844-1810)/4849 = 0.0070
 445          KM     XS based on Desert Hills Wash XS 3.81 (Jerry Jones, 1992)
 446          RS       4    FLOW      -1
 447          RC   0.065   0.050   0.065    4849  0.0070    0.00
 448          RX  9780.0  9808.0  9977.0  9988.0 10012.0 10042.0 10073.0 10110.0
 449          RY  1838.0  1836.0  1834.0  1832.0  1832.0  1834.0  1836.0  1838.0
              *

 450          KK    S116   BASIN
 451          BA   0.224
 452          LG    0.30    0.25    5.40    0.21       5
 453          UC   0.500   0.487
 454          UA       0     4.5    12.6    23.2    35.8    50.0    64.2    76.8    87.4    95.5
 455          UA     100
              *

 456          KK   C116R
 457          KM    COMBINE RUNOFFF FROM S116 WITH ROUTED FLOW FROM C109
 458          HC       2
              *

 459          KK    S117   BASIN
 460          BA   0.232
 461          LG    0.30    0.13   10.10    0.03       5
 462          UC   0.404   0.372
 463          UA       0     4.5    12.6    23.2    35.8    50.0    64.2    76.8    87.4    95.5
 464          UA     100
              *
1                                          HEC-1 INPUT                                          PAGE 13

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

 465          KK    S118   BASIN
 466          KM    THIS IS THE RUNOFF TO 20TH STREET IN AN UNNAMED TRIB TO DESERT HILLS WASH
 467          BA   0.124
 468          LG    0.31    0.05   12.40    0.01       5
 469          UC   0.408   0.482
 470          UA       0     4.5    12.6    23.2    35.8    50.0    64.2    76.8    87.4    95.5
 471          UA     100
              *

 472          KK  118119   ROUTE   REACH
 473          KM    ROUTE RUNOFF FROM S118 TO C116
 474          KM    SLOPE = (1887-1810)/5989 = 0.013
 475          KM     XS based on Desert Hills Wash XS 4.23 (Jerry Jones, 1992)
 476          RS       5    FLOW      -1
 477          RC   0.050   0.040   0.050    5989  0.0130    0.00
 478          RX  9955.6  9971.9  9990.8  9998.0 10002.0 10010.0 10064.0 10096.0
 479          RY  1834.0  1832.0  1829.7  1827.5  1827.5  1830.4  1831.7  1834.0
              *

 480          KK    S119   BASIN
 481          BA   0.312
 482          LG    0.30    0.15    8.80    0.06       5
 483          UC   0.471   0.451
 484          UA       0     4.5    12.6    23.2    35.8    50.0    64.2    76.8    87.4    95.5
 485          UA     100
              *

 486          KK   C116L
 487          KM    COMBINE RUNOFF FROM S117 AND S119 WITH ROUTED FLOW FROM S118
```

```
488          HC       3
             *

489          KK    C116
490          KM     COMBINE C116L AND C116R.
491          KM    THIS IS THE TOTAL FLOW IN DESERT HILLS WASH AT CLOUD ROAD.
492          HC       2
             *

493          KK  116120   ROUTE   REACH
494          KM    ROUTE COMBINED FLOW FROM C116 TO C120
495          KM    SLOPE = (1810-1786)/3945 = 0.006
496          KM     XS based on Desert Hills Wash XS 2.61 (Jerry Jones, 1992)
497          RS       4    FLOW      -1
498          RC   0.065   0.050   0.065    3945  0.0060    0.00
499          RX  9919.5  9983.3  9986.9  9995.0 10010.0 10020.0 10173.0 10556.0
500          RY  1798.0  1796.0  1794.0  1790.0  1790.0  1794.0  1794.0  1796.0
             *

501          KK    S120   BASIN
502          BA   0.277
503          LG    0.30    0.15    7.00    0.11       5
504          UC   0.571   0.574
505          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
506          UA     100
             *
```



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

507          KK    C120
508          KM    COMBINE RUNOFF FROM S120 WITH ROUTED FLOW FROM C116
509          HC       2
             *

510          KK  120127   ROUTE   REACH
511          KM    ROUTE COMBINED FLOW FROM C120 TO C127 THROUGH SUBBASIN S121
512          KM    SLOPE = (1786-1770)/2909 = 0.0055
513          KM     XS based on Desert Hills Wash XS 2.34 (Jerry Jones, 1992)
514          RS       3    FLOW      -1
515          RC   0.065   0.050   0.065    2909  0.0055    0.00
516          RX  9570.0  9620.0  9990.0  9994.0 10006.0 10010.0 10160.0 10255.0
517          RY  1788.0  1786.0  1784.0  1782.2  1782.2  1784.0  1786.0  1788.0
             *

518          KK    S121   BASIN
519          BA   0.316
520          LG    0.30    0.15    7.30    0.10       7
521          UC   0.667   0.779
522          UA       0     4.5    12.6    23.2    35.8    50.0    64.2    76.8    87.4    95.5
523          UA     100
             *

524          KK   C127L
525          KM    COMBINE ROUTED FLOW FROM C120 WITH RUNOFF FROM S121
526          HC       2
             *

527          KK    S126   BASIN
528          KM    THIS IS THE RUNOFF AT 7TH STREET AT A CROSSING ABOUT 1000 FT SOUTH OF
529          KM    CAREFREE HWY.
530          BA   0.131
531          LG    0.30    0.23    6.20    0.17      28
532          UC   0.188   0.102
533          UA       0     3.0     5.0     8.0    12.0    20.0    43.0    75.0    90.0    96.0
534          UA     100
             *

535          KK  126127   ROUTE   REACH
536          KM    ROUTE RUNOFF FROM S126 TO C127
537          KM    SLOPE = (1798-1770)/2974 = 0.0094
538          KM    XS based on examination of 2002 FCD orthophotos and available 10 ft (FCD)
539          KM    and 2 ft contour data from Jerry Jones FDS and Stanley FDS mapping
540          RS       2    FLOW      -1
541          RC   0.050   0.040   0.050    2974  0.0094    0.00
542          RX     0.0    40.0    80.0    88.0    98.0   106.0   146.0   186.0
543          RY   100.0    96.0    92.0    90.0    90.0    92.0    96.0   100.0
             *
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LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

544          KK    S127   BASIN
545          BA   0.091
546          LG    0.30    0.23    6.20    0.17      18
547          UC   0.217   0.165
548          UA       0     4.5    12.6    23.2    35.8    50.0    64.2    76.8    87.4    95.5
549          UA     100
             *

550          KK   C127R
551          KM    COMBINE RUNOFF FROM S127 WITH ROUTED FLOWS FROM S126
552          HC       2
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```
                *
553             KK    C127
554             KM    COMBINE C127R & C127L WITH ROUTED FLOWS FROM CAREFREE HIGHWAY (FLO-2D AREA)
555             KM    THIS IS THE TOTAL FLOW IN DESERT HILLS WASH COMBINED WITH DESERT LAKE WASH
556             KM    AND THE EAST FORK OF DESERT LAKE WASH.
557             HC       3
                *

558             KK  127129   ROUTE   REACH
559             KM    ROUTE COMBINED FLOW FROM C127 TO C129 THROUGH SUBBASIN S129
560             KM    SLOPE = (1770-1764)/1296 = 0.0046
561             KM     XS based on Desert Hills Wash XS 1.72 from Jerry Jones (DTHL.DAT)
562             RS       1    FLOW      -1
563             RC   0.065   0.050   0.065    1296  0.0046    0.00
564             RX  9150.0  9330.0  9993.0  9995.0 10005.0 10016.0 10108.0 10255.0
565             RY  1774.0  1770.0  1768.0  1766.0  1766.0  1770.0  1770.0  1774.0
                *

566             KK    S128   BASIN
567             KM    THIS IS THE RUNOFF AT 10TH STREET IN A CROSSING ABOUT 1400 FT SOUTH OF
568             KM    CAREFREE HWY.
569             BA   0.116
570             LG    0.30    0.15    7.60    0.10      27
571             UC   0.204   0.187
572             UA       0     3.0     5.0     8.0    12.0    20.0    43.0    75.0    90.0    96.0
573             UA     100
                *

574             KK  128129   ROUTE   REACH
575             KM    ROUTE RUNOFF FROM S128 TO C129
576             KM    SLOPE = (1794-1764)/1924 = 0.0156
577             KM     XS based on Desert Hills Wash XS 1.72 from Jerry Jones (DTHL.DAT)
578             RS       2    FLOW      -1
579             RC   0.065   0.050   0.065    1924  0.0156    0.00
580             RX  9150.0  9330.0  9993.0  9995.0 10005.0 10016.0 10108.0 10255.0
581             RY  1774.0  1770.0  1768.0  1766.0  1766.0  1770.0  1770.0  1774.0
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LINE            ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

582             KK    S129   BASIN
583             BA   0.122
584             LG    0.30    0.15    7.30    0.11      20
585             UC   0.163   0.100
586             UA       0     3.0     5.0     8.0    12.0    20.0    43.0    75.0    90.0    96.0
587             UA     100
                *

588             KK    C129
589             KM    COMBINE RUNOFF FROM S129 WITH ROUTED FLOWS FROM S128 AND C127
590             KM    THIS IS THE TOTAL FLOW IN DESERT HILLS WASH AT 12TH STREET
591             HC       3
                *

592             KK  129134   ROUTE   REACH
593             KM    ROUTE COMBINED FLOW FROM C129 TO C134 THROUGH SUBBASIN S134
594             KM    SLOPE = (1764-1762)/579 = 0.00345
595             KM     XS based on Desert Hills Wash XS 1.58 from Jerry Jones (DTHL.DAT)
596             RS       1    FLOW      -1
597             RC   0.065   0.050   0.065     579  0.0035    0.00
598             RX  9140.0  9490.0  9985.0  9993.0 10005.0 10013.0 10240.0 10585.0
599             RY  1770.0  1766.0  1766.0  1762.0  1762.0  1766.0  1766.0  1770.0
                *

600             KK    S130   BASIN
601             KM    THIS IS THE RUNOFF TO CAREFREE HWY FROM AN UNNAMED TRIB OF DESERT HILLS WASH
602             BA   0.052
603             LG    0.30    0.21    6.40    0.14       5
604             UC   0.313   0.350
605             UA       0     4.5    12.6    23.2    35.8    50.0    64.2    76.8    87.4    95.5
606             UA     100
                *

607             KK  130134   ROUTE   REACH
608             KM    ROUTE RUNOFF FROM S130 TO C134
609             KM    SLOPE = (1783-1762)/2075 = 0.010
610             KM    XS based on examination of 2002 FCD orthophotos and available 10 ft (FCD)
611             KM    and 2 ft contour data from Jerry Jones FDS and Stanley FDS mapping
612             RS       2    FLOW      -1
613             RC   0.050   0.040   0.050    2075  0.0100    0.00
614             RX     0.0    55.0   110.0   115.0   135.0   140.0   195.0   250.0
615             RY   100.0    98.0    96.0    95.0    95.0    96.0    98.0   100.0
                *

616             KK    S131   BASIN
617             KM    THIS IS THE RUNOFF TO CLOUD ROAD IN DESERT HILLS WASH TRIB 2
618             BA   0.108
619             LG    0.30    0.10   11.20    0.02       5
620             UC   0.346   0.362
621             UA       0     4.5    12.6    23.2    35.8    50.0    64.2    76.8    87.4    95.5
622             UA     100
                *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 623          KK  131132   ROUTE   REACH
 624          KM    ROUTE RUNOFF FROM S131 TO C132
 625          KM    SLOPE = (1845-1808)/3449 = 0.0107
 626          KM    XS based on examination of 2002 FCD orthophotos and available 10 ft (FCD)
 627          KM    and 2 ft contour data from Jerry Jones FDS and Stanley FDS mapping
 628          RS       4    FLOW      -1
 629          RC   0.065   0.050   0.065    3449  0.0107    0.00
 630          RX     0.0    70.0   140.0   147.0   153.0   160.0   230.0   300.0
 631          RY   100.0    99.0    98.0    96.0    96.0    98.0    99.0   100.0
              *

 632          KK    S132   BASIN
 633          BA   0.145
 634          LG    0.30    0.10   11.20    0.02       5
 635          UC   0.308   0.234
 636          UA       0     4.5    12.6    23.2    35.8    50.0    64.2    76.8    87.4    95.5
 637          UA     100
              *

 638          KK    C132
 639          KM    COMBINE RUNOFF FROM S132 WITH ROUTED FLOW FROM S131
 640          KM    THIS IS THE FLOW AT GALVIN STREET IN DESERT HILLS TRIB 2
 641          HC       2
              *

 642          KK  132133   ROUTE   REACH
 643          KM    ROUTE COMBINED FLOW FROM C132 TO C133
 644          KM    SLOPE = (1808-1780)/2909 = 0.0096
 645          KM     XS based on Desert Hills Wash Trib 2 XS 0.78 (Stanley Consultants, 1999)
 646          RS       3    FLOW      -1
 647          RC   0.065   0.050   0.065    2909  0.0096    0.00
 648          RX  9959.0  9976.0  9993.0  9999.0 10004.0 10010.0 10080.0 10115.0
 649          RY  1798.0  1797.0  1796.0  1795.0  1795.0  1796.3  1796.6  1798.0
              *

 650          KK    S133   BASIN
 651          BA   0.100
 652          LG    0.30    0.15    9.70    0.04       5
 653          UC   0.283   0.219
 654          UA       0     4.5    12.6    23.2    35.8    50.0    64.2    76.8    87.4    95.5
 655          UA     100
              *

 656          KK    C133
 657          KM    COMBINE RUNOFF FROM S133 WITH ROUTED FLOWS FROM C132 AT CAREFREE HWY
 658          KM    IN DESERT HILLS WASH TRIB 2
 659          HC       2
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 660          KK  133134   ROUTE   REACH
 661          KM    ROUTE COMBINED FLOW FROM C133 TO C134
 662          KM    SLOPE = (1780-1762)/2076 = 0.0087
 663          KM     XS based on Desert Hills Wash Trib 2 XS 0.20 (Stanley Consultants, 1999)
 664          RS       2    FLOW      -1
 665          RC   0.065   0.050   0.065    2076  0.0087    0.00
 666          RX  9873.0  9936.0  9993.0  9998.0 10004.0 10009.0 10043.0 10186.0
 667          RY  1774.0  1772.0  1770.0  1767.7  1767.7  1770.0  1770.7  1774.0
              *

 668          KK    S134   BASIN
 669          BA   0.073
 670          LG    0.30    0.15    7.30    0.11      15
 671          UC   0.246   0.180
 672          UA       0     3.0     5.0     8.0    12.0    20.0    43.0    75.0    90.0    96.0
 673          UA     100
              *

 674          KK   C134L
 675          KM    COMBINE RUNOFF FROM S134 WITH ROUTED FLOWS FROM S130 AND C133
 676          HC       3
              *

 677          KK    C134
 678          KM    COMBINE C134L WITH ROUTED FLOWS FROM C129
 679          KM    THIS IS THE TOTAL FLOW IN DESERT HILLS WASH ABOUT 600 FT DOWNSTEAM OF 12TH
 680          KM    STREET
 681          HC       2
              *

 682          KK  134139   ROUTE   REACH
 683          KM    ROUTE COMBINED FLOW FROM C134 TO C139 THROUGH S136
 684          KM    SLOPE = (1762-1757)/1214 = 0.0041
 685          KM     XS based on Desert Hills Wash XS 1.35 from Jerry Jones (DTHL.DAT)
 686          RS       2    FLOW      -1
 687          RC   0.065   0.050   0.065    1214  0.0041    0.00
 688          RX  9100.0  9325.0  9835.0  9845.0  9855.0  9865.0 10080.0 10670.0
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689          RY  1768.0  1764.0  1760.0  1756.0  1756.0  1760.0  1760.0  1770.0
             *

690          KK    S135   BASIN
691          KM    THIS IS THE RUNOFF TO PAINT YOUR WAGON TRAIL.
692          BA   0.068
693          LG    0.30    0.15    8.00    0.08      24
694          UC   0.154   0.109
695          UA       0     3.0     5.0     8.0    12.0    20.0    43.0    75.0    90.0    96.0
696          UA     100
             *
1                                          HEC-1 INPUT                                          PAGE 19

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

697          KK  135139   ROUTE   REACH
698          KM    ROUTE RUNOFF FROM S135 TO C139
699          KM    SLOPE = (1771-1757)/1106 = 0.0127
700          KM     XS based on Desert Hills Wash XS 1.29 from Jerry Jones (DTHL.DAT)
701          RS       1    FLOW      -1
702          RC   0.065   0.050   0.065    1106  0.0127    0.00
703          RX  9340.0  9745.0  9960.0  9985.0 10025.0 10060.0 10115.0 10435.0
704          RY  1766.0  1760.0  1758.0  1756.0  1756.0  1758.0  1760.0  1766.0
             *

705          KK    S136   BASIN
706          BA   0.078
707          LG    0.30    0.25    5.70    0.20      16
708          UC   0.283   0.224
709          UA       0     3.0     5.0     8.0    12.0    20.0    43.0    75.0    90.0    96.0
710          UA     100
             *

711          KK   C139R
712          KM    COMBINE RUNOFF FROM S136 WITH ROUTED FLOWS FROM S135 AND C134
713          KM    THIS THE FLOW IN DESERT HILLS WASH AT 14TH STREET
714          HC       3
             *

715          KK    S137   BASIN
716          KM    THIS IS THE RUNOFF IN DESERT HILLS WASH TRIB 1 AT CLOUD ROAD
717          BA   0.084
718          LG    0.30    0.15    9.70    0.04       5
719          UC   0.304   0.305
720          UA       0     4.5    12.6    23.2    35.8    50.0    64.2    76.8    87.4    95.5
721          UA     100
             *

722          KK  137138   ROUTE   REACH
723          KM    ROUTE RUNOFF FROM S137 TO C138
724          KM    SLOPE = (1856-1786)/6568 = 0.0107
725          KM     XS based on Desert Hills Wash Trib 1 XS 1.08 (Stanley Consultants, 1999)
726          RS       6    FLOW      -1
727          RC   0.050   0.045   0.050    6568  0.0107    0.00
728          RX  9938.0  9960.0  9982.0  9993.0  9998.0 10009.0 10030.0 10064.0
729          RY  1812.0  1811.4  1810.7  1808.0  1808.0  1810.3  1811.0  1812.0
             *

730          KK    S138   BASIN
731          BA   0.266
732          LG    0.30    0.10   11.20    0.02       5
733          UC   0.513   0.565
734          UA       0     4.5    12.6    23.2    35.8    50.0    64.2    76.8    87.4    95.5
735          UA     100
             *
1                                          HEC-1 INPUT                                          PAGE 20

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

736          KK    C138
737          KM    COMBINE RUNOFF FROM S138 WITH ROUTED FLOWS FROM S137
738          KM    THIS IS THE FLOW IN DESERT HILLS WASH TRIB 1 AT CAREFREE HWY
739          HC       2
             *

740          KK  138139   ROUTE   REACH
741          KM    ROUTE COMBINED FLOWS FROM C138 TO C139
742          KM    SLOPE = (1786-1757)/2696 = 0.0108
743          KM     XS based on Desert Hills Wash Trib 1 XS 0.32 (Stanley Consultants, 1999)
744          RS       3    FLOW      -1
745          RC   0.050   0.045   0.050    2696  0.0108    0.00
746          RX  9729.0  9827.0  9996.0 10003.0 10009.0 10016.0 10088.0 10166.0
747          RY  1776.0  1773.0  1772.6  1771.6  1771.6  1772.8  1774.0  1776.0
             *

748          KK    S139   BASIN
749          BA   0.069
750          LG    0.30    0.25    4.65    0.32      15
751          UC   0.296   0.284
752          UA       0     3.0     5.0     8.0    12.0    20.0    43.0    75.0    90.0    96.0
753          UA     100
             *
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 754          KK   C139L
 755          KM    COMBINE RUNOFF FROM S139 WITH ROUTED FLOW FROM C138
 756          HC       2
              *

 757          KK    C139
 758          KM    COMBINE C139L AND C139R.  THIS IS THE TOTAL FLOW IN DESERT HILLS WASH
 759          KM    AT C139 JUST DOWNSTREAM OF 14TH STREET
 760          HC       2
              *

 761          KK  139141   ROUTE   REACH
 762          KM    ROUTE COMBINED FLOWS FROM C139 TO C141I
 763          KM    SLOPE = (1757-1754)/696 = 0.0043
 764          KM     XS based on Desert Hills Wash XS 1.19 from Jerry Jones (DTHL.DAT)
 765          RS       1    FLOW      -1
 766          RC   0.065   0.050   0.065     696  0.0043    0.00
 767          RX  9820.0  9910.0  9986.0  9990.0 10012.0 10016.0 10120.0 10500.0
 768          RY  1762.0  1758.0  1756.0  1754.0  1754.0  1756.0  1756.0  1762.0
              *

 769          KK    S140   BASIN
 770          KM    THIS IS THE RUNOFF FROM AN UNNAMED TRIB OF DESERT HILLS WASH AT
 771          KM    CAREFREE HWY
 772          BA   0.249
 773          LG    0.30    0.10   11.20    0.02       5
 774          UC   0.454   0.428
 775          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
 776          UA     100
              *
1                                          HEC-1 INPUT                                          PAGE 21

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

 777          KK  140141   ROUTE   REACH
 778          KM    ROUTE RUNOFF FROM S140 TO C141
 779          KM    SLOPE = (1790-1754)/3458 = 0.0104
 780          KM    XS based on examination of 2002 FCD orthophotos and available 10 ft (FCD)
 781          KM    and 2 ft contour data from Jerry Jones FDS and Stanley FDS mapping
 782          RS       3    FLOW      -1
 783          RC   0.050   0.040   0.050    3458  0.0104    0.00
 784          RX     0.0    45.0    85.0    90.0    95.0   100.0   140.0   185.0
 785          RY   100.0    98.0    97.0    95.0    95.0    97.0    98.0   100.0
              *

 786          KK    S141   BASIN
 787          BA   0.102
 788          LG    0.30    0.05   12.40    0.01      15
 789          UC   0.342   0.335
 790          UA       0     4.5    12.6    23.2    35.8    50.0    64.2    76.8    87.4    95.5
 791          UA     100
              *

 792          KK   C141L
 793          KM    COMBINE RUNOFF FROM S141 WITH ROUTED FLOWS FROM S140
 794          HC       2
              *

 795          KK    S142   BASIN
 796          BA   0.139
 797          LG    0.30    0.15    7.30    0.11      27
 798          UC   0.238   0.238
 799          UA       0     3.0     5.0     8.0    12.0    20.0    43.0    75.0    90.0    96.0
 800          UA     100
              *

 801          KK  142141   ROUTE   REACH
 802          KM    ROUTE RUNOFF FROM S141 TO C141I
 803          KM    SLOPE = (1766-1754)/611 = 0.0196
 804          KM    XS based on examination of 2002 FCD orthophotos and available 10 ft (FCD)
 805          KM    and 2 ft contour data from Jerry Jones FDS and Stanley FDS mapping
 806          RS       1    FLOW      -1
 807          RC   0.050   0.050   0.050     611  0.0196    0.00
 808          RX     0.0    50.0   100.0   103.0   107.0   110.0   160.0   210.0
 809          RY   100.0    99.0    98.0    96.0    96.0    98.0    99.0   100.0
              *

 810          KK   C141I
 811          KM    COMBINE ROUTED FLOW FROM S142 WITH C141L AND ROUTED FLOW FROM C139
 812          HC       3
              *

 813          KK  141145   ROUTE   REACH
 814          KM    ROUTE COMBINED FLOWS FROM C141I TO C145
 815          KM    SLOPE = (1754-1745)/1969 = 0.0046
 816          KM     XS based on Desert Hills Wash XS 0.90 from Jerry Jones (DTHL.DAT)
 817          RS       2    FLOW      -1
 818          RC   0.065   0.050   0.065    1969  0.0046    0.00
1                                          HEC-1 INPUT                                          PAGE 22

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

 819          RX  9698.3  9831.5  9950.5 10001.0 10012.0 10022.0 10235.0 10800.0
 820          RY  1758.0  1752.0  1751.0  1748.0  1748.0  1752.0  1752.0  1758.0
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                *

 821            KK    S143   BASIN
 822            BA   0.138
 823            LG    0.30    0.15    8.80    0.06      19
 824            UC   0.217   0.143
 825            UA       0     3.0     5.0     8.0    12.0    20.0    43.0    75.0    90.0    96.0
 826            UA     100
                *

 827            KK  143144   ROUTE   REACH
 828            KM    ROUTE RUNOFF FROM S143 TO C145
 829            KM    SLOPE = (1767-1745)/1750 = 0.0126
 830            KM    XS based on examination of 2002 FCD orthophotos and available 10 ft (FCD)
 831            KM    and 2 ft contour data from Jerry Jones FDS and Stanley FDS mapping
 832            RS       1    FLOW      -1
 833            RC   0.050   0.050   0.050    1750  0.0126    0.00
 834            RX     0.0    50.0   100.0   103.0   107.0   110.0   160.0   210.0
 835            RY   100.0    99.0    98.0    96.0    96.0    98.0    99.0   100.0
                *

 836            KK    S144   BASIN
 837            BA   0.152
 838            LG    0.30    0.15    8.00    0.08      15
 839            UC   0.388   0.300
 840            UA       0     4.5    12.6    23.2    35.8    50.0    64.2    76.8    87.4    95.5
 841            UA     100
                *

 842            KK   C145R
 843            KM    COMBINE RUNOFF FROM S144 WITH ROUTED FLOWS FROM S143 AND C141I
 844            HC       3
                *

 845            KK    S145   BASIN
 846            BA   0.204
 847            LG    0.30    0.05   12.40    0.01      13
 848            UC   0.425   0.371
 849            UA       0     4.5    12.6    23.2    35.8    50.0    64.2    76.8    87.4    95.5
 850            UA     100
                *

 851            KK    C145
 852            KM    COMBINE RUNOFF FROM S145 WITH C145L.
 853            KM    THIS IS THE TOTAL FLOW IN DESERT HILLS WASH AT APPROX. 16TH ST ALIGNMENT
 854            HC       2
                *
1                                          HEC-1 INPUT                                          PAGE 23

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

 855            KK  145147   ROUTE   REACH
 856            KM    ROUTE COMBINED FLOWS FROM C145 TO C147
 857            KM    SLOPE = (1745-1732)/3886 = 0.0033
 858            KM     XS based on Desert Hills Wash XS 0.56 from Jerry Jones (DTHL.DAT)
 859            RS       4    FLOW      -1
 860            RC   0.065   0.050   0.065    3886  0.0033    0.00
 861            RX  8680.0  9475.0  9987.0  9996.0 10011.0 10020.0 10085.0 10465.0
 862            RY  1752.0  1746.0  1744.0  1740.0  1740.0  1744.0  1744.0  1752.0
                *

 863            KK    S147   BASIN
 864            BA   0.673
 865            LG    0.30    0.15    7.60    0.09      12
 866            UC   0.379   0.247
 867            UA       0     3.0     5.0     8.0    12.0    20.0    43.0    75.0    90.0    96.0
 868            UA     100
                *

 869            KK   C147R
 870            KM    COMBINE RUNOFF FROM S147 WITH ROUTED FLOWS FROM C145
 871            KM    THIS IS THE TOTAL FLOW IN DESERT HILLS WASH UPSTREAM OF APACHE WASH
 872            HC       2
 873            ZW      A=DHW  C=FLOW  F=FUTURE
                *

 874            KK    S200   BASIN
 875            BA   0.579
 876            LG    0.35    0.15    7.60    0.10      12
 877            UC   0.329   0.247
 878            UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
 879            UA     100
                *

 880            KK    S201   BASIN
 881            BA   0.793
 882            LG    0.35    0.15    7.00    0.14      29
 883            UC   0.275   0.143
 884            UA       0     3.0     5.0     8.0    12.0    20.0    43.0    75.0    90.0    96.0
 885            UA     100
                *

 886            KK    C201
 887            KM    COMBINE RUNOFF FROM S200 AND S201
```

```
 888          HC       2
              *

 889          KK  201204   ROUTE   REACH
 890          KM    ROUTE COMBINED FLOWS FROM C201 TO C204
 891          KM    SLOPE = (2108-2060)/2164 = 0.0222
 892          KM     XS based on Apache Wash XS 9.27 (Stanley Consultants, 1999)
 893          RS       2    FLOW      -1
 894          RC   0.080   0.055   0.080    2164  0.0222    0.00
 895          RX  9976.0  9981.0  9995.0 10000.0 10005.0 10022.0 10030.0 10035.0
 896          RY  2082.0  2080.0  2074.0  2071.4  2072.0  2074.0  2080.0  2082.0
              *
1                                        HEC-1 INPUT                                                    PAGE 24

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

 897          KK    S203   BASIN
 898          BA   0.167
 899          LG    0.35    0.19    6.60    0.16      22
 900          UC   0.154   0.075
 901          UA       0     3.0     5.0     8.0    12.0    20.0    43.0    75.0    90.0    96.0
 902          UA     100
              *

 903          KK   C204L
 904          KM    COMBINE RUNOFF FROM S203 WITH ROUTED FLOW FROM C201
 905          KM    THIS IS THE FLOW IN APACHE WASH JUST DOWNSTREAM OF 32ND STREET ALIGNMENT
 906          HC       2
              *

 907          KK    S204   BASIN
 908          BA   0.298
 909          LG    0.35    0.15    7.00    0.13      30
 910          UC   0.229   0.154
 911          UA       0     3.0     5.0     8.0    12.0    20.0    43.0    75.0    90.0    96.0
 912          UA     100
              *

 913          KK    C204
 914          KM    COMBINE RUNOFF FROM S204 WITH C203L
 915          HC       2
              *

 916          KK  204206   ROUTE   REACH
 917          KM    ROUTE COMBINED FLOWS FROM C204 TO C206
 918          KM    SLOPE = (2060-2042)/1209 = 0.0149
 919          KM     XS based on Apache Wash XS 9.27 (Stanley Consultants, 1999)
 920          RS       1    FLOW      -1
 921          RC   0.080   0.055   0.080    1209  0.0149    0.00
 922          RX  9961.0  9980.0  9986.0  9995.0 10010.0 10022.0 10080.0 10150.0
 923          RY  2056.0  2050.0  2047.6  2044.4  2044.4  2048.0  2050.0  2054.0
              *

 924          KK    S205   BASIN
 925          BA   0.041
 926          LG    0.35    0.25    5.70    0.22       4
 927          UC   0.158   0.139
 928          UA       0     3.0     5.0     8.0    12.0    20.0    43.0    75.0    90.0    96.0
 929          UA     100
              *

 930          KK   C206L
 931          KM    COMBINE RUNOFF FROM S205 WITH ROUTED FLOWS FROM C204
 932          HC       2
              *
1                                        HEC-1 INPUT                                                    PAGE 25

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

 933          KK    S206   BASIN
 934          BA   0.146
 935          LG    0.35    0.25    5.80    0.21      18
 936          UC   0.192   0.147
 937          UA       0     3.0     5.0     8.0    12.0    20.0    43.0    75.0    90.0    96.0
 938          UA     100
              *

 939          KK    C206
 940          KM     COMBINE RUNOFF FROM S206 WITH COMBINED FLOWS AT C206L
 941          HC       2
              *

 942          KK  206209   ROUTE   REACH
 943          KM    ROUTE COMBINED FLOWS FROM C206 TO C209
 944          KM    SLOPE = (2042-2020)/1939 = 0.0113
 945          KM     XS based on Apache Wash XS 8.68 (Stanley Consultants, 1999)
 946          RS       2    FLOW      -1
 947          RC   0.080   0.055   0.080    1939  0.0113    0.00
 948          RX  9942.0  9966.0  9980.0  9990.0 10010.0 10020.0 10022.0 10035.0
 949          RY  2034.0  2028.0  2028.0  2024.5  2024.5  2028.0  2030.0  2036.0
              *

 950          KK    S207   BASIN
```

```
951          BA   0.251
952          LG    0.35    0.25    5.70    0.22       8
953          UC   0.204   0.128
954          UA       0     3.0     5.0     8.0    12.0    20.0    43.0    75.0    90.0    96.0
955          UA     100
             *

956          KK   C209L
957          KM    COMBINE RUNOFF FROM S207 WITH ROUTED FLOW FROM C206
958          HC       2
             *

959          KK    S208   BASIN
960          BA   0.308
961          LG    0.34    0.23    6.20    0.18      19
962          UC   0.208   0.122
963          UA       0     3.0     5.0     8.0    12.0    20.0    43.0    75.0    90.0    96.0
964          UA     100
             *

965          KK  208209   ROUTE   REACH
966          KM    ROUTE RUNOFF FROM S208 TO C209
967          KM    SLOPE = (2078-2020)/2633 = 0.022
968          KM     XS based on Apache Wash Trib 4 XS 0.20 (Stanley Consultants, 1999)
969          RS       2    FLOW      -1
970          RC   0.080   0.055   0.080    2633  0.0220    0.00
971          RX  9970.0  9978.0  9985.0  9987.0 10000.0 10015.0 10018.0 10022.0
972          RY  2040.0  2038.0  2036.0  2034.7  2033.7  2036.0  2038.0  2040.0
             *
1                                          HEC-1 INPUT                                          PAGE 26

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

973          KK    S209   BASIN
974          BA   0.067
975          LG    0.31    0.15    8.00    0.08       5
976          UC   0.217   0.221
977          UA       0     3.0     5.0     8.0    12.0    20.0    43.0    75.0    90.0    96.0
978          UA     100
             *

979          KK   C209R
980          KM    COMBINE RUNOFF FROM S209 WITH ROUTED FLOW FROM S208
981          HC       2
             *

982          KK    C209
983          KM    COMBINE C209R AND C209L.  TOTAL FLOW IN APACHE WASH JUST DOWNSTREAM
984          KM    OF SADDLE MOUNTAIN ROAD
985          HC       2
             *

986          KK  209215   ROUTE   REACH
987          KM    ROUTE COMBINED FLOWS FROM C209 TO C215
988          KM    SLOPE = (2020-1992)/2036 = 0.0138
989          KM     XS based on Apache Wash XS 8.31 (Stanley Consultants, 1999)
990          RS       2    FLOW      -1
991          RC   0.100   0.055   0.100    2036  0.0138    0.00
992          RX  9960.0  9978.0  9984.0  9992.0 10012.0 10060.0 10260.0 10275.0
993          RY  2012.0  2010.0  2006.0  2001.0  2001.0  2006.0  2010.0  2012.0
             *

994          KK    S210   BASIN
995          BA   0.315
996          LG    0.33    0.21    6.40    0.16       8
997          UC   0.246   0.175
998          UA       0     3.0     5.0     8.0    12.0    20.0    43.0    75.0    90.0    96.0
999          UA     100
             *

1000         KK   C215L
1001         KM    COMBINE RUNOFF FROM S210 WITH ROUTED FLOW FROM C209
1002         HC       2
             *

1003         KK    S211   BASIN
1004         BA   0.270
1005         LG    0.35    0.17    6.80    0.15      25
1006         UC   0.175   0.087
1007         UA       0     3.0     5.0     8.0    12.0    20.0    43.0    75.0    90.0    96.0
1008         UA     100
             *
1                                          HEC-1 INPUT                                          PAGE 27

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

1009         KK  211214   ROUTE   REACH
1010         KM    ROUTE RUNOFF FROM S211 TO C214 THROUGH S212
1011         KM    SLOPE = (2144-2019)/5218 = 0.024
1012         KM     XS based on West Fork Apache Wash XS 0.68 (Stanley Consultants, 1999)
1013         RS       3    FLOW      -1
1014         RC   0.075   0.055   0.075    5218  0.0240    0.00
1015         RX  9990.0  9991.0  9992.0 10000.0 10027.0 10040.0 10106.0 10120.0
```

```
1016          RY  2056.0  2053.0  2050.0  2047.0  2048.7  2050.0  2052.9  2056.0
              *

1017          KK    S212   BASIN
1018          BA   0.182
1019          LG    0.32    0.25    5.70    0.21       3
1020          UC   0.263   0.249
1021          UA       0     3.0     5.0     8.0    12.0    20.0    43.0    75.0    90.0    96.0
1022          UA     100
              *

1023          KK   C214L
1024          KM     COMBINE RUNOFF FROM S212 WITH ROUTED FLOWS FROM S211
1025          HC       2
              *

1026          KK    S213   BASIN
1027          BA   0.243
1028          LG    0.33    0.25    6.00    0.19      13
1029          UC   0.233   0.180
1030          UA       0     3.0     5.0     8.0    12.0    20.0    43.0    75.0    90.0    96.0
1031          UA     100
              *

1032          KK    S214   BASIN
1033          BA   0.328
1034          LG    0.34    0.17    6.80    0.15      22
1035          UC   0.254   0.203
1036          UA       0     3.0     5.0     8.0    12.0    20.0    43.0    75.0    90.0    96.0
1037          UA     100
              *

1038          KK    C214
1039          KM    COMBINE RUNOFF FROM S213 & S214 WITH C214L
1040          KM    THIS IS THE TOTAL FLOW IN THE WEST BRANCH OF APACHE WASH JUST UPSTREAM
1041          KM    OF 26TH STREET
1042          HC       3
              *

1043          KK  214215   ROUTE   REACH
1044          KM    ROUTE COMBINED FLOWS FROM C214 TO C215
1045          KM    SLOPE = (2019-1992)/1801 = 0.0150
1046          KM     XS based on West Fork Apache Wash XS 0.34 (Jerry Jones, 1992) (APACHE.DAT)
1047          RS       1    FLOW      -1
1048          RC   0.100   0.055   0.100    1801  0.0150    0.00
1049          RX  9692.0  9862.0  9934.0  9991.0 10000.0 10002.0 10018.0 10038.0
1050          RY  2024.0  2016.0  2016.0  2014.0  2014.0  2016.0  2020.0  2024.0
              *
1                                          HEC-1 INPUT                                          PAGE 28

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

1051          KK    S215   BASIN
1052          BA   0.058
1053          LG    0.30    0.15    7.60    0.09       5
1054          UC   0.208   0.207
1055          UA       0     3.0     5.0     8.0    12.0    20.0    43.0    75.0    90.0    96.0
1056          UA     100
              *

1057          KK   C215R
1058          KM    COMBINE RUNOFF FROM S215 WITH ROUTED FLOW FROM C214
1059          KM    THIS IS THE TOTAL FLOW OF THE (WEST BRANCH) AT ITS CONFLUENCE WITH
1060          KM    APACHE WASH.
1061          HC       2
              *

1062          KK    C215
1063          KM    COMBINE C215R AND C215L.  THIS IS THE TOTAL FLOW IN APACHE WASH
1064          KM    DOWNSTREAM OF THE (WEST BRANCH)
1065          HC       2
              *

1066          KK  215216   ROUTE   REACH
1067          KM    ROUTE COMBINED FLOWS FROM C215 TO C216
1068          KM    SLOPE = (1992-1965)/2088 = 0.0129
1069          KM     XS based on Apache Wash XS 7.84 (Jerry Jones, 1992) (APACHE.DAT)
1070          RS       2    FLOW      -1
1071          RC   0.050   0.040   0.050    2088  0.0129    0.00
1072          RX  9828.0  9916.0  9984.0  9995.0 10025.0 10036.0 10206.0 10222.0
1073          RY  1982.0  1976.0  1976.0  1974.0  1974.0  1978.0  1980.0  1982.0
              *

1074          KK    S216   BASIN
1075          BA   0.365
1076          LG    0.33    0.15    7.00    0.12      21
1077          UC   0.217   0.114
1078          UA       0     3.0     5.0     8.0    12.0    20.0    43.0    75.0    90.0    96.0
1079          UA     100
              *

1080          KK    C216
1081          KM     COMBINE RUNOFF FROM S216 WITH ROUTED FLOW FROM C215
1082          KM    THIS IS THE FLOW IN APACHE WASH AT BENTLEY MINE ROAD
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```
1083          HC       2
              *

1084          KK  216217   ROUTE   REACH
1085          KM    ROUTE COMBINED FLOWS FROM C216 TO C217
1086          KM    SLOPE = (1965-1888)/7706 = 0.010
1087          KM     XS based on Apache Wash XS 7.55 (Jerry Jones, 1992) (APACHE.DAT)
1088          RS       7    FLOW      -1
1089          RC   0.100   0.055   0.100    7706  0.0100    0.00
1090          RX  9896.0  9930.0  9970.0  9992.0 10022.0 10025.0 10145.0 10183.0
1091          RY  1966.0  1962.0  1960.0  1956.0  1956.0  1958.0  1960.0  1966.0
              *
1                                          HEC-1 INPUT                                          PAGE 29

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

1092          KK    S217   BASIN
1093          BA   0.363
1094          LG    0.34    0.15    7.60    0.10      13
1095          UC   0.342   0.312
1096          UA       0     3.0     5.0     8.0    12.0    20.0    43.0    75.0    90.0    96.0
1097          UA     100
              *

1098          KK   C217R
1099          KM    COMBINE RUNOFF FROM S217 WITH ROUTED FLOW FROM C216
1100          HC       2
              *

1101          KK    S218   BASIN
1102          BA   0.388
1103          LG    0.35    0.17    6.80    0.15      27
1104          UC   0.204   0.102
1105          UA       0     3.0     5.0     8.0    12.0    20.0    43.0    75.0    90.0    96.0
1106          UA     100
              *

1107          KK  218219   ROUTE   REACH
1108          KM    ROUTE RUNOFF FROM S218 TO C219
1109          KM    SLOPE = (2006-1899)/5923 = 0.0181
1110          KM     XS based on Apache Wash Trib 2 XS 0.55 (Stanley Consultants, 1999)
1111          RS       5    FLOW      -1
1112          RC   0.070   0.060   0.070    5923  0.0181    0.00
1113          RX  9940.0  9951.0  9954.0  9993.0 10000.0 10016.0 10028.0 10065.0
1114          RY  1940.0  1938.0  1937.4  1934.0  1933.5  1937.4  1938.0  1940.0
              *

1115          KK    S219   BASIN
1116          BA   0.284
1117          LG    0.35    0.17    6.80    0.15      25
1118          UC   0.271   0.200
1119          UA       0     3.0     5.0     8.0    12.0    20.0    43.0    75.0    90.0    96.0
1120          UA     100
              *

1121          KK    C219
1122          KM    COMBINE RUNOFF FROM S219 WITH ROUTED FLOW FROM S218
1123          HC       2
              *

1124          KK    S220   BASIN
1125          BA   0.168
1126          LG    0.33    0.15    7.60    0.10      16
1127          UC   0.246   0.229
1128          UA       0     3.0     5.0     8.0    12.0    20.0    43.0    75.0    90.0    96.0
1129          UA     100
              *
1                                          HEC-1 INPUT                                          PAGE 30

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

1130          KK    C220
1131          KM     COMBINE RUNOFF FROM S220 WITH COMBINED FLOWS AT C219.
1132          KM     (FLOWS FROM C219 NOT ROUTED DUE TO VERY SHORT DISTANCE)
1133          HC       2
              *

1134          KK  220217   ROUTE   REACH
1135          KM    ROUTE COMBINED FLOWS FROM C220 TO C217
1136          KM    SLOPE = (1896-1888)/788 = 0.010
1137          KM     XS based on Apache Wash XS 6.25 (Jerry Jones, 1992) (APACHE.DAT)
1138          RS       1    FLOW      -1
1139          RC   0.065   0.050   0.065     788  0.0100    0.00
1140          RX  9911.0  9932.0  9962.0  9990.0 10015.0 10045.0 10268.0 10570.0
1141          RY  1898.0  1896.0  1892.0  1888.0  1888.0  1892.0  1892.0  1898.0
              *

1142          KK    C217
1143          KM     COMBINE ROUTED FLOWS FROM C220 WITH C217R
1144          KM     THIS IS THE TOTAL FLOW IN APACHE WASH AT MADDOCK ROAD.
1145          HC       2
              *
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```
1146          KK  217221   ROUTE   REACH
1147          KM    ROUTE COMBINED FLOWS FROM C217 TO C221
1148          KM    SLOPE = (1888-1856)/3118 = 0.010
1149          KM     XS based on Apache Wash XS 6.09 (Jerry Jones, 1992) (APACHE.DAT)
1150          RS       3    FLOW      -1
1151          RC   0.065   0.050   0.065    3118  0.0100    0.00
1152          RX  9815.0  9890.0  9935.0  9972.0 10048.0 10070.0 10345.0 10380.0
1153          RY  1886.0  1884.0  1882.0  1879.5  1879.5  1882.0  1884.0  1886.0
              *

1154          KK    S221   BASIN
1155          BA   0.232
1156          LG    0.30    0.13   10.10    0.03       5
1157          UC   0.379   0.315
1158          UA       0     4.5    12.6    23.2    35.8    50.0    64.2    76.8    87.4    95.5
1159          UA     100
              *

1160          KK    C221
1161          KM    COMBINE RUNOFF FROM S211 WITH ROUTED FLOWS FROM C217
1162          KM    THIS IS THE TOTAL FLOW IN APACHE WASH AT CLOUD ROAD.
1163          HC       2
1164          ZW      A=AW@CLOUD   C=FLOW   F=FUTURE
              *

1165          KK  221222   ROUTE   REACH
1166          KM    ROUTE COMBINED FLOWS FROM C221 TO C222
1167          KM    SLOPE = (1856-1805)/5489 = 0.0093
1168          KM     XS based on Apache Wash XS 5.15 (Jerry Jones, 1992) (APACHE.DAT)
1169          RS       4    FLOW      -1
1170          RC   0.065   0.050   0.065    5489  0.0093    0.00
1171          RX  9870.0  9945.0  9978.0  9987.0 10017.0 10025.0 10495.0 10522.0
```



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

1172          RY  1839.0  1838.0  1836.0  1830.0  1830.0  1834.0  1836.0  1838.0
              *

1173          KK    S222   BASIN
1174          BA   0.272
1175          LG    0.30    0.13   10.10    0.03       5
1176          UC   0.392   0.275
1177          UA       0     4.5    12.6    23.2    35.8    50.0    64.2    76.8    87.4    95.5
1178          UA     100
              *

1179          KK    C222
1180          KM     COMBINE RUNOFF FROM S222 WITH ROUTED FLOW FROM C221
1181          KM     THIS IS THE TOTAL FLOW IN APACHE WASH AT CAREFREE HWY
1182          HC       2
1183          ZW      A=AW@CFH   C=FLOW   F=FUTURE
              *

1184          KK  222227   ROUTE   REACH
1185          KM    ROUTE COMBINED FLOWS FROM C222 TO C227 THROUGH S224
1186          KM    SLOPE = (1805-1764)/4913 = 0.0083
1187          KM     XS based on Apache Wash XS 4.31 (Jerry Jones, 1992) (APACHE.DAT)
1188          RS       3    FLOW      -1
1189          RC   0.065   0.050   0.065    3886  0.0083    0.00
1190          RX  9771.0  9896.0  9980.0  9990.0 10010.0 10020.0 10055.0 10111.0
1191          RY  1796.0  1794.0  1792.0  1788.0  1788.0  1792.0  1794.0  1796.0
              *

1192          KK    S223   BASIN
1193          BA   0.091
1194          LG    0.30    0.15    8.80    0.06       5
1195          UC   0.304   0.261
1196          UA       0     4.5    12.6    23.2    35.8    50.0    64.2    76.8    87.4    95.5
1197          UA     100
              *

1198          KK  223227   ROUTE   REACH
1199          KM    ROUTE RUNOFF FROM S223 TO C227 THROUGH S224
1200          KM    SLOPE = (1804-1764)/3813 = 0.0105
1201          KM     XS based on Apache Wash West Chl XS 4.311 (Jerry Jones, 1992) (APACHE.DAT)
1202          RS       3    FLOW      -1
1203          RC   0.065   0.055   0.065    3813  0.0105    0.00
1204          RX  9400.0  9890.0  9945.0  9995.0 10005.0 10010.0 10150.0 10230.0
1205          RY  1796.0  1794.0  1794.0  1792.0  1792.0  1794.0  1794.0  1796.0
              *

1206          KK    S224   BASIN
1207          BA   0.214
1208          LG    0.30    0.21    6.40    0.14       5
1209          UC   0.342   0.224
1210          UA       0     3.0     5.0     8.0    12.0    20.0    43.0    75.0    90.0    96.0
1211          UA     100
              *
```



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

1212          KK   C227L
```

```
1213          KM    COMBINE RUNOFF FROM S224 WITH ROUTED FLOW FROM S223 AND C222
1214          HC       3
              *

1215          KK    S225   BASIN
1216          BA   0.315
1217          LG    0.31    0.05   12.40    0.01       5
1218          UC   0.475   0.444
1219          UA       0     4.5    12.6    23.2    35.8    50.0    64.2    76.8    87.4    95.5
1220          UA     100
              *

1221          KK  225226   ROUTE   REACH
1222          KM    ROUTE RUNOFF FROM S225 TO C226
1223          KM    SLOPE = (1856-1798)/5803 = 0.010
1224          KM     XS based on Apache Wash Trib 1 XS 1.14 (Stanley Consultants, 1999)
1225          RS       4    FLOW      -1
1226          RC   0.065   0.045   0.065    5803  0.0100    0.00
1227          RX  9926.0  9946.0  9990.0  9997.0 10005.0 10012.0 10034.0 10058.0
1228          RY  1818.0  1815.0  1816.0  1813.6  1813.6  1816.0  1816.7  1818.0
              *

1229          KK    S226   BASIN
1230          BA   0.248
1231          LG    0.30    0.15    8.80    0.06       5
1232          UC   0.400   0.317
1233          UA       0     4.5    12.6    23.2    35.8    50.0    64.2    76.8    87.4    95.5
1234          UA     100
              *

1235          KK    C226
1236          KM     COMBINE RUNOFF FROM S226 WITH ROUTED FLOWS FROM S225
1237          HC       2
              *

1238          KK  226227   ROUTE   REACH
1239          KM    ROUTE COMBINED FLOWS FROM C226 TO C227
1240          KM    SLOPE = (1798-1764)/3752 = 0.0091
1241          KM     XS based on Apache Wash Trib 1 XS 0.42 (Stanley Consultants, 1999)
1242          RS       4    FLOW      -1
1243          RC   0.065   0.045   0.065    3752  0.0091    0.00
1244          RX  9917.0  9976.0  9990.0  9998.0 10004.0 10012.0 10045.0 10078.0
1245          RY  1784.0  1782.7  1782.5  1779.6  1779.6  1782.0  1783.0  1784.0
              *

1246          KK    S227   BASIN
1247          BA   0.106
1248          LG    0.30    0.10   11.20    0.02       5
1249          UC   0.354   0.341
1250          UA       0     4.5    12.6    23.2    35.8    50.0    64.2    76.8    87.4    95.5
1251          UA     100
              *
```



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

1252          KK   C227R
1253          KM    COMBINE RUNOFF FROM S227 WITH ROUTED FLOWS FROM C226
1254          HC       2
              *

1255          KK    C227
1256          KM     COMBINE FLOWS FROM C227R AND C227L
1257          KM     THIS IS THE TOTAL FLOW IN APACHE WASH AT C227.
1258          HC       2
              *

1259          KK  227228   ROUTE   REACH
1260          KM    ROUTE COMBINED FLOWS FROM C227 TO C228
1261          KM    SLOPE = (1764-1740)/3336 = 0.0072
1262          KM     XS based on Apache Wash XS 3.32 (Jerry Jones, 1992) (APACHE.DAT)
1263          RS       3    FLOW      -1
1264          RC   0.065   0.050   0.065    3336  0.0072    0.00
1265          RX  9600.0  9725.0  9955.0  9972.0 10002.0 10020.0 10240.0 10900.0
1266          RY  1758.0  1754.0  1754.0  1750.0  1750.0  1754.0  1754.0  1758.0
              *

1267          KK    S228   BASIN
1268          BA   0.225
1269          LG    0.30    0.15    9.70    0.04       5
1270          UC   0.408   0.336
1271          UA       0     4.5    12.6    23.2    35.8    50.0    64.2    76.8    87.4    95.5
1272          UA     100
              *

1273          KK    C228
1274          KM     COMBINE RUNOFF FROM S228 WITH ROUTED FLOWS FROM C227
1275          KM     THIS IS THE TOTAL FLOW IN APACHE WASH UPSTREAM OF ITS CONFLUENCE
1276          KM     WITH DESERT HILLS WASH.
1277          HC       2
1278          ZW       A=AWUSDHW   C=FLOW   F=FUTURE
              *

1279          KK  228147   ROUTE   REACH
```

```
1280          KM    ROUTE COMBINED FLOWS FROM C228 TO C147
1281          KM    SLOPE = (1740-1732)/1190 = 0.0067
1282          KM     XS based on Apache Wash XS 2.97 (Jerry Jones, 1992) (APACHE.DAT)
1283          RS       1    FLOW      -1
1284          RC   0.065   0.050   0.065    1190  0.0067    0.00
1285          RX  8920.0  8990.0  9000.0  9040.0  9060.0  9065.0  9170.0  9365.0
1286          RY  1752.0  1746.0  1744.0  1738.0  1738.0  1742.0  1742.0  1744.0
              *

1287          KK    C147
1288          KM     COMBINE FLOWS FROM DESERT HILLS WASH WITH FLOWS FROM APACHE WASH
1289          HC       2
1290          ZW      A=DHW+AW    C=FLOW     F=FUTURE
              *
```



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

1291          KK  147319   ROUTE   REACH
1292          KM    ROUTE COMBINED FLOWS FROM DESERT HILLS AND APACHE WASHES
1293          KM    TO CONFLUENCE WITH PARADISE WASH
1294          KM    SLOPE = (1732-1727)/939 = 0.0053
1295          KM     XS based on Apache Wash XS 2.73 from Jerry Jones (APACHE.DAT)
1296          RS       1    FLOW      -1
1297          RC   0.065   0.050   0.065     939  0.0053    0.00
1298          RX  9756.0  9812.0  9972.0  9986.0 10020.0 10036.0 10071.0 10130.0
1299          RY  1740.0  1736.0  1732.0  1728.0  1728.0  1732.0  1734.0  1740.0
              *

1300          KK    S300   BASIN
1301          BA   0.503
1302          LG    0.35    0.17    6.80    0.15      24
1303          UC   0.271   0.191
1304          UA       0     3.0     5.0     8.0    12.0    20.0    43.0    75.0    90.0    96.0
1305          UA     100
              *

1306          KK    S301   BASIN
1307          BA   0.504
1308          LG    0.35    0.17    6.80    0.15      23
1309          UC   0.258   0.157
1310          UA       0     3.0     5.0     8.0    12.0    20.0    43.0    75.0    90.0    96.0
1311          UA     100
              *

1312          KK    C301
1313          KM     COMBINE RUNOFF FROM S300 AND S301
1314          HC       2
              *

1315          KK  301302   ROUTE   REACH
1316          KM    ROUTE COMBINED FLOWS FROM C301 TO C302
1317          KM    SLOPE = (1980-1926)/2988 = 0.018
1318          KM     XS based on Paradise Wash XS 3.84 from Jerry Jones (PARADFCD.DAT)
1319          RS       2    FLOW      -1
1320          RC   0.070   0.055   0.070    2988  0.0180    0.00
1321          RX  9934.0  9962.0  9987.0  9996.0 10004.0 10010.0 10027.0 10045.0
1322          RY  1952.0  1946.0  1940.0  1938.0  1938.0  1940.0  1946.0  1952.0
              *

1323          KK    S302   BASIN
1324          BA   0.239
1325          LG    0.35    0.23    6.20    0.18      19
1326          UC   0.250   0.172
1327          UA       0     3.0     5.0     8.0    12.0    20.0    43.0    75.0    90.0    96.0
1328          UA     100
              *
```



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

1329          KK    C302
1330          KM     COMBINE RUNOFF FROM S302 WITH ROUTED FLOWS FROM C301
1331          HC       2
              *

1332          KK  302303   ROUTE   REACH
1333          KM    ROUTE COMBINED FLOWS FROM C302 TO C303
1334          KM    SLOPE = (1926-1895)/2671 = 0.0116
1335          KM     XS based on Paradise Wash XS 3.40 from Jerry Jones (PARADFCD.DAT)
1336          RS       2    FLOW      -1
1337          RC   0.070   0.055   0.070    2671  0.0116    0.00
1338          RX  9956.0  9972.0  9988.0  9995.0 10010.0 10024.0 10044.0 10060.0
1339          RY  1914.0  1910.0  1906.0  1904.0  1904.0  1906.0  1910.0  1914.0
              *

1340          KK    S303   BASIN
1341          BA   0.127
1342          LG    0.35    0.15    7.60    0.10       9
1343          UC   0.204   0.144
1344          UA       0     4.5    12.6    23.2    35.8    50.0    64.2    76.8    87.4    95.5
1345          UA     100
              *
```

```
1346          KK    C303
1347          KM     COMBINE RUNOFF FROM S303 WITH ROUTED FLOW SFROM C302
1348          HC       2
              *

1349          KK  303312   ROUTE   REACH
1350          KM    ROUTE COMBINED FLOWS FROM C303 TO C312 THROUGH S304
1351          KM    SLOPE = (1895-1828)/5007 = 0.0134
1352          KM     XS based on Paradise Wash XS 2.53 from Jerry Jones (PARADFCD.DAT)
1353          RS       4    FLOW      -1
1354          RC   0.065   0.050   0.065    5007  0.0134    0.00
1355          RX  9678.0  9850.0  9982.0  9993.0 10009.0 10018.0 10041.0 10637.0
1356          RY  1852.0  1850.0  1848.0  1846.0  1846.0  1848.0  1850.0  1852.0
              *

1357          KK    S304   BASIN
1358          BA   0.132
1359          LG    0.35    0.25    4.90    0.31       2
1360          UC   0.383   0.389
1361          UA       0     4.5    12.6    23.2    35.8    50.0    64.2    76.8    87.4    95.5
1362          UA     100
              *

1363          KK   C312R
1364          KM    COMBINE RUNOFF FROM S304 WITH ROUTED FLOWS FROM C303.
1365          KM    THIS IS THE TOTAL FLOW IN PARADISE WASH UPSTREAM OF RANIERI TANK WASH
1366          HC       2
1367          ZW      A=PWUSRTW   C=FLOW    F=FUTURE
              *
1                                          HEC-1 INPUT                                          PAGE 36

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


1368          KK    S305   BASIN
1369          BA   0.230
1370          LG    0.35    0.23    6.20    0.18      18
1371          UC   0.208   0.144
1372          UA       0     3.0     5.0     8.0    12.0    20.0    43.0    75.0    90.0    96.0
1373          UA     100
              *

1374          KK  305309   ROUTE   REACH
1375          KM    ROUTE RUNOFF FROM S305 TO C309 THROUGH C306
1376          KM    SLOPE = (1938-1885)/3517 = 0.0151
1377          KM     XS based on Ranieri Tank Wash Trib 1 XS 0.34 (Stanley Consultants, 1999)
1378          RS       2    FLOW      -1
1379          RC   0.065   0.055   0.065    3517  0.0151    0.00
1380          RX  9956.0  9976.0  9991.0  9999.0 10005.0 10013.0 10047.0 10075.0
1381          RY  1908.6  1906.4  1905.6  1904.2  1904.2  1905.6  1906.0  1909.0
              *

1382          KK    S306   BASIN
1383          BA   0.052
1384          LG    0.35    0.25    5.00    0.30       3
1385          UC   0.250   0.281
1386          UA       0     4.5    12.6    23.2    35.8    50.0    64.2    76.8    87.4    95.5
1387          UA     100
              *

1388          KK    S307   BASIN
1389          BA   0.206
1390          LG    0.35    0.23    6.20    0.18      19
1391          UC   0.225   0.184
1392          UA       0     3.0     5.0     8.0    12.0    20.0    43.0    75.0    90.0    96.0
1393          UA     100
              *

1394          KK  307309   ROUTE   REACH
1395          KM    ROUTE RUNOFF FROM S307 TO C309 THROUGH S306
1396          KM    SLOPE = (1892-1885)/723 = 0.0097
1397          KM     XS based on Ranieri Tank Wash Trib 1 XS 0.15 (Stanley Consultants, 1999)
1398          RS       1    FLOW      -1
1399          RC   0.065   0.055   0.065     723  0.0097    0.00
1400          RX  9896.0  9958.0  9981.0  9994.0  9999.0 10012.0 10175.0 10267.0
1401          RY  1894.0  1892.0  1891.0  1888.0  1888.0  1890.6  1891.4  1894.0
              *

1402          KK   C309R
1403          KM     COMBINE RUNOFF FROM S306 WITH ROUTED FLOWS FROM S305 & S307
1404          HC       3
              *
1                                          HEC-1 INPUT                                          PAGE 37

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


1405          KK    S308   BASIN
1406          BA   0.466
1407          LG    0.35    0.23    6.20    0.19       9
1408          UC   0.246   0.140
1409          UA       0     3.0     5.0     8.0    12.0    20.0    43.0    75.0    90.0    96.0
1410          UA     100
              *
```

```
KK  308309   ROUTE   REACH
KM    ROUTE RUNOFF FROM S308 TO C309
KM    SLOPE = (1908-1885)/2133 = 0.0108
KM     XS based on Ranieri Tank Wash XS 1.40 (Stanley Consultants, 1999)
RS       2    FLOW      -1
RC   0.065   0.055   0.065    2133  0.0108    0.00
RX  9758.0  9901.0  9991.0  9997.0 10003.0 10009.0 10031.0 10213.0
RY  1902.0  1900.6  1900.6  1898.6  1898.6  1900.6  1900.6  1902.0
*

KK    S309   BASIN
BA   0.190
LG    0.35    0.15    7.00    0.13       9
UC   0.238   0.219
UA       0     3.0     5.0     8.0    12.0    20.0    43.0    75.0    90.0    96.0
UA     100
*

KK   C309L
KM     COMBINE RUNOFF FROM S309 WITH ROUTED FLOWS FROM S308
HC       2
*

KK    C309
KM     COMBINE FLOWS FROM C309R AND C309L.
HC       2
*

KK  309310   ROUTE   REACH
KM    ROUTE COMBINED FLOWS FROM C309 TO C310
KM    SLOPE = (1885-1850)/3609 = 0.0097
KM     XS based on Ranieri Tank Wash XS 0.70 (Jerry Jones, 1992)
RS       3    FLOW      -1
RC   0.065   0.050   0.065    3609  0.0097    0.00
RX  9738.0  9778.0  9968.0  9992.0 10000.0 10020.0 10100.0 10412.0
RY  1868.0  1864.0  1862.0  1860.0  1860.0  1862.0  1866.0  1868.0
*

KK    S310   BASIN
BA   0.553
LG    0.34    0.10   11.20    0.03       3
UC   0.388   0.227
UA       0     4.5    12.6    23.2    35.8    50.0    64.2    76.8    87.4    95.5
UA     100
*
```



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

KK    C310
KM     COMBINE RUNOFF FROM S310 WITH ROUTED FLOWS FROM C309
KM     THIS IS THE INFLOW TO RANIERI TANK(S) AT 32ND STREET
HC       2
*

KK   D310UDIVERT
KM    DIVERT FLOW INTO UPSTREAM (NEW) TANK.  ASSUME A 50/50 SPLIT INTO
KM    TANK UP TO ITS VOLUME.
DT  D310UO      10
DI       0     100
DQ       0      50
*

KK   RR310STORAGE
KM     ROUTE HYDROGRAPH THROUGH CULVERTS UNDER 32ND STREET
KM     THERE ARE TWO SETS OF CULVERTS ONE ON THE MAIN CHANNEL ON THE
KM     LEFT COMPOSED OF 3 6' CMPS AND A SET ON THE RIGHT BETWEEN THE
KM     TANKS THAT IS COMPOSED OF 2 6' CMPS AND 4 2.5' CMPS
KM     OUTFLOW HYDRAULICS COMPUTED USING HY8 (FILES: RR310L.INP &
KM     RR310R.INP).  STAGE-AREA DATA ESTIMATED FROM JERRY JONES 2 FT CONTOURS
KM     AND FCDMC 10 FT 2001 CONTOURS.
RS       1    STOR      -1
SA    0.08    0.58    1.23    2.11    3.44    7.22   13.22
SE    1850    1852    1854    1856    1858    1860    1862
SQ       0     160     650    1195    1660    1970    2330    2503    2621    2890
SQ    3126    3422    3699
SE    1850    1852    1854    1856    1858  1859.6    1860  1860.1  1860.2  1860.3
SE  1860.4  1860.5  1860.6
*

KK   D310DDIVERT
KM    DIVERT VOLUME OF STOCK TANK DOWNSTREAM OF 32ND STREET
KM    ASSUMED THAT ALL FLOW UP TO TOTAL VOLUME DIVERTED BEFORE OVERFLOW
DT  D310DO    2.39
DI       0     100
DQ       0     100
*

KK  310312   ROUTE   REACH
KM    ROUTE (TANK OUTFLOWS) FROM RR310 TO C312
KM    SLOPE = (1850-1828)/2221 = 0.0099
KM     XS based on Ranieri Tank Wash XS 0.33 (Jerry Jones, 1992)
RS       2    FLOW      -1
```

```
1481          RC   0.065   0.050   0.065    2221  0.0099    0.00
1482          RX  9683.0  9834.0  9938.0  9981.0 10013.0 10030.0 10200.0 10425.0
1483          RY  1852.0  1848.0  1844.0  1842.0  1842.0  1844.0  1846.0  1852.0
              *
1                                        HEC-1 INPUT                                                    PAGE 39

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


1484          KK    S311   BASIN
1485          BA   0.076
1486          LG    0.30    0.05   12.40    0.01       5
1487          UC   0.279   0.224
1488          UA       0     4.5    12.6    23.2    35.8    50.0    64.2    76.8    87.4    95.5
1489          UA     100
              *

1490          KK  311312   ROUTE   REACH
1491          KM    ROUTE RUNOFF FROM S311 TO C312
1492          KM    SLOPE = (1859-1828)/2280 = 0.0136
1493          KM    XS based on examination of 2002 FCD orthophotos and available 10 ft (FCD)
1494          KM    and 2 ft contour data from Jerry Jones FDS and Stanley FDS mapping
1495          RS       3    FLOW      -1
1496          RC   0.065   0.055   0.065    2280  0.0136    0.00
1497          RX     0.0    40.0    80.0   120.0   160.0   200.0   240.0   280.0
1498          RY   100.0    99.7    99.3    99.0    99.0    99.3    99.7   100.0
              *

1499          KK    S312   BASIN
1500          BA   0.140
1501          LG    0.32    0.13   10.10    0.04       4
1502          UC   0.292   0.225
1503          UA       0     4.5    12.6    23.2    35.8    50.0    64.2    76.8    87.4    95.5
1504          UA     100
              *

1505          KK   C312L
1506          KM     COMBINE RUNOFF FROM S312 WITH ROUTED FLOWS FROM S311 AND RR310
1507          HC       3
1508          ZW     A=RTWUSPW   C=FLOW   F=FUTURE
              *

1509          KK    C312
1510          KM     COMBINE PARADISE WASH (C312R) AND RANIERI TANK WASH (C312L)
1511          HC       2
1512          ZW     A=PW+RTW   C=FLOW   F=FUTURE
              *

1513          KK  312314   ROUTE   REACH
1514          KM    ROUTE COMBINED FLOWS FROM C312 TO C314 (CAREFREE HWY)
1515          KM    SLOPE = (1828-1820)/1024 = 0.0078
1516          KM     XS based on Paradise Wash XS 2.14 (Jerry Jones, 1992) (PARADFCD.DAT)
1517          RS       1    FLOW      -1
1518          RC   0.065   0.050   0.065    1024  0.0078    0.00
1519          RX  9926.0  9962.0  9970.0  9979.0 10026.0 10219.0 10638.0 10754.0
1520          RY  1830.0  1828.0  1826.0  1824.0  1824.0  1826.0  1826.0  1830.0
              *
1                                        HEC-1 INPUT                                                    PAGE 40

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


1521          KK    S313   BASIN
1522          BA   0.049
1523          LG    0.30    0.05   12.40    0.01       5
1524          UC   0.279   0.288
1525          UA       0     4.5    12.6    23.2    35.8    50.0    64.2    76.8    87.4    95.5
1526          UA     100
              *

1527          KK  313314   ROUTE   REACH
1528          KM    ROUTE RUNOFF FROM S313 TO C314
1529          KM    SLOPE = (1856-1820)/2487 = 0.0145
1530          KM    XS based on examination of 2002 FCD orthophotos and available 10 ft (FCD)
1531          KM    and 2 ft contour data from Jerry Jones FDS and Stanley FDS mapping
1532          RS       2    FLOW      -1
1533          RC   0.030   0.030   0.055    2487  0.0145    0.00
1534          RX     0.0     1.0    31.0    43.0    48.0    60.0   245.0   355.0
1535          RY   100.0    99.0    98.0    92.0    92.0    98.0    99.0   100.0
              *

1536          KK    S314   BASIN
1537          BA   0.089
1538          LG    0.31    0.15    8.00    0.08       4
1539          UC   0.242   0.166
1540          UA       0     4.5    12.6    23.2    35.8    50.0    64.2    76.8    87.4    95.5
1541          UA     100
              *

1542          KK    C314
1543          KM    COMBINE RUNOFF FROM S314 WITH ROUTED FLOW FROM S313 AND C312
1544          KM    THIS IS THE TOTAL FLOW IN PARADISE WASH AT CAREFREE HWY
1545          HC       3
1546          ZW     A=PW@CFH   C=FLOW   F=FUTURE
              *
```

```
1547          KK  314318   ROUTE   REACH
1548          KM    ROUTE COMBINED FLOWS FROM C314 TO C318
1549          KM    SLOPE = (1820-1788)/3277 = 0.0098
1550          KM     XS based on Paradise Wash XS 1.83 (Jerry Jones, 1992) (PARADFCD.DAT)
1551          RS       2    FLOW      -1
1552          RC   0.065   0.050   0.065    3277  0.0098    0.00
1553          RX  9866.0  9975.0  9984.0  9990.0 10005.0 10190.0 10390.0 10550.0
1554          RY  1818.0  1810.0  1808.0  1806.0  1806.0  1810.0  1810.0  1818.0
              *

1555          KK    S315   BASIN
1556          BA   0.239
1557          LG    0.35    0.15    8.80    0.07      15
1558          UC   0.225   0.152
1559          UA       0     3.0     5.0     8.0    12.0    20.0    43.0    75.0    90.0    96.0
1560          UA     100
              *
1                                          HEC-1 INPUT                                          PAGE 41

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

1561          KK  315316   ROUTE   REACH
1562          KM    ROUTE RUNOFF FROM S315 TO C316
1563          KM    SLOPE = (1885-1860)/2328 = 0.0107
1564          KM     XS based on West Fork Paradise Wash XS 1.75 (Stanley Consultants, 1999)
1565          RS       2    FLOW      -1
1566          RC   0.070   0.055   0.070    2328  0.0107    0.00
1567          RX  9983.0  9986.0  9989.0  9996.0 10004.0 10034.0 10047.0 10060.0
1568          RY  1874.0  1873.0  1872.0  1869.0  1869.0  1872.0  1873.0  1874.0
              *

1569          KK    S316   BASIN
1570          BA   0.223
1571          LG    0.32    0.15    8.80    0.06       6
1572          UC   0.329   0.233
1573          UA       0     4.5    12.6    23.2    35.8    50.0    64.2    76.8    87.4    95.5
1574          UA     100
              *

1575          KK    C316
1576          KM     COMBINE RUNOFF FROM S316 WITH ROUTED FLOW FROM S315
1577          HC       2
              *

1578          KK  316317   ROUTE   REACH
1579          KM    ROUTE COMBINED FLOWS FROM C316 TO C317 (CFH)
1580          KM    SLOPE = (1860-1806)/5852 = 0.0092
1581          KM     XS based on West Fork Paradise Wash XS 1.02 (Jerry Jones,1992) (PRDWST.DAT)
1582          RS       4    FLOW      -1
1583          RC   0.065   0.055   0.065    5852  0.0092    0.00
1584          RX  9973.0  9984.0  9993.0  9997.0 10007.0 10011.0 10067.0 10168.0
1585          RY  1838.0  1836.0  1834.0  1832.7  1832.7  1834.0  1836.0  1838.0
              *

1586          KK    S317   BASIN
1587          BA   0.603
1588          LG    0.32    0.15    9.70    0.05       4
1589          UC   0.454   0.298
1590          UA       0     3.0     5.0     8.0    12.0    20.0    43.0    75.0    90.0    96.0
1591          UA     100
              *

1592          KK    C317
1593          KM     COMBINE RUNOFF FROM S317 WITH ROUTED FLOW FROM C316
1594          KM     THIS IS THE TOTAL FLOW IN THE WEST BRANCH OF PARADISE WASH
1595          KM     AT CAREFREE HWY
1596          HC       2
1597          ZW      A=WBPW@CFH   C=FLOW   F=FUTURE
              *
1                                          HEC-1 INPUT                                          PAGE 42

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

1598          KK  317318   ROUTE   REACH
1599          KM    ROUTE COMBINED FLOWS FROM C317 TO C318
1600          KM    SLOPE = (1806-1788)/2279 = 0.0079
1601          KM     XS based on West Fork Paradise Wash XS 0.32 (Jerry Jones,1992) (PRDWST.DAT)
1602          RS       3    FLOW      -1
1603          RC   0.065   0.055   0.065    2279  0.0079    0.00
1604          RX  9820.0  9845.0  9995.0  9999.0 10015.0 10070.0 10650.0 10760.0
1605          RY  1808.0  1806.0  1804.0  1802.0  1802.0  1806.0  1806.0  1808.0
              *

1606          KK    S318   BASIN
1607          BA   0.157
1608          LG    0.30    0.15    7.30    0.10       5
1609          UC   0.333   0.271
1610          UA       0     4.5    12.6    23.2    35.8    50.0    64.2    76.8    87.4    95.5
1611          UA     100
              *

1612          KK    C318
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1613          KM     COMBINE RUNOFF FROM S318 WITH ROUTED FLOWS FROM C317 & C314
1614          HC       3
1615          ZW      A=PW+WBPW    C=FLOW    F=FUTURE
              *

1616          KK  318319   ROUTE   REACH
1617          KM    ROUTE COMBINED FLOWS FROM C318 TO C319
1618          KM    SLOPE = (1788-1729)/7226 = 0.0082
1619          KM     XS based on Paradise Wash XS 0.89 (Jerry Jones, 1992) (PARADFCD.DAT)
1620          RS       6    FLOW      -1
1621          RC   0.070   0.055   0.070    7226  0.0082    0.00
1622          RX  9500.0  9640.0  9980.0  9985.0 10010.0 10078.0 10352.0 10520.0
1623          RY  1780.0  1770.0  1770.0  1764.0  1764.0  1768.0  1774.0  1780.0
              *

1624          KK    S319   BASIN
1625          BA   0.886
1626          LG    0.30    0.10   11.20    0.02       7
1627          UC   0.758   0.668
1628          UA       0     4.5    12.6    23.2    35.8    50.0    64.2    76.8    87.4    95.5
1629          UA     100
              *

1630          KK   C319L
1631          KM     COMBINE RUNOFF FROM S319 WITH ROUTED FLOW FROM C318
1632          KM     THIS IS THE TOTAL FLOW IN PARADISE WASH UPSTREAM
1633          KM     OF APACHE WASH
1634          HC       2
1635          ZW      A=PWUSAW    C=FLOW    F=FUTURE
              *
1                                          HEC-1 INPUT                                          PAGE 43

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


1636          KK    C319
1637          KM     COMBINE PARADISE WASH WITH ROUTED FLOWS FROM C147
1638          KM     THIS IS THE TOTAL FLOW IN APACHE WASH DOWNSTREAM OF
1639          KM     PARADISE WASH
1640          HC       2
1641          ZW      A=AW+PW    C=FLOW    F=FUTURE
              *

1642          KK  319400   ROUTE   REACH
1643          KM    ROUTE COMBINED FLOWS FROM C319 TO C400
1644          KM    SLOPE = (1728-1661)/11176 = 0.0060
1645          KM     XS based on Apache Wash XS 1.37 from Jerry Jones (APACHE.DAT)
1646          RS       9    FLOW      -1
1647          RC   0.070   0.055   0.070   11176  0.0060    0.00
1648          RX  9493.0  9580.0  9932.0  9978.0 10013.0 10030.0 10042.0 10054.0
1649          RY  1698.0  1694.0  1692.0  1688.0  1688.0  1692.0  1695.0  1698.0
              *

1650          KK    S400   BASIN
1651          BA   1.676
1652          LG    0.30    0.13   10.10    0.03      11
1653          UC   1.500   1.503
1654          UA       0     4.5    12.6    23.2    35.8    50.0    64.2    76.8    87.4    95.5
1655          UA     100
              *

1656          KK    C400
1657          KM     COMBINE RUNOFF FROM S400 WITH ROUTED FLOWS FROM C319
1658          HC       2
1659          ZW       A=AW@POOL    C=FLOW    F=FUTURE
              *

1660          KK    S500   BASIN
1661          KM    THIS IS THE INFLOW TO THE SKUNK TANK WASH PORTION OF THE FLO-2D AREA
1662          KM    CALLED FLO2D2 AT DESERT HILLS DRIVE.
1663          BA   0.039
1664          LG    0.30    0.05   12.40    0.01       5
1665          UC   0.213   0.206
1666          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
1667          UA     100
              *
1668          ZZ
1
              SCHEMATIC DIAGRAM OF STREAM NETWORK
 INPUT
  LINE      (V) ROUTING          (--->) DIVERSION OR PUMP FLOW

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

    46        S100
                 V
                 V
    54      100101
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    62           .        S101
                 .           .
                 .           .
    68        C101............
                 V
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                V
 73       101CFH
                .
                .
 81             .        S102
                .          V
                .          V
 87             .      102103
                .          .
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 95             .          .        S103
                .          .          .
                .          .          .
101             .        C103............
                .          V
                .          V
105             .      103104
                .          .
                .          .
114             .          .        S104
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120             .        C104............
                .          V
                .          V
125             .      104CFH
                .          .
                .          .
133             .          .        S105
                .          .          V
                .          .          V
140             .          .      105106
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148             .          .          .        S106
                .          .          .          .
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154             .          .        C106............
                .          .          V
                .          .          V
158             .          .      106107
                .          .          .
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166             .          .          .        S107
                .          .          .          .
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172             .          .        C107............
                .          .          V
                .          .          V
177             .          .      107CFH
                .          .          .
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185             .          .          .        S150
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192             .          .          .          .        S151
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199             .          .          .          .          .        S152
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208             .          .          .          .          .          .-------->    1520
205             .          .          .          .          .        D152
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211             .          .          .          .          .      152153
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220             .          .          .          .          .          .        S153
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226             .          .          .          .          .        C153............
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232             .          .          .          .          .          .          .<-------    1520
230             .          .          .          .          .          .        DR152
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233             .          .          .        C155.................................
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237       DUMMY.................................
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241             .        S122
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249             .          .        S123
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257             .          .          .        S124
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265             .          .          .      124125
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274          .          .          .          .       S125
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280          .          .          .       C125...........
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284          .          .     DUMMY...........
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287     DUMMY......................
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290          .      FLO2D
             .          V
             .          V
312          .     CFH127
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320          .          .      S108
             .          .         V
             .          .         V
326          .          .    108109
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334          .          .          .       S109
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340          .          .    C109R...........
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345          .          .          .       S110
             .          .          .         V
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351          .          .          .    110111
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359          .          .          .          .       S111
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365          .          .          .       C111...........
             .          .          .         V
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369          .          .          .    111109
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377          .          .          .          .       S112
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383          .          .          .     C109C...........
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387          .          .          .          .       S113
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393          .          .          .          .    113114
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401          .          .          .          .          .       S114
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407          .          .          .          .       C114...........
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411          .          .          .          .    114115
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419          .          .          .          .          .       S115
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425          .          .          .          .       C115...........
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429          .          .          .          .    115109
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437          .          .      C109........................
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442          .          .    109116
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450          .          .          .       S116
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456          .          .    C116R...........
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459          .          .          .       S117
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465          .          .          .          .       S118
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472          .          .          .          .    118119
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480             .         .         .         .         .       S119
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486             .         .         .      C116L.......................
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489             .         .       C116............
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493             .         .     116120
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501             .         .         .       S120
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507             .         .       C120............
                .         .          V
                .         .          V
510             .         .     120127
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518             .         .         .       S121
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524             .         .      C127L............
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527             .         .         .       S126
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535             .         .         .     126127
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544             .         .         .         .       S127
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550             .         .         .      C127R............
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553             .       C127........................
                .          V
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558             .     127129
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566             .         .       S128
                .         .          V
                .         .          V
574             .         .     128129
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582             .         .         .       S129
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588             .       C129........................
                .          V
                .          V
592             .     129134
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600             .         .       S130
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607             .         .     130134
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616             .         .         .       S131
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623             .         .         .     131132
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632             .         .         .         .       S132
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638             .         .         .       C132............
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642             .         .         .     132133
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650             .         .         .         .       S133
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656             .         .         .       C133............
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660             .         .         .     133134
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668             .         .         .         .       S134
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674          .           .       C134L.......................
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677          .       C134............
             .          V
             .          V
682          .     134139
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690          .           .       S135
             .           .          V
             .           .          V
697          .           .     135139
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705          .           .           .        S136
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711          .      C139R.......................
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             .           .
715          .           .       S137
             .           .          V
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722          .           .     137138
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730          .           .           .        S138
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736          .           .       C138............
             .           .          V
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740          .           .     138139
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748          .           .           .        S139
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754          .           .      C139L............
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757          .       C139............
             .          V
             .          V
761          .     139141
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769          .           .       S140
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777          .           .     140141
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786          .           .           .        S141
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792          .           .      C141L............
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795          .           .           .        S142
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801          .           .           .     142141
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810          .      C141I.......................
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813          .     141145
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821          .           .       S143
             .           .          V
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827          .           .     143144
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836          .           .           .        S144
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842          .      C145R.......................
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845          .           .       S145
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851          .       C145............
             .          V
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855          .     145147
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863          .           .       S147
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869          .       C147R............
874          .           S200
880          .                   S201
886          .           C201............
                            V
                            V
889          .         201204
897          .                   S203
903          .          C204L...........
907          .                   S204
913          .           C204............
                            V
                            V
916          .         204206
924          .                   S205
930          .          C206L...........
933          .                   S206
939          .           C206............
                            V
                            V
942          .         206209
950          .                   S207
956          .          C209L...........
959          .                   S208
                                    V
                                    V
965          .                 208209
973          .                           S209
979          .                     C209R............
982          .           C209............
                            V
                            V
986          .         209215
994          .                   S210
1000         .          C215L...........
1003         .                   S211
                                    V
                                    V
1009         .                 211214
1017         .                           S212
1023         .                     C214L............
1026         .                           S213
1032         .                                   S214
1038         .                     C214........................
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1043             .         .         .    214215
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1051             .         .         .         .       S215
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1057             .         .         .    C215R............
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1062             .         .    C215............
                 .         .       V
                 .         .       V
1066             .         .  215216
                 .         .       .
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1074             .         .         .     S216
                 .         .         .         .
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1080             .         .    C216............
                 .         .       V
                 .         .       V
1084             .         .  216217
                 .         .       .
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1092             .         .         .     S217
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1098             .         .   C217R............
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1101             .         .         .     S218
                 .         .         .         V
                 .         .         .         V
1107             .         .         .    218219
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1115             .         .         .         .       S219
                 .         .         .         .         .
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1121             .         .         .     C219............
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1124             .         .         .         .       S220
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1130             .         .         .     C220............
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1134             .         .         .    220217
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1142             .         .    C217............
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1146             .         .  217221
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1154             .         .         .     S221
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1160             .         .    C221............
                 .         .       V
                 .         .       V
1165             .         .  221222
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1173             .         .         .     S222
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1179             .         .    C222............
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1184             .         .  222227
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1192             .         .         .     S223
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1198             .         .         .    223227
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1206             .         .         .         .       S224
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1212             .         .   C227L.......................
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                 .         .       .
1215             .         .         .     S225
                 .         .         .         V
                 .         .         .         V
1221             .         .         .    225226
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1229          .          .          .          .       S226
              .          .          .          .          .
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1235          .          .          .      C226............
              .          .          .         V
              .          .          .         V
1238          .          .          .    226227
              .          .          .         .
              .          .          .         .
1246          .          .          .          .       S227
              .          .          .          .          .
              .          .          .          .          .
1252          .          .          .     C227R............
              .          .          .         .
              .          .          .         .
1255          .          .      C227............
              .          .         V
              .          .         V
1259          .          .    227228
              .          .         .
              .          .         .
1267          .          .          .      S228
              .          .          .         .
              .          .          .         .
1273          .          .      C228............
              .          .         V
              .          .         V
1279          .          .    228147
              .          .         .
              .          .         .
1287          .      C147............
              .         V
              .         V
1291          .    147319
              .          .
              .          .
1300          .          .      S300
              .          .         .
              .          .         .
1306          .          .          .      S301
              .          .          .         .
              .          .          .         .
1312          .          .      C301............
              .          .         V
              .          .         V
1315          .          .    301302
              .          .         .
              .          .         .
1323          .          .          .      S302
              .          .          .         .
              .          .          .         .
1329          .          .      C302............
              .          .         V
              .          .         V
1332          .          .    302303
              .          .         .
              .          .         .
1340          .          .          .      S303
              .          .          .         .
              .          .          .         .
1346          .          .      C303............
              .          .         V
              .          .         V
1349          .          .    303312
              .          .         .
              .          .         .
1357          .          .          .      S304
              .          .          .         .
              .          .          .         .
1363          .          .     C312R............
              .          .         .
              .          .         .
1368          .          .          .      S305
              .          .          .         V
              .          .          .         V
1374          .          .          .    305309
              .          .          .         .
              .          .          .         .
1382          .          .          .          .       S306
              .          .          .          .          .
              .          .          .          .          .
1388          .          .          .          .          .       S307
              .          .          .          .          .          V
              .          .          .          .          .          V
1394          .          .          .          .          .     307309
              .          .          .          .          .          .
              .          .          .          .          .          .
1402          .          .          .     C309R.......................
              .          .          .         .
              .          .          .         .
1405          .          .          .          .       S308
              .          .          .          .          V
              .          .          .          .          V
1411          .          .          .          .     308309
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1419                                                  S309
1425                                        C309L............
1428                                  C309............
                                         V
                                         V
1431                                309310
1439                                                S310
1445                                  C310............
1452                                         .-------> D310UO
1449                                 D310U
                                         V
                                         V
1455                                 RR310
1473                                         .-------> D310DO
1470                                 D310D
                                         V
                                         V
1476                                310312
1484                                                S311
                                                       V
                                                       V
1490                                              311312
1499                                                              S312
1505                                 C312L......................
1509                            C312............
                                   V
                                   V
1513                          312314
1521                                 S313
                                         V
                                         V
1527                                313314
1536                                                S314
1542                            C314......................
                                   V
                                   V
1547                          314318
1555                                 S315
                                         V
                                         V
1561                                315316
1569                                                S316
1575                                 C316............
                                         V
                                         V
1578                                316317
1586                                                S317
1592                                 C317............
                                         V
                                         V
1598                                317318
1606                                                S318
1612                            C318......................
                                   V
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                .          .          V
 1616           .          .     318319
                .          .          .
                .          .          .
 1624           .          .          .        S319
                .          .          .          .
                .          .          .          .
 1630           .          .      C319L............
                .          .          .
                .          .          .
 1636           .       C319............
                .          V
                .          V
 1642           .     319400
                .          .
                .          .
 1650           .          .       S400
                .          .          .
                .          .          .
 1656           .       C400............
                .          .
                .          .
 1660           .          .       S500

 (***) RUNOFF ALSO COMPUTED AT THIS LOCATION
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   14AUG03  TIME  15:55:24    *                                    *          (916) 756-1104              *
*                                        *                                    *                                      *
****************************************                                    ****************************************
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DESERT HILLS AREA HYDROLOGY

JE FULLER / HYDROLOGY & GEOMORPHOLOGY, INC.
ADOBE DAM / DESERT HILLS ADMP
APRIL 2003 - KK RR310 revised 08-14-03

THIS IS THE 100-YEAR 6-HOUR MODEL FOR FUTURE CONDITIONS LAND USE

MODEL BASIS:
* DDMSW PROJECT NAME: DHA_FU6
* HYDROLOGY DEVELOPED FOR THE DESERT HILLS AREA FOR THE ADMP
* FUTURE CONDITIONS LAND USE BASED ON MAG LAND USE FILES PROVIDED BY FCDMC AND UMODIFIED TO PROVIDE CONSISTENCY WITH EXISTING LAND USE DESIGNATIONS MADE IN THE EXISTING CONDITIONS FOR THE ADMP
* PREFRE RAINFALL STATISTICS FROM NOAA ATLAS II
* MULTIPLE STORM (JD RECORDS) USED FOR CRITICAL STORM CENTERING
* RAINFALL LOSS COMPUTED USING GREEN & AMPT METHOD
* CLARK METHOD WAS USED FOR DEVELOPMENT OF UNIT HYDROGRAPHS
* MODIFIED PULS NORMAL-DEPTH ROUTING USED FOR CHANNEL ROUTINGS

* A PORTION OF THE AREA WAS MODELED EXTERNALLY USING FLO-2D.

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

    IT          HYDROGRAPH TIME DATA
                       NMIN           5  MINUTES IN COMPUTATION INTERVAL
                      IDATE     21FEB 3  STARTING DATE
                      ITIME        0000  STARTING TIME
                         NQ         300  NUMBER OF HYDROGRAPH ORDINATES
                     NDDATE     22FEB 3  ENDING DATE
                     NDTIME        0055  ENDING TIME
                      ICENT          19  CENTURY MARK

                 COMPUTATION INTERVAL     .08 HOURS
                      TOTAL TIME BASE   24.92 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

 26 JD          INDEX STORM NO. 1
                       STRM        3.35  PRECIPITATION DEPTH
                       TRDA         .01  TRANSPOSITION DRAINAGE AREA

 27 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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                    .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                    .00       .00       .00       .01       .01       .01       .01       .01       .01       .03
                    .03       .03       .05       .05       .05       .15       .15       .15       .03       .03
                    .03       .01       .01       .01       .01       .01       .01       .00       .00       .00
                    .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                    .00       .00

 30 JD          INDEX STORM NO. 2
                     STRM        3.33  PRECIPITATION DEPTH
                     TRDA         .50  TRANSPOSITION DRAINAGE AREA

 31 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       .01       .01       .01       .01       .01       .01       .03
                    .03       .03       .05       .05       .05       .15       .15       .15       .03       .03
                    .03       .01       .01       .01       .01       .01       .01       .00       .00       .00
                    .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                    .00       .00

 34 JD          INDEX STORM NO. 3
                     STRM        3.27  PRECIPITATION DEPTH
                     TRDA        2.80  TRANSPOSITION DRAINAGE AREA

 35 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       .01       .01       .01       .01       .01       .01       .03
                    .03       .03       .07       .07       .07       .08       .08       .08       .05       .05
                    .05       .02       .02       .02       .01       .01       .01       .00       .00       .00
                    .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                    .00       .00

 38 JD          INDEX STORM NO. 4
                     STRM        3.09  PRECIPITATION DEPTH
                     TRDA       16.00  TRANSPOSITION DRAINAGE AREA

 39 PI            PRECIPITATION PATTERN
                    .01       .01       .00       .00       .00       .00       .00       .00       .00       .01
                    .01       .01       .00       .01       .00       .00       .00       .00       .00       .00
                    .00       .00       .01       .00       .00       .00       .00       .01       .01       .01
                    .01       .01       .01       .01       .01       .01       .02       .02       .02       .03
                    .03       .03       .06       .06       .06       .07       .07       .07       .04       .04
                    .04       .02       .02       .02       .01       .01       .01       .01       .01       .01
                    .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                    .00       .00

 42 JD          INDEX STORM NO. 5
                     STRM        2.72  PRECIPITATION DEPTH
                     TRDA       90.00  TRANSPOSITION DRAINAGE AREA

 43 PI            PRECIPITATION PATTERN
                    .01       .01       .01       .00       .00       .00       .01       .01       .01       .01
                    .01       .01       .01       .01       .01       .01       .01       .01       .01       .01
                    .01       .01       .01       .01       .01       .01       .01       .01       .01       .01
                    .01       .01       .01       .01       .01       .01       .02       .02       .02       .03
                    .03       .03       .05       .05       .05       .05       .05       .05       .04       .04
                    .04       .02       .02       .02       .02       .02       .02       .01       .01       .01
                    .01       .01       .01       .01       .01       .01       .01       .01       .01       .01
                    .01       .01
  -----DSS---ZOPEN:  Existing File Opened,  File: DH1006F.DSS
                    Unit:  71;  DSS Version: 6-JG
-----DSS---ZWRITE Unit  71; Vers.    5:  /DHW/C147R/FLOW/20FEB1903/5MIN/FUTURE/
-----DSS---ZWRITE Unit  71; Vers.    5:  /DHW/C147R/FLOW/21FEB1903/5MIN/FUTURE/
-----DSS---ZWRITE Unit  71; Vers.    5:  /DHW/C147R/FLOW/22FEB1903/5MIN/FUTURE/
-----DSS---ZWRITE Unit  71; Vers.    5:  /AW@CLOUD/C221/FLOW/20FEB1903/5MIN/FUTURE/
-----DSS---ZWRITE Unit  71; Vers.    5:  /AW@CLOUD/C221/FLOW/21FEB1903/5MIN/FUTURE/
-----DSS---ZWRITE Unit  71; Vers.    5:  /AW@CLOUD/C221/FLOW/22FEB1903/5MIN/FUTURE/
-----DSS---ZWRITE Unit  71; Vers.    5:  /AW@CFH/C222/FLOW/20FEB1903/5MIN/FUTURE/
-----DSS---ZWRITE Unit  71; Vers.    5:  /AW@CFH/C222/FLOW/21FEB1903/5MIN/FUTURE/
-----DSS---ZWRITE Unit  71; Vers.    5:  /AW@CFH/C222/FLOW/22FEB1903/5MIN/FUTURE/

WARNING --- ROUTED OUTFLOW (   4516.) IS GREATER THAN MAXIMUM OUTFLOW (   4369.) IN STORAGE-OUTFLOW TABLE

WARNING --- ROUTED OUTFLOW (   6454.) IS GREATER THAN MAXIMUM OUTFLOW (   4369.) IN STORAGE-OUTFLOW TABLE

WARNING --- ROUTED OUTFLOW (   8090.) IS GREATER THAN MAXIMUM OUTFLOW (   4369.) IN STORAGE-OUTFLOW TABLE

WARNING --- ROUTED OUTFLOW (   8855.) IS GREATER THAN MAXIMUM OUTFLOW (   4369.) IN STORAGE-OUTFLOW TABLE

WARNING --- ROUTED OUTFLOW (   8719.) IS GREATER THAN MAXIMUM OUTFLOW (   4369.) IN STORAGE-OUTFLOW TABLE

WARNING --- ROUTED OUTFLOW (   8028.) IS GREATER THAN MAXIMUM OUTFLOW (   4369.) IN STORAGE-OUTFLOW TABLE

WARNING --- ROUTED OUTFLOW (   7107.) IS GREATER THAN MAXIMUM OUTFLOW (   4369.) IN STORAGE-OUTFLOW TABLE

WARNING --- ROUTED OUTFLOW (   6164.) IS GREATER THAN MAXIMUM OUTFLOW (   4369.) IN STORAGE-OUTFLOW TABLE

WARNING --- ROUTED OUTFLOW (   5297.) IS GREATER THAN MAXIMUM OUTFLOW (   4369.) IN STORAGE-OUTFLOW TABLE

WARNING --- ROUTED OUTFLOW (   4538.) IS GREATER THAN MAXIMUM OUTFLOW (   4369.) IN STORAGE-OUTFLOW TABLE

WARNING --- ROUTED OUTFLOW (   5005.) IS GREATER THAN MAXIMUM OUTFLOW (   4369.) IN STORAGE-OUTFLOW TABLE
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WARNING --- ROUTED OUTFLOW (   6742.) IS GREATER THAN MAXIMUM OUTFLOW (   4369.) IN STORAGE-OUTFLOW TABLE
WARNING --- ROUTED OUTFLOW (   8067.) IS GREATER THAN MAXIMUM OUTFLOW (   4369.) IN STORAGE-OUTFLOW TABLE
WARNING --- ROUTED OUTFLOW (   8619.) IS GREATER THAN MAXIMUM OUTFLOW (   4369.) IN STORAGE-OUTFLOW TABLE
WARNING --- ROUTED OUTFLOW (   8431.) IS GREATER THAN MAXIMUM OUTFLOW (   4369.) IN STORAGE-OUTFLOW TABLE
WARNING --- ROUTED OUTFLOW (   7769.) IS GREATER THAN MAXIMUM OUTFLOW (   4369.) IN STORAGE-OUTFLOW TABLE
WARNING --- ROUTED OUTFLOW (   6901.) IS GREATER THAN MAXIMUM OUTFLOW (   4369.) IN STORAGE-OUTFLOW TABLE
WARNING --- ROUTED OUTFLOW (   6004.) IS GREATER THAN MAXIMUM OUTFLOW (   4369.) IN STORAGE-OUTFLOW TABLE
WARNING --- ROUTED OUTFLOW (   5172.) IS GREATER THAN MAXIMUM OUTFLOW (   4369.) IN STORAGE-OUTFLOW TABLE
WARNING --- ROUTED OUTFLOW (   4440.) IS GREATER THAN MAXIMUM OUTFLOW (   4369.) IN STORAGE-OUTFLOW TABLE
WARNING --- ROUTED OUTFLOW (   5402.) IS GREATER THAN MAXIMUM OUTFLOW (   4369.) IN STORAGE-OUTFLOW TABLE
WARNING --- ROUTED OUTFLOW (   6936.) IS GREATER THAN MAXIMUM OUTFLOW (   4369.) IN STORAGE-OUTFLOW TABLE
WARNING --- ROUTED OUTFLOW (   8014.) IS GREATER THAN MAXIMUM OUTFLOW (   4369.) IN STORAGE-OUTFLOW TABLE
WARNING --- ROUTED OUTFLOW (   8405.) IS GREATER THAN MAXIMUM OUTFLOW (   4369.) IN STORAGE-OUTFLOW TABLE
WARNING --- ROUTED OUTFLOW (   8172.) IS GREATER THAN MAXIMUM OUTFLOW (   4369.) IN STORAGE-OUTFLOW TABLE
WARNING --- ROUTED OUTFLOW (   7531.) IS GREATER THAN MAXIMUM OUTFLOW (   4369.) IN STORAGE-OUTFLOW TABLE
WARNING --- ROUTED OUTFLOW (   6705.) IS GREATER THAN MAXIMUM OUTFLOW (   4369.) IN STORAGE-OUTFLOW TABLE
WARNING --- ROUTED OUTFLOW (   5849.) IS GREATER THAN MAXIMUM OUTFLOW (   4369.) IN STORAGE-OUTFLOW TABLE
WARNING --- ROUTED OUTFLOW (   5050.) IS GREATER THAN MAXIMUM OUTFLOW (   4369.) IN STORAGE-OUTFLOW TABLE
WARNING --- ROUTED OUTFLOW (   4425.) IS GREATER THAN MAXIMUM OUTFLOW (   4369.) IN STORAGE-OUTFLOW TABLE
WARNING --- ROUTED OUTFLOW (   6339.) IS GREATER THAN MAXIMUM OUTFLOW (   4369.) IN STORAGE-OUTFLOW TABLE
WARNING --- ROUTED OUTFLOW (   7972.) IS GREATER THAN MAXIMUM OUTFLOW (   4369.) IN STORAGE-OUTFLOW TABLE
WARNING --- ROUTED OUTFLOW (   8757.) IS GREATER THAN MAXIMUM OUTFLOW (   4369.) IN STORAGE-OUTFLOW TABLE
WARNING --- ROUTED OUTFLOW (   8646.) IS GREATER THAN MAXIMUM OUTFLOW (   4369.) IN STORAGE-OUTFLOW TABLE
WARNING --- ROUTED OUTFLOW (   7975.) IS GREATER THAN MAXIMUM OUTFLOW (   4369.) IN STORAGE-OUTFLOW TABLE
WARNING --- ROUTED OUTFLOW (   7069.) IS GREATER THAN MAXIMUM OUTFLOW (   4369.) IN STORAGE-OUTFLOW TABLE
WARNING --- ROUTED OUTFLOW (   6135.) IS GREATER THAN MAXIMUM OUTFLOW (   4369.) IN STORAGE-OUTFLOW TABLE
WARNING --- ROUTED OUTFLOW (   5274.) IS GREATER THAN MAXIMUM OUTFLOW (   4369.) IN STORAGE-OUTFLOW TABLE
WARNING --- ROUTED OUTFLOW (   4520.) IS GREATER THAN MAXIMUM OUTFLOW (   4369.) IN STORAGE-OUTFLOW TABLE
WARNING --- ROUTED OUTFLOW (   4910.) IS GREATER THAN MAXIMUM OUTFLOW (   4369.) IN STORAGE-OUTFLOW TABLE
WARNING --- ROUTED OUTFLOW (   6630.) IS GREATER THAN MAXIMUM OUTFLOW (   4369.) IN STORAGE-OUTFLOW TABLE
WARNING --- ROUTED OUTFLOW (   7959.) IS GREATER THAN MAXIMUM OUTFLOW (   4369.) IN STORAGE-OUTFLOW TABLE
WARNING --- ROUTED OUTFLOW (   8528.) IS GREATER THAN MAXIMUM OUTFLOW (   4369.) IN STORAGE-OUTFLOW TABLE
WARNING --- ROUTED OUTFLOW (   8362.) IS GREATER THAN MAXIMUM OUTFLOW (   4369.) IN STORAGE-OUTFLOW TABLE
WARNING --- ROUTED OUTFLOW (   7718.) IS GREATER THAN MAXIMUM OUTFLOW (   4369.) IN STORAGE-OUTFLOW TABLE
WARNING --- ROUTED OUTFLOW (   6863.) IS GREATER THAN MAXIMUM OUTFLOW (   4369.) IN STORAGE-OUTFLOW TABLE
WARNING --- ROUTED OUTFLOW (   5976.) IS GREATER THAN MAXIMUM OUTFLOW (   4369.) IN STORAGE-OUTFLOW TABLE
WARNING --- ROUTED OUTFLOW (   5150.) IS GREATER THAN MAXIMUM OUTFLOW (   4369.) IN STORAGE-OUTFLOW TABLE
WARNING --- ROUTED OUTFLOW (   4422.) IS GREATER THAN MAXIMUM OUTFLOW (   4369.) IN STORAGE-OUTFLOW TABLE
WARNING --- ROUTED OUTFLOW (   5307.) IS GREATER THAN MAXIMUM OUTFLOW (   4369.) IN STORAGE-OUTFLOW TABLE
WARNING --- ROUTED OUTFLOW (   6829.) IS GREATER THAN MAXIMUM OUTFLOW (   4369.) IN STORAGE-OUTFLOW TABLE
WARNING --- ROUTED OUTFLOW (   7912.) IS GREATER THAN MAXIMUM OUTFLOW (   4369.) IN STORAGE-OUTFLOW TABLE
WARNING --- ROUTED OUTFLOW (   8320.) IS GREATER THAN MAXIMUM OUTFLOW (   4369.) IN STORAGE-OUTFLOW TABLE
WARNING --- ROUTED OUTFLOW (   8106.) IS GREATER THAN MAXIMUM OUTFLOW (   4369.) IN STORAGE-OUTFLOW TABLE
WARNING --- ROUTED OUTFLOW (   7481.) IS GREATER THAN MAXIMUM OUTFLOW (   4369.) IN STORAGE-OUTFLOW TABLE
WARNING --- ROUTED OUTFLOW (   6668.) IS GREATER THAN MAXIMUM OUTFLOW (   4369.) IN STORAGE-OUTFLOW TABLE
WARNING --- ROUTED OUTFLOW (   5821.) IS GREATER THAN MAXIMUM OUTFLOW (   4369.) IN STORAGE-OUTFLOW TABLE
WARNING --- ROUTED OUTFLOW (   5028.) IS GREATER THAN MAXIMUM OUTFLOW (   4369.) IN STORAGE-OUTFLOW TABLE
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WARNING --- ROUTED OUTFLOW (   4514.) IS GREATER THAN MAXIMUM OUTFLOW (   4369.) IN STORAGE-OUTFLOW TABLE
WARNING --- ROUTED OUTFLOW (   5661.) IS GREATER THAN MAXIMUM OUTFLOW (   4369.) IN STORAGE-OUTFLOW TABLE
WARNING --- ROUTED OUTFLOW (   6439.) IS GREATER THAN MAXIMUM OUTFLOW (   4369.) IN STORAGE-OUTFLOW TABLE
WARNING --- ROUTED OUTFLOW (   6715.) IS GREATER THAN MAXIMUM OUTFLOW (   4369.) IN STORAGE-OUTFLOW TABLE
WARNING --- ROUTED OUTFLOW (   6575.) IS GREATER THAN MAXIMUM OUTFLOW (   4369.) IN STORAGE-OUTFLOW TABLE
WARNING --- ROUTED OUTFLOW (   6198.) IS GREATER THAN MAXIMUM OUTFLOW (   4369.) IN STORAGE-OUTFLOW TABLE
WARNING --- ROUTED OUTFLOW (   5697.) IS GREATER THAN MAXIMUM OUTFLOW (   4369.) IN STORAGE-OUTFLOW TABLE
WARNING --- ROUTED OUTFLOW (   5141.) IS GREATER THAN MAXIMUM OUTFLOW (   4369.) IN STORAGE-OUTFLOW TABLE
WARNING --- ROUTED OUTFLOW (   4603.) IS GREATER THAN MAXIMUM OUTFLOW (   4369.) IN STORAGE-OUTFLOW TABLE
WARNING --- ROUTED OUTFLOW (   4749.) IS GREATER THAN MAXIMUM OUTFLOW (   4369.) IN STORAGE-OUTFLOW TABLE
WARNING --- ROUTED OUTFLOW (   5745.) IS GREATER THAN MAXIMUM OUTFLOW (   4369.) IN STORAGE-OUTFLOW TABLE
WARNING --- ROUTED OUTFLOW (   6382.) IS GREATER THAN MAXIMUM OUTFLOW (   4369.) IN STORAGE-OUTFLOW TABLE
WARNING --- ROUTED OUTFLOW (   6584.) IS GREATER THAN MAXIMUM OUTFLOW (   4369.) IN STORAGE-OUTFLOW TABLE
WARNING --- ROUTED OUTFLOW (   6432.) IS GREATER THAN MAXIMUM OUTFLOW (   4369.) IN STORAGE-OUTFLOW TABLE
WARNING --- ROUTED OUTFLOW (   6061.) IS GREATER THAN MAXIMUM OUTFLOW (   4369.) IN STORAGE-OUTFLOW TABLE
WARNING --- ROUTED OUTFLOW (   5569.) IS GREATER THAN MAXIMUM OUTFLOW (   4369.) IN STORAGE-OUTFLOW TABLE
WARNING --- ROUTED OUTFLOW (   5035.) IS GREATER THAN MAXIMUM OUTFLOW (   4369.) IN STORAGE-OUTFLOW TABLE
WARNING --- ROUTED OUTFLOW (   4510.) IS GREATER THAN MAXIMUM OUTFLOW (   4369.) IN STORAGE-OUTFLOW TABLE
WARNING --- ROUTED OUTFLOW (   4931.) IS GREATER THAN MAXIMUM OUTFLOW (   4369.) IN STORAGE-OUTFLOW TABLE
WARNING --- ROUTED OUTFLOW (   5799.) IS GREATER THAN MAXIMUM OUTFLOW (   4369.) IN STORAGE-OUTFLOW TABLE
WARNING --- ROUTED OUTFLOW (   6323.) IS GREATER THAN MAXIMUM OUTFLOW (   4369.) IN STORAGE-OUTFLOW TABLE
WARNING --- ROUTED OUTFLOW (   6465.) IS GREATER THAN MAXIMUM OUTFLOW (   4369.) IN STORAGE-OUTFLOW TABLE
WARNING --- ROUTED OUTFLOW (   6298.) IS GREATER THAN MAXIMUM OUTFLOW (   4369.) IN STORAGE-OUTFLOW TABLE
WARNING --- ROUTED OUTFLOW (   5928.) IS GREATER THAN MAXIMUM OUTFLOW (   4369.) IN STORAGE-OUTFLOW TABLE
WARNING --- ROUTED OUTFLOW (   5448.) IS GREATER THAN MAXIMUM OUTFLOW (   4369.) IN STORAGE-OUTFLOW TABLE
WARNING --- ROUTED OUTFLOW (   4931.) IS GREATER THAN MAXIMUM OUTFLOW (   4369.) IN STORAGE-OUTFLOW TABLE
WARNING --- ROUTED OUTFLOW (   4419.) IS GREATER THAN MAXIMUM OUTFLOW (   4369.) IN STORAGE-OUTFLOW TABLE
WARNING --- ROUTED OUTFLOW (   4563.) IS GREATER THAN MAXIMUM OUTFLOW (   4369.) IN STORAGE-OUTFLOW TABLE
WARNING --- ROUTED OUTFLOW (   5029.) IS GREATER THAN MAXIMUM OUTFLOW (   4369.) IN STORAGE-OUTFLOW TABLE
WARNING --- ROUTED OUTFLOW (   5182.) IS GREATER THAN MAXIMUM OUTFLOW (   4369.) IN STORAGE-OUTFLOW TABLE
WARNING --- ROUTED OUTFLOW (   5080.) IS GREATER THAN MAXIMUM OUTFLOW (   4369.) IN STORAGE-OUTFLOW TABLE
WARNING --- ROUTED OUTFLOW (   4830.) IS GREATER THAN MAXIMUM OUTFLOW (   4369.) IN STORAGE-OUTFLOW TABLE
WARNING --- ROUTED OUTFLOW (   4503.) IS GREATER THAN MAXIMUM OUTFLOW (   4369.) IN STORAGE-OUTFLOW TABLE
WARNING --- ROUTED OUTFLOW (   4599.) IS GREATER THAN MAXIMUM OUTFLOW (   4369.) IN STORAGE-OUTFLOW TABLE
WARNING --- ROUTED OUTFLOW (   4987.) IS GREATER THAN MAXIMUM OUTFLOW (   4369.) IN STORAGE-OUTFLOW TABLE
WARNING --- ROUTED OUTFLOW (   5098.) IS GREATER THAN MAXIMUM OUTFLOW (   4369.) IN STORAGE-OUTFLOW TABLE
WARNING --- ROUTED OUTFLOW (   4988.) IS GREATER THAN MAXIMUM OUTFLOW (   4369.) IN STORAGE-OUTFLOW TABLE
WARNING --- ROUTED OUTFLOW (   4742.) IS GREATER THAN MAXIMUM OUTFLOW (   4369.) IN STORAGE-OUTFLOW TABLE
WARNING --- ROUTED OUTFLOW (   4416.) IS GREATER THAN MAXIMUM OUTFLOW (   4369.) IN STORAGE-OUTFLOW TABLE
WARNING --- ROUTED OUTFLOW (   4622.) IS GREATER THAN MAXIMUM OUTFLOW (   4369.) IN STORAGE-OUTFLOW TABLE
WARNING --- ROUTED OUTFLOW (   4944.) IS GREATER THAN MAXIMUM OUTFLOW (   4369.) IN STORAGE-OUTFLOW TABLE
WARNING --- ROUTED OUTFLOW (   5020.) IS GREATER THAN MAXIMUM OUTFLOW (   4369.) IN STORAGE-OUTFLOW TABLE
WARNING --- ROUTED OUTFLOW (   4901.) IS GREATER THAN MAXIMUM OUTFLOW (   4369.) IN STORAGE-OUTFLOW TABLE
WARNING --- ROUTED OUTFLOW (   4654.) IS GREATER THAN MAXIMUM OUTFLOW (   4369.) IN STORAGE-OUTFLOW TABLE
-----DSS---ZWRITE Unit  71; Vers.    5:  /AWUSDHW/C228/FLOW/20FEB1903/5MIN/FUTURE/
-----DSS---ZWRITE Unit  71; Vers.    5:  /AWUSDHW/C228/FLOW/21FEB1903/5MIN/FUTURE/
-----DSS---ZWRITE Unit  71; Vers.    5:  /AWUSDHW/C228/FLOW/22FEB1903/5MIN/FUTURE/
-----DSS---ZWRITE Unit  71; Vers.    5:  /DHW+AW/C147/FLOW/20FEB1903/5MIN/FUTURE/
-----DSS---ZWRITE Unit  71; Vers.    5:  /DHW+AW/C147/FLOW/21FEB1903/5MIN/FUTURE/
-----DSS---ZWRITE Unit  71; Vers.    5:  /DHW+AW/C147/FLOW/22FEB1903/5MIN/FUTURE/
-----DSS---ZWRITE Unit  71; Vers.    5:  /PWUSRTW/C312R/FLOW/20FEB1903/5MIN/FUTURE/
-----DSS---ZWRITE Unit  71; Vers.    5:  /PWUSRTW/C312R/FLOW/21FEB1903/5MIN/FUTURE/
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-----DSS---ZWRITE Unit  71; Vers.    5:  /PWUSRTW/C312R/FLOW/22FEB1903/5MIN/FUTURE/
-----DSS---ZWRITE Unit  71; Vers.    5:  /RTWUSPW/C312L/FLOW/20FEB1903/5MIN/FUTURE/
-----DSS---ZWRITE Unit  71; Vers.    5:  /RTWUSPW/C312L/FLOW/21FEB1903/5MIN/FUTURE/
-----DSS---ZWRITE Unit  71; Vers.    5:  /RTWUSPW/C312L/FLOW/22FEB1903/5MIN/FUTURE/
-----DSS---ZWRITE Unit  71; Vers.    5:  /PW+RTW/C312/FLOW/20FEB1903/5MIN/FUTURE/
-----DSS---ZWRITE Unit  71; Vers.    5:  /PW+RTW/C312/FLOW/21FEB1903/5MIN/FUTURE/
-----DSS---ZWRITE Unit  71; Vers.    5:  /PW+RTW/C312/FLOW/22FEB1903/5MIN/FUTURE/
-----DSS---ZWRITE Unit  71; Vers.    5:  /PW@CFH/C314/FLOW/20FEB1903/5MIN/FUTURE/
-----DSS---ZWRITE Unit  71; Vers.    5:  /PW@CFH/C314/FLOW/21FEB1903/5MIN/FUTURE/
-----DSS---ZWRITE Unit  71; Vers.    5:  /PW@CFH/C314/FLOW/22FEB1903/5MIN/FUTURE/
-----DSS---ZWRITE Unit  71; Vers.    5:  /WBPW@CFH/C317/FLOW/20FEB1903/5MIN/FUTURE/
-----DSS---ZWRITE Unit  71; Vers.    5:  /WBPW@CFH/C317/FLOW/21FEB1903/5MIN/FUTURE/
-----DSS---ZWRITE Unit  71; Vers.    5:  /WBPW@CFH/C317/FLOW/22FEB1903/5MIN/FUTURE/
-----DSS---ZWRITE Unit  71; Vers.    5:  /PW+WBPW/C318/FLOW/20FEB1903/5MIN/FUTURE/
-----DSS---ZWRITE Unit  71; Vers.    5:  /PW+WBPW/C318/FLOW/21FEB1903/5MIN/FUTURE/
-----DSS---ZWRITE Unit  71; Vers.    5:  /PW+WBPW/C318/FLOW/22FEB1903/5MIN/FUTURE/
-----DSS---ZWRITE Unit  71; Vers.    5:  /PWUSAW/C319L/FLOW/20FEB1903/5MIN/FUTURE/
-----DSS---ZWRITE Unit  71; Vers.    5:  /PWUSAW/C319L/FLOW/21FEB1903/5MIN/FUTURE/
-----DSS---ZWRITE Unit  71; Vers.    5:  /PWUSAW/C319L/FLOW/22FEB1903/5MIN/FUTURE/
-----DSS---ZWRITE Unit  71; Vers.    5:  /AW+PW/C319/FLOW/20FEB1903/5MIN/FUTURE/
-----DSS---ZWRITE Unit  71; Vers.    5:  /AW+PW/C319/FLOW/21FEB1903/5MIN/FUTURE/
-----DSS---ZWRITE Unit  71; Vers.    5:  /AW+PW/C319/FLOW/22FEB1903/5MIN/FUTURE/

WARNING --- ROUTED OUTFLOW (  16772.) IS GREATER THAN MAXIMUM OUTFLOW (  16371.) IN STORAGE-OUTFLOW TABLE

WARNING --- ROUTED OUTFLOW (  18160.) IS GREATER THAN MAXIMUM OUTFLOW (  16371.) IN STORAGE-OUTFLOW TABLE

WARNING --- ROUTED OUTFLOW (  19007.) IS GREATER THAN MAXIMUM OUTFLOW (  16371.) IN STORAGE-OUTFLOW TABLE

WARNING --- ROUTED OUTFLOW (  19235.) IS GREATER THAN MAXIMUM OUTFLOW (  16371.) IN STORAGE-OUTFLOW TABLE

WARNING --- ROUTED OUTFLOW (  18991.) IS GREATER THAN MAXIMUM OUTFLOW (  16371.) IN STORAGE-OUTFLOW TABLE

WARNING --- ROUTED OUTFLOW (  18463.) IS GREATER THAN MAXIMUM OUTFLOW (  16371.) IN STORAGE-OUTFLOW TABLE

WARNING --- ROUTED OUTFLOW (  17633.) IS GREATER THAN MAXIMUM OUTFLOW (  16371.) IN STORAGE-OUTFLOW TABLE

WARNING --- ROUTED OUTFLOW (  17424.) IS GREATER THAN MAXIMUM OUTFLOW (  16371.) IN STORAGE-OUTFLOW TABLE

WARNING --- ROUTED OUTFLOW (  18553.) IS GREATER THAN MAXIMUM OUTFLOW (  16371.) IN STORAGE-OUTFLOW TABLE

WARNING --- ROUTED OUTFLOW (  19106.) IS GREATER THAN MAXIMUM OUTFLOW (  16371.) IN STORAGE-OUTFLOW TABLE

WARNING --- ROUTED OUTFLOW (  19113.) IS GREATER THAN MAXIMUM OUTFLOW (  16371.) IN STORAGE-OUTFLOW TABLE

WARNING --- ROUTED OUTFLOW (  18737.) IS GREATER THAN MAXIMUM OUTFLOW (  16371.) IN STORAGE-OUTFLOW TABLE

WARNING --- ROUTED OUTFLOW (  18066.) IS GREATER THAN MAXIMUM OUTFLOW (  16371.) IN STORAGE-OUTFLOW TABLE

WARNING --- ROUTED OUTFLOW (  17015.) IS GREATER THAN MAXIMUM OUTFLOW (  16371.) IN STORAGE-OUTFLOW TABLE

WARNING --- ROUTED OUTFLOW (  16599.) IS GREATER THAN MAXIMUM OUTFLOW (  16371.) IN STORAGE-OUTFLOW TABLE

WARNING --- ROUTED OUTFLOW (  17952.) IS GREATER THAN MAXIMUM OUTFLOW (  16371.) IN STORAGE-OUTFLOW TABLE

WARNING --- ROUTED OUTFLOW (  18807.) IS GREATER THAN MAXIMUM OUTFLOW (  16371.) IN STORAGE-OUTFLOW TABLE

WARNING --- ROUTED OUTFLOW (  19102.) IS GREATER THAN MAXIMUM OUTFLOW (  16371.) IN STORAGE-OUTFLOW TABLE

WARNING --- ROUTED OUTFLOW (  18930.) IS GREATER THAN MAXIMUM OUTFLOW (  16371.) IN STORAGE-OUTFLOW TABLE

WARNING --- ROUTED OUTFLOW (  18416.) IS GREATER THAN MAXIMUM OUTFLOW (  16371.) IN STORAGE-OUTFLOW TABLE

WARNING --- ROUTED OUTFLOW (  17563.) IS GREATER THAN MAXIMUM OUTFLOW (  16371.) IN STORAGE-OUTFLOW TABLE

WARNING --- ROUTED OUTFLOW (  17234.) IS GREATER THAN MAXIMUM OUTFLOW (  16371.) IN STORAGE-OUTFLOW TABLE

WARNING --- ROUTED OUTFLOW (  18349.) IS GREATER THAN MAXIMUM OUTFLOW (  16371.) IN STORAGE-OUTFLOW TABLE

WARNING --- ROUTED OUTFLOW (  18938.) IS GREATER THAN MAXIMUM OUTFLOW (  16371.) IN STORAGE-OUTFLOW TABLE

WARNING --- ROUTED OUTFLOW (  19014.) IS GREATER THAN MAXIMUM OUTFLOW (  16371.) IN STORAGE-OUTFLOW TABLE

WARNING --- ROUTED OUTFLOW (  18682.) IS GREATER THAN MAXIMUM OUTFLOW (  16371.) IN STORAGE-OUTFLOW TABLE

WARNING --- ROUTED OUTFLOW (  18008.) IS GREATER THAN MAXIMUM OUTFLOW (  16371.) IN STORAGE-OUTFLOW TABLE

WARNING --- ROUTED OUTFLOW (  16964.) IS GREATER THAN MAXIMUM OUTFLOW (  16371.) IN STORAGE-OUTFLOW TABLE

WARNING --- ROUTED OUTFLOW (  16414.) IS GREATER THAN MAXIMUM OUTFLOW (  16371.) IN STORAGE-OUTFLOW TABLE

WARNING --- ROUTED OUTFLOW (  17755.) IS GREATER THAN MAXIMUM OUTFLOW (  16371.) IN STORAGE-OUTFLOW TABLE

WARNING --- ROUTED OUTFLOW (  18620.) IS GREATER THAN MAXIMUM OUTFLOW (  16371.) IN STORAGE-OUTFLOW TABLE

WARNING --- ROUTED OUTFLOW (  18967.) IS GREATER THAN MAXIMUM OUTFLOW (  16371.) IN STORAGE-OUTFLOW TABLE

WARNING --- ROUTED OUTFLOW (  18851.) IS GREATER THAN MAXIMUM OUTFLOW (  16371.) IN STORAGE-OUTFLOW TABLE

WARNING --- ROUTED OUTFLOW (  18358.) IS GREATER THAN MAXIMUM OUTFLOW (  16371.) IN STORAGE-OUTFLOW TABLE

WARNING --- ROUTED OUTFLOW (  17509.) IS GREATER THAN MAXIMUM OUTFLOW (  16371.) IN STORAGE-OUTFLOW TABLE

WARNING --- ROUTED OUTFLOW (  17043.) IS GREATER THAN MAXIMUM OUTFLOW (  16371.) IN STORAGE-OUTFLOW TABLE
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WARNING --- ROUTED OUTFLOW (  18158.) IS GREATER THAN MAXIMUM OUTFLOW (  16371.) IN STORAGE-OUTFLOW TABLE
WARNING --- ROUTED OUTFLOW (  18777.) IS GREATER THAN MAXIMUM OUTFLOW (  16371.) IN STORAGE-OUTFLOW TABLE
WARNING --- ROUTED OUTFLOW (  18905.) IS GREATER THAN MAXIMUM OUTFLOW (  16371.) IN STORAGE-OUTFLOW TABLE
WARNING --- ROUTED OUTFLOW (  18612.) IS GREATER THAN MAXIMUM OUTFLOW (  16371.) IN STORAGE-OUTFLOW TABLE
WARNING --- ROUTED OUTFLOW (  17951.) IS GREATER THAN MAXIMUM OUTFLOW (  16371.) IN STORAGE-OUTFLOW TABLE
WARNING --- ROUTED OUTFLOW (  16934.) IS GREATER THAN MAXIMUM OUTFLOW (  16371.) IN STORAGE-OUTFLOW TABLE
WARNING --- ROUTED OUTFLOW (  17564.) IS GREATER THAN MAXIMUM OUTFLOW (  16371.) IN STORAGE-OUTFLOW TABLE
WARNING --- ROUTED OUTFLOW (  18444.) IS GREATER THAN MAXIMUM OUTFLOW (  16371.) IN STORAGE-OUTFLOW TABLE
WARNING --- ROUTED OUTFLOW (  18831.) IS GREATER THAN MAXIMUM OUTFLOW (  16371.) IN STORAGE-OUTFLOW TABLE
WARNING --- ROUTED OUTFLOW (  18761.) IS GREATER THAN MAXIMUM OUTFLOW (  16371.) IN STORAGE-OUTFLOW TABLE
WARNING --- ROUTED OUTFLOW (  18294.) IS GREATER THAN MAXIMUM OUTFLOW (  16371.) IN STORAGE-OUTFLOW TABLE
WARNING --- ROUTED OUTFLOW (  17465.) IS GREATER THAN MAXIMUM OUTFLOW (  16371.) IN STORAGE-OUTFLOW TABLE
WARNING --- ROUTED OUTFLOW (  16852.) IS GREATER THAN MAXIMUM OUTFLOW (  16371.) IN STORAGE-OUTFLOW TABLE
WARNING --- ROUTED OUTFLOW (  17974.) IS GREATER THAN MAXIMUM OUTFLOW (  16371.) IN STORAGE-OUTFLOW TABLE
WARNING --- ROUTED OUTFLOW (  18620.) IS GREATER THAN MAXIMUM OUTFLOW (  16371.) IN STORAGE-OUTFLOW TABLE
WARNING --- ROUTED OUTFLOW (  18791.) IS GREATER THAN MAXIMUM OUTFLOW (  16371.) IN STORAGE-OUTFLOW TABLE
WARNING --- ROUTED OUTFLOW (  18534.) IS GREATER THAN MAXIMUM OUTFLOW (  16371.) IN STORAGE-OUTFLOW TABLE
WARNING --- ROUTED OUTFLOW (  17897.) IS GREATER THAN MAXIMUM OUTFLOW (  16371.) IN STORAGE-OUTFLOW TABLE
WARNING --- ROUTED OUTFLOW (  16916.) IS GREATER THAN MAXIMUM OUTFLOW (  16371.) IN STORAGE-OUTFLOW TABLE
WARNING --- ROUTED OUTFLOW (  17377.) IS GREATER THAN MAXIMUM OUTFLOW (  16371.) IN STORAGE-OUTFLOW TABLE
WARNING --- ROUTED OUTFLOW (  18273.) IS GREATER THAN MAXIMUM OUTFLOW (  16371.) IN STORAGE-OUTFLOW TABLE
WARNING --- ROUTED OUTFLOW (  18694.) IS GREATER THAN MAXIMUM OUTFLOW (  16371.) IN STORAGE-OUTFLOW TABLE
WARNING --- ROUTED OUTFLOW (  18663.) IS GREATER THAN MAXIMUM OUTFLOW (  16371.) IN STORAGE-OUTFLOW TABLE
WARNING --- ROUTED OUTFLOW (  18227.) IS GREATER THAN MAXIMUM OUTFLOW (  16371.) IN STORAGE-OUTFLOW TABLE
WARNING --- ROUTED OUTFLOW (  17428.) IS GREATER THAN MAXIMUM OUTFLOW (  16371.) IN STORAGE-OUTFLOW TABLE
WARNING --- ROUTED OUTFLOW (  16564.) IS GREATER THAN MAXIMUM OUTFLOW (  16371.) IN STORAGE-OUTFLOW TABLE
WARNING --- ROUTED OUTFLOW (  17947.) IS GREATER THAN MAXIMUM OUTFLOW (  16371.) IN STORAGE-OUTFLOW TABLE
WARNING --- ROUTED OUTFLOW (  18803.) IS GREATER THAN MAXIMUM OUTFLOW (  16371.) IN STORAGE-OUTFLOW TABLE
WARNING --- ROUTED OUTFLOW (  19056.) IS GREATER THAN MAXIMUM OUTFLOW (  16371.) IN STORAGE-OUTFLOW TABLE
WARNING --- ROUTED OUTFLOW (  18836.) IS GREATER THAN MAXIMUM OUTFLOW (  16371.) IN STORAGE-OUTFLOW TABLE
WARNING --- ROUTED OUTFLOW (  18329.) IS GREATER THAN MAXIMUM OUTFLOW (  16371.) IN STORAGE-OUTFLOW TABLE
WARNING --- ROUTED OUTFLOW (  17518.) IS GREATER THAN MAXIMUM OUTFLOW (  16371.) IN STORAGE-OUTFLOW TABLE
WARNING --- ROUTED OUTFLOW (  17213.) IS GREATER THAN MAXIMUM OUTFLOW (  16371.) IN STORAGE-OUTFLOW TABLE
WARNING --- ROUTED OUTFLOW (  18345.) IS GREATER THAN MAXIMUM OUTFLOW (  16371.) IN STORAGE-OUTFLOW TABLE
WARNING --- ROUTED OUTFLOW (  18914.) IS GREATER THAN MAXIMUM OUTFLOW (  16371.) IN STORAGE-OUTFLOW TABLE
WARNING --- ROUTED OUTFLOW (  18945.) IS GREATER THAN MAXIMUM OUTFLOW (  16371.) IN STORAGE-OUTFLOW TABLE
WARNING --- ROUTED OUTFLOW (  18592.) IS GREATER THAN MAXIMUM OUTFLOW (  16371.) IN STORAGE-OUTFLOW TABLE
WARNING --- ROUTED OUTFLOW (  17941.) IS GREATER THAN MAXIMUM OUTFLOW (  16371.) IN STORAGE-OUTFLOW TABLE
WARNING --- ROUTED OUTFLOW (  16902.) IS GREATER THAN MAXIMUM OUTFLOW (  16371.) IN STORAGE-OUTFLOW TABLE
WARNING --- ROUTED OUTFLOW (  16391.) IS GREATER THAN MAXIMUM OUTFLOW (  16371.) IN STORAGE-OUTFLOW TABLE
WARNING --- ROUTED OUTFLOW (  17742.) IS GREATER THAN MAXIMUM OUTFLOW (  16371.) IN STORAGE-OUTFLOW TABLE
WARNING --- ROUTED OUTFLOW (  18606.) IS GREATER THAN MAXIMUM OUTFLOW (  16371.) IN STORAGE-OUTFLOW TABLE
WARNING --- ROUTED OUTFLOW (  18921.) IS GREATER THAN MAXIMUM OUTFLOW (  16371.) IN STORAGE-OUTFLOW TABLE
WARNING --- ROUTED OUTFLOW (  18773.) IS GREATER THAN MAXIMUM OUTFLOW (  16371.) IN STORAGE-OUTFLOW TABLE
WARNING --- ROUTED OUTFLOW (  18280.) IS GREATER THAN MAXIMUM OUTFLOW (  16371.) IN STORAGE-OUTFLOW TABLE
WARNING --- ROUTED OUTFLOW (  17444.) IS GREATER THAN MAXIMUM OUTFLOW (  16371.) IN STORAGE-OUTFLOW TABLE
WARNING --- ROUTED OUTFLOW (  17025.) IS GREATER THAN MAXIMUM OUTFLOW (  16371.) IN STORAGE-OUTFLOW TABLE
WARNING --- ROUTED OUTFLOW (  18144.) IS GREATER THAN MAXIMUM OUTFLOW (  16371.) IN STORAGE-OUTFLOW TABLE
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WARNING --- ROUTED OUTFLOW (  18747.) IS GREATER THAN MAXIMUM OUTFLOW (  16371.) IN STORAGE-OUTFLOW TABLE
WARNING --- ROUTED OUTFLOW (  18844.) IS GREATER THAN MAXIMUM OUTFLOW (  16371.) IN STORAGE-OUTFLOW TABLE
WARNING --- ROUTED OUTFLOW (  18535.) IS GREATER THAN MAXIMUM OUTFLOW (  16371.) IN STORAGE-OUTFLOW TABLE
WARNING --- ROUTED OUTFLOW (  17880.) IS GREATER THAN MAXIMUM OUTFLOW (  16371.) IN STORAGE-OUTFLOW TABLE
WARNING --- ROUTED OUTFLOW (  16850.) IS GREATER THAN MAXIMUM OUTFLOW (  16371.) IN STORAGE-OUTFLOW TABLE
WARNING --- ROUTED OUTFLOW (  17548.) IS GREATER THAN MAXIMUM OUTFLOW (  16371.) IN STORAGE-OUTFLOW TABLE
WARNING --- ROUTED OUTFLOW (  18422.) IS GREATER THAN MAXIMUM OUTFLOW (  16371.) IN STORAGE-OUTFLOW TABLE
WARNING --- ROUTED OUTFLOW (  18786.) IS GREATER THAN MAXIMUM OUTFLOW (  16371.) IN STORAGE-OUTFLOW TABLE
WARNING --- ROUTED OUTFLOW (  18692.) IS GREATER THAN MAXIMUM OUTFLOW (  16371.) IN STORAGE-OUTFLOW TABLE
WARNING --- ROUTED OUTFLOW (  18220.) IS GREATER THAN MAXIMUM OUTFLOW (  16371.) IN STORAGE-OUTFLOW TABLE
WARNING --- ROUTED OUTFLOW (  17387.) IS GREATER THAN MAXIMUM OUTFLOW (  16371.) IN STORAGE-OUTFLOW TABLE
WARNING --- ROUTED OUTFLOW (  16835.) IS GREATER THAN MAXIMUM OUTFLOW (  16371.) IN STORAGE-OUTFLOW TABLE
WARNING --- ROUTED OUTFLOW (  17955.) IS GREATER THAN MAXIMUM OUTFLOW (  16371.) IN STORAGE-OUTFLOW TABLE
WARNING --- ROUTED OUTFLOW (  18587.) IS GREATER THAN MAXIMUM OUTFLOW (  16371.) IN STORAGE-OUTFLOW TABLE
WARNING --- ROUTED OUTFLOW (  18735.) IS GREATER THAN MAXIMUM OUTFLOW (  16371.) IN STORAGE-OUTFLOW TABLE
WARNING --- ROUTED OUTFLOW (  18463.) IS GREATER THAN MAXIMUM OUTFLOW (  16371.) IN STORAGE-OUTFLOW TABLE
WARNING --- ROUTED OUTFLOW (  17821.) IS GREATER THAN MAXIMUM OUTFLOW (  16371.) IN STORAGE-OUTFLOW TABLE
WARNING --- ROUTED OUTFLOW (  16820.) IS GREATER THAN MAXIMUM OUTFLOW (  16371.) IN STORAGE-OUTFLOW TABLE
WARNING --- ROUTED OUTFLOW (  17359.) IS GREATER THAN MAXIMUM OUTFLOW (  16371.) IN STORAGE-OUTFLOW TABLE
WARNING --- ROUTED OUTFLOW (  18247.) IS GREATER THAN MAXIMUM OUTFLOW (  16371.) IN STORAGE-OUTFLOW TABLE
WARNING --- ROUTED OUTFLOW (  18650.) IS GREATER THAN MAXIMUM OUTFLOW (  16371.) IN STORAGE-OUTFLOW TABLE
WARNING --- ROUTED OUTFLOW (  18600.) IS GREATER THAN MAXIMUM OUTFLOW (  16371.) IN STORAGE-OUTFLOW TABLE
WARNING --- ROUTED OUTFLOW (  18154.) IS GREATER THAN MAXIMUM OUTFLOW (  16371.) IN STORAGE-OUTFLOW TABLE
WARNING --- ROUTED OUTFLOW (  17342.) IS GREATER THAN MAXIMUM OUTFLOW (  16371.) IN STORAGE-OUTFLOW TABLE
WARNING --- ROUTED OUTFLOW (  16645.) IS GREATER THAN MAXIMUM OUTFLOW (  16371.) IN STORAGE-OUTFLOW TABLE
WARNING --- ROUTED OUTFLOW (  17773.) IS GREATER THAN MAXIMUM OUTFLOW (  16371.) IN STORAGE-OUTFLOW TABLE
WARNING --- ROUTED OUTFLOW (  18431.) IS GREATER THAN MAXIMUM OUTFLOW (  16371.) IN STORAGE-OUTFLOW TABLE
WARNING --- ROUTED OUTFLOW (  18620.) IS GREATER THAN MAXIMUM OUTFLOW (  16371.) IN STORAGE-OUTFLOW TABLE
WARNING --- ROUTED OUTFLOW (  18384.) IS GREATER THAN MAXIMUM OUTFLOW (  16371.) IN STORAGE-OUTFLOW TABLE
WARNING --- ROUTED OUTFLOW (  17765.) IS GREATER THAN MAXIMUM OUTFLOW (  16371.) IN STORAGE-OUTFLOW TABLE
WARNING --- ROUTED OUTFLOW (  16800.) IS GREATER THAN MAXIMUM OUTFLOW (  16371.) IN STORAGE-OUTFLOW TABLE
WARNING --- ROUTED OUTFLOW (  17172.) IS GREATER THAN MAXIMUM OUTFLOW (  16371.) IN STORAGE-OUTFLOW TABLE
WARNING --- ROUTED OUTFLOW (  18077.) IS GREATER THAN MAXIMUM OUTFLOW (  16371.) IN STORAGE-OUTFLOW TABLE
WARNING --- ROUTED OUTFLOW (  18514.) IS GREATER THAN MAXIMUM OUTFLOW (  16371.) IN STORAGE-OUTFLOW TABLE
WARNING --- ROUTED OUTFLOW (  18502.) IS GREATER THAN MAXIMUM OUTFLOW (  16371.) IN STORAGE-OUTFLOW TABLE
WARNING --- ROUTED OUTFLOW (  18085.) IS GREATER THAN MAXIMUM OUTFLOW (  16371.) IN STORAGE-OUTFLOW TABLE
WARNING --- ROUTED OUTFLOW (  17303.) IS GREATER THAN MAXIMUM OUTFLOW (  16371.) IN STORAGE-OUTFLOW TABLE
WARNING --- ROUTED OUTFLOW (  16455.) IS GREATER THAN MAXIMUM OUTFLOW (  16371.) IN STORAGE-OUTFLOW TABLE
WARNING --- ROUTED OUTFLOW (  16484.) IS GREATER THAN MAXIMUM OUTFLOW (  16371.) IN STORAGE-OUTFLOW TABLE
WARNING --- ROUTED OUTFLOW (  16464.) IS GREATER THAN MAXIMUM OUTFLOW (  16371.) IN STORAGE-OUTFLOW TABLE
WARNING --- ROUTED OUTFLOW (  16398.) IS GREATER THAN MAXIMUM OUTFLOW (  16371.) IN STORAGE-OUTFLOW TABLE
WARNING --- ROUTED OUTFLOW (  16373.) IS GREATER THAN MAXIMUM OUTFLOW (  16371.) IN STORAGE-OUTFLOW TABLE
-----DSS---ZWRITE Unit  71; Vers.    5:  /AW@POOL/C400/FLOW/20FEB1903/5MIN/FUTURE/
-----DSS---ZWRITE Unit  71; Vers.    5:  /AW@POOL/C400/FLOW/21FEB1903/5MIN/FUTURE/
-----DSS---ZWRITE Unit  71; Vers.    5:  /AW@POOL/C400/FLOW/22FEB1903/5MIN/FUTURE/
1
                                   RUNOFF SUMMARY
                              FLOW IN CUBIC FEET PER SECOND
                          TIME IN HOURS,  AREA IN SQUARE MILES

                                        PEAK   TIME OF     AVERAGE FLOW FOR MAXIMUM PERIOD      BASIN     MAXIMUM     TIME OF
        OPERATION          STATION      FLOW    PEAK                                          AREA      STAGE     MAX STAGE
+                                                          6-HOUR      24-HOUR      72-HOUR
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	HYDROGRAPH AT							
+		S100	918.	4.08	88.	22.	21.	.34
	ROUTED TO							
+		100101	691.	4.33	87.	22.	21.	.34
	HYDROGRAPH AT							
+		S101	695.	4.17	78.	19.	19.	.30
	2 COMBINED AT							
+		C101	1205.	4.25	164.	41.	40.	.64
	ROUTED TO							
+		101CFH	704.	5.83	163.	41.	40.	.64
	HYDROGRAPH AT							
+		S102	937.	4.08	75.	19.	18.	.30
	ROUTED TO							
+		102103	853.	4.17	75.	19.	18.	.30
	HYDROGRAPH AT							
+		S103	373.	4.08	33.	8.	8.	.14
	2 COMBINED AT							
+		C103	1200.	4.17	108.	27.	26.	.44
	ROUTED TO							
+		103104	1154.	4.17	108.	27.	26.	.44
	HYDROGRAPH AT							
+		S104	216.	4.08	21.	5.	5.	.08
	2 COMBINED AT							
+		C104	1335.	4.17	128.	32.	31.	.52
	ROUTED TO							
+		104CFH	618.	5.67	128.	32.	31.	.52
	HYDROGRAPH AT							
+		S105	354.	4.17	49.	12.	12.	.16
	ROUTED TO							
+		105106	328.	4.33	49.	12.	12.	.16
	HYDROGRAPH AT							
+		S106	230.	4.17	32.	8.	8.	.11
	2 COMBINED AT							
+		C106	542.	4.25	81.	20.	20.	.27
	ROUTED TO							
+		106107	461.	4.50	81.	20.	20.	.27
	HYDROGRAPH AT							
+		S107	379.	4.17	53.	13.	13.	.19
	2 COMBINED AT							
+		C107	690.	4.42	134.	34.	32.	.45
	ROUTED TO							
+		107CFH	592.	5.08	134.	34.	32.	.45
	HYDROGRAPH AT							
+		S150	38.	4.00	3.	1.	1.	.01
	HYDROGRAPH AT							
+		S151	49.	4.00	4.	1.	1.	.02
	HYDROGRAPH AT							
+		S152	260.	4.08	19.	5.	4.	.09
	DIVERSION TO							
+		152O	59.	4.08	7.	2.	2.	.09
	HYDROGRAPH AT							
+		D152	201.	4.08	12.	3.	3.	.09
	ROUTED TO							
+		152153	199.	4.08	12.	3.	3.	.09
	HYDROGRAPH AT							
+		S153	34.	4.08	3.	1.	1.	.01
	2 COMBINED AT							
+		C153	232.	4.08	15.	4.	4.	.10
	HYDROGRAPH AT							
+		DR152	59.	4.08	7.	2.	2.	.09
	4 COMBINED AT							
+		C155	369.	4.08	29.	7.	7.	.13
	4 COMBINED AT							

+	DUMMY	1477.	5.83	438.	111.	107.	1.74
+ HYDROGRAPH AT	S122	350.	4.17	39.	10.	9.	.16
+ HYDROGRAPH AT	S123	366.	4.08	35.	9.	8.	.14
+ HYDROGRAPH AT	S124	196.	4.00	16.	4.	4.	.06
+ ROUTED TO	124125	175.	4.17	16.	4.	4.	.06
+ HYDROGRAPH AT	S125	373.	4.08	39.	10.	9.	.15
+ 2 COMBINED AT	C125	518.	4.08	55.	14.	13.	.21
+ 2 COMBINED AT	DUMMY	883.	4.08	89.	22.	22.	.34
+ 3 COMBINED AT	DUMMY	1470.	5.83	554.	141.	136.	2.24
+ HYDROGRAPH AT	FLO2D	2972.	5.08	1136.	330.	317.	5.47
+ ROUTED TO	CFH127	2919.	5.17	1134.	329.	317.	5.47
+ HYDROGRAPH AT	S108	1073.	4.08	86.	21.	21.	.33
+ ROUTED TO	108109	958.	4.25	86.	21.	21.	.33
+ HYDROGRAPH AT	S109	857.	4.17	90.	23.	22.	.37
+ 2 COMBINED AT	C109R	1664.	4.17	174.	44.	42.	.69
+ HYDROGRAPH AT	S110	354.	4.08	32.	8.	8.	.13
+ ROUTED TO	110111	273.	4.33	32.	8.	8.	.13
+ HYDROGRAPH AT	S111	703.	4.08	60.	15.	15.	.25
+ 2 COMBINED AT	C111	800.	4.17	92.	23.	22.	.38
+ ROUTED TO	111109	641.	4.50	91.	23.	22.	.38
+ HYDROGRAPH AT	S112	1333.	4.17	141.	35.	34.	.57
+ 2 COMBINED AT	C109C	1301.	4.25	227.	57.	55.	.95
+ HYDROGRAPH AT	S113	197.	4.17	23.	6.	6.	.11
+ ROUTED TO	113114	172.	4.33	23.	6.	6.	.11
+ HYDROGRAPH AT	S114	248.	4.17	27.	7.	6.	.11
+ 2 COMBINED AT	C114	378.	4.17	49.	12.	12.	.22
+ ROUTED TO	114115	353.	4.42	49.	12.	12.	.22
+ HYDROGRAPH AT	S115	291.	4.25	42.	10.	10.	.16
+ 2 COMBINED AT	C115	612.	4.33	91.	23.	22.	.37
+ ROUTED TO	115109	582.	4.42	91.	23.	22.	.37
+ 3 COMBINED AT	C109	2741.	4.25	475.	120.	115.	2.02
+ ROUTED TO	109116	2539.	4.58	475.	120.	115.	2.02

+	HYDROGRAPH AT	S116	299.	4.33	46.	11.	11.	.22
+	2 COMBINED AT	C116R	2682.	4.58	514.	130.	125.	2.24
+	HYDROGRAPH AT	S117	438.	4.25	63.	16.	15.	.23
+	HYDROGRAPH AT	S118	215.	4.25	37.	9.	9.	.12
+	ROUTED TO	118119	203.	4.50	37.	9.	9.	.12
+	HYDROGRAPH AT	S119	499.	4.25	78.	20.	19.	.31
+	3 COMBINED AT	C116L	1038.	4.33	176.	44.	43.	.67
+	2 COMBINED AT	C116	3296.	4.50	679.	171.	165.	2.91
+	ROUTED TO	116120	3109.	4.83	679.	171.	165.	2.91
+	HYDROGRAPH AT	S120	374.	4.25	65.	16.	16.	.28
+	2 COMBINED AT	C120	3261.	4.83	735.	185.	178.	3.18
+	ROUTED TO	120127	3119.	5.08	735.	185.	178.	3.18
+	HYDROGRAPH AT	S121	342.	4.50	76.	19.	18.	.32
+	2 COMBINED AT	C127L	3267.	5.08	800.	202.	194.	3.50
+	HYDROGRAPH AT	S126	420.	4.08	32.	8.	8.	.13
+	ROUTED TO	126127	366.	4.17	32.	8.	8.	.13
+	HYDROGRAPH AT	S127	241.	4.08	21.	5.	5.	.09
+	2 COMBINED AT	C127R	573.	4.17	53.	13.	13.	.22
+	3 COMBINED AT	C127	5775.	5.17	1913.	529.	510.	9.19
+	ROUTED TO	127129	5687.	5.25	1909.	529.	509.	9.19
+	HYDROGRAPH AT	S128	321.	4.08	31.	8.	7.	.12
+	ROUTED TO	128129	246.	4.25	31.	8.	7.	.12
+	HYDROGRAPH AT	S129	397.	4.08	31.	8.	7.	.12
+	3 COMBINED AT	C129	5702.	5.25	1952.	542.	522.	9.43
+	ROUTED TO	129134	5670.	5.25	1952.	542.	522.	9.43
+	HYDROGRAPH AT	S130	95.	4.17	12.	3.	3.	.05
+	ROUTED TO	130134	88.	4.33	12.	3.	3.	.05
+	HYDROGRAPH AT	S131	215.	4.17	31.	8.	7.	.11
+	ROUTED TO	131132	181.	4.50	31.	8.	7.	.11
+	HYDROGRAPH AT	S132	352.	4.17	41.	10.	10.	.14
+	2 COMBINED AT	C132	467.	4.17	71.	18.	17.	.25
+	ROUTED TO	132133	413.	4.42	71.	18.	17.	.25

+	HYDROGRAPH AT	S133	242.	4.08	26.	7.	6.	.10
+	2 COMBINED AT	C133	544.	4.33	97.	24.	24.	.35
+	ROUTED TO	133134	508.	4.50	97.	24.	24.	.35
+	HYDROGRAPH AT	S134	194.	4.08	18.	5.	4.	.07
+	3 COMBINED AT	C134L	638.	4.42	126.	32.	31.	.48
+	2 COMBINED AT	C134	5884.	5.25	2059.	569.	548.	9.91
+	ROUTED TO	134139	5827.	5.33	2058.	569.	548.	9.91
+	HYDROGRAPH AT	S135	218.	4.08	18.	5.	4.	.07
+	ROUTED TO	135139	196.	4.08	18.	5.	4.	.07
+	HYDROGRAPH AT	S136	181.	4.17	17.	4.	4.	.08
+	3 COMBINED AT	C139R	5832.	5.33	2083.	576.	555.	10.05
+	HYDROGRAPH AT	S137	179.	4.17	22.	5.	5.	.08
+	ROUTED TO	137138	154.	4.50	22.	5.	5.	.08
+	HYDROGRAPH AT	S138	399.	4.33	75.	19.	18.	.27
+	2 COMBINED AT	C138	530.	4.42	97.	24.	23.	.35
+	ROUTED TO	138139	495.	4.58	97.	24.	23.	.35
+	HYDROGRAPH AT	S139	136.	4.17	14.	4.	3.	.07
+	2 COMBINED AT	C139L	541.	4.58	111.	28.	27.	.42
+	2 COMBINED AT	C139	6038.	5.33	2176.	600.	578.	10.47
+	ROUTED TO	139141	6022.	5.42	2175.	600.	578.	10.47
+	HYDROGRAPH AT	S140	445.	4.17	70.	18.	17.	.25
+	ROUTED TO	140141	403.	4.42	70.	18.	17.	.25
+	HYDROGRAPH AT	S141	216.	4.17	31.	8.	8.	.10
+	2 COMBINED AT	C141L	557.	4.42	102.	26.	25.	.35
+	HYDROGRAPH AT	S142	335.	4.08	37.	9.	9.	.14
+	ROUTED TO	142141	335.	4.17	37.	9.	9.	.14
+	3 COMBINED AT	C141I	6141.	5.42	2287.	630.	607.	10.96
+	ROUTED TO	141145	6050.	5.50	2286.	630.	606.	10.96
+	HYDROGRAPH AT	S143	419.	4.08	37.	9.	9.	.14
+	ROUTED TO	143144	337.	4.17	37.	9.	9.	.14
+	HYDROGRAPH AT	S144	303.	4.17	39.	10.	9.	.15
	3 COMBINED AT							

+	C145R	6065.	5.50	2343.	646.	622.	11.25
HYDROGRAPH AT +	S145	399.	4.25	63.	16.	15.	.20
2 COMBINED AT +	C145	6107.	5.50	2393.	660.	635.	11.46
ROUTED TO +	145147	5852.	5.92	2388.	658.	634.	11.46
HYDROGRAPH AT +	S147	1445.	4.25	166.	42.	40.	.67
2 COMBINED AT +	C147R	5850.	5.92	2508.	693.	668.	12.13
HYDROGRAPH AT +	S200	1269.	4.08	140.	35.	34.	.58
HYDROGRAPH AT +	S201	1971.	4.17	201.	50.	49.	.79
2 COMBINED AT +	C201	2701.	4.17	334.	84.	80.	1.37
ROUTED TO +	201204	2733.	4.17	334.	84.	80.	1.37
HYDROGRAPH AT +	S203	550.	4.00	40.	10.	10.	.17
2 COMBINED AT +	C204L	2910.	4.17	370.	93.	89.	1.54
HYDROGRAPH AT +	S204	858.	4.08	78.	19.	19.	.30
2 COMBINED AT +	C204	3307.	4.17	443.	111.	107.	1.84
ROUTED TO +	204206	3295.	4.17	443.	111.	107.	1.84
HYDROGRAPH AT +	S205	114.	4.08	8.	2.	2.	.04
2 COMBINED AT +	C206L	3335.	4.17	449.	113.	109.	1.88
HYDROGRAPH AT +	S206	411.	4.08	32.	8.	8.	.15
2 COMBINED AT +	C206	3489.	4.17	478.	120.	115.	2.02
ROUTED TO +	206209	3410.	4.25	477.	120.	115.	2.02
HYDROGRAPH AT +	S207	722.	4.08	51.	13.	12.	.25
2 COMBINED AT +	C209L	3657.	4.17	520.	130.	126.	2.27
HYDROGRAPH AT +	S208	929.	4.08	71.	18.	17.	.31
ROUTED TO +	208209	873.	4.17	71.	18.	17.	.31
HYDROGRAPH AT +	S209	169.	4.08	16.	4.	4.	.07
2 COMBINED AT +	C209R	1034.	4.17	87.	22.	21.	.38
2 COMBINED AT +	C209	4077.	4.17	596.	150.	144.	2.65
ROUTED TO +	209215	4015.	4.25	596.	150.	144.	2.65
HYDROGRAPH AT +	S210	804.	4.08	69.	17.	17.	.31
2 COMBINED AT +	C215L	4322.	4.25	654.	164.	158.	2.96
HYDROGRAPH AT +	S211	894.	4.08	67.	17.	16.	.27
ROUTED TO +	211214	747.	4.17	67.	17.	16.	.27

+	HYDROGRAPH AT	S212	388.	4.17	36.	9.	9.	.18
+	2 COMBINED AT	C214L	1133.	4.17	103.	26.	25.	.45
+	HYDROGRAPH AT	S213	615.	4.08	53.	13.	13.	.24
+	HYDROGRAPH AT	S214	812.	4.17	80.	20.	19.	.33
+	3 COMBINED AT	C214	2104.	4.17	227.	57.	55.	1.02
+	ROUTED TO	214215	1940.	4.25	227.	57.	55.	1.02
+	HYDROGRAPH AT	S215	152.	4.08	14.	4.	3.	.06
+	2 COMBINED AT	C215R	2007.	4.25	240.	60.	58.	1.08
+	2 COMBINED AT	C215	5580.	4.25	860.	216.	208.	4.05
+	ROUTED TO	215216	5512.	4.33	860.	216.	208.	4.05
+	HYDROGRAPH AT	S216	1155.	4.08	92.	23.	22.	.37
+	2 COMBINED AT	C216	5842.	4.33	938.	236.	227.	4.41
+	ROUTED TO	216217	5573.	4.58	937.	236.	227.	4.41
+	HYDROGRAPH AT	S217	748.	4.25	89.	22.	21.	.36
+	2 COMBINED AT	C217R	5834.	4.58	1011.	255.	245.	4.77
+	HYDROGRAPH AT	S218	1256.	4.08	97.	24.	23.	.39
+	ROUTED TO	218219	1068.	4.25	97.	24.	23.	.39
+	HYDROGRAPH AT	S219	714.	4.17	70.	18.	17.	.28
+	2 COMBINED AT	C219	1558.	4.25	165.	42.	40.	.67
+	HYDROGRAPH AT	S220	406.	4.17	42.	10.	10.	.17
+	2 COMBINED AT	C220	1779.	4.25	205.	52.	50.	.84
+	ROUTED TO	220217	1751.	4.25	205.	52.	50.	.84
+	2 COMBINED AT	C217	6453.	4.58	1184.	298.	287.	5.61
+	ROUTED TO	217221	6309.	4.67	1183.	298.	287.	5.61
+	HYDROGRAPH AT	S221	472.	4.17	63.	16.	15.	.23
+	2 COMBINED AT	C221	6461.	4.67	1237.	312.	301.	5.85
+	ROUTED TO	221222	6007.	5.00	1237.	312.	301.	5.85
+	HYDROGRAPH AT	S222	582.	4.17	73.	18.	18.	.27
+	2 COMBINED AT	C222	6079.	5.00	1300.	328.	316.	6.12
+	ROUTED TO	222227	5783.	5.17	1300.	328.	316.	6.12
+	HYDROGRAPH AT	S223	204.	4.17	23.	6.	6.	.09
+	ROUTED TO	223227	161.	4.42	23.	6.	6.	.09

+	HYDROGRAPH AT	S224	495.	4.17	47.	12.	11.	.21
+	3 COMBINED AT	C227L	5815.	5.17	1355.	342.	330.	6.42
+	HYDROGRAPH AT	S225	548.	4.25	95.	24.	23.	.31
+	ROUTED TO	225226	476.	4.67	95.	24.	23.	.31
+	HYDROGRAPH AT	S226	485.	4.25	62.	16.	15.	.25
+	2 COMBINED AT	C226	710.	4.50	156.	39.	38.	.56
+	ROUTED TO	226227	687.	4.75	156.	39.	38.	.56
+	HYDROGRAPH AT	S227	216.	4.17	30.	8.	7.	.11
+	2 COMBINED AT	C227R	755.	4.67	185.	47.	45.	.67
+	2 COMBINED AT	C227	6219.	5.17	1517.	383.	369.	7.09
+	ROUTED TO	227228	5925.	5.42	1516.	383.	369.	7.09
+	HYDROGRAPH AT	S228	437.	4.25	58.	15.	14.	.22
+	2 COMBINED AT	C228	5938.	5.42	1566.	395.	381.	7.32
+	ROUTED TO	228147	5875.	5.50	1565.	395.	381.	7.32
+	2 COMBINED AT	C147	10119.	5.67	3874.	1041.	1003.	19.45
+	ROUTED TO	147319	10122.	5.75	3874.	1041.	1003.	19.45
+	HYDROGRAPH AT	S300	1279.	4.17	124.	31.	30.	.50
+	HYDROGRAPH AT	S301	1350.	4.08	123.	31.	30.	.50
+	2 COMBINED AT	C301	2192.	4.17	241.	60.	58.	1.01
+	ROUTED TO	301302	2118.	4.17	241.	60.	58.	1.01
+	HYDROGRAPH AT	S302	611.	4.08	55.	14.	13.	.24
+	2 COMBINED AT	C302	2467.	4.17	290.	73.	70.	1.25
+	ROUTED TO	302303	2398.	4.25	290.	73.	70.	1.25
+	HYDROGRAPH AT	S303	363.	4.08	30.	8.	7.	.13
+	2 COMBINED AT	C303	2513.	4.25	318.	80.	77.	1.37
+	ROUTED TO	303312	2088.	4.58	318.	80.	77.	1.37
+	HYDROGRAPH AT	S304	193.	4.25	24.	6.	6.	.13
+	2 COMBINED AT	C312R	2144.	4.58	338.	85.	82.	1.50
+	HYDROGRAPH AT	S305	658.	4.08	52.	13.	13.	.23
+	ROUTED TO	305309	508.	4.25	52.	13.	13.	.23
+	HYDROGRAPH AT	S306	96.	4.08	10.	2.	2.	.05
	HYDROGRAPH AT							

+		S307	530.	4.08	47.	12.	11.	.21
+	ROUTED TO	307309	494.	4.17	47.	12.	11.	.21
+	3 COMBINED AT	C309R	1036.	4.17	109.	27.	26.	.49
+	HYDROGRAPH AT	S308	1271.	4.08	98.	25.	24.	.47
+	ROUTED TO	308309	954.	4.25	98.	25.	24.	.47
+	HYDROGRAPH AT	S309	460.	4.08	44.	11.	11.	.19
+	2 COMBINED AT	C309L	1241.	4.25	140.	35.	34.	.66
+	2 COMBINED AT	C309	1940.	4.25	239.	60.	58.	1.14
+	ROUTED TO	309310	1722.	4.42	239.	60.	58.	1.14
+	HYDROGRAPH AT	S310	1255.	4.17	148.	37.	36.	.55
+	2 COMBINED AT	C310	2304.	4.42	378.	95.	91.	1.70
+	DIVERSION TO	D310UO	357.	3.92	20.	5.	5.	1.70
+	HYDROGRAPH AT	D310U	2304.	4.42	358.	90.	86.	1.70
+	ROUTED TO	RR310	2106.	4.50	358.	90.	86.	1.70
+	DIVERSION TO	D310DO	77.	3.58	5.	1.	1.	1.70
+	HYDROGRAPH AT	D310D	2106.	4.50	354.	89.	85.	1.70
+	ROUTED TO	310312	2034.	4.58	354.	89.	85.	1.70
+	HYDROGRAPH AT	S311	191.	4.08	23.	6.	6.	.08
+	ROUTED TO	311312	161.	4.33	23.	6.	6.	.08
+	HYDROGRAPH AT	S312	335.	4.17	36.	9.	9.	.14
+	3 COMBINED AT	C312L	2196.	4.58	410.	103.	99.	1.91
+	2 COMBINED AT	C312	3826.	4.58	719.	180.	174.	3.42
+	ROUTED TO	312314	3797.	4.67	719.	180.	174.	3.42
+	HYDROGRAPH AT	S313	113.	4.17	15.	4.	4.	.05
+	ROUTED TO	313314	110.	4.25	15.	4.	4.	.05
+	HYDROGRAPH AT	S314	242.	4.08	22.	5.	5.	.09
+	3 COMBINED AT	C314	3869.	4.67	751.	189.	182.	3.56
+	ROUTED TO	314318	3764.	4.83	751.	189.	182.	3.56
+	HYDROGRAPH AT	S315	698.	4.08	61.	15.	15.	.24
+	ROUTED TO	315316	641.	4.17	61.	15.	15.	.24
+	HYDROGRAPH AT	S316	516.	4.17	56.	14.	13.	.22
+	2 COMBINED AT	C316	1155.	4.17	116.	29.	28.	.46

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          ROUTED TO
+                      316317      832.    4.58        116.        29.        28.       .46
          HYDROGRAPH AT
+                        S317     1215.    4.25        150.        38.        36.       .60
          2 COMBINED AT
+                        C317     1613.    4.33        261.        65.        63.      1.07
          ROUTED TO
+                      317318     1488.    4.67        261.        65.        63.      1.07
          HYDROGRAPH AT
+                        S318      335.    4.17         37.         9.         9.       .16
          3 COMBINED AT
+                        C318     4921.    4.75       1013.       254.       245.      4.78
          ROUTED TO
+                      318319     4528.    5.25       1012.       254.       245.      4.78
          HYDROGRAPH AT
+                        S319     1048.    4.50        249.        63.        60.       .89
          2 COMBINED AT
+                       C319L     4966.    5.17       1235.       311.       299.      5.66
          2 COMBINED AT
+                        C319    12667.    5.58       4852.      1290.      1243.     25.11
          ROUTED TO
+                      319400    12224.    6.00       4841.      1285.      1238.     25.11
          HYDROGRAPH AT
+                        S400     1012.    5.25        433.       113.       109.      1.68
          2 COMBINED AT
+                        C400    12704.    6.00       5167.      1374.      1324.     26.79
          HYDROGRAPH AT
+                        S500      106.    4.08         12.         3.         3.       .04

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


    -----DSS---ZCLOSE Unit:  71,   File: DH1006F.DSS
              Pointer Utilization:   .26
              Number of Records:     42
              File Size:     84.2  Kbytes
              Percent Inactive:    .0
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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   14AUG03  TIME  15:55:40   *                    *          (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    DESERT HILLS AREA HYDROLOGY
  2           ID
  3           ID     JE FULLER / HYDROLOGY & GEOMORPHOLOGY, INC.
  4           ID     ADOBE DAM / DESERT HILLS ADMP
  5           ID     APRIL 2003 - KK RR310 revised 08-14-03
  6           ID
  7           ID     THIS IS THE 10-YEAR 6-HOUR MODEL FOR FUTURE CONDITIONS LAND USE
  8           ID
  9           ID    MODEL BASIS:
 10           ID     * DDMSW PROJECT NAME: DHA_FU6
 11           ID     * HYDROLOGY DEVELOPED FOR THE DESERT HILLS AREA FOR THE ADMP
 12           ID     * FUTURE   CONDITIONS LAND USE BASED ON MAG LAND USE FILES PROVIDED
 13           ID       BY FCDMC AND UMODIFIED TO PROVIDE CONSISTENCY WITH EXISTING LAND USE
 14           ID       DESIGNATIONS MADE IN THE EXISTING CONDITIONS FOR THE ADMP
 15           ID     * PREFRE RAINFALL STATISTICS FROM NOAA ATLAS II
 16           ID     * MULTIPLE STORM (JD RECORDS) USED FOR CRITICAL STORM CENTERING
 17           ID     * RAINFALL LOSS COMPUTED USING GREEN & AMPT METHOD
 18           ID     * CLARK METHOD WAS USED FOR DEVELOPMENT OF UNIT HYDROGRAPHS
 19           ID     * MODIFIED PULS NORMAL-DEPTH ROUTING USED FOR CHANNEL ROUTINGS
 20           ID     * 10-YR COMPUTED BASED ON 0.38 RATIO OF 100-YEAR (VS. 0.15 FOR EXISTING)
 21           ID       TO REFLECT INCREASES IN 10-YEAR DUE TO DEVELOPMENT WITHOUT RETENTION
 22           ID
 23           ID     * A PORTION OF THE AREA WAS MODELED EXTERNALLY USING FLO-2D.
 24           ID
              *DIAGRAM
 25           IT       5 21FEB03    0000     300
 26           IO       5
 27           IN      15
 28           JD    3.35    0.01
 29           PC   0.000   0.008   0.016   0.025   0.033   0.041   0.050   0.058   0.066   0.074
 30           PC   0.087   0.099   0.118   0.138   0.216   0.377   0.834   0.911   0.931   0.950
 31           PC   0.962   0.972   0.983   0.991   1.000
 32           JD   3.328    0.50
 33           PC   0.000   0.008   0.016   0.025   0.033   0.041   0.050   0.058   0.066   0.074
 34           PC   0.087   0.099   0.118   0.138   0.216   0.377   0.834   0.911   0.931   0.950
 35           PC   0.962   0.972   0.983   0.991   1.000
 36           JD   3.266    2.80
 37           PC   0.000   0.009   0.016   0.025   0.034   0.042   0.051   0.059   0.067   0.076
 38           PC   0.087   0.100   0.120   0.163   0.252   0.451   0.694   0.837   0.900   0.938
 39           PC   0.950   0.963   0.975   0.988   1.000
 40           JD   3.089    16.0
 41           PC   0.000   0.015   0.020   0.030   0.048   0.063   0.076   0.090   0.105   0.119
 42           PC   0.135   0.152   0.175   0.222   0.304   0.472   0.670   0.796   0.868   0.912
 43           PC   0.946   0.960   0.973   0.987   1.000
 44           JD   2.720    90.0
 45           PC   0.000   0.021   0.035   0.051   0.071   0.087   0.105   0.125   0.143   0.160
 46           PC   0.179   0.201   0.232   0.281   0.364   0.500   0.658   0.773   0.841   0.888
 47           PC   0.927   0.945   0.964   0.982   1.000
              *

1                                          HEC-1 INPUT                                                PAGE  2

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

 48           KK    S100   BASIN
 49           BA   0.341            0.38
 50           KM    THIS IS THE FLOW IN DESERT LAKE WASH AT NEW RIVER ROAD ABOUT 900 FT NORTH
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```
 51          KM    OF SADDLE MOUNTAIN ROAD
 52          LG    0.34    0.15    7.30    0.12      26
 53          UC   0.242   0.177
 54          UA       0     3.0     5.0     8.0    12.0    20.0    43.0    75.0    90.0    96.0
 55          UA     100
             *

 56          KK  100101   ROUTE   REACH
 57          KM    ROUTE RUNOFF FROM SUBBASIN S100 TO C101
 58          KM    SLOPE = (1990-1910)/4970 = 0.016
 59          KM     XS based on Desert Lake Wash XS 4.37 (Stanley Consultants, 1999)
 60          RS       3    FLOW      -1
 61          RC   0.075   0.055   0.075    4970  0.0160    0.00
 62          RX  9930.4  9950.2  9992.1 10000.0 10017.0 10022.0 10078.0 10122.0
 63          RY  1936.0  1932.6  1930.6  1928.5  1929.2  1930.7  1930.7  1936.0
             *

 64          KK    S101   BASIN
 65          BA   0.298            0.38
 66          LG    0.30    0.15    9.70    0.04       6
 67          UC   0.321   0.266
 68          UA       0     3.0     5.0     8.0    12.0    20.0    43.0    75.0    90.0    96.0
 69          UA     100
             *

 70          KK    C101
 71          KM   COMBINE RUNOFF FROM S101 WITH ROUTED FLOW FROM S100
 72          KM   THIS IS THE TOTAL FLOW IN DESERT LAKE WASH AT DESERT HILLS DRIVE
 73          KM    INFLOW TO FLO-2D AREA
 74          HC       2
             *

 75          KK  101CFH   ROUTE   REACH
 76          KM    ROUTE COMBINED FLOW AT C101 TO CAREFREE HIGHWAY
 77          KM    SLOPE = (1910-1775)/18272 = 0.0074
 78          KM     XS IS HYPOTHETICAL; EVENTUALLY WILL BE REPLACED BY FLO-2D RESULTS
 79          RS      19    FLOW      -1
 80          RC   0.060   0.050   0.060   18272  0.0074    0.00
 81          RX     0.0    10.0   110.0   120.0   135.0   145.0   245.0   255.0
 82          RY   100.0    90.0    89.0    88.0    88.0    89.0    90.0   100.0
             *

 83          KK    S102   BASIN
 84          BA   0.298            0.38
 85          LG    0.34    0.15    7.00    0.13      23
 86          UC   0.204   0.119
 87          UA       0     3.0     5.0     8.0    12.0    20.0    43.0    75.0    90.0    96.0
 88          UA     100
             *
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LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 89          KK  102103   ROUTE   REACH
 90          KM    ROUTE RUNOFF FROM SUBBASIN S102 TO C103
 91          KM    SLOPE = (1995-1941)/2635 = 0.0205
 92          KM     XS based on Desert Lake Wash Trib 2 XS 2.68 (Stanley Consultants, 1999)
 93          RS       2    FLOW      -1
 94          RC   0.075   0.055   0.075    2635  0.0205    0.00
 95          RX  9989.2  9991.6  9995.7 10000.0 10019.0 10066.0 10119.0 10146.0
 96          RY  1978.6  1976.0  1972.0  1968.0  1968.9  1972.0  1976.0  1978.5
             *

 97          KK    S103   BASIN
 98          BA   0.139            0.38
 99          LG    0.30    0.15    7.00    0.11       6
100          UC   0.221   0.184
101          UA       0     3.0     5.0     8.0    12.0    20.0    43.0    75.0    90.0    96.0
102          UA     100
             *

103          KK    C103
104          KM    COMBINE RUNOFF FROM S103 WITH ROUTED FLOW FROM S102
105          KM    THIS IS THE FLOW IN DESERT LAKE WASH TRIB 2 AT DESERT HILLS DRIVE
106          HC       2
             *

107          KK  103104   ROUTE   REACH
108          KM    ROUTE COMBINED FLOW FROM C103 TO C104
109          KM    INFLOW TO FLO-2D AREA
110          KM    SLOPE = (1941-1920)/1290 = 0.016
111          KM     XS based on Desert Lake Wash Trib 2 XS 2.19 (Stanley Consultants, 1999)
112          RS       1    FLOW      -1
113          RC   0.075   0.055   0.075    1290  0.0160    0.00
114          RX  9842.3  9939.1  9975.0 10000.0 10010.0 10019.0 10029.0 10035.0
115          RY  1928.0  1924.9  1923.1  1920.2  1919.1  1923.0  1926.0  1928.0
             *

116          KK    S104   BASIN
117          BA   0.082            0.38
118          LG    0.30    0.15    8.80    0.06       8
119          UC   0.217   0.197
120          UA       0     4.5    12.6    23.2    35.8    50.0    64.2    76.8    87.4    95.5
121          UA     100
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```
                *
 122            KK    C104
 123            KM    COMBINE RUNOFF FROM S104 WITH ROUTED FLOW FROM C103
 124            KM    THIS IS THE TOTAL FLOW IN DESERT LAKE WASH TRIB 2 AT 10TH STREET
 125            KM    INFLOW TO FLO-2D AREA
 126            HC       2
                *
1                                          HEC-1 INPUT                                                PAGE  4

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


 127            KK  104CFH   ROUTE   REACH
 128            KM    ROUTE COMBINED FLOW AT C104 TO CAREFREE HIGHWAY
 129            KM    SLOPE = (1920-1775)/17795 = 0.0081
 130            KM     XS IS HYPOTHETICAL; EVENTUALLY WILL BE REPLACED BY FLO-2D RESULTS
 131            RS      18    FLOW      -1
 132            RC   0.060   0.050   0.060   17795  0.0081    0.00
 133            RX     0.0    10.0   110.0   120.0   135.0   145.0   245.0   255.0
 134            RY   100.0    90.0    89.0    88.0    88.0    89.0    90.0   100.0
                *

 135            KK    S105   BASIN
 136            KM    THIS IS THE RUNOFF IN THE EAST FORK OF DESERT LAKE WASH AT 12TH STREET.
 137            BA   0.162            0.38
 138            LG    0.30    0.05   12.40    0.01       5
 139            UC   0.321   0.317
 140            UA       0     4.5    12.6    23.2    35.8    50.0    64.2    76.8    87.4    95.5
 141            UA     100
                *

 142            KK  105106   ROUTE   REACH
 143            KM    ROUTE RUNOFF FROM S105 TO C106
 144            KM    SLOPE = (1875-1855)/1600 = 0.0125
 145            KM     XS based on East Fork Desert Lake Wash XS 2.47 (Stanley Consultants, 1999)
 146            RS       2    FLOW      -1
 147            RC   0.060   0.050   0.060    1600  0.0125    0.00
 148            RX  9805.6  9964.1  9995.6 10000.0 10005.0 10010.0 10036.0 10140.0
 149            RY  1868.0  1864.0  1863.6  1862.2  1862.2  1863.3  1864.0  1868.0
                *

 150            KK    S106   BASIN
 151            BA   0.107            0.38
 152            LG    0.30    0.05   12.40    0.01       5
 153            UC   0.313   0.334
 154            UA       0     4.5    12.6    23.2    35.8    50.0    64.2    76.8    87.4    95.5
 155            UA     100
                *

 156            KK    C106
 157            KM    COMBINE RUNOFF FROM S106 WITH ROUTED FLOW FROM C105
 158            KM    THIS IS THE FLOW IN THE EAST FORK OF DESERT LAKE WASH AT JOY RANCH ROAD
 159            HC       2
                *

 160            KK  106107   ROUTE   REACH
 161            KM    ROUTE COMBINED FLOW FROM C106 TO C107
 162            KM    SLOPE = (1855-1831)/2882 = 0.0083
 163            KM     XS based on East Fork Desert Lake Wash XS 2.14 (Stanley Consultants, 1999)
 164            RS       3    FLOW      -1
 165            RC   0.075   0.055   0.075    2882  0.0083    0.00
 166            RX  9799.6  9956.2  9992.2 10000.0 10005.0 10010.0 10078.0 10191.0
 167            RY  1850.0  1848.0  1846.7  1844.0  1844.0  1846.6  1847.0  1850.0
                *
1                                          HEC-1 INPUT                                                PAGE  5

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


 168            KK    S107   BASIN
 169            BA   0.186            0.38
 170            LG    0.30    0.10   11.20    0.02       5
 171            UC   0.392   0.349
 172            UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
 173            UA     100
                *

 174            KK    C107
 175            KM     COMBINE RUNOFF FROM S107 WITH ROUTED FLOW FROM C106
 176            KM     THIS IS THE FLOW IN THE EAST FORK OF DESERT LAKE WASH AT MADDOCK ROAD
 177            KM    INFLOW TO FLO-2D AREA
 178            HC       2
                *

 179            KK  107CFH   ROUTE   REACH
 180            KM    ROUTE COMBINED FLOW AT C107 TO CAREFREE HIGHWAY
 181            KM    SLOPE = (1831-1775)/8801 = 0.0064
 182            KM     XS IS HYPOTHETICAL; EVENTUALLY WILL BE REPLACED BY FLO-2D RESULTS
 183            RS       8    FLOW      -1
 184            RC   0.050   0.040   0.050    8801  0.0064    0.00
 185            RX     0.0    10.0   110.0   120.0   135.0   145.0   245.0   255.0
 186            RY   100.0    90.0    89.0    88.0    88.0    89.0    90.0   100.0
                *
```

```
187          KK    S150   BASIN
188          KM     INFLOW TO FLO-2D AREA
189          BA   0.011            0.38
190          LG    0.35    0.13   10.10    0.04       2
191          UC   0.104   0.104
192          UA       0     4.5    12.6    23.2    35.8    50.0    64.2    76.8    87.4    95.5
193          UA     100
             *

194          KK    S151   BASIN
195          KM     INFLOW TO FLO-2D AREA
196          BA   0.017            0.38
197          LG    0.35    0.15    7.60    0.11       8
198          UC   0.129   0.149
199          UA       0     4.5    12.6    23.2    35.8    50.0    64.2    76.8    87.4    95.5
200          UA     100
             *

201          KK    S152   BASIN
202          BA   0.087            0.38
203          LG    0.35    0.19    6.60    0.17       5
204          UC   0.167   0.126
205          UA       0     3.0     5.0     8.0    12.0    20.0    43.0    75.0    90.0    96.0
206          UA     100
             *
1                                          HEC-1 INPUT                                          PAGE  6

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

207          KK    D152DIVERT
208          KM     DIVERT FLOW TO FLO-2D AREA UNDER CAREFREE HWY
209          KM     RATING BASED ON HY8 ANALYSIS (FILE: D152.INP)
210          DT    1520
211          DI       0      30     200     300
212          DQ       0      28      57      60
             *

213          KK  152153   ROUTE   REACH
214          KM    ROUTE RUNOFF FROM S152 TO C153 ALONG CAREFREE HWY
215          KM    SLOPE = (1846-1838)/616 = 0.013
216          KM    XS based on examination of 2002 FCD orthophotos and available 10 ft (FCD)
217          KM    and 2 ft contour data from Jerry Jones FDS and Stanley FDS mapping
218          RS       1    FLOW      -1
219          RC   0.030   0.030   0.060     616  0.0130    0.00
220          RX     0.0     1.0    31.0    43.0    48.0    60.0    80.0   100.0
221          RY   100.0    99.5    99.0    96.0    96.0    99.0    99.5   100.0
             *

222          KK    S153   BASIN
223          BA   0.012            0.38
224          LG    0.32    0.13   10.10    0.04       9
225          UC   0.158   0.177
226          UA       0     4.5    12.6    23.2    35.8    50.0    64.2    76.8    87.4    95.5
227          UA     100
             *

228          KK    C153
229          KM    COMBINE RUNOFF FROM S153 WITH ROUTED FLOW FROM S152
230          KM     INFLOW TO FLO-2D AREA
231          HC       2
             *

232          KK   DR152
233          KM    RETRIEVE DIVERTED FLOW INTO FLO-2D AREA AT D152
234          DR    1520
             *

235          KK    C155
236          KM    DUMMY COMBINATION OF ALL 150 SERIES SUBBASINS FOR ROUTING THROUGH
237          KM    FLO-2D AREA IN HEC-1 AND PRESERVATION OF TOTAL WATERSHED AREA
238          HC       4
             *

239          KK   DUMMY
240          KM    COMBINE 150 SERIES FLO-2D INFLOW HYDROGRAPHS WITH 100 SERIES FLO-2D
241          KM    INFLOW HYDROGRAPHS
242          HC       4
             *
1                                          HEC-1 INPUT                                          PAGE  7

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

243          KK    S122   BASIN
244          KM    THIS IS THE RUNOFF TO CENTRAL AVE JUST SOUTH OF CAREFREE HWY
245          KM    THIS IS INFLOW TO FLO-2D MODEL
246          BA   0.158            0.38
247          LG    0.33    0.15    7.30    0.12      16
248          UC   0.308   0.278
249          UA       0     3.0     5.0     8.0    12.0    20.0    43.0    75.0    90.0    96.0
250          UA     100
             *
             *  THE FOLLOWING ROUTING REACH REMOVED AS S122 RUNOFF IS NOW IMPORTED
             *  INTO FLO-2D MODEL TO ROUTE TO C127
```

```
                *
                * KK122125   ROUTE   REACH
                * KM  ROUTE RUNOFF FROM S122 TO C125
                * KM  SLOPE = (1815-1788)/2616 = 0.010
                * KM  ROUTE ALONG SOUTH SIDE OF CAREFREE HWY
                * KM  XS based on examination of 2002 FCD orthophotos and available 10 ft (FCD)
                * KM  and 2 ft contour data from Jerry Jones FDS and Stanley FDS mapping
                * RS     2    FLOW      -1
                * RC 0.030   0.035   0.050    2616  0.0100    0.00
                * RX   0.0     1.0    31.0    46.0    56.0    64.0   100.0   200.0
                * RY 100.0    99.5    99.0    95.0    95.0    99.0    99.5   100.0
                *

251             KK    S123   BASIN
252             KM    THIS IS THE RUNOFF TO CENTRAL AVENUE ABOUT 300 FT SOUTH OF CAREFREE HWY
253             KM    THIS IS INFLOW TO FLO-2D MODEL
254             BA   0.135           0.38
255             LG    0.31    0.15    8.00    0.09      19
256             UC   0.221   0.187
257             UA       0     3.0     5.0     8.0    12.0    20.0    43.0    75.0    90.0    96.0
258             UA     100
                *
                *  FOLLWING ROUTING REMOVED AND RUNOFF IMPORTED INTO FLO-2D MODEL
                *  TO ROUTE TO C127
                *
                * KK123125   ROUTE   REACH
                * KM  ROUTE RUNOFF FROM S123 TO C125
                * KM  SLOPE = (1813-1788)/2704 = 0.009
                * KM  XS based on examination of 2002 FCD orthophotos and available 10 ft (FCD)
                * KM  and 2 ft contour data from Jerry Jones FDS and Stanley FDS mapping
                * RS     2    FLOW      -1
                * RC 0.030   0.035   0.050    2704  0.0090    0.00
                * RX   0.0     1.0    31.0    46.0    56.0    64.0   100.0   200.0
                * RY 100.0    99.5    99.0    95.0    95.0    99.0    99.5   100.0
                *

259             KK    S124   BASIN
260             KM    THIS IS THE RUNOFF TO CENTRAL AVENUE IN A WASH CROSSING ABOUT 1400 FT SOUTH
261             KM    OF CAREFEE HWY
262             BA   0.059           0.38
263             LG    0.30    0.15    8.80    0.06      20
264             UC   0.154   0.084
265             UA       0     3.0     5.0     8.0    12.0    20.0    43.0    75.0    90.0    96.0
1                                             HEC-1 INPUT                                          PAGE  8

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

266             UA     100
                *

267             KK  124125   ROUTE   REACH
268             KM    ROUTE RUNOFF FROM S124 TO C125
269             KM    SLOPE = (1820-1788)/3289 = 0.0097
270             KM    XS based on examination of 2002 FCD orthophotos and available 10 ft (FCD)
271             KM    and 2 ft contour data from Jerry Jones FDS and Stanley FDS mapping
272             RS       3    FLOW      -1
273             RC   0.050   0.040   0.050    3289  0.0097    0.00
274             RX     0.0    40.0    80.0    88.0    98.0   106.0   146.0   186.0
275             RY   100.0    96.0    92.0    90.0    90.0    92.0    96.0   100.0
                *

276             KK    S125   BASIN
277             BA   0.151           0.38
278             LG    0.28    0.15    7.30    0.11      22
279             UC   0.250   0.228
280             UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
281             UA     100
                *

282             KK    C125
283             KM    COMBINE RUNOFF FROM S125 WITH ROUTED FLOW FROM S124
284             KM    THIS FLOW IS INFLOW TO FLO2D MODEL
285             HC       2
                *

286             KK   DUMMY
287             KM     COMBINE 120 SERIES HYDROGRAPHS WHICH WERE IMPORTED TO FLO-2D MODEL
288             HC       2
                *
                * KK125127   ROUTE   REACH
                * KM  ROUTE COMBINED FLOW FROM C125 TO C127 THROUGH SUBBASIN S127
                * KM  SLOPE = (1788-1770)/2429 = 0.0074
                * KM   XS based on "Jonathan Wash" XS 0.12 from Jerry Jones (JONA.DAT)
                * RS     2    FLOW      -1
                * RC 0.065   0.050   0.065    2429  0.0074    0.00
                * RX 10560 10620.0 10660.0 10670.0 10680.0 10810.0 11000.0 11200.0
                * RY1776.0  1774.0  1774.0  1770.0  1772.0  1774.0  1776.0  1778.0
                *
                *  Above routing removed based on revisions to FLO-2D model which import
                *  flow from S122 - S125
                *

289             KK   DUMMY
290             KM    COMBINE ALL DUMMY INFLOW HYDROGRAPHS TO FLO-2D AREA
291             HC       3
```

```
                    *
                    * KK FLO2D   BASIN
                    * KM  DUMMY BASIN FOR HEC-1 MODEL CONTINUITY OF FLO-2D AREA
                    * KM  WILL BE REPLACED WITH INFLOW HYDROGRAPH FROM FINAL FLO-2D ANALYSIS
                    * BA 3.231
                    * LG  0.32    0.15    8.80    0.06       4
                    * UC 0.904   0.515
                    * UA     0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97
                    * UA   100
                    *
1                                                HEC-1 INPUT                                                PAGE  9

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

           292      KK   FLO2D
           293      KM    THIS IS THE OUTFLOW HYDROGRAPH FROM THE FLO-2D MODELING OF THE DESERT LAKE
           294      KM    WATERSHED AT CAREFREE HWY.
           295      KM    THIS IS THE TOTAL FLOW IMMEDIATELY DOWNSTREAM OF CAREFREE HWY INCLUDING
           296      KM    DESERT LAKE WASH AND THE EAST FORK OF DESERT LAKE WASH.
           297      IN       5
           298      BA    5.47
           299      QI       0       0       0       0       0       0       0       0       0       0
           300      QI       0       0       0       0       0       0       0       0       0       0
           301      QI       0       0       0       0       0       0       0       0       0       0
           302      QI       0       0       0       0       0       0       0       0       0       0
           303      QI       0       0       0       1       3      12      23      33      53      74
           304      QI     105     159     202     267     373     492     584     639     664     680
           305      QI     709     766     848     929     981    1013    1030    1028    1018     999
           306      QI     969     933     895     856     816     778     745     714     686     662
           307      QI     640     619     600     580     558     534     511     489     470     450
           308      QI     430     411     392     374     357     342     328     312     299     286
           309      QI     274     263     251     240     231     222     213     205     196     187
           310      QI     179     172     165     158     151     146     141     137     133     128
           311      QI     124     120     115     111     107     103      99      96      93      88
           312      QI      86      83      81      78      75      72      71      67      65      63
           313      QI      60      58      55      54      52       0       0       0       0       0
                    *

           314      KK  CFH127   ROUTE   REACH
           315      KM    ROUTE COMBINED FLOWS AT CAREFREE HIGHWAY TO C127
           316      KM    SLOPE = (1775-1770)/1234 = 0.004
           317      KM     XS based on "Jonathan Wash" XS 0.12 from Jerry Jones (JONA.DAT)
           318      RS       1    FLOW      -1
           319      RC   0.065   0.050   0.065    1234  0.0040    0.00
           320      RX   10560 10620.0 10660.0 10670.0 10680.0 10810.0 11000.0 11200.0
           321      RY  1776.0  1774.0  1774.0  1770.0  1772.0  1774.0  1776.0  1778.0
                    *

           322      KK    S108   BASIN
           323      BA   0.329           0.38
           324      LG    0.32    0.15    8.80    0.06      15
           325      UC   0.204   0.110
           326      UA       0     3.0     5.0     8.0    12.0    20.0    43.0    75.0    90.0    96.0
           327      UA     100
                    *

           328      KK  108109   ROUTE   REACH
           329      KM    ROUTE RUNOFF FROM S108 TO C109
           330      KM    SLOPE = (1915-1844)/5783 = 0.0123
           331      KM     XS based on Desert Hills Wash Trib 5 XS 0.74 (Stanley Consultants, 1999)
           332      RS       5    FLOW      -1
           333      RC   0.050   0.040   0.050    5783  0.0123    0.00
           334      RX     0.0    10.0   110.0   120.0   135.0   145.0   245.0   255.0
           335      RY   100.0    90.0    89.0    84.0    84.0    89.0    90.0   100.0
                    *
1                                                HEC-1 INPUT                                                PAGE 10

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

           336      KK    S109   BASIN
           337      BA   0.366           0.38
           338      LG    0.30    0.15    8.40    0.07       5
           339      UC   0.333   0.248
           340      UA       0     3.0     5.0     8.0    12.0    20.0    43.0    75.0    90.0    96.0
           341      UA     100
                    *

           342      KK   C109R
           343      KM    COMBINE RUNOFF FROM S109 WITH ROUTED FLOW FROM S108
           344      KM    THIS IS THE FLOW IN DESERT HILLS WASH TRIB 5 ABOUT 900 FT DOWNSTREAM
           345      KM    OF JOY RANCH ROAD.
           346      HC       2
                    *

           347      KK    S110   BASIN
           348      BA   0.132           0.38
           349      LG    0.34    0.19    6.60    0.16      21
           350      UC   0.208   0.182
           351      UA       0     3.0     5.0     8.0    12.0    20.0    43.0    75.0    90.0    96.0
           352      UA     100
                    *

           353      KK  110111   ROUTE   REACH
```

```
354          KM    ROUTE RUNOFF FROM S110 TO C111
355          KM    SLOPE = (1965-1895)/4457 = 0.0157
356          KM     XS based on Desert Hills Wash XS 5.57 (Stanley Consultants, 1999)
357          RS       4    FLOW      -1
358          RC   0.075   0.055   0.075    4457  0.0157    0.00
359          RX  9972.7  9988.0  9989.0 10000.0 10016.0 10061.0 10075.0 10092.0
360          RY  1926.0  1922.0  1921.7  1919.2  1920.8  1922.4  1924.0  1926.0
             *

361          KK    S111   BASIN
362          BA   0.248            0.38
363          LG    0.33    0.15    8.00    0.09      10
364          UC   0.225   0.161
365          UA       0     3.0     5.0     8.0    12.0    20.0    43.0    75.0    90.0    96.0
366          UA     100
             *

367          KK    C111
368          KM    COMBINE RUNOFF FROM S111 WITH ROUTED FLOW FROM S110
369          KM    THIS IS THE FLOW IN DESERT HILLS WASH AT 20TH STREET
370          HC       2
             *

371          KK  111109   ROUTE   REACH
372          KM    ROUTE COMBINED FLOW FROM C111 THROUGH S112 TO C109
373          KM    SLOPE = (1895-1844)/5694 = 0.009
374          KM     XS based on Desert Hills Wash XS 4.68 (Jerry Jones, 1992)
375          RS       5    FLOW      -1
376          RC   0.070   0.055   0.070    5694  0.0090    0.00
377          RX  9938.7  9951.1  9979.0 10000.0100010.0 10054.0 10101.0 10114.0
```



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

378          RY  1872.0  1870.0  1868.0  1867.0  1867.0  1868.0  1870.0  1872.0
             *

379          KK    S112   BASIN
380          BA   0.567            0.38
381          LG    0.31    0.15    8.40    0.07       8
382          UC   0.317   0.236
383          UA       0     3.0     5.0     8.0    12.0    20.0    43.0    75.0    90.0    96.0
384          UA     100
             *

385          KK   C109C
386          KM     COMBINE RUNOFF FROM S112 WITH ROUTED FLOW FROM C111
387          KM    THIS IS THE FLOW IN DESERT HILLS WASH AT JOY RANCH ROAD
388          HC       2
             *

389          KK    S113   BASIN
390          BA   0.110            0.38
391          LG    0.32    0.23    6.20    0.17       4
392          UC   0.313   0.344
393          UA       0     4.5    12.6    23.2    35.8    50.0    64.2    76.8    87.4    95.5
394          UA     100
             *

395          KK  113114   ROUTE   REACH
396          KM    ROUTE RUNOFF FROM S113 TO C114
397          KM    SLOPE = (1950-1904)/3220 = 0.0143
398          KM     XS based on Desert Hills Wash Trib 6 XS 1.04 (Stanley Consultants, 1999)
399          RS       2    FLOW      -1
400          RC   0.075   0.055   0.075    3220  0.0143    0.00
401          RX  9888.8  9957.5  9990.9  9995.0 10005.0 10011.0 10030.0 10105.0
402          RY  1928.0  1926.0  1925.0  1923.0  1923.0  1925.0  1926.0  1928.0
             *

403          KK    S114   BASIN
404          BA   0.109            0.38
405          LG    0.30    0.15    8.00    0.08       5
406          UC   0.283   0.245
407          UA       0     4.5    12.6    23.2    35.8    50.0    64.2    76.8    87.4    95.5
408          UA     100
             *

409          KK    C114
410          KM    COMBINE RUNOFF S114 WITH ROUTED FLOW FROM S113
411          KM    THIS IS THE FLOW IN DESRT HILLS WASH TRIB 6 AT 20TH STREET
412          HC       2
             *

413          KK  114115   ROUTE   REACH
414          KM    ROUTE COMBINED FLOW FROM C114 TO C115
415          KM    SLOPE = (1904-1856)/3565 = 0.0135
416          KM     XS based on Desert Hills Wash Trib 6 XS 0.44 (Stanley Consultants, 1999)
417          RS       3    FLOW      -1
418          RC   0.075   0.055   0.075    3565  0.0135    0.00
```



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

419          RX  9896.0  9910.0  9953.8  9964.0 10000.0 10010.0 10023.0 10036.0
420          RY  1888.0  1886.5  1884.6  1882.9  1881.9  1884.0  1886.0  1888.0
```

```
                *

421             KK    S115   BASIN
422             BA   0.155            0.38
423             LG    0.30    0.13   10.10    0.03       5
424             UC   0.371   0.381
425             UA       0     4.5    12.6    23.2    35.8    50.0    64.2    76.8    87.4    95.5
426             UA     100
                *

427             KK    C115
428             KM    COMBINE RUNOFF FROM S115 WITH ROUTED FLOWS FROM C114
429             KM    THIS IS THE FLOW IN DESERT HILLS WASH TRIB 6 AT 16TH STREET
430             HC       2
                *

431             KK  115109   ROUTE   REACH
432             KM    ROUTE COMBINED FLOW FROM C115 TO C109
433             KM    SLOPE = (1856-1844)/1415 = 0.0085
434             KM     XS based on Desert Hills Wash XS 4.23 (Jerry Jones, 1992)
435             RS       1    FLOW      -1
436             RC   0.065   0.050   0.065    1415  0.0085    0.00
437             RX  9824.9  9915.7  9966.2  9995.0 10005.0 10012.0 10018.0 10024.0
438             RY  1854.0  1850.0  1850.0  1846.4  1846.4  1850.0  1852.0  1854.0
                *

439             KK    C109
440             KM    COMBINE ROUTED FLOW FROM C115 WITH C109R AND C109C
441             KM    THIS IS THE TOTAL FLOW IN DESERT HILLS WASH ABOUT 900 FEET DOWNSTREAM
442             KM    OF JOY RANCH ROAD.
443             HC       3
                *

444             KK  109116   ROUTE   REACH
445             KM    ROUTE COMBINED FLOW FROM C109 TO C116
446             KM    SLOPE = (1844-1810)/4849 = 0.0070
447             KM     XS based on Desert Hills Wash XS 3.81 (Jerry Jones, 1992)
448             RS       4    FLOW      -1
449             RC   0.065   0.050   0.065    4849  0.0070    0.00
450             RX  9780.0  9808.0  9977.0  9988.0 10012.0 10042.0 10073.0 10110.0
451             RY  1838.0  1836.0  1834.0  1832.0  1832.0  1834.0  1836.0  1838.0
                *

452             KK    S116   BASIN
453             BA   0.224            0.38
454             LG    0.30    0.25    5.40    0.21       5
455             UC   0.500   0.487
456             UA       0     4.5    12.6    23.2    35.8    50.0    64.2    76.8    87.4    95.5
457             UA     100
                *
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LINE            ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

458             KK   C116R
459             KM    COMBINE RUNOFFF FROM S116 WITH ROUTED FLOW FROM C109
460             HC       2
                *

461             KK    S117   BASIN
462             BA   0.232            0.38
463             LG    0.30    0.13   10.10    0.03       5
464             UC   0.404   0.372
465             UA       0     4.5    12.6    23.2    35.8    50.0    64.2    76.8    87.4    95.5
466             UA     100
                *

467             KK    S118   BASIN
468             KM    THIS IS THE RUNOFF TO 20TH STREET IN AN UNNAMED TRIB TO DESERT HILLS WASH
469             BA   0.124            0.38
470             LG    0.31    0.05   12.40    0.01       5
471             UC   0.408   0.482
472             UA       0     4.5    12.6    23.2    35.8    50.0    64.2    76.8    87.4    95.5
473             UA     100
                *

474             KK  118119   ROUTE   REACH
475             KM    ROUTE RUNOFF FROM S118 TO C116
476             KM    SLOPE = (1887-1810)/5989 = 0.013
477             KM     XS based on Desert Hills Wash XS 4.23 (Jerry Jones, 1992)
478             RS       5    FLOW      -1
479             RC   0.050   0.040   0.050    5989  0.0130    0.00
480             RX  9955.6  9971.9  9990.8  9998.0 10002.0 10010.0 10064.0 10096.0
481             RY  1834.0  1832.0  1829.7  1827.5  1827.5  1830.4  1831.7  1834.0
                *

482             KK    S119   BASIN
483             BA   0.312            0.38
484             LG    0.30    0.15    8.80    0.06       5
485             UC   0.471   0.451
486             UA       0     4.5    12.6    23.2    35.8    50.0    64.2    76.8    87.4    95.5
487             UA     100
                *
```

```
 488          KK   C116L
 489          KM    COMBINE RUNOFF FROM S117 AND S119 WITH ROUTED FLOW FROM S118
 490          HC       3
              *

 491          KK    C116
 492          KM     COMBINE C116L AND C116R.
 493          KM    THIS IS THE TOTAL FLOW IN DESERT HILLS WASH AT CLOUD ROAD.
 494          HC       2
              *
1                                        HEC-1 INPUT                                                    PAGE 14

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

 495          KK  116120   ROUTE   REACH
 496          KM    ROUTE COMBINED FLOW FROM C116 TO C120
 497          KM    SLOPE = (1810-1786)/3945 = 0.006
 498          KM     XS based on Desert Hills Wash XS 2.61 (Jerry Jones, 1992)
 499          RS       4    FLOW      -1
 500          RC   0.065   0.050   0.065    3945  0.0060    0.00
 501          RX  9919.5  9983.3  9986.9  9995.0 10010.0 10020.0 10173.0 10556.0
 502          RY  1798.0  1796.0  1794.0  1790.0  1790.0  1794.0  1794.0  1796.0
              *

 503          KK    S120   BASIN
 504          BA   0.277            0.38
 505          LG    0.30    0.15    7.00    0.11       5
 506          UC   0.571   0.574
 507          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
 508          UA     100
              *

 509          KK    C120
 510          KM    COMBINE RUNOFF FROM S120 WITH ROUTED FLOW FROM C116
 511          HC       2
              *

 512          KK  120127   ROUTE   REACH
 513          KM    ROUTE COMBINED FLOW FROM C120 TO C127 THROUGH SUBBASIN S121
 514          KM    SLOPE = (1786-1770)/2909 = 0.0055
 515          KM     XS based on Desert Hills Wash XS 2.34 (Jerry Jones, 1992)
 516          RS       3    FLOW      -1
 517          RC   0.065   0.050   0.065    2909  0.0055    0.00
 518          RX  9570.0  9620.0  9990.0  9994.0 10006.0 10010.0 10160.0 10255.0
 519          RY  1788.0  1786.0  1784.0  1782.2  1782.2  1784.0  1786.0  1788.0
              *

 520          KK    S121   BASIN
 521          BA   0.316            0.38
 522          LG    0.30    0.15    7.30    0.10       7
 523          UC   0.667   0.779
 524          UA       0     4.5    12.6    23.2    35.8    50.0    64.2    76.8    87.4    95.5
 525          UA     100
              *

 526          KK   C127L
 527          KM    COMBINE ROUTED FLOW FROM C120 WITH RUNOFF FROM S121
 528          HC       2
              *

 529          KK    S126   BASIN
 530          KM    THIS IS THE RUNOFF AT 7TH STREET AT A CROSSING ABOUT 1000 FT SOUTH OF
 531          KM    CAREFREE HWY.
 532          BA   0.131            0.38
 533          LG    0.30    0.23    6.20    0.17      28
 534          UC   0.188   0.102
 535          UA       0     3.0     5.0     8.0    12.0    20.0    43.0    75.0    90.0    96.0
 536          UA     100
              *
1                                        HEC-1 INPUT                                                    PAGE 15

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

 537          KK  126127   ROUTE   REACH
 538          KM    ROUTE RUNOFF FROM S126 TO C127
 539          KM    SLOPE = (1798-1770)/2974 = 0.0094
 540          KM    XS based on examination of 2002 FCD orthophotos and available 10 ft (FCD)
 541          KM    and 2 ft contour data from Jerry Jones FDS and Stanley FDS mapping
 542          RS       2    FLOW      -1
 543          RC   0.050   0.040   0.050    2974  0.0094    0.00
 544          RX     0.0    40.0    80.0    88.0    98.0   106.0   146.0   186.0
 545          RY   100.0    96.0    92.0    90.0    90.0    92.0    96.0   100.0
              *

 546          KK    S127   BASIN
 547          BA   0.091            0.38
 548          LG    0.30    0.23    6.20    0.17      18
 549          UC   0.217   0.165
 550          UA       0     4.5    12.6    23.2    35.8    50.0    64.2    76.8    87.4    95.5
 551          UA     100
              *

 552          KK   C127R
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553          KM    COMBINE RUNOFF FROM S127 WITH ROUTED FLOWS FROM S126
554          HC       2
             *

555          KK    C127
556          KM    COMBINE C127R & C127L WITH ROUTED FLOWS FROM CAREFREE HIGHWAY (FLO-2D AREA)
557          KM    THIS IS THE TOTAL FLOW IN DESERT HILLS WASH COMBINED WITH DESERT LAKE WASH
558          KM    AND THE EAST FORK OF DESERT LAKE WASH.
559          HC       3
             *

560          KK  127129   ROUTE   REACH
561          KM    ROUTE COMBINED FLOW FROM C127 TO C129 THROUGH SUBBASIN S129
562          KM    SLOPE = (1770-1764)/1296 = 0.0046
563          KM     XS based on Desert Hills Wash XS 1.72 from Jerry Jones (DTHL.DAT)
564          RS       1    FLOW      -1
565          RC   0.065   0.050   0.065    1296  0.0046    0.00
566          RX  9150.0  9330.0  9993.0  9995.0 10005.0 10016.0 10108.0 10255.0
567          RY  1774.0  1770.0  1768.0  1766.0  1766.0  1770.0  1770.0  1774.0
             *

568          KK    S128   BASIN
569          KM    THIS IS THE RUNOFF AT 10TH STREET IN A CROSSING ABOUT 1400 FT SOUTH OF
570          KM    CAREFREE HWY.
571          BA   0.116            0.38
572          LG    0.30    0.15    7.60    0.10      27
573          UC   0.204   0.187
574          UA       0     3.0     5.0     8.0    12.0    20.0    43.0    75.0    90.0    96.0
575          UA     100
             *
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```
LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

576          KK  128129   ROUTE   REACH
577          KM    ROUTE RUNOFF FROM S128 TO C129
578          KM    SLOPE = (1794-1764)/1924 = 0.0156
579          KM     XS based on Desert Hills Wash XS 1.72 from Jerry Jones (DTHL.DAT)
580          RS       2    FLOW      -1
581          RC   0.065   0.050   0.065    1924  0.0156    0.00
582          RX  9150.0  9330.0  9993.0  9995.0 10005.0 10016.0 10108.0 10255.0
583          RY  1774.0  1770.0  1768.0  1766.0  1766.0  1770.0  1770.0  1774.0
             *

584          KK    S129   BASIN
585          BA   0.122            0.38
586          LG    0.30    0.15    7.30    0.11      20
587          UC   0.163   0.100
588          UA       0     3.0     5.0     8.0    12.0    20.0    43.0    75.0    90.0    96.0
589          UA     100
             *

590          KK    C129
591          KM    COMBINE RUNOFF FROM S129 WITH ROUTED FLOWS FROM S128 AND C127
592          KM    THIS IS THE TOTAL FLOW IN DESERT HILLS WASH AT 12TH STREET
593          HC       3
             *

594          KK  129134   ROUTE   REACH
595          KM    ROUTE COMBINED FLOW FROM C129 TO C134 THROUGH SUBBASIN S134
596          KM    SLOPE = (1764-1762)/579 = 0.00345
597          KM     XS based on Desert Hills Wash XS 1.58 from Jerry Jones (DTHL.DAT)
598          RS       1    FLOW      -1
599          RC   0.065   0.050   0.065     579  0.0035    0.00
600          RX  9140.0  9490.0  9985.0  9993.0 10005.0 10013.0 10240.0 10585.0
601          RY  1770.0  1766.0  1766.0  1762.0  1762.0  1766.0  1766.0  1770.0
             *

602          KK    S130   BASIN
603          KM    THIS IS THE RUNOFF TO CAREFREE HWY FROM AN UNNAMED TRIB OF DESERT HILLS WASH
604          BA   0.052            0.38
605          LG    0.30    0.21    6.40    0.14       5
606          UC   0.313   0.350
607          UA       0     4.5    12.6    23.2    35.8    50.0    64.2    76.8    87.4    95.5
608          UA     100
             *

609          KK  130134   ROUTE   REACH
610          KM    ROUTE RUNOFF FROM S130 TO C134
611          KM    SLOPE = (1783-1762)/2075 = 0.010
612          KM    XS based on examination of 2002 FCD orthophotos and available 10 ft (FCD)
613          KM    and 2 ft contour data from Jerry Jones FDS and Stanley FDS mapping
614          RS       2    FLOW      -1
615          RC   0.050   0.040   0.050    2075  0.0100    0.00
616          RX     0.0    55.0   110.0   115.0   135.0   140.0   195.0   250.0
617          RY   100.0    98.0    96.0    95.0    95.0    96.0    98.0   100.0
             *
```



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

618          KK    S131   BASIN
619          KM    THIS IS THE RUNOFF TO CLOUD ROAD IN DESERT HILLS WASH TRIB 2
```

```
620          BA   0.108            0.38
621          LG    0.30    0.10   11.20    0.02       5
622          UC   0.346   0.362
623          UA       0     4.5    12.6    23.2    35.8    50.0    64.2    76.8    87.4    95.5
624          UA     100
             *

625          KK  131132   ROUTE   REACH
626          KM    ROUTE RUNOFF FROM S131 TO C132
627          KM    SLOPE = (1845-1808)/3449 = 0.0107
628          KM    XS based on examination of 2002 FCD orthophotos and available 10 ft (FCD)
629          KM    and 2 ft contour data from Jerry Jones FDS and Stanley FDS mapping
630          RS       4    FLOW      -1
631          RC   0.065   0.050   0.065    3449  0.0107    0.00
632          RX     0.0    70.0   140.0   147.0   153.0   160.0   230.0   300.0
633          RY   100.0    99.0    98.0    96.0    96.0    98.0    99.0   100.0
             *

634          KK    S132   BASIN
635          BA   0.145            0.38
636          LG    0.30    0.10   11.20    0.02       5
637          UC   0.308   0.234
638          UA       0     4.5    12.6    23.2    35.8    50.0    64.2    76.8    87.4    95.5
639          UA     100
             *

640          KK    C132
641          KM    COMBINE RUNOFF FROM S132 WITH ROUTED FLOW FROM S131
642          KM    THIS IS THE FLOW AT GALVIN STREET IN DESERT HILLS TRIB 2
643          HC       2
             *

644          KK  132133   ROUTE   REACH
645          KM    ROUTE COMBINED FLOW FROM C132 TO C133
646          KM    SLOPE = (1808-1780)/2909 = 0.0096
647          KM     XS based on Desert Hills Wash Trib 2 XS 0.78 (Stanley Consultants, 1999)
648          RS       3    FLOW      -1
649          RC   0.065   0.050   0.065    2909  0.0096    0.00
650          RX  9959.0  9976.0  9993.0  9999.0 10004.0 10010.0 10080.0 10115.0
651          RY  1798.0  1797.0  1796.0  1795.0  1795.0  1796.3  1796.6  1798.0
             *

652          KK    S133   BASIN
653          BA   0.100            0.38
654          LG    0.30    0.15    9.70    0.04       5
655          UC   0.283   0.219
656          UA       0     4.5    12.6    23.2    35.8    50.0    64.2    76.8    87.4    95.5
657          UA     100
             *
1                                          HEC-1 INPUT                                          PAGE 18

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

658          KK    C133
659          KM    COMBINE RUNOFF FROM S133 WITH ROUTED FLOWS FROM C132 AT CAREFREE HWY
660          KM    IN DESERT HILLS WASH TRIB 2
661          HC       2
             *

662          KK  133134   ROUTE   REACH
663          KM    ROUTE COMBINED FLOW FROM C133 TO C134
664          KM    SLOPE = (1780-1762)/2076 = 0.0087
665          KM     XS based on Desert Hills Wash Trib 2 XS 0.20 (Stanley Consultants, 1999)
666          RS       2    FLOW      -1
667          RC   0.065   0.050   0.065    2076  0.0087    0.00
668          RX  9873.0  9936.0  9993.0  9998.0 10004.0 10009.0 10043.0 10186.0
669          RY  1774.0  1772.0  1770.0  1767.7  1767.7  1770.0  1770.7  1774.0
             *

670          KK    S134   BASIN
671          BA   0.073            0.38
672          LG    0.30    0.15    7.30    0.11      15
673          UC   0.246   0.180
674          UA       0     3.0     5.0     8.0    12.0    20.0    43.0    75.0    90.0    96.0
675          UA     100
             *

676          KK   C134L
677          KM    COMBINE RUNOFF FROM S134 WITH ROUTED FLOWS FROM S130 AND C133
678          HC       3
             *

679          KK    C134
680          KM    COMBINE C134L WITH ROUTED FLOWS FROM C129
681          KM    THIS IS THE TOTAL FLOW IN DESERT HILLS WASH ABOUT 600 FT DOWNSTEAM OF 12TH
682          KM    STREET
683          HC       2
             *

684          KK  134139   ROUTE   REACH
685          KM    ROUTE COMBINED FLOW FROM C134 TO C139 THROUGH S136
686          KM    SLOPE = (1762-1757)/1214 = 0.0041
687          KM     XS based on Desert Hills Wash XS 1.35 from Jerry Jones (DTHL.DAT)
688          RS       2    FLOW      -1
```

```
 689          RC   0.065   0.050   0.065    1214  0.0041    0.00
 690          RX  9100.0  9325.0  9835.0  9845.0  9855.0  9865.0 10080.0 10670.0
 691          RY  1768.0  1764.0  1760.0  1756.0  1756.0  1760.0  1760.0  1770.0
              *

 692          KK    S135   BASIN
 693          KM    THIS IS THE RUNOFF TO PAINT YOUR WAGON TRAIL.
 694          BA   0.068            0.38
 695          LG    0.30    0.15    8.00    0.08      24
 696          UC   0.154   0.109
 697          UA       0     3.0     5.0     8.0    12.0    20.0    43.0    75.0    90.0    96.0
 698          UA     100
              *
1                                          HEC-1 INPUT                                          PAGE 19

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

 699          KK  135139   ROUTE   REACH
 700          KM    ROUTE RUNOFF FROM S135 TO C139
 701          KM    SLOPE = (1771-1757)/1106 = 0.0127
 702          KM     XS based on Desert Hills Wash XS 1.29 from Jerry Jones (DTHL.DAT)
 703          RS       1    FLOW      -1
 704          RC   0.065   0.050   0.065    1106  0.0127    0.00
 705          RX  9340.0  9745.0  9960.0  9985.0 10025.0 10060.0 10115.0 10435.0
 706          RY  1766.0  1760.0  1758.0  1756.0  1756.0  1758.0  1760.0  1766.0
              *

 707          KK    S136   BASIN
 708          BA   0.078            0.38
 709          LG    0.30    0.25    5.70    0.20      16
 710          UC   0.283   0.224
 711          UA       0     3.0     5.0     8.0    12.0    20.0    43.0    75.0    90.0    96.0
 712          UA     100
              *

 713          KK   C139R
 714          KM    COMBINE RUNOFF FROM S136 WITH ROUTED FLOWS FROM S135 AND C134
 715          KM    THIS THE FLOW IN DESERT HILLS WASH AT 14TH STREET
 716          HC       3
              *

 717          KK    S137   BASIN
 718          KM    THIS IS THE RUNOFF IN DESERT HILLS WASH TRIB 1 AT CLOUD ROAD
 719          BA   0.084            0.38
 720          LG    0.30    0.15    9.70    0.04       5
 721          UC   0.304   0.305
 722          UA       0     4.5    12.6    23.2    35.8    50.0    64.2    76.8    87.4    95.5
 723          UA     100
              *

 724          KK  137138   ROUTE   REACH
 725          KM    ROUTE RUNOFF FROM S137 TO C138
 726          KM    SLOPE = (1856-1786)/6568 = 0.0107
 727          KM     XS based on Desert Hills Wash Trib 1 XS 1.08 (Stanley Consultants, 1999)
 728          RS       6    FLOW      -1
 729          RC   0.050   0.045   0.050    6568  0.0107    0.00
 730          RX  9938.0  9960.0  9982.0  9993.0  9998.0 10009.0 10030.0 10064.0
 731          RY  1812.0  1811.4  1810.7  1808.0  1808.0  1810.3  1811.0  1812.0
              *

 732          KK    S138   BASIN
 733          BA   0.266            0.38
 734          LG    0.30    0.10   11.20    0.02       5
 735          UC   0.513   0.565
 736          UA       0     4.5    12.6    23.2    35.8    50.0    64.2    76.8    87.4    95.5
 737          UA     100
              *
1                                          HEC-1 INPUT                                          PAGE 20

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

 738          KK    C138
 739          KM    COMBINE RUNOFF FROM S138 WITH ROUTED FLOWS FROM S137
 740          KM    THIS IS THE FLOW IN DESERT HILLS WASH TRIB 1 AT CAREFREE HWY
 741          HC       2
              *

 742          KK  138139   ROUTE   REACH
 743          KM    ROUTE COMBINED FLOWS FROM C138 TO C139
 744          KM    SLOPE = (1786-1757)/2696 = 0.0108
 745          KM     XS based on Desert Hills Wash Trib 1 XS 0.32 (Stanley Consultants, 1999)
 746          RS       3    FLOW      -1
 747          RC   0.050   0.045   0.050    2696  0.0108    0.00
 748          RX  9729.0  9827.0  9996.0 10003.0 10009.0 10016.0 10088.0 10166.0
 749          RY  1776.0  1773.0  1772.6  1771.6  1771.6  1772.8  1774.0  1776.0
              *

 750          KK    S139   BASIN
 751          BA   0.069            0.38
 752          LG    0.30    0.25    4.65    0.32      15
 753          UC   0.296   0.284
 754          UA       0     3.0     5.0     8.0    12.0    20.0    43.0    75.0    90.0    96.0
 755          UA     100
```

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                *

 756            KK   C139L
 757            KM    COMBINE RUNOFF FROM S139 WITH ROUTED FLOW FROM C138
 758            HC       2
                *

 759            KK    C139
 760            KM    COMBINE C139L AND C139R.  THIS IS THE TOTAL FLOW IN DESERT HILLS WASH
 761            KM    AT C139 JUST DOWNSTREAM OF 14TH STREET
 762            HC       2
                *

 763            KK  139141   ROUTE   REACH
 764            KM    ROUTE COMBINED FLOWS FROM C139 TO C141I
 765            KM    SLOPE = (1757-1754)/696 = 0.0043
 766            KM     XS based on Desert Hills Wash XS 1.19 from Jerry Jones (DTHL.DAT)
 767            RS       1    FLOW      -1
 768            RC   0.065   0.050   0.065     696  0.0043    0.00
 769            RX  9820.0  9910.0  9986.0  9990.0 10012.0 10016.0 10120.0 10500.0
 770            RY  1762.0  1758.0  1756.0  1754.0  1754.0  1756.0  1756.0  1762.0
                *

 771            KK    S140   BASIN
 772            KM    THIS IS THE RUNOFF FROM AN UNNAMED TRIB OF DESERT HILLS WASH AT
 773            KM    CAREFREE HWY
 774            BA   0.249            0.38
 775            LG    0.30    0.10   11.20    0.02       5
 776            UC   0.454   0.428
 777            UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
 778            UA     100
                *
1                                          HEC-1 INPUT                                          PAGE 21

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

 779            KK  140141   ROUTE   REACH
 780            KM    ROUTE RUNOFF FROM S140 TO C141
 781            KM    SLOPE = (1790-1754)/3458 = 0.0104
 782            KM    XS based on examination of 2002 FCD orthophotos and available 10 ft (FCD)
 783            KM    and 2 ft contour data from Jerry Jones FDS and Stanley FDS mapping
 784            RS       3    FLOW      -1
 785            RC   0.050   0.040   0.050    3458  0.0104    0.00
 786            RX     0.0    45.0    85.0    90.0    95.0   100.0   140.0   185.0
 787            RY   100.0    98.0    97.0    95.0    95.0    97.0    98.0   100.0
                *

 788            KK    S141   BASIN
 789            BA   0.102            0.38
 790            LG    0.30    0.05   12.40    0.01      15
 791            UC   0.342   0.335
 792            UA       0     4.5    12.6    23.2    35.8    50.0    64.2    76.8    87.4    95.5
 793            UA     100
                *

 794            KK   C141L
 795            KM    COMBINE RUNOFF FROM S141 WITH ROUTED FLOWS FROM S140
 796            HC       2
                *

 797            KK    S142   BASIN
 798            BA   0.139            0.38
 799            LG    0.30    0.15    7.30    0.11      27
 800            UC   0.238   0.238
 801            UA       0     3.0     5.0     8.0    12.0    20.0    43.0    75.0    90.0    96.0
 802            UA     100
                *

 803            KK  142141   ROUTE   REACH
 804            KM    ROUTE RUNOFF FROM S141 TO C141I
 805            KM    SLOPE = (1766-1754)/611 = 0.0196
 806            KM    XS based on examination of 2002 FCD orthophotos and available 10 ft (FCD)
 807            KM    and 2 ft contour data from Jerry Jones FDS and Stanley FDS mapping
 808            RS       1    FLOW      -1
 809            RC   0.050   0.050   0.050     611  0.0196    0.00
 810            RX     0.0    50.0   100.0   103.0   107.0   110.0   160.0   210.0
 811            RY   100.0    99.0    98.0    96.0    96.0    98.0    99.0   100.0
                *

 812            KK   C141I
 813            KM    COMBINE ROUTED FLOW FROM S142 WITH C141L AND ROUTED FLOW FROM C139
 814            HC       3
                *

 815            KK  141145   ROUTE   REACH
 816            KM    ROUTE COMBINED FLOWS FROM C141I TO C145
 817            KM    SLOPE = (1754-1745)/1969 = 0.0046
 818            KM     XS based on Desert Hills Wash XS 0.90 from Jerry Jones (DTHL.DAT)
 819            RS       2    FLOW      -1
 820            RC   0.065   0.050   0.065    1969  0.0046    0.00
1                                          HEC-1 INPUT                                          PAGE 22

LINE            ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10
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821          RX  9698.3  9831.5  9950.5 10001.0 10012.0 10022.0 10235.0 10800.0
822          RY  1758.0  1752.0  1751.0  1748.0  1748.0  1752.0  1752.0  1758.0
             *

823          KK    S143   BASIN
824          BA   0.138            0.38
825          LG    0.30    0.15    8.80    0.06      19
826          UC   0.217   0.143
827          UA       0     3.0     5.0     8.0    12.0    20.0    43.0    75.0    90.0    96.0
828          UA     100
             *

829          KK  143144   ROUTE   REACH
830          KM    ROUTE RUNOFF FROM S143 TO C145
831          KM    SLOPE = (1767-1745)/1750 = 0.0126
832          KM    XS based on examination of 2002 FCD orthophotos and available 10 ft (FCD)
833          KM    and 2 ft contour data from Jerry Jones FDS and Stanley FDS mapping
834          RS       1    FLOW      -1
835          RC   0.050   0.050   0.050    1750  0.0126    0.00
836          RX     0.0    50.0   100.0   103.0   107.0   110.0   160.0   210.0
837          RY   100.0    99.0    98.0    96.0    96.0    98.0    99.0   100.0
             *

838          KK    S144   BASIN
839          BA   0.152            0.38
840          LG    0.30    0.15    8.00    0.08      15
841          UC   0.388   0.300
842          UA       0     4.5    12.6    23.2    35.8    50.0    64.2    76.8    87.4    95.5
843          UA     100
             *

844          KK   C145R
845          KM    COMBINE RUNOFF FROM S144 WITH ROUTED FLOWS FROM S143 AND C141I
846          HC       3
             *

847          KK    S145   BASIN
848          BA   0.204            0.38
849          LG    0.30    0.05   12.40    0.01      13
850          UC   0.425   0.371
851          UA       0     4.5    12.6    23.2    35.8    50.0    64.2    76.8    87.4    95.5
852          UA     100
             *

853          KK    C145
854          KM    COMBINE RUNOFF FROM S145 WITH C145L.
855          KM    THIS IS THE TOTAL FLOW IN DESERT HILLS WASH AT APPROX. 16TH ST ALIGNMENT
856          HC       2
             *
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LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

857          KK  145147   ROUTE   REACH
858          KM    ROUTE COMBINED FLOWS FROM C145 TO C147
859          KM    SLOPE = (1745-1732)/3886 = 0.0033
860          KM     XS based on Desert Hills Wash XS 0.56 from Jerry Jones (DTHL.DAT)
861          RS       4    FLOW      -1
862          RC   0.065   0.050   0.065    3886  0.0033    0.00
863          RX  8680.0  9475.0  9987.0  9996.0 10011.0 10020.0 10085.0 10465.0
864          RY  1752.0  1746.0  1744.0  1740.0  1740.0  1744.0  1744.0  1752.0
             *

865          KK    S147   BASIN
866          BA   0.673            0.38
867          LG    0.30    0.15    7.60    0.09      12
868          UC   0.379   0.247
869          UA       0     3.0     5.0     8.0    12.0    20.0    43.0    75.0    90.0    96.0
870          UA     100
             *

871          KK   C147R
872          KM    COMBINE RUNOFF FROM S147 WITH ROUTED FLOWS FROM C145
873          KM    THIS IS THE TOTAL FLOW IN DESERT HILLS WASH UPSTREAM OF APACHE WASH
874          HC       2
875          ZW      A=DHW  C=FLOW  F=FUTURE
             *

876          KK    S200   BASIN
877          BA   0.579            0.38
878          LG    0.35    0.15    7.60    0.10      12
879          UC   0.329   0.247
880          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
881          UA     100
             *

882          KK    S201   BASIN
883          BA   0.793            0.38
884          LG    0.35    0.15    7.00    0.14      29
885          UC   0.275   0.143
886          UA       0     3.0     5.0     8.0    12.0    20.0    43.0    75.0    90.0    96.0
887          UA     100
             *
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 888          KK    C201
 889          KM    COMBINE RUNOFF FROM S200 AND S201
 890          HC       2
              *

 891          KK  201204   ROUTE   REACH
 892          KM    ROUTE COMBINED FLOWS FROM C201 TO C204
 893          KM    SLOPE = (2108-2060)/2164 = 0.0222
 894          KM     XS based on Apache Wash XS 9.27 (Stanley Consultants, 1999)
 895          RS       2    FLOW      -1
 896          RC   0.080   0.055   0.080    2164  0.0222    0.00
 897          RX  9976.0  9981.0  9995.0 10000.0 10005.0 10022.0 10030.0 10035.0
 898          RY  2082.0  2080.0  2074.0  2071.4  2072.0  2074.0  2080.0  2082.0
              *
1                                          HEC-1 INPUT                                                    PAGE 24

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

 899          KK    S203   BASIN
 900          BA   0.167            0.38
 901          LG    0.35    0.19    6.60    0.16      22
 902          UC   0.154   0.075
 903          UA       0     3.0     5.0     8.0    12.0    20.0    43.0    75.0    90.0    96.0
 904          UA     100
              *

 905          KK   C204L
 906          KM    COMBINE RUNOFF FROM S203 WITH ROUTED FLOW FROM C201
 907          KM    THIS IS THE FLOW IN APACHE WASH JUST DOWNSTREAM OF 32ND STREET ALIGNMENT
 908          HC       2
              *

 909          KK    S204   BASIN
 910          BA   0.298            0.38
 911          LG    0.35    0.15    7.00    0.13      30
 912          UC   0.229   0.154
 913          UA       0     3.0     5.0     8.0    12.0    20.0    43.0    75.0    90.0    96.0
 914          UA     100
              *

 915          KK    C204
 916          KM    COMBINE RUNOFF FROM S204 WITH C203L
 917          HC       2
              *

 918          KK  204206   ROUTE   REACH
 919          KM    ROUTE COMBINED FLOWS FROM C204 TO C206
 920          KM    SLOPE = (2060-2042)/1209 = 0.0149
 921          KM     XS based on Apache Wash XS 9.27 (Stanley Consultants, 1999)
 922          RS       1    FLOW      -1
 923          RC   0.080   0.055   0.080    1209  0.0149    0.00
 924          RX  9961.0  9980.0  9986.0  9995.0 10010.0 10022.0 10080.0 10150.0
 925          RY  2056.0  2050.0  2047.6  2044.4  2044.4  2048.0  2050.0  2054.0
              *

 926          KK    S205   BASIN
 927          BA   0.041            0.38
 928          LG    0.35    0.25    5.70    0.22       4
 929          UC   0.158   0.139
 930          UA       0     3.0     5.0     8.0    12.0    20.0    43.0    75.0    90.0    96.0
 931          UA     100
              *

 932          KK   C206L
 933          KM    COMBINE RUNOFF FROM S205 WITH ROUTED FLOWS FROM C204
 934          HC       2
              *
1                                          HEC-1 INPUT                                                    PAGE 25

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

 935          KK    S206   BASIN
 936          BA   0.146            0.38
 937          LG    0.35    0.25    5.80    0.21      18
 938          UC   0.192   0.147
 939          UA       0     3.0     5.0     8.0    12.0    20.0    43.0    75.0    90.0    96.0
 940          UA     100
              *

 941          KK    C206
 942          KM     COMBINE RUNOFF FROM S206 WITH COMBINED FLOWS AT C206L
 943          HC       2
              *

 944          KK  206209   ROUTE   REACH
 945          KM    ROUTE COMBINED FLOWS FROM C206 TO C209
 946          KM    SLOPE = (2042-2020)/1939 = 0.0113
 947          KM     XS based on Apache Wash XS 8.68 (Stanley Consultants, 1999)
 948          RS       2    FLOW      -1
 949          RC   0.080   0.055   0.080    1939  0.0113    0.00
 950          RX  9942.0  9966.0  9980.0  9990.0 10010.0 10020.0 10022.0 10035.0
 951          RY  2034.0  2028.0  2028.0  2024.5  2024.5  2028.0  2030.0  2036.0
              *
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952          KK    S207   BASIN
953          BA   0.251            0.38
954          LG    0.35    0.25    5.70    0.22       8
955          UC   0.204   0.128
956          UA       0     3.0     5.0     8.0    12.0    20.0    43.0    75.0    90.0    96.0
957          UA     100
             *

958          KK   C209L
959          KM    COMBINE RUNOFF FROM S207 WITH ROUTED FLOW FROM C206
960          HC       2
             *

961          KK    S208   BASIN
962          BA   0.308            0.38
963          LG    0.34    0.23    6.20    0.18      19
964          UC   0.208   0.122
965          UA       0     3.0     5.0     8.0    12.0    20.0    43.0    75.0    90.0    96.0
966          UA     100
             *

967          KK  208209   ROUTE   REACH
968          KM    ROUTE RUNOFF FROM S208 TO C209
969          KM    SLOPE = (2078-2020)/2633 = 0.022
970          KM     XS based on Apache Wash Trib 4 XS 0.20 (Stanley Consultants, 1999)
971          RS       2    FLOW      -1
972          RC   0.080   0.055   0.080    2633  0.0220    0.00
973          RX  9970.0  9978.0  9985.0  9987.0 10000.0 10015.0 10018.0 10022.0
974          RY  2040.0  2038.0  2036.0  2034.7  2033.7  2036.0  2038.0  2040.0
             *
1                                          HEC-1 INPUT                                          PAGE 26

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

975          KK    S209   BASIN
976          BA   0.067            0.38
977          LG    0.31    0.15    8.00    0.08       5
978          UC   0.217   0.221
979          UA       0     3.0     5.0     8.0    12.0    20.0    43.0    75.0    90.0    96.0
980          UA     100
             *

981          KK   C209R
982          KM    COMBINE RUNOFF FROM S209 WITH ROUTED FLOW FROM S208
983          HC       2
             *

984          KK    C209
985          KM    COMBINE C209R AND C209L.  TOTAL FLOW IN APACHE WASH JUST DOWNSTREAM
986          KM    OF SADDLE MOUNTAIN ROAD
987          HC       2
             *

988          KK  209215   ROUTE   REACH
989          KM    ROUTE COMBINED FLOWS FROM C209 TO C215
990          KM    SLOPE = (2020-1992)/2036 = 0.0138
991          KM     XS based on Apache Wash XS 8.31 (Stanley Consultants, 1999)
992          RS       2    FLOW      -1
993          RC   0.100   0.055   0.100    2036  0.0138    0.00
994          RX  9960.0  9978.0  9984.0  9992.0 10012.0 10060.0 10260.0 10275.0
995          RY  2012.0  2010.0  2006.0  2001.0  2001.0  2006.0  2010.0  2012.0
             *

996          KK    S210   BASIN
997          BA   0.315            0.38
998          LG    0.33    0.21    6.40    0.16       8
999          UC   0.246   0.175
1000         UA       0     3.0     5.0     8.0    12.0    20.0    43.0    75.0    90.0    96.0
1001         UA     100
             *

1002         KK   C215L
1003         KM     COMBINE RUNOFF FROM S210 WITH ROUTED FLOW FROM C209
1004         HC       2
             *

1005         KK    S211   BASIN
1006         BA   0.270            0.38
1007         LG    0.35    0.17    6.80    0.15      25
1008         UC   0.175   0.087
1009         UA       0     3.0     5.0     8.0    12.0    20.0    43.0    75.0    90.0    96.0
1010         UA     100
             *
1                                          HEC-1 INPUT                                          PAGE 27

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

1011         KK  211214   ROUTE   REACH
1012         KM    ROUTE RUNOFF FROM S211 TO C214 THROUGH S212
1013         KM    SLOPE = (2144-2019)/5218 = 0.024
1014         KM     XS based on West Fork Apache Wash XS 0.68 (Stanley Consultants, 1999)
1015         RS       3    FLOW      -1
```

```
1016          RC   0.075   0.055   0.075    5218  0.0240    0.00
1017          RX  9990.0  9991.0  9992.0 10000.0 10027.0 10040.0 10106.0 10120.0
1018          RY  2056.0  2053.0  2050.0  2047.0  2048.7  2050.0  2052.9  2056.0
              *

1019          KK    S212   BASIN
1020          BA   0.182           0.38
1021          LG    0.32    0.25    5.70    0.21       3
1022          UC   0.263   0.249
1023          UA       0     3.0     5.0     8.0    12.0    20.0    43.0    75.0    90.0    96.0
1024          UA     100
              *

1025          KK   C214L
1026          KM     COMBINE RUNOFF FROM S212 WITH ROUTED FLOWS FROM S211
1027          HC       2
              *

1028          KK    S213   BASIN
1029          BA   0.243           0.38
1030          LG    0.33    0.25    6.00    0.19      13
1031          UC   0.233   0.180
1032          UA       0     3.0     5.0     8.0    12.0    20.0    43.0    75.0    90.0    96.0
1033          UA     100
              *

1034          KK    S214   BASIN
1035          BA   0.328           0.38
1036          LG    0.34    0.17    6.80    0.15      22
1037          UC   0.254   0.203
1038          UA       0     3.0     5.0     8.0    12.0    20.0    43.0    75.0    90.0    96.0
1039          UA     100
              *

1040          KK    C214
1041          KM    COMBINE RUNOFF FROM S213 & S214 WITH C214L
1042          KM    THIS IS THE TOTAL FLOW IN THE WEST BRANCH OF APACHE WASH JUST UPSTREAM
1043          KM    OF 26TH STREET
1044          HC       3
              *

1045          KK  214215   ROUTE   REACH
1046          KM    ROUTE COMBINED FLOWS FROM C214 TO C215
1047          KM    SLOPE = (2019-1992)/1801 = 0.0150
1048          KM     XS based on West Fork Apache Wash XS 0.34 (Jerry Jones, 1992) (APACHE.DAT)
1049          RS       1    FLOW      -1
1050          RC   0.100   0.055   0.100    1801  0.0150    0.00
1051          RX  9692.0  9862.0  9934.0  9991.0 10000.0 10002.0 10018.0 10038.0
1052          RY  2024.0  2016.0  2016.0  2014.0  2014.0  2016.0  2020.0  2024.0
              *
1                                          HEC-1 INPUT                                                    PAGE 28

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

1053          KK    S215   BASIN
1054          BA   0.058           0.38
1055          LG    0.30    0.15    7.60    0.09       5
1056          UC   0.208   0.207
1057          UA       0     3.0     5.0     8.0    12.0    20.0    43.0    75.0    90.0    96.0
1058          UA     100
              *

1059          KK   C215R
1060          KM    COMBINE RUNOFF FROM S215 WITH ROUTED FLOW FROM C214
1061          KM    THIS IS THE TOTAL FLOW OF THE (WEST BRANCH) AT ITS CONFLUENCE WITH
1062          KM    APACHE WASH.
1063          HC       2
              *

1064          KK    C215
1065          KM    COMBINE C215R AND C215L.  THIS IS THE TOTAL FLOW IN APACHE WASH
1066          KM    DOWNSTREAM OF THE (WEST BRANCH)
1067          HC       2
              *

1068          KK  215216   ROUTE   REACH
1069          KM    ROUTE COMBINED FLOWS FROM C215 TO C216
1070          KM    SLOPE = (1992-1965)/2088 = 0.0129
1071          KM     XS based on Apache Wash XS 7.84 (Jerry Jones, 1992) (APACHE.DAT)
1072          RS       2    FLOW      -1
1073          RC   0.050   0.040   0.050    2088  0.0129    0.00
1074          RX  9828.0  9916.0  9984.0  9995.0 10025.0 10036.0 10206.0 10222.0
1075          RY  1982.0  1976.0  1976.0  1974.0  1974.0  1978.0  1980.0  1982.0
              *

1076          KK    S216   BASIN
1077          BA   0.365           0.38
1078          LG    0.33    0.15    7.00    0.12      21
1079          UC   0.217   0.114
1080          UA       0     3.0     5.0     8.0    12.0    20.0    43.0    75.0    90.0    96.0
1081          UA     100
              *

1082          KK    C216
```

```
1083          KM     COMBINE RUNOFF FROM S216 WITH ROUTED FLOW FROM C215
1084          KM    THIS IS THE FLOW IN APACHE WASH AT BENTLEY MINE ROAD
1085          HC       2
              *

1086          KK  216217   ROUTE   REACH
1087          KM    ROUTE COMBINED FLOWS FROM C216 TO C217
1088          KM    SLOPE = (1965-1888)/7706 = 0.010
1089          KM     XS based on Apache Wash XS 7.55 (Jerry Jones, 1992) (APACHE.DAT)
1090          RS       7    FLOW      -1
1091          RC   0.100   0.055   0.100    7706  0.0100    0.00
1092          RX  9896.0  9930.0  9970.0  9992.0 10022.0 10025.0 10145.0 10183.0
1093          RY  1966.0  1962.0  1960.0  1956.0  1956.0  1958.0  1960.0  1966.0
              *
1                                          HEC-1 INPUT                                          PAGE 29

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

1094          KK    S217   BASIN
1095          BA   0.363            0.38
1096          LG    0.34    0.15    7.60    0.10      13
1097          UC   0.342   0.312
1098          UA       0     3.0     5.0     8.0    12.0    20.0    43.0    75.0    90.0    96.0
1099          UA     100
              *

1100          KK   C217R
1101          KM    COMBINE RUNOFF FROM S217 WITH ROUTED FLOW FROM C216
1102          HC       2
              *

1103          KK    S218   BASIN
1104          BA   0.388            0.38
1105          LG    0.35    0.17    6.80    0.15      27
1106          UC   0.204   0.102
1107          UA       0     3.0     5.0     8.0    12.0    20.0    43.0    75.0    90.0    96.0
1108          UA     100
              *

1109          KK  218219   ROUTE   REACH
1110          KM    ROUTE RUNOFF FROM S218 TO C219
1111          KM    SLOPE = (2006-1899)/5923 = 0.0181
1112          KM     XS based on Apache Wash Trib 2 XS 0.55 (Stanley Consultants, 1999)
1113          RS       5    FLOW      -1
1114          RC   0.070   0.060   0.070    5923  0.0181    0.00
1115          RX  9940.0  9951.0  9954.0  9993.0 10000.0 10016.0 10028.0 10065.0
1116          RY  1940.0  1938.0  1937.4  1934.0  1933.5  1937.4  1938.0  1940.0
              *

1117          KK    S219   BASIN
1118          BA   0.284            0.38
1119          LG    0.35    0.17    6.80    0.15      25
1120          UC   0.271   0.200
1121          UA       0     3.0     5.0     8.0    12.0    20.0    43.0    75.0    90.0    96.0
1122          UA     100
              *

1123          KK    C219
1124          KM    COMBINE RUNOFF FROM S219 WITH ROUTED FLOW FROM S218
1125          HC       2
              *

1126          KK    S220   BASIN
1127          BA   0.168            0.38
1128          LG    0.33    0.15    7.60    0.10      16
1129          UC   0.246   0.229
1130          UA       0     3.0     5.0     8.0    12.0    20.0    43.0    75.0    90.0    96.0
1131          UA     100
              *
1                                          HEC-1 INPUT                                          PAGE 30

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

1132          KK    C220
1133          KM     COMBINE RUNOFF FROM S220 WITH COMBINED FLOWS AT C219.
1134          KM     (FLOWS FROM C219 NOT ROUTED DUE TO VERY SHORT DISTANCE)
1135          HC       2
              *

1136          KK  220217   ROUTE   REACH
1137          KM    ROUTE COMBINED FLOWS FROM C220 TO C217
1138          KM    SLOPE = (1896-1888)/788 = 0.010
1139          KM     XS based on Apache Wash XS 6.25 (Jerry Jones, 1992) (APACHE.DAT)
1140          RS       1    FLOW      -1
1141          RC   0.065   0.050   0.065     788  0.0100    0.00
1142          RX  9911.0  9932.0  9962.0  9990.0 10015.0 10045.0 10268.0 10570.0
1143          RY  1898.0  1896.0  1892.0  1888.0  1888.0  1892.0  1892.0  1898.0
              *

1144          KK    C217
1145          KM     COMBINE ROUTED FLOWS FROM C220 WITH C217R
1146          KM     THIS IS THE TOTAL FLOW IN APACHE WASH AT MADDOCK ROAD.
1147          HC       2
```

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                *
1148            KK  217221   ROUTE   REACH
1149            KM    ROUTE COMBINED FLOWS FROM C217 TO C221
1150            KM    SLOPE = (1888-1856)/3118 = 0.010
1151            KM     XS based on Apache Wash XS 6.09 (Jerry Jones, 1992) (APACHE.DAT)
1152            RS       3    FLOW      -1
1153            RC   0.065   0.050   0.065    3118  0.0100    0.00
1154            RX  9815.0  9890.0  9935.0  9972.0 10048.0 10070.0 10345.0 10380.0
1155            RY  1886.0  1884.0  1882.0  1879.5  1879.5  1882.0  1884.0  1886.0
                *

1156            KK    S221   BASIN
1157            BA   0.232            0.38
1158            LG    0.30    0.13   10.10    0.03       5
1159            UC   0.379   0.315
1160            UA       0     4.5    12.6    23.2    35.8    50.0    64.2    76.8    87.4    95.5
1161            UA     100
                *

1162            KK    C221
1163            KM    COMBINE RUNOFF FROM S211 WITH ROUTED FLOWS FROM C217
1164            KM    THIS IS THE TOTAL FLOW IN APACHE WASH AT CLOUD ROAD.
1165            HC       2
1166            ZW      A=AW@CLOUD   C=FLOW   F=FUTURE
                *

1167            KK  221222   ROUTE   REACH
1168            KM    ROUTE COMBINED FLOWS FROM C221 TO C222
1169            KM    SLOPE = (1856-1805)/5489 = 0.0093
1170            KM     XS based on Apache Wash XS 5.15 (Jerry Jones, 1992) (APACHE.DAT)
1171            RS       4    FLOW      -1
1172            RC   0.065   0.050   0.065    5489  0.0093    0.00
1173            RX  9870.0  9945.0  9978.0  9987.0 10017.0 10025.0 10495.0 10522.0
1                                          HEC-1 INPUT                                          PAGE 31

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

1174            RY  1839.0  1838.0  1836.0  1830.0  1830.0  1834.0  1836.0  1838.0
                *

1175            KK    S222   BASIN
1176            BA   0.272            0.38
1177            LG    0.30    0.13   10.10    0.03       5
1178            UC   0.392   0.275
1179            UA       0     4.5    12.6    23.2    35.8    50.0    64.2    76.8    87.4    95.5
1180            UA     100
                *

1181            KK    C222
1182            KM     COMBINE RUNOFF FROM S222 WITH ROUTED FLOW FROM C221
1183            KM     THIS IS THE TOTAL FLOW IN APACHE WASH AT CAREFREE HWY
1184            HC       2
1185            ZW      A=AW@CFH   C=FLOW   F=FUTURE
                *

1186            KK  222227   ROUTE   REACH
1187            KM    ROUTE COMBINED FLOWS FROM C222 TO C227 THROUGH S224
1188            KM    SLOPE = (1805-1764)/4913 = 0.0083
1189            KM     XS based on Apache Wash XS 4.31 (Jerry Jones, 1992) (APACHE.DAT)
1190            RS       3    FLOW      -1
1191            RC   0.065   0.050   0.065    3886  0.0083    0.00
1192            RX  9771.0  9896.0  9980.0  9990.0 10010.0 10020.0 10055.0 10111.0
1193            RY  1796.0  1794.0  1792.0  1788.0  1788.0  1792.0  1794.0  1796.0
                *

1194            KK    S223   BASIN
1195            BA   0.091            0.38
1196            LG    0.30    0.15    8.80    0.06       5
1197            UC   0.304   0.261
1198            UA       0     4.5    12.6    23.2    35.8    50.0    64.2    76.8    87.4    95.5
1199            UA     100
                *

1200            KK  223227   ROUTE   REACH
1201            KM    ROUTE RUNOFF FROM S223 TO C227 THROUGH S224
1202            KM    SLOPE = (1804-1764)/3813 = 0.0105
1203            KM     XS based on Apache Wash West Chl XS 4.311 (Jerry Jones, 1992) (APACHE.DAT)
1204            RS       3    FLOW      -1
1205            RC   0.065   0.055   0.065    3813  0.0105    0.00
1206            RX  9400.0  9890.0  9945.0  9995.0 10005.0 10010.0 10150.0 10230.0
1207            RY  1796.0  1794.0  1794.0  1792.0  1792.0  1794.0  1794.0  1796.0
                *

1208            KK    S224   BASIN
1209            BA   0.214            0.38
1210            LG    0.30    0.21    6.40    0.14       5
1211            UC   0.342   0.224
1212            UA       0     3.0     5.0     8.0    12.0    20.0    43.0    75.0    90.0    96.0
1213            UA     100
                *
1                                          HEC-1 INPUT                                          PAGE 32

LINE            ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10
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1214          KK   C227L
1215          KM    COMBINE RUNOFF FROM S224 WITH ROUTED FLOW FROM S223 AND C222
1216          HC       3
              *

1217          KK    S225   BASIN
1218          BA   0.315            0.38
1219          LG    0.31    0.05   12.40    0.01       5
1220          UC   0.475   0.444
1221          UA       0     4.5    12.6    23.2    35.8    50.0    64.2    76.8    87.4    95.5
1222          UA     100
              *

1223          KK  225226   ROUTE   REACH
1224          KM    ROUTE RUNOFF FROM S225 TO C226
1225          KM    SLOPE = (1856-1798)/5803 = 0.010
1226          KM     XS based on Apache Wash Trib 1 XS 1.14 (Stanley Consultants, 1999)
1227          RS       4    FLOW      -1
1228          RC   0.065   0.045   0.065    5803  0.0100    0.00
1229          RX  9926.0  9946.0  9990.0  9997.0 10005.0 10012.0 10034.0 10058.0
1230          RY  1818.0  1815.0  1816.0  1813.6  1813.6  1816.0  1816.7  1818.0
              *

1231          KK    S226   BASIN
1232          BA   0.248            0.38
1233          LG    0.30    0.15    8.80    0.06       5
1234          UC   0.400   0.317
1235          UA       0     4.5    12.6    23.2    35.8    50.0    64.2    76.8    87.4    95.5
1236          UA     100
              *

1237          KK    C226
1238          KM     COMBINE RUNOFF FROM S226 WITH ROUTED FLOWS FROM S225
1239          HC       2
              *

1240          KK  226227   ROUTE   REACH
1241          KM    ROUTE COMBINED FLOWS FROM C226 TO C227
1242          KM    SLOPE = (1798-1764)/3752 = 0.0091
1243          KM     XS based on Apache Wash Trib 1 XS 0.42 (Stanley Consultants, 1999)
1244          RS       4    FLOW      -1
1245          RC   0.065   0.045   0.065    3752  0.0091    0.00
1246          RX  9917.0  9976.0  9990.0  9998.0 10004.0 10012.0 10045.0 10078.0
1247          RY  1784.0  1782.7  1782.5  1779.6  1779.6  1782.0  1783.0  1784.0
              *

1248          KK    S227   BASIN
1249          BA   0.106            0.38
1250          LG    0.30    0.10   11.20    0.02       5
1251          UC   0.354   0.341
1252          UA       0     4.5    12.6    23.2    35.8    50.0    64.2    76.8    87.4    95.5
1253          UA     100
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1254          KK   C227R
1255          KM    COMBINE RUNOFF FROM S227 WITH ROUTED FLOWS FROM C226
1256          HC       2
              *

1257          KK    C227
1258          KM     COMBINE FLOWS FROM C227R AND C227L
1259          KM     THIS IS THE TOTAL FLOW IN APACHE WASH AT C227.
1260          HC       2
              *

1261          KK  227228   ROUTE   REACH
1262          KM    ROUTE COMBINED FLOWS FROM C227 TO C228
1263          KM    SLOPE = (1764-1740)/3336 = 0.0072
1264          KM     XS based on Apache Wash XS 3.32 (Jerry Jones, 1992) (APACHE.DAT)
1265          RS       3    FLOW      -1
1266          RC   0.065   0.050   0.065    3336  0.0072    0.00
1267          RX  9600.0  9725.0  9955.0  9972.0 10002.0 10020.0 10240.0 10900.0
1268          RY  1758.0  1754.0  1754.0  1750.0  1750.0  1754.0  1754.0  1758.0
              *

1269          KK    S228   BASIN
1270          BA   0.225            0.38
1271          LG    0.30    0.15    9.70    0.04       5
1272          UC   0.408   0.336
1273          UA       0     4.5    12.6    23.2    35.8    50.0    64.2    76.8    87.4    95.5
1274          UA     100
              *

1275          KK    C228
1276          KM     COMBINE RUNOFF FROM S228 WITH ROUTED FLOWS FROM C227
1277          KM     THIS IS THE TOTAL FLOW IN APACHE WASH UPSTREAM OF ITS CONFLUENCE
1278          KM     WITH DESERT HILLS WASH.
1279          HC       2
1280          ZW       A=AWUSDHW   C=FLOW   F=FUTURE
              *
```

```
1281          KK  228147   ROUTE   REACH
1282          KM    ROUTE COMBINED FLOWS FROM C228 TO C147
1283          KM    SLOPE = (1740-1732)/1190 = 0.0067
1284          KM     XS based on Apache Wash XS 2.97 (Jerry Jones, 1992) (APACHE.DAT)
1285          RS       1    FLOW      -1
1286          RC   0.065   0.050   0.065    1190  0.0067    0.00
1287          RX  8920.0  8990.0  9000.0  9040.0  9060.0  9065.0  9170.0  9365.0
1288          RY  1752.0  1746.0  1744.0  1738.0  1738.0  1742.0  1742.0  1744.0
              *

1289          KK    C147
1290          KM     COMBINE FLOWS FROM DESERT HILLS WASH WITH FLOWS FROM APACHE WASH
1291          HC       2
1292          ZW      A=DHW+AW   C=FLOW    F=FUTURE
              *
1                                        HEC-1 INPUT                                          PAGE 34

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


1293          KK  147319   ROUTE   REACH
1294          KM    ROUTE COMBINED FLOWS FROM DESERT HILLS AND APACHE WASHES
1295          KM    TO CONFLUENCE WITH PARADISE WASH
1296          KM    SLOPE = (1732-1727)/939 = 0.0053
1297          KM     XS based on Apache Wash XS 2.73 from Jerry Jones (APACHE.DAT)
1298          RS       1    FLOW      -1
1299          RC   0.065   0.050   0.065     939  0.0053    0.00
1300          RX  9756.0  9812.0  9972.0  9986.0 10020.0 10036.0 10071.0 10130.0
1301          RY  1740.0  1736.0  1732.0  1728.0  1728.0  1732.0  1734.0  1740.0
              *

1302          KK    S300   BASIN
1303          BA   0.503            0.38
1304          LG    0.35    0.17    6.80    0.15      24
1305          UC   0.271   0.191
1306          UA       0     3.0     5.0     8.0    12.0    20.0    43.0    75.0    90.0    96.0
1307          UA     100
              *

1308          KK    S301   BASIN
1309          BA   0.504            0.38
1310          LG    0.35    0.17    6.80    0.15      23
1311          UC   0.258   0.157
1312          UA       0     3.0     5.0     8.0    12.0    20.0    43.0    75.0    90.0    96.0
1313          UA     100
              *

1314          KK    C301
1315          KM     COMBINE RUNOFF FROM S300 AND S301
1316          HC       2
              *

1317          KK  301302   ROUTE   REACH
1318          KM    ROUTE COMBINED FLOWS FROM C301 TO C302
1319          KM    SLOPE = (1980-1926)/2988 = 0.018
1320          KM     XS based on Paradise Wash XS 3.84 from Jerry Jones (PARADFCD.DAT)
1321          RS       2    FLOW      -1
1322          RC   0.070   0.055   0.070    2988  0.0180    0.00
1323          RX  9934.0  9962.0  9987.0  9996.0 10004.0 10010.0 10027.0 10045.0
1324          RY  1952.0  1946.0  1940.0  1938.0  1938.0  1940.0  1946.0  1952.0
              *

1325          KK    S302   BASIN
1326          BA   0.239            0.38
1327          LG    0.35    0.23    6.20    0.18      19
1328          UC   0.250   0.172
1329          UA       0     3.0     5.0     8.0    12.0    20.0    43.0    75.0    90.0    96.0
1330          UA     100
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


1331          KK    C302
1332          KM     COMBINE RUNOFF FROM S302 WITH ROUTED FLOWS FROM C301
1333          HC       2
              *

1334          KK  302303   ROUTE   REACH
1335          KM    ROUTE COMBINED FLOWS FROM C302 TO C303
1336          KM    SLOPE = (1926-1895)/2671 = 0.0116
1337          KM     XS based on Paradise Wash XS 3.40 from Jerry Jones (PARADFCD.DAT)
1338          RS       2    FLOW      -1
1339          RC   0.070   0.055   0.070    2671  0.0116    0.00
1340          RX  9956.0  9972.0  9988.0  9995.0 10010.0 10024.0 10044.0 10060.0
1341          RY  1914.0  1910.0  1906.0  1904.0  1904.0  1906.0  1910.0  1914.0
              *

1342          KK    S303   BASIN
1343          BA   0.127            0.38
1344          LG    0.35    0.15    7.60    0.10       9
1345          UC   0.204   0.144
1346          UA       0     4.5    12.6    23.2    35.8    50.0    64.2    76.8    87.4    95.5
```

```
1347          UA     100
              *

1348          KK    C303
1349          KM     COMBINE RUNOFF FROM S303 WITH ROUTED FLOW SFROM C302
1350          HC       2
              *

1351          KK  303312   ROUTE   REACH
1352          KM    ROUTE COMBINED FLOWS FROM C303 TO C312 THROUGH S304
1353          KM    SLOPE = (1895-1828)/5007 = 0.0134
1354          KM     XS based on Paradise Wash XS 2.53 from Jerry Jones (PARADFCD.DAT)
1355          RS       4    FLOW      -1
1356          RC   0.065   0.050   0.065    5007  0.0134    0.00
1357          RX  9678.0  9850.0  9982.0  9993.0 10009.0 10018.0 10041.0 10637.0
1358          RY  1852.0  1850.0  1848.0  1846.0  1846.0  1848.0  1850.0  1852.0
              *

1359          KK    S304   BASIN
1360          BA   0.132            0.38
1361          LG    0.35    0.25    4.90    0.31       2
1362          UC   0.383   0.389
1363          UA       0     4.5    12.6    23.2    35.8    50.0    64.2    76.8    87.4    95.5
1364          UA     100
              *

1365          KK   C312R
1366          KM    COMBINE RUNOFF FROM S304 WITH ROUTED FLOWS FROM C303.
1367          KM    THIS IS THE TOTAL FLOW IN PARADISE WASH UPSTREAM OF RANIERI TANK WASH
1368          HC       2
1369          ZW      A=PWUSRTW   C=FLOW    F=FUTURE
              *
1                                          HEC-1 INPUT                                          PAGE 36

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

1370          KK    S305   BASIN
1371          BA   0.230            0.38
1372          LG    0.35    0.23    6.20    0.18      18
1373          UC   0.208   0.144
1374          UA       0     3.0     5.0     8.0    12.0    20.0    43.0    75.0    90.0    96.0
1375          UA     100
              *

1376          KK  305309   ROUTE   REACH
1377          KM    ROUTE RUNOFF FROM S305 TO C309 THROUGH C306
1378          KM    SLOPE = (1938-1885)/3517 = 0.0151
1379          KM     XS based on Ranieri Tank Wash Trib 1 XS 0.34 (Stanley Consultants, 1999)
1380          RS       2    FLOW      -1
1381          RC   0.065   0.055   0.065    3517  0.0151    0.00
1382          RX  9956.0  9976.0  9991.0  9999.0 10005.0 10013.0 10047.0 10075.0
1383          RY  1908.6  1906.4  1905.6  1904.2  1904.2  1905.6  1906.0  1909.0
              *

1384          KK    S306   BASIN
1385          BA   0.052            0.38
1386          LG    0.35    0.25    5.00    0.30       3
1387          UC   0.250   0.281
1388          UA       0     4.5    12.6    23.2    35.8    50.0    64.2    76.8    87.4    95.5
1389          UA     100
              *

1390          KK    S307   BASIN
1391          BA   0.206            0.38
1392          LG    0.35    0.23    6.20    0.18      19
1393          UC   0.225   0.184
1394          UA       0     3.0     5.0     8.0    12.0    20.0    43.0    75.0    90.0    96.0
1395          UA     100
              *

1396          KK  307309   ROUTE   REACH
1397          KM    ROUTE RUNOFF FROM S307 TO C309 THROUGH S306
1398          KM    SLOPE = (1892-1885)/723 = 0.0097
1399          KM     XS based on Ranieri Tank Wash Trib 1 XS 0.15 (Stanley Consultants, 1999)
1400          RS       1    FLOW      -1
1401          RC   0.065   0.055   0.065     723  0.0097    0.00
1402          RX  9896.0  9958.0  9981.0  9994.0  9999.0 10012.0 10175.0 10267.0
1403          RY  1894.0  1892.0  1891.0  1888.0  1888.0  1890.6  1891.4  1894.0
              *

1404          KK   C309R
1405          KM     COMBINE RUNOFF FROM S306 WITH ROUTED FLOWS FROM S305 & S307
1406          HC       3
              *
1                                          HEC-1 INPUT                                          PAGE 37

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

1407          KK    S308   BASIN
1408          BA   0.466            0.38
1409          LG    0.35    0.23    6.20    0.19       9
1410          UC   0.246   0.140
1411          UA       0     3.0     5.0     8.0    12.0    20.0    43.0    75.0    90.0    96.0
```

```
1412          UA     100
              *

1413          KK  308309   ROUTE   REACH
1414          KM    ROUTE RUNOFF FROM S308 TO C309
1415          KM    SLOPE = (1908-1885)/2133 = 0.0108
1416          KM     XS based on Ranieri Tank Wash XS 1.40 (Stanley Consultants, 1999)
1417          RS       2    FLOW      -1
1418          RC   0.065   0.055   0.065    2133  0.0108    0.00
1419          RX  9758.0  9901.0  9991.0  9997.0 10003.0 10009.0 10031.0 10213.0
1420          RY  1902.0  1900.6  1900.6  1898.6  1898.6  1900.6  1900.6  1902.0
              *

1421          KK    S309   BASIN
1422          BA   0.190            0.38
1423          LG    0.35    0.15    7.00    0.13       9
1424          UC   0.238   0.219
1425          UA       0     3.0     5.0     8.0    12.0    20.0    43.0    75.0    90.0    96.0
1426          UA     100
              *

1427          KK   C309L
1428          KM     COMBINE RUNOFF FROM S309 WITH ROUTED FLOWS FROM S308
1429          HC       2
              *

1430          KK    C309
1431          KM     COMBINE FLOWS FROM C309R AND C309L.
1432          HC       2
              *

1433          KK  309310   ROUTE   REACH
1434          KM    ROUTE COMBINED FLOWS FROM C309 TO C310
1435          KM    SLOPE = (1885-1850)/3609 = 0.0097
1436          KM     XS based on Ranieri Tank Wash XS 0.70 (Jerry Jones, 1992)
1437          RS       3    FLOW      -1
1438          RC   0.065   0.050   0.065    3609  0.0097    0.00
1439          RX  9738.0  9778.0  9968.0  9992.0 10000.0 10020.0 10100.0 10412.0
1440          RY  1868.0  1864.0  1862.0  1860.0  1860.0  1862.0  1866.0  1868.0
              *

1441          KK    S310   BASIN
1442          BA   0.553            0.38
1443          LG    0.34    0.10   11.20    0.03       3
1444          UC   0.388   0.227
1445          UA       0     4.5    12.6    23.2    35.8    50.0    64.2    76.8    87.4    95.5
1446          UA     100
              *
```



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

1447          KK    C310
1448          KM     COMBINE RUNOFF FROM S310 WITH ROUTED FLOWS FROM C309
1449          KM     THIS IS THE INFLOW TO RANIERI TANK(S) AT 32ND STREET
1450          HC       2
              *

1451          KK   D310UDIVERT
1452          KM    DIVERT FLOW INTO UPSTREAM (NEW) TANK.  ASSUME A 50/50 SPLIT INTO
1453          KM    TANK UP TO ITS VOLUME.
1454          DT  D310UO      10
1455          DI       0     100
1456          DQ       0      50
              *

1457          KK   RR310STORAGE
1458          KM     ROUTE HYDROGRAPH THROUGH CULVERTS UNDER 32ND STREET
1459          KM     THERE ARE TWO SETS OF CULVERTS ONE ON THE MAIN CHANNEL ON THE
1460          KM     LEFT COMPOSED OF 3 6' CMPS AND A SET ON THE RIGHT BETWEEN THE
1461          KM     TANKS THAT IS COMPOSED OF 2 6' CMPS AND 4 2.5' CMPS
1462          KM     OUTFLOW HYDRAULICS COMPUTED USING HY8 (FILES: RR310L.INP &
1463          KM     RR310R.INP).  STAGE-AREA DATA ESTIMATED FROM JERRY JONES 2 FT CONTOURS
1464          KM     AND FCDMC 10 FT 2001 CONTOURS.
1465          RS       1    STOR      -1
1466          SA    0.08    0.58    1.23    2.11    3.44    7.22   13.22
1467          SE    1850    1852    1854    1856    1858    1860    1862
1468          SQ       0     160     650    1195    1660    1970    2330    2503    2621    2890
1469          SQ    3126    3422    3699
1470          SE    1850    1852    1854    1856    1858  1859.6    1860  1860.1  1860.2  1860.3
1471          SE  1860.4  1860.5  1860.6
              *

1472          KK   D310DDIVERT
1473          KM    DIVERT VOLUME OF STOCK TANK DOWNSTREAM OF 32ND STREET
1474          KM    ASSUMED THAT ALL FLOW UP TO TOTAL VOLUME DIVERTED BEFORE OVERFLOW
1475          DT  D310DO    2.39
1476          DI       0     100
1477          DQ       0     100
              *

1478          KK  310312   ROUTE   REACH
1479          KM    ROUTE (TANK OUTFLOWS) FROM RR310 TO C312
1480          KM    SLOPE = (1850-1828)/2221 = 0.0099
```

```
1481          KM     XS based on Ranieri Tank Wash XS 0.33 (Jerry Jones, 1992)
1482          RS       2    FLOW      -1
1483          RC   0.065   0.050   0.065    2221  0.0099    0.00
1484          RX  9683.0  9834.0  9938.0  9981.0 10013.0 10030.0 10200.0 10425.0
1485          RY  1852.0  1848.0  1844.0  1842.0  1842.0  1844.0  1846.0  1852.0
              *
1                                          HEC-1 INPUT                                                    PAGE 39

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


1486          KK    S311   BASIN
1487          BA   0.076            0.38
1488          LG    0.30    0.05   12.40    0.01       5
1489          UC   0.279   0.224
1490          UA       0     4.5    12.6    23.2    35.8    50.0    64.2    76.8    87.4    95.5
1491          UA     100
              *

1492          KK  311312   ROUTE   REACH
1493          KM    ROUTE RUNOFF FROM S311 TO C312
1494          KM    SLOPE = (1859-1828)/2280 = 0.0136
1495          KM    XS based on examination of 2002 FCD orthophotos and available 10 ft (FCD)
1496          KM    and 2 ft contour data from Jerry Jones FDS and Stanley FDS mapping
1497          RS       3    FLOW      -1
1498          RC   0.065   0.055   0.065    2280  0.0136    0.00
1499          RX     0.0    40.0    80.0   120.0   160.0   200.0   240.0   280.0
1500          RY   100.0    99.7    99.3    99.0    99.0    99.3    99.7   100.0
              *

1501          KK    S312   BASIN
1502          BA   0.140            0.38
1503          LG    0.32    0.13   10.10    0.04       4
1504          UC   0.292   0.225
1505          UA       0     4.5    12.6    23.2    35.8    50.0    64.2    76.8    87.4    95.5
1506          UA     100
              *

1507          KK   C312L
1508          KM     COMBINE RUNOFF FROM S312 WITH ROUTED FLOWS FROM S311 AND RR310
1509          HC       3
1510          ZW     A=RTWUSPW   C=FLOW   F=FUTURE
              *

1511          KK    C312
1512          KM     COMBINE PARADISE WASH (C312R) AND RANIERI TANK WASH (C312L)
1513          HC       2
1514          ZW     A=PW+RTW   C=FLOW   F=FUTURE
              *

1515          KK  312314   ROUTE   REACH
1516          KM    ROUTE COMBINED FLOWS FROM C312 TO C314 (CAREFREE HWY)
1517          KM    SLOPE = (1828-1820)/1024 = 0.0078
1518          KM     XS based on Paradise Wash XS 2.14 (Jerry Jones, 1992) (PARADFCD.DAT)
1519          RS       1    FLOW      -1
1520          RC   0.065   0.050   0.065    1024  0.0078    0.00
1521          RX  9926.0  9962.0  9970.0  9979.0 10026.0 10219.0 10638.0 10754.0
1522          RY  1830.0  1828.0  1826.0  1824.0  1824.0  1826.0  1826.0  1830.0
              *
1                                          HEC-1 INPUT                                                    PAGE 40

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


1523          KK    S313   BASIN
1524          BA   0.049            0.38
1525          LG    0.30    0.05   12.40    0.01       5
1526          UC   0.279   0.288
1527          UA       0     4.5    12.6    23.2    35.8    50.0    64.2    76.8    87.4    95.5
1528          UA     100
              *

1529          KK  313314   ROUTE   REACH
1530          KM    ROUTE RUNOFF FROM S313 TO C314
1531          KM    SLOPE = (1856-1820)/2487 = 0.0145
1532          KM    XS based on examination of 2002 FCD orthophotos and available 10 ft (FCD)
1533          KM    and 2 ft contour data from Jerry Jones FDS and Stanley FDS mapping
1534          RS       2    FLOW      -1
1535          RC   0.030   0.030   0.055    2487  0.0145    0.00
1536          RX     0.0     1.0    31.0    43.0    48.0    60.0   245.0   355.0
1537          RY   100.0    99.0    98.0    92.0    92.0    98.0    99.0   100.0
              *

1538          KK    S314   BASIN
1539          BA   0.089            0.38
1540          LG    0.31    0.15    8.00    0.08       4
1541          UC   0.242   0.166
1542          UA       0     4.5    12.6    23.2    35.8    50.0    64.2    76.8    87.4    95.5
1543          UA     100
              *

1544          KK    C314
1545          KM    COMBINE RUNOFF FROM S314 WITH ROUTED FLOW FROM S313 AND C312
1546          KM    THIS IS THE TOTAL FLOW IN PARADISE WASH AT CAREFREE HWY
1547          HC       3
```

```
1548          ZW      A=PW@CFH   C=FLOW   F=FUTURE
              *

1549          KK  314318   ROUTE   REACH
1550          KM    ROUTE COMBINED FLOWS FROM C314 TO C318
1551          KM    SLOPE = (1820-1788)/3277 = 0.0098
1552          KM     XS based on Paradise Wash XS 1.83 (Jerry Jones, 1992) (PARADFCD.DAT)
1553          RS       2    FLOW      -1
1554          RC   0.065   0.050   0.065    3277  0.0098    0.00
1555          RX  9866.0  9975.0  9984.0  9990.0 10005.0 10190.0 10390.0 10550.0
1556          RY  1818.0  1810.0  1808.0  1806.0  1806.0  1810.0  1810.0  1818.0
              *

1557          KK    S315   BASIN
1558          BA   0.239            0.38
1559          LG    0.35    0.15    8.80    0.07      15
1560          UC   0.225   0.152
1561          UA       0     3.0     5.0     8.0    12.0    20.0    43.0    75.0    90.0    96.0
1562          UA     100
              *
1                                          HEC-1 INPUT                                          PAGE 41

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

1563          KK  315316   ROUTE   REACH
1564          KM    ROUTE RUNOFF FROM S315 TO C316
1565          KM    SLOPE = (1885-1860)/2328 = 0.0107
1566          KM     XS based on West Fork Paradise Wash XS 1.75 (Stanley Consultants, 1999)
1567          RS       2    FLOW      -1
1568          RC   0.070   0.055   0.070    2328  0.0107    0.00
1569          RX  9983.0  9986.0  9989.0  9996.0 10004.0 10034.0 10047.0 10060.0
1570          RY  1874.0  1873.0  1872.0  1869.0  1869.0  1872.0  1873.0  1874.0
              *

1571          KK    S316   BASIN
1572          BA   0.223            0.38
1573          LG    0.32    0.15    8.80    0.06       6
1574          UC   0.329   0.233
1575          UA       0     4.5    12.6    23.2    35.8    50.0    64.2    76.8    87.4    95.5
1576          UA     100
              *

1577          KK    C316
1578          KM     COMBINE RUNOFF FROM S316 WITH ROUTED FLOW FROM S315
1579          HC       2
              *

1580          KK  316317   ROUTE   REACH
1581          KM    ROUTE COMBINED FLOWS FROM C316 TO C317 (CFH)
1582          KM    SLOPE = (1860-1806)/5852 = 0.0092
1583          KM     XS based on West Fork Paradise Wash XS 1.02 (Jerry Jones,1992) (PRDWST.DAT)
1584          RS       4    FLOW      -1
1585          RC   0.065   0.055   0.065    5852  0.0092    0.00
1586          RX  9973.0  9984.0  9993.0  9997.0 10007.0 10011.0 10067.0 10168.0
1587          RY  1838.0  1836.0  1834.0  1832.7  1832.7  1834.0  1836.0  1838.0
              *

1588          KK    S317   BASIN
1589          BA   0.603            0.38
1590          LG    0.32    0.15    9.70    0.05       4
1591          UC   0.454   0.298
1592          UA       0     3.0     5.0     8.0    12.0    20.0    43.0    75.0    90.0    96.0
1593          UA     100
              *

1594          KK    C317
1595          KM     COMBINE RUNOFF FROM S317 WITH ROUTED FLOW FROM C316
1596          KM     THIS IS THE TOTAL FLOW IN THE WEST BRANCH OF PARADISE WASH
1597          KM     AT CAREFREE HWY
1598          HC       2
1599          ZW      A=WBPW@CFH   C=FLOW   F=FUTURE
              *
1                                          HEC-1 INPUT                                          PAGE 42

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

1600          KK  317318   ROUTE   REACH
1601          KM    ROUTE COMBINED FLOWS FROM C317 TO C318
1602          KM    SLOPE = (1806-1788)/2279 = 0.0079
1603          KM     XS based on West Fork Paradise Wash XS 0.32 (Jerry Jones,1992) (PRDWST.DAT)
1604          RS       3    FLOW      -1
1605          RC   0.065   0.055   0.065    2279  0.0079    0.00
1606          RX  9820.0  9845.0  9995.0  9999.0 10015.0 10070.0 10650.0 10760.0
1607          RY  1808.0  1806.0  1804.0  1802.0  1802.0  1806.0  1806.0  1808.0
              *

1608          KK    S318   BASIN
1609          BA   0.157            0.38
1610          LG    0.30    0.15    7.30    0.10       5
1611          UC   0.333   0.271
1612          UA       0     4.5    12.6    23.2    35.8    50.0    64.2    76.8    87.4    95.5
1613          UA     100
              *
```

```
1614          KK    C318
1615          KM     COMBINE RUNOFF FROM S318 WITH ROUTED FLOWS FROM C317 & C314
1616          HC       3
1617          ZW      A=PW+WBPW   C=FLOW   F=FUTURE
              *

1618          KK  318319   ROUTE   REACH
1619          KM    ROUTE COMBINED FLOWS FROM C318 TO C319
1620          KM    SLOPE = (1788-1729)/7226 = 0.0082
1621          KM     XS based on Paradise Wash XS 0.89 (Jerry Jones, 1992) (PARADFCD.DAT)
1622          RS       6    FLOW      -1
1623          RC   0.070   0.055   0.070    7226  0.0082    0.00
1624          RX  9500.0  9640.0  9980.0  9985.0 10010.0 10078.0 10352.0 10520.0
1625          RY  1780.0  1770.0  1770.0  1764.0  1764.0  1768.0  1774.0  1780.0
              *

1626          KK    S319   BASIN
1627          BA   0.886            0.38
1628          LG    0.30    0.10   11.20    0.02       7
1629          UC   0.758   0.668
1630          UA       0     4.5    12.6    23.2    35.8    50.0    64.2    76.8    87.4    95.5
1631          UA     100
              *

1632          KK   C319L
1633          KM     COMBINE RUNOFF FROM S319 WITH ROUTED FLOW FROM C318
1634          KM     THIS IS THE TOTAL FLOW IN PARADISE WASH UPSTREAM
1635          KM     OF APACHE WASH
1636          HC       2
1637          ZW      A=PWUSAW    C=FLOW   F=FUTURE
              *
```



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

1638          KK    C319
1639          KM     COMBINE PARADISE WASH WITH ROUTED FLOWS FROM C147
1640          KM     THIS IS THE TOTAL FLOW IN APACHE WASH DOWNSTREAM OF
1641          KM     PARADISE WASH
1642          HC       2
1643          ZW      A=AW+PW    C=FLOW   F=FUTURE
              *

1644          KK  319400   ROUTE   REACH
1645          KM    ROUTE COMBINED FLOWS FROM C319 TO C400
1646          KM    SLOPE = (1728-1661)/11176 = 0.0060
1647          KM     XS based on Apache Wash XS 1.37 from Jerry Jones (APACHE.DAT)
1648          RS       9    FLOW      -1
1649          RC   0.070   0.055   0.070   11176  0.0060    0.00
1650          RX  9493.0  9580.0  9932.0  9978.0 10013.0 10030.0 10042.0 10054.0
1651          RY  1698.0  1694.0  1692.0  1688.0  1688.0  1692.0  1695.0  1698.0
              *

1652          KK    S400   BASIN
1653          BA   1.676            0.38
1654          LG    0.30    0.13   10.10    0.03      11
1655          UC   1.500   1.503
1656          UA       0     4.5    12.6    23.2    35.8    50.0    64.2    76.8    87.4    95.5
1657          UA     100
              *

1658          KK    C400
1659          KM     COMBINE RUNOFF FROM S400 WITH ROUTED FLOWS FROM C319
1660          HC       2
1661          ZW       A=AW@POOL    C=FLOW    F=FUTURE
              *

1662          KK    S500   BASIN
1663          KM    THIS IS THE INFLOW TO THE SKUNK TANK WASH PORTION OF THE FLO-2D AREA
1664          KM    CALLED FLO2D2 AT DESERT HILLS DRIVE.
1665          BA   0.039            0.38
1666          LG    0.30    0.05   12.40    0.01       5
1667          UC   0.213   0.206
1668          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
1669          UA     100
              *
1670          ZZ
```

1

SCHEMATIC DIAGRAM OF STREAM NETWORK

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

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

    48        S100
                V
                V
    56      100101
                .
                .
    64          .        S101
                .           .
                .           .
```

```
 70        C101............
              V
              V
 75      101CFH
              .
              .
 83           .        S102
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 89           .      102103
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 97           .           .        S103
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103           .        C103............
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107           .      103104
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116           .           .        S104
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122           .        C104............
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135           .           .        S105
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142           .           .      105106
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150           .           .           .        S106
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156           .           .        C106............
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160           .           .      106107
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168           .           .           .        S107
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174           .           .        C107............
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              .           .           V
179           .           .      107CFH
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187           .           .           .        S150
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194           .           .           .           .        S151
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201           .           .           .           .           .        S152
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210           .           .           .           .           .           .-------->    1520
207           .           .           .           .           .        D152
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222           .           .           .           .           .           .        S153
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228           .           .           .           .           .        C153............
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235           .           .           .        C155.................................
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239      DUMMY...................................
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342          .          .     C109R...........
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509                                           C120............
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520                                                   S121
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526                                           C127L...........
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537                                                 126127
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552                                                   C127R...........
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555                                 C127......................
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560                                 127129
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568                                           S128
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594                                 129134
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609                                         130134
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658                                                   C133............
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717          .          .      S137
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724          .          .    137138
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732          .          .          .       S138
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756          .          .      C139L............
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759          .      C139............
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797          .          .          .       S142
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803          .          .          .    142141
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944          .          .      206209
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952          .          .          .        S207
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958          .          .      C209L............
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1451                                D310U
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1475                                    .-------> D310DO
1472                                D310D
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1478                                310312
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1652          .           .        S400
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1658          .        C400............
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1662          .           .        S500

(***) RUNOFF ALSO COMPUTED AT THIS LOCATION
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   14AUG03  TIME  15:55:40    *                                    *          (916) 756-1104              *
*                                        *                                    *                                      *
****************************************                                    ****************************************
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DESERT HILLS AREA HYDROLOGY

JE FULLER / HYDROLOGY & GEOMORPHOLOGY, INC.
ADOBE DAM / DESERT HILLS ADMP
APRIL 2003 - KK RR310 revised 08-14-03

THIS IS THE 10-YEAR 6-HOUR MODEL FOR FUTURE CONDITIONS LAND USE

MODEL BASIS:
* DDMSW PROJECT NAME: DHA_FU6
* HYDROLOGY DEVELOPED FOR THE DESERT HILLS AREA FOR THE ADMP
* FUTURE CONDITIONS LAND USE BASED ON MAG LAND USE FILES PROVIDED BY FCDMC AND UMODIFIED TO PROVIDE CONSISTENCY WITH EXISTING LAND USE DESIGNATIONS MADE IN THE EXISTING CONDITIONS FOR THE ADMP
* PREFRE RAINFALL STATISTICS FROM NOAA ATLAS II
* MULTIPLE STORM (JD RECORDS) USED FOR CRITICAL STORM CENTERING
* RAINFALL LOSS COMPUTED USING GREEN & AMPT METHOD
* CLARK METHOD WAS USED FOR DEVELOPMENT OF UNIT HYDROGRAPHS
* MODIFIED PULS NORMAL-DEPTH ROUTING USED FOR CHANNEL ROUTINGS
* 10-YR COMPUTED BASED ON 0.38 RATIO OF 100-YEAR (VS. 0.15 FOR EXISTING) TO REFLECT INCREASES IN 10-YEAR DUE TO DEVELOPMENT WITHOUT RETENTION

* A PORTION OF THE AREA WAS MODELED EXTERNALLY USING FLO-2D.

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

    IT          HYDROGRAPH TIME DATA
                       NMIN           5  MINUTES IN COMPUTATION INTERVAL
                      IDATE     21FEB 3  STARTING DATE
                      ITIME        0000  STARTING TIME
                         NQ         300  NUMBER OF HYDROGRAPH ORDINATES
                     NDDATE     22FEB 3  ENDING DATE
                     NDTIME        0055  ENDING TIME
                      ICENT          19  CENTURY MARK

                 COMPUTATION INTERVAL     .08 HOURS
                      TOTAL TIME BASE   24.92 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

 28 JD          INDEX STORM NO. 1
                       STRM        3.35  PRECIPITATION DEPTH
                       TRDA         .01  TRANSPOSITION DRAINAGE AREA
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29 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       .01       .01       .01       .01       .01       .01       .03
                 .03       .03       .05       .05       .05       .15       .15       .15       .03       .03
                 .03       .01       .01       .01       .01       .01       .01       .00       .00       .00
                 .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                 .00       .00

32 JD        INDEX STORM NO. 2
                STRM        3.33  PRECIPITATION DEPTH
                TRDA         .50  TRANSPOSITION DRAINAGE AREA

33 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       .01       .01       .01       .01       .01       .01       .03
                 .03       .03       .05       .05       .05       .15       .15       .15       .03       .03
                 .03       .01       .01       .01       .01       .01       .01       .00       .00       .00
                 .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                 .00       .00

36 JD        INDEX STORM NO. 3
                STRM        3.27  PRECIPITATION DEPTH
                TRDA        2.80  TRANSPOSITION DRAINAGE AREA

37 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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                 .03       .03       .07       .07       .07       .08       .08       .08       .05       .05
                 .05       .02       .02       .02       .01       .01       .01       .00       .00       .00
                 .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
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40 JD        INDEX STORM NO. 4
                STRM        3.09  PRECIPITATION DEPTH
                TRDA       16.00  TRANSPOSITION DRAINAGE AREA

41 PI          PRECIPITATION PATTERN
                 .01       .01       .00       .00       .00       .00       .00       .00       .00       .01
                 .01       .01       .00       .01       .00       .00       .00       .00       .00       .00
                 .00       .00       .01       .00       .00       .00       .00       .01       .01       .01
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                 .03       .03       .06       .06       .06       .07       .07       .07       .04       .04
                 .04       .02       .02       .02       .01       .01       .01       .01       .01       .01
                 .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
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44 JD        INDEX STORM NO. 5
                STRM        2.72  PRECIPITATION DEPTH
                TRDA       90.00  TRANSPOSITION DRAINAGE AREA

45 PI          PRECIPITATION PATTERN
                 .01       .01       .01       .00       .00       .00       .01       .01       .01       .01
                 .01       .01       .01       .01       .01       .01       .01       .01       .01       .01
                 .01       .01       .01       .01       .01       .01       .01       .01       .01       .01
                 .01       .01       .01       .01       .01       .01       .02       .02       .02       .03
                 .03       .03       .05       .05       .05       .05       .05       .05       .04       .04
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                      Unit:  71;  DSS Version: 6-JG
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-----DSS---ZWRITE Unit  71; Vers.    6:  /DHW/C147R/FLOW/21FEB1903/5MIN/FUTURE/
-----DSS---ZWRITE Unit  71; Vers.    6:  /DHW/C147R/FLOW/22FEB1903/5MIN/FUTURE/

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-----DSS---ZWRITE Unit  71; Vers.    6:  /AW@CLOUD/C221/FLOW/20FEB1903/5MIN/FUTURE/
-----DSS---ZWRITE Unit  71; Vers.    6:  /AW@CLOUD/C221/FLOW/21FEB1903/5MIN/FUTURE/
-----DSS---ZWRITE Unit  71; Vers.    6:  /AW@CLOUD/C221/FLOW/22FEB1903/5MIN/FUTURE/
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-----DSS---ZWRITE Unit  71; Vers.    6:  /AW@CFH/C222/FLOW/20FEB1903/5MIN/FUTURE/
-----DSS---ZWRITE Unit  71; Vers.    6:  /AW@CFH/C222/FLOW/21FEB1903/5MIN/FUTURE/
-----DSS---ZWRITE Unit  71; Vers.    6:  /AW@CFH/C222/FLOW/22FEB1903/5MIN/FUTURE/
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-----DSS---ZWRITE Unit  71; Vers.    6:  /AWUSDHW/C228/FLOW/20FEB1903/5MIN/FUTURE/
-----DSS---ZWRITE Unit  71; Vers.    6:  /AWUSDHW/C228/FLOW/21FEB1903/5MIN/FUTURE/
-----DSS---ZWRITE Unit  71; Vers.    6:  /AWUSDHW/C228/FLOW/22FEB1903/5MIN/FUTURE/
-----DSS---ZWRITE Unit  71; Vers.    6:  /DHW+AW/C147/FLOW/20FEB1903/5MIN/FUTURE/
-----DSS---ZWRITE Unit  71; Vers.    6:  /DHW+AW/C147/FLOW/21FEB1903/5MIN/FUTURE/
-----DSS---ZWRITE Unit  71; Vers.    6:  /DHW+AW/C147/FLOW/22FEB1903/5MIN/FUTURE/

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-----DSS---ZWRITE Unit  71; Vers.    6:  /PWUSRTW/C312R/FLOW/20FEB1903/5MIN/FUTURE/
-----DSS---ZWRITE Unit  71; Vers.    6:  /PWUSRTW/C312R/FLOW/21FEB1903/5MIN/FUTURE/
-----DSS---ZWRITE Unit  71; Vers.    6:  /PWUSRTW/C312R/FLOW/22FEB1903/5MIN/FUTURE/

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-----DSS---ZWRITE Unit  71; Vers.   6:  /RTWUSPW/C312L/FLOW/20FEB1903/5MIN/FUTURE/
-----DSS---ZWRITE Unit  71; Vers.   6:  /RTWUSPW/C312L/FLOW/21FEB1903/5MIN/FUTURE/
-----DSS---ZWRITE Unit  71; Vers.   6:  /RTWUSPW/C312L/FLOW/22FEB1903/5MIN/FUTURE/
-----DSS---ZWRITE Unit  71; Vers.   6:  /PW+RTW/C312/FLOW/20FEB1903/5MIN/FUTURE/
-----DSS---ZWRITE Unit  71; Vers.   6:  /PW+RTW/C312/FLOW/21FEB1903/5MIN/FUTURE/
-----DSS---ZWRITE Unit  71; Vers.   6:  /PW+RTW/C312/FLOW/22FEB1903/5MIN/FUTURE/
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-----DSS---ZWRITE Unit  71; Vers.   6:  /PW@CFH/C314/FLOW/20FEB1903/5MIN/FUTURE/
-----DSS---ZWRITE Unit  71; Vers.   6:  /PW@CFH/C314/FLOW/21FEB1903/5MIN/FUTURE/
-----DSS---ZWRITE Unit  71; Vers.   6:  /PW@CFH/C314/FLOW/22FEB1903/5MIN/FUTURE/
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-----DSS---ZWRITE Unit  71; Vers.    6:  /WBPW@CFH/C317/FLOW/20FEB1903/5MIN/FUTURE/
-----DSS---ZWRITE Unit  71; Vers.    6:  /WBPW@CFH/C317/FLOW/21FEB1903/5MIN/FUTURE/
-----DSS---ZWRITE Unit  71; Vers.    6:  /WBPW@CFH/C317/FLOW/22FEB1903/5MIN/FUTURE/

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-----DSS---ZWRITE Unit  71; Vers.    6:  /PW+WBPW/C318/FLOW/20FEB1903/5MIN/FUTURE/
-----DSS---ZWRITE Unit  71; Vers.    6:  /PW+WBPW/C318/FLOW/21FEB1903/5MIN/FUTURE/
-----DSS---ZWRITE Unit  71; Vers.    6:  /PW+WBPW/C318/FLOW/22FEB1903/5MIN/FUTURE/

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-----DSS---ZWRITE Unit  71; Vers.    6:  /PWUSAW/C319L/FLOW/20FEB1903/5MIN/FUTURE/
-----DSS---ZWRITE Unit  71; Vers.    6:  /PWUSAW/C319L/FLOW/21FEB1903/5MIN/FUTURE/
-----DSS---ZWRITE Unit  71; Vers.    6:  /PWUSAW/C319L/FLOW/22FEB1903/5MIN/FUTURE/
-----DSS---ZWRITE Unit  71; Vers.    6:  /AW+PW/C319/FLOW/20FEB1903/5MIN/FUTURE/
-----DSS---ZWRITE Unit  71; Vers.    6:  /AW+PW/C319/FLOW/21FEB1903/5MIN/FUTURE/
-----DSS---ZWRITE Unit  71; Vers.    6:  /AW+PW/C319/FLOW/22FEB1903/5MIN/FUTURE/

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-----DSS---ZWRITE Unit  71; Vers.    6:  /AW@POOL/C400/FLOW/20FEB1903/5MIN/FUTURE/
-----DSS---ZWRITE Unit  71; Vers.    6:  /AW@POOL/C400/FLOW/21FEB1903/5MIN/FUTURE/
-----DSS---ZWRITE Unit  71; Vers.    6:  /AW@POOL/C400/FLOW/22FEB1903/5MIN/FUTURE/

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

                                    PEAK   TIME OF    AVERAGE FLOW FOR MAXIMUM PERIOD      BASIN    MAXIMUM    TIME OF
        OPERATION        STATION    FLOW    PEAK                                          AREA     STAGE     MAX STAGE
+                                                      6-HOUR     24-HOUR     72-HOUR
        HYDROGRAPH AT
+                          S100     349.    4.08        33.         8.          8.       .34
        ROUTED TO
+                        100101     253.    4.42        33.         8.          8.       .34
        HYDROGRAPH AT
+                          S101     264.    4.17        29.         7.          7.       .30
        2 COMBINED AT
+                          C101     449.    4.25        62.        16.         15.       .64
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	ROUTED TO							
+		101CFH	228.	6.58	62.	16.	15.	.64
	HYDROGRAPH AT							
+		S102	356.	4.08	29.	7.	7.	.30
	ROUTED TO							
+		102103	308.	4.17	28.	7.	7.	.30
	HYDROGRAPH AT							
+		S103	142.	4.08	13.	3.	3.	.14
	2 COMBINED AT							
+		C103	440.	4.17	41.	10.	10.	.44
	ROUTED TO							
+		103104	413.	4.25	41.	10.	10.	.44
	HYDROGRAPH AT							
+		S104	82.	4.08	8.	2.	2.	.08
	2 COMBINED AT							
+		C104	472.	4.17	49.	12.	12.	.52
	ROUTED TO							
+		104CFH	198.	6.25	49.	12.	12.	.52
	HYDROGRAPH AT							
+		S105	135.	4.17	19.	5.	5.	.16
	ROUTED TO							
+		105106	122.	4.33	19.	5.	5.	.16
	HYDROGRAPH AT							
+		S106	87.	4.17	12.	3.	3.	.11
	2 COMBINED AT							
+		C106	199.	4.25	31.	8.	7.	.27
	ROUTED TO							
+		106107	166.	4.58	31.	8.	7.	.27
	HYDROGRAPH AT							
+		S107	144.	4.17	20.	5.	5.	.19
	2 COMBINED AT							
+		C107	255.	4.25	51.	13.	12.	.45
	ROUTED TO							
+		107CFH	207.	5.33	51.	13.	12.	.45
	HYDROGRAPH AT							
+		S150	14.	4.00	1.	0.	0.	.01
	HYDROGRAPH AT							
+		S151	19.	4.00	2.	0.	0.	.02
	HYDROGRAPH AT							
+		S152	99.	4.08	7.	2.	2.	.09
	DIVERSION TO							
+		152O	40.	4.08	4.	1.	1.	.09
	HYDROGRAPH AT							
+		D152	59.	4.08	3.	1.	1.	.09
	ROUTED TO							
+		152153	58.	4.08	3.	1.	1.	.09
	HYDROGRAPH AT							
+		S153	13.	4.08	1.	0.	0.	.01
	2 COMBINED AT							
+		C153	70.	4.08	4.	1.	1.	.10
	HYDROGRAPH AT							
+		DR152	40.	4.08	4.	1.	1.	.09
	4 COMBINED AT							
+		C155	139.	4.08	11.	3.	3.	.13
	4 COMBINED AT							
+		DUMMY	431.	6.33	166.	42.	40.	1.74
	HYDROGRAPH AT							
+		S122	133.	4.17	15.	4.	4.	.16
	HYDROGRAPH AT							
+		S123	139.	4.08	13.	3.	3.	.14
	HYDROGRAPH AT							
+		S124	75.	4.00	6.	2.	1.	.06
	ROUTED TO							

+	124125	61.	4.25	6.	2.	1.	.06
+ HYDROGRAPH AT	S125	142.	4.08	15.	4.	4.	.15
+ 2 COMBINED AT	C125	185.	4.17	21.	5.	5.	.21
+ 2 COMBINED AT	DUMMY	323.	4.08	34.	8.	8.	.34
+ 3 COMBINED AT	DUMMY	425.	6.33	209.	53.	51.	2.24
+ HYDROGRAPH AT	FLO2D	1030.	5.50	480.	155.	149.	5.47
+ ROUTED TO	CFH127	1019.	5.67	479.	154.	149.	5.47
+ HYDROGRAPH AT	S108	408.	4.08	33.	8.	8.	.33
+ ROUTED TO	108109	356.	4.25	33.	8.	8.	.33
+ HYDROGRAPH AT	S109	326.	4.17	34.	9.	8.	.37
+ 2 COMBINED AT	C109R	623.	4.25	66.	17.	16.	.69
+ HYDROGRAPH AT	S110	135.	4.08	12.	3.	3.	.13
+ ROUTED TO	110111	94.	4.42	12.	3.	3.	.13
+ HYDROGRAPH AT	S111	267.	4.08	23.	6.	6.	.25
+ 2 COMBINED AT	C111	295.	4.08	35.	9.	8.	.38
+ ROUTED TO	111109	182.	4.75	35.	9.	8.	.38
+ HYDROGRAPH AT	S112	507.	4.17	53.	13.	13.	.57
+ 2 COMBINED AT	C109C	455.	4.17	86.	22.	21.	.95
+ HYDROGRAPH AT	S113	75.	4.17	9.	2.	2.	.11
+ ROUTED TO	113114	62.	4.42	9.	2.	2.	.11
+ HYDROGRAPH AT	S114	94.	4.17	10.	3.	2.	.11
+ 2 COMBINED AT	C114	135.	4.25	19.	5.	5.	.22
+ ROUTED TO	114115	120.	4.50	19.	5.	5.	.22
+ HYDROGRAPH AT	S115	111.	4.25	16.	4.	4.	.16
+ 2 COMBINED AT	C115	203.	4.42	35.	9.	8.	.37
+ ROUTED TO	115109	196.	4.50	35.	9.	8.	.37
+ 3 COMBINED AT	C109	950.	4.25	180.	45.	44.	2.02
+ ROUTED TO	109116	836.	4.58	180.	45.	44.	2.02
+ HYDROGRAPH AT	S116	114.	4.33	17.	4.	4.	.22
+ 2 COMBINED AT	C116R	891.	4.58	195.	49.	47.	2.24
+ HYDROGRAPH AT	S117	167.	4.25	24.	6.	6.	.23
+ HYDROGRAPH AT	S118	82.	4.25	14.	4.	3.	.12

+	ROUTED TO	118119	74.	4.58	14.	4.	3.	.12
+	HYDROGRAPH AT	S119	190.	4.25	30.	7.	7.	.31
+	3 COMBINED AT	C116L	383.	4.33	67.	17.	16.	.67
+	2 COMBINED AT	C116	1121.	4.58	257.	65.	63.	2.91
+	ROUTED TO	116120	1018.	5.00	257.	65.	63.	2.91
+	HYDROGRAPH AT	S120	142.	4.25	25.	6.	6.	.28
+	2 COMBINED AT	C120	1065.	5.00	278.	70.	68.	3.18
+	ROUTED TO	120127	998.	5.33	278.	70.	68.	3.18
+	HYDROGRAPH AT	S121	130.	4.50	29.	7.	7.	.32
+	2 COMBINED AT	C127L	1040.	5.33	303.	77.	74.	3.50
+	HYDROGRAPH AT	S126	160.	4.08	12.	3.	3.	.13
+	ROUTED TO	126127	131.	4.17	12.	3.	3.	.13
+	HYDROGRAPH AT	S127	92.	4.08	8.	2.	2.	.09
+	2 COMBINED AT	C127R	210.	4.17	20.	5.	5.	.22
+	3 COMBINED AT	C127	1911.	5.50	769.	230.	222.	9.19
+	ROUTED TO	127129	1878.	5.67	766.	230.	222.	9.19
+	HYDROGRAPH AT	S128	122.	4.08	12.	3.	3.	.12
+	ROUTED TO	128129	112.	4.17	12.	3.	3.	.12
+	HYDROGRAPH AT	S129	151.	4.08	12.	3.	3.	.12
+	3 COMBINED AT	C129	1880.	5.67	780.	235.	226.	9.43
+	ROUTED TO	129134	1870.	5.75	780.	235.	226.	9.43
+	HYDROGRAPH AT	S130	36.	4.17	4.	1.	1.	.05
+	ROUTED TO	130134	32.	4.33	4.	1.	1.	.05
+	HYDROGRAPH AT	S131	82.	4.17	12.	3.	3.	.11
+	ROUTED TO	131132	75.	4.42	12.	3.	3.	.11
+	HYDROGRAPH AT	S132	134.	4.17	16.	4.	4.	.14
+	2 COMBINED AT	C132	177.	4.25	27.	7.	7.	.25
+	ROUTED TO	132133	148.	4.58	27.	7.	7.	.25
+	HYDROGRAPH AT	S133	92.	4.08	10.	2.	2.	.10
+	2 COMBINED AT	C133	178.	4.50	37.	9.	9.	.35
+	ROUTED TO	133134	171.	4.67	37.	9.	9.	.35
+	HYDROGRAPH AT	S134	74.	4.08	7.	2.	2.	.07

+	3 COMBINED AT C134L	220.	4.25	48.	12.	12.	.48
+	2 COMBINED AT C134	1905.	5.67	819.	245.	236.	9.91
+	ROUTED TO 134139	1891.	5.83	819.	245.	236.	9.91
+	HYDROGRAPH AT S135	83.	4.08	7.	2.	2.	.07
+	ROUTED TO 135139	70.	4.17	7.	2.	2.	.07
+	HYDROGRAPH AT S136	69.	4.17	7.	2.	2.	.08
+	3 COMBINED AT C139R	1891.	5.83	828.	248.	239.	10.05
+	HYDROGRAPH AT S137	68.	4.17	8.	2.	2.	.08
+	ROUTED TO 137138	53.	4.58	8.	2.	2.	.08
+	HYDROGRAPH AT S138	152.	4.33	29.	7.	7.	.27
+	2 COMBINED AT C138	186.	4.42	37.	9.	9.	.35
+	ROUTED TO 138139	167.	4.75	37.	9.	9.	.35
+	HYDROGRAPH AT S139	52.	4.17	5.	1.	1.	.07
+	2 COMBINED AT C139L	177.	4.75	42.	11.	10.	.42
+	2 COMBINED AT C139	1946.	5.83	863.	257.	248.	10.47
+	ROUTED TO 139141	1938.	5.92	862.	257.	247.	10.47
+	HYDROGRAPH AT S140	169.	4.17	27.	7.	6.	.25
+	ROUTED TO 140141	152.	4.42	27.	7.	6.	.25
+	HYDROGRAPH AT S141	82.	4.17	12.	3.	3.	.10
+	2 COMBINED AT C141L	214.	4.33	39.	10.	9.	.35
+	HYDROGRAPH AT S142	127.	4.08	14.	3.	3.	.14
+	ROUTED TO 142141	126.	4.17	14.	3.	3.	.14
+	3 COMBINED AT C141I	1959.	5.83	903.	268.	259.	10.96
+	ROUTED TO 141145	1934.	6.08	902.	268.	258.	10.96
+	HYDROGRAPH AT S143	159.	4.08	14.	3.	3.	.14
+	ROUTED TO 143144	124.	4.17	14.	3.	3.	.14
+	HYDROGRAPH AT S144	115.	4.17	15.	4.	4.	.15
+	3 COMBINED AT C145R	1934.	6.08	921.	274.	264.	11.25
+	HYDROGRAPH AT S145	152.	4.25	24.	6.	6.	.20
+	2 COMBINED AT C145	1941.	6.08	939.	279.	269.	11.46
+	ROUTED TO 145147	1865.	6.50	938.	278.	268.	11.46
	HYDROGRAPH AT						

+		S147	549.	4.25	63.	16.	15.	.67
+	2 COMBINED AT	C147R	1865.	6.50	981.	292.	281.	12.13
+	HYDROGRAPH AT	S200	482.	4.08	53.	13.	13.	.58
+	HYDROGRAPH AT	S201	749.	4.17	77.	19.	18.	.79
+	2 COMBINED AT	C201	1026.	4.17	127.	32.	31.	1.37
+	ROUTED TO	201204	1034.	4.17	127.	32.	31.	1.37
+	HYDROGRAPH AT	S203	209.	4.00	15.	4.	4.	.17
+	2 COMBINED AT	C204L	1101.	4.17	141.	35.	34.	1.54
+	HYDROGRAPH AT	S204	326.	4.08	30.	7.	7.	.30
+	2 COMBINED AT	C204	1253.	4.17	168.	42.	41.	1.84
+	ROUTED TO	204206	1234.	4.17	168.	42.	41.	1.84
+	HYDROGRAPH AT	S205	43.	4.08	3.	1.	1.	.04
+	2 COMBINED AT	C206L	1249.	4.17	171.	43.	41.	1.88
+	HYDROGRAPH AT	S206	156.	4.08	12.	3.	3.	.15
+	2 COMBINED AT	C206	1309.	4.17	181.	45.	44.	2.02
+	ROUTED TO	206209	1288.	4.25	181.	45.	44.	2.02
+	HYDROGRAPH AT	S207	274.	4.08	19.	5.	5.	.25
+	2 COMBINED AT	C209L	1354.	4.25	198.	50.	48.	2.27
+	HYDROGRAPH AT	S208	353.	4.08	27.	7.	6.	.31
+	ROUTED TO	208209	326.	4.17	27.	7.	6.	.31
+	HYDROGRAPH AT	S209	64.	4.08	6.	2.	1.	.07
+	2 COMBINED AT	C209R	387.	4.17	33.	8.	8.	.38
+	2 COMBINED AT	C209	1512.	4.17	226.	57.	55.	2.65
+	ROUTED TO	209215	1509.	4.25	226.	57.	55.	2.65
+	HYDROGRAPH AT	S210	306.	4.08	26.	7.	6.	.31
+	2 COMBINED AT	C215L	1627.	4.25	248.	62.	60.	2.96
+	HYDROGRAPH AT	S211	340.	4.08	26.	6.	6.	.27
+	ROUTED TO	211214	258.	4.25	25.	6.	6.	.27
+	HYDROGRAPH AT	S212	148.	4.17	14.	3.	3.	.18
+	2 COMBINED AT	C214L	385.	4.25	39.	10.	9.	.45
+	HYDROGRAPH AT	S213	234.	4.08	20.	5.	5.	.24
+	HYDROGRAPH AT	S214	308.	4.17	30.	8.	7.	.33

+	3 COMBINED AT	C214	757.	4.17	86.	22.	21.	1.02
+	ROUTED TO	214215	674.	4.25	86.	22.	21.	1.02
+	HYDROGRAPH AT	S215	58.	4.08	5.	1.	1.	.06
+	2 COMBINED AT	C215R	701.	4.25	91.	23.	22.	1.08
+	2 COMBINED AT	C215	2070.	4.25	327.	82.	79.	4.05
+	ROUTED TO	215216	2051.	4.33	327.	82.	79.	4.05
+	HYDROGRAPH AT	S216	439.	4.08	35.	9.	8.	.37
+	2 COMBINED AT	C216	2177.	4.33	356.	90.	86.	4.41
+	ROUTED TO	216217	1958.	4.75	355.	90.	86.	4.41
+	HYDROGRAPH AT	S217	284.	4.25	34.	8.	8.	.36
+	2 COMBINED AT	C217R	2025.	4.75	383.	97.	93.	4.77
+	HYDROGRAPH AT	S218	477.	4.08	37.	9.	9.	.39
+	ROUTED TO	218219	359.	4.33	37.	9.	9.	.39
+	HYDROGRAPH AT	S219	271.	4.17	27.	7.	6.	.28
+	2 COMBINED AT	C219	511.	4.25	63.	16.	15.	.67
+	HYDROGRAPH AT	S220	154.	4.17	16.	4.	4.	.17
+	2 COMBINED AT	C220	603.	4.25	78.	20.	19.	.84
+	ROUTED TO	220217	596.	4.25	78.	20.	19.	.84
+	2 COMBINED AT	C217	2199.	4.75	448.	113.	109.	5.61
+	ROUTED TO	217221	2132.	4.83	448.	113.	109.	5.61
+	HYDROGRAPH AT	S221	179.	4.17	24.	6.	6.	.23
+	2 COMBINED AT	C221	2173.	4.83	469.	119.	114.	5.85
+	ROUTED TO	221222	1935.	5.25	468.	119.	114.	5.85
+	HYDROGRAPH AT	S222	221.	4.17	28.	7.	7.	.27
+	2 COMBINED AT	C222	1946.	5.25	492.	125.	120.	6.12
+	ROUTED TO	222227	1900.	5.50	492.	125.	120.	6.12
+	HYDROGRAPH AT	S223	77.	4.17	9.	2.	2.	.09
+	ROUTED TO	223227	55.	4.50	9.	2.	2.	.09
+	HYDROGRAPH AT	S224	188.	4.17	18.	5.	4.	.21
+	3 COMBINED AT	C227L	1904.	5.50	512.	130.	125.	6.42
+	HYDROGRAPH AT	S225	208.	4.25	36.	9.	9.	.31
+	ROUTED TO	225226	165.	4.83	36.	9.	9.	.31

	HYDROGRAPH AT							
+		S226	184.	4.25	24.	6.	6.	.25
	2 COMBINED AT							
+		C226	256.	4.25	59.	15.	14.	.56
	ROUTED TO							
+		226227	245.	4.58	59.	15.	14.	.56
	HYDROGRAPH AT							
+		S227	82.	4.17	11.	3.	3.	.11
	2 COMBINED AT							
+		C227R	285.	4.50	70.	18.	17.	.67
	2 COMBINED AT							
+		C227	2002.	5.50	573.	145.	140.	7.09
	ROUTED TO							
+		227228	1917.	5.75	573.	145.	140.	7.09
	HYDROGRAPH AT							
+		S228	166.	4.25	22.	6.	5.	.22
	2 COMBINED AT							
+		C228	1916.	5.75	591.	150.	145.	7.32
	ROUTED TO							
+		228147	1900.	5.83	590.	150.	145.	7.32
	2 COMBINED AT							
+		C147	3154.	6.17	1496.	423.	408.	19.45
	ROUTED TO							
+		147319	3147.	6.17	1496.	423.	408.	19.45
	HYDROGRAPH AT							
+		S300	486.	4.17	47.	12.	11.	.50
	HYDROGRAPH AT							
+		S301	513.	4.08	47.	12.	11.	.50
	2 COMBINED AT							
+		C301	833.	4.17	92.	23.	22.	1.01
	ROUTED TO							
+		301302	795.	4.25	91.	23.	22.	1.01
	HYDROGRAPH AT							
+		S302	232.	4.08	21.	5.	5.	.24
	2 COMBINED AT							
+		C302	918.	4.17	110.	28.	27.	1.25
	ROUTED TO							
+		302303	874.	4.25	110.	28.	27.	1.25
	HYDROGRAPH AT							
+		S303	138.	4.08	12.	3.	3.	.13
	2 COMBINED AT							
+		C303	921.	4.25	121.	30.	29.	1.37
	ROUTED TO							
+		303312	805.	4.58	121.	30.	29.	1.37
	HYDROGRAPH AT							
+		S304	73.	4.25	9.	2.	2.	.13
	2 COMBINED AT							
+		C312R	825.	4.58	128.	32.	31.	1.50
	HYDROGRAPH AT							
+		S305	250.	4.08	20.	5.	5.	.23
	ROUTED TO							
+		305309	168.	4.33	20.	5.	5.	.23
	HYDROGRAPH AT							
+		S306	37.	4.08	4.	1.	1.	.05
	HYDROGRAPH AT							
+		S307	201.	4.08	18.	4.	4.	.21
	ROUTED TO							
+		307309	192.	4.17	18.	4.	4.	.21
	3 COMBINED AT							
+		C309R	367.	4.17	41.	10.	10.	.49
	HYDROGRAPH AT							
+		S308	483.	4.08	37.	9.	9.	.47
	ROUTED TO							

+		308309	329.	4.33	37.	9.	9.	.47
+	HYDROGRAPH AT	S309	175.	4.08	17.	4.	4.	.19
+	2 COMBINED AT	C309L	422.	4.25	53.	13.	13.	.66
+	2 COMBINED AT	C309	678.	4.25	91.	23.	22.	1.14
+	ROUTED TO	309310	600.	4.50	91.	23.	22.	1.14
+	HYDROGRAPH AT	S310	477.	4.17	56.	14.	14.	.55
+	2 COMBINED AT	C310	817.	4.42	144.	36.	35.	1.70
+	DIVERSION TO	D310UO	350.	4.17	20.	5.	5.	1.70
+	HYDROGRAPH AT	D310U	817.	4.42	124.	31.	30.	1.70
+	ROUTED TO	RR310	801.	4.50	124.	31.	30.	1.70
+	DIVERSION TO	D310DO	92.	3.83	5.	1.	1.	1.70
+	HYDROGRAPH AT	D310D	801.	4.50	119.	30.	29.	1.70
+	ROUTED TO	310312	776.	4.58	119.	30.	29.	1.70
+	HYDROGRAPH AT	S311	73.	4.08	9.	2.	2.	.08
+	ROUTED TO	311312	57.	4.42	9.	2.	2.	.08
+	HYDROGRAPH AT	S312	127.	4.17	14.	3.	3.	.14
+	3 COMBINED AT	C312L	846.	4.58	140.	35.	34.	1.91
+	2 COMBINED AT	C312	1485.	4.58	258.	65.	62.	3.42
+	ROUTED TO	312314	1434.	4.67	258.	65.	62.	3.42
+	HYDROGRAPH AT	S313	43.	4.17	6.	1.	1.	.05
+	ROUTED TO	313314	41.	4.25	6.	1.	1.	.05
+	HYDROGRAPH AT	S314	92.	4.08	8.	2.	2.	.09
+	3 COMBINED AT	C314	1461.	4.67	270.	68.	65.	3.56
+	ROUTED TO	314318	1398.	4.83	270.	68.	65.	3.56
+	HYDROGRAPH AT	S315	265.	4.08	23.	6.	6.	.24
+	ROUTED TO	315316	227.	4.25	23.	6.	6.	.24
+	HYDROGRAPH AT	S316	196.	4.17	21.	5.	5.	.22
+	2 COMBINED AT	C316	414.	4.17	44.	11.	11.	.46
+	ROUTED TO	316317	301.	4.58	44.	11.	11.	.46
+	HYDROGRAPH AT	S317	462.	4.25	57.	14.	14.	.60
+	2 COMBINED AT	C317	580.	4.33	99.	25.	24.	1.07
+	ROUTED TO	317318	558.	4.58	99.	25.	24.	1.07

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          HYDROGRAPH AT
+                          S318      127.   4.17        14.        4.        3.       .16

          3 COMBINED AT
+                          C318     1791.   4.83       369.       93.       89.      4.78

          ROUTED TO
+                        318319     1716.   5.08       369.       93.       89.      4.78

          HYDROGRAPH AT
+                          S319      398.   4.50        95.       24.       23.       .89

          2 COMBINED AT
+                         C319L     1915.   5.08       453.      114.      110.      5.66

          2 COMBINED AT
+                          C319     3554.   6.00      1849.      514.      495.     25.11

          ROUTED TO
+                        319400     3522.   6.58      1839.      510.      491.     25.11

          HYDROGRAPH AT
+                          S400      385.   5.25       165.       43.       41.      1.68

          2 COMBINED AT
+                          C400     3674.   6.42      1956.      544.      524.     26.79

          HYDROGRAPH AT
+                          S500       40.   4.08         5.        1.        1.       .04


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


    -----DSS---ZCLOSE Unit:  71,   File: DH106F.DSS
              Pointer Utilization:   .26
              Number of Records:     42
              File Size:     84.2  Kbytes
              Percent Inactive:    .0
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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   14AUG03  TIME  15:55:09  *                    *          (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   DESERT HILLS AREA HYDROLOGY
        2           ID
        3           ID     JE FULLER / HYDROLOGY & GEOMORPHOLOGY, INC.
        4           ID     ADOBE DAM / DESERT HILLS ADMP
        5           ID     APRIL 2003 - KK RR310 revised 08-14-03
        6           ID
        7           ID     THIS IS THE 2-YEAR 6-HOUR MODEL FOR FUTURE CONDITIONS LAND USE
        8           ID
        9           ID    MODEL BASIS:
       10           ID     * DDMSW PROJECT NAME: DHA_FU6
       11           ID     * HYDROLOGY DEVELOPED FOR THE DESERT HILLS AREA FOR THE ADMP
       12           ID     * FUTURE   CONDITIONS LAND USE BASED ON MAG LAND USE FILES PROVIDED
       13           ID       BY FCDMC AND UMODIFIED TO PROVIDE CONSISTENCY WITH EXISTING LAND USE
       14           ID       DESIGNATIONS MADE IN THE EXISTING CONDITIONS FOR THE ADMP
       15           ID     * PREFRE RAINFALL STATISTICS FROM NOAA ATLAS II
       16           ID     * MULTIPLE STORM (JD RECORDS) USED FOR CRITICAL STORM CENTERING
       17           ID     * RAINFALL LOSS COMPUTED USING GREEN & AMPT METHOD
       18           ID     * CLARK METHOD WAS USED FOR DEVELOPMENT OF UNIT HYDROGRAPHS
       19           ID     * MODIFIED PULS NORMAL-DEPTH ROUTING USED FOR CHANNEL ROUTINGS
       20           ID     * 2-YR COMPUTED BASED ON 0.15 RATIO OF 100-YEAR (VS. 0.10 FOR EXISTING)
       21           ID       TO REFLECT INCREASES IN 2-YEAR DUE TO DEVELOPMENT WITHOUT RETENTION
       22           ID
       23           ID     * A PORTION OF THE AREA WAS MODELED EXTERNALLY USING FLO-2D.
       24           ID
                    *DIAGRAM
       25           IT       5 21FEB03    0000     300
       26           IO       5
       27           IN      15
       28           JD    3.35     0.01
       29           PC   0.000    0.008   0.016   0.025   0.033   0.041   0.050   0.058   0.066   0.074
       30           PC   0.087    0.099   0.118   0.138   0.216   0.377   0.834   0.911   0.931   0.950
       31           PC   0.962    0.972   0.983   0.991   1.000
       32           JD   3.328     0.50
       33           PC   0.000    0.008   0.016   0.025   0.033   0.041   0.050   0.058   0.066   0.074
       34           PC   0.087    0.099   0.118   0.138   0.216   0.377   0.834   0.911   0.931   0.950
       35           PC   0.962    0.972   0.983   0.991   1.000
       36           JD   3.266     2.80
       37           PC   0.000    0.009   0.016   0.025   0.034   0.042   0.051   0.059   0.067   0.076
       38           PC   0.087    0.100   0.120   0.163   0.252   0.451   0.694   0.837   0.900   0.938
       39           PC   0.950    0.963   0.975   0.988   1.000
       40           JD   3.089     16.0
       41           PC   0.000    0.015   0.020   0.030   0.048   0.063   0.076   0.090   0.105   0.119
       42           PC   0.135    0.152   0.175   0.222   0.304   0.472   0.670   0.796   0.868   0.912
       43           PC   0.946    0.960   0.973   0.987   1.000
       44           JD   2.720     90.0
       45           PC   0.000    0.021   0.035   0.051   0.071   0.087   0.105   0.125   0.143   0.160
       46           PC   0.179    0.201   0.232   0.281   0.364   0.500   0.658   0.773   0.841   0.888
       47           PC   0.927    0.945   0.964   0.982   1.000
                    *
1                                          HEC-1 INPUT                                          PAGE  2

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

       48           KK    S100   BASIN
       49           BA   0.341            0.15
       50           KM    THIS IS THE FLOW IN DESERT LAKE WASH AT NEW RIVER ROAD ABOUT 900 FT NORTH
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 51          KM    OF SADDLE MOUNTAIN ROAD
 52          LG    0.34    0.15    7.30    0.12      26
 53          UC   0.242   0.177
 54          UA       0     3.0     5.0     8.0    12.0    20.0    43.0    75.0    90.0    96.0
 55          UA     100
             *

 56          KK  100101   ROUTE   REACH
 57          KM    ROUTE RUNOFF FROM SUBBASIN S100 TO C101
 58          KM    SLOPE = (1990-1910)/4970 = 0.016
 59          KM     XS based on Desert Lake Wash XS 4.37 (Stanley Consultants, 1999)
 60          RS       3    FLOW      -1
 61          RC   0.075   0.055   0.075    4970  0.0160    0.00
 62          RX  9930.4  9950.2  9992.1 10000.0 10017.0 10022.0 10078.0 10122.0
 63          RY  1936.0  1932.6  1930.6  1928.5  1929.2  1930.7  1930.7  1936.0
             *

 64          KK    S101   BASIN
 65          BA   0.298            0.15
 66          LG    0.30    0.15    9.70    0.04       6
 67          UC   0.321   0.266
 68          UA       0     3.0     5.0     8.0    12.0    20.0    43.0    75.0    90.0    96.0
 69          UA     100
             *

 70          KK    C101
 71          KM   COMBINE RUNOFF FROM S101 WITH ROUTED FLOW FROM S100
 72          KM   THIS IS THE TOTAL FLOW IN DESERT LAKE WASH AT DESERT HILLS DRIVE
 73          KM    INFLOW TO FLO-2D AREA
 74          HC       2
             *

 75          KK  101CFH   ROUTE   REACH
 76          KM    ROUTE COMBINED FLOW AT C101 TO CAREFREE HIGHWAY
 77          KM    SLOPE = (1910-1775)/18272 = 0.0074
 78          KM     XS IS HYPOTHETICAL; EVENTUALLY WILL BE REPLACED BY FLO-2D RESULTS
 79          RS      19    FLOW      -1
 80          RC   0.060   0.050   0.060   18272  0.0074    0.00
 81          RX     0.0    10.0   110.0   120.0   135.0   145.0   245.0   255.0
 82          RY   100.0    90.0    89.0    88.0    88.0    89.0    90.0   100.0
             *

 83          KK    S102   BASIN
 84          BA   0.298            0.15
 85          LG    0.34    0.15    7.00    0.13      23
 86          UC   0.204   0.119
 87          UA       0     3.0     5.0     8.0    12.0    20.0    43.0    75.0    90.0    96.0
 88          UA     100
             *
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LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 89          KK  102103   ROUTE   REACH
 90          KM    ROUTE RUNOFF FROM SUBBASIN S102 TO C103
 91          KM    SLOPE = (1995-1941)/2635 = 0.0205
 92          KM     XS based on Desert Lake Wash Trib 2 XS 2.68 (Stanley Consultants, 1999)
 93          RS       2    FLOW      -1
 94          RC   0.075   0.055   0.075    2635  0.0205    0.00
 95          RX  9989.2  9991.6  9995.7 10000.0 10019.0 10066.0 10119.0 10146.0
 96          RY  1978.6  1976.0  1972.0  1968.0  1968.9  1972.0  1976.0  1978.5
             *

 97          KK    S103   BASIN
 98          BA   0.139            0.15
 99          LG    0.30    0.15    7.00    0.11       6
100          UC   0.221   0.184
101          UA       0     3.0     5.0     8.0    12.0    20.0    43.0    75.0    90.0    96.0
102          UA     100
             *

103          KK    C103
104          KM    COMBINE RUNOFF FROM S103 WITH ROUTED FLOW FROM S102
105          KM    THIS IS THE FLOW IN DESERT LAKE WASH TRIB 2 AT DESERT HILLS DRIVE
106          HC       2
             *

107          KK  103104   ROUTE   REACH
108          KM    ROUTE COMBINED FLOW FROM C103 TO C104
109          KM    INFLOW TO FLO-2D AREA
110          KM    SLOPE = (1941-1920)/1290 = 0.016
111          KM     XS based on Desert Lake Wash Trib 2 XS 2.19 (Stanley Consultants, 1999)
112          RS       1    FLOW      -1
113          RC   0.075   0.055   0.075    1290  0.0160    0.00
114          RX  9842.3  9939.1  9975.0 10000.0 10010.0 10019.0 10029.0 10035.0
115          RY  1928.0  1924.9  1923.1  1920.2  1919.1  1923.0  1926.0  1928.0
             *

116          KK    S104   BASIN
117          BA   0.082            0.15
118          LG    0.30    0.15    8.80    0.06       8
119          UC   0.217   0.197
120          UA       0     4.5    12.6    23.2    35.8    50.0    64.2    76.8    87.4    95.5
121          UA     100
```

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                *

 122            KK    C104
 123            KM    COMBINE RUNOFF FROM S104 WITH ROUTED FLOW FROM C103
 124            KM    THIS IS THE TOTAL FLOW IN DESERT LAKE WASH TRIB 2 AT 10TH STREET
 125            KM    INFLOW TO FLO-2D AREA
 126            HC       2
                *
1                                        HEC-1 INPUT                                          PAGE  4

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


 127            KK  104CFH   ROUTE   REACH
 128            KM    ROUTE COMBINED FLOW AT C104 TO CAREFREE HIGHWAY
 129            KM    SLOPE = (1920-1775)/17795 = 0.0081
 130            KM     XS IS HYPOTHETICAL; EVENTUALLY WILL BE REPLACED BY FLO-2D RESULTS
 131            RS      18    FLOW      -1
 132            RC   0.060   0.050   0.060   17795  0.0081    0.00
 133            RX     0.0    10.0   110.0   120.0   135.0   145.0   245.0   255.0
 134            RY   100.0    90.0    89.0    88.0    88.0    89.0    90.0   100.0
                *

 135            KK    S105   BASIN
 136            KM    THIS IS THE RUNOFF IN THE EAST FORK OF DESERT LAKE WASH AT 12TH STREET.
 137            BA   0.162            0.15
 138            LG    0.30    0.05   12.40    0.01       5
 139            UC   0.321   0.317
 140            UA       0     4.5    12.6    23.2    35.8    50.0    64.2    76.8    87.4    95.5
 141            UA     100
                *

 142            KK  105106   ROUTE   REACH
 143            KM    ROUTE RUNOFF FROM S105 TO C106
 144            KM    SLOPE = (1875-1855)/1600 = 0.0125
 145            KM     XS based on East Fork Desert Lake Wash XS 2.47 (Stanley Consultants, 1999)
 146            RS       2    FLOW      -1
 147            RC   0.060   0.050   0.060    1600  0.0125    0.00
 148            RX  9805.6  9964.1  9995.6 10000.0 10005.0 10010.0 10036.0 10140.0
 149            RY  1868.0  1864.0  1863.6  1862.2  1862.2  1863.3  1864.0  1868.0
                *

 150            KK    S106   BASIN
 151            BA   0.107            0.15
 152            LG    0.30    0.05   12.40    0.01       5
 153            UC   0.313   0.334
 154            UA       0     4.5    12.6    23.2    35.8    50.0    64.2    76.8    87.4    95.5
 155            UA     100
                *

 156            KK    C106
 157            KM    COMBINE RUNOFF FROM S106 WITH ROUTED FLOW FROM C105
 158            KM    THIS IS THE FLOW IN THE EAST FORK OF DESERT LAKE WASH AT JOY RANCH ROAD
 159            HC       2
                *

 160            KK  106107   ROUTE   REACH
 161            KM    ROUTE COMBINED FLOW FROM C106 TO C107
 162            KM    SLOPE = (1855-1831)/2882 = 0.0083
 163            KM     XS based on East Fork Desert Lake Wash XS 2.14 (Stanley Consultants, 1999)
 164            RS       3    FLOW      -1
 165            RC   0.075   0.055   0.075    2882  0.0083    0.00
 166            RX  9799.6  9956.2  9992.2 10000.0 10005.0 10010.0 10078.0 10191.0
 167            RY  1850.0  1848.0  1846.7  1844.0  1844.0  1846.6  1847.0  1850.0
                *
1                                        HEC-1 INPUT                                          PAGE  5

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


 168            KK    S107   BASIN
 169            BA   0.186            0.15
 170            LG    0.30    0.10   11.20    0.02       5
 171            UC   0.392   0.349
 172            UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
 173            UA     100
                *

 174            KK    C107
 175            KM     COMBINE RUNOFF FROM S107 WITH ROUTED FLOW FROM C106
 176            KM     THIS IS THE FLOW IN THE EAST FORK OF DESERT LAKE WASH AT MADDOCK ROAD
 177            KM    INFLOW TO FLO-2D AREA
 178            HC       2
                *

 179            KK  107CFH   ROUTE   REACH
 180            KM    ROUTE COMBINED FLOW AT C107 TO CAREFREE HIGHWAY
 181            KM    SLOPE = (1831-1775)/8801 = 0.0064
 182            KM     XS IS HYPOTHETICAL; EVENTUALLY WILL BE REPLACED BY FLO-2D RESULTS
 183            RS       8    FLOW      -1
 184            RC   0.050   0.040   0.050    8801  0.0064    0.00
 185            RX     0.0    10.0   110.0   120.0   135.0   145.0   245.0   255.0
 186            RY   100.0    90.0    89.0    88.0    88.0    89.0    90.0   100.0
                *
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```
187          KK    S150   BASIN
188          KM     INFLOW TO FLO-2D AREA
189          BA   0.011            0.15
190          LG    0.35    0.13   10.10    0.04       2
191          UC   0.104   0.104
192          UA       0     4.5    12.6    23.2    35.8    50.0    64.2    76.8    87.4    95.5
193          UA     100
             *

194          KK    S151   BASIN
195          KM     INFLOW TO FLO-2D AREA
196          BA   0.017            0.15
197          LG    0.35    0.15    7.60    0.11       8
198          UC   0.129   0.149
199          UA       0     4.5    12.6    23.2    35.8    50.0    64.2    76.8    87.4    95.5
200          UA     100
             *

201          KK    S152   BASIN
202          BA   0.087            0.15
203          LG    0.35    0.19    6.60    0.17       5
204          UC   0.167   0.126
205          UA       0     3.0     5.0     8.0    12.0    20.0    43.0    75.0    90.0    96.0
206          UA     100
             *
1                                          HEC-1 INPUT                                          PAGE  6

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

207          KK    D152DIVERT
208          KM     DIVERT FLOW TO FLO-2D AREA UNDER CAREFREE HWY
209          KM     RATING BASED ON HY8 ANALYSIS (FILE: D152.INP)
210          DT    1520
211          DI       0      30     200     300
212          DQ       0      28      57      60
             *

213          KK  152153   ROUTE   REACH
214          KM    ROUTE RUNOFF FROM S152 TO C153 ALONG CAREFREE HWY
215          KM    SLOPE = (1846-1838)/616 = 0.013
216          KM    XS based on examination of 2002 FCD orthophotos and available 10 ft (FCD)
217          KM    and 2 ft contour data from Jerry Jones FDS and Stanley FDS mapping
218          RS       1    FLOW      -1
219          RC   0.030   0.030   0.060     616  0.0130    0.00
220          RX     0.0     1.0    31.0    43.0    48.0    60.0    80.0   100.0
221          RY   100.0    99.5    99.0    96.0    96.0    99.0    99.5   100.0
             *

222          KK    S153   BASIN
223          BA   0.012            0.15
224          LG    0.32    0.13   10.10    0.04       9
225          UC   0.158   0.177
226          UA       0     4.5    12.6    23.2    35.8    50.0    64.2    76.8    87.4    95.5
227          UA     100
             *

228          KK    C153
229          KM    COMBINE RUNOFF FROM S153 WITH ROUTED FLOW FROM S152
230          KM     INFLOW TO FLO-2D AREA
231          HC       2
             *

232          KK   DR152
233          KM    RETRIEVE DIVERTED FLOW INTO FLO-2D AREA AT D152
234          DR    1520
             *

235          KK    C155
236          KM    DUMMY COMBINATION OF ALL 150 SERIES SUBBASINS FOR ROUTING THROUGH
237          KM    FLO-2D AREA IN HEC-1 AND PRESERVATION OF TOTAL WATERSHED AREA
238          HC       4
             *

239          KK   DUMMY
240          KM    COMBINE 150 SERIES FLO-2D INFLOW HYDROGRAPHS WITH 100 SERIES FLO-2D
241          KM    INFLOW HYDROGRAPHS
242          HC       4
             *
1                                          HEC-1 INPUT                                          PAGE  7

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

243          KK    S122   BASIN
244          KM    THIS IS THE RUNOFF TO CENTRAL AVE JUST SOUTH OF CAREFREE HWY
245          KM    THIS IS INFLOW TO FLO-2D MODEL
246          BA   0.158            0.15
247          LG    0.33    0.15    7.30    0.12      16
248          UC   0.308   0.278
249          UA       0     3.0     5.0     8.0    12.0    20.0    43.0    75.0    90.0    96.0
250          UA     100
             *
             *  THE FOLLOWING ROUTING REACH REMOVED AS S122 RUNOFF IS NOW IMPORTED
             *  INTO FLO-2D MODEL TO ROUTE TO C127
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                *
                * KK122125   ROUTE   REACH
                * KM  ROUTE RUNOFF FROM S122 TO C125
                * KM  SLOPE = (1815-1788)/2616 = 0.010
                * KM  ROUTE ALONG SOUTH SIDE OF CAREFREE HWY
                * KM  XS based on examination of 2002 FCD orthophotos and available 10 ft (FCD)
                * KM  and 2 ft contour data from Jerry Jones FDS and Stanley FDS mapping
                * RS     2    FLOW      -1
                * RC 0.030   0.035   0.050    2616  0.0100    0.00
                * RX   0.0     1.0    31.0    46.0    56.0    64.0   100.0   200.0
                * RY 100.0    99.5    99.0    95.0    95.0    99.0    99.5   100.0
                *

 251            KK    S123   BASIN
 252            KM    THIS IS THE RUNOFF TO CENTRAL AVENUE ABOUT 300 FT SOUTH OF CAREFREE HWY
 253            KM    THIS IS INFLOW TO FLO-2D MODEL
 254            BA   0.135            0.15
 255            LG    0.31    0.15    8.00    0.09      19
 256            UC   0.221   0.187
 257            UA       0     3.0     5.0     8.0    12.0    20.0    43.0    75.0    90.0    96.0
 258            UA     100
                *
                *  FOLLWING ROUTING REMOVED AND RUNOFF IMPORTED INTO FLO-2D MODEL
                *  TO ROUTE TO C127
                *
                * KK123125   ROUTE   REACH
                * KM  ROUTE RUNOFF FROM S123 TO C125
                * KM  SLOPE = (1813-1788)/2704 = 0.009
                * KM  XS based on examination of 2002 FCD orthophotos and available 10 ft (FCD)
                * KM  and 2 ft contour data from Jerry Jones FDS and Stanley FDS mapping
                * RS     2    FLOW      -1
                * RC 0.030   0.035   0.050    2704  0.0090    0.00
                * RX   0.0     1.0    31.0    46.0    56.0    64.0   100.0   200.0
                * RY 100.0    99.5    99.0    95.0    95.0    99.0    99.5   100.0
                *

 259            KK    S124   BASIN
 260            KM    THIS IS THE RUNOFF TO CENTRAL AVENUE IN A WASH CROSSING ABOUT 1400 FT SOUTH
 261            KM    OF CAREFEE HWY
 262            BA   0.059            0.15
 263            LG    0.30    0.15    8.80    0.06      20
 264            UC   0.154   0.084
 265            UA       0     3.0     5.0     8.0    12.0    20.0    43.0    75.0    90.0    96.0
1                                              HEC-1 INPUT                                          PAGE  8

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

 266            UA     100
                *

 267            KK  124125   ROUTE   REACH
 268            KM    ROUTE RUNOFF FROM S124 TO C125
 269            KM    SLOPE = (1820-1788)/3289 = 0.0097
 270            KM    XS based on examination of 2002 FCD orthophotos and available 10 ft (FCD)
 271            KM    and 2 ft contour data from Jerry Jones FDS and Stanley FDS mapping
 272            RS       3    FLOW      -1
 273            RC   0.050   0.040   0.050    3289  0.0097    0.00
 274            RX     0.0    40.0    80.0    88.0    98.0   106.0   146.0   186.0
 275            RY   100.0    96.0    92.0    90.0    90.0    92.0    96.0   100.0
                *

 276            KK    S125   BASIN
 277            BA   0.151            0.15
 278            LG    0.28    0.15    7.30    0.11      22
 279            UC   0.250   0.228
 280            UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
 281            UA     100
                *

 282            KK    C125
 283            KM    COMBINE RUNOFF FROM S125 WITH ROUTED FLOW FROM S124
 284            KM    THIS FLOW IS INFLOW TO FLO2D MODEL
 285            HC       2
                *

 286            KK   DUMMY
 287            KM     COMBINE 120 SERIES HYDROGRAPHS WHICH WERE IMPORTED TO FLO-2D MODEL
 288            HC       2
                *
                * KK125127   ROUTE   REACH
                * KM  ROUTE COMBINED FLOW FROM C125 TO C127 THROUGH SUBBASIN S127
                * KM  SLOPE = (1788-1770)/2429 = 0.0074
                * KM   XS based on "Jonathan Wash" XS 0.12 from Jerry Jones (JONA.DAT)
                * RS     2    FLOW      -1
                * RC 0.065   0.050   0.065    2429  0.0074    0.00
                * RX 10560 10620.0 10660.0 10670.0 10680.0 10810.0 11000.0 11200.0
                * RY1776.0  1774.0  1774.0  1770.0  1772.0  1774.0  1776.0  1778.0
                *
                *  Above routing removed based on revisions to FLO-2D model which import
                *  flow from S122 - S125
                *

 289            KK   DUMMY
 290            KM    COMBINE ALL DUMMY INFLOW HYDROGRAPHS TO FLO-2D AREA
 291            HC       3
```

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                *
                * KK FLO2D   BASIN
                * KM  DUMMY BASIN FOR HEC-1 MODEL CONTINUITY OF FLO-2D AREA
                * KM  WILL BE REPLACED WITH INFLOW HYDROGRAPH FROM FINAL FLO-2D ANALYSIS
                * BA 3.231
                * LG  0.32    0.15    8.80    0.06       4
                * UC 0.904   0.515
                * UA     0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97
                * UA   100
                *
1                                          HEC-1 INPUT                                          PAGE  9

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

       292      KK   FLO2D
       293      KM    THIS IS THE OUTFLOW HYDROGRAPH FROM THE FLO-2D MODELING OF THE DESERT LAKE
       294      KM    WATERSHED AT CAREFREE HWY.
       295      KM    THIS IS THE TOTAL FLOW IMMEDIATELY DOWNSTREAM OF CAREFREE HWY INCLUDING
       296      KM    DESERT LAKE WASH AND THE EAST FORK OF DESERT LAKE WASH.
       297      IN      5
       298      BA    5.47
       299      QI      0       0       0       0       0       0       0       0       0       0
       300      QI      0       0       0       0       0       0       0       0       0       0
       301      QI      0       0       0       0       0       0       0       0       0       0
       302      QI      0       0       0       0       0       0       0       0       0       0
       303      QI      0       0       0       0       0       1       2       3      13      20
       304      QI     26      46      66      86     119     139     159     168     166     162
       305      QI    162     165     165     164     163     168     182     199     223     261
       306      QI    292     313     330     338     340     339     333     327     319     310
       307      QI    301     292     283     273     264     255     246     238     230     223
       308      QI    217     212     209     208     206     206     204     201     198     193
       309      QI    188     183     178     173     166     160     153     150     145     141
       310      QI    137     133     130     125     122     118     113     110     106     102
       311      QI     98      96      93      88      86      83      81      77      74      72
       312      QI     68      67      65      62      60      57      55      53      51      50
       313      QI     48      46      45      44      42       0       0       0       0       0
                *

       314      KK  CFH127   ROUTE   REACH
       315      KM    ROUTE COMBINED FLOWS AT CAREFREE HIGHWAY TO C127
       316      KM    SLOPE = (1775-1770)/1234 = 0.004
       317      KM     XS based on "Jonathan Wash" XS 0.12 from Jerry Jones (JONA.DAT)
       318      RS       1    FLOW      -1
       319      RC   0.065   0.050   0.065    1234  0.0040    0.00
       320      RX   10560 10620.0 10660.0 10670.0 10680.0 10810.0 11000.0 11200.0
       321      RY  1776.0  1774.0  1774.0  1770.0  1772.0  1774.0  1776.0  1778.0
                *

       322      KK    S108   BASIN
       323      BA   0.329           0.15
       324      LG    0.32    0.15    8.80    0.06      15
       325      UC   0.204   0.110
       326      UA       0     3.0     5.0     8.0    12.0    20.0    43.0    75.0    90.0    96.0
       327      UA     100
                *

       328      KK  108109   ROUTE   REACH
       329      KM    ROUTE RUNOFF FROM S108 TO C109
       330      KM    SLOPE = (1915-1844)/5783 = 0.0123
       331      KM     XS based on Desert Hills Wash Trib 5 XS 0.74 (Stanley Consultants, 1999)
       332      RS       5    FLOW      -1
       333      RC   0.050   0.040   0.050    5783  0.0123    0.00
       334      RX     0.0    10.0   110.0   120.0   135.0   145.0   245.0   255.0
       335      RY   100.0    90.0    89.0    84.0    84.0    89.0    90.0   100.0
                *
1                                          HEC-1 INPUT                                          PAGE 10

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

       336      KK    S109   BASIN
       337      BA   0.366           0.15
       338      LG    0.30    0.15    8.40    0.07       5
       339      UC   0.333   0.248
       340      UA       0     3.0     5.0     8.0    12.0    20.0    43.0    75.0    90.0    96.0
       341      UA     100
                *

       342      KK   C109R
       343      KM    COMBINE RUNOFF FROM S109 WITH ROUTED FLOW FROM S108
       344      KM    THIS IS THE FLOW IN DESERT HILLS WASH TRIB 5 ABOUT 900 FT DOWNSTREAM
       345      KM    OF JOY RANCH ROAD.
       346      HC       2
                *

       347      KK    S110   BASIN
       348      BA   0.132           0.15
       349      LG    0.34    0.19    6.60    0.16      21
       350      UC   0.208   0.182
       351      UA       0     3.0     5.0     8.0    12.0    20.0    43.0    75.0    90.0    96.0
       352      UA     100
                *

       353      KK  110111   ROUTE   REACH
```

```
 354          KM    ROUTE RUNOFF FROM S110 TO C111
 355          KM    SLOPE = (1965-1895)/4457 = 0.0157
 356          KM     XS based on Desert Hills Wash XS 5.57 (Stanley Consultants, 1999)
 357          RS       4    FLOW      -1
 358          RC   0.075   0.055   0.075    4457  0.0157    0.00
 359          RX  9972.7  9988.0  9989.0 10000.0 10016.0 10061.0 10075.0 10092.0
 360          RY  1926.0  1922.0  1921.7  1919.2  1920.8  1922.4  1924.0  1926.0
              *

 361          KK    S111   BASIN
 362          BA   0.248            0.15
 363          LG    0.33    0.15    8.00    0.09      10
 364          UC   0.225   0.161
 365          UA       0     3.0     5.0     8.0    12.0    20.0    43.0    75.0    90.0    96.0
 366          UA     100
              *

 367          KK    C111
 368          KM    COMBINE RUNOFF FROM S111 WITH ROUTED FLOW FROM S110
 369          KM    THIS IS THE FLOW IN DESERT HILLS WASH AT 20TH STREET
 370          HC       2
              *

 371          KK  111109   ROUTE   REACH
 372          KM    ROUTE COMBINED FLOW FROM C111 THROUGH S112 TO C109
 373          KM    SLOPE = (1895-1844)/5694 = 0.009
 374          KM     XS based on Desert Hills Wash XS 4.68 (Jerry Jones, 1992)
 375          RS       5    FLOW      -1
 376          RC   0.070   0.055   0.070    5694  0.0090    0.00
 377          RX  9938.7  9951.1  9979.0 10000.0100010.0 10054.0 10101.0 10114.0
1                                          HEC-1 INPUT                                          PAGE 11

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

 378          RY  1872.0  1870.0  1868.0  1867.0  1867.0  1868.0  1870.0  1872.0
              *

 379          KK    S112   BASIN
 380          BA   0.567            0.15
 381          LG    0.31    0.15    8.40    0.07       8
 382          UC   0.317   0.236
 383          UA       0     3.0     5.0     8.0    12.0    20.0    43.0    75.0    90.0    96.0
 384          UA     100
              *

 385          KK   C109C
 386          KM     COMBINE RUNOFF FROM S112 WITH ROUTED FLOW FROM C111
 387          KM    THIS IS THE FLOW IN DESERT HILLS WASH AT JOY RANCH ROAD
 388          HC       2
              *

 389          KK    S113   BASIN
 390          BA   0.110            0.15
 391          LG    0.32    0.23    6.20    0.17       4
 392          UC   0.313   0.344
 393          UA       0     4.5    12.6    23.2    35.8    50.0    64.2    76.8    87.4    95.5
 394          UA     100
              *

 395          KK  113114   ROUTE   REACH
 396          KM    ROUTE RUNOFF FROM S113 TO C114
 397          KM    SLOPE = (1950-1904)/3220 = 0.0143
 398          KM     XS based on Desert Hills Wash Trib 6 XS 1.04 (Stanley Consultants, 1999)
 399          RS       2    FLOW      -1
 400          RC   0.075   0.055   0.075    3220  0.0143    0.00
 401          RX  9888.8  9957.5  9990.9  9995.0 10005.0 10011.0 10030.0 10105.0
 402          RY  1928.0  1926.0  1925.0  1923.0  1923.0  1925.0  1926.0  1928.0
              *

 403          KK    S114   BASIN
 404          BA   0.109            0.15
 405          LG    0.30    0.15    8.00    0.08       5
 406          UC   0.283   0.245
 407          UA       0     4.5    12.6    23.2    35.8    50.0    64.2    76.8    87.4    95.5
 408          UA     100
              *

 409          KK    C114
 410          KM    COMBINE RUNOFF S114 WITH ROUTED FLOW FROM S113
 411          KM    THIS IS THE FLOW IN DESRT HILLS WASH TRIB 6 AT 20TH STREET
 412          HC       2
              *

 413          KK  114115   ROUTE   REACH
 414          KM    ROUTE COMBINED FLOW FROM C114 TO C115
 415          KM    SLOPE = (1904-1856)/3565 = 0.0135
 416          KM     XS based on Desert Hills Wash Trib 6 XS 0.44 (Stanley Consultants, 1999)
 417          RS       3    FLOW      -1
 418          RC   0.075   0.055   0.075    3565  0.0135    0.00
1                                          HEC-1 INPUT                                          PAGE 12

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

 419          RX  9896.0  9910.0  9953.8  9964.0 10000.0 10010.0 10023.0 10036.0
 420          RY  1888.0  1886.5  1884.6  1882.9  1881.9  1884.0  1886.0  1888.0
```

```
                *

 421            KK    S115   BASIN
 422            BA   0.155            0.15
 423            LG    0.30    0.13   10.10    0.03       5
 424            UC   0.371   0.381
 425            UA       0     4.5    12.6    23.2    35.8    50.0    64.2    76.8    87.4    95.5
 426            UA     100
                *

 427            KK    C115
 428            KM    COMBINE RUNOFF FROM S115 WITH ROUTED FLOWS FROM C114
 429            KM    THIS IS THE FLOW IN DESERT HILLS WASH TRIB 6 AT 16TH STREET
 430            HC       2
                *

 431            KK  115109   ROUTE   REACH
 432            KM    ROUTE COMBINED FLOW FROM C115 TO C109
 433            KM    SLOPE = (1856-1844)/1415 = 0.0085
 434            KM     XS based on Desert Hills Wash XS 4.23 (Jerry Jones, 1992)
 435            RS       1    FLOW      -1
 436            RC   0.065   0.050   0.065    1415  0.0085    0.00
 437            RX  9824.9  9915.7  9966.2  9995.0 10005.0 10012.0 10018.0 10024.0
 438            RY  1854.0  1850.0  1850.0  1846.4  1846.4  1850.0  1852.0  1854.0
                *

 439            KK    C109
 440            KM    COMBINE ROUTED FLOW FROM C115 WITH C109R AND C109C
 441            KM    THIS IS THE TOTAL FLOW IN DESERT HILLS WASH ABOUT 900 FEET DOWNSTREAM
 442            KM    OF JOY RANCH ROAD.
 443            HC       3
                *

 444            KK  109116   ROUTE   REACH
 445            KM    ROUTE COMBINED FLOW FROM C109 TO C116
 446            KM    SLOPE = (1844-1810)/4849 = 0.0070
 447            KM     XS based on Desert Hills Wash XS 3.81 (Jerry Jones, 1992)
 448            RS       4    FLOW      -1
 449            RC   0.065   0.050   0.065    4849  0.0070    0.00
 450            RX  9780.0  9808.0  9977.0  9988.0 10012.0 10042.0 10073.0 10110.0
 451            RY  1838.0  1836.0  1834.0  1832.0  1832.0  1834.0  1836.0  1838.0
                *

 452            KK    S116   BASIN
 453            BA   0.224            0.15
 454            LG    0.30    0.25    5.40    0.21       5
 455            UC   0.500   0.487
 456            UA       0     4.5    12.6    23.2    35.8    50.0    64.2    76.8    87.4    95.5
 457            UA     100
                *
1                                          HEC-1 INPUT                                          PAGE 13

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

 458            KK   C116R
 459            KM    COMBINE RUNOFFF FROM S116 WITH ROUTED FLOW FROM C109
 460            HC       2
                *

 461            KK    S117   BASIN
 462            BA   0.232            0.15
 463            LG    0.30    0.13   10.10    0.03       5
 464            UC   0.404   0.372
 465            UA       0     4.5    12.6    23.2    35.8    50.0    64.2    76.8    87.4    95.5
 466            UA     100
                *

 467            KK    S118   BASIN
 468            KM    THIS IS THE RUNOFF TO 20TH STREET IN AN UNNAMED TRIB TO DESERT HILLS WASH
 469            BA   0.124            0.15
 470            LG    0.31    0.05   12.40    0.01       5
 471            UC   0.408   0.482
 472            UA       0     4.5    12.6    23.2    35.8    50.0    64.2    76.8    87.4    95.5
 473            UA     100
                *

 474            KK  118119   ROUTE   REACH
 475            KM    ROUTE RUNOFF FROM S118 TO C116
 476            KM    SLOPE = (1887-1810)/5989 = 0.013
 477            KM     XS based on Desert Hills Wash XS 4.23 (Jerry Jones, 1992)
 478            RS       5    FLOW      -1
 479            RC   0.050   0.040   0.050    5989  0.0130    0.00
 480            RX  9955.6  9971.9  9990.8  9998.0 10002.0 10010.0 10064.0 10096.0
 481            RY  1834.0  1832.0  1829.7  1827.5  1827.5  1830.4  1831.7  1834.0
                *

 482            KK    S119   BASIN
 483            BA   0.312            0.15
 484            LG    0.30    0.15    8.80    0.06       5
 485            UC   0.471   0.451
 486            UA       0     4.5    12.6    23.2    35.8    50.0    64.2    76.8    87.4    95.5
 487            UA     100
                *
```

```
 488          KK   C116L
 489          KM    COMBINE RUNOFF FROM S117 AND S119 WITH ROUTED FLOW FROM S118
 490          HC       3
              *

 491          KK    C116
 492          KM     COMBINE C116L AND C116R.
 493          KM    THIS IS THE TOTAL FLOW IN DESERT HILLS WASH AT CLOUD ROAD.
 494          HC       2
              *
1                                        HEC-1 INPUT                                                    PAGE 14

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

 495          KK  116120   ROUTE   REACH
 496          KM    ROUTE COMBINED FLOW FROM C116 TO C120
 497          KM    SLOPE = (1810-1786)/3945 = 0.006
 498          KM     XS based on Desert Hills Wash XS 2.61 (Jerry Jones, 1992)
 499          RS       4    FLOW      -1
 500          RC   0.065   0.050   0.065    3945  0.0060    0.00
 501          RX  9919.5  9983.3  9986.9  9995.0 10010.0 10020.0 10173.0 10556.0
 502          RY  1798.0  1796.0  1794.0  1790.0  1790.0  1794.0  1794.0  1796.0
              *

 503          KK    S120   BASIN
 504          BA   0.277            0.15
 505          LG    0.30    0.15    7.00    0.11       5
 506          UC   0.571   0.574
 507          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
 508          UA     100
              *

 509          KK    C120
 510          KM    COMBINE RUNOFF FROM S120 WITH ROUTED FLOW FROM C116
 511          HC       2
              *

 512          KK  120127   ROUTE   REACH
 513          KM    ROUTE COMBINED FLOW FROM C120 TO C127 THROUGH SUBBASIN S121
 514          KM    SLOPE = (1786-1770)/2909 = 0.0055
 515          KM     XS based on Desert Hills Wash XS 2.34 (Jerry Jones, 1992)
 516          RS       3    FLOW      -1
 517          RC   0.065   0.050   0.065    2909  0.0055    0.00
 518          RX  9570.0  9620.0  9990.0  9994.0 10006.0 10010.0 10160.0 10255.0
 519          RY  1788.0  1786.0  1784.0  1782.2  1782.2  1784.0  1786.0  1788.0
              *

 520          KK    S121   BASIN
 521          BA   0.316            0.15
 522          LG    0.30    0.15    7.30    0.10       7
 523          UC   0.667   0.779
 524          UA       0     4.5    12.6    23.2    35.8    50.0    64.2    76.8    87.4    95.5
 525          UA     100
              *

 526          KK   C127L
 527          KM    COMBINE ROUTED FLOW FROM C120 WITH RUNOFF FROM S121
 528          HC       2
              *

 529          KK    S126   BASIN
 530          KM    THIS IS THE RUNOFF AT 7TH STREET AT A CROSSING ABOUT 1000 FT SOUTH OF
 531          KM    CAREFREE HWY.
 532          BA   0.131            0.15
 533          LG    0.30    0.23    6.20    0.17      28
 534          UC   0.188   0.102
 535          UA       0     3.0     5.0     8.0    12.0    20.0    43.0    75.0    90.0    96.0
 536          UA     100
              *
1                                        HEC-1 INPUT                                                    PAGE 15

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

 537          KK  126127   ROUTE   REACH
 538          KM    ROUTE RUNOFF FROM S126 TO C127
 539          KM    SLOPE = (1798-1770)/2974 = 0.0094
 540          KM    XS based on examination of 2002 FCD orthophotos and available 10 ft (FCD)
 541          KM    and 2 ft contour data from Jerry Jones FDS and Stanley FDS mapping
 542          RS       2    FLOW      -1
 543          RC   0.050   0.040   0.050    2974  0.0094    0.00
 544          RX     0.0    40.0    80.0    88.0    98.0   106.0   146.0   186.0
 545          RY   100.0    96.0    92.0    90.0    90.0    92.0    96.0   100.0
              *

 546          KK    S127   BASIN
 547          BA   0.091            0.15
 548          LG    0.30    0.23    6.20    0.17      18
 549          UC   0.217   0.165
 550          UA       0     4.5    12.6    23.2    35.8    50.0    64.2    76.8    87.4    95.5
 551          UA     100
              *

 552          KK   C127R
```

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553          KM    COMBINE RUNOFF FROM S127 WITH ROUTED FLOWS FROM S126
554          HC       2
             *

555          KK    C127
556          KM    COMBINE C127R & C127L WITH ROUTED FLOWS FROM CAREFREE HIGHWAY (FLO-2D AREA)
557          KM    THIS IS THE TOTAL FLOW IN DESERT HILLS WASH COMBINED WITH DESERT LAKE WASH
558          KM    AND THE EAST FORK OF DESERT LAKE WASH.
559          HC       3
             *

560          KK  127129   ROUTE   REACH
561          KM    ROUTE COMBINED FLOW FROM C127 TO C129 THROUGH SUBBASIN S129
562          KM    SLOPE = (1770-1764)/1296 = 0.0046
563          KM     XS based on Desert Hills Wash XS 1.72 from Jerry Jones (DTHL.DAT)
564          RS       1    FLOW      -1
565          RC   0.065   0.050   0.065    1296  0.0046    0.00
566          RX  9150.0  9330.0  9993.0  9995.0 10005.0 10016.0 10108.0 10255.0
567          RY  1774.0  1770.0  1768.0  1766.0  1766.0  1770.0  1770.0  1774.0
             *

568          KK    S128   BASIN
569          KM    THIS IS THE RUNOFF AT 10TH STREET IN A CROSSING ABOUT 1400 FT SOUTH OF
570          KM    CAREFREE HWY.
571          BA   0.116            0.15
572          LG    0.30    0.15    7.60    0.10      27
573          UC   0.204   0.187
574          UA       0     3.0     5.0     8.0    12.0    20.0    43.0    75.0    90.0    96.0
575          UA     100
             *
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LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

576          KK  128129   ROUTE   REACH
577          KM    ROUTE RUNOFF FROM S128 TO C129
578          KM    SLOPE = (1794-1764)/1924 = 0.0156
579          KM     XS based on Desert Hills Wash XS 1.72 from Jerry Jones (DTHL.DAT)
580          RS       2    FLOW      -1
581          RC   0.065   0.050   0.065    1924  0.0156    0.00
582          RX  9150.0  9330.0  9993.0  9995.0 10005.0 10016.0 10108.0 10255.0
583          RY  1774.0  1770.0  1768.0  1766.0  1766.0  1770.0  1770.0  1774.0
             *

584          KK    S129   BASIN
585          BA   0.122            0.15
586          LG    0.30    0.15    7.30    0.11      20
587          UC   0.163   0.100
588          UA       0     3.0     5.0     8.0    12.0    20.0    43.0    75.0    90.0    96.0
589          UA     100
             *

590          KK    C129
591          KM    COMBINE RUNOFF FROM S129 WITH ROUTED FLOWS FROM S128 AND C127
592          KM    THIS IS THE TOTAL FLOW IN DESERT HILLS WASH AT 12TH STREET
593          HC       3
             *

594          KK  129134   ROUTE   REACH
595          KM    ROUTE COMBINED FLOW FROM C129 TO C134 THROUGH SUBBASIN S134
596          KM    SLOPE = (1764-1762)/579 = 0.00345
597          KM     XS based on Desert Hills Wash XS 1.58 from Jerry Jones (DTHL.DAT)
598          RS       1    FLOW      -1
599          RC   0.065   0.050   0.065     579  0.0035    0.00
600          RX  9140.0  9490.0  9985.0  9993.0 10005.0 10013.0 10240.0 10585.0
601          RY  1770.0  1766.0  1766.0  1762.0  1762.0  1766.0  1766.0  1770.0
             *

602          KK    S130   BASIN
603          KM    THIS IS THE RUNOFF TO CAREFREE HWY FROM AN UNNAMED TRIB OF DESERT HILLS WASH
604          BA   0.052            0.15
605          LG    0.30    0.21    6.40    0.14       5
606          UC   0.313   0.350
607          UA       0     4.5    12.6    23.2    35.8    50.0    64.2    76.8    87.4    95.5
608          UA     100
             *

609          KK  130134   ROUTE   REACH
610          KM    ROUTE RUNOFF FROM S130 TO C134
611          KM    SLOPE = (1783-1762)/2075 = 0.010
612          KM    XS based on examination of 2002 FCD orthophotos and available 10 ft (FCD)
613          KM    and 2 ft contour data from Jerry Jones FDS and Stanley FDS mapping
614          RS       2    FLOW      -1
615          RC   0.050   0.040   0.050    2075  0.0100    0.00
616          RX     0.0    55.0   110.0   115.0   135.0   140.0   195.0   250.0
617          RY   100.0    98.0    96.0    95.0    95.0    96.0    98.0   100.0
             *
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LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

618          KK    S131   BASIN
619          KM    THIS IS THE RUNOFF TO CLOUD ROAD IN DESERT HILLS WASH TRIB 2
```

```
620          BA   0.108            0.15
621          LG    0.30    0.10   11.20    0.02       5
622          UC   0.346   0.362
623          UA       0     4.5    12.6    23.2    35.8    50.0    64.2    76.8    87.4    95.5
624          UA     100
             *

625          KK  131132   ROUTE   REACH
626          KM    ROUTE RUNOFF FROM S131 TO C132
627          KM    SLOPE = (1845-1808)/3449 = 0.0107
628          KM    XS based on examination of 2002 FCD orthophotos and available 10 ft (FCD)
629          KM    and 2 ft contour data from Jerry Jones FDS and Stanley FDS mapping
630          RS       4    FLOW      -1
631          RC   0.065   0.050   0.065    3449  0.0107    0.00
632          RX     0.0    70.0   140.0   147.0   153.0   160.0   230.0   300.0
633          RY   100.0    99.0    98.0    96.0    96.0    98.0    99.0   100.0
             *

634          KK    S132   BASIN
635          BA   0.145            0.15
636          LG    0.30    0.10   11.20    0.02       5
637          UC   0.308   0.234
638          UA       0     4.5    12.6    23.2    35.8    50.0    64.2    76.8    87.4    95.5
639          UA     100
             *

640          KK    C132
641          KM    COMBINE RUNOFF FROM S132 WITH ROUTED FLOW FROM S131
642          KM    THIS IS THE FLOW AT GALVIN STREET IN DESERT HILLS TRIB 2
643          HC       2
             *

644          KK  132133   ROUTE   REACH
645          KM    ROUTE COMBINED FLOW FROM C132 TO C133
646          KM    SLOPE = (1808-1780)/2909 = 0.0096
647          KM     XS based on Desert Hills Wash Trib 2 XS 0.78 (Stanley Consultants, 1999)
648          RS       3    FLOW      -1
649          RC   0.065   0.050   0.065    2909  0.0096    0.00
650          RX  9959.0  9976.0  9993.0  9999.0 10004.0 10010.0 10080.0 10115.0
651          RY  1798.0  1797.0  1796.0  1795.0  1795.0  1796.3  1796.6  1798.0
             *

652          KK    S133   BASIN
653          BA   0.100            0.15
654          LG    0.30    0.15    9.70    0.04       5
655          UC   0.283   0.219
656          UA       0     4.5    12.6    23.2    35.8    50.0    64.2    76.8    87.4    95.5
657          UA     100
             *
1                                          HEC-1 INPUT                                          PAGE 18

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

658          KK    C133
659          KM    COMBINE RUNOFF FROM S133 WITH ROUTED FLOWS FROM C132 AT CAREFREE HWY
660          KM    IN DESERT HILLS WASH TRIB 2
661          HC       2
             *

662          KK  133134   ROUTE   REACH
663          KM    ROUTE COMBINED FLOW FROM C133 TO C134
664          KM    SLOPE = (1780-1762)/2076 = 0.0087
665          KM     XS based on Desert Hills Wash Trib 2 XS 0.20 (Stanley Consultants, 1999)
666          RS       2    FLOW      -1
667          RC   0.065   0.050   0.065    2076  0.0087    0.00
668          RX  9873.0  9936.0  9993.0  9998.0 10004.0 10009.0 10043.0 10186.0
669          RY  1774.0  1772.0  1770.0  1767.7  1767.7  1770.0  1770.7  1774.0
             *

670          KK    S134   BASIN
671          BA   0.073            0.15
672          LG    0.30    0.15    7.30    0.11      15
673          UC   0.246   0.180
674          UA       0     3.0     5.0     8.0    12.0    20.0    43.0    75.0    90.0    96.0
675          UA     100
             *

676          KK   C134L
677          KM    COMBINE RUNOFF FROM S134 WITH ROUTED FLOWS FROM S130 AND C133
678          HC       3
             *

679          KK    C134
680          KM    COMBINE C134L WITH ROUTED FLOWS FROM C129
681          KM    THIS IS THE TOTAL FLOW IN DESERT HILLS WASH ABOUT 600 FT DOWNSTEAM OF 12TH
682          KM    STREET
683          HC       2
             *

684          KK  134139   ROUTE   REACH
685          KM    ROUTE COMBINED FLOW FROM C134 TO C139 THROUGH S136
686          KM    SLOPE = (1762-1757)/1214 = 0.0041
687          KM     XS based on Desert Hills Wash XS 1.35 from Jerry Jones (DTHL.DAT)
688          RS       2    FLOW      -1
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```
689          RC   0.065   0.050   0.065    1214  0.0041    0.00
690          RX  9100.0  9325.0  9835.0  9845.0  9855.0  9865.0 10080.0 10670.0
691          RY  1768.0  1764.0  1760.0  1756.0  1756.0  1760.0  1760.0  1770.0
             *

692          KK    S135   BASIN
693          KM    THIS IS THE RUNOFF TO PAINT YOUR WAGON TRAIL.
694          BA   0.068            0.15
695          LG    0.30    0.15    8.00    0.08      24
696          UC   0.154   0.109
697          UA       0     3.0     5.0     8.0    12.0    20.0    43.0    75.0    90.0    96.0
698          UA     100
             *
1                                          HEC-1 INPUT                                          PAGE 19

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

699          KK  135139   ROUTE   REACH
700          KM    ROUTE RUNOFF FROM S135 TO C139
701          KM    SLOPE = (1771-1757)/1106 = 0.0127
702          KM     XS based on Desert Hills Wash XS 1.29 from Jerry Jones (DTHL.DAT)
703          RS       1    FLOW      -1
704          RC   0.065   0.050   0.065    1106  0.0127    0.00
705          RX  9340.0  9745.0  9960.0  9985.0 10025.0 10060.0 10115.0 10435.0
706          RY  1766.0  1760.0  1758.0  1756.0  1756.0  1758.0  1760.0  1766.0
             *

707          KK    S136   BASIN
708          BA   0.078            0.15
709          LG    0.30    0.25    5.70    0.20      16
710          UC   0.283   0.224
711          UA       0     3.0     5.0     8.0    12.0    20.0    43.0    75.0    90.0    96.0
712          UA     100
             *

713          KK   C139R
714          KM    COMBINE RUNOFF FROM S136 WITH ROUTED FLOWS FROM S135 AND C134
715          KM    THIS THE FLOW IN DESERT HILLS WASH AT 14TH STREET
716          HC       3
             *

717          KK    S137   BASIN
718          KM    THIS IS THE RUNOFF IN DESERT HILLS WASH TRIB 1 AT CLOUD ROAD
719          BA   0.084            0.15
720          LG    0.30    0.15    9.70    0.04       5
721          UC   0.304   0.305
722          UA       0     4.5    12.6    23.2    35.8    50.0    64.2    76.8    87.4    95.5
723          UA     100
             *

724          KK  137138   ROUTE   REACH
725          KM    ROUTE RUNOFF FROM S137 TO C138
726          KM    SLOPE = (1856-1786)/6568 = 0.0107
727          KM     XS based on Desert Hills Wash Trib 1 XS 1.08 (Stanley Consultants, 1999)
728          RS       6    FLOW      -1
729          RC   0.050   0.045   0.050    6568  0.0107    0.00
730          RX  9938.0  9960.0  9982.0  9993.0  9998.0 10009.0 10030.0 10064.0
731          RY  1812.0  1811.4  1810.7  1808.0  1808.0  1810.3  1811.0  1812.0
             *

732          KK    S138   BASIN
733          BA   0.266            0.15
734          LG    0.30    0.10   11.20    0.02       5
735          UC   0.513   0.565
736          UA       0     4.5    12.6    23.2    35.8    50.0    64.2    76.8    87.4    95.5
737          UA     100
             *
1                                          HEC-1 INPUT                                          PAGE 20

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

738          KK    C138
739          KM    COMBINE RUNOFF FROM S138 WITH ROUTED FLOWS FROM S137
740          KM    THIS IS THE FLOW IN DESERT HILLS WASH TRIB 1 AT CAREFREE HWY
741          HC       2
             *

742          KK  138139   ROUTE   REACH
743          KM    ROUTE COMBINED FLOWS FROM C138 TO C139
744          KM    SLOPE = (1786-1757)/2696 = 0.0108
745          KM     XS based on Desert Hills Wash Trib 1 XS 0.32 (Stanley Consultants, 1999)
746          RS       3    FLOW      -1
747          RC   0.050   0.045   0.050    2696  0.0108    0.00
748          RX  9729.0  9827.0  9996.0 10003.0 10009.0 10016.0 10088.0 10166.0
749          RY  1776.0  1773.0  1772.6  1771.6  1771.6  1772.8  1774.0  1776.0
             *

750          KK    S139   BASIN
751          BA   0.069            0.15
752          LG    0.30    0.25    4.65    0.32      15
753          UC   0.296   0.284
754          UA       0     3.0     5.0     8.0    12.0    20.0    43.0    75.0    90.0    96.0
755          UA     100
```

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                *
 756            KK   C139L
 757            KM    COMBINE RUNOFF FROM S139 WITH ROUTED FLOW FROM C138
 758            HC       2
                *

 759            KK    C139
 760            KM    COMBINE C139L AND C139R.  THIS IS THE TOTAL FLOW IN DESERT HILLS WASH
 761            KM    AT C139 JUST DOWNSTREAM OF 14TH STREET
 762            HC       2
                *

 763            KK  139141   ROUTE   REACH
 764            KM    ROUTE COMBINED FLOWS FROM C139 TO C141I
 765            KM    SLOPE = (1757-1754)/696 = 0.0043
 766            KM     XS based on Desert Hills Wash XS 1.19 from Jerry Jones (DTHL.DAT)
 767            RS       1    FLOW      -1
 768            RC   0.065   0.050   0.065     696  0.0043    0.00
 769            RX  9820.0  9910.0  9986.0  9990.0 10012.0 10016.0 10120.0 10500.0
 770            RY  1762.0  1758.0  1756.0  1754.0  1754.0  1756.0  1756.0  1762.0
                *

 771            KK    S140   BASIN
 772            KM    THIS IS THE RUNOFF FROM AN UNNAMED TRIB OF DESERT HILLS WASH AT
 773            KM    CAREFREE HWY
 774            BA   0.249            0.15
 775            LG    0.30    0.10   11.20    0.02       5
 776            UC   0.454   0.428
 777            UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
 778            UA     100
                *
1                                          HEC-1 INPUT                                          PAGE 21

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

 779            KK  140141   ROUTE   REACH
 780            KM    ROUTE RUNOFF FROM S140 TO C141
 781            KM    SLOPE = (1790-1754)/3458 = 0.0104
 782            KM    XS based on examination of 2002 FCD orthophotos and available 10 ft (FCD)
 783            KM    and 2 ft contour data from Jerry Jones FDS and Stanley FDS mapping
 784            RS       3    FLOW      -1
 785            RC   0.050   0.040   0.050    3458  0.0104    0.00
 786            RX     0.0    45.0    85.0    90.0    95.0   100.0   140.0   185.0
 787            RY   100.0    98.0    97.0    95.0    95.0    97.0    98.0   100.0
                *

 788            KK    S141   BASIN
 789            BA   0.102            0.15
 790            LG    0.30    0.05   12.40    0.01      15
 791            UC   0.342   0.335
 792            UA       0     4.5    12.6    23.2    35.8    50.0    64.2    76.8    87.4    95.5
 793            UA     100
                *

 794            KK   C141L
 795            KM    COMBINE RUNOFF FROM S141 WITH ROUTED FLOWS FROM S140
 796            HC       2
                *

 797            KK    S142   BASIN
 798            BA   0.139            0.15
 799            LG    0.30    0.15    7.30    0.11      27
 800            UC   0.238   0.238
 801            UA       0     3.0     5.0     8.0    12.0    20.0    43.0    75.0    90.0    96.0
 802            UA     100
                *

 803            KK  142141   ROUTE   REACH
 804            KM    ROUTE RUNOFF FROM S141 TO C141I
 805            KM    SLOPE = (1766-1754)/611 = 0.0196
 806            KM    XS based on examination of 2002 FCD orthophotos and available 10 ft (FCD)
 807            KM    and 2 ft contour data from Jerry Jones FDS and Stanley FDS mapping
 808            RS       1    FLOW      -1
 809            RC   0.050   0.050   0.050     611  0.0196    0.00
 810            RX     0.0    50.0   100.0   103.0   107.0   110.0   160.0   210.0
 811            RY   100.0    99.0    98.0    96.0    96.0    98.0    99.0   100.0
                *

 812            KK   C141I
 813            KM    COMBINE ROUTED FLOW FROM S142 WITH C141L AND ROUTED FLOW FROM C139
 814            HC       3
                *

 815            KK  141145   ROUTE   REACH
 816            KM    ROUTE COMBINED FLOWS FROM C141I TO C145
 817            KM    SLOPE = (1754-1745)/1969 = 0.0046
 818            KM     XS based on Desert Hills Wash XS 0.90 from Jerry Jones (DTHL.DAT)
 819            RS       2    FLOW      -1
 820            RC   0.065   0.050   0.065    1969  0.0046    0.00
1                                          HEC-1 INPUT                                          PAGE 22

LINE            ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10
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821          RX  9698.3  9831.5  9950.5 10001.0 10012.0 10022.0 10235.0 10800.0
822          RY  1758.0  1752.0  1751.0  1748.0  1748.0  1752.0  1752.0  1758.0
             *

823          KK    S143   BASIN
824          BA   0.138            0.15
825          LG    0.30    0.15    8.80    0.06      19
826          UC   0.217   0.143
827          UA       0     3.0     5.0     8.0    12.0    20.0    43.0    75.0    90.0    96.0
828          UA     100
             *

829          KK  143144   ROUTE   REACH
830          KM    ROUTE RUNOFF FROM S143 TO C145
831          KM    SLOPE = (1767-1745)/1750 = 0.0126
832          KM    XS based on examination of 2002 FCD orthophotos and available 10 ft (FCD)
833          KM    and 2 ft contour data from Jerry Jones FDS and Stanley FDS mapping
834          RS       1    FLOW      -1
835          RC   0.050   0.050   0.050    1750  0.0126    0.00
836          RX     0.0    50.0   100.0   103.0   107.0   110.0   160.0   210.0
837          RY   100.0    99.0    98.0    96.0    96.0    98.0    99.0   100.0
             *

838          KK    S144   BASIN
839          BA   0.152            0.15
840          LG    0.30    0.15    8.00    0.08      15
841          UC   0.388   0.300
842          UA       0     4.5    12.6    23.2    35.8    50.0    64.2    76.8    87.4    95.5
843          UA     100
             *

844          KK   C145R
845          KM    COMBINE RUNOFF FROM S144 WITH ROUTED FLOWS FROM S143 AND C141I
846          HC       3
             *

847          KK    S145   BASIN
848          BA   0.204            0.15
849          LG    0.30    0.05   12.40    0.01      13
850          UC   0.425   0.371
851          UA       0     4.5    12.6    23.2    35.8    50.0    64.2    76.8    87.4    95.5
852          UA     100
             *

853          KK    C145
854          KM    COMBINE RUNOFF FROM S145 WITH C145L.
855          KM    THIS IS THE TOTAL FLOW IN DESERT HILLS WASH AT APPROX. 16TH ST ALIGNMENT
856          HC       2
             *
1                                          HEC-1 INPUT                                          PAGE 23

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

857          KK  145147   ROUTE   REACH
858          KM    ROUTE COMBINED FLOWS FROM C145 TO C147
859          KM    SLOPE = (1745-1732)/3886 = 0.0033
860          KM     XS based on Desert Hills Wash XS 0.56 from Jerry Jones (DTHL.DAT)
861          RS       4    FLOW      -1
862          RC   0.065   0.050   0.065    3886  0.0033    0.00
863          RX  8680.0  9475.0  9987.0  9996.0 10011.0 10020.0 10085.0 10465.0
864          RY  1752.0  1746.0  1744.0  1740.0  1740.0  1744.0  1744.0  1752.0
             *

865          KK    S147   BASIN
866          BA   0.673            0.15
867          LG    0.30    0.15    7.60    0.09      12
868          UC   0.379   0.247
869          UA       0     3.0     5.0     8.0    12.0    20.0    43.0    75.0    90.0    96.0
870          UA     100
             *

871          KK   C147R
872          KM    COMBINE RUNOFF FROM S147 WITH ROUTED FLOWS FROM C145
873          KM    THIS IS THE TOTAL FLOW IN DESERT HILLS WASH UPSTREAM OF APACHE WASH
874          HC       2
875          ZW      A=DHW  C=FLOW  F=FUTURE
             *

876          KK    S200   BASIN
877          BA   0.579            0.15
878          LG    0.35    0.15    7.60    0.10      12
879          UC   0.329   0.247
880          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
881          UA     100
             *

882          KK    S201   BASIN
883          BA   0.793            0.15
884          LG    0.35    0.15    7.00    0.14      29
885          UC   0.275   0.143
886          UA       0     3.0     5.0     8.0    12.0    20.0    43.0    75.0    90.0    96.0
887          UA     100
             *
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 888          KK    C201
 889          KM    COMBINE RUNOFF FROM S200 AND S201
 890          HC       2
              *

 891          KK  201204   ROUTE   REACH
 892          KM    ROUTE COMBINED FLOWS FROM C201 TO C204
 893          KM    SLOPE = (2108-2060)/2164 = 0.0222
 894          KM     XS based on Apache Wash XS 9.27 (Stanley Consultants, 1999)
 895          RS       2    FLOW      -1
 896          RC   0.080   0.055   0.080    2164  0.0222    0.00
 897          RX  9976.0  9981.0  9995.0 10000.0 10005.0 10022.0 10030.0 10035.0
 898          RY  2082.0  2080.0  2074.0  2071.4  2072.0  2074.0  2080.0  2082.0
              *
1                                          HEC-1 INPUT                                                    PAGE 24

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

 899          KK    S203   BASIN
 900          BA   0.167            0.15
 901          LG    0.35    0.19    6.60    0.16      22
 902          UC   0.154   0.075
 903          UA       0     3.0     5.0     8.0    12.0    20.0    43.0    75.0    90.0    96.0
 904          UA     100
              *

 905          KK   C204L
 906          KM    COMBINE RUNOFF FROM S203 WITH ROUTED FLOW FROM C201
 907          KM    THIS IS THE FLOW IN APACHE WASH JUST DOWNSTREAM OF 32ND STREET ALIGNMENT
 908          HC       2
              *

 909          KK    S204   BASIN
 910          BA   0.298            0.15
 911          LG    0.35    0.15    7.00    0.13      30
 912          UC   0.229   0.154
 913          UA       0     3.0     5.0     8.0    12.0    20.0    43.0    75.0    90.0    96.0
 914          UA     100
              *

 915          KK    C204
 916          KM    COMBINE RUNOFF FROM S204 WITH C203L
 917          HC       2
              *

 918          KK  204206   ROUTE   REACH
 919          KM    ROUTE COMBINED FLOWS FROM C204 TO C206
 920          KM    SLOPE = (2060-2042)/1209 = 0.0149
 921          KM     XS based on Apache Wash XS 9.27 (Stanley Consultants, 1999)
 922          RS       1    FLOW      -1
 923          RC   0.080   0.055   0.080    1209  0.0149    0.00
 924          RX  9961.0  9980.0  9986.0  9995.0 10010.0 10022.0 10080.0 10150.0
 925          RY  2056.0  2050.0  2047.6  2044.4  2044.4  2048.0  2050.0  2054.0
              *

 926          KK    S205   BASIN
 927          BA   0.041            0.15
 928          LG    0.35    0.25    5.70    0.22       4
 929          UC   0.158   0.139
 930          UA       0     3.0     5.0     8.0    12.0    20.0    43.0    75.0    90.0    96.0
 931          UA     100
              *

 932          KK   C206L
 933          KM    COMBINE RUNOFF FROM S205 WITH ROUTED FLOWS FROM C204
 934          HC       2
              *
1                                          HEC-1 INPUT                                                    PAGE 25

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

 935          KK    S206   BASIN
 936          BA   0.146            0.15
 937          LG    0.35    0.25    5.80    0.21      18
 938          UC   0.192   0.147
 939          UA       0     3.0     5.0     8.0    12.0    20.0    43.0    75.0    90.0    96.0
 940          UA     100
              *

 941          KK    C206
 942          KM     COMBINE RUNOFF FROM S206 WITH COMBINED FLOWS AT C206L
 943          HC       2
              *

 944          KK  206209   ROUTE   REACH
 945          KM    ROUTE COMBINED FLOWS FROM C206 TO C209
 946          KM    SLOPE = (2042-2020)/1939 = 0.0113
 947          KM     XS based on Apache Wash XS 8.68 (Stanley Consultants, 1999)
 948          RS       2    FLOW      -1
 949          RC   0.080   0.055   0.080    1939  0.0113    0.00
 950          RX  9942.0  9966.0  9980.0  9990.0 10010.0 10020.0 10022.0 10035.0
 951          RY  2034.0  2028.0  2028.0  2024.5  2024.5  2028.0  2030.0  2036.0
              *
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 952          KK    S207   BASIN
 953          BA   0.251            0.15
 954          LG    0.35    0.25    5.70    0.22       8
 955          UC   0.204   0.128
 956          UA       0     3.0     5.0     8.0    12.0    20.0    43.0    75.0    90.0    96.0
 957          UA     100
              *

 958          KK   C209L
 959          KM    COMBINE RUNOFF FROM S207 WITH ROUTED FLOW FROM C206
 960          HC       2
              *

 961          KK    S208   BASIN
 962          BA   0.308            0.15
 963          LG    0.34    0.23    6.20    0.18      19
 964          UC   0.208   0.122
 965          UA       0     3.0     5.0     8.0    12.0    20.0    43.0    75.0    90.0    96.0
 966          UA     100
              *

 967          KK  208209   ROUTE   REACH
 968          KM    ROUTE RUNOFF FROM S208 TO C209
 969          KM    SLOPE = (2078-2020)/2633 = 0.022
 970          KM     XS based on Apache Wash Trib 4 XS 0.20 (Stanley Consultants, 1999)
 971          RS       2    FLOW      -1
 972          RC   0.080   0.055   0.080    2633  0.0220    0.00
 973          RX  9970.0  9978.0  9985.0  9987.0 10000.0 10015.0 10018.0 10022.0
 974          RY  2040.0  2038.0  2036.0  2034.7  2033.7  2036.0  2038.0  2040.0
              *
1                                          HEC-1 INPUT                                          PAGE 26

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

 975          KK    S209   BASIN
 976          BA   0.067            0.15
 977          LG    0.31    0.15    8.00    0.08       5
 978          UC   0.217   0.221
 979          UA       0     3.0     5.0     8.0    12.0    20.0    43.0    75.0    90.0    96.0
 980          UA     100
              *

 981          KK   C209R
 982          KM    COMBINE RUNOFF FROM S209 WITH ROUTED FLOW FROM S208
 983          HC       2
              *

 984          KK    C209
 985          KM    COMBINE C209R AND C209L.  TOTAL FLOW IN APACHE WASH JUST DOWNSTREAM
 986          KM    OF SADDLE MOUNTAIN ROAD
 987          HC       2
              *

 988          KK  209215   ROUTE   REACH
 989          KM    ROUTE COMBINED FLOWS FROM C209 TO C215
 990          KM    SLOPE = (2020-1992)/2036 = 0.0138
 991          KM     XS based on Apache Wash XS 8.31 (Stanley Consultants, 1999)
 992          RS       2    FLOW      -1
 993          RC   0.100   0.055   0.100    2036  0.0138    0.00
 994          RX  9960.0  9978.0  9984.0  9992.0 10012.0 10060.0 10260.0 10275.0
 995          RY  2012.0  2010.0  2006.0  2001.0  2001.0  2006.0  2010.0  2012.0
              *

 996          KK    S210   BASIN
 997          BA   0.315            0.15
 998          LG    0.33    0.21    6.40    0.16       8
 999          UC   0.246   0.175
1000          UA       0     3.0     5.0     8.0    12.0    20.0    43.0    75.0    90.0    96.0
1001          UA     100
              *

1002          KK   C215L
1003          KM     COMBINE RUNOFF FROM S210 WITH ROUTED FLOW FROM C209
1004          HC       2
              *

1005          KK    S211   BASIN
1006          BA   0.270            0.15
1007          LG    0.35    0.17    6.80    0.15      25
1008          UC   0.175   0.087
1009          UA       0     3.0     5.0     8.0    12.0    20.0    43.0    75.0    90.0    96.0
1010          UA     100
              *
1                                          HEC-1 INPUT                                          PAGE 27

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

1011          KK  211214   ROUTE   REACH
1012          KM    ROUTE RUNOFF FROM S211 TO C214 THROUGH S212
1013          KM    SLOPE = (2144-2019)/5218 = 0.024
1014          KM     XS based on West Fork Apache Wash XS 0.68 (Stanley Consultants, 1999)
1015          RS       3    FLOW      -1
```

```
1016          RC   0.075   0.055   0.075    5218  0.0240    0.00
1017          RX  9990.0  9991.0  9992.0 10000.0 10027.0 10040.0 10106.0 10120.0
1018          RY  2056.0  2053.0  2050.0  2047.0  2048.7  2050.0  2052.9  2056.0
              *

1019          KK    S212   BASIN
1020          BA   0.182            0.15
1021          LG    0.32    0.25    5.70    0.21       3
1022          UC   0.263   0.249
1023          UA       0     3.0     5.0     8.0    12.0    20.0    43.0    75.0    90.0    96.0
1024          UA     100
              *

1025          KK   C214L
1026          KM     COMBINE RUNOFF FROM S212 WITH ROUTED FLOWS FROM S211
1027          HC       2
              *

1028          KK    S213   BASIN
1029          BA   0.243            0.15
1030          LG    0.33    0.25    6.00    0.19      13
1031          UC   0.233   0.180
1032          UA       0     3.0     5.0     8.0    12.0    20.0    43.0    75.0    90.0    96.0
1033          UA     100
              *

1034          KK    S214   BASIN
1035          BA   0.328            0.15
1036          LG    0.34    0.17    6.80    0.15      22
1037          UC   0.254   0.203
1038          UA       0     3.0     5.0     8.0    12.0    20.0    43.0    75.0    90.0    96.0
1039          UA     100
              *

1040          KK    C214
1041          KM    COMBINE RUNOFF FROM S213 & S214 WITH C214L
1042          KM    THIS IS THE TOTAL FLOW IN THE WEST BRANCH OF APACHE WASH JUST UPSTREAM
1043          KM    OF 26TH STREET
1044          HC       3
              *

1045          KK  214215   ROUTE   REACH
1046          KM    ROUTE COMBINED FLOWS FROM C214 TO C215
1047          KM    SLOPE = (2019-1992)/1801 = 0.0150
1048          KM     XS based on West Fork Apache Wash XS 0.34 (Jerry Jones, 1992) (APACHE.DAT)
1049          RS       1    FLOW      -1
1050          RC   0.100   0.055   0.100    1801  0.0150    0.00
1051          RX  9692.0  9862.0  9934.0  9991.0 10000.0 10002.0 10018.0 10038.0
1052          RY  2024.0  2016.0  2016.0  2014.0  2014.0  2016.0  2020.0  2024.0
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1053          KK    S215   BASIN
1054          BA   0.058            0.15
1055          LG    0.30    0.15    7.60    0.09       5
1056          UC   0.208   0.207
1057          UA       0     3.0     5.0     8.0    12.0    20.0    43.0    75.0    90.0    96.0
1058          UA     100
              *

1059          KK   C215R
1060          KM    COMBINE RUNOFF FROM S215 WITH ROUTED FLOW FROM C214
1061          KM    THIS IS THE TOTAL FLOW OF THE (WEST BRANCH) AT ITS CONFLUENCE WITH
1062          KM    APACHE WASH.
1063          HC       2
              *

1064          KK    C215
1065          KM    COMBINE C215R AND C215L.  THIS IS THE TOTAL FLOW IN APACHE WASH
1066          KM    DOWNSTREAM OF THE (WEST BRANCH)
1067          HC       2
              *

1068          KK  215216   ROUTE   REACH
1069          KM    ROUTE COMBINED FLOWS FROM C215 TO C216
1070          KM    SLOPE = (1992-1965)/2088 = 0.0129
1071          KM     XS based on Apache Wash XS 7.84 (Jerry Jones, 1992) (APACHE.DAT)
1072          RS       2    FLOW      -1
1073          RC   0.050   0.040   0.050    2088  0.0129    0.00
1074          RX  9828.0  9916.0  9984.0  9995.0 10025.0 10036.0 10206.0 10222.0
1075          RY  1982.0  1976.0  1976.0  1974.0  1974.0  1978.0  1980.0  1982.0
              *

1076          KK    S216   BASIN
1077          BA   0.365            0.15
1078          LG    0.33    0.15    7.00    0.12      21
1079          UC   0.217   0.114
1080          UA       0     3.0     5.0     8.0    12.0    20.0    43.0    75.0    90.0    96.0
1081          UA     100
              *

1082          KK    C216
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```
1083          KM     COMBINE RUNOFF FROM S216 WITH ROUTED FLOW FROM C215
1084          KM    THIS IS THE FLOW IN APACHE WASH AT BENTLEY MINE ROAD
1085          HC       2
              *

1086          KK  216217   ROUTE   REACH
1087          KM    ROUTE COMBINED FLOWS FROM C216 TO C217
1088          KM    SLOPE = (1965-1888)/7706 = 0.010
1089          KM     XS based on Apache Wash XS 7.55 (Jerry Jones, 1992) (APACHE.DAT)
1090          RS       7    FLOW      -1
1091          RC   0.100   0.055   0.100    7706  0.0100    0.00
1092          RX  9896.0  9930.0  9970.0  9992.0 10022.0 10025.0 10145.0 10183.0
1093          RY  1966.0  1962.0  1960.0  1956.0  1956.0  1958.0  1960.0  1966.0
              *
1                                          HEC-1 INPUT                                                    PAGE 29

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

1094          KK    S217   BASIN
1095          BA   0.363            0.15
1096          LG    0.34    0.15    7.60    0.10      13
1097          UC   0.342   0.312
1098          UA       0     3.0     5.0     8.0    12.0    20.0    43.0    75.0    90.0    96.0
1099          UA     100
              *

1100          KK   C217R
1101          KM    COMBINE RUNOFF FROM S217 WITH ROUTED FLOW FROM C216
1102          HC       2
              *

1103          KK    S218   BASIN
1104          BA   0.388            0.15
1105          LG    0.35    0.17    6.80    0.15      27
1106          UC   0.204   0.102
1107          UA       0     3.0     5.0     8.0    12.0    20.0    43.0    75.0    90.0    96.0
1108          UA     100
              *

1109          KK  218219   ROUTE   REACH
1110          KM    ROUTE RUNOFF FROM S218 TO C219
1111          KM    SLOPE = (2006-1899)/5923 = 0.0181
1112          KM     XS based on Apache Wash Trib 2 XS 0.55 (Stanley Consultants, 1999)
1113          RS       5    FLOW      -1
1114          RC   0.070   0.060   0.070    5923  0.0181    0.00
1115          RX  9940.0  9951.0  9954.0  9993.0 10000.0 10016.0 10028.0 10065.0
1116          RY  1940.0  1938.0  1937.4  1934.0  1933.5  1937.4  1938.0  1940.0
              *

1117          KK    S219   BASIN
1118          BA   0.284            0.15
1119          LG    0.35    0.17    6.80    0.15      25
1120          UC   0.271   0.200
1121          UA       0     3.0     5.0     8.0    12.0    20.0    43.0    75.0    90.0    96.0
1122          UA     100
              *

1123          KK    C219
1124          KM    COMBINE RUNOFF FROM S219 WITH ROUTED FLOW FROM S218
1125          HC       2
              *

1126          KK    S220   BASIN
1127          BA   0.168            0.15
1128          LG    0.33    0.15    7.60    0.10      16
1129          UC   0.246   0.229
1130          UA       0     3.0     5.0     8.0    12.0    20.0    43.0    75.0    90.0    96.0
1131          UA     100
              *
1                                          HEC-1 INPUT                                                    PAGE 30

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

1132          KK    C220
1133          KM     COMBINE RUNOFF FROM S220 WITH COMBINED FLOWS AT C219.
1134          KM     (FLOWS FROM C219 NOT ROUTED DUE TO VERY SHORT DISTANCE)
1135          HC       2
              *

1136          KK  220217   ROUTE   REACH
1137          KM    ROUTE COMBINED FLOWS FROM C220 TO C217
1138          KM    SLOPE = (1896-1888)/788 = 0.010
1139          KM     XS based on Apache Wash XS 6.25 (Jerry Jones, 1992) (APACHE.DAT)
1140          RS       1    FLOW      -1
1141          RC   0.065   0.050   0.065     788  0.0100    0.00
1142          RX  9911.0  9932.0  9962.0  9990.0 10015.0 10045.0 10268.0 10570.0
1143          RY  1898.0  1896.0  1892.0  1888.0  1888.0  1892.0  1892.0  1898.0
              *

1144          KK    C217
1145          KM     COMBINE ROUTED FLOWS FROM C220 WITH C217R
1146          KM     THIS IS THE TOTAL FLOW IN APACHE WASH AT MADDOCK ROAD.
1147          HC       2
```

```
                *
1148            KK  217221   ROUTE   REACH
1149            KM    ROUTE COMBINED FLOWS FROM C217 TO C221
1150            KM    SLOPE = (1888-1856)/3118 = 0.010
1151            KM     XS based on Apache Wash XS 6.09 (Jerry Jones, 1992) (APACHE.DAT)
1152            RS       3    FLOW      -1
1153            RC   0.065   0.050   0.065    3118  0.0100    0.00
1154            RX  9815.0  9890.0  9935.0  9972.0 10048.0 10070.0 10345.0 10380.0
1155            RY  1886.0  1884.0  1882.0  1879.5  1879.5  1882.0  1884.0  1886.0
                *

1156            KK    S221   BASIN
1157            BA   0.232            0.15
1158            LG    0.30    0.13   10.10    0.03       5
1159            UC   0.379   0.315
1160            UA       0     4.5    12.6    23.2    35.8    50.0    64.2    76.8    87.4    95.5
1161            UA     100
                *

1162            KK    C221
1163            KM    COMBINE RUNOFF FROM S211 WITH ROUTED FLOWS FROM C217
1164            KM    THIS IS THE TOTAL FLOW IN APACHE WASH AT CLOUD ROAD.
1165            HC       2
1166            ZW      A=AW@CLOUD   C=FLOW   F=FUTURE
                *

1167            KK  221222   ROUTE   REACH
1168            KM    ROUTE COMBINED FLOWS FROM C221 TO C222
1169            KM    SLOPE = (1856-1805)/5489 = 0.0093
1170            KM     XS based on Apache Wash XS 5.15 (Jerry Jones, 1992) (APACHE.DAT)
1171            RS       4    FLOW      -1
1172            RC   0.065   0.050   0.065    5489  0.0093    0.00
1173            RX  9870.0  9945.0  9978.0  9987.0 10017.0 10025.0 10495.0 10522.0
```



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

1174            RY  1839.0  1838.0  1836.0  1830.0  1830.0  1834.0  1836.0  1838.0
                *

1175            KK    S222   BASIN
1176            BA   0.272            0.15
1177            LG    0.30    0.13   10.10    0.03       5
1178            UC   0.392   0.275
1179            UA       0     4.5    12.6    23.2    35.8    50.0    64.2    76.8    87.4    95.5
1180            UA     100
                *

1181            KK    C222
1182            KM     COMBINE RUNOFF FROM S222 WITH ROUTED FLOW FROM C221
1183            KM     THIS IS THE TOTAL FLOW IN APACHE WASH AT CAREFREE HWY
1184            HC       2
1185            ZW      A=AW@CFH   C=FLOW   F=FUTURE
                *

1186            KK  222227   ROUTE   REACH
1187            KM    ROUTE COMBINED FLOWS FROM C222 TO C227 THROUGH S224
1188            KM    SLOPE = (1805-1764)/4913 = 0.0083
1189            KM     XS based on Apache Wash XS 4.31 (Jerry Jones, 1992) (APACHE.DAT)
1190            RS       3    FLOW      -1
1191            RC   0.065   0.050   0.065    3886  0.0083    0.00
1192            RX  9771.0  9896.0  9980.0  9990.0 10010.0 10020.0 10055.0 10111.0
1193            RY  1796.0  1794.0  1792.0  1788.0  1788.0  1792.0  1794.0  1796.0
                *

1194            KK    S223   BASIN
1195            BA   0.091            0.15
1196            LG    0.30    0.15    8.80    0.06       5
1197            UC   0.304   0.261
1198            UA       0     4.5    12.6    23.2    35.8    50.0    64.2    76.8    87.4    95.5
1199            UA     100
                *

1200            KK  223227   ROUTE   REACH
1201            KM    ROUTE RUNOFF FROM S223 TO C227 THROUGH S224
1202            KM    SLOPE = (1804-1764)/3813 = 0.0105
1203            KM     XS based on Apache Wash West Chl XS 4.311 (Jerry Jones, 1992) (APACHE.DAT)
1204            RS       3    FLOW      -1
1205            RC   0.065   0.055   0.065    3813  0.0105    0.00
1206            RX  9400.0  9890.0  9945.0  9995.0 10005.0 10010.0 10150.0 10230.0
1207            RY  1796.0  1794.0  1794.0  1792.0  1792.0  1794.0  1794.0  1796.0
                *

1208            KK    S224   BASIN
1209            BA   0.214            0.15
1210            LG    0.30    0.21    6.40    0.14       5
1211            UC   0.342   0.224
1212            UA       0     3.0     5.0     8.0    12.0    20.0    43.0    75.0    90.0    96.0
1213            UA     100
                *
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LINE            ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10
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1214          KK   C227L
1215          KM    COMBINE RUNOFF FROM S224 WITH ROUTED FLOW FROM S223 AND C222
1216          HC       3
              *

1217          KK    S225   BASIN
1218          BA   0.315            0.15
1219          LG    0.31    0.05   12.40    0.01       5
1220          UC   0.475   0.444
1221          UA       0     4.5    12.6    23.2    35.8    50.0    64.2    76.8    87.4    95.5
1222          UA     100
              *

1223          KK  225226   ROUTE   REACH
1224          KM    ROUTE RUNOFF FROM S225 TO C226
1225          KM    SLOPE = (1856-1798)/5803 = 0.010
1226          KM     XS based on Apache Wash Trib 1 XS 1.14 (Stanley Consultants, 1999)
1227          RS       4    FLOW      -1
1228          RC   0.065   0.045   0.065    5803  0.0100    0.00
1229          RX  9926.0  9946.0  9990.0  9997.0 10005.0 10012.0 10034.0 10058.0
1230          RY  1818.0  1815.0  1816.0  1813.6  1813.6  1816.0  1816.7  1818.0
              *

1231          KK    S226   BASIN
1232          BA   0.248            0.15
1233          LG    0.30    0.15    8.80    0.06       5
1234          UC   0.400   0.317
1235          UA       0     4.5    12.6    23.2    35.8    50.0    64.2    76.8    87.4    95.5
1236          UA     100
              *

1237          KK    C226
1238          KM     COMBINE RUNOFF FROM S226 WITH ROUTED FLOWS FROM S225
1239          HC       2
              *

1240          KK  226227   ROUTE   REACH
1241          KM    ROUTE COMBINED FLOWS FROM C226 TO C227
1242          KM    SLOPE = (1798-1764)/3752 = 0.0091
1243          KM     XS based on Apache Wash Trib 1 XS 0.42 (Stanley Consultants, 1999)
1244          RS       4    FLOW      -1
1245          RC   0.065   0.045   0.065    3752  0.0091    0.00
1246          RX  9917.0  9976.0  9990.0  9998.0 10004.0 10012.0 10045.0 10078.0
1247          RY  1784.0  1782.7  1782.5  1779.6  1779.6  1782.0  1783.0  1784.0
              *

1248          KK    S227   BASIN
1249          BA   0.106            0.15
1250          LG    0.30    0.10   11.20    0.02       5
1251          UC   0.354   0.341
1252          UA       0     4.5    12.6    23.2    35.8    50.0    64.2    76.8    87.4    95.5
1253          UA     100
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1254          KK   C227R
1255          KM    COMBINE RUNOFF FROM S227 WITH ROUTED FLOWS FROM C226
1256          HC       2
              *

1257          KK    C227
1258          KM     COMBINE FLOWS FROM C227R AND C227L
1259          KM     THIS IS THE TOTAL FLOW IN APACHE WASH AT C227.
1260          HC       2
              *

1261          KK  227228   ROUTE   REACH
1262          KM    ROUTE COMBINED FLOWS FROM C227 TO C228
1263          KM    SLOPE = (1764-1740)/3336 = 0.0072
1264          KM     XS based on Apache Wash XS 3.32 (Jerry Jones, 1992) (APACHE.DAT)
1265          RS       3    FLOW      -1
1266          RC   0.065   0.050   0.065    3336  0.0072    0.00
1267          RX  9600.0  9725.0  9955.0  9972.0 10002.0 10020.0 10240.0 10900.0
1268          RY  1758.0  1754.0  1754.0  1750.0  1750.0  1754.0  1754.0  1758.0
              *

1269          KK    S228   BASIN
1270          BA   0.225            0.15
1271          LG    0.30    0.15    9.70    0.04       5
1272          UC   0.408   0.336
1273          UA       0     4.5    12.6    23.2    35.8    50.0    64.2    76.8    87.4    95.5
1274          UA     100
              *

1275          KK    C228
1276          KM     COMBINE RUNOFF FROM S228 WITH ROUTED FLOWS FROM C227
1277          KM     THIS IS THE TOTAL FLOW IN APACHE WASH UPSTREAM OF ITS CONFLUENCE
1278          KM     WITH DESERT HILLS WASH.
1279          HC       2
1280          ZW       A=AWUSDHW   C=FLOW   F=FUTURE
              *
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```
1281          KK  228147   ROUTE   REACH
1282          KM    ROUTE COMBINED FLOWS FROM C228 TO C147
1283          KM    SLOPE = (1740-1732)/1190 = 0.0067
1284          KM     XS based on Apache Wash XS 2.97 (Jerry Jones, 1992) (APACHE.DAT)
1285          RS       1    FLOW      -1
1286          RC   0.065   0.050   0.065    1190  0.0067    0.00
1287          RX  8920.0  8990.0  9000.0  9040.0  9060.0  9065.0  9170.0  9365.0
1288          RY  1752.0  1746.0  1744.0  1738.0  1738.0  1742.0  1742.0  1744.0
              *

1289          KK    C147
1290          KM     COMBINE FLOWS FROM DESERT HILLS WASH WITH FLOWS FROM APACHE WASH
1291          HC       2
1292          ZW      A=DHW+AW   C=FLOW    F=FUTURE
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1293          KK  147319   ROUTE   REACH
1294          KM    ROUTE COMBINED FLOWS FROM DESERT HILLS AND APACHE WASHES
1295          KM    TO CONFLUENCE WITH PARADISE WASH
1296          KM    SLOPE = (1732-1727)/939 = 0.0053
1297          KM     XS based on Apache Wash XS 2.73 from Jerry Jones (APACHE.DAT)
1298          RS       1    FLOW      -1
1299          RC   0.065   0.050   0.065     939  0.0053    0.00
1300          RX  9756.0  9812.0  9972.0  9986.0 10020.0 10036.0 10071.0 10130.0
1301          RY  1740.0  1736.0  1732.0  1728.0  1728.0  1732.0  1734.0  1740.0
              *

1302          KK    S300   BASIN
1303          BA   0.503            0.15
1304          LG    0.35    0.17    6.80    0.15      24
1305          UC   0.271   0.191
1306          UA       0     3.0     5.0     8.0    12.0    20.0    43.0    75.0    90.0    96.0
1307          UA     100
              *

1308          KK    S301   BASIN
1309          BA   0.504            0.15
1310          LG    0.35    0.17    6.80    0.15      23
1311          UC   0.258   0.157
1312          UA       0     3.0     5.0     8.0    12.0    20.0    43.0    75.0    90.0    96.0
1313          UA     100
              *

1314          KK    C301
1315          KM     COMBINE RUNOFF FROM S300 AND S301
1316          HC       2
              *

1317          KK  301302   ROUTE   REACH
1318          KM    ROUTE COMBINED FLOWS FROM C301 TO C302
1319          KM    SLOPE = (1980-1926)/2988 = 0.018
1320          KM     XS based on Paradise Wash XS 3.84 from Jerry Jones (PARADFCD.DAT)
1321          RS       2    FLOW      -1
1322          RC   0.070   0.055   0.070    2988  0.0180    0.00
1323          RX  9934.0  9962.0  9987.0  9996.0 10004.0 10010.0 10027.0 10045.0
1324          RY  1952.0  1946.0  1940.0  1938.0  1938.0  1940.0  1946.0  1952.0
              *

1325          KK    S302   BASIN
1326          BA   0.239            0.15
1327          LG    0.35    0.23    6.20    0.18      19
1328          UC   0.250   0.172
1329          UA       0     3.0     5.0     8.0    12.0    20.0    43.0    75.0    90.0    96.0
1330          UA     100
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1331          KK    C302
1332          KM     COMBINE RUNOFF FROM S302 WITH ROUTED FLOWS FROM C301
1333          HC       2
              *

1334          KK  302303   ROUTE   REACH
1335          KM    ROUTE COMBINED FLOWS FROM C302 TO C303
1336          KM    SLOPE = (1926-1895)/2671 = 0.0116
1337          KM     XS based on Paradise Wash XS 3.40 from Jerry Jones (PARADFCD.DAT)
1338          RS       2    FLOW      -1
1339          RC   0.070   0.055   0.070    2671  0.0116    0.00
1340          RX  9956.0  9972.0  9988.0  9995.0 10010.0 10024.0 10044.0 10060.0
1341          RY  1914.0  1910.0  1906.0  1904.0  1904.0  1906.0  1910.0  1914.0
              *

1342          KK    S303   BASIN
1343          BA   0.127            0.15
1344          LG    0.35    0.15    7.60    0.10       9
1345          UC   0.204   0.144
1346          UA       0     4.5    12.6    23.2    35.8    50.0    64.2    76.8    87.4    95.5
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1347          UA     100
              *

1348          KK    C303
1349          KM     COMBINE RUNOFF FROM S303 WITH ROUTED FLOW SFROM C302
1350          HC       2
              *

1351          KK  303312   ROUTE   REACH
1352          KM    ROUTE COMBINED FLOWS FROM C303 TO C312 THROUGH S304
1353          KM    SLOPE = (1895-1828)/5007 = 0.0134
1354          KM     XS based on Paradise Wash XS 2.53 from Jerry Jones (PARADFCD.DAT)
1355          RS       4    FLOW      -1
1356          RC   0.065   0.050   0.065    5007  0.0134    0.00
1357          RX  9678.0  9850.0  9982.0  9993.0 10009.0 10018.0 10041.0 10637.0
1358          RY  1852.0  1850.0  1848.0  1846.0  1846.0  1848.0  1850.0  1852.0
              *

1359          KK    S304   BASIN
1360          BA   0.132            0.15
1361          LG    0.35    0.25    4.90    0.31       2
1362          UC   0.383   0.389
1363          UA       0     4.5    12.6    23.2    35.8    50.0    64.2    76.8    87.4    95.5
1364          UA     100
              *

1365          KK   C312R
1366          KM    COMBINE RUNOFF FROM S304 WITH ROUTED FLOWS FROM C303.
1367          KM    THIS IS THE TOTAL FLOW IN PARADISE WASH UPSTREAM OF RANIERI TANK WASH
1368          HC       2
1369          ZW      A=PWUSRTW   C=FLOW    F=FUTURE
              *
1                                          HEC-1 INPUT                                          PAGE 36

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

1370          KK    S305   BASIN
1371          BA   0.230            0.15
1372          LG    0.35    0.23    6.20    0.18      18
1373          UC   0.208   0.144
1374          UA       0     3.0     5.0     8.0    12.0    20.0    43.0    75.0    90.0    96.0
1375          UA     100
              *

1376          KK  305309   ROUTE   REACH
1377          KM    ROUTE RUNOFF FROM S305 TO C309 THROUGH C306
1378          KM    SLOPE = (1938-1885)/3517 = 0.0151
1379          KM     XS based on Ranieri Tank Wash Trib 1 XS 0.34 (Stanley Consultants, 1999)
1380          RS       2    FLOW      -1
1381          RC   0.065   0.055   0.065    3517  0.0151    0.00
1382          RX  9956.0  9976.0  9991.0  9999.0 10005.0 10013.0 10047.0 10075.0
1383          RY  1908.6  1906.4  1905.6  1904.2  1904.2  1905.6  1906.0  1909.0
              *

1384          KK    S306   BASIN
1385          BA   0.052            0.15
1386          LG    0.35    0.25    5.00    0.30       3
1387          UC   0.250   0.281
1388          UA       0     4.5    12.6    23.2    35.8    50.0    64.2    76.8    87.4    95.5
1389          UA     100
              *

1390          KK    S307   BASIN
1391          BA   0.206            0.15
1392          LG    0.35    0.23    6.20    0.18      19
1393          UC   0.225   0.184
1394          UA       0     3.0     5.0     8.0    12.0    20.0    43.0    75.0    90.0    96.0
1395          UA     100
              *

1396          KK  307309   ROUTE   REACH
1397          KM    ROUTE RUNOFF FROM S307 TO C309 THROUGH S306
1398          KM    SLOPE = (1892-1885)/723 = 0.0097
1399          KM     XS based on Ranieri Tank Wash Trib 1 XS 0.15 (Stanley Consultants, 1999)
1400          RS       1    FLOW      -1
1401          RC   0.065   0.055   0.065     723  0.0097    0.00
1402          RX  9896.0  9958.0  9981.0  9994.0  9999.0 10012.0 10175.0 10267.0
1403          RY  1894.0  1892.0  1891.0  1888.0  1888.0  1890.6  1891.4  1894.0
              *

1404          KK   C309R
1405          KM     COMBINE RUNOFF FROM S306 WITH ROUTED FLOWS FROM S305 & S307
1406          HC       3
              *
1                                          HEC-1 INPUT                                          PAGE 37

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

1407          KK    S308   BASIN
1408          BA   0.466            0.15
1409          LG    0.35    0.23    6.20    0.19       9
1410          UC   0.246   0.140
1411          UA       0     3.0     5.0     8.0    12.0    20.0    43.0    75.0    90.0    96.0
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1412          UA     100
              *

1413          KK  308309   ROUTE   REACH
1414          KM    ROUTE RUNOFF FROM S308 TO C309
1415          KM    SLOPE = (1908-1885)/2133 = 0.0108
1416          KM     XS based on Ranieri Tank Wash XS 1.40 (Stanley Consultants, 1999)
1417          RS       2    FLOW      -1
1418          RC   0.065   0.055   0.065    2133  0.0108    0.00
1419          RX  9758.0  9901.0  9991.0  9997.0 10003.0 10009.0 10031.0 10213.0
1420          RY  1902.0  1900.6  1900.6  1898.6  1898.6  1900.6  1900.6  1902.0
              *

1421          KK    S309   BASIN
1422          BA   0.190            0.15
1423          LG    0.35    0.15    7.00    0.13       9
1424          UC   0.238   0.219
1425          UA       0     3.0     5.0     8.0    12.0    20.0    43.0    75.0    90.0    96.0
1426          UA     100
              *

1427          KK   C309L
1428          KM     COMBINE RUNOFF FROM S309 WITH ROUTED FLOWS FROM S308
1429          HC       2
              *

1430          KK    C309
1431          KM     COMBINE FLOWS FROM C309R AND C309L.
1432          HC       2
              *

1433          KK  309310   ROUTE   REACH
1434          KM    ROUTE COMBINED FLOWS FROM C309 TO C310
1435          KM    SLOPE = (1885-1850)/3609 = 0.0097
1436          KM     XS based on Ranieri Tank Wash XS 0.70 (Jerry Jones, 1992)
1437          RS       3    FLOW      -1
1438          RC   0.065   0.050   0.065    3609  0.0097    0.00
1439          RX  9738.0  9778.0  9968.0  9992.0 10000.0 10020.0 10100.0 10412.0
1440          RY  1868.0  1864.0  1862.0  1860.0  1860.0  1862.0  1866.0  1868.0
              *

1441          KK    S310   BASIN
1442          BA   0.553            0.15
1443          LG    0.34    0.10   11.20    0.03       3
1444          UC   0.388   0.227
1445          UA       0     4.5    12.6    23.2    35.8    50.0    64.2    76.8    87.4    95.5
1446          UA     100
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1447          KK    C310
1448          KM     COMBINE RUNOFF FROM S310 WITH ROUTED FLOWS FROM C309
1449          KM     THIS IS THE INFLOW TO RANIERI TANK(S) AT 32ND STREET
1450          HC       2
              *

1451          KK   D310UDIVERT
1452          KM    DIVERT FLOW INTO UPSTREAM (NEW) TANK.  ASSUME A 50/50 SPLIT INTO
1453          KM    TANK UP TO ITS VOLUME.
1454          DT  D310UO      10
1455          DI       0     100
1456          DQ       0      50
              *

1457          KK   RR310STORAGE
1458          KM     ROUTE HYDROGRAPH THROUGH CULVERTS UNDER 32ND STREET
1459          KM     THERE ARE TWO SETS OF CULVERTS ONE ON THE MAIN CHANNEL ON THE
1460          KM     LEFT COMPOSED OF 3 6' CMPS AND A SET ON THE RIGHT BETWEEN THE
1461          KM     TANKS THAT IS COMPOSED OF 2 6' CMPS AND 4 2.5' CMPS
1462          KM     OUTFLOW HYDRAULICS COMPUTED USING HY8 (FILES: RR310L.INP &
1463          KM     RR310R.INP).  STAGE-AREA DATA ESTIMATED FROM JERRY JONES 2 FT CONTOURS
1464          KM     AND FCDMC 10 FT 2001 CONTOURS.
1465          RS       1    STOR      -1
1466          SA    0.08    0.58    1.23    2.11    3.44    7.22   13.22
1467          SE    1850    1852    1854    1856    1858    1860    1862
1468          SQ       0     160     650    1195    1660    1970    2330    2503    2621    2890
1469          SQ    3126    3422    3699
1470          SE    1850    1852    1854    1856    1858  1859.6    1860  1860.1  1860.2  1860.3
1471          SE  1860.4  1860.5  1860.6
              *

1472          KK   D310DDIVERT
1473          KM    DIVERT VOLUME OF STOCK TANK DOWNSTREAM OF 32ND STREET
1474          KM    ASSUMED THAT ALL FLOW UP TO TOTAL VOLUME DIVERTED BEFORE OVERFLOW
1475          DT  D310DO    2.39
1476          DI       0     100
1477          DQ       0     100
              *

1478          KK  310312   ROUTE   REACH
1479          KM    ROUTE (TANK OUTFLOWS) FROM RR310 TO C312
1480          KM    SLOPE = (1850-1828)/2221 = 0.0099
```

```
1481          KM     XS based on Ranieri Tank Wash XS 0.33 (Jerry Jones, 1992)
1482          RS       2    FLOW      -1
1483          RC   0.065   0.050   0.065    2221  0.0099    0.00
1484          RX  9683.0  9834.0  9938.0  9981.0 10013.0 10030.0 10200.0 10425.0
1485          RY  1852.0  1848.0  1844.0  1842.0  1842.0  1844.0  1846.0  1852.0
              *
1                                        HEC-1 INPUT                                                    PAGE 39

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


1486          KK    S311   BASIN
1487          BA   0.076            0.15
1488          LG    0.30    0.05   12.40    0.01       5
1489          UC   0.279   0.224
1490          UA       0     4.5    12.6    23.2    35.8    50.0    64.2    76.8    87.4    95.5
1491          UA     100
              *

1492          KK  311312   ROUTE   REACH
1493          KM    ROUTE RUNOFF FROM S311 TO C312
1494          KM    SLOPE = (1859-1828)/2280 = 0.0136
1495          KM    XS based on examination of 2002 FCD orthophotos and available 10 ft (FCD)
1496          KM    and 2 ft contour data from Jerry Jones FDS and Stanley FDS mapping
1497          RS       3    FLOW      -1
1498          RC   0.065   0.055   0.065    2280  0.0136    0.00
1499          RX     0.0    40.0    80.0   120.0   160.0   200.0   240.0   280.0
1500          RY   100.0    99.7    99.3    99.0    99.0    99.3    99.7   100.0
              *

1501          KK    S312   BASIN
1502          BA   0.140
1503          LG    0.32    0.13   10.10    0.04       4
1504          UC   0.292   0.225
1505          UA       0     4.5    12.6    23.2    35.8    50.0    64.2    76.8    87.4    95.5
1506          UA     100
              *

1507          KK   C312L
1508          KM     COMBINE RUNOFF FROM S312 WITH ROUTED FLOWS FROM S311 AND RR310
1509          HC       3
1510          ZW     A=RTWUSPW   C=FLOW   F=FUTURE
              *

1511          KK    C312
1512          KM     COMBINE PARADISE WASH (C312R) AND RANIERI TANK WASH (C312L)
1513          HC       2
1514          ZW     A=PW+RTW   C=FLOW   F=FUTURE
              *

1515          KK  312314   ROUTE   REACH
1516          KM    ROUTE COMBINED FLOWS FROM C312 TO C314 (CAREFREE HWY)
1517          KM    SLOPE = (1828-1820)/1024 = 0.0078
1518          KM     XS based on Paradise Wash XS 2.14 (Jerry Jones, 1992) (PARADFCD.DAT)
1519          RS       1    FLOW      -1
1520          RC   0.065   0.050   0.065    1024  0.0078    0.00
1521          RX  9926.0  9962.0  9970.0  9979.0 10026.0 10219.0 10638.0 10754.0
1522          RY  1830.0  1828.0  1826.0  1824.0  1824.0  1826.0  1826.0  1830.0
              *
1                                        HEC-1 INPUT                                                    PAGE 40

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


1523          KK    S313   BASIN
1524          BA   0.049            0.15
1525          LG    0.30    0.05   12.40    0.01       5
1526          UC   0.279   0.288
1527          UA       0     4.5    12.6    23.2    35.8    50.0    64.2    76.8    87.4    95.5
1528          UA     100
              *

1529          KK  313314   ROUTE   REACH
1530          KM    ROUTE RUNOFF FROM S313 TO C314
1531          KM    SLOPE = (1856-1820)/2487 = 0.0145
1532          KM    XS based on examination of 2002 FCD orthophotos and available 10 ft (FCD)
1533          KM    and 2 ft contour data from Jerry Jones FDS and Stanley FDS mapping
1534          RS       2    FLOW      -1
1535          RC   0.030   0.030   0.055    2487  0.0145    0.00
1536          RX     0.0     1.0    31.0    43.0    48.0    60.0   245.0   355.0
1537          RY   100.0    99.0    98.0    92.0    92.0    98.0    99.0   100.0
              *

1538          KK    S314   BASIN
1539          BA   0.089            0.15
1540          LG    0.31    0.15    8.00    0.08       4
1541          UC   0.242   0.166
1542          UA       0     4.5    12.6    23.2    35.8    50.0    64.2    76.8    87.4    95.5
1543          UA     100
              *

1544          KK    C314
1545          KM    COMBINE RUNOFF FROM S314 WITH ROUTED FLOW FROM S313 AND C312
1546          KM    THIS IS THE TOTAL FLOW IN PARADISE WASH AT CAREFREE HWY
1547          HC       3
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1548        ZW      A=PW@CFH   C=FLOW   F=FUTURE
            *

1549        KK  314318   ROUTE   REACH
1550        KM    ROUTE COMBINED FLOWS FROM C314 TO C318
1551        KM    SLOPE = (1820-1788)/3277 = 0.0098
1552        KM     XS based on Paradise Wash XS 1.83 (Jerry Jones, 1992) (PARADFCD.DAT)
1553        RS       2    FLOW      -1
1554        RC   0.065   0.050   0.065    3277  0.0098    0.00
1555        RX  9866.0  9975.0  9984.0  9990.0 10005.0 10190.0 10390.0 10550.0
1556        RY  1818.0  1810.0  1808.0  1806.0  1806.0  1810.0  1810.0  1818.0
            *

1557        KK    S315   BASIN
1558        BA   0.239            0.15
1559        LG    0.35    0.15    8.80    0.07      15
1560        UC   0.225   0.152
1561        UA       0     3.0     5.0     8.0    12.0    20.0    43.0    75.0    90.0    96.0
1562        UA     100
            *
1                                   HEC-1 INPUT                                          PAGE 41

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

1563        KK  315316   ROUTE   REACH
1564        KM    ROUTE RUNOFF FROM S315 TO C316
1565        KM    SLOPE = (1885-1860)/2328 = 0.0107
1566        KM     XS based on West Fork Paradise Wash XS 1.75 (Stanley Consultants, 1999)
1567        RS       2    FLOW      -1
1568        RC   0.070   0.055   0.070    2328  0.0107    0.00
1569        RX  9983.0  9986.0  9989.0  9996.0 10004.0 10034.0 10047.0 10060.0
1570        RY  1874.0  1873.0  1872.0  1869.0  1869.0  1872.0  1873.0  1874.0
            *

1571        KK    S316   BASIN
1572        BA   0.223            0.15
1573        LG    0.32    0.15    8.80    0.06       6
1574        UC   0.329   0.233
1575        UA       0     4.5    12.6    23.2    35.8    50.0    64.2    76.8    87.4    95.5
1576        UA     100
            *

1577        KK    C316
1578        KM     COMBINE RUNOFF FROM S316 WITH ROUTED FLOW FROM S315
1579        HC       2
            *

1580        KK  316317   ROUTE   REACH
1581        KM    ROUTE COMBINED FLOWS FROM C316 TO C317 (CFH)
1582        KM    SLOPE = (1860-1806)/5852 = 0.0092
1583        KM     XS based on West Fork Paradise Wash XS 1.02 (Jerry Jones,1992) (PRDWST.DAT)
1584        RS       4    FLOW      -1
1585        RC   0.065   0.055   0.065    5852  0.0092    0.00
1586        RX  9973.0  9984.0  9993.0  9997.0 10007.0 10011.0 10067.0 10168.0
1587        RY  1838.0  1836.0  1834.0  1832.7  1832.7  1834.0  1836.0  1838.0
            *

1588        KK    S317   BASIN
1589        BA   0.603            0.15
1590        LG    0.32    0.15    9.70    0.05       4
1591        UC   0.454   0.298
1592        UA       0     3.0     5.0     8.0    12.0    20.0    43.0    75.0    90.0    96.0
1593        UA     100
            *

1594        KK    C317
1595        KM     COMBINE RUNOFF FROM S317 WITH ROUTED FLOW FROM C316
1596        KM     THIS IS THE TOTAL FLOW IN THE WEST BRANCH OF PARADISE WASH
1597        KM     AT CAREFREE HWY
1598        HC       2
1599        ZW      A=WBPW@CFH   C=FLOW   F=FUTURE
            *
1                                   HEC-1 INPUT                                          PAGE 42

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

1600        KK  317318   ROUTE   REACH
1601        KM    ROUTE COMBINED FLOWS FROM C317 TO C318
1602        KM    SLOPE = (1806-1788)/2279 = 0.0079
1603        KM     XS based on West Fork Paradise Wash XS 0.32 (Jerry Jones,1992) (PRDWST.DAT)
1604        RS       3    FLOW      -1
1605        RC   0.065   0.055   0.065    2279  0.0079    0.00
1606        RX  9820.0  9845.0  9995.0  9999.0 10015.0 10070.0 10650.0 10760.0
1607        RY  1808.0  1806.0  1804.0  1802.0  1802.0  1806.0  1806.0  1808.0
            *

1608        KK    S318   BASIN
1609        BA   0.157            0.15
1610        LG    0.30    0.15    7.30    0.10       5
1611        UC   0.333   0.271
1612        UA       0     4.5    12.6    23.2    35.8    50.0    64.2    76.8    87.4    95.5
1613        UA     100
            *
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1614          KK    C318
1615          KM     COMBINE RUNOFF FROM S318 WITH ROUTED FLOWS FROM C317 & C314
1616          HC       3
1617          ZW      A=PW+WBPW    C=FLOW    F=FUTURE
              *

1618          KK  318319   ROUTE   REACH
1619          KM    ROUTE COMBINED FLOWS FROM C318 TO C319
1620          KM    SLOPE = (1788-1729)/7226 = 0.0082
1621          KM     XS based on Paradise Wash XS 0.89 (Jerry Jones, 1992) (PARADFCD.DAT)
1622          RS       6    FLOW      -1
1623          RC   0.070   0.055   0.070    7226  0.0082    0.00
1624          RX  9500.0  9640.0  9980.0  9985.0 10010.0 10078.0 10352.0 10520.0
1625          RY  1780.0  1770.0  1770.0  1764.0  1764.0  1768.0  1774.0  1780.0
              *

1626          KK    S319   BASIN
1627          BA   0.886            0.15
1628          LG    0.30    0.10   11.20    0.02       7
1629          UC   0.758   0.668
1630          UA       0     4.5    12.6    23.2    35.8    50.0    64.2    76.8    87.4    95.5
1631          UA     100
              *

1632          KK   C319L
1633          KM     COMBINE RUNOFF FROM S319 WITH ROUTED FLOW FROM C318
1634          KM     THIS IS THE TOTAL FLOW IN PARADISE WASH UPSTREAM
1635          KM     OF APACHE WASH
1636          HC       2
1637          ZW      A=PWUSAW    C=FLOW    F=FUTURE
              *
1                                          HEC-1 INPUT                                          PAGE 43

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


1638          KK    C319
1639          KM     COMBINE PARADISE WASH WITH ROUTED FLOWS FROM C147
1640          KM     THIS IS THE TOTAL FLOW IN APACHE WASH DOWNSTREAM OF
1641          KM     PARADISE WASH
1642          HC       2
1643          ZW      A=AW+PW    C=FLOW    F=FUTURE
              *

1644          KK  319400   ROUTE   REACH
1645          KM    ROUTE COMBINED FLOWS FROM C319 TO C400
1646          KM    SLOPE = (1728-1661)/11176 = 0.0060
1647          KM     XS based on Apache Wash XS 1.37 from Jerry Jones (APACHE.DAT)
1648          RS       9    FLOW      -1
1649          RC   0.070   0.055   0.070   11176  0.0060    0.00
1650          RX  9493.0  9580.0  9932.0  9978.0 10013.0 10030.0 10042.0 10054.0
1651          RY  1698.0  1694.0  1692.0  1688.0  1688.0  1692.0  1695.0  1698.0
              *

1652          KK    S400   BASIN
1653          BA   1.676            0.15
1654          LG    0.30    0.13   10.10    0.03      11
1655          UC   1.500   1.503
1656          UA       0     4.5    12.6    23.2    35.8    50.0    64.2    76.8    87.4    95.5
1657          UA     100
              *

1658          KK    C400
1659          KM     COMBINE RUNOFF FROM S400 WITH ROUTED FLOWS FROM C319
1660          HC       2
1661          ZW       A=AW@POOL    C=FLOW    F=FUTURE
              *

1662          KK    S500   BASIN
1663          KM    THIS IS THE INFLOW TO THE SKUNK TANK WASH PORTION OF THE FLO-2D AREA
1664          KM    CALLED FLO2D2 AT DESERT HILLS DRIVE.
1665          BA   0.039            0.15
1666          LG    0.30    0.05   12.40    0.01       5
1667          UC   0.213   0.206
1668          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
1669          UA     100
              *
1670          ZZ
1
              SCHEMATIC DIAGRAM OF STREAM NETWORK
 INPUT
  LINE      (V) ROUTING          (--->) DIVERSION OR PUMP FLOW

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

    48        S100
                 V
                 V
    56      100101
                 .
                 .
    64           .        S101
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                 .           .
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 70        C101............
              V
              V
 75      101CFH
              .
              .
 83           .        S102
              .           V
              .           V
 89           .      102103
              .           .
              .           .
 97           .           .        S103
              .           .           .
              .           .           .
103           .        C103............
              .           V
              .           V
107           .      103104
              .           .
              .           .
116           .           .        S104
              .           .           .
              .           .           .
122           .        C104............
              .           V
              .           V
127           .      104CFH
              .           .
              .           .
135           .           .        S105
              .           .           V
              .           .           V
142           .           .      105106
              .           .           .
              .           .           .
150           .           .           .        S106
              .           .           .           .
              .           .           .           .
156           .           .        C106............
              .           .           V
              .           .           V
160           .           .      106107
              .           .           .
              .           .           .
168           .           .           .        S107
              .           .           .           .
              .           .           .           .
174           .           .        C107............
              .           .           V
              .           .           V
179           .           .      107CFH
              .           .           .
              .           .           .
187           .           .           .        S150
              .           .           .           .
              .           .           .           .
194           .           .           .           .        S151
              .           .           .           .           .
              .           .           .           .           .
201           .           .           .           .           .        S152
              .           .           .           .           .           .
              .           .           .           .           .           .
210           .           .           .           .           .           .-------->    1520
207           .           .           .           .           .        D152
              .           .           .           .           .           V
              .           .           .           .           .           V
213           .           .           .           .           .     152153
              .           .           .           .           .           .
              .           .           .           .           .           .
222           .           .           .           .           .           .        S153
              .           .           .           .           .           .           .
              .           .           .           .           .           .           .
228           .           .           .           .           .        C153............
              .           .           .           .           .           .
              .           .           .           .           .           .
234           .           .           .           .           .           .           .<--------    1520
232           .           .           .           .           .           .       DR152
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              .           .           .           .           .           .           .
235           .           .           .        C155.................................
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              .           .           .           .
239      DUMMY...............................
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              .
243           .        S122
              .           .
              .           .
251           .           .        S123
              .           .           .
              .           .           .
259           .           .           .        S124
              .           .           .           V
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267          .          .          .     124125
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276          .          .          .          .       S125
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282          .          .          .       C125...........
             .          .          .          .
             .          .          .          .
286          .          .     DUMMY...........
             .          .          .
             .          .          .
289     DUMMY......................
             .
             .
292          .      FLO2D
             .          V
             .          V
314          .     CFH127
             .          .
             .          .
322          .          .      S108
             .          .         V
             .          .         V
328          .          .    108109
             .          .          .
             .          .          .
336          .          .          .       S109
             .          .          .          .
             .          .          .          .
342          .          .    C109R...........
             .          .          .
             .          .          .
347          .          .          .       S110
             .          .          .          V
             .          .          .          V
353          .          .          .     110111
             .          .          .          .
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361          .          .          .          .       S111
             .          .          .          .          .
             .          .          .          .          .
367          .          .          .       C111...........
             .          .          .          V
             .          .          .          V
371          .          .          .     111109
             .          .          .          .
             .          .          .          .
379          .          .          .          .       S112
             .          .          .          .          .
             .          .          .          .          .
385          .          .          .      C109C...........
             .          .          .          .
             .          .          .          .
389          .          .          .          .       S113
             .          .          .          .          V
             .          .          .          .          V
395          .          .          .          .     113114
             .          .          .          .          .
             .          .          .          .          .
403          .          .          .          .          .       S114
             .          .          .          .          .          .
             .          .          .          .          .          .
409          .          .          .          .       C114...........
             .          .          .          .          V
             .          .          .          .          V
413          .          .          .          .     114115
             .          .          .          .          .
             .          .          .          .          .
421          .          .          .          .          .       S115
             .          .          .          .          .          .
             .          .          .          .          .          .
427          .          .          .          .       C115...........
             .          .          .          .          V
             .          .          .          .          V
431          .          .          .          .     115109
             .          .          .          .          .
             .          .          .          .          .
439          .          .      C109......................
             .          .         V
             .          .         V
444          .          .    109116
             .          .          .
             .          .          .
452          .          .          .       S116
             .          .          .          .
             .          .          .          .
458          .          .    C116R...........
             .          .          .
             .          .          .
461          .          .          .       S117
             .          .          .          .
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467          .          .          .          .       S118
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474                                                          118119
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482                                                                .        S119
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488                                                     C116L......................
                                                                  .
                                                                  .
491                                             C116............
                                                    V
                                                    V
495                                             116120
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503                                                     S120
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                                                                  .
509                                             C120............
                                                    V
                                                    V
512                                             120127
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520                                                     S121
                                                                  .
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526                                             C127L...........
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                                                                  .
529                                                     S126
                                                                  V
                                                                  V
537                                                     126127
                                                                  .
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546                                                                .        S127
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552                                                     C127R...........
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                                                                  .
555                                     C127......................
                                            V
                                            V
560                                     127129
                                                                  .
                                                                  .
568                                             S128
                                                    V
                                                    V
576                                             128129
                                                                  .
                                                                  .
584                                                     S129
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                                                                  .
590                                     C129......................
                                            V
                                            V
594                                     129134
                                                                  .
                                                                  .
602                                             S130
                                                    V
                                                    V
609                                             130134
                                                                  .
                                                                  .
618                                                     S131
                                                                  V
                                                                  V
625                                                     131132
                                                                  .
                                                                  .
634                                                                .        S132
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                                                                  .          .
640                                                     C132............
                                                                  V
                                                                  V
644                                                     132133
                                                                  .
                                                                  .
652                                                                .        S133
                                                                  .          .
                                                                  .          .
658                                                     C133............
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662                                                     133134
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670                                                                .        S134
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676             .          .      C134L.......................
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679             .       C134............
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684             .     134139
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692             .          .       S135
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699             .          .     135139
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707             .          .          .       S136
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713             .      C139R.......................
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717             .          .       S137
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724             .          .     137138
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732             .          .          .       S138
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738             .          .       C138............
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742             .          .     138139
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750             .          .          .       S139
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756             .          .      C139L............
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759             .       C139............
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763             .     139141
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771             .          .       S140
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779             .          .     140141
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788             .          .          .       S141
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794             .          .      C141L............
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797             .          .          .       S142
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803             .          .          .     142141
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812             .      C141I.......................
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815             .     141145
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823             .          .       S143
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829             .          .     143144
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838             .          .          .       S144
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844             .      C145R.......................
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847             .          .       S145
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853             .       C145............
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857             .     145147
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871          .      C147R............
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876          .           .        S200
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882          .           .           .        S201
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888          .           .        C201............
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891          .           .      201204
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899          .           .           .        S203
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905          .           .      C204L............
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909          .           .           .        S204
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915          .           .        C204............
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932          .           .      C206L............
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935          .           .           .        S206
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941          .           .        C206............
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944          .           .      206209
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952          .           .           .        S207
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958          .           .      C209L............
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961          .           .           .        S208
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967          .           .           .      208209
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975          .           .           .           .        S209
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981          .           .           .      C209R............
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996          .           .           .        S210
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1002         .           .      C215L............
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1059                                C215R............
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1064                          C215............
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1068                        215216
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1076                                     S216
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1082                          C216............
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1086                        216217
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1094                                     S217
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1100                           C217R............
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1103                                     S218
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1109                                218219
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1117                                     .        S219
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1123                                     C219............
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1126                                     .        S220
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1132                                     C220............
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1136                                220217
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1144                          C217............
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1148                        217221
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1156                                     S221
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1162                          C221............
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1167                        221222
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1175                                     S222
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1181                          C222............
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1186                        222227
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1194                                     S223
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1200                                223227
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1208                                     .        S224
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1214                           C227L......................
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1217                                     S225
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1223                                225226
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1231                                                  S226
1237                                        C226............
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1240                                      226227
1248                                                  S227
1254                                      C227R...........
1257                                 C227............
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1261                                 227228
1269                                        S228
1275                                 C228............
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1281                                 228147
1289                        C147............
                               V
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1293                        147319
1302                                 S300
1308                                        S301
1314                                 C301............
                                        V
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1317                                 301302
1325                                        S302
1331                                 C302............
                                        V
                                        V
1334                                 302303
1342                                        S303
1348                                 C303............
                                        V
                                        V
1351                                 303312
1359                                        S304
1365                                 C312R...........
1370                                        S305
                                               V
                                               V
1376                                      305309
1384                                                  S306
1390                                                            S307
                                                                   V
                                                                   V
1396                                                          307309
1404                                      C309R......................
1407                                                  S308
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1413                                  308309
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1421                                     .          S309
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1427                                  C309L............
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1430                              C309............
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1433                              309310
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1441                                 .        S310
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1447                              C310............
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1454                                 .-------> D310UO
1451                              D310U
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1457                              RR310
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1475                                 .-------> D310DO
1472                              D310D
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1478                              310312
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1486                                 .        S311
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1492                                 .      311312
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1507                              C312L.......................
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1511                          C312............
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1515                          312314
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1523                              .       S313
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1529                              .     313314
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1538                              .        .       S314
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1544                          C314......................
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1549                          314318
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1557                              .       S315
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1563                              .     315316
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1571                              .        .       S316
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1577                              .       C316............
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1580                              .     316317
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1588                              .        .       S317
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1594                              .       C317............
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1600                              .     317318
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1608                              .        .       S318
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1614          .          .        C318.......................
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1618          .          .      318319
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1632          .          .       C319L............
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1638          .        C319............
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1644          .      319400
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1652          .          .        S400
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1658          .        C400............
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1662          .          .        S500

(***) RUNOFF ALSO COMPUTED AT THIS LOCATION
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   14AUG03  TIME  15:55:09    *                                    *           (916) 756-1104             *
*                                        *                                    *                                      *
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DESERT HILLS AREA HYDROLOGY

JE FULLER / HYDROLOGY & GEOMORPHOLOGY, INC.
ADOBE DAM / DESERT HILLS ADMP
APRIL 2003 - KK RR310 revised 08-14-03

THIS IS THE 2-YEAR 6-HOUR MODEL FOR FUTURE CONDITIONS LAND USE

MODEL BASIS:
* DDMSW PROJECT NAME: DHA_FU6
* HYDROLOGY DEVELOPED FOR THE DESERT HILLS AREA FOR THE ADMP
* FUTURE CONDITIONS LAND USE BASED ON MAG LAND USE FILES PROVIDED BY FCDMC AND UMODIFIED TO PROVIDE CONSISTENCY WITH EXISTING LAND USE DESIGNATIONS MADE IN THE EXISTING CONDITIONS FOR THE ADMP
* PREFRE RAINFALL STATISTICS FROM NOAA ATLAS II
* MULTIPLE STORM (JD RECORDS) USED FOR CRITICAL STORM CENTERING
* RAINFALL LOSS COMPUTED USING GREEN & AMPT METHOD
* CLARK METHOD WAS USED FOR DEVELOPMENT OF UNIT HYDROGRAPHS
* MODIFIED PULS NORMAL-DEPTH ROUTING USED FOR CHANNEL ROUTINGS
* 2-YR COMPUTED BASED ON 0.15 RATIO OF 100-YEAR (VS. 0.10 FOR EXISTING) TO REFLECT INCREASES IN 2-YEAR DUE TO DEVELOPMENT WITHOUT RETENTION

* A PORTION OF THE AREA WAS MODELED EXTERNALLY USING FLO-2D.

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

    IT          HYDROGRAPH TIME DATA
                       NMIN           5  MINUTES IN COMPUTATION INTERVAL
                      IDATE     21FEB 3  STARTING DATE
                      ITIME        0000  STARTING TIME
                         NQ         300  NUMBER OF HYDROGRAPH ORDINATES
                     NDDATE     22FEB 3  ENDING DATE
                     NDTIME        0055  ENDING TIME
                      ICENT          19  CENTURY MARK

                 COMPUTATION INTERVAL     .08 HOURS
                      TOTAL TIME BASE   24.92 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

 28 JD          INDEX STORM NO. 1
                      STRM        3.35  PRECIPITATION DEPTH
                      TRDA         .01  TRANSPOSITION DRAINAGE AREA
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29 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       .01       .01       .01       .01       .01       .01       .03
                 .03       .03       .05       .05       .05       .15       .15       .15       .03       .03
                 .03       .01       .01       .01       .01       .01       .01       .00       .00       .00
                 .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                 .00       .00

32 JD        INDEX STORM NO. 2
                STRM        3.33  PRECIPITATION DEPTH
                TRDA         .50  TRANSPOSITION DRAINAGE AREA

33 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       .01       .01       .01       .01       .01       .01       .03
                 .03       .03       .05       .05       .05       .15       .15       .15       .03       .03
                 .03       .01       .01       .01       .01       .01       .01       .00       .00       .00
                 .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                 .00       .00

36 JD        INDEX STORM NO. 3
                STRM        3.27  PRECIPITATION DEPTH
                TRDA        2.80  TRANSPOSITION DRAINAGE AREA

37 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       .01       .01       .01       .01       .01       .01       .03
                 .03       .03       .07       .07       .07       .08       .08       .08       .05       .05
                 .05       .02       .02       .02       .01       .01       .01       .00       .00       .00
                 .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                 .00       .00

40 JD        INDEX STORM NO. 4
                STRM        3.09  PRECIPITATION DEPTH
                TRDA       16.00  TRANSPOSITION DRAINAGE AREA

41 PI          PRECIPITATION PATTERN
                 .01       .01       .00       .00       .00       .00       .00       .00       .00       .01
                 .01       .01       .00       .01       .00       .00       .00       .00       .00       .00
                 .00       .00       .01       .00       .00       .00       .00       .01       .01       .01
                 .01       .01       .01       .01       .01       .01       .02       .02       .02       .03
                 .03       .03       .06       .06       .06       .07       .07       .07       .04       .04
                 .04       .02       .02       .02       .01       .01       .01       .01       .01       .01
                 .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                 .00       .00

44 JD        INDEX STORM NO. 5
                STRM        2.72  PRECIPITATION DEPTH
                TRDA       90.00  TRANSPOSITION DRAINAGE AREA

45 PI          PRECIPITATION PATTERN
                 .01       .01       .01       .00       .00       .00       .01       .01       .01       .01
                 .01       .01       .01       .01       .01       .01       .01       .01       .01       .01
                 .01       .01       .01       .01       .01       .01       .01       .01       .01       .01
                 .01       .01       .01       .01       .01       .01       .02       .02       .02       .03
                 .03       .03       .05       .05       .05       .05       .05       .05       .04       .04
                 .04       .02       .02       .02       .02       .02       .02       .01       .01       .01
                 .01       .01       .01       .01       .01       .01       .01       .01       .01       .01
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   -----DSS---ZOPEN:  Existing File Opened,  File: DH26F.DSS
                      Unit:  71;  DSS Version: 6-JG
-----DSS---ZWRITE Unit  71; Vers.    6:  /DHW/C147R/FLOW/20FEB1903/5MIN/FUTURE/
-----DSS---ZWRITE Unit  71; Vers.    6:  /DHW/C147R/FLOW/21FEB1903/5MIN/FUTURE/
-----DSS---ZWRITE Unit  71; Vers.    6:  /DHW/C147R/FLOW/22FEB1903/5MIN/FUTURE/

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-----DSS---ZWRITE Unit  71; Vers.    6:  /AW@CLOUD/C221/FLOW/20FEB1903/5MIN/FUTURE/
-----DSS---ZWRITE Unit  71; Vers.    6:  /AW@CLOUD/C221/FLOW/21FEB1903/5MIN/FUTURE/
-----DSS---ZWRITE Unit  71; Vers.    6:  /AW@CLOUD/C221/FLOW/22FEB1903/5MIN/FUTURE/
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-----DSS---ZWRITE Unit  71; Vers.    6:  /AW@CFH/C222/FLOW/20FEB1903/5MIN/FUTURE/
-----DSS---ZWRITE Unit  71; Vers.    6:  /AW@CFH/C222/FLOW/21FEB1903/5MIN/FUTURE/
-----DSS---ZWRITE Unit  71; Vers.    6:  /AW@CFH/C222/FLOW/22FEB1903/5MIN/FUTURE/
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-----DSS---ZWRITE Unit  71; Vers.    6:  /AWUSDHW/C228/FLOW/20FEB1903/5MIN/FUTURE/
-----DSS---ZWRITE Unit  71; Vers.    6:  /AWUSDHW/C228/FLOW/21FEB1903/5MIN/FUTURE/
-----DSS---ZWRITE Unit  71; Vers.    6:  /AWUSDHW/C228/FLOW/22FEB1903/5MIN/FUTURE/
-----DSS---ZWRITE Unit  71; Vers.    6:  /DHW+AW/C147/FLOW/20FEB1903/5MIN/FUTURE/
-----DSS---ZWRITE Unit  71; Vers.    6:  /DHW+AW/C147/FLOW/21FEB1903/5MIN/FUTURE/
-----DSS---ZWRITE Unit  71; Vers.    6:  /DHW+AW/C147/FLOW/22FEB1903/5MIN/FUTURE/

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-----DSS---ZWRITE Unit  71; Vers.    6:  /PWUSRTW/C312R/FLOW/20FEB1903/5MIN/FUTURE/
-----DSS---ZWRITE Unit  71; Vers.    6:  /PWUSRTW/C312R/FLOW/21FEB1903/5MIN/FUTURE/
-----DSS---ZWRITE Unit  71; Vers.    6:  /PWUSRTW/C312R/FLOW/22FEB1903/5MIN/FUTURE/

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-----DSS---ZWRITE Unit  71; Vers.    6:  /RTWUSPW/C312L/FLOW/20FEB1903/5MIN/FUTURE/
-----DSS---ZWRITE Unit  71; Vers.    6:  /RTWUSPW/C312L/FLOW/21FEB1903/5MIN/FUTURE/
-----DSS---ZWRITE Unit  71; Vers.    6:  /RTWUSPW/C312L/FLOW/22FEB1903/5MIN/FUTURE/
-----DSS---ZWRITE Unit  71; Vers.    6:  /PW+RTW/C312/FLOW/20FEB1903/5MIN/FUTURE/
-----DSS---ZWRITE Unit  71; Vers.    6:  /PW+RTW/C312/FLOW/21FEB1903/5MIN/FUTURE/
-----DSS---ZWRITE Unit  71; Vers.    6:  /PW+RTW/C312/FLOW/22FEB1903/5MIN/FUTURE/

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-----DSS---ZWRITE Unit  71; Vers.    6:  /PW@CFH/C314/FLOW/20FEB1903/5MIN/FUTURE/
-----DSS---ZWRITE Unit  71; Vers.    6:  /PW@CFH/C314/FLOW/21FEB1903/5MIN/FUTURE/
-----DSS---ZWRITE Unit  71; Vers.    6:  /PW@CFH/C314/FLOW/22FEB1903/5MIN/FUTURE/

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-----DSS---ZWRITE Unit  71; Vers.    6:  /WBPW@CFH/C317/FLOW/20FEB1903/5MIN/FUTURE/
-----DSS---ZWRITE Unit  71; Vers.    6:  /WBPW@CFH/C317/FLOW/21FEB1903/5MIN/FUTURE/
-----DSS---ZWRITE Unit  71; Vers.    6:  /WBPW@CFH/C317/FLOW/22FEB1903/5MIN/FUTURE/

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-----DSS---ZWRITE Unit  71; Vers.    6:  /PW+WBPW/C318/FLOW/20FEB1903/5MIN/FUTURE/
-----DSS---ZWRITE Unit  71; Vers.    6:  /PW+WBPW/C318/FLOW/21FEB1903/5MIN/FUTURE/
-----DSS---ZWRITE Unit  71; Vers.    6:  /PW+WBPW/C318/FLOW/22FEB1903/5MIN/FUTURE/

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-----DSS---ZWRITE Unit  71; Vers.    6:  /PWUSAW/C319L/FLOW/20FEB1903/5MIN/FUTURE/
-----DSS---ZWRITE Unit  71; Vers.    6:  /PWUSAW/C319L/FLOW/21FEB1903/5MIN/FUTURE/
-----DSS---ZWRITE Unit  71; Vers.    6:  /PWUSAW/C319L/FLOW/22FEB1903/5MIN/FUTURE/
-----DSS---ZWRITE Unit  71; Vers.    6:  /AW+PW/C319/FLOW/20FEB1903/5MIN/FUTURE/
-----DSS---ZWRITE Unit  71; Vers.    6:  /AW+PW/C319/FLOW/21FEB1903/5MIN/FUTURE/
-----DSS---ZWRITE Unit  71; Vers.    6:  /AW+PW/C319/FLOW/22FEB1903/5MIN/FUTURE/

                                        HYDROGRAPH MULTIPLIED BY   .15

                                        HYDROGRAPH MULTIPLIED BY   .15

                                        HYDROGRAPH MULTIPLIED BY   .15

                                        HYDROGRAPH MULTIPLIED BY   .15

                                        HYDROGRAPH MULTIPLIED BY   .15
-----DSS---ZWRITE Unit  71; Vers.    6:  /AW@POOL/C400/FLOW/20FEB1903/5MIN/FUTURE/
-----DSS---ZWRITE Unit  71; Vers.    6:  /AW@POOL/C400/FLOW/21FEB1903/5MIN/FUTURE/
-----DSS---ZWRITE Unit  71; Vers.    6:  /AW@POOL/C400/FLOW/22FEB1903/5MIN/FUTURE/

                                        HYDROGRAPH MULTIPLIED BY   .15

                                        HYDROGRAPH MULTIPLIED BY   .15

                                        HYDROGRAPH MULTIPLIED BY   .15

                                        HYDROGRAPH MULTIPLIED BY   .15

                                        HYDROGRAPH MULTIPLIED BY   .15
1
                                    RUNOFF SUMMARY
                              FLOW IN CUBIC FEET PER SECOND
                           TIME IN HOURS,  AREA IN SQUARE MILES

                                PEAK   TIME OF    AVERAGE FLOW FOR MAXIMUM PERIOD      BASIN    MAXIMUM    TIME OF
        OPERATION       STATION  FLOW    PEAK                                          AREA     STAGE    MAX STAGE
+                                                   6-HOUR     24-HOUR     72-HOUR

        HYDROGRAPH AT
+                         S100   138.    4.08        13.         3.          3.       .34

        ROUTED TO
+                       100101   102.    4.42        13.         3.          3.       .34

        HYDROGRAPH AT
+                         S101   104.    4.17        12.         3.          3.       .30

        2 COMBINED AT
+                         C101   177.    4.25        25.         6.          6.       .64

        ROUTED TO
+                       101CFH    90.    6.50        24.         6.          6.       .64

        HYDROGRAPH AT
+                         S102   141.    4.08        11.         3.          3.       .30

        ROUTED TO
+                       102103   112.    4.25        11.         3.          3.       .30
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+	HYDROGRAPH AT	S103	56.	4.08	5.	1.	1.	.14
+	2 COMBINED AT	C103	162.	4.17	16.	4.	4.	.44
+	ROUTED TO	103104	152.	4.25	16.	4.	4.	.44
+	HYDROGRAPH AT	S104	32.	4.08	3.	1.	1.	.08
+	2 COMBINED AT	C104	173.	4.25	19.	5.	5.	.52
+	ROUTED TO	104CFH	77.	6.17	19.	5.	5.	.52
+	HYDROGRAPH AT	S105	53.	4.17	7.	2.	2.	.16
+	ROUTED TO	105106	49.	4.33	7.	2.	2.	.16
+	HYDROGRAPH AT	S106	34.	4.17	5.	1.	1.	.11
+	2 COMBINED AT	C106	80.	4.25	12.	3.	3.	.27
+	ROUTED TO	106107	74.	4.42	12.	3.	3.	.27
+	HYDROGRAPH AT	S107	57.	4.17	8.	2.	2.	.19
+	2 COMBINED AT	C107	114.	4.33	20.	5.	5.	.45
+	ROUTED TO	107CFH	87.	5.25	20.	5.	5.	.45
+	HYDROGRAPH AT	S150	6.	4.00	0.	0.	0.	.01
+	HYDROGRAPH AT	S151	7.	4.00	1.	0.	0.	.02
+	HYDROGRAPH AT	S152	39.	4.08	3.	1.	1.	.09
+	DIVERSION TO	152O	30.	4.08	2.	1.	1.	.09
+	HYDROGRAPH AT	D152	9.	4.08	0.	0.	0.	.09
+	ROUTED TO	152153	7.	4.08	0.	0.	0.	.09
+	HYDROGRAPH AT	S153	5.	4.08	0.	0.	0.	.01
+	2 COMBINED AT	C153	12.	4.08	1.	0.	0.	.10
+	HYDROGRAPH AT	DR152	30.	4.08	2.	1.	1.	.09
+	4 COMBINED AT	C155	53.	4.08	4.	1.	1.	.13
+	4 COMBINED AT	DUMMY	174.	6.33	65.	17.	16.	1.74
+	HYDROGRAPH AT	S122	52.	4.17	6.	1.	1.	.16
+	HYDROGRAPH AT	S123	55.	4.08	5.	1.	1.	.14
+	HYDROGRAPH AT	S124	29.	4.00	2.	1.	1.	.06
+	ROUTED TO	124125	21.	4.25	2.	1.	1.	.06
+	HYDROGRAPH AT	S125	56.	4.08	6.	1.	1.	.15
+	2 COMBINED AT	C125	67.	4.17	8.	2.	2.	.21
+	2 COMBINED AT	DUMMY	121.	4.08	13.	3.	3.	.34

	3 COMBINED AT							
+		DUMMY	172.	6.33	82.	21.	20.	2.24
	HYDROGRAPH AT							
+		FLO2D	340.	6.17	195.	76.	73.	5.47
	ROUTED TO							
+		CFH127	335.	6.33	194.	76.	73.	5.47
	HYDROGRAPH AT							
+		S108	161.	4.08	13.	3.	3.	.33
	ROUTED TO							
+		108109	128.	4.33	13.	3.	3.	.33
	HYDROGRAPH AT							
+		S109	129.	4.17	14.	3.	3.	.37
	2 COMBINED AT							
+		C109R	229.	4.25	26.	7.	6.	.69
	HYDROGRAPH AT							
+		S110	53.	4.08	5.	1.	1.	.13
	ROUTED TO							
+		110111	36.	4.50	5.	1.	1.	.13
	HYDROGRAPH AT							
+		S111	105.	4.08	9.	2.	2.	.25
	2 COMBINED AT							
+		C111	112.	4.08	14.	3.	3.	.38
	ROUTED TO							
+		111109	52.	5.08	14.	3.	3.	.38
	HYDROGRAPH AT							
+		S112	200.	4.17	21.	5.	5.	.57
	2 COMBINED AT							
+		C109C	179.	4.17	34.	9.	8.	.95
	HYDROGRAPH AT							
+		S113	30.	4.17	3.	1.	1.	.11
	ROUTED TO							
+		113114	22.	4.42	3.	1.	1.	.11
	HYDROGRAPH AT							
+		S114	37.	4.17	4.	1.	1.	.11
	2 COMBINED AT							
+		C114	48.	4.25	7.	2.	2.	.22
	ROUTED TO							
+		114115	38.	4.67	7.	2.	2.	.22
	HYDROGRAPH AT							
+		S115	44.	4.25	6.	2.	2.	.16
	2 COMBINED AT							
+		C115	63.	4.42	14.	3.	3.	.37
	ROUTED TO							
+		115109	61.	4.58	14.	3.	3.	.37
	3 COMBINED AT							
+		C109	357.	4.25	71.	18.	17.	2.02
	ROUTED TO							
+		109116	315.	4.58	71.	18.	17.	2.02
	HYDROGRAPH AT							
+		S116	45.	4.33	7.	2.	2.	.22
	2 COMBINED AT							
+		C116R	337.	4.58	77.	19.	19.	2.24
	HYDROGRAPH AT							
+		S117	66.	4.25	9.	2.	2.	.23
	HYDROGRAPH AT							
+		S118	32.	4.25	6.	1.	1.	.12
	ROUTED TO							
+		118119	28.	4.67	6.	1.	1.	.12
	HYDROGRAPH AT							
+		S119	75.	4.25	12.	3.	3.	.31
	3 COMBINED AT							
+		C116L	145.	4.33	26.	7.	6.	.67
	2 COMBINED AT							

+		C116	427.	4.58	101.	26.	25.	2.91
	ROUTED TO							
+		116120	401.	4.83	101.	26.	25.	2.91
	HYDROGRAPH AT							
+		S120	56.	4.25	10.	2.	2.	.28
	2 COMBINED AT							
+		C120	426.	4.83	109.	28.	27.	3.18
	ROUTED TO							
+		120127	379.	5.25	109.	28.	27.	3.18
	HYDROGRAPH AT							
+		S121	51.	4.50	11.	3.	3.	.32
	2 COMBINED AT							
+		C127L	398.	5.25	118.	30.	29.	3.50
	HYDROGRAPH AT							
+		S126	63.	4.08	5.	1.	1.	.13
	ROUTED TO							
+		126127	46.	4.25	5.	1.	1.	.13
	HYDROGRAPH AT							
+		S127	36.	4.08	3.	1.	1.	.09
	2 COMBINED AT							
+		C127R	74.	4.17	8.	2.	2.	.22
	3 COMBINED AT							
+		C127	522.	5.25	304.	106.	102.	9.19
	ROUTED TO							
+		127129	509.	6.25	303.	105.	102.	9.19
	HYDROGRAPH AT							
+		S128	48.	4.08	5.	1.	1.	.12
	ROUTED TO							
+		128129	43.	4.17	5.	1.	1.	.12
	HYDROGRAPH AT							
+		S129	60.	4.08	5.	1.	1.	.12
	3 COMBINED AT							
+		C129	509.	6.25	306.	107.	103.	9.43
	ROUTED TO							
+		129134	507.	6.33	306.	107.	103.	9.43
	HYDROGRAPH AT							
+		S130	14.	4.17	2.	0.	0.	.05
	ROUTED TO							
+		130134	11.	4.42	2.	0.	0.	.05
	HYDROGRAPH AT							
+		S131	32.	4.17	5.	1.	1.	.11
	ROUTED TO							
+		131132	28.	4.50	5.	1.	1.	.11
	HYDROGRAPH AT							
+		S132	53.	4.17	6.	2.	1.	.14
	2 COMBINED AT							
+		C132	65.	4.25	11.	3.	3.	.25
	ROUTED TO							
+		132133	55.	4.58	11.	3.	3.	.25
	HYDROGRAPH AT							
+		S133	36.	4.08	4.	1.	1.	.10
	2 COMBINED AT							
+		C133	72.	4.25	15.	4.	4.	.35
	ROUTED TO							
+		133134	70.	4.42	15.	4.	4.	.35
	HYDROGRAPH AT							
+		S134	29.	4.08	3.	1.	1.	.07
	3 COMBINED AT							
+		C134L	92.	4.33	19.	5.	5.	.48
	2 COMBINED AT							
+		C134	514.	6.25	320.	111.	107.	9.91
	ROUTED TO							
+		134139	513.	6.42	320.	111.	107.	9.91

+	HYDROGRAPH AT	S135	33.	4.08	3.	1.	1.	.07
+	ROUTED TO	135139	26.	4.17	3.	1.	1.	.07
+	HYDROGRAPH AT	S136	27.	4.17	3.	1.	1.	.08
+	3 COMBINED AT	C139R	513.	6.42	323.	112.	108.	10.05
+	HYDROGRAPH AT	S137	27.	4.17	3.	1.	1.	.08
+	ROUTED TO	137138	19.	4.75	3.	1.	1.	.08
+	HYDROGRAPH AT	S138	60.	4.33	11.	3.	3.	.27
+	2 COMBINED AT	C138	65.	4.42	15.	4.	4.	.35
+	ROUTED TO	138139	59.	4.92	15.	4.	4.	.35
+	HYDROGRAPH AT	S139	20.	4.17	2.	1.	1.	.07
+	2 COMBINED AT	C139L	61.	4.83	17.	4.	4.	.42
+	2 COMBINED AT	C139	525.	5.75	336.	116.	112.	10.47
+	ROUTED TO	139141	524.	5.92	336.	116.	111.	10.47
+	HYDROGRAPH AT	S140	67.	4.17	11.	3.	3.	.25
+	ROUTED TO	140141	63.	4.42	11.	3.	3.	.25
+	HYDROGRAPH AT	S141	32.	4.17	5.	1.	1.	.10
+	2 COMBINED AT	C141L	89.	4.33	15.	4.	4.	.35
+	HYDROGRAPH AT	S142	50.	4.08	5.	1.	1.	.14
+	ROUTED TO	142141	51.	4.17	5.	1.	1.	.14
+	3 COMBINED AT	C141I	533.	5.83	350.	120.	116.	10.96
+	ROUTED TO	141145	530.	6.08	350.	120.	115.	10.96
+	HYDROGRAPH AT	S143	63.	4.08	6.	1.	1.	.14
+	ROUTED TO	143144	55.	4.17	5.	1.	1.	.14
+	HYDROGRAPH AT	S144	45.	4.17	6.	1.	1.	.15
+	3 COMBINED AT	C145R	530.	6.08	356.	122.	118.	11.25
+	HYDROGRAPH AT	S145	60.	4.25	9.	2.	2.	.20
+	2 COMBINED AT	C145	533.	6.08	362.	124.	120.	11.46
+	ROUTED TO	145147	524.	7.00	361.	123.	119.	11.46
+	HYDROGRAPH AT	S147	217.	4.25	25.	6.	6.	.67
+	2 COMBINED AT	C147R	523.	7.00	374.	128.	124.	12.13
+	HYDROGRAPH AT	S200	190.	4.08	21.	5.	5.	.58
+	HYDROGRAPH AT	S201	296.	4.17	30.	8.	7.	.79

	2 COMBINED AT							
+		C201	405.	4.17	50.	13.	12.	1.37
	ROUTED TO							
+		201204	402.	4.17	50.	13.	12.	1.37
	HYDROGRAPH AT							
+		S203	82.	4.00	6.	2.	1.	.17
	2 COMBINED AT							
+		C204L	429.	4.17	56.	14.	13.	1.54
	HYDROGRAPH AT							
+		S204	129.	4.08	12.	3.	3.	.30
	2 COMBINED AT							
+		C204	490.	4.17	66.	17.	16.	1.84
	ROUTED TO							
+		204206	481.	4.17	66.	17.	16.	1.84
	HYDROGRAPH AT							
+		S205	17.	4.08	1.	0.	0.	.04
	2 COMBINED AT							
+		C206L	487.	4.17	67.	17.	16.	1.88
	HYDROGRAPH AT							
+		S206	62.	4.08	5.	1.	1.	.15
	2 COMBINED AT							
+		C206	511.	4.17	72.	18.	17.	2.02
	ROUTED TO							
+		206209	501.	4.25	72.	18.	17.	2.02
	HYDROGRAPH AT							
+		S207	108.	4.08	8.	2.	2.	.25
	2 COMBINED AT							
+		C209L	528.	4.25	78.	20.	19.	2.27
	HYDROGRAPH AT							
+		S208	139.	4.08	11.	3.	3.	.31
	ROUTED TO							
+		208209	117.	4.17	11.	3.	3.	.31
	HYDROGRAPH AT							
+		S209	25.	4.08	2.	1.	1.	.07
	2 COMBINED AT							
+		C209R	141.	4.17	13.	3.	3.	.38
	2 COMBINED AT							
+		C209	588.	4.25	89.	22.	22.	2.65
	ROUTED TO							
+		209215	579.	4.33	89.	22.	22.	2.65
	HYDROGRAPH AT							
+		S210	121.	4.08	10.	3.	2.	.31
	2 COMBINED AT							
+		C215L	620.	4.33	98.	25.	24.	2.96
	HYDROGRAPH AT							
+		S211	134.	4.08	10.	3.	2.	.27
	ROUTED TO							
+		211214	88.	4.33	10.	3.	2.	.27
	HYDROGRAPH AT							
+		S212	58.	4.17	5.	1.	1.	.18
	2 COMBINED AT							
+		C214L	134.	4.25	15.	4.	4.	.45
	HYDROGRAPH AT							
+		S213	92.	4.08	8.	2.	2.	.24
	HYDROGRAPH AT							
+		S214	122.	4.17	12.	3.	3.	.33
	3 COMBINED AT							
+		C214	279.	4.17	34.	9.	8.	1.02
	ROUTED TO							
+		214215	244.	4.25	34.	9.	8.	1.02
	HYDROGRAPH AT							
+		S215	23.	4.08	2.	1.	1.	.06
	2 COMBINED AT							

+	C215R	255.	4.25	36.	9.	9.	1.08
+ 2 COMBINED AT	C215	786.	4.33	129.	32.	31.	4.05
+ ROUTED TO	215216	773.	4.42	129.	32.	31.	4.05
+ HYDROGRAPH AT	S216	173.	4.08	14.	3.	3.	.37
+ 2 COMBINED AT	C216	811.	4.42	140.	35.	34.	4.41
+ ROUTED TO	216217	704.	4.92	140.	35.	34.	4.41
+ HYDROGRAPH AT	S217	112.	4.25	13.	3.	3.	.36
+ 2 COMBINED AT	C217R	722.	4.92	151.	38.	37.	4.77
+ HYDROGRAPH AT	S218	188.	4.08	15.	4.	4.	.39
+ ROUTED TO	218219	127.	4.42	15.	4.	4.	.39
+ HYDROGRAPH AT	S219	107.	4.17	11.	3.	3.	.28
+ 2 COMBINED AT	C219	173.	4.33	25.	6.	6.	.67
+ HYDROGRAPH AT	S220	61.	4.17	6.	2.	2.	.17
+ 2 COMBINED AT	C220	206.	4.25	31.	8.	7.	.84
+ ROUTED TO	220217	205.	4.33	31.	8.	7.	.84
+ 2 COMBINED AT	C217	777.	4.92	177.	45.	43.	5.61
+ ROUTED TO	217221	768.	5.00	177.	45.	43.	5.61
+ HYDROGRAPH AT	S221	71.	4.17	9.	2.	2.	.23
+ 2 COMBINED AT	C221	779.	5.00	185.	47.	45.	5.85
+ ROUTED TO	221222	768.	5.17	184.	47.	45.	5.85
+ HYDROGRAPH AT	S222	87.	4.17	11.	3.	3.	.27
+ 2 COMBINED AT	C222	775.	5.17	193.	49.	47.	6.12
+ ROUTED TO	222227	764.	5.33	193.	49.	47.	6.12
+ HYDROGRAPH AT	S223	31.	4.17	3.	1.	1.	.09
+ ROUTED TO	223227	19.	4.67	3.	1.	1.	.09
+ HYDROGRAPH AT	S224	74.	4.17	7.	2.	2.	.21
+ 3 COMBINED AT	C227L	770.	5.33	200.	51.	49.	6.42
+ HYDROGRAPH AT	S225	82.	4.25	14.	4.	3.	.31
+ ROUTED TO	225226	70.	4.67	14.	4.	3.	.31
+ HYDROGRAPH AT	S226	73.	4.25	9.	2.	2.	.25
+ 2 COMBINED AT	C226	107.	4.42	23.	6.	6.	.56
+ ROUTED TO	226227	104.	4.67	23.	6.	6.	.56

+	HYDROGRAPH AT	S227	32.	4.17	5.	1.	1.	.11
+	2 COMBINED AT	C227R	118.	4.58	28.	7.	7.	.67
+	2 COMBINED AT	C227	819.	5.25	224.	57.	55.	7.09
+	ROUTED TO	227228	807.	5.42	224.	57.	55.	7.09
+	HYDROGRAPH AT	S228	66.	4.25	9.	2.	2.	.22
+	2 COMBINED AT	C228	811.	5.42	230.	59.	57.	7.32
+	ROUTED TO	228147	800.	5.50	230.	59.	57.	7.32
+	2 COMBINED AT	C147	1106.	5.58	575.	180.	174.	19.45
+	ROUTED TO	147319	1104.	5.58	575.	180.	174.	19.45
+	HYDROGRAPH AT	S300	192.	4.17	19.	5.	4.	.50
+	HYDROGRAPH AT	S301	203.	4.08	19.	5.	4.	.50
+	2 COMBINED AT	C301	329.	4.17	36.	9.	9.	1.01
+	ROUTED TO	301302	312.	4.25	36.	9.	9.	1.01
+	HYDROGRAPH AT	S302	92.	4.08	8.	2.	2.	.24
+	2 COMBINED AT	C302	352.	4.25	44.	11.	11.	1.25
+	ROUTED TO	302303	337.	4.33	44.	11.	11.	1.25
+	HYDROGRAPH AT	S303	54.	4.08	5.	1.	1.	.13
+	2 COMBINED AT	C303	350.	4.33	48.	12.	12.	1.37
+	ROUTED TO	303312	313.	4.58	48.	12.	12.	1.37
+	HYDROGRAPH AT	S304	29.	4.25	4.	1.	1.	.13
+	2 COMBINED AT	C312R	321.	4.58	51.	13.	12.	1.50
+	HYDROGRAPH AT	S305	99.	4.08	8.	2.	2.	.23
+	ROUTED TO	305309	67.	4.33	8.	2.	2.	.23
+	HYDROGRAPH AT	S306	14.	4.08	1.	0.	0.	.05
+	HYDROGRAPH AT	S307	79.	4.08	7.	2.	2.	.21
+	ROUTED TO	307309	76.	4.17	7.	2.	2.	.21
+	3 COMBINED AT	C309R	145.	4.17	16.	4.	4.	.49
+	HYDROGRAPH AT	S308	191.	4.08	15.	4.	4.	.47
+	ROUTED TO	308309	123.	4.33	15.	4.	4.	.47
+	HYDROGRAPH AT	S309	69.	4.08	7.	2.	2.	.19
+	2 COMBINED AT	C309L	161.	4.25	21.	5.	5.	.66
+	2 COMBINED AT	C309	267.	4.25	36.	9.	9.	1.14

	ROUTED TO							
+		309310	243.	4.50	36.	9.	9.	1.14
	HYDROGRAPH AT							
+		S310	188.	4.17	22.	6.	5.	.55
	2 COMBINED AT							
+		C310	335.	4.42	57.	14.	14.	1.70
	DIVERSION TO							
+		D310UO	167.	4.42	20.	5.	5.	1.70
	HYDROGRAPH AT							
+		D310U	184.	4.83	37.	9.	9.	1.70
	ROUTED TO							
+		RR310	174.	4.83	37.	9.	9.	1.70
	DIVERSION TO							
+		D310DO	89.	4.08	5.	1.	1.	1.70
	HYDROGRAPH AT							
+		D310D	174.	4.83	32.	8.	8.	1.70
	ROUTED TO							
+		310312	168.	4.92	32.	8.	8.	1.70
	HYDROGRAPH AT							
+		S311	29.	4.08	3.	1.	1.	.08
	ROUTED TO							
+		311312	18.	4.58	3.	1.	1.	.08
	HYDROGRAPH AT							
+		S312	335.	4.17	36.	9.	9.	.14
	3 COMBINED AT							
+		C312L	282.	4.50	70.	18.	17.	1.91
	2 COMBINED AT							
+		C312	539.	4.50	116.	29.	28.	3.42
	ROUTED TO							
+		312314	524.	4.58	116.	29.	28.	3.42
	HYDROGRAPH AT							
+		S313	17.	4.17	2.	1.	1.	.05
	ROUTED TO							
+		313314	16.	4.25	2.	1.	1.	.05
	HYDROGRAPH AT							
+		S314	36.	4.08	3.	1.	1.	.09
	3 COMBINED AT							
+		C314	537.	4.58	121.	30.	29.	3.56
	ROUTED TO							
+		314318	505.	4.83	120.	30.	29.	3.56
	HYDROGRAPH AT							
+		S315	105.	4.08	9.	2.	2.	.24
	ROUTED TO							
+		315316	85.	4.25	9.	2.	2.	.24
	HYDROGRAPH AT							
+		S316	77.	4.17	8.	2.	2.	.22
	2 COMBINED AT							
+		C316	155.	4.25	17.	4.	4.	.46
	ROUTED TO							
+		316317	112.	4.67	17.	4.	4.	.46
	HYDROGRAPH AT							
+		S317	182.	4.25	23.	6.	5.	.60
	2 COMBINED AT							
+		C317	219.	4.42	39.	10.	9.	1.07
	ROUTED TO							
+		317318	212.	4.58	39.	10.	9.	1.07
	HYDROGRAPH AT							
+		S318	50.	4.17	6.	1.	1.	.16
	3 COMBINED AT							
+		C318	659.	4.75	159.	40.	39.	4.78
	ROUTED TO							
+		318319	622.	5.17	159.	40.	39.	4.78
	HYDROGRAPH AT							

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+                          S319       157.    4.50          37.          9.          9.        .89

         2 COMBINED AT
+                         C319L       694.    5.17         191.         48.         47.       5.66

         2 COMBINED AT
+                          C319      1546.    5.42         723.        219.        211.      25.11

         ROUTED TO
+                        319400      1484.    6.17         717.        215.        207.      25.11

         HYDROGRAPH AT
+                          S400       152.    5.25          65.         17.         16.       1.68

         2 COMBINED AT
+                          C400      1557.    6.17         758.        229.        220.      26.79

         HYDROGRAPH AT
+                          S500        16.    4.08           2.          0.          0.        .04


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


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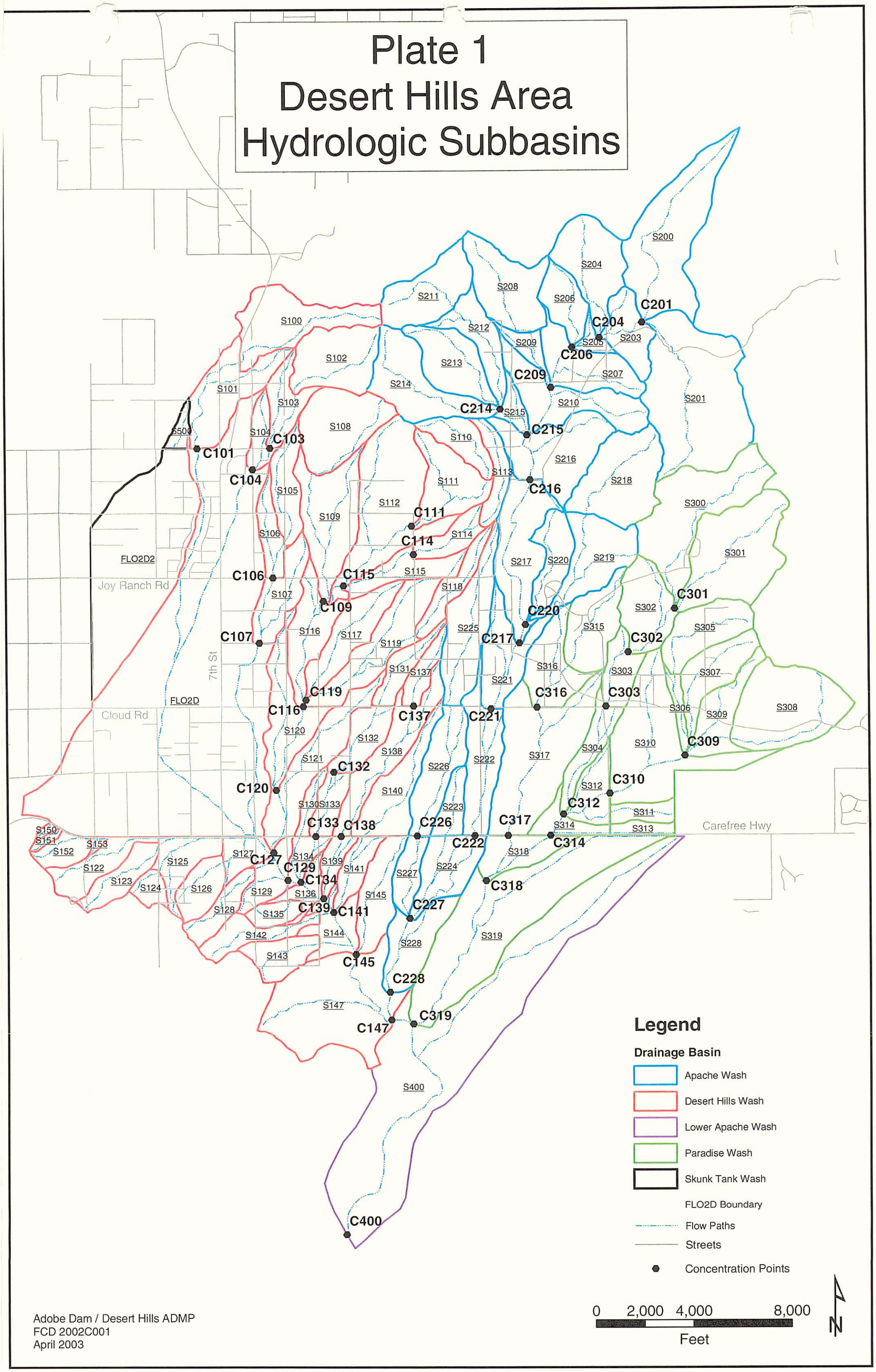
Plate 1
Desert Hills Area
Hydrologic Subbasins



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FCD 2002C001
April 2003

Plate 2
Desert Hills Area Hydrology
NRCS Soils and XKSAT

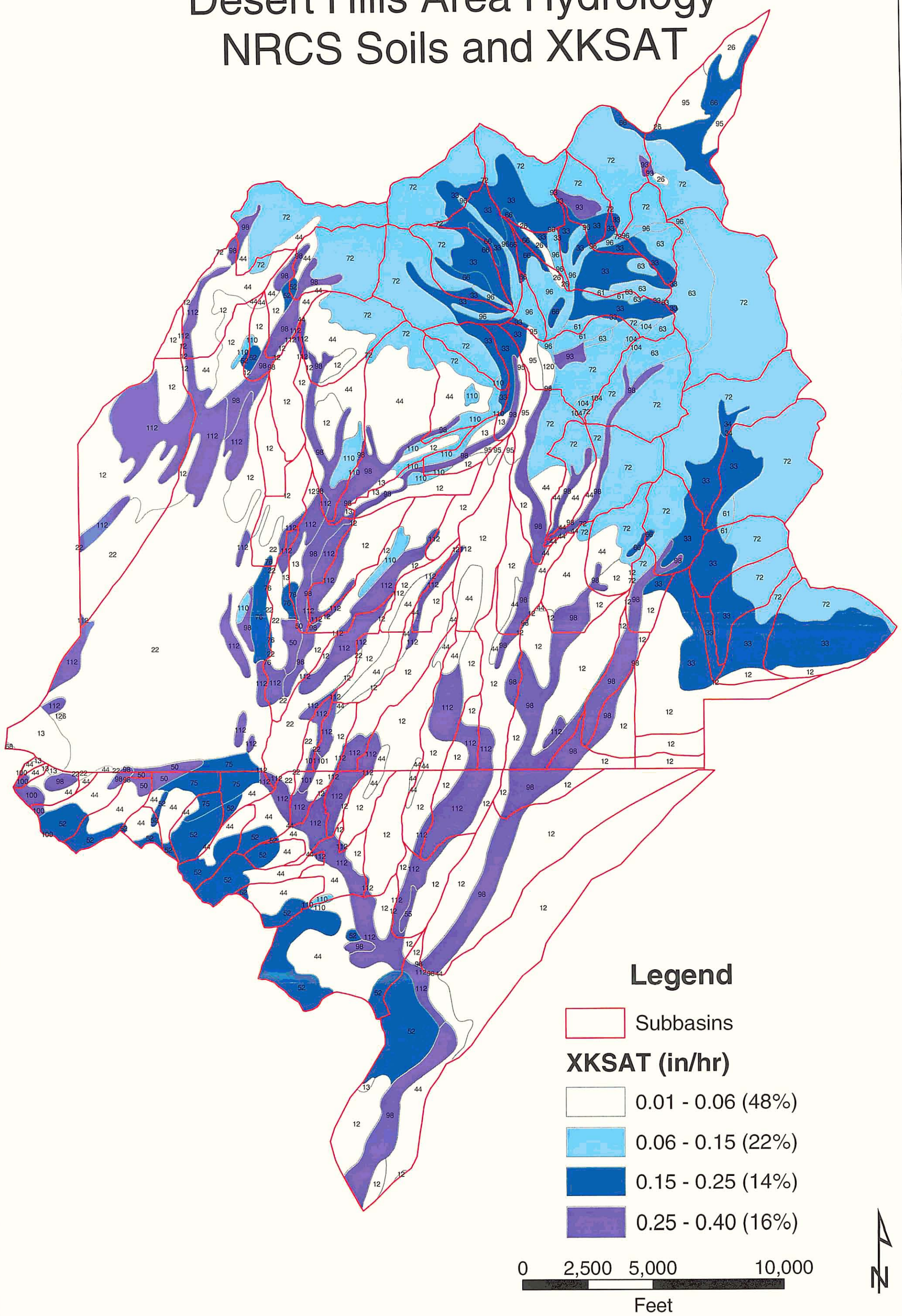
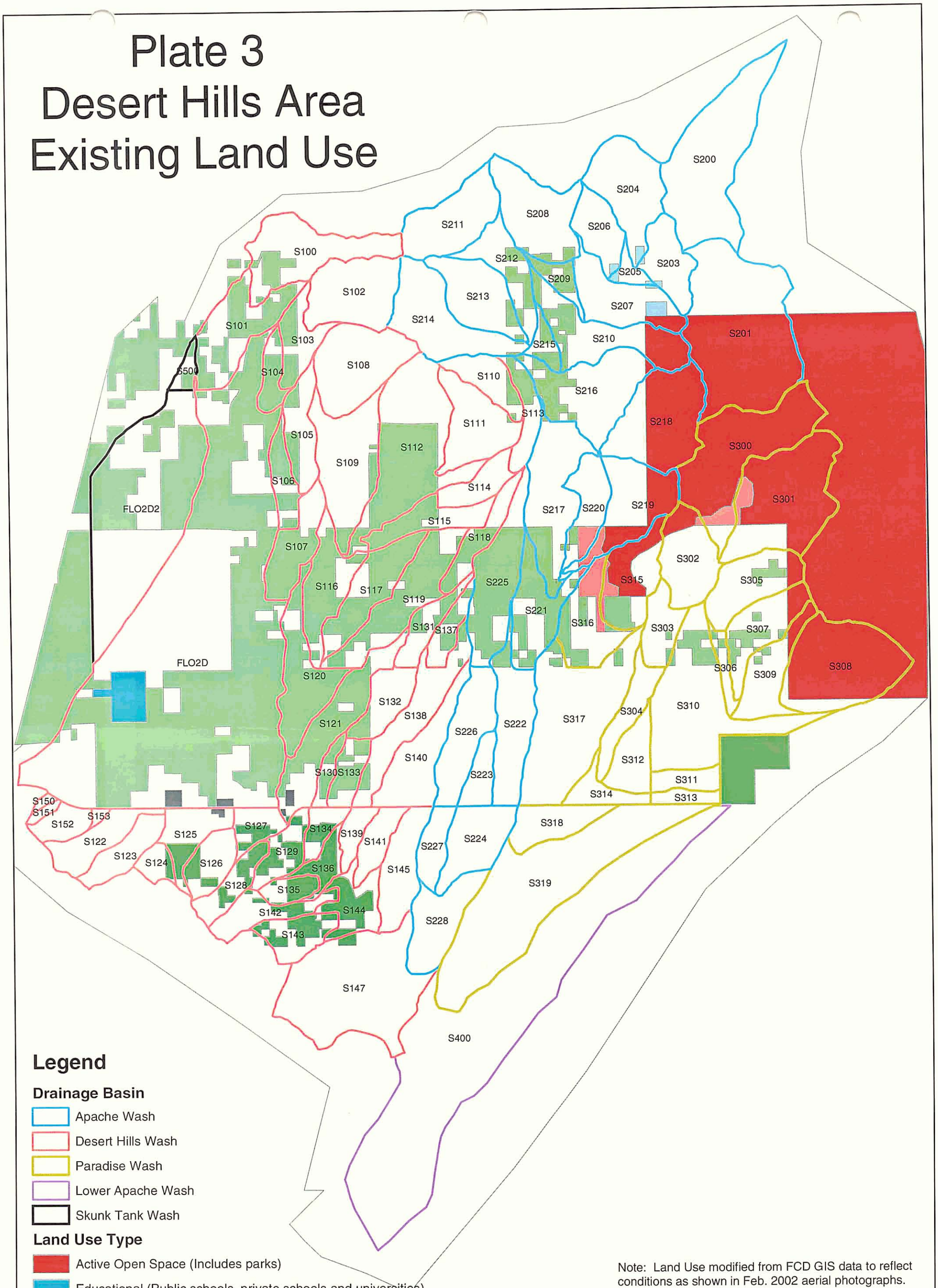


Plate 3
Desert Hills Area
Existing Land Use



Legend

Drainage Basin

- Apache Wash
- Desert Hills Wash
- Paradise Wash
- Lower Apache Wash
- Skunk Tank Wash

Land Use Type

- Active Open Space (Includes parks)
- Educational (Public schools, private schools and universities)
- Estate Residential (1/5 du per acre to 1 du per acre)
- Large Lot Residential - Single Family (1 du per acre to 2 du per acre)
- Neighborhood Commercial (50,000 to 100,000 sq. ft.)
- Park developed
- Rural Residential (<= 1/5 du per acre)
- Vacant (Existing land use database only)

Note: Land Use modified from FCD GIS data to reflect conditions as shown in Feb. 2002 aerial photographs.

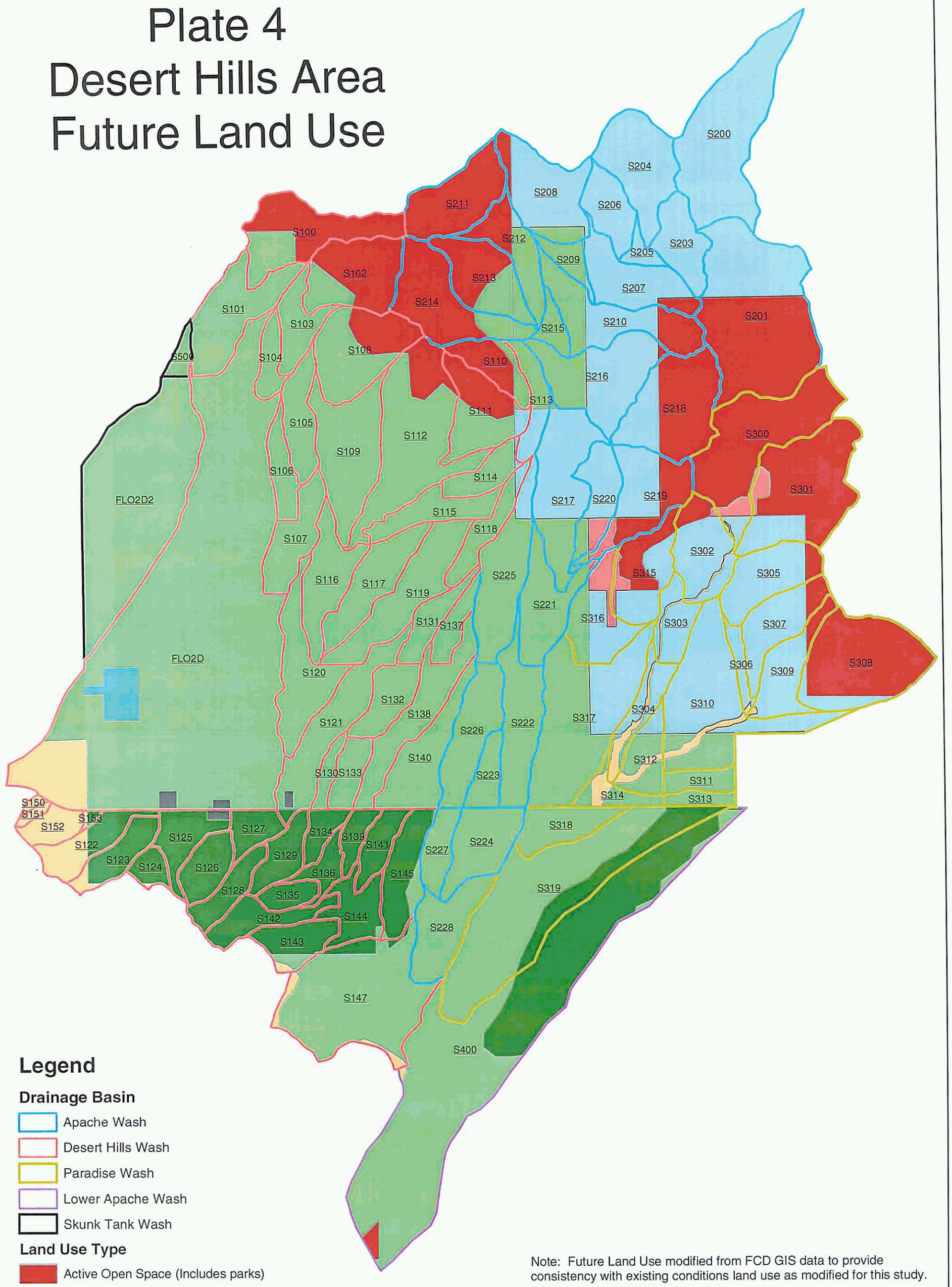
N

0 2,500 5,000 10,000

Feet

Adobe Dam / Desert Hills ADMP
FCD 2002C001
April 2003

Plate 4
Desert Hills Area
Future Land Use



Legend

Drainage Basin

- Apache Wash
- Desert Hills Wash
- Paradise Wash
- Lower Apache Wash
- Skunk Tank Wash

Land Use Type

- Active Open Space (Includes parks)
- Educational (Public schools, private schools and universities)
- Estate Residential (1/5 du per acre to 1 du per acre)
- Large Lot Residential - Single Family (1 du per acre to 2 du per acre)
- Neighborhood Commercial (50,000 to 100,000 sq. ft.)
- Park developed
- Passive Open Space (Includes mountain preserves and washes)
- Rural Residential (<= 1/5 du per acre)

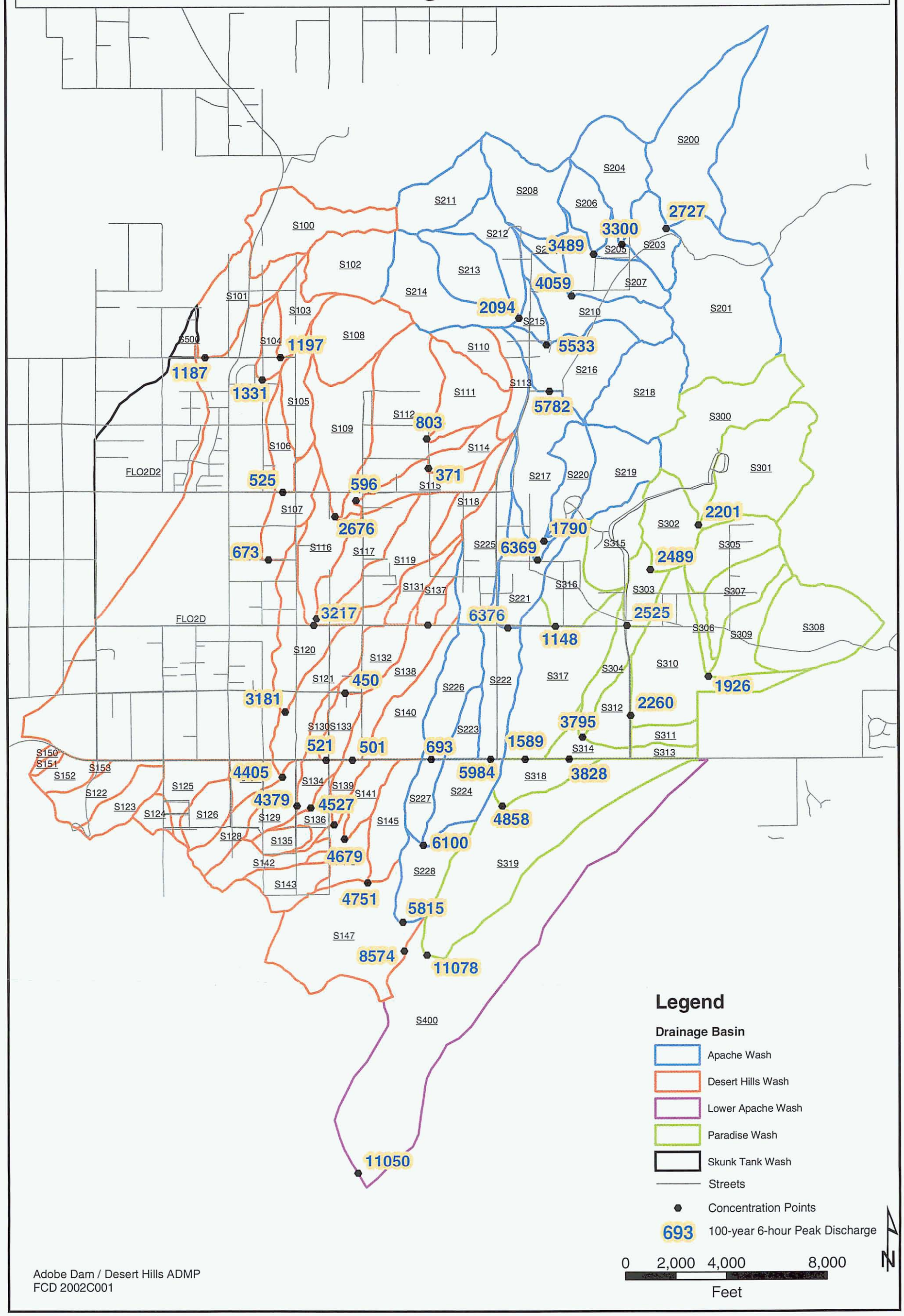
Note: Future Land Use modified from FCD GIS data to provide consistency with existing conditions land use as modified for this study.

0 2,500 5,000 10,000
Feet

N

Adobe Dam / Desert Hills ADMP
FCD 2002C001
April 2003

Plate 5
100-Year 6-Hour Existing Conditions HEC-1 Results



Legend

Drainage Basin

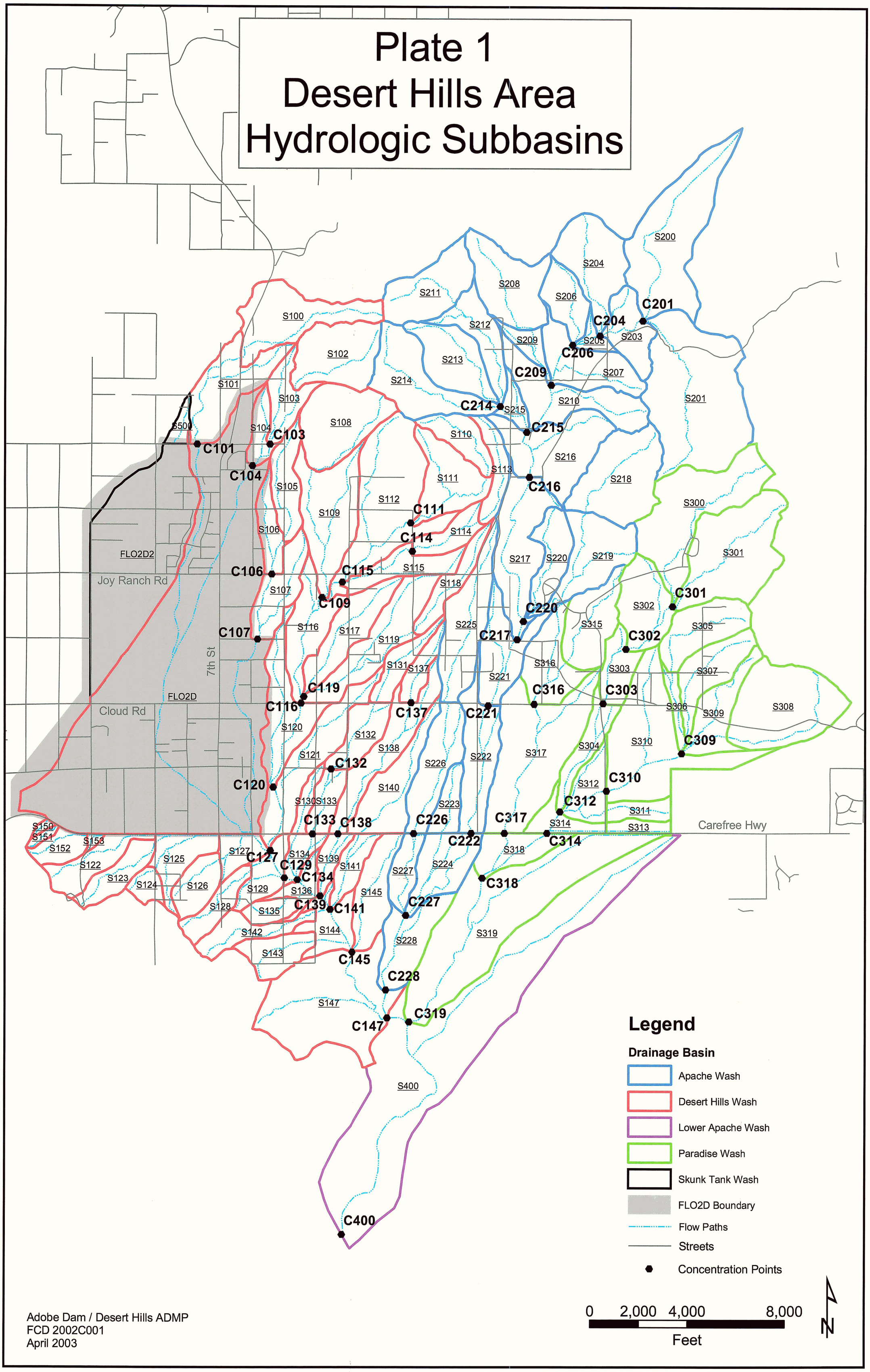
- Apache Wash
- Desert Hills Wash
- Lower Apache Wash
- Paradise Wash
- Skunk Tank Wash
- Streets
- Concentration Points
- 693 100-year 6-hour Peak Discharge

0 2,000 4,000 8,000
Feet

N

Adobe Dam / Desert Hills ADMP
FCD 2002C001

Plate 1
Desert Hills Area
Hydrologic Subbasins



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FCD 2002C001
April 2003

Plate 2
Desert Hills Area Hydrology
NRCS Soils and XKSAT

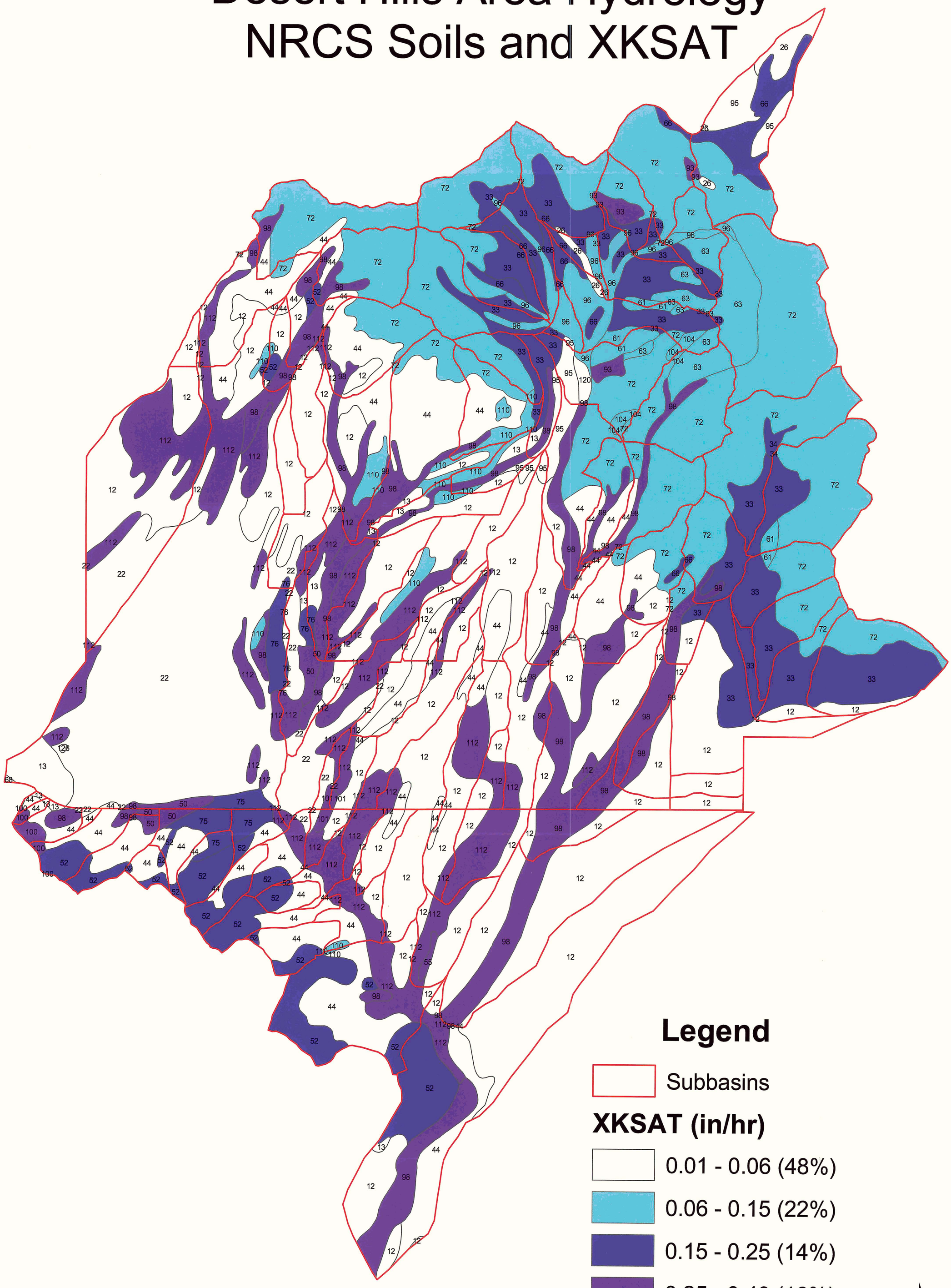
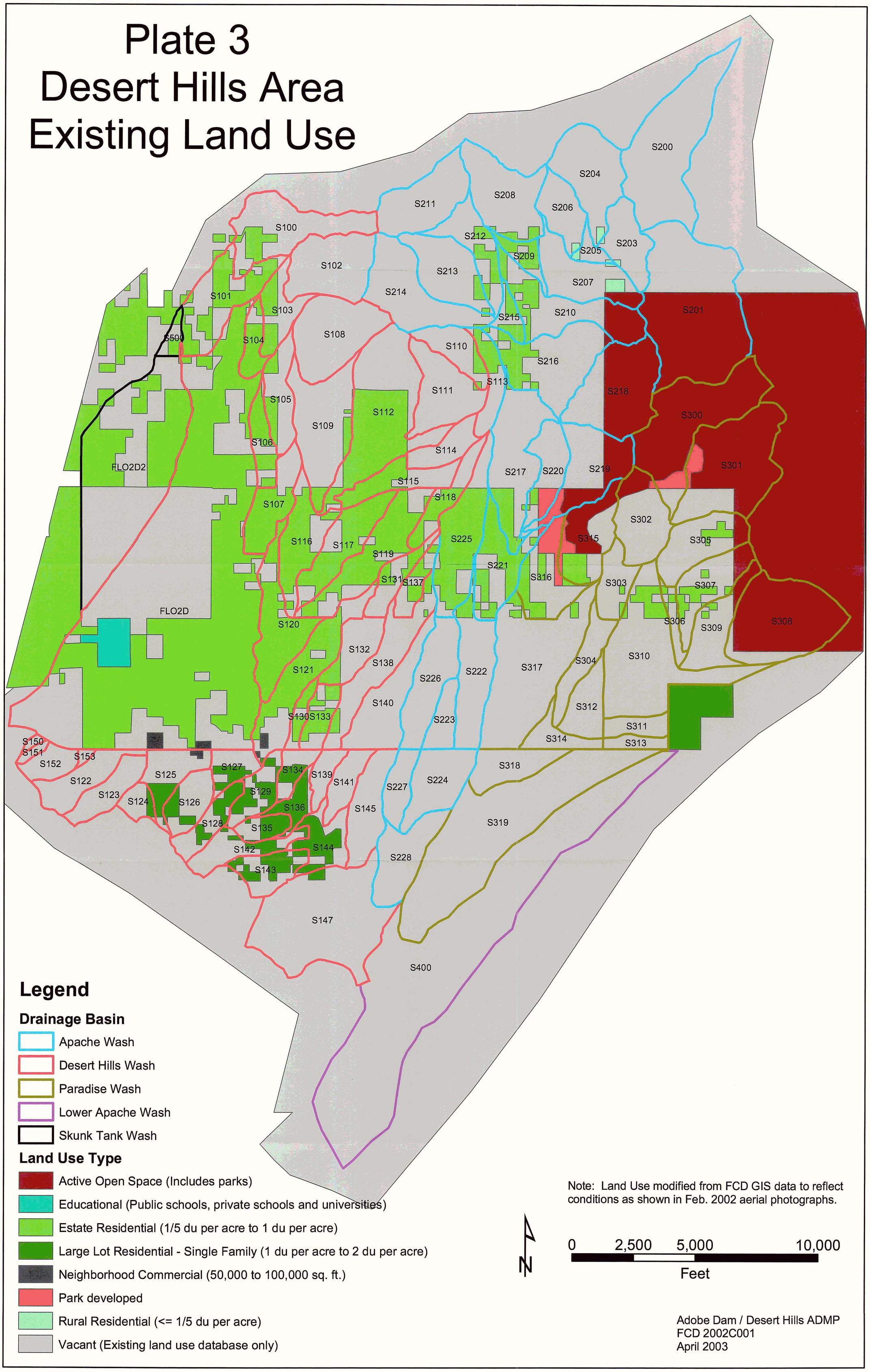


Plate 3
Desert Hills Area
Existing Land Use



Legend

Drainage Basin

- Apache Wash
- Desert Hills Wash
- Paradise Wash
- Lower Apache Wash
- Skunk Tank Wash

Land Use Type

- Active Open Space (Includes parks)
- Educational (Public schools, private schools and universities)
- Estate Residential (1/5 du per acre to 1 du per acre)
- Large Lot Residential - Single Family (1 du per acre to 2 du per acre)
- Neighborhood Commercial (50,000 to 100,000 sq. ft.)
- Park developed
- Rural Residential (<= 1/5 du per acre)
- Vacant (Existing land use database only)

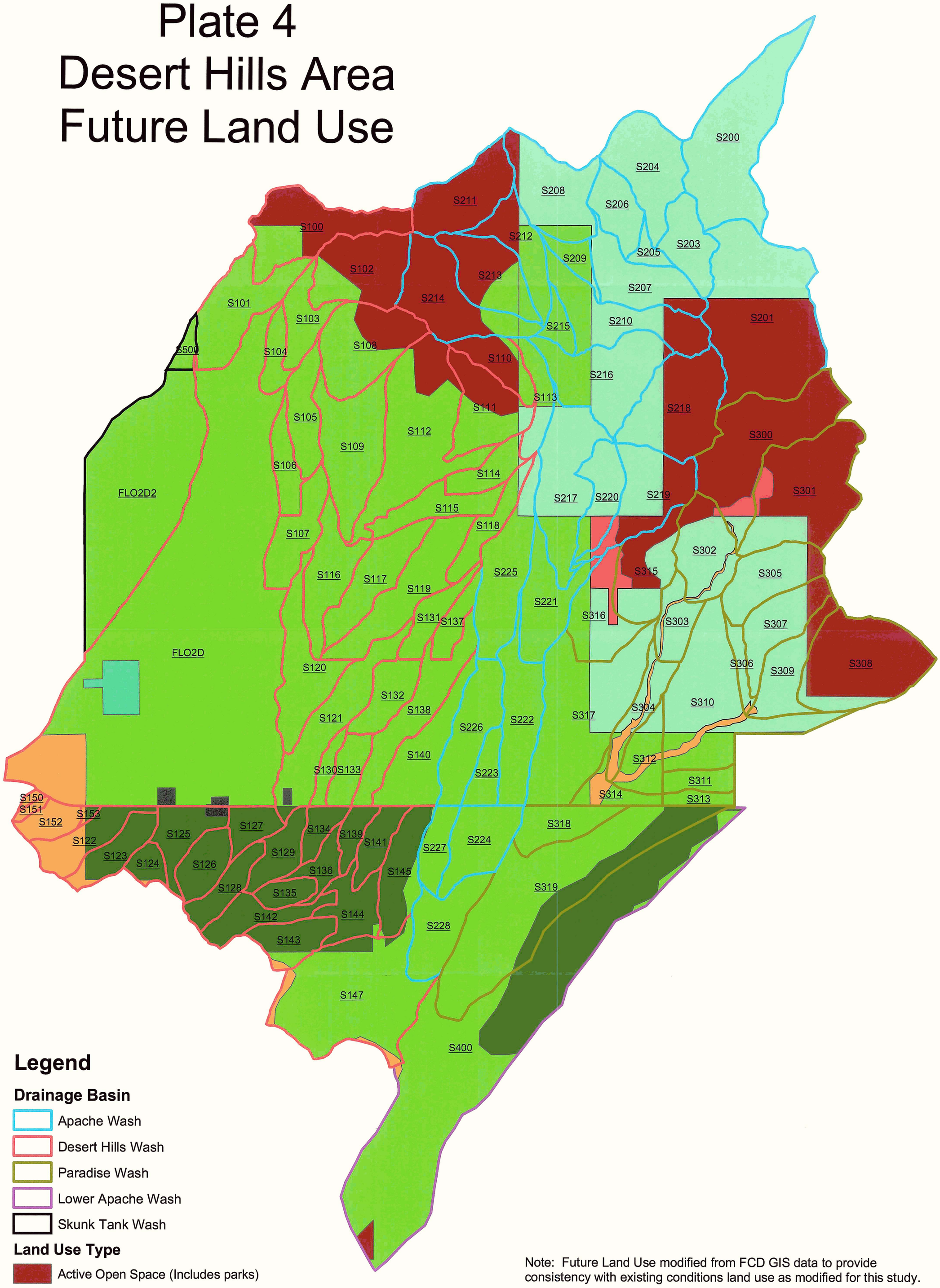
Note: Land Use modified from FCD GIS data to reflect conditions as shown in Feb. 2002 aerial photographs.

N

0 2,500 5,000 10,000
Feet

Adobe Dam / Desert Hills ADMP
FCD 2002C001
April 2003

Plate 4
Desert Hills Area
Future Land Use



Legend

Drainage Basin

- Apache Wash
- Desert Hills Wash
- Paradise Wash
- Lower Apache Wash
- Skunk Tank Wash

Land Use Type

- Active Open Space (Includes parks)
- Educational (Public schools, private schools and universities)
- Estate Residential (1/5 du per acre to 1 du per acre)
- Large Lot Residential - Single Family (1 du per acre to 2 du per acre)
- Neighborhood Commercial (50,000 to 100,000 sq. ft.)
- Park developed
- Passive Open Space (Includes mountain preserves and washes)
- Rural Residential (<= 1/5 du per acre)

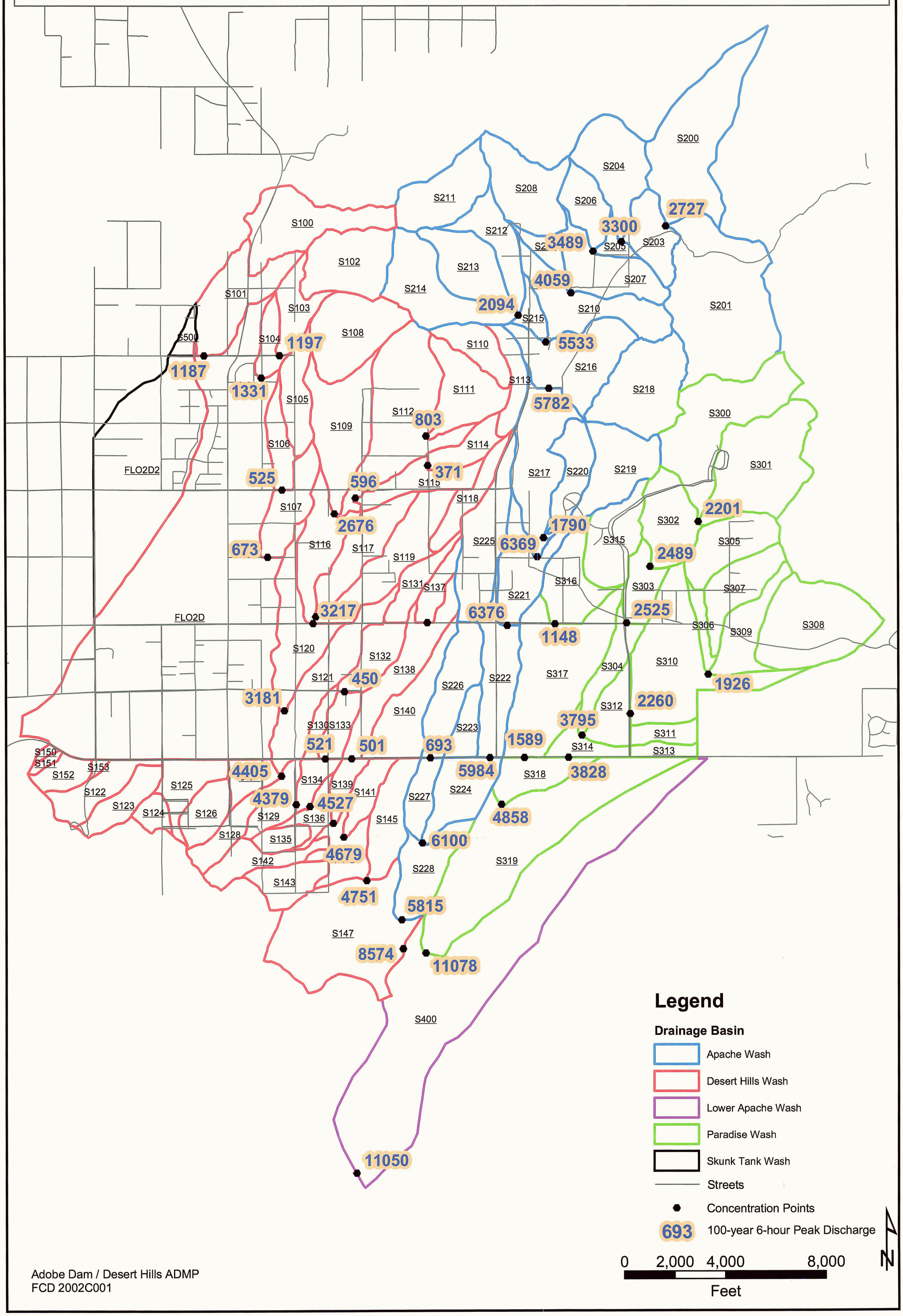
Note: Future Land Use modified from FCD GIS data to provide consistency with existing conditions land use as modified for this study.

0 2,500 5,000 10,000
Feet

N

Adobe Dam / Desert Hills ADMP
FCD 2002C001
April 2003

Plate 5
100-Year 6-Hour Existing Conditions HEC-1 Results



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FCD 2002C001