CITY OF SCOTTSDALE

DESERT GREENBELT
PIMA ROAD THREE BASINS PROJECT

Interim Design Hydrology Memorandum

The Desert Greenbelt

SCOTTSDALE, ARIZONA

STANTECH CONSULTING INC.
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Registered Professional Engineer (Civil)
CERTIFICATE NO. 17928
GEORGE V. SABOL
Date Signed 9 Apr. 1998
ARIZONA, U.S.A.

SCI Project No: 28900051

April 1998

Stantech
Consulting

Trans MITTAL

To: City of Scottsdale
Transportation Planning
Department
3939 Civic Center Boulevard
Scottsdale, Arizona 85251

Date: 10 April, 1998

For your information
For your comment
X For your review
For your approval
X As requested.

SER

Attention: Mr. Doug Cullinane, PE

Reference: **CITY OF SCOTTSDALE**
DESERT GREENBELT
PR3B PROJECT
FILE: 28900051

Sender: George V. Sabol, PhD, PE

Attachments:

Four (4) copies of the Design Hydrology Memorandum, Ultimate Condition.

George V. Sabol, PhD, PE
Senior Associate

cc: John Rodriquez, FCDMC, 3 copies
Sandy Kelley, ASLD, 2 copies
Ron McCalley, ADOT, 1 copy
Steve Rhoten, HDR, 1 copy

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98 APR 10 PM 3:55

FLOOD CONTROL DISTRICT
OF MARICOPA COUNTY

Stantech Consulting Inc. 7776 Pointe Parkway W. Suite 290 Phoenix AZ 85044
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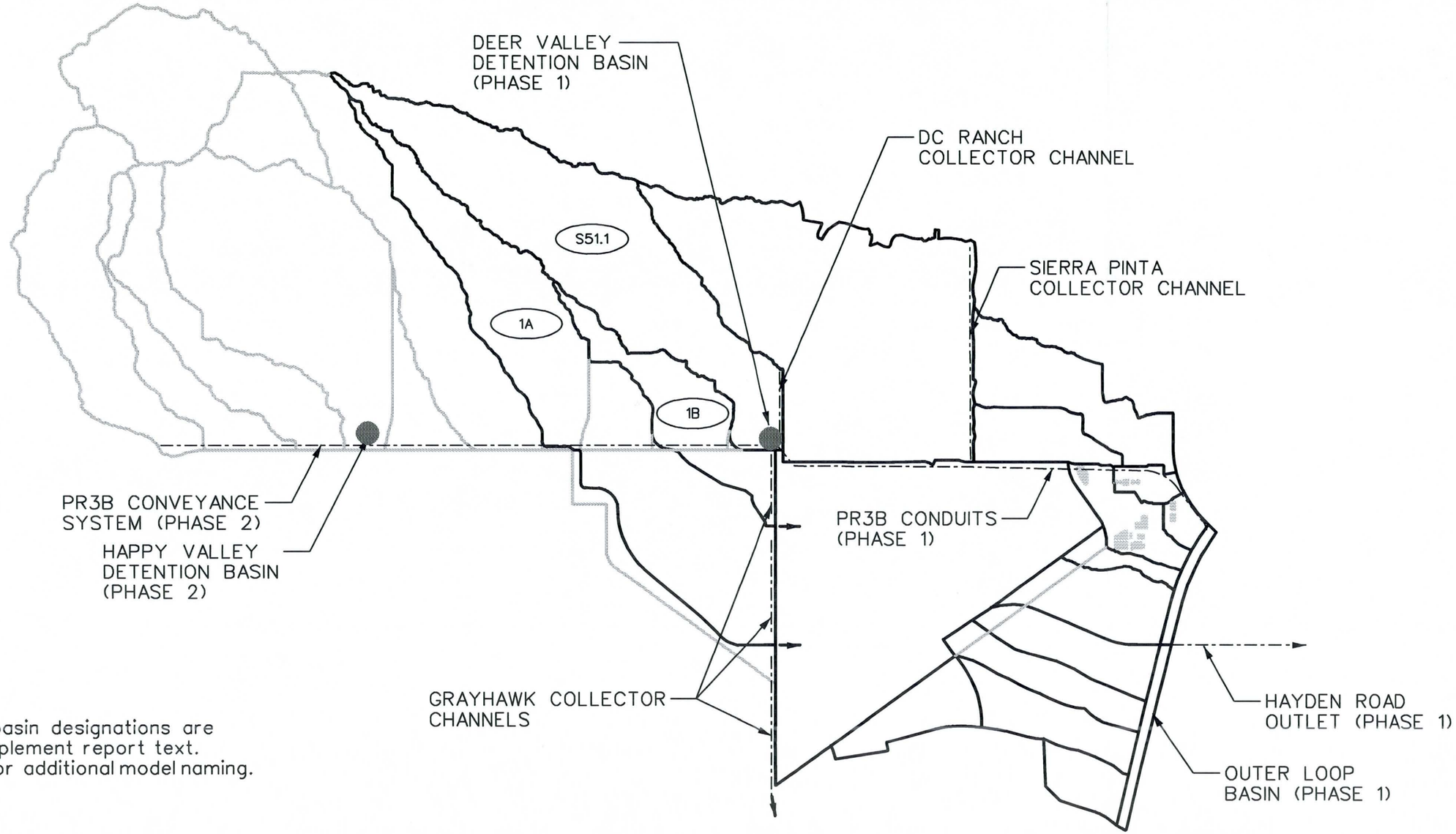
1.0 Purpose

The Pima Road Three Basins (PR3B) Project is to be constructed in phases. The Phase 1 construction consists of all drainage facilities south of the Deer Valley Detention Basin (DVDB) and a Phase 1 DVDB. The major features included in Phase 1 are the Outer Loop Basin, Hayden Road conduit system, the Pima Road conduit system south of the DVDB and the Phase 1 DVDB. Because it will be several years before construction of the second phase begins, it is necessary to analyze the impact of the existing condition watershed upstream of the DVDB on the Phase 1 improvements. Additionally, the drainage facilities for Grayhawk are not to be completed during Phase 1 of the PR3B project and the potential impact of the existing condition Grayhawk drainage needs to be evaluated in regard to the Outer Loop Basin as part of the PR3B project. The purpose of this design memorandum is to document the results of the interim condition analysis on the PR3B Project Phase 1 improvements.

2.0 Hydrology

The basis of the watershed hydrology including mapping, methodology and model input parameters, is presented in the Ultimate Design Hydrology Memorandum, March 1998 by Stantech Consulting, Inc. That report documents, in detail, the modeling methodology and parameters that are used in the analysis of the Phase 1 improvements. Unless otherwise stated herein, all modeling parameters and data are essentially identical to those presented in the Ultimate Design Hydrology Memorandum.

Without the Pima Road conveyance system upstream of the DVDB, runoff from the watershed will cross Pima Road and flow southwesterly until it is intercepted by one of three collector channels along the Deer Valley Road alignment at the north boundary of the Grayhawk development. Two of the collector channels route flow through Grayhawk, ultimately discharging to the Outer Loop Basin. The third collector channel routes flow west along the Deer Valley Road alignment to Scottsdale Road where it exits the watershed. Figure 1 shows a schematic of the existing



NOTE:
Selected subbasin designations are shown to supplement report text.
See Plate 1 for additional model naming.

LEGEND

- S51.1 — Subbasin Identifier
- Ultimate Condition Watershed Deliniator
- Interim Condition Watershed Deliniator
- Collector Channel Deliniator
- Detention Basin Indicator

0 3000 6000 9000
SCALE FEET
HORIZ. 1"= 3000'

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SCALE 1"=3000'	
JOB No. 28900051	SHEET No. 1 OF 1

PROJECT
PIMA ROAD THREE BASINS PROJECT
DESIGN HYDROLOGY
MEMORANDUM

SUBJECT
FIGURE 1
INTERIM CONDITION
WATERSHED SCHEMATIC

The Desert Greenbelt
SCOTTSDALE, ARIZONA

condition watershed. The "screened" watershed subbasin lines represent the ultimate condition watershed where it differs from the existing condition. Because much of the storm runoff from the existing condition watershed will not reach the Phase 1 DVDB, the basin is sized for the reduced (Phase 1) drainage area plus runoff that will be intercepted by the DC Ranch collector channel.

Two hydrology models are used in this analysis. The first is for the 100-year, 6-hour storm, and that is used for the design of the Phase 1 DVDB. The watershed for the Phase 1 DVDB is considerably smaller than for the ultimate DVDB. The second hydrology model is for the 100-year, 24-hour storm, and that is used to verify the performance of the Outer Loop Basin and related drainage facilities. The watershed for the 100-year, 24-hour model is the entire area draining to the Outer Loop Basin. The summary output for both the 100-year, 6- and 24-hour storms are provided in Appendices C and D, respectively.

2.1 REFINEMENTS AND REVISIONS

In general, the watershed delineation and subbasin modeling parameters for the interim condition watershed are essentially the same as that shown in the Ultimate Design Hydrology Memorandum, with the exception of the following specific changes (See Plate 1 for reference to model naming):

- The northern limits for subbasins SCN5D, SCN5C, SCNA4 and SCNA3 are extended to the lower limit of the Grayhawk development.
- All subbasins north of the DVDB, with the exception of S51.1 are removed from the model.
- Two interim subbasins, 1A and 1B, are added which account for the off-site, existing condition runoff draining to the Grayhawk development.
- Subbasins PC3, PC4 and PC5, which were originally added to the model so that runoff exiting Grayhawk could be conveyed along the power line corridor to the Outer Loop Basin, are removed from the model.

Subbasins 1A and 1B, are modeled using ADOT methodology. The data utilized in the development of the Green and Ampt rainfall losses and the Clark unit hydrograph are provided in Appendix A.

The following are specific changes to the Ultimate Design Hydrology Memorandum with regard to combining and routing operations:

- Removed combine operations CPC3, CPC4, CPC3A, CPC4A and CPC5.
- Removed routing operations R15N2, RPC3A, RCP4A and RC5.
- Added combine operation CA3 and CA4 to provide inflow discharge to the Outer Loop Basin.
- Added routing operations RC5D, R5CC, R5CB, R5CA and R5DB to route Grayhawk runoff to the Outer Loop Basin.

Plate 1 is a general map of the interim condition watershed and shows all subbasins and points of concentration. The ultimate condition subbasins and concentration points, where it differs from the interim condition, are shown as "screened" lines. Detailed subbasin delineation for the DC Ranch and Grayhawk developments are shown in Plates 2 and 3, respectively. Soil type and boundary data, shown for the interim condition watershed in Plate 4, are obtained from the SCS Soil Survey of Aguila-Carefree Area and Parts of Maricopa and Pinal Counties and are used to develop the Green and Ampt rainfall losses for subbasins 1A and 1B.

2.2 INTERIM CONDITION DETENTION BASINS

The interim condition DVDB is sized for its appropriate drainage area plus runoff that is intercepted by the DC Ranch collector channel. This Phase 1 basin includes construction of the 6-foot high berm in order to maximize the efficiency of the basin. The berm spillway, CSA core geometrics, outlet conduit and the DC Ranch collector channel inflow spillway are designed for the ultimate condition hydrology. The Phase 1 basin is therefor easily expanded to the ultimate condition basin and maximizes the efficiency of the interim land purchase without altering the downstream hydraulics.

The storage routing parameters for both the Outer Loop Basin and the DVDB are based on 10 percent design and layout of the basins and respective outlets. The revised stage versus storage curve is provided in Appendix B . Since only the stage versus storage curve has changed from the ultimate condition, refer to Appendix C of the Ultimate Design Hydrology Memorandum for the stage versus discharge curve and

supporting calculations. The stage versus storage versus discharge curves for the Outer Loop Basin are unchanged from the ultimate condition.

3.0 Watershed Model Results

Two separate HEC-1 models are developed for hydrologic analyses of the interim condition watershed. Only the portion of the watershed contributing to the Phase 1 DVDB and to the Sierra Pinta collector channel is modeled for the 100-year, 6-hour storm. The summary output from HEC-1 for the 6- and 24-hour storms are provided in Appendix C and D, respectively. Digital input and output files are provided in Appendix E.

Table 3-1 summarizes peak discharges at key locations and subbasins within the PR3B watershed for both the interim and ultimate condition. The design peak discharges are also shown on Plate 1. Column 1 lists the HEC-1 operation identifier as found in the HEC-1 output. Columns 2 and 3 list the design peak 100-year discharge for the interim and ultimate conditions, respectively, with the corresponding design storm duration listed in column 4.

TABLE 3-1
Summary of interim and ultimate condition 100-year peak design discharges

HEC-1 Model Operation Identifier	Peak 100-Year Design Discharge: Interim Condition	Peak 100-Year Design Discharge: Ultimate Condition	Design Storm Duration
	cfs	cfs	cfs
(1)	(2)	(3)	(4)
S51.1	1,058	2,973	6-Hour
DVDB-O	262	261	6-Hour
C52A	418	411	6-Hour
C52	2,381	2,251	6-Hour
C53A	3,607	3,483	24-Hour
SCN6D	75	73	24-Hour
CN6C	518	363	24-Hour
CN5D	273	1,459	24-Hour
1B	323	---	24-Hour
CN5C	713	297	24-Hour
SCNA1	183	175	24-Hour
CA2	403	392	24-Hour
1A	681	---	24-Hour
CA3	759	272	24-Hour
CA4	384	221	24-Hour
OLDB-I	6,561	6,460	24-Hour
OLDB-O	1,963	1,985	24-Hour

In comparing the two models, it is important to keep in mind the effect of aerial reduction on peak discharges. Because much of the contributing watershed area upstream of the DVDB is removed from the interim condition watershed, the resulting peak discharges at concentration points C52A, C52, C53A and CA2 and subbasins SCN6D and SCNA1 are slightly higher than the ultimate condition peak discharges and this is due to slight differences in the storm aerial reduction factors used in the two different HEC-1 models. It is also noted that interim condition HEC-1 operation identifiers S51.1, CA3 and CA4 correspond to ultimate condition HEC-1 operation identifiers DVDB-I, CNA3 and CNA4, respectively.

4.0 PR3B Detention Basin Performance

The basins and outlets are sized to evacuate the floodwaters within 36 hours after the end of the design storm. The Phase 1 DVDB is sized such that the spillway does not operate for the 6-hour storm. The basin is also checked for performance during a 100-year, 24-hour storm. A comparison of the 6- and 24-hour inflow and outflow hydrographs for the interim and ultimate condition hydrology is shown on Figures 4-1 and 4-2, respectively. The outflow hydrographs for the DVDB for the 24-hour storm (Figure 4-2) show rapidly rising discharge peaks beginning at about hour 12, and those illustrate the operation of the spillways for the 24-hour storm. The Outer Loop Basin design is unchanged from what is presented in the Ultimate Design Hydrology Memorandum. Although there are significant changes is the interim condition watershed, the Outer Loop Basin essentially performs the same as the ultimate condition, as shown on Figure 4-3.

Table 4-1 summarizes the physical characteristics of each detention basin for the interim and ultimate conditions. Only the DVDB has different physical characteristics for interim and ultimate conditions. Table 4-2 summarizes the operational performance of each basin for both the 6- and 24-hour storms for the interim and ultimate conditions.

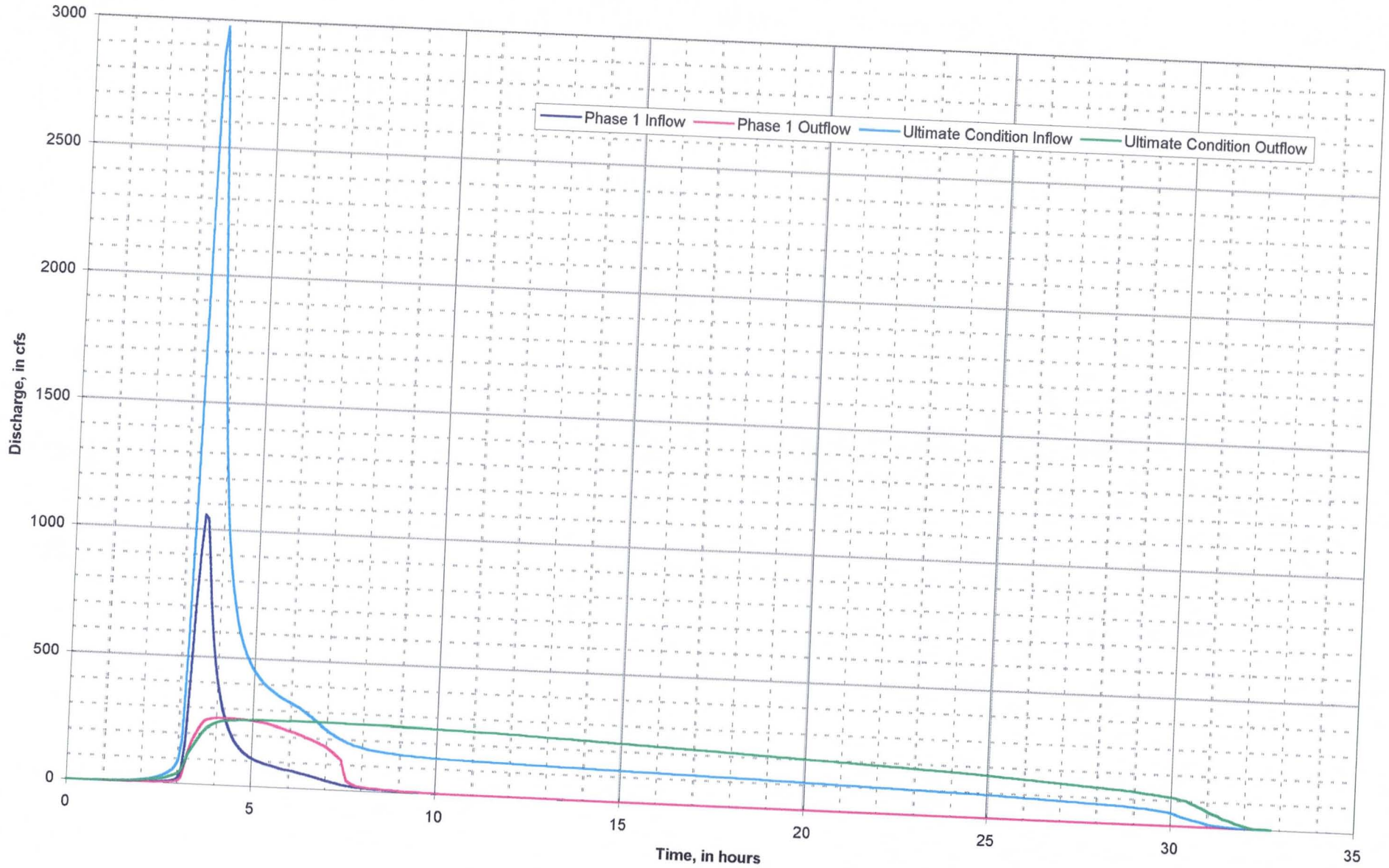

Figure 4-1
100-year, 6-hour hydrographs for Deer Valley Detention Basin

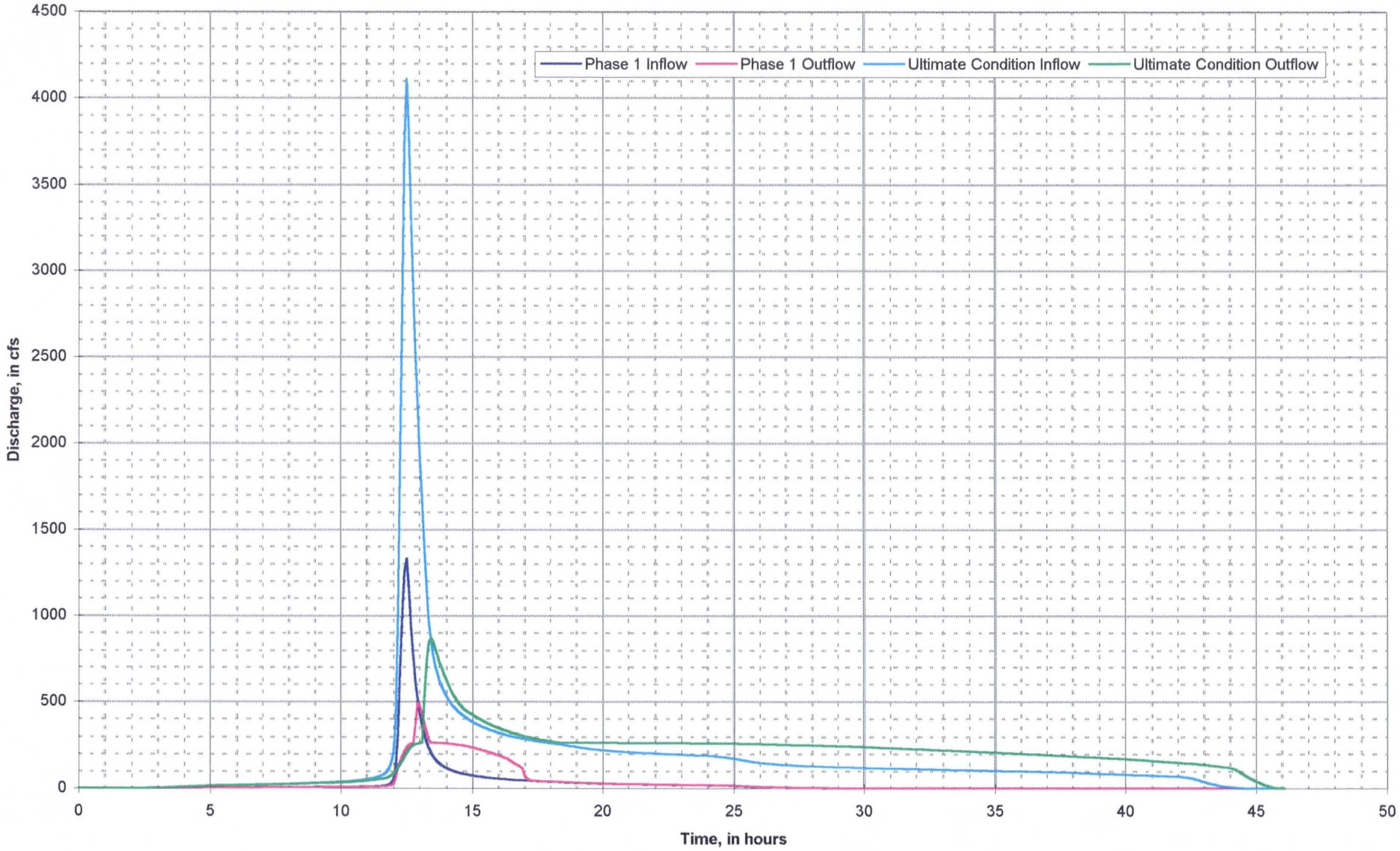

Figure 4-2
100-year, 24-hour hydrographs for Deer Valley Detention Basin

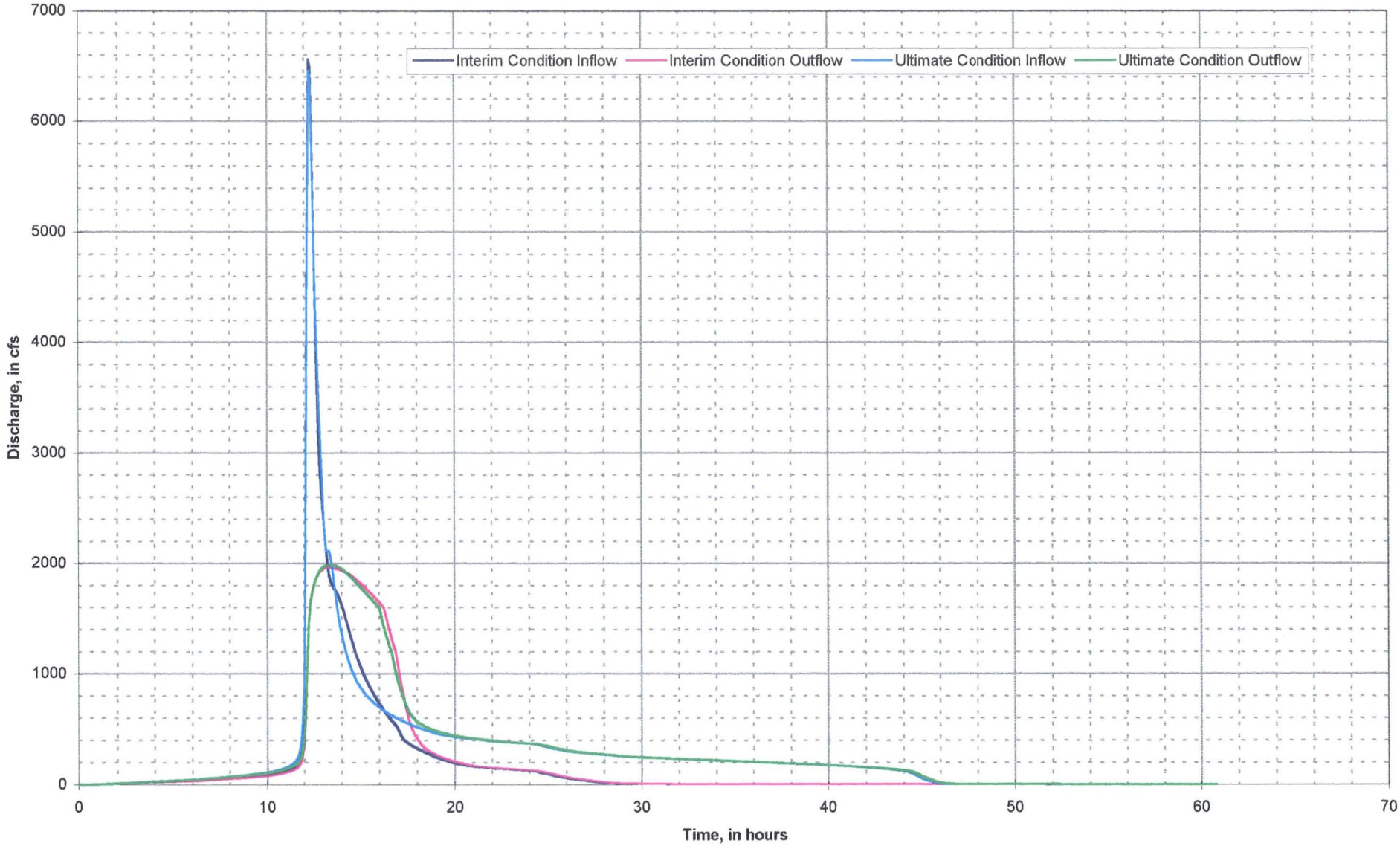

Figure 4-3
100-year, 24-hour hydrographs for the Outer Loop Basin

TABLE 4-1

Summary of detention basin characteristics

Detention Basin	Outlet Elevation	Emergency Spillway Elevation	Top of Embankment (Overtopping)	Outlet Conduit Diameter	Storage Volume to Emergency Spillway Crest	Storage Volume to Top of Embankment (overtopping)
	feet	feet	feet	inches	acre-feet	acre-feet
(1)	(2)	(3)	(4)	(5)	(6)	(7)
Phase 1 DVDB	1,855.0	1,879.5	1,880.0	54	40.6	42.1
Ultimate DVDB	1,855.0	1,879.5	1,880.0	54	203.2	224.1
Interim Outer Loop	1,590.0	N/A	1,609.0	(2) - 108	N/A	263.9
Ultimate Outer Loop	1,590.0	N/A	1,609.0	(2) - 108	N/A	263.9

TABLE 4-2

Summary of detention basin operations for the 100-year, 6- and 24-hour storms

	Peak Inflow		Max. Stage Elevation		Max. Storage Volume		Peak Outflow	
Detention Basin	6-hour	24-hour	6-hour	24-hour	6-hour	24-hour	6-hour	24-hour
	cfs	cfs	feet	feet	acre-feet	acre-feet	cfs	cfs
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Phase 1 DVDB	1,058	1,328	1,878.3	1,880.1	36.8	42.4	262	493
Ultimate DVDB	2,973	4,131	1,877.8	1,880.6	180.9	218.3	261	880
Interim Outer Loop	---	6,561	---	1,607.6	---	226.7	---	1,963
Ultimate Outer Loop	---	6,460	---	1,607.8	---	234.0	---	1,985

5.0 Summary

The Pima Road Three Basins Project is to be constructed in phases. Because it will be several years before implementation of Phase 2, it is necessary to analyze the impact of the existing condition watershed upstream of the DVDB on the Phase 1 improvements.

The Phase 1 DVDB is designed to detain the 100-year, 6-hour runoff from a smaller (than ultimate condition) watershed plus runoff that is intercepted by the DC Ranch collector channel, without operation of the emergency spillway. The 100-year, 6-hour peak discharge from the Phase 1 DVDB basin is 262 cfs, essentially identical as the ultimate condition discharge of 261 cfs. The 100-year, 24-hour peak discharge is reduced from 620 cfs under ultimate conditions to 493 cfs under the interim conditions.

The Outer Loop Basin is identical for both interim and ultimate conditions. The performance of the Outer Loop Basin during interim conditions is verified. In comparing interim to ultimate conditions of the Outer Loop Basin for the 100-year, 24-hour storm, the peak inflow is increased from 6,460 cfs to 6,561 cfs, the maximum stage is decreased from 1,607.8 to 1,607.6 and the peak outflow from the basin is reduced from 1,985 cfs to 1,963 cfs.

APPENDIX A

Rainfall Loss - Clark Unit Hydrograph Parameters

Stantech Consulting

Project: PIMA ROAD THREE BASINS | Project Number: 28900051

Notes: CLARK UNIT HYDROGRAPH AND GREEN AND AMPT PARAMETERS | Scale:

Page 1 of 2 Page(s)

Computed By: MCG | Date: | Checked By: | Date:

SOIL AREAS

SUBBASIN 1A

MAP UNIT	PERCENT AREA	SOIL TEXTURE[1]	XKSAT[1] IN/HR	ROCK[1] OUTCROP
6	15	SANDY LOAM	0.62	0
90	45	GRAVELLY SANDY LOAM	0.39	0
93	15	GRAVELLY LOAM	0.33	0
96	9	GRAVELLY CLAY LOAM	0.07	0
121	15	CLAY LOAM	0.12	0
120	1	CLAY LOAM	0.06	0

LOG AVERAGE XKSAT = 0.287 IN/HR

SUBBASIN 1B

MAP UNIT	PERCENT AREA	SOIL TEXTURE[1]	XKSAT[1] IN/HR	ROCK OUTCROP
6	35	SANDY LOAM	0.62	0
90	45	GRAVELLY SANDY LOAM	0.39	0
96	1	GRAVELLY LOAM	0.07	0
120	19	CLAY LOAM	0.06	0

LOG AVERAGE XKSAT = 0.32 IN/HR

1: SOURCE - MARICOPA COUNTY FLOOD CONTROL DISTRICT DRAINAGE DESIGN MANUAL - HYDROLOGY, APPENDIX A

LAND USE

SUBBASIN 1A - LOW DENSITY RESIDENTIAL
RTIMP = 10% PER COS
IA = 0.30 IN
VEGETATIVE COVER = 10%

SUBBASIN 1B - LOW - MEDIUM DENSITY RESIDENTIAL
RTIMP = 15% PER COS
IA = 0.30 IN
VEGETATIVE COVER = 10%

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Fax (702) 358-6954

SOIL PROPERTIES

SUBBASIN	XKSAT IN/HR	DTHETA NORMAL	PSIF IN	RTIMP %	VEG COVER %	IA IN
1A	0.29	0.25	4.55	0	10	0.10
1B	0.32	0.25	4.40	0	10	0.10

WEIGHTED RAINFALL LOSS PARAMETERS

SUBBASIN	IA	DTHETA	PSIF	XKSAT	RTIMP
1A	0.25	0.25	4.55	0.29	10
1B	0.25	0.25	4.40	0.32	15

CLARK UNIT HYDROGRAPH

SUBBASIN 1A

$L = 4.02^{MI}$

$L_{CA} = 1.72^{MI}$

$S = 152.4^{FT/MI}$

USE NATURAL T_c EQN

$T_c = 2.4 A^{0.1} L^{0.25} L_{CA}^{0.25} S^{-0.2} = 1.47^{HRS}$

$R = 0.37 T_c^{1.11} L^{0.8} A^{-.57} = 1.45^{HRS}$

SUBBASIN 1B

$L = 1.65^{MI}$

$L_{CA} = 0.57^{MI}$

$S = 157.6^{FT/MI}$

USE NATURAL T_c EQN

$T_c = 2.4 A^{0.1} L^{0.25} L_{CA}^{0.25} S^{-0.2} = 0.78^{HRS}$

$R = 0.37 T_c^{1.11} L^{0.8} A^{-.57} = 0.75^{HRS}$

USE URBAN TIME AREA RELATION FOR THIS BASIN.

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APPENDIX B

Phase 1 Deer Valley Detention Basin - Stage vs. Storage Curve

Table B-1
Deer Valley Phasing
Stage - Storage Rating Curve

Stage feet	Area acres	Volume Incr. acre-feet	Volume Sed. acre-feet	Volume Accum. acre-feet
1855	0.09	0.00	---	0.0
1860	0.87	2.10	1	1.1
1865	1.46	5.76	1	5.9
1870	2.08	8.78	0	14.6
1875	2.75	12.01	0	26.7
1880	3.47	15.49	0	42.1
1881	3.55	3.50	0	45.6

APPENDIX C

Interim Condition 100-Year, 24-Hour Output File Printout

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 *   FLOOD HYDROGRAPH PACKAGE  (HEC-1)   *
 *              MAY   1991           *
 *           VERSION 4.0.1E          *
 *     Lahey F77L-EM/32 version 5.01 *
 *       Dodson & Associates, Inc.   *
 *  RUN DATE  03/30/98  TIME  09:34:38  *
 *************************************
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*************************************
*                                   *
*    U.S. ARMY CORPS OF ENGINEERS   *
*   HYDROLOGIC ENGINEERING CENTER   *
*         609 SECOND STREET         *
*       DAVIS, CALIFORNIA 95616     *
*           (916) 551-1748          *
*                                   *
*************************************
```

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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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    2           ID    by  Stantech for the City of Scottsdale            Original: 08-07-97     mcg
    3           ID        Project:  28900051
    4           ID
    5           ID
    6           ID    100-YEAR, 6-HOUR STORM - INTERIM CONDITION FOR DEER VALLEY BASIN
    7           ID        DEER VALLEY BASIN IS SIZED FOR RUNOFF ENTERING THE BASIN FOR EXISTING
    8           ID        CONDITIONS.  ONLY SUBBASIN 51.1 CONTRIBUTES TO THE BASIN.
    9           ID
   10           ID
                *DIAGRAM
   11           IT       5                     720
   12           IO       5
   13           JD             .01
   14           JD              .1
   15           JD              .5
   16           JD               1
   17           JD               5
   18           JD              25
                *

   19           KK   S51.1
   20           KM     RUNOFF FROM SUBBASIN 51.1
   21           KM        RAINFALL LOSSES FOR GREINER SUBBASINS 51.1 AND 49.1 ARE AREA WEIGHTED
   22           BA   1.130
   23           PH                      .84    1.53    2.46    2.75    2.94    3.31
   24           LS             73.9      12
   25           UK     300   0.037   0.130     100
   26           RK    1800   0.038   0.045  0.0161    TRAP       0      12
   27           RK   14400   0.032   0.040            TRAP      40      15
                *

   28           KK  DVDB-O
   29           KM     DETENTION BASIN AT DEER VALLEY ROAD - NONREGULATORY STRUCTURE
   30           KM        PRINCIPAL SPILLWAY:  54" x 800' RCP WITH A SLOPE OF 0.5%
   31           KM        2 ACRE-FEET OF STORAGE FOR SEDIMENTAION
   32           RS       1    STOR      -1
   33           SV       0     0.2     0.4     0.6     0.8     1.0     5.8    14.6    26.6    42.1
   34           SV    45.6
   35           SE    1855    1856    1857    1858    1859    1860    1865    1870    1875    1880
   36           SE    1881
   37           SQ       0      20      40      60      80     100     120     140     160     180
   38           SQ     200     210     220     230     240     250     260     270
   39           SE    1855 1856.43 1857.53 1858.31 1858.95 1859.61 1860.29  1861.8 1863.71 1865.82
   40           SE  1868.1 1869.38 1870.67 1872.02 1873.43 1874.89 1877.29 1882.35
                *
                *  R51.1
                *     DEER VALLEY BASIN OUTLET CONDUIT TO THOMPSON PEAK PARKWAY
                *     COMBINE WITH RUNOFF FROM DC RANCH
                *       L = 2820 feet
                *
1                                    HEC-1 INPUT                                                    PAGE  2

  LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10
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```
 41          KK  D51.1T
 42          KM     DIVERT 100% OF FLOW TO RETRIEVE AT THOMPSON PEAK PARKWAY
 43          DT  B51.1T
 44          DI       0   10000
 45          DQ       0   10000
             *
             *
             *     ******************  BEGIN DC RANCH WATERSHED  *******************
             *
             *       THE DC RANCH HEC-1 MODEL WAS DEVELOPED BY WOOD/PATEL ASSOCIATES
             *           WOOD/PATEL FILE NAME:  DC0721C.DAT
             *           MODEL DATE:            4 JANUARY 96
             *

 46          KK    52D4
 47          KM   RUNOFF FROM SUBBASIN 52D4
 48          BA    .070
 49          LS              75    14.5
 50          UK     120    .010     .15     100
 51          RK    3100    .035    .045            TRAP      30      10
             *

 52          KK   52D4R
 53          KM   ROUTE 52D4C THROUGH 52D5 TO CP 52D5C
 54          RK    1350    .033    .045            TRAP      10      10
             *

 55          KK   52D4B
 56          KM   RUNOFF FROM SUBBASIN 52D4B
 57          BA    .022
 58          LS              75      63
 59          UK     120    .010     .15     100
 60          RK    2200    .033    .045            TRAP      30      10
             *

 61          KK  52D5C1
 62          KM   COMBINE 52D4R AND 52D4B
 63          HC       2
             *

 64          KK   52D5A
 65          KM   RUNOFF FROM 52D5A
 66          BA   .0232
 67          LS              75      63
 68          UK     120    .010     .15     100
 69          RK    1300    .032    .045            TRAP      30      10
             *

 70          KK  52D5AR
 71          KM   ROUTE 52D5A THROUGH BEARDSLEY CHANNEL TO CP 52D5C2
 72          RK     400   .0143    .035            TRAP      50       4
             *
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LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 73          KK  52D5C2
 74          KM   COMBINE 25D5C1 AND 52D5AR
 75          HC       2
             *

 76          KK   52D5R
 77          KM   ROUTE 52D5C IN BEARDSLEY CHANNEL TO CP 52C3BC2
 78          RK     240   .0143    .035            TRAP      50       4
             *

 79          KK    52C3
 80          KM   RUNOFF FROM SUBBASIN 52C3
 81          BA    .006
 82          LS              75      65
 83          UK     100     .02     .10     100
 84          RK     800    .033    .045            TRAP      30      10
             *

 85          KK   52C3R
 86          KM   ROUTE 52C3 THROUGH SUBBASIN 52C4 TO CP 52C4C1
 87          RK    1350    .034    .045            TRAP      10      10
             *

 88          KK   52C3B
 89          KM   RUNOFF FROM SUBBASIN 52C3B
 90          BA    .016
 91          LS              75      60
 92          UK     100     .02     .10     100
 93          RK    1400    .034    .045            TRAP      30      10
             *

 94          KK  2C3BC1
 95          KM   COMBINE 52C3B AND 52C3R
 96          HC       2
             *
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```
 97          KK  2C3BC2
 98          KM   COMBINE 52C3BC1 AND 52C5R
 99          HC       2
             *

100          KK  52C3BR
101          KM   ROUTE 52C3BC2 IN BEARDSLEY CHANNEL TO CP 52C4C2
102          RK     430   .0143    .035            TRAP      50       4
             *
             *

103          KK     51C     SUB
104          KM        RUNOFF FROM SUB 51C
105          BA   .0972
106          LS              74      15
107          UK     100   .0213     .10     100
108          RK    3900   .0375    .045            TRAP      30      10
             *
1                                          HEC-1 INPUT                                                    PAGE  4

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

109          KK   51C1D
110          KM   DIVERT 67 PERCENT OF 51C TO WEST (33 PERCENT TO SOUTH)
111          DT  51C1DV
112          DI       0   10000
113          DQ       0    6700
             *

114          KK   51C1R
115          KM   ROUTE 51C1D THROUGH SUBBASIN 52C1
116          RK    1350   .0364    .045            TRAP      10      10
             *

117          KK    52C1
118          KM   RUNOFF FROM SUBBASIN 52C1
119          BA    .029
120          LS              75    20.5
121          UK     100     .02     .10     100
122          RK    1350    .021    .045            TRAP      30      10
             *

123          KK   52C1C
124          KM   COMBINE 51C1R AND 52C1
125          HC       2   .0611
             *

126          KK   52C1R
127          KM   ROUTE 52C1C THROUGH BASIN 52C2A TO CP 52C2BC
128          RK    1500    .033    .045            TRAP      10      10
             *

129          KK   52C2A
130          KM   RUNOFF FROM SUBBASIN 52C2A
131          BA    .019
132          LS              75       2
133          UK     100     .02     .10     100
134          RK    1500    .033    .045            TRAP      30      10
             *

135          KK  52C2AC
136          KM   COMBINE 52C2A AND 52C1R
137          HC       2
             *

138          KK   52C2B
139          KM   RUNOFF FROM SUBBASIN 52C2B
140          BA   .0275
141          LS              75      11
142          UK     100     .02     .10     100
143          RK    2000    .030    .045            TRAP      30      10
             *
1                                          HEC-1 INPUT                                                    PAGE  5

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

144          KK  52C2BC
145          KM   COMBINE 52C2B AND 52C2AC
146          HC       2
             *

147          KK  52C2BR
148          KM   ROUTE 52C2BC THROUGH 52C2C TO CP 52C2CC
149          RK    1500    .040    .045            TRAP      10      10
             *

150          KK   52C2C
151          KM   RUNOFF FROM SUBBASIN 52C2C
152          BA    .014
153          LS              75      62
```

```
154          UK     100     .02     .10     100
155          RK    1500     .04    .045            TRAP      30      10
             *

156          KK  52C2CC
157          KM   COMBINE 52C2C AND 52C2BR
158          HC       2
             *

159          KK   52C2R
160          KM   ROUTE 52C2CC THROUGH SUBBASIN 52C4 TO CP 52C4C1
161          RK    1550    .030    .045            TRAP      10      10
             *

162          KK    52C4
163          KM   RUNOFF FROM SUBBASIN 52C4
164          BA    .017
165          LS              75      60
166          UK     100     .02     .10     100
167          RK    1550    .030    .045            TRAP      30      10
             *

168          KK  52C4C1
169          KM   COMBINE 52C4 AND 52C2R
170          HC       2
             *

171          KK  52C4C2
172          KM   COMBINE 52C4C1 AND 52C3BR
173          HC       2
             *

174          KK   52C4R
175          KM   ROUTE 52C4C2 WEST IN BEARDSLEY CHANNEL TO CP 52C15C2
176          RK     850   .0143    .035            TRAP      50       4
             *
```



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

177          KK   52C13
178          KM   RUNOFF FROM SUBBASIN 52C13
179          BA    .023
180          LS              75      31
181          UK     100     .02     .10     100
182          RK     950    .040    .045            TRAP      30      10
             *

183          KK  2C13DV
184          KM   DIVERT FIRST 40 CFS INTO STORM DRAIN; REMAINDER FLOWS OVER ROAD
185          DT   STORM
186          DI       0      40    1000
187          DQ       0      40      40
             *
             * KK52C13R
             * KM ROUTE 52C13 THROUGH SUBBASIN 52C15 TO CP 52C15C1
             * RK  1800    .035    .045            TRAP      10      10
             *

188          KK   52C15
189          KM   RUNOFF FROM SUBBASIN 52C15
190          BA    .046
191          LS              75    64.4
192          UK     100     .02     .10     100
193          RK    2050    .036    .045            TRAP      30      10
             *

194          KK  2C15C1
195          KM   COMBINE 52C15 AND 52C13DV
196          HC       2    .046
             *

197          KK  2C15C2
198          KM   COMBINE 52C15C1 AND 52C4R
199          HC       2
             *

200          KK  52C15R
201          KM   ROUTE 52C15C2 IN BEARDSLEY CHANNEL TO CP 52C14C3
202          RK     750   .0143    .035            TRAP      50       4
             *

203          KK  52C14A
204          KM   RUNOFF FROM SUBBASIN 52C14A
205          BA    .041
206          LS              75    67.7
207          UK     100     .02     .10     100
208          RK    2050    .031    .045            TRAP      30      10
             *
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LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10
```

```
209          KK  2C14AC
210          KM   COMBINE 52C14A AND 52C15R
211          HC       2
             *

212          KK  2C14AR
213          KM   ROUTE 52C14AC IN BEARDSLEY CHANNEL TO CP 52C14BC2
214          RK     380   .0143    .035            TRAP      50       4
             *
             *

215          KK  51C1DV
216          KM   RETRIEVE DIVERTED FLOW
217          DR  51C1DV
             *

218          KK   51C2D
219          KM   DIVERT 27 PERCENT OF 51C1DV TO WEST (73 PERCENT TO SOUTH)
220          DT  51C2DV
221          DI       0   10000
222          DQ       0    2700
             *

223          KK   51C2R
224          KM   ROUTE 51C2D THROUGH SUBBASIN 52C5 TO CP 52C5C
225          RK     700    .030    .045            TRAP      10      10
             *

226          KK    52C5
227          KM   RUNOFF FROM SUBBASIN 52C5
228          BA    .016
229          LS              75      27
230          UK     100     .02     .10     100
231          RK    1200     .03    .045            TRAP      30      10
             *

232          KK   52C5C
233          KM   COMBINE 51C2R AND 52C5
234          HC       2   .0635
             *

235          KK   52C5R
236          KM   ROUTE 52C5C THROUGH SUBBASIN 52C6 TO CP 52C6C
237          RK    3100    .035    .045            TRAP      10      10
             *

238          KK    52C6
239          KM   RUNOFF FROM SUBBASIN 52C6
240          BA    .036
241          LS              75    31.4
242          UK     100     .02     .10     100
243          RK    3100    .035    .045            TRAP      30      10
             *
1                                          HEC-1 INPUT                                                    PAGE  8

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

244          KK   52C6C
245          KM   COMBINE 52C5R AND 52C6
246          HC       2
             *

247          KK   52C6R
248          KM   ROUTE 52C6C THROUGH SUBBASIN 52C10 TO CP 52C10C2
249          RK     450    .032    .045            TRAP      10      10
             *

250          KK  51C2DV
251          KM   RETRIEVE 52C2DV
252          DR  51C2DV
             *

253          KK   51C3R
254          KM   ROUTE 52C2DV THROUGH SUBBASIN 52C7 TO CP 52C7C
255          RK     700    .040    .045            TRAP      10      10
             *

256          KK     51B     SUB
257          KM        RUNOFF FROM SUB 51B
258          BA   .5711
259          LS       0    71.9    13.1
260          UK     100   .0213     .10     100
261          RK    8900   .0300    .045            TRAP      50      25
             *

262          KK   51B1D
263          KM   DIVERT 92 PERCENT OF SUBBASIN 51B TO WEST (8 PERCENT TO SOUTH)
264          DT  51B1DV
265          DI       0   10000
266          DQ       0    9200
```

```
                *
 267            KK   51B1R
 268            KM    ROUTE 51B1D THROUGH SUBBASIN 52C7 TO CP 52C7C
 269            RK     450     .04    .045            TRAP      10      10
                *

 270            KK    52C7
 271            KM   RUNOFF FROM SUBBASIN 52C7
 272            BA    .006
 273            LS              75      27
 274            UK     100     .02     .10     100
 275            RK     550     .04    .045            TRAP      30      10
                *

 276            KK   52C7C
 277            KM   COMBINE 51B1R, 51C3R, AND 52C7
 278            HC       3   .0693
                *
1                                          HEC-1 INPUT                                                    PAGE  9
LINE            ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 279            KK   52C7R
 280            KM   ROUTE 52C7C THROUGH SUBBASIN 52C9 TO CP 52C9C1
 281            RK    1550    .036    .045            TRAP      10      10
                *

 282            KK  51B1DV
 283            KM   RETRIEVE DIVERTED FLOW 51B1DV
 284            DR  51B1DV
                *

 285            KK   51B2D
 286            KM   DIVERT 84 PERCENT OF 51B1DV TO WEST (16 PERCENT TO SOUTH)
 287            DT  51B2DV
 288            DI       0   10000
 289            DQ       0    8400
                *

 290            KK   51B2R
 291            KM   ROUTE 51B2D THROUGH SUBBASIN 52C8 TO CP 52C8C
 292            RK     750    .034    .045            TRAP      10      10
                *

 293            KK    52C8
 294            KM   RUNOFF FROM SUBBASIN 52C8
 295            BA    .008
 296            LS              75      27
 297            UK     100     .02     .10     100
 298            RK     750    .034    .045            TRAP      30      10
                *

 299            KK   52C8C
 300            KM   COMBINE 51B2R AND 52C8
 301            HC       2   .4493
                *

 302            KK   52C8R
 303            KM   ROUTE 52C8C THROUGH SUBBASIN 52C9 TO CP 52C9C1
 304            RK    1100    .036    .045            TRAP      10      10
                *

 305            KK  52C9C1
 306            KM   COMBINE 52C7R AND 52C8R
 307            HC       2
                *

 308            KK  52C9R1
 309            KM   ROUTE 52C9C1 THROUGH SUBBASIN 52C9 TO CP 52C9C2
 310            RK    1050    .036    .045            TRAP      10      10
                *
1                                          HEC-1 INPUT                                                    PAGE 10
LINE            ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 311            KK    52C9
 312            KM   RUNOFF FROM SUBBASIN 52C9
 313            BA    .069
 314            LS              75   31.85
 315            UK     100     .02     .10     100
 316            RK    3150    .036    .045            TRAP      30      10
                *

 317            KK  52C9C2
 318            KM   COMBINE 52C9R1 AND 52C9
 319            HC       2
                *

 320            KK  52C9R2
 321            KM   ROUTE 52C9C2 THROUGH SUBBASIN 52C10 TO CP 52C10C1
```

```
322          RK     500    .032    .045            TRAP      10      10
             *

323          KK  2C10C1
324          KM   COMBINE 52C9R2 AND 52C6R
325          HC       2
             *

326          KK  2C10R1
327          KM   ROUTE 52C10C1 THROUGH SUBBASIN 52C10 TO CP 52C10C2
328          RK     300    .032    .045            TRAP      10      10
             *

329          KK   52C10
330          KM   RUNOFF FROM SUBBASIN 52C10
331          BA    .014
332          LS              75    7.85
333          UK     100     .02     .10     100
334          RK     800    .032    .045            TRAP      30      10
             *

335          KK  2C10C2
336          KM   COMBINE 52C10R1 AND 52C10
337          HC       2
             *

338          KK   52C11
339          KM   RUNOFF FROM SUBBASIN 52C11
340          BA   .0425
341          LS              75      27
342          UK     100     .02     .10     100
343          RK    2800    .031    .045            TRAP      30      10
             *
```



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

344          KK  2C11R1
345          KM   PIPE ROUTE 52C11 TO CP 52C11C
346          RK     650     .02    .045            CIRC       3
             *

347          KK  52C13D
348          KM   RETRIEVE DIVERTED FLOW
349          DR   STORM
             *

350          KK  52C11C
351          KM   COMBINE 52C13D AND 52C11R1
352          HC       2   .0655
             *

353          KK  2C11CR
354          KM   PIPE ROUTE 52C11C TO CP 52C11C2
355          RK     750     .02    .045            CIRC       3
             *

356          KK  2C11C2
357          KM   COMBINE 52C11CR AND 52C10C2
358          HC       2
             *

359          KK  2C11R2
360          KM   ROUTE 52C11C2 THROUGH SUBBASIN 52C12 TO CP 52C12C
361          RK     700     .03    .045            TRAP      10      10
             *

362          KK   52C12
363          KM   RUNOFF FROM SUBBASIN 52C12
364          BA    .023
365          LS              75      85
366          UK     100     .02     .10     100
367          RK     900     .03    .045            TRAP      30      10
             *

368          KK  52C12C
369          KM   COMBINE 52C11R2 AND 52C12
370          HC       2
             *

371          KK  52C12R
372          KM   ROUTE 52C12C THROUGH SUBBASIN 52C14 TO CP 52C14C1
373          RK    1150    .029    .045            TRAP      10      10
             *

374          KK  52C14B
375          KM   RUNOFF FROM SUBBASIN 52C14B
376          BA    .021
377          LS              75      60
378          UK     100     .02     .10     100
379          RK    1250    .029    .045            TRAP      30      10
             *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 380          KK  C14BC1
 381          KM   COMBINE 52C14B AND 52C12R
 382          HC       2
              *

 383          KK  C14BC2
 384          KM   COMBINE 52C14BC1 AND 52C14AR
 385          HC       2
              *

 386          KK  52C14R
 387          KM   ROUTE 52C14C3 WEST IN BEARDSLEY CHANNEL TO CP 52B5C2
 388          RK     600   .0143    .035            TRAP      50       4
              *

 389          KK  51B2DV
 390          KM   RETRIEVE DIVERTED FLOW
 391          DR  51B2DV
              *

 392          KK   51B3D
 393          KM   DIVERT 84 PERCENT OF 51B2DV TO WEST (16 PERCENT TO SOUTH)
 394          DT  51B3DV
 395          DI       0   10000
 396          DQ       0    8400
              *

 397          KK   51B3R
 398          KM   ROUTE 51B3D THROUGH SUBBASIN 52B1 TO CP 52B1C
 399          RK     600    .039    .045            TRAP      10      10
              *

 400          KK    52B1
 401          KM   RUNOFF FROM SUBBASIN 52B1
 402          BA    .003
 403          LS              75      27
 404          UK     100     .02     .10     100
 405          RK     600    .039    .045            TRAP      30      10
              *

 406          KK   52B1C
 407          KM   COMBINE 51B3R AND 52B1
 408          HC       2   .0736
              *

 409          KK   52B1R
 410          KM   ROUTE 52B1C THROUGH SUBBASIN 52B2 TO CP 52B2C1
 411          RK     930    .037    .045            TRAP      10      10
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 412          KK  51B3DV
 413          KM   RETRIEVE DIVERTED FLOW 51B3DV
 414          DR  51B3DV
              *

 415          KK   51B4D
 416          KM   DIVERT 82 PERCENT OF 51B3DV TO WEST (18 PERCENT TO SOUTH)
 417          DT  51B4DV
 418          DI       0   10000
 419          DQ       0    8200
              *

 420          KK  51B4R1
 421          KM   ROUTE 51B4D THROUGH SUBBASIN 52B2 TO CP 52B2C1
 422          RK    1350    .037    .045            TRAP      10      10
              *

 423          KK  52B2C1
 424          KM   COMBINE 51B4R1 AND 52B1R
 425          HC       2   .1403
              *

 426          KK  52B2R1
 427          KM   ROUTE 52B2R1 THROUGH SUBBASIN 52B2 TO CP 52B2C2
 428          RK    1000    .037    .045            TRAP      10      10
              *

 429          KK    52B2
 430          KM   RUNOFF FROM SUBBASIN 52B2
 431          BA    .032
 432          LS              75      17
 433          UK     100     .02     .10     100
 434          RK    2350    .037    .045            TRAP      30      10
              *
```

```
435          KK  52B2C2
436          KM   COMBINE 52B2 AND 52B2R1
437          HC       2
             *

438          KK  52B2R2
439          KM   ROUTE 52B2C2 THROUGH SUBBASIN 52B3 TO CP 52B3C2
440          RK     850    .026    .045            TRAP      10       10
             *

441          KK  52B3R1
442          KM   ROUTE 52B3C1 THROUGH SUBBASIN 52B3 TO CP 52B3C2
443          RK     500    .024    .045            TRAP      10       10
             *
1                                        HEC-1 INPUT                                                    PAGE 14

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

444          KK    52B3
445          KM   RUNOFF FROM SUBBASIN 52B3
446          BA    .062
447          LS              75    31.8
448          UK     100     .02     .10     100
449          RK    3450    .030    .045            TRAP      30       10
             *

450          KK  52B3C2
451          KM   COMBINE 52B3 AND 52B3R1
452          HC       2
             *

453          KK  52B3R2
454          KM   ROUTE 52B3C2 THROUGH 52B4 TO CP 52B4C
455          RK    1700    .024    .045            TRAP      10       10
             *

456          KK    52B4
457          KM   RUNOFF FROM SUBBASIN 52B4
458          BA    .026
459          LS              75      62
460          UK     100     .02     .10     100
461          RK    1700    .024    .045            TRAP      30       10
             *

462          KK   52B4C
463          KM   COMBINE 52B4 AND 52B3R2
464          HC       2
             *

465          KK   52B4R
466          KM   ROUTE 52B4C THROUGH SUBBASIN 52B5 TO CP 52B5C1
467          RK     550    .027    .045            TRAP      10       10
             *

468          KK    52B5
469          KM   RUNOFF FROM SUBBASIN 52B5
470          BA    .021
471          LS              75    56.9
472          UK     100     .02     .10     100
473          RK    1400     .03    .045            TRAP      30       10
             *

474          KK  52B5C1
475          KM   COMBINE 52B5 AND 52B4R
476          HC       2
             *
1                                        HEC-1 INPUT                                                    PAGE 15

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

477          KK  52B5C2
478          KM   COMBINE 52B5C1 AND 52C14R
479          HC       2
             *

480          KK   52B5R
481          KM   ROUTE 52B5C2 IN BEARDSLEY CHANNEL TO CP 52B7C2
482          RK    1100   .0143    .035            TRAP      50        4
             *

483          KK  51B4DV
484          KM   RETRIEVE DIVERTED FLOW 51B4DV
485          DR  51B4DV
             *

486          KK   51B5D
487          KM   DIVERT 68 PERCENT OF 51B4DV TO WEST (32 PERCENT TO SOUTH)
488          DT  51B5DV
489          DI       0   10000
490          DQ       0    6800
```

```
                 *
 491             KK   51B5R
 492             KM   ROUTE 51B5D THROUGH SUBBASIN 52B6 TO CP 51B7C
 493             RK    1250    .035    .045            TRAP      10       10
                 *

 494             KK  51B5DV
 495             KM   RETRIEVE DIVERTED FLOW
 496             DR  51B5DV
                 *

 497             KK   51B6D
 498             KM   DIVERT 53 PERCENT OF 51B5DV TO WEST (47 PERCENT TO SOUTH)
 499             DT  51B6DV
 500             DI       0   10000
 501             DQ       0    5300
                 *

 502             KK   51B6R
 503             KM   ROUTE 51B6D THROUGH SUBBASIN 52B6 TO CP 51B7C
 504             RK     925    .033    .045            TRAP      10       10
                 *

 505             KK  51B6DV
 506             KM   RETRIEVE DIVERTED FLOW 51B6DV
 507             DR  51B6DV
                 *
1                                          HEC-1 INPUT                                                    PAGE 16

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

 508             KK   51B7D
 509             KM   DIVERT 58 PERCENT OF 51B6DV TO WEST (42 PERCENT TO SOUTH)
 510             DT  51B7DV
 511             DI       0   10000
 512             DQ       0    5800
                 *

 513             KK  51B7R1
 514             KM   ROUTE 51B7D THROUGH SUBBASIN 52B6 TO CP 51B7C
 515             RK     530    .033    .045            TRAP      10       10
                 *

 516             KK   51B7C
 517             KM   COMBINE 51B7R1, 51B5R, AND 51B6R
 518             HC       3   .2404
                 *

 519             KK  51B7R2
 520             KM   ROUTE 51B7C THROUGH SUBBASIN 52B6 TO CP 52B6C
 521             RK    2300    .033    .045            TRAP      10       10
                 *

 522             KK    52B6
 523             KM   RUNOFF FROM SUBBASIN 52B6
 524             BA    .096
 525             LS              75   13.55
 526             UK     100     .02     .10     100
 527             RK    3200    .033    .045            TRAP      30       10
                 *

 528             KK   52B6C
 529             KM   COMBINE 51B7R2 AND 52B6
 530             HC       2
                 *

 531             KK   52B6R
 532             KM   ROUTE 52B6C THROUGH SUBBASIN 52B7 TO CP 52B7C1
 533             RK    2750    .028    .045            TRAP      10       10
                 *

 534             KK    52B7
 535             KM   RUNOFF FROM SUBBASIN 52B7
 536             BA    .080
 537             LS              75   78.45
 538             UK     100     .02     .10     100
 539             RK    2750    .028    .045            TRAP      30       10
                 *

 540             KK  52B7C1
 541             KM   COMBINE 52B7 AND 52B6R
 542             HC       2
                 *
1                                          HEC-1 INPUT                                                    PAGE 17

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

 543             KK  52B7C2
 544             KM   COMBINE 52B7C1 AND 52B5R
 545             HC       2
```

```
                    *
546                 KK    52A2
547                 KM   RUNOFF FROM SUBBASIN 52A2
548                 BA    .065
549                 LS              75    88.8
550                 UK     100     .02     .10     100
551                 RK    2900    .023    .045            TRAP      30      10
                    *

552                 KK  52A2C2
553                 KM   COMBINE 52B7C2 AND 52A2
554                 HC       2    1.62
                    *

555                 KK  51B7DV
556                 KM   RETRIEVE DIVERTED FLOW 51B7DV
557                 DR  51B7DV
                    *

558                 KK   51B8R
559                 KM   ROUTE 51B7DV THROUGH SUBBASIN 52A1 TO CP 52A1C
560                 RK    3400    .033    .045            TRAP      10      10
                    *

561                 KK    52A1
562                 KM   RUNOFF FROM SUBBASIN 52A1
563                 BA    .130
564                 LS              75   32.25
565                 UK     100     .02     .10     100
566                 RK    3400    .033    .045            TRAP      30      10
                    *

567                 KK   52A1C
568                 KM   COMBINE 52A1 AND 51B8R
569                 HC       2
                    *
                    *
                    *     ******************  END DC RANCH WATERSHED  *******************
                    *
                    *
                    *     *****************  BEGIN GVSCE MODIFICATIONS  *****************
                    *

570                 KK   D51.1
571                 KM   RETRIEVE DIVERTED FLOW
572                 DR  B51.1T
                    *
1                                                HEC-1 INPUT                                                PAGE 18

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

573                 KK    C52A
574                 KM     COMBINE ROUTED HYDROGRAPH FROM C51.1 WITH HYDROGRAPH FROM C52A1C AT
575                 KM     THOMPSON PEAK PARKWAY
576                 HC       2    1.26
                    *
                    *   R52A
                    *     DEER VALLEY BASIN OUTLET CONDUIT TO OUTLET AT SIERRA PINTA CHANNEL
                    *     COMBINE WITH RUNOFF FROM DC RANCH
                    *       L = 3130 feet
                    *

577                 KK     C52
578                 KM     COMBINE ROUTED HYDROGRAPH FROM C52A WITH HYDROGRAPH FROM C52A2C AT
579                 KM     BEARDSLEY ROAD
580                 HC       2    2.88
                    *
581                 ZZ
1
            SCHEMATIC DIAGRAM OF STREAM NETWORK
 INPUT
  LINE      (V) ROUTING          (--->) DIVERSION OR PUMP FLOW

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

    19       S51.1
                 V
                 V
    28      DVDB-O
                 .
                 .
    43           .-------->  B51.1T
    41      D51.1T
                 .
                 .
    46           .        52D4
                 .           V
                 .           V
    52           .       52D4R
                 .           .
                 .           .
```

```
 55          .           .       52D4B
             .           .           .
             .           .           .
 61          .     52D5C1............
             .           .
             .           .
 64          .           .       52D5A
             .           .           V
             .           .           V
 70          .           .      52D5AR
             .           .           .
             .           .           .
 73          .     52D5C2............
             .         V
             .         V
 76          .      52D5R
             .           .
             .           .
 79          .           .       52C3
             .           .          V
             .           .          V
 85          .           .      52C3R
             .           .           .
             .           .           .
 88          .           .           .       52C3B
             .           .           .           .
             .           .           .           .
 94          .           .     2C3BC1............
             .           .           .
             .           .           .
 97          .     2C3BC2............
             .         V
             .         V
100          .     52C3BR
             .           .
             .           .
103          .           .         51C
             .           .           .
             .           .           .
111          .           .           .-------->  51C1DV
109          .           .      51C1D
             .           .          V
             .           .          V
114          .           .      51C1R
             .           .           .
             .           .           .
117          .           .           .        52C1
             .           .           .           .
             .           .           .           .
123          .           .      52C1C............
             .           .          V
             .           .          V
126          .           .      52C1R
             .           .           .
             .           .           .
129          .           .           .       52C2A
             .           .           .           .
             .           .           .           .
135          .           .     52C2AC............
             .           .           .
             .           .           .
138          .           .           .       52C2B
             .           .           .           .
             .           .           .           .
144          .           .     52C2BC............
             .           .          V
             .           .          V
147          .           .     52C2BR
             .           .           .
             .           .           .
150          .           .           .       52C2C
             .           .           .           .
             .           .           .           .
156          .           .     52C2CC............
             .           .          V
             .           .          V
159          .           .      52C2R
             .           .           .
             .           .           .
162          .           .           .        52C4
             .           .           .           .
             .           .           .           .
168          .           .     52C4C1............
             .           .           .
             .           .           .
171          .     52C4C2............
             .         V
             .         V
174          .      52C4R
             .           .
             .           .
177          .           .      52C13
             .           .           .
```

```
185                                  .------->  STORM
183                          2C13DV
                                     .
188                                  .      52C15
                                     .          .
                                     .          .
194                          2C15C1............
                                     .
                                     .
197                  2C15C2............
                         V
                         V
200                  52C15R
                         .
                         .
203                          52C14A
                                     .
                                     .
209                  2C14AC............
                         V
                         V
212                  2C14AR
                         .
                         .
217                                  .<-------  51C1DV
215                          51C1DV
                                     .
                                     .
220                                  .------->  51C2DV
218                           51C2D
                                 V
                                 V
223                           51C2R
                                     .
                                     .
226                                  .       52C5
                                     .          .
                                     .          .
232                           52C5C............
                                 V
                                 V
235                           52C5R
                                     .
                                     .
238                                  .       52C6
                                     .          .
                                     .          .
244                           52C6C............
                                 V
                                 V
247                           52C6R
                                     .
                                     .
252                                  .          .<-------  51C2DV
250                                  .     51C2DV
                                     .          V
                                     .          V
253                                  .      51C3R
                                     .          .
                                     .          .
256                                  .          .        51B
                                     .          .          .
                                     .          .          .
264                                  .          .          .------->  51B1DV
262                                  .          .      51B1D
                                     .          .          V
                                     .          .          V
267                                  .          .      51B1R
                                     .          .          .
                                     .          .          .
270                                  .          .          .       52C7
                                     .          .          .          .
                                     .          .          .          .
276                                  .      52C7C.......................
                                     .          V
                                     .          V
279                                  .      52C7R
                                     .          .
                                     .          .
284                                  .          .          .<-------  51B1DV
282                                  .          .     51B1DV
                                     .          .          .
                                     .          .          .
287                                  .          .          .------->  51B2DV
285                                  .          .      51B2D
                                     .          .          V
                                     .          .          V
290                                  .          .      51B2R
                                     .          .          .
                                     .          .          .
293                                  .          .          .       52C8
```

```
                .         .         .         .         .         .
                .         .         .         .         .         .
299             .         .         .         .     52C8C............
                .         .         .         .         V
                .         .         .         .         V
302             .         .         .         .     52C8R
                .         .         .         .         .
                .         .         .         .         .
305             .         .         .    52C9C1............
                .         .         .         V
                .         .         .         V
308             .         .         .    52C9R1
                .         .         .         .
                .         .         .         .
311             .         .         .         .      52C9
                .         .         .         .         .
                .         .         .         .         .
317             .         .         .    52C9C2............
                .         .         .         V
                .         .         .         V
320             .         .         .    52C9R2
                .         .         .         .
                .         .         .         .
323             .         .    2C10C1............
                .         .         V
                .         .         V
326             .         .    2C10R1
                .         .         .
                .         .         .
329             .         .         .     52C10
                .         .         .         .
                .         .         .         .
335             .         .    2C10C2............
                .         .         .
                .         .         .
338             .         .         .     52C11
                .         .         .         V
                .         .         .         V
344             .         .         .    2C11R1
                .         .         .         .
                .         .         .         .
349             .         .         .         .         .<-------   STORM
347             .         .         .         .    52C13D
                .         .         .         .         .
                .         .         .         .         .
350             .         .         .    52C11C............
                .         .         .         V
                .         .         .         V
353             .         .         .    2C11CR
                .         .         .         .
                .         .         .         .
356             .         .    2C11C2............
                .         .         V
                .         .         V
359             .         .    2C11R2
                .         .         .
                .         .         .
362             .         .         .     52C12
                .         .         .         .
                .         .         .         .
368             .         .    52C12C............
                .         .         V
                .         .         V
371             .         .    52C12R
                .         .         .
                .         .         .
374             .         .         .    52C14B
                .         .         .         .
                .         .         .         .
380             .         .    C14BC1............
                .         .         .
                .         .         .
383             .    C14BC2............
                .         V
                .         V
386             .    52C14R
                .         .
                .         .
391             .         .         .<-------  51B2DV
389             .         .    51B2DV
                .         .         .
                .         .         .
394             .         .         .-------> 51B3DV
392             .         .     51B3D
                .         .         V
                .         .         V
397             .         .     51B3R
                .         .         .
                .         .         .
400             .         .         .      52B1
                .         .         .         .
                .         .         .         .
406             .         .     52B1C............
```

```
                 .          .          V
                 .          .          V
409              .          .      52B1R
                 .          .          .
                 .          .          .
414              .          .          .          .<-------  51B3DV
412              .          .          .     51B3DV
                 .          .          .          .
                 .          .          .          .
417              .          .          .          .------->  51B4DV
415              .          .          .      51B4D
                 .          .          .          V
                 .          .          .          V
420              .          .          .     51B4R1
                 .          .          .          .
                 .          .          .          .
423              .          .     52B2C1............
                 .          .          V
                 .          .          V
426              .          .     52B2R1
                 .          .          .
                 .          .          .
429              .          .          .       52B2
                 .          .          .          .
                 .          .          .          .
435              .          .     52B2C2............
                 .          .          V
                 .          .          V
438              .          .     52B2R2
                 .          .          V
                 .          .          V
441              .          .     52B3R1
                 .          .          .
                 .          .          .
444              .          .          .       52B3
                 .          .          .          .
                 .          .          .          .
450              .          .     52B3C2............
                 .          .          V
                 .          .          V
453              .          .     52B3R2
                 .          .          .
                 .          .          .
456              .          .          .       52B4
                 .          .          .          .
                 .          .          .          .
462              .          .      52B4C............
                 .          .          V
                 .          .          V
465              .          .      52B4R
                 .          .          .
                 .          .          .
468              .          .          .       52B5
                 .          .          .          .
                 .          .          .          .
474              .          .     52B5C1............
                 .          .          .
                 .          .          .
477              .     52B5C2............
                 .          V
                 .          V
480              .      52B5R
                 .          .
                 .          .
485              .          .          .<-------  51B4DV
483              .          .     51B4DV
                 .          .          .
                 .          .          .
488              .          .          .------->  51B5DV
486              .          .      51B5D
                 .          .          V
                 .          .          V
491              .          .      51B5R
                 .          .          .
                 .          .          .
496              .          .          .          .<-------  51B5DV
494              .          .          .     51B5DV
                 .          .          .          .
                 .          .          .          .
499              .          .          .          .------->  51B6DV
497              .          .          .      51B6D
                 .          .          .          V
                 .          .          .          V
502              .          .          .      51B6R
                 .          .          .          .
                 .          .          .          .
507              .          .          .          .          .<-------  51B6DV
505              .          .          .          .     51B6DV
                 .          .          .          .          .
                 .          .          .          .          .
510              .          .          .          .          .------->  51B7DV
508              .          .          .          .      51B7D
                 .          .          .          .          V
```

```
                .         .         .         .         V
513             .         .         .         .     51B7R1
                .         .         .         .         .
                .         .         .         .         .
516             .         .     51B7C.......................
                .         .         V
                .         .         V
519             .         .     51B7R2
                .         .         .
                .         .         .
522             .         .         .       52B6
                .         .         .         .
                .         .         .         .
528             .         .     52B6C............
                .         .         V
                .         .         V
531             .         .     52B6R
                .         .         .
                .         .         .
534             .         .         .       52B7
                .         .         .         .
                .         .         .         .
540             .         .     52B7C1...........
                .         .         .
                .         .         .
543             .    52B7C2...........
                .         .
                .         .
546             .         .      52A2
                .         .         .
                .         .         .
552             .    52A2C2...........
                .         .
                .         .
557             .         .         .<-------  51B7DV
555             .         .     51B7DV
                .         .         V
                .         .         V
558             .         .     51B8R
                .         .         .
                .         .         .
561             .         .         .       52A1
                .         .         .         .
                .         .         .         .
567             .         .     52A1C............
                .         .         .
                .         .         .
572             .         .         .           .<-------  B51.1T
570             .         .         .      D51.1
                .         .         .         .
                .         .         .         .
573             .         .      C52A............
                .         .         .
                .         .         .
577             .       C52............
```

(***) RUNOFF ALSO COMPUTED AT THIS LOCATION

```
1*************************************
 *                                   *
 *   FLOOD HYDROGRAPH PACKAGE  (HEC-1)  *
 *              MAY   1991           *
 *           VERSION 4.0.1E          *
 *     Lahey F77L-EM/32 version 5.01 *
 *       Dodson & Associates, Inc.   *
 *  RUN DATE  03/30/98  TIME  09:34:38  *
 *************************************
```

```
*************************************
*                                   *
*    U.S. ARMY CORPS OF ENGINEERS   *
*    HYDROLOGIC ENGINEERING CENTER  *
*          609 SECOND STREET        *
*       DAVIS, CALIFORNIA 95616     *
*           (916) 551-1748          *
*                                   *
*************************************
```

PIMA ROAD THREE BASINS
by Stantech for the City of Scottsdale
Project: 28900051

File: DVphs-6.IH1
Original: 08-07-97 mcg

100-YEAR, 6-HOUR STORM - INTERIM CONDITION FOR DEER VALLEY BASIN
DEER VALLEY BASIN IS SIZED FOR RUNOFF ENTERING THE BASIN FOR EXISTING CONDITIONS. ONLY SUBBASIN 51.1 CONTRIBUTES TO THE BASIN.

```
  12 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      1    0  STARTING DATE
                       ITIME        0000  STARTING TIME
                          NQ        720  NUMBER OF HYDROGRAPH ORDINATES
                      NDDATE      3    0  ENDING DATE
```

```
                NDTIME        1155  ENDING TIME
                ICENT           19  CENTURY MARK

            COMPUTATION INTERVAL    0.08 HOURS
                 TOTAL TIME BASE   59.92 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

 13 JD        INDEX STORM NO. 1
                    STRM        0.00  PRECIPITATION DEPTH
                    TRDA        0.01  TRANSPOSITION DRAINAGE AREA

  0 PI          PRECIPITATION PATTERN


 14 JD        INDEX STORM NO. 2
                    STRM        0.00  PRECIPITATION DEPTH
                    TRDA        0.10  TRANSPOSITION DRAINAGE AREA

  0 PI          PRECIPITATION PATTERN


 15 JD        INDEX STORM NO. 3
                    STRM        0.00  PRECIPITATION DEPTH
                    TRDA        0.50  TRANSPOSITION DRAINAGE AREA

  0 PI          PRECIPITATION PATTERN


 16 JD        INDEX STORM NO. 4
                    STRM        0.00  PRECIPITATION DEPTH
                    TRDA        1.00  TRANSPOSITION DRAINAGE AREA

  0 PI          PRECIPITATION PATTERN


 17 JD        INDEX STORM NO. 5
                    STRM        0.00  PRECIPITATION DEPTH
                    TRDA        5.00  TRANSPOSITION DRAINAGE AREA

  0 PI          PRECIPITATION PATTERN


 18 JD        INDEX STORM NO. 6
                    STRM        0.00  PRECIPITATION DEPTH
                    TRDA       25.00  TRANSPOSITION DRAINAGE AREA

  0 PI          PRECIPITATION PATTERN

     *** FDKRUT WARNING TIME STEP CALCULATION FAILED TO CONVERGE. STABILITY PROBLEMS MAY RESULT


     *** FDKRUT WARNING TIME STEP CALCULATION FAILED TO CONVERGE. STABILITY PROBLEMS MAY RESULT


     *** FDKRUT WARNING TIME STEP CALCULATION FAILED TO CONVERGE. STABILITY PROBLEMS MAY RESULT


     *** FDKRUT - NEWTON RAPHSON FAILEDFIXED POINT ITERATION USED - ITERATION=  1


     *** FDKRUT - NEWTON RAPHSON FAILEDFIXED POINT ITERATION USED - ITERATION=  1


     *** FDKRUT - NEWTON RAPHSON FAILEDFIXED POINT ITERATION USED - ITERATION=  1


     *** FDKRUT - NEWTON RAPHSON FAILEDFIXED POINT ITERATION USED - ITERATION=  1


     *** FDKRUT - NEWTON RAPHSON FAILEDFIXED POINT ITERATION USED - ITERATION=  1
```

```
*** FDKRUT - NEWTON RAPHSON FAILEDFIXED POINT ITERATION USED - ITERATION=  1

*** FDKRUT - NEWTON RAPHSON FAILEDFIXED POINT ITERATION USED - ITERATION=  1

*** FDKRUT - NEWTON RAPHSON FAILEDFIXED POINT ITERATION USED - ITERATION=  1

*** FDKRUT - NEWTON RAPHSON FAILEDFIXED POINT ITERATION USED - ITERATION=  1

*** FDKRUT - NEWTON RAPHSON FAILEDFIXED POINT ITERATION USED - ITERATION=  1

*** FDKRUT - NEWTON RAPHSON FAILEDFIXED POINT ITERATION USED - ITERATION=  1

*** FDKRUT - NEWTON RAPHSON FAILEDFIXED POINT ITERATION USED - ITERATION=  1

*** FDKRUT - NEWTON RAPHSON FAILEDFIXED POINT ITERATION USED - ITERATION=  1

*** FDKRUT - NEWTON RAPHSON FAILEDFIXED POINT ITERATION USED - ITERATION=  1

*** FDKRUT - NEWTON RAPHSON FAILEDFIXED POINT ITERATION USED - ITERATION=  1

*** FDKRUT WARNING TIME STEP CALCULATION FAILED TO CONVERGE. STABILITY PROBLEMS MAY RESULT

*** FDKRUT - NEWTON RAPHSON FAILEDFIXED POINT ITERATION USED - ITERATION=  1

*** FDKRUT - NEWTON RAPHSON FAILEDFIXED POINT ITERATION USED - ITERATION=  1

*** FDKRUT WARNING TIME STEP CALCULATION FAILED TO CONVERGE. STABILITY PROBLEMS MAY RESULT

*** FDKRUT WARNING TIME STEP CALCULATION FAILED TO CONVERGE. STABILITY PROBLEMS MAY RESULT

*** FDKRUT WARNING TIME STEP CALCULATION FAILED TO CONVERGE. STABILITY PROBLEMS MAY RESULT

*** FDKRUT - NEWTON RAPHSON FAILEDFIXED POINT ITERATION USED - ITERATION=  1

*** FDKRUT - NEWTON RAPHSON FAILEDFIXED POINT ITERATION USED - ITERATION=  1

*** FDKRUT - NEWTON RAPHSON FAILEDFIXED POINT ITERATION USED - ITERATION=  1
```

*** FDKRUT - NEWTON RAPHSON FAILEDFIXED POINT ITERATION USED - ITERATION= 1

*** FDKRUT - NEWTON RAPHSON FAILEDFIXED POINT ITERATION USED - ITERATION= 1

*** FDKRUT WARNING TIME STEP CALCULATION FAILED TO CONVERGE. STABILITY PROBLEMS MAY RESULT

*** FDKRUT - NEWTON RAPHSON FAILEDFIXED POINT ITERATION USED - ITERATION= 1

*** FDKRUT - NEWTON RAPHSON FAILEDFIXED POINT ITERATION USED - ITERATION= 1

*** FDKRUT WARNING TIME STEP CALCULATION FAILED TO CONVERGE. STABILITY PROBLEMS MAY RESULT

*** FDKRUT WARNING TIME STEP CALCULATION FAILED TO CONVERGE. STABILITY PROBLEMS MAY RESULT

*** FDKRUT WARNING TIME STEP CALCULATION FAILED TO CONVERGE. STABILITY PROBLEMS MAY RESULT

*** FDKRUT WARNING TIME STEP CALCULATION FAILED TO CONVERGE. STABILITY PROBLEMS MAY RESULT

1

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

	OPERATION	STATION	PEAK FLOW	TIME OF PEAK	AVERAGE FLOW FOR MAXIMUM PERIOD 6-HOUR	24-HOUR	72-HOUR	BASIN AREA	MAXIMUM STAGE	TIME OF MAX STAGE
+	HYDROGRAPH AT	S51.1	1058.	3.50	162.	41.	16.	1.13		
+	ROUTED TO	DVDB-O	262.	4.25	162.	41.	16.	1.13		
+	DIVERSION TO	B51.1T	262.	4.25	162.	41.	16.	1.13		
+	HYDROGRAPH AT	D51.1T	0.	0.08	0.	0.	0.	1.13		
+	HYDROGRAPH AT	52D4	116.	3.25	11.	3.	1.	0.07		
+	ROUTED TO	52D4R	106.	3.25	11.	3.	1.	0.07		
+	HYDROGRAPH AT	52D4B	70.	3.17	6.	1.	1.	0.02		
+	2 COMBINED AT	52D5C1	161.	3.25	17.	4.	2.	0.09		
+	HYDROGRAPH AT	52D5A	79.	3.17	6.	2.	1.	0.02		
+	ROUTED TO	52D5AR	75.	3.17	6.	2.	1.	0.02		
+	2 COMBINED AT	52D5C2	217.	3.25	23.	6.	2.	0.12		
+	ROUTED TO	52D5R	216.	3.25	23.	6.	2.	0.12		
+	HYDROGRAPH AT	52C3	24.	3.08	2.	0.	0.	0.01		
+	ROUTED TO	52C3R	23.	3.17	2.	0.	0.	0.01		
+	HYDROGRAPH AT	52C3B	53.	3.08	4.	1.	0.	0.02		
	2 COMBINED AT									

+	2C3BC1	74.	3.17	6.	1.	1.	0.02
2 COMBINED AT +	2C3BC2	270.	3.17	29.	7.	3.	0.14
ROUTED TO +	52C3BR	261.	3.25	29.	7.	3.	0.14
HYDROGRAPH AT +	51C	166.	3.17	15.	4.	1.	0.10
DIVERSION TO +	51C1DV	111.	3.17	10.	3.	1.	0.10
HYDROGRAPH AT +	51C1D	55.	3.17	5.	1.	0.	0.10
ROUTED TO +	51C1R	53.	3.25	5.	1.	0.	0.10
HYDROGRAPH AT +	52C1	69.	3.17	5.	1.	0.	0.03
2 COMBINED AT +	52C1C	106.	3.17	10.	2.	1.	0.06
ROUTED TO +	52C1R	101.	3.25	10.	2.	1.	0.06
HYDROGRAPH AT +	52C2A	35.	3.17	2.	1.	0.	0.02
2 COMBINED AT +	52C2AC	125.	3.25	12.	3.	1.	0.08
HYDROGRAPH AT +	52C2B	56.	3.17	4.	1.	0.	0.03
2 COMBINED AT +	52C2BC	170.	3.17	16.	4.	2.	0.11
ROUTED TO +	52C2BR	168.	3.25	16.	4.	2.	0.11
HYDROGRAPH AT +	52C2C	46.	3.08	4.	1.	0.	0.01
2 COMBINED AT +	52C2CC	194.	3.25	20.	5.	2.	0.12
ROUTED TO +	52C2R	180.	3.25	20.	5.	2.	0.12
HYDROGRAPH AT +	52C4	56.	3.17	4.	1.	0.	0.02
2 COMBINED AT +	52C4C1	211.	3.25	24.	6.	2.	0.14
2 COMBINED AT +	52C4C2	472.	3.25	53.	13.	5.	0.28
ROUTED TO +	52C4R	462.	3.25	53.	14.	5.	0.28
HYDROGRAPH AT +	52C13	69.	3.08	5.	1.	0.	0.02
DIVERSION TO +	STORM	40.	3.08	4.	1.	0.	0.02
HYDROGRAPH AT +	2C13DV	29.	3.08	1.	0.	0.	0.02
HYDROGRAPH AT +	52C15	157.	3.08	13.	3.	1.	0.05
2 COMBINED AT +	2C15C1	186.	3.08	13.	3.	1.	0.05
2 COMBINED AT +	2C15C2	546.	3.17	66.	17.	7.	0.32
ROUTED TO +	52C15R	544.	3.25	66.	17.	7.	0.32
HYDROGRAPH AT +	52C14A	142.	3.17	11.	3.	1.	0.04
2 COMBINED AT +	2C14AC	655.	3.17	78.	20.	8.	0.36
ROUTED TO							

+	2C14AR	637.	3.17	78.	20.	8.	0.36
HYDROGRAPH AT							
+	51C1DV	111.	3.17	10.	3.	1.	0.10
DIVERSION TO							
+	51C2DV	30.	3.17	3.	1.	0.	0.10
HYDROGRAPH AT							
+	51C2D	81.	3.17	7.	2.	1.	0.10
ROUTED TO							
+	51C2R	78.	3.25	7.	2.	1.	0.10
HYDROGRAPH AT							
+	52C5	40.	3.17	3.	1.	0.	0.02
2 COMBINED AT							
+	52C5C	109.	3.17	10.	3.	1.	0.06
ROUTED TO							
+	52C5R	104.	3.25	10.	3.	1.	0.06
HYDROGRAPH AT							
+	52C6	82.	3.17	7.	2.	1.	0.04
2 COMBINED AT							
+	52C6C	173.	3.25	17.	4.	2.	0.10
ROUTED TO							
+	52C6R	165.	3.25	17.	4.	2.	0.10
HYDROGRAPH AT							
+	51C2DV	30.	3.17	3.	1.	0.	0.10
ROUTED TO							
+	51C3R	29.	3.25	3.	1.	0.	0.10
HYDROGRAPH AT							
+	51B	596.	3.42	79.	20.	8.	0.57
DIVERSION TO							
+	51B1DV	549.	3.42	72.	18.	7.	0.57
HYDROGRAPH AT							
+	51B1D	48.	3.42	6.	2.	1.	0.57
ROUTED TO							
+	51B1R	48.	3.42	6.	2.	1.	0.57
HYDROGRAPH AT							
+	52C7	18.	3.08	1.	0.	0.	0.01
3 COMBINED AT							
+	52C7C	76.	3.25	10.	3.	1.	0.07
ROUTED TO							
+	52C7R	75.	3.33	10.	3.	1.	0.07
HYDROGRAPH AT							
+	51B1DV	549.	3.42	72.	18.	7.	0.57
DIVERSION TO							
+	51B2DV	461.	3.42	61.	15.	6.	0.57
HYDROGRAPH AT							
+	51B2D	88.	3.42	12.	3.	1.	0.57
ROUTED TO							
+	51B2R	88.	3.42	12.	3.	1.	0.57
HYDROGRAPH AT							
+	52C8	21.	3.08	1.	0.	0.	0.01
2 COMBINED AT							
+	52C8C	93.	3.42	13.	3.	1.	0.45
ROUTED TO							
+	52C8R	92.	3.42	13.	3.	1.	0.45
2 COMBINED AT							
+	52C9C1	163.	3.42	23.	6.	2.	0.52
ROUTED TO							
+	52C9R1	162.	3.42	23.	6.	2.	0.52
HYDROGRAPH AT							
+	52C9	174.	3.17	14.	3.	1.	0.07
2 COMBINED AT							
+	52C9C2	255.	3.25	37.	9.	4.	0.59
ROUTED TO							

+	52C9R2	254.	3.25	37.	9.	4.	0.59
2 COMBINED AT							
+	2C10C1	418.	3.25	54.	14.	5.	0.69
ROUTED TO							
+	2C10R1	412.	3.25	54.	14.	5.	0.69
HYDROGRAPH AT							
+	52C10	28.	3.17	2.	1.	0.	0.01
2 COMBINED AT							
+	2C10C2	428.	3.25	56.	14.	6.	0.70
HYDROGRAPH AT							
+	52C11	96.	3.17	8.	2.	1.	0.04
ROUTED TO							
+	2C11R1	88.	3.17	8.	2.	1.	0.04
HYDROGRAPH AT							
+	52C13D	40.	3.08	4.	1.	0.	0.02
2 COMBINED AT							
+	52C11C	128.	3.17	12.	3.	1.	0.07
ROUTED TO							
+	2C11CR	120.	3.17	12.	3.	1.	0.07
2 COMBINED AT							
+	2C11C2	541.	3.25	68.	17.	7.	0.77
ROUTED TO							
+	2C11R2	530.	3.25	68.	17.	7.	0.77
HYDROGRAPH AT							
+	52C12	119.	3.08	7.	2.	1.	0.02
2 COMBINED AT							
+	52C12C	567.	3.25	75.	19.	8.	0.79
ROUTED TO							
+	52C12R	549.	3.25	75.	19.	8.	0.79
HYDROGRAPH AT							
+	52C14B	76.	3.08	6.	1.	1.	0.02
2 COMBINED AT							
+	C14BC1	584.	3.25	81.	20.	8.	0.81
2 COMBINED AT							
+	C14BC2	1200.	3.25	158.	40.	16.	1.17
ROUTED TO							
+	52C14R	1194.	3.25	158.	40.	16.	1.17
HYDROGRAPH AT							
+	51B2DV	461.	3.42	61.	15.	6.	0.57
DIVERSION TO							
+	51B3DV	387.	3.42	51.	13.	5.	0.57
HYDROGRAPH AT							
+	51B3D	74.	3.42	10.	2.	1.	0.57
ROUTED TO							
+	51B3R	74.	3.42	10.	2.	1.	0.57
HYDROGRAPH AT							
+	52B1	8.	3.08	1.	0.	0.	0.00
2 COMBINED AT							
+	52B1C	76.	3.42	10.	3.	1.	0.07
ROUTED TO							
+	52B1R	75.	3.42	10.	3.	1.	0.07
HYDROGRAPH AT							
+	51B3DV	387.	3.42	51.	13.	5.	0.57
DIVERSION TO							
+	51B4DV	317.	3.42	42.	11.	4.	0.57
HYDROGRAPH AT							
+	51B4D	70.	3.42	9.	2.	1.	0.57
ROUTED TO							
+	51B4R1	70.	3.42	9.	2.	1.	0.57
2 COMBINED AT							
+	52B2C1	145.	3.42	20.	5.	2.	0.14
ROUTED TO							

+	52B2R1	142.	3.42	20.	5.	2.	0.14
HYDROGRAPH AT							
+	52B2	69.	3.17	5.	1.	1.	0.03
2 COMBINED AT							
+	52B2C2	166.	3.42	25.	6.	3.	0.17
ROUTED TO							
+	52B2R2	164.	3.42	25.	6.	3.	0.17
ROUTED TO							
+	52B3R1	163.	3.42	25.	6.	3.	0.17
HYDROGRAPH AT							
+	52B3	141.	3.17	12.	3.	1.	0.06
2 COMBINED AT							
+	52B3C2	249.	3.25	37.	9.	4.	0.23
ROUTED TO							
+	52B3R2	241.	3.33	37.	9.	4.	0.23
HYDROGRAPH AT							
+	52B4	87.	3.17	7.	2.	1.	0.03
2 COMBINED AT							
+	52B4C	284.	3.25	44.	11.	4.	0.26
ROUTED TO							
+	52B4R	277.	3.25	44.	11.	4.	0.26
HYDROGRAPH AT							
+	52B5	69.	3.08	5.	1.	1.	0.02
2 COMBINED AT							
+	52B5C1	313.	3.25	49.	12.	5.	0.28
2 COMBINED AT							
+	52B5C2	1496.	3.25	207.	52.	21.	1.45
ROUTED TO							
+	52B5R	1474.	3.25	207.	53.	21.	1.45
HYDROGRAPH AT							
+	51B4DV	317.	3.42	42.	11.	4.	0.57
DIVERSION TO							
+	51B5DV	216.	3.42	28.	7.	3.	0.57
HYDROGRAPH AT							
+	51B5D	102.	3.42	13.	3.	1.	0.57
ROUTED TO							
+	51B5R	102.	3.42	13.	3.	1.	0.57
HYDROGRAPH AT							
+	51B5DV	216.	3.42	28.	7.	3.	0.57
DIVERSION TO							
+	51B6DV	114.	3.42	15.	4.	2.	0.57
HYDROGRAPH AT							
+	51B6D	101.	3.42	13.	3.	1.	0.57
ROUTED TO							
+	51B6R	101.	3.42	13.	3.	1.	0.57
HYDROGRAPH AT							
+	51B6DV	114.	3.42	15.	4.	2.	0.57
DIVERSION TO							
+	51B7DV	66.	3.42	9.	2.	1.	0.57
HYDROGRAPH AT							
+	51B7D	48.	3.42	6.	2.	1.	0.57
ROUTED TO							
+	51B7R1	48.	3.42	6.	2.	1.	0.57
3 COMBINED AT							
+	51B7C	252.	3.42	33.	8.	3.	0.24
ROUTED TO							
+	51B7R2	244.	3.42	33.	8.	3.	0.24
HYDROGRAPH AT							
+	52B6	190.	3.17	15.	4.	2.	0.10
2 COMBINED AT							
+	52B6C	313.	3.42	48.	12.	5.	0.34
ROUTED TO							

+		52B6R	311.	3.42	48.	12.	5.	0.34
	HYDROGRAPH AT							
+		52B7	303.	3.17	24.	6.	2.	0.08
	2 COMBINED AT							
+		52B7C1	411.	3.25	72.	18.	7.	0.42
	2 COMBINED AT							
+		52B7C2	1871.	3.25	278.	71.	28.	1.87
	HYDROGRAPH AT							
+		52A2	263.	3.17	21.	5.	2.	0.06
	2 COMBINED AT							
+		52A2C2	2033.	3.25	299.	76.	30.	1.62
	HYDROGRAPH AT							
+		51B7DV	66.	3.42	9.	2.	1.	0.57
	ROUTED TO							
+		51B8R	66.	3.50	9.	2.	1.	0.57
	HYDROGRAPH AT							
+		52A1	340.	3.17	26.	6.	3.	0.13
	2 COMBINED AT							
+		52A1C	344.	3.17	34.	9.	3.	0.13
	HYDROGRAPH AT							
+		D51.1	262.	4.25	162.	41.	16.	1.13
	2 COMBINED AT							
+		C52A	418.	3.17	195.	50.	20.	1.26
	2 COMBINED AT							
+		C52	2381.	3.25	489.	125.	50.	2.88
1								

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

APPENDIX D

Interim Condition 100-Year, 24-Hour Output File Printout

```
1*************************************
 *                                   *
 *   FLOOD HYDROGRAPH PACKAGE  (HEC-1)  *
 *              MAY   1991           *
 *           VERSION 4.0.1E          *
 *     Lahey F77L-EM/32 version 5.01 *
 *       Dodson & Associates, Inc.   *
 *  RUN DATE  04/02/98  TIME  10:58:41  *
 *************************************
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*************************************
*                                   *
*    U.S. ARMY CORPS OF ENGINEERS   *
*    HYDROLOGIC ENGINEERING CENTER  *
*          609 SECOND STREET        *
*       DAVIS, CALIFORNIA 95616     *
*          (916) 551-1748           *
*                                   *
*************************************
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X     X  XXXXXXX   XXXXX          X
X     X  X        X     X        XX
X     X  X        X              X
XXXXXXX  XXXX     X        XXXXX X
X     X  X        X              X
X     X  X        X     X        X
X     X  XXXXXXX   XXXXX        XXX
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THIS PROGRAM REPLACES ALL PREVIOUS VERSIONS OF HEC-1 KNOWN AS HEC1 (JAN 73), HEC1GS, HEC1DB, AND HEC1KW.

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

1 HEC-1 INPUT PAGE 1

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

  1           ID    PIMA ROAD THREE BASINS                                  File: INTRM-24.IH1
  2           ID    by  Stantech for the City of Scottsdale            Original: 03-16-98     mcg
  3           ID        Project:  28900051
  4           ID
  5           ID
  6           ID    100-YEAR, 24-HOUR STORM
  7           ID        INTERIM CONDITION --- NO IMPROVEMENTS UPSTREAM OF DEER VALLEY BASIN
  8           ID        GRAYHAWK AND DC RANCH IMPROVEMENTS ARE INCLUDED
  9           ID
 10           ID
 11           ID        THE GREYHAWK HEC-1 MODEL (VILLAGES II AND III) WAS DEVELOPED BY DEI
 12           ID            DEI FILE NAME:  GH23FAB.H1I
 13           ID            MODEL DATE:     21 MAY 96
 14           ID
 15           ID        THE DC RANCH HEC-1 MODEL WAS DEVELOPED BY WOOD/PATEL ASSOCIATES
 16           ID            WOOD/PATEL FILE NAME:  DC0721C.DAT
 17           ID            MODEL DATE:            4 JANUARY 96
 18           ID
 19           ID
              *DIAGRAM
 20           IT       5                    2000
 21           IO       5
              *

 22           KK   S51.1
 23           KM     RUNOFF FROM SUBBASIN 51.1
 24           KM        RAINFALL LOSSES FOR GREINER SUBBASINS 51.1 AND 49.1 ARE AREA WEIGHTED
 25           BA   1.130
 26           PH            8.0     .84    1.53    2.46    2.75    2.94    3.31    3.74    4.17
 27           LS           73.9      12
 28           UK     300   0.037   0.130     100
 29           RK    1800   0.038   0.045  0.0161    TRAP       0      12
 30           RK   14400   0.032   0.040            TRAP      40      15
              *

 31           KK  DVDB-O
 32           KM     DETENTION BASIN AT DEER VALLEY ROAD - NONREGULATORY STRUCTURE
 33           KM        PRINCIPAL SPILLWAY:  54" x 800' RCP WITH A SLOPE OF 0.5%
 34           KM        2 ACRE-FEET OF STORAGE FOR SEDIMENTAION
 35           RS       1    STOR      -1
 36           SV       0     0.2     0.4     0.6     0.8     1.0     5.8    14.6    26.6    42.1
 37           SV    45.6
 38           SE    1855    1856    1857    1858    1859    1860    1865    1870    1875    1880
 39           SE    1881
 40           SQ       0      20      40      60      80     100     120     140     160     180
 41           SQ     200     220     240     260  264.38  448.42  719.57     887    1074  1279.9
 42           SE    1855 1856.43 1857.53 1858.31 1858.95 1859.61 1860.29  1861.8 1863.71 1865.82
 43           SE  1868.1 1870.67 1873.43 1877.29  1879.5  1880.0  1880.4  1880.6  1880.8  1881.0
              *
              *
              *  R51.1
              *     DEER VALLEY BASIN OUTLET CONDUIT TO THOMPSON PEAK PARKWAY
              *     COMBINE WITH RUNOFF FROM DC RANCH
              *       L = 2820 feet
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

  44          KK  D51.1T
  45          KM    DIVERT 100% OF FLOW TO RETRIEVE AT THOMPSON PEAK PARKWAY
  46          DT  B51.1T
  47          DI       0   10000
  48          DQ       0   10000
              *
              *     *****************  BEGIN DC RANCH WATERSHED  ******************
              *

  49          KK    52D4
  50          KM   RUNOFF FROM SUBBASIN 52D4
  51          BA    .070
  52          LS              75    14.5
  53          UK     120    .010     .15     100
  54          RK    3100    .035    .045            TRAP      30      10
              *

  55          KK   52D4R
  56          KM   ROUTE 52D4C THROUGH 52D5 TO CP 52D5C
  57          RK    1350    .033    .045            TRAP      10      10
              *

  58          KK   52D4B
  59          KM   RUNOFF FROM SUBBASIN 52D4B
  60          BA    .022
  61          LS              75      63
  62          UK     120    .010     .15     100
  63          RK    2200    .033    .045            TRAP      30      10
              *

  64          KK  52D5C1
  65          KM   COMBINE 52D4R AND 52D4B
  66          HC       2
              *

  67          KK   52D5A
  68          KM   RUNOFF FROM 52D5A
  69          BA   .0232
  70          LS              75      63
  71          UK     120    .010     .15     100
  72          RK    1300    .032    .045            TRAP      30      10
              *

  73          KK  52D5AR
  74          KM   ROUTE 52D5A THROUGH BEARDSLEY CHANNEL TO CP 52D5C2
  75          RK     400   .0143    .035            TRAP      50       4
              *

  76          KK  52D5C2
  77          KM   COMBINE 25D5C1 AND 52D5AR
  78          HC       2
              *
```



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

  79          KK   52D5R
  80          KM   ROUTE 52D5C IN BEARDSLEY CHANNEL TO CP 52C3BC2
  81          RK     240   .0143    .035            TRAP      50       4
              *

  82          KK    52C3
  83          KM   RUNOFF FROM SUBBASIN 52C3
  84          BA    .006
  85          LS              75      65
  86          UK     100     .02     .10     100
  87          RK     800    .033    .045            TRAP      30      10
              *

  88          KK   52C3R
  89          KM   ROUTE 52C3 THROUGH SUBBASIN 52C4 TO CP 52C4C1
  90          RK    1350    .034    .045            TRAP      10      10
              *

  91          KK   52C3B
  92          KM   RUNOFF FROM SUBBASIN 52C3B
  93          BA    .016
  94          LS              75      60
  95          UK     100     .02     .10     100
  96          RK    1400    .034    .045            TRAP      30      10
              *

  97          KK  2C3BC1
  98          KM   COMBINE 52C3B AND 52C3R
  99          HC       2
              *
```

```
 100          KK  2C3BC2
 101          KM   COMBINE 52C3BC1 AND 52C5R
 102          HC       2
              *

 103          KK  52C3BR
 104          KM   ROUTE 52C3BC2 IN BEARDSLEY CHANNEL TO CP 52C4C2
 105          RK     430   .0143    .035            TRAP      50       4
              *
              *

 106          KK     51C     SUB
 107          KM        RUNOFF FROM SUB 51C
 108          BA   .0972
 109          LS              74      15
 110          UK     100   .0213     .10     100
 111          RK    3900   .0375    .045            TRAP      30      10
              *
1                                          HEC-1 INPUT                                                    PAGE  4

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

 112          KK   51C1D
 113          KM   DIVERT 67 PERCENT OF 51C TO WEST (33 PERCENT TO SOUTH)
 114          DT  51C1DV
 115          DI       0   10000
 116          DQ       0    6700
              *

 117          KK   51C1R
 118          KM   ROUTE 51C1D THROUGH SUBBASIN 52C1
 119          RK    1350   .0364    .045            TRAP      10      10
              *

 120          KK    52C1
 121          KM   RUNOFF FROM SUBBASIN 52C1
 122          BA    .029
 123          LS              75    20.5
 124          UK     100     .02     .10     100
 125          RK    1350    .021    .045            TRAP      30      10
              *

 126          KK   52C1C
 127          KM   COMBINE 51C1R AND 52C1
 128          HC       2   .0611
              *

 129          KK   52C1R
 130          KM   ROUTE 52C1C THROUGH BASIN 52C2A TO CP 52C2BC
 131          RK    1500    .033    .045            TRAP      10      10
              *

 132          KK   52C2A
 133          KM   RUNOFF FROM SUBBASIN 52C2A
 134          BA    .019
 135          LS              75       2
 136          UK     100     .02     .10     100
 137          RK    1500    .033    .045            TRAP      30      10
              *

 138          KK  52C2AC
 139          KM   COMBINE 52C2A AND 52C1R
 140          HC       2
              *

 141          KK   52C2B
 142          KM   RUNOFF FROM SUBBASIN 52C2B
 143          BA   .0275
 144          LS              75      11
 145          UK     100     .02     .10     100
 146          RK    2000    .030    .045            TRAP      30      10
              *
1                                          HEC-1 INPUT                                                    PAGE  5

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

 147          KK  52C2BC
 148          KM   COMBINE 52C2B AND 52C2AC
 149          HC       2
              *

 150          KK  52C2BR
 151          KM   ROUTE 52C2BC THROUGH 52C2C TO CP 52C2CC
 152          RK    1500    .040    .045            TRAP      10      10
              *

 153          KK   52C2C
 154          KM   RUNOFF FROM SUBBASIN 52C2C
 155          BA    .014
 156          LS              75      62
 157          UK     100     .02     .10     100
```

```
158          RK    1500     .04    .045            TRAP      30      10
             *

159          KK  52C2CC
160          KM   COMBINE 52C2C AND 52C2BR
161          HC       2
             *

162          KK   52C2R
163          KM   ROUTE 52C2CC THROUGH SUBBASIN 52C4 TO CP 52C4C1
164          RK    1550    .030    .045            TRAP      10      10
             *

165          KK    52C4
166          KM   RUNOFF FROM SUBBASIN 52C4
167          BA    .017
168          LS              75      60
169          UK     100     .02     .10     100
170          RK    1550    .030    .045            TRAP      30      10
             *

171          KK  52C4C1
172          KM   COMBINE 52C4 AND 52C2R
173          HC       2
             *

174          KK  52C4C2
175          KM   COMBINE 52C4C1 AND 52C3BR
176          HC       2
             *

177          KK   52C4R
178          KM   ROUTE 52C4C2 WEST IN BEARDSLEY CHANNEL TO CP 52C15C2
179          RK     850   .0143    .035            TRAP      50       4
             *
1                                          HEC-1 INPUT                                          PAGE  6

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

180          KK   52C13
181          KM   RUNOFF FROM SUBBASIN 52C13
182          BA    .023
183          LS              75      31
184          UK     100     .02     .10     100
185          RK     950    .040    .045            TRAP      30      10
             *

186          KK  2C13DV
187          KM   DIVERT FIRST 40 CFS INTO STORM DRAIN; REMAINDER FLOWS OVER ROAD
188          DT   STORM
189          DI       0      40    1000
190          DQ       0      40      40
             *
             * KK52C13R
             * KM ROUTE 52C13 THROUGH SUBBASIN 52C15 TO CP 52C15C1
             * RK  1800    .035    .045            TRAP      10      10
             *

191          KK   52C15
192          KM   RUNOFF FROM SUBBASIN 52C15
193          BA    .046
194          LS              75    64.4
195          UK     100     .02     .10     100
196          RK    2050    .036    .045            TRAP      30      10
             *

197          KK  2C15C1
198          KM   COMBINE 52C15 AND 52C13DV
199          HC       2    .046
             *

200          KK  2C15C2
201          KM   COMBINE 52C15C1 AND 52C4R
202          HC       2
             *

203          KK  52C15R
204          KM   ROUTE 52C15C2 IN BEARDSLEY CHANNEL TO CP 52C14C3
205          RK     750   .0143    .035            TRAP      50       4
             *

206          KK  52C14A
207          KM   RUNOFF FROM SUBBASIN 52C14A
208          BA    .041
209          LS              75    67.7
210          UK     100     .02     .10     100
211          RK    2050    .031    .045            TRAP      30      10
             *
1                                          HEC-1 INPUT                                          PAGE  7

LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10
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 212          KK  2C14AC
 213          KM   COMBINE 52C14A AND 52C15R
 214          HC       2
              *

 215          KK  2C14AR
 216          KM   ROUTE 52C14AC IN BEARDSLEY CHANNEL TO CP 52C14BC2
 217          RK     380   .0143    .035            TRAP      50       4
              *
              *

 218          KK  51C1DV
 219          KM   RETRIEVE DIVERTED FLOW
 220          DR  51C1DV
              *

 221          KK   51C2D
 222          KM   DIVERT 27 PERCENT OF 51C1DV TO WEST (73 PERCENT TO SOUTH)
 223          DT  51C2DV
 224          DI       0   10000
 225          DQ       0    2700
              *

 226          KK   51C2R
 227          KM   ROUTE 51C2D THROUGH SUBBASIN 52C5 TO CP 52C5C
 228          RK     700    .030    .045            TRAP      10      10
              *

 229          KK    52C5
 230          KM   RUNOFF FROM SUBBASIN 52C5
 231          BA    .016
 232          LS              75      27
 233          UK     100     .02     .10     100
 234          RK    1200     .03    .045            TRAP      30      10
              *

 235          KK   52C5C
 236          KM   COMBINE 51C2R AND 52C5
 237          HC       2   .0635
              *

 238          KK   52C5R
 239          KM   ROUTE 52C5C THROUGH SUBBASIN 52C6 TO CP 52C6C
 240          RK    3100    .035    .045            TRAP      10      10
              *

 241          KK    52C6
 242          KM   RUNOFF FROM SUBBASIN 52C6
 243          BA    .036
 244          LS              75    31.4
 245          UK     100     .02     .10     100
 246          RK    3100    .035    .045            TRAP      30      10
              *
1                                          HEC-1 INPUT                                                PAGE  8

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

 247          KK   52C6C
 248          KM   COMBINE 52C5R AND 52C6
 249          HC       2
              *

 250          KK   52C6R
 251          KM   ROUTE 52C6C THROUGH SUBBASIN 52C10 TO CP 52C10C2
 252          RK     450    .032    .045            TRAP      10      10
              *

 253          KK  51C2DV
 254          KM   RETRIEVE 52C2DV
 255          DR  51C2DV
              *

 256          KK   51C3R
 257          KM   ROUTE 52C2DV THROUGH SUBBASIN 52C7 TO CP 52C7C
 258          RK     700    .040    .045            TRAP      10      10
              *

 259          KK     51B     SUB
 260          KM        RUNOFF FROM SUB 51B
 261          BA   .5711
 262          LS       0    71.9    13.1
 263          UK     100   .0213     .10     100
 264          RK    8900   .0300    .045            TRAP      50      25
              *

 265          KK   51B1D
 266          KM   DIVERT 92 PERCENT OF SUBBASIN 51B TO WEST (8 PERCENT TO SOUTH)
 267          DT  51B1DV
 268          DI       0   10000
 269          DQ       0    9200
              *
```

```
 270          KK   51B1R
 271          KM    ROUTE 51B1D THROUGH SUBBASIN 52C7 TO CP 52C7C
 272          RK     450     .04    .045            TRAP      10      10
              *

 273          KK    52C7
 274          KM   RUNOFF FROM SUBBASIN 52C7
 275          BA    .006
 276          LS              75      27
 277          UK     100     .02     .10     100
 278          RK     550     .04    .045            TRAP      30      10
              *

 279          KK   52C7C
 280          KM   COMBINE 51B1R, 51C3R, AND 52C7
 281          HC       3   .0693
              *
1                                          HEC-1 INPUT                                                PAGE  9

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

 282          KK   52C7R
 283          KM   ROUTE 52C7C THROUGH SUBBASIN 52C9 TO CP 52C9C1
 284          RK    1550    .036    .045            TRAP      10      10
              *

 285          KK  51B1DV
 286          KM   RETRIEVE DIVERTED FLOW 51B1DV
 287          DR  51B1DV
              *

 288          KK   51B2D
 289          KM   DIVERT 84 PERCENT OF 51B1DV TO WEST (16 PERCENT TO SOUTH)
 290          DT  51B2DV
 291          DI       0   10000
 292          DQ       0    8400
              *

 293          KK   51B2R
 294          KM   ROUTE 51B2D THROUGH SUBBASIN 52C8 TO CP 52C8C
 295          RK     750    .034    .045            TRAP      10      10
              *

 296          KK    52C8
 297          KM   RUNOFF FROM SUBBASIN 52C8
 298          BA    .008
 299          LS              75      27
 300          UK     100     .02     .10     100
 301          RK     750    .034    .045            TRAP      30      10
              *

 302          KK   52C8C
 303          KM   COMBINE 51B2R AND 52C8
 304          HC       2   .4493
              *

 305          KK   52C8R
 306          KM   ROUTE 52C8C THROUGH SUBBASIN 52C9 TO CP 52C9C1
 307          RK    1100    .036    .045            TRAP      10      10
              *

 308          KK  52C9C1
 309          KM   COMBINE 52C7R AND 52C8R
 310          HC       2
              *

 311          KK  52C9R1
 312          KM   ROUTE 52C9C1 THROUGH SUBBASIN 52C9 TO CP 52C9C2
 313          RK    1050    .036    .045            TRAP      10      10
              *
1                                          HEC-1 INPUT                                                PAGE 10

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

 314          KK    52C9
 315          KM   RUNOFF FROM SUBBASIN 52C9
 316          BA    .069
 317          LS              75   31.85
 318          UK     100     .02     .10     100
 319          RK    3150    .036    .045            TRAP      30      10
              *

 320          KK  52C9C2
 321          KM   COMBINE 52C9R1 AND 52C9
 322          HC       2
              *

 323          KK  52C9R2
 324          KM   ROUTE 52C9C2 THROUGH SUBBASIN 52C10 TO CP 52C10C1
 325          RK     500    .032    .045            TRAP      10      10
```

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                *
326             KK  2C10C1
327             KM   COMBINE 52C9R2 AND 52C6R
328             HC       2
                *

329             KK  2C10R1
330             KM   ROUTE 52C10C1 THROUGH SUBBASIN 52C10 TO CP 52C10C2
331             RK     300    .032    .045            TRAP      10      10
                *

332             KK   52C10
333             KM   RUNOFF FROM SUBBASIN 52C10
334             BA    .014
335             LS              75    7.85
336             UK     100     .02     .10     100
337             RK     800    .032    .045            TRAP      30      10
                *

338             KK  2C10C2
339             KM   COMBINE 52C10R1 AND 52C10
340             HC       2
                *

341             KK   52C11
342             KM   RUNOFF FROM SUBBASIN 52C11
343             BA   .0425
344             LS              75      27
345             UK     100     .02     .10     100
346             RK    2800    .031    .045            TRAP      30      10
                *
1                                          HEC-1 INPUT                                          PAGE 11

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

347             KK  2C11R1
348             KM   PIPE ROUTE 52C11 TO CP 52C11C
349             RK     650     .02    .045            CIRC       3
                *

350             KK  52C13D
351             KM   RETRIEVE DIVERTED FLOW
352             DR   STORM
                *

353             KK  52C11C
354             KM   COMBINE 52C13D AND 52C11R1
355             HC       2   .0655
                *

356             KK  2C11CR
357             KM   PIPE ROUTE 52C11C TO CP 52C11C2
358             RK     750     .02    .045            CIRC       3
                *

359             KK  2C11C2
360             KM   COMBINE 52C11CR AND 52C10C2
361             HC       2
                *

362             KK  2C11R2
363             KM   ROUTE 52C11C2 THROUGH SUBBASIN 52C12 TO CP 52C12C
364             RK     700     .03    .045            TRAP      10      10
                *

365             KK   52C12
366             KM   RUNOFF FROM SUBBASIN 52C12
367             BA    .023
368             LS              75      85
369             UK     100     .02     .10     100
370             RK     900     .03    .045            TRAP      30      10
                *

371             KK  52C12C
372             KM   COMBINE 52C11R2 AND 52C12
373             HC       2
                *

374             KK  52C12R
375             KM   ROUTE 52C12C THROUGH SUBBASIN 52C14 TO CP 52C14C1
376             RK    1150    .029    .045            TRAP      10      10
                *

377             KK  52C14B
378             KM   RUNOFF FROM SUBBASIN 52C14B
379             BA    .021
380             LS              75      60
381             UK     100     .02     .10     100
382             RK    1250    .029    .045            TRAP      30      10
                *
1                                          HEC-1 INPUT                                          PAGE 12
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 383          KK  C14BC1
 384          KM   COMBINE 52C14B AND 52C12R
 385          HC       2
              *

 386          KK  C14BC2
 387          KM   COMBINE 52C14BC1 AND 52C14AR
 388          HC       2
              *

 389          KK  52C14R
 390          KM   ROUTE 52C14C3 WEST IN BEARDSLEY CHANNEL TO CP 52B5C2
 391          RK     600   .0143    .035            TRAP      50       4
              *

 392          KK  51B2DV
 393          KM   RETRIEVE DIVERTED FLOW
 394          DR  51B2DV
              *

 395          KK   51B3D
 396          KM   DIVERT 84 PERCENT OF 51B2DV TO WEST (16 PERCENT TO SOUTH)
 397          DT  51B3DV
 398          DI       0   10000
 399          DQ       0    8400
              *

 400          KK   51B3R
 401          KM   ROUTE 51B3D THROUGH SUBBASIN 52B1 TO CP 52B1C
 402          RK     600    .039    .045            TRAP      10      10
              *

 403          KK    52B1
 404          KM   RUNOFF FROM SUBBASIN 52B1
 405          BA    .003
 406          LS              75      27
 407          UK     100     .02     .10     100
 408          RK     600    .039    .045            TRAP      30      10
              *

 409          KK   52B1C
 410          KM   COMBINE 51B3R AND 52B1
 411          HC       2   .0736
              *

 412          KK   52B1R
 413          KM   ROUTE 52B1C THROUGH SUBBASIN 52B2 TO CP 52B2C1
 414          RK     930    .037    .045            TRAP      10      10
              *
1                                          HEC-1 INPUT                                          PAGE 13

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

 415          KK  51B3DV
 416          KM   RETRIEVE DIVERTED FLOW 51B3DV
 417          DR  51B3DV
              *

 418          KK   51B4D
 419          KM   DIVERT 82 PERCENT OF 51B3DV TO WEST (18 PERCENT TO SOUTH)
 420          DT  51B4DV
 421          DI       0   10000
 422          DQ       0    8200
              *

 423          KK  51B4R1
 424          KM   ROUTE 51B4D THROUGH SUBBASIN 52B2 TO CP 52B2C1
 425          RK    1350    .037    .045            TRAP      10      10
              *

 426          KK  52B2C1
 427          KM   COMBINE 51B4R1 AND 52B1R
 428          HC       2   .1403
              *

 429          KK  52B2R1
 430          KM   ROUTE 52B2R1 THROUGH SUBBASIN 52B2 TO CP 52B2C2
 431          RK    1000    .037    .045            TRAP      10      10
              *

 432          KK    52B2
 433          KM   RUNOFF FROM SUBBASIN 52B2
 434          BA    .032
 435          LS              75      17
 436          UK     100     .02     .10     100
 437          RK    2350    .037    .045            TRAP      30      10
              *
```

```
 438          KK  52B2C2
 439          KM   COMBINE 52B2 AND 52B2R1
 440          HC       2
              *

 441          KK  52B2R2
 442          KM   ROUTE 52B2C2 THROUGH SUBBASIN 52B3 TO CP 52B3C2
 443          RK     850    .026    .045            TRAP      10       10
              *

 444          KK  52B3R1
 445          KM   ROUTE 52B3C1 THROUGH SUBBASIN 52B3 TO CP 52B3C2
 446          RK     500    .024    .045            TRAP      10       10
              *
1                                          HEC-1 INPUT                                                    PAGE 14

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

 447          KK    52B3
 448          KM   RUNOFF FROM SUBBASIN 52B3
 449          BA    .062
 450          LS              75    31.8
 451          UK     100     .02     .10     100
 452          RK    3450    .030    .045            TRAP      30       10
              *

 453          KK  52B3C2
 454          KM   COMBINE 52B3 AND 52B3R1
 455          HC       2
              *

 456          KK  52B3R2
 457          KM   ROUTE 52B3C2 THROUGH 52B4 TO CP 52B4C
 458          RK    1700    .024    .045            TRAP      10       10
              *

 459          KK    52B4
 460          KM   RUNOFF FROM SUBBASIN 52B4
 461          BA    .026
 462          LS              75      62
 463          UK     100     .02     .10     100
 464          RK    1700    .024    .045            TRAP      30       10
              *

 465          KK   52B4C
 466          KM   COMBINE 52B4 AND 52B3R2
 467          HC       2
              *

 468          KK   52B4R
 469          KM   ROUTE 52B4C THROUGH SUBBASIN 52B5 TO CP 52B5C1
 470          RK     550    .027    .045            TRAP      10       10
              *

 471          KK    52B5
 472          KM   RUNOFF FROM SUBBASIN 52B5
 473          BA    .021
 474          LS              75    56.9
 475          UK     100     .02     .10     100
 476          RK    1400     .03    .045            TRAP      30       10
              *

 477          KK  52B5C1
 478          KM   COMBINE 52B5 AND 52B4R
 479          HC       2
              *
1                                          HEC-1 INPUT                                                    PAGE 15

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

 480          KK  52B5C2
 481          KM   COMBINE 52B5C1 AND 52C14R
 482          HC       2
              *

 483          KK   52B5R
 484          KM   ROUTE 52B5C2 IN BEARDSLEY CHANNEL TO CP 52B7C2
 485          RK    1100   .0143    .035            TRAP      50        4
              *

 486          KK  51B4DV
 487          KM   RETRIEVE DIVERTED FLOW 51B4DV
 488          DR  51B4DV
              *

 489          KK   51B5D
 490          KM   DIVERT 68 PERCENT OF 51B4DV TO WEST (32 PERCENT TO SOUTH)
 491          DT  51B5DV
 492          DI       0   10000
 493          DQ       0    6800
              *
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```
494          KK   51B5R
495          KM   ROUTE 51B5D THROUGH SUBBASIN 52B6 TO CP 51B7C
496          RK    1250    .035    .045            TRAP      10       10
             *

497          KK  51B5DV
498          KM   RETRIEVE DIVERTED FLOW
499          DR  51B5DV
             *

500          KK   51B6D
501          KM   DIVERT 53 PERCENT OF 51B5DV TO WEST (47 PERCENT TO SOUTH)
502          DT  51B6DV
503          DI       0   10000
504          DQ       0    5300
             *

505          KK   51B6R
506          KM   ROUTE 51B6D THROUGH SUBBASIN 52B6 TO CP 51B7C
507          RK     925    .033    .045            TRAP      10       10
             *

508          KK  51B6DV
509          KM   RETRIEVE DIVERTED FLOW 51B6DV
510          DR  51B6DV
             *
1                                        HEC-1 INPUT                                          PAGE 16

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

511          KK   51B7D
512          KM   DIVERT 58 PERCENT OF 51B6DV TO WEST (42 PERCENT TO SOUTH)
513          DT  51B7DV
514          DI       0   10000
515          DQ       0    5800
             *

516          KK  51B7R1
517          KM   ROUTE 51B7D THROUGH SUBBASIN 52B6 TO CP 51B7C
518          RK     530    .033    .045            TRAP      10       10
             *

519          KK   51B7C
520          KM   COMBINE 51B7R1, 51B5R, AND 51B6R
521          HC       3   .2404
             *

522          KK  51B7R2
523          KM   ROUTE 51B7C THROUGH SUBBASIN 52B6 TO CP 52B6C
524          RK    2300    .033    .045            TRAP      10       10
             *

525          KK    52B6
526          KM   RUNOFF FROM SUBBASIN 52B6
527          BA    .096
528          LS              75   13.55
529          UK     100     .02     .10     100
530          RK    3200    .033    .045            TRAP      30       10
             *

531          KK   52B6C
532          KM   COMBINE 51B7R2 AND 52B6
533          HC       2
             *

534          KK   52B6R
535          KM   ROUTE 52B6C THROUGH SUBBASIN 52B7 TO CP 52B7C1
536          RK    2750    .028    .045            TRAP      10       10
             *

537          KK    52B7
538          KM   RUNOFF FROM SUBBASIN 52B7
539          BA    .080
540          LS              75   78.45
541          UK     100     .02     .10     100
542          RK    2750    .028    .045            TRAP      30       10
             *

543          KK  52B7C1
544          KM   COMBINE 52B7 AND 52B6R
545          HC       2
             *
1                                        HEC-1 INPUT                                          PAGE 17

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

546          KK  52B7C2
547          KM   COMBINE 52B7C1 AND 52B5R
548          HC       2
             *
```

```
549          KK    52A2
550          KM   RUNOFF FROM SUBBASIN 52A2
551          BA    .065
552          LS              75    88.8
553          UK     100     .02     .10     100
554          RK    2900    .023    .045            TRAP      30      10
             *

555          KK  52A2C2
556          KM   COMBINE 52B7C2 AND 52A2
557          HC       2    1.62
             *

558          KK  51B7DV
559          KM   RETRIEVE DIVERTED FLOW 51B7DV
560          DR  51B7DV
             *

561          KK   51B8R
562          KM   ROUTE 51B7DV THROUGH SUBBASIN 52A1 TO CP 52A1C
563          RK    3400    .033    .045            TRAP      10      10
             *

564          KK    52A1
565          KM   RUNOFF FROM SUBBASIN 52A1
566          BA    .130
567          LS              75   32.25
568          UK     100     .02     .10     100
569          RK    3400    .033    .045            TRAP      30      10
             *

570          KK   52A1C
571          KM   COMBINE 52A1 AND 51B8R
572          HC       2
             *
             *     ******************  END DC RANCH WATERSHED  ********************
             *
             *     *****************  BEGIN GVSCE MODIFICATIONS  *****************
             *

573          KK   D51.1
574          KM   RETRIEVE DIVERTED FLOW
575          DR  B51.1T
             *
```



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

576          KK    C52A
577          KM     COMBINE ROUTED HYDROGRAPH FROM C51.1 WITH HYDROGRAPH FROM C52A1C AT
578          KM     THOMPSON PEAK PARKWAY
579          HC       2  6.2735
             *
             *   R52A
             *     DEER VALLEY BASIN OUTLET CONDUIT TO OUTLET AT SIERRA PINTA CHANNEL
             *     COMBINE WITH RUNOFF FROM DC RANCH
             *       L = 3130 feet
             *

580          KK     C52
581          KM     COMBINE ROUTED HYDROGRAPH FROM C52A WITH HYDROGRAPH FROM C52A2C AT
582          KM     BEARDSLEY ROAD
583          HC       2  7.9160
             *

584          KK     R52
585          KM     NORMAL DEPTH CHANNEL ROUTE FROM C52 TO C53 THROUGH PIMA CHANNEL
586          RS       1    FLOW      -1
587          RC   0.022   0.022   0.022    4050    0.01
588          RX    1000    1012    1020    1028    1058    1066    1074    1086
589          RY     107     104     102     100     100     102     104     107
             *

590          KK    S53A
591          KM     RUNOFF FROM SUBBASIN 53A
592          BA  0.1794
593          LS              74      11
594          UK     300   0.022    0.13     100
595          RK    1475   0.026   0.045  0.0111    TRAP       3       5
596          RK    1750   0.021    0.04            TRAP      25       5
             *

597          KK     C53
598          KM     COMBINE ROUTED HYDROGRAPH FROM FROM C52 WITH RUNOFF FROM SUBBASIN 53A
599          HC       2  8.0954
             *
             *    R53
             *   ****  TOO SHORT TO ROUTE  ****
             *    NORMAL DEPTH CHANNEL ROUTE FROM C53 TO C53A1 THROUGH PIMA CHANNEL
             *      1    FLOW      -1
             *  0.022   0.022   0.022    1550    0.01
```

```
                 *   1000    1012    1020    1028    1058    1066    1074    1086
                 *    107     104     102     100     100     102     104     107
                 *

 600             KK   S53A1
 601             KM     RUNOFF FROM SUBBASIN 53A1
 602             BA  0.3376
 603             LS              74      12              74      30
 604             UK     300   0.022    0.13      70
 605             UK     150   0.027    0.13      30
 606             RK    1250   0.023   0.045  0.0087    TRAP       4       5
1                                          HEC-1 INPUT                                                    PAGE 19

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

 607             RK    5050   0.017    0.04            TRAP      35       5
                 *

 608             KK   C53A1
 609             KM     COMBINE ROUTED HYDROGRAPH FROM C53 WITH RUNOFF FROM SUBBASSIN 53A1
 610             HC       2  8.4330
                 *

 611             KK   SCN6B
 612             KM     RUNOFF FROM SUBBASIN CN6B (WATER CAMPUS)
 613             KM      TOTAL AREA = 0.0542 sm, 0.0022 sm OF THAT IS NON-CONTRIBUTING
 614             BA  0.0520
 615             LS              74      80              74       0
 616             UK     150    0.01    0.15      70
 617             UK     100   0.025    0.13      30
 618             RK     720    0.02    0.03  0.0084    TRAP       5      10
 619             RK     700    0.01   0.045  0.0050    TRAP       0      10
 620             RK     440   0.009   0.035            TRAP       6       3
                 *

 621             KK    C53A
 622             KM     COMBINE HYDROGRAPH FROM C53A WITH RUNOFF FROM SUBBASIN CN6B
 623             HC       2
                 *

 624             KK   SCN6D
 625             KM     RUNOFF FROM SUBBASIN CN6D
 626             KM      TOTAL AREA = 0.0398 sm, 0.0029 sm OF THAT IS NON-CONTRIBUTING
 627             BA  0.0369
 628             LS              74       3
 629             UK     100   0.025    0.13     100
 630             RK    1000   0.017    0.04            TRAP       0      15
                 *

 631             KK    CP6D
 632             KM     COMBINE HYDROGRAPHS FROM C53A W/RUNOFF FROM SCN6D
 633             HC       2
                 *
                 *
                 *
                 *     ****************  BEGIN GRAYHAWK WATERSHED  ******************
                 *
                 *
                 *

 634             KK  SUB1-2
 635             KM        RUNOFF FROM SUB 1 AND 2, SOUTH COURSE MODEL
 636             BA   .0558
 637             LS              77      68
 638             UK     200    .010     .15     100
 639             RK    1370    .027    .015            TRAP      50      20
                 *
1                                          HEC-1 INPUT                                                    PAGE 20

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

 640             KK  GCRB18
 641             KM        RUNOFF FROM GOLF COURSE CONTRIBUTING TO RETENTION BASIN AT HOLE NO. 18
 642             KM        AND HOLE NO. 10, SOUTH COURSE
 643             BA    .012
 644             LS              81       0
 645             UK     200    .025     .15     100
 646             RK     300    .016    .025            TRAP      10       4
                 *

 647             KK  CPRET1
 648             KM        COMBINE HYDROGRAPHS AT RETENTION BASINS ON HOLE 18 & 10
 649             HC       2
                 *

 650             KK   SR18S
 651             KM        STORAGE ROUTE THRU RETENTION BASIN AT HOLE 18, SOUTH COURSE
 652             RS       1    STOR       0       0
 653             SV       0  1.7635  5.7722  12.174  21.337  28.849  30.151      32
 654             SE    1725    1730    1735    1740    1745    1748    1749    1750
 655             SQ       0       0       0       0       0      42     386     900
                 *
```

```
656          KK   SUB5S
657          KM        RUNOFF FROM SUB 5S
658          BA   .0263
659          LS              77       31
660          UK     100    .010     .15     100
661          RK    1280    .007    .015            TRAP      50       20
             *

662          KK  GC1216
663          KM        RUNOFF FROM SOUTH GOLF COURSE HOLES 12, 16, AND 17
664          BA   .0365
665          LS              81        0
666          UK     200    .025     .15     100
667          RK    2200    .024    .025            TRAP      10        4
             *

668          KK  GC1415
669          KM        RUNOFF FROM SOUTH GOLF COURSE HOLES 13, 14, 15 AND RETENTION
670          BA    .045
671          LS              81        0
672          UK     200    .025     .15     100
673          RK    1300    .022    .025            TRAP      10        4
             *

674          KK   SUB6S
675          KM        RUNOFF FROM SUB BASIN 6, SOUTH COURSE
676          BA    .021
677          LS              77       42
678          UK     100    .010     .15     100
679          RK    2150    .013    .025            TRAP      50       20
             *
1                                          HEC-1 INPUT                                                    PAGE 21

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

680          KK   SUB7S
681          KM        RUNOFF FROM SUB BASIN 7, SOUTH COURSE
682          BA    .027
683          LS              77       42
684          UK     100    .010     .15     100
685          RK    2080    .023    .025            TRAP      50       20
             *

686          KK  CPRET2
687          KM        COMBINE HYDROGRAPHS AT RETENTION BASIN 2, SOUTH COURSE
688          HC        5
             *

689          KK  SRRET2
690          KM        STORAGE THRU RETENTION BASIN NO. 2, SOUTH COURSE
691          RS        1    STOR       0       0
692          SV        0    .617   3.474   9.858  20.063  35.353  52.685  57.749      62
693          SE     1670    1675    1680    1685    1690    1695    1699    1700    1701
694          SQ        0       0       0       0       0       0      32     386     594
             *
             *       NO FLOW RELEASED FROM RETENTION BASIN
             *

695          KK   CLEAR
696          KM        THIS OPERATION IS ADDED BY GVSCE
697          KM        CLEAR HYDROGRAPHS FROM THE STACK
698          HC        2
             *

699          KK   SUB7A
700          KM        RUNOFF FROM SUB7A, SOUTH COURSE EAST SIDE ADJACENT TO PIMA ROAD
701          BA   .0092
702          LS              77       42
703          UK     100    .025     .15     100
704          RK     950    .015    .025            TRAP      50       20
             *

705          KK    SR7A
706          KM        STORAGE THRU DETENTION BASIN ON SUB7A
707          RS        1    STOR       0       0
708          SV        0     .68      .8
709          SE     1700    1703    1704
710          SQ        0      10     150
             *

711          KK    R10S
712          KM        ROUTE FLOW FROM CP7A TO CP10S
713          RS        1    FLOW
714          RC     .035    .035    .035    1400    .015
715          RX        0       8      12      16      18      22      26      30
716          RY        6       4       3       2       2       3       4       6
             *
1                                          HEC-1 INPUT                                                    PAGE 22

LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10
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```
717          KK  SUB10S
718          KM        RUNOFF FROM SUB BASIN 10, SOUTH COURSE
719          BA   .0248
720          LS              77      53
721          UK     100    .010     .15     100
722          RK    1150    .020    .025            TRAP      50      20
             *

723          KK   CP10S
724          KM        COMBINE HYDROGRAPHS AT CP10 SOUTH COURSE
725          HC       2
             *

726          KK  SUB11S
727          KM        RUNOFF FROM SUB11, SOUTH COURSE
728          BA   .0234
729          LS              77      68
730          UK     100    .015    .018     100
731          RK    1050    .015    .025            TRAP     100      20
             *

732          KK    R11S
733          KM        ROUTE 11S IS ADDED BY GVSCE TO ROUTE THE RUNOFF FROM SUB11S TO THE
734          KM        POWER LINE CHANNEL CROSSING AT HUALAPAI DR ALONG HUALAPAI DR.
735          KM
736          KM        ROUTE FLOW FROM SUB11S TO CPC5.
737          RS       1    FLOW      -1
738          RC    .035    .035    .035     900    .015
739          RX       0       8      12      16      18      22      26      30
740          RY       6       4       3       2       2       3       4       6
             *

741          KK   C10SA
742          KM        COMBINE 10SA IS ADDED BY GVSCE
743          KM        COMBINE ROUTED HYDROGRAPH FROM 11S WITH HYDROGRAPH FROM CP10S
744          HC       2
             *

745          KK   R10SA
746          KM        ROUTE 11S IS ADDED BY GVSCE TO ROUTE THE RUNOFF FROM SUB11S TO THE
747          KM        POWER LINE CHANNEL CROSSING AT HUALAPAI DR ALONG HUALAPAI DR.
748          KM
749          KM        ROUTE FLOW FROM C10SAS TO CPC5.
750          RS       1    FLOW      -1
751          RC    .035    .035    .035     400    .015
752          RX       0       8      12      16      18      22      26      30
753          RY       6       4       3       2       2       3       4       6
             *
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LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

754          KK    GC45
755          KM        RUNOFF FROM SOUTH COURSE HOLES 4 AND 5
756          BA   .0127
757          LS              81       0
758          UK     200    .015    .025     100
759          RK     550    .015    .035            TRAP      10       4
             *

760          KK   CGC45
761          KM        COMBINE R10SA WITH SUB GC45
762          HC       3
             *

763          KK   R6DB1
764          KM        ROUTE FLOW IN SMALL CHANNEL ON WEST SIDE OF CAP TREATMENT PLANT
765          RS       1    FLOW      -1
766          RC    0.03    0.03    .050    2000   0.017
767          RX       0       4       8      12      18      38      58      78
768          RY       3       2       1       0       0       1       2       3
             *

769          KK   R6DB2
770          KM        ROUTE FLOW THROUGH SUBBASIN SCN6C FROM GRAYHAWK
771          RS       1    FLOW      -1
772          RC    .050    .025    .050     700   0.017
773          RX       0      20      40      41      47      48      68      88
774          RY       3       2       1       0       0       1       2       3
             *

775          KK   SCN6C
776          KM     RUNOFF FROM SUBBASIN CN6C (CAP TREATMENT PLANT AND WATER CAMPUS)
777          KM      TOTAL AREA = 0.1526 sm, 0.0138 sm OF THAT IS NON-CONTRIBUTING
778          BA  0.1388
779          LS              74      80              74       0
780          UK     150    0.01    0.15      50
781          UK     100   0.025    0.13      50
782          RK    1500    0.01    0.03  0.0123    TRAP       5      10
783          RK     700   0.017    0.04            TRAP       0      15
             *
```

```
 784          KK    CN6C
 785          KM        COMBINE ROUTED HYDROGRAPH FROM CGC45 W/RUNOFF FROM SCN6C
 786          HC       2
              *

 787          KK    CP6C
 788          KM        COMBINE HYDROGRAPHS FROM CN6C AND CP6D
 789          HC       2
              *
              *
              *
              *
              *
              *
              *
```



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

 790          KK   SUB8S
 791          KM      RUNOFF FROM SUB BASIN 8, SOUTH COURSE
 792          BA   .0256
 793          LS              77      42
 794          UK     100    .010     .15     100
 795          RK    1600    .015    .025            TRAP    .50      20
              *

 796          KK   RGC36
 797          KM        ROUTE SUB8S TO CPGC36
 798          RS       1    FLOW
 799          RC    .055    .045    .055     850     .02
 800          RX       0      16      26      30      40      44      54      70
 801          RY       6       2       2       0       0       2       2       6
              *

 802          KK    GC36
 803          KM        RUNOFF FROM SOUTH COURSE HOLES 3, 6, AND NORTH HALF OF HOLE 4.
 804          BA   .0406
 805          LS              81       0
 806          UK     200    .025     .15     100
 807          RK    2350    .015    .035            TRAP      10       4
              *

 808          KK  C1GC36
 809          KM        COMBINE SUBS 8 AND GC36
 810          HC       2
              *

 811          KK   SUB9S
 812          KM        RUNOFF FROM SUB BASIN 9, SOUTH COURSE
 813          BA    .021
 814          LS              77      53
 815          UK     100    .010     .15     100
 816          RK    1100    .013    .025            TRAP      50      20
              *

 817          KK     R9S
 818          KM        ROUTE SUB9S TO CPGC36
 819          RS       1    FLOW
 820          RC    .035    .035    .035     500     .02
 821          RX       0       8      12      16      18      22      26      30
 822          RY       6       4       3       2       2       3       4       6
              *

 823          KK  CPGC36
 824          KM        COMBINE SUBS 8 AND 9 SOUTH AND GC36
 825          HC       2
              *
```



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

 826          KK  SRGC36
 827          KM        STORAGE THRU DETENTION BASIN ON GC36
 828          RS       1    STOR       0       0
 829          SV       0    0.85     1.0
 830          SE    1664    1668    1669
 831          SQ       0      20     205
              *

 832          KK    R5DB
 833          KM        ROUTE FLOW THROUGH SUBBASIN SCN5B FROM GRAYHAWK
 834          RS       2    FLOW      -1
 835          RC    .050    .025    .050    3200   0.017
 836          RX       0      20      40      41      47      48      68      88
 837          RY       3       2       1       0       0       1       2       3
              *

 838          KK   SCN5D
 839          KM     RUNOFF FROM SUBBASIN CN5D
```

```
840          BA  0.0874
841          LS              74        0
842          UK     100   0.025    0.13     100
843          RK    3100   0.017    0.04            TRAP       0      15
             *

844          KK    CN5D
845          KM        COMBINE ROUTED HYDROGRAPH FROM SRGC36 W/RUNOFF FROM SCN5D
846          HC       2
             *

847          KK    CP5D
848          KM        COMBINE HYDROGRAPHS FROM CP6D AND CP5D
849          HC       2
             *
             *
             *
             *
             *
             *
             *

850          KK      1B
851          KM        RUNOFF FROM INTERIM SUBBASIN 1B
852          KM        GREEN AND AMPT RAINFALL LOSSES ARE USED FOR THIS SUBBASIN.
853          KM        CLARK UNIT HYDROGRAPH IS USED FOR THIS SUBBASIN.  THE PARAMETERS ARE:
854          KM                L = 1.65 mi     Lca = 0.57 mi     S = 157.6 ft/mi
855          BA  0.3573
856          LG    0.25    0.25    4.40    0.32      15
857          UC    0.78    0.75
858          UA       0       5      16      30      65      77      84      90      94      97
859          UA     100
             *
             *     1B
             *       RUNOFF FROM INTERIM SUBBASIN 1B
             * 0.3573
             *           73.5      15
             *     300   0.005    0.15     100
             *    1900   0.025    0.02   0.015    TRAP      15      50
             *    4000    0.03    0.04            TRAP      30      50
             *
```



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

860          KK   37AE1      CP
861          KM        ROUTE NON-DIVERTED FLOW FROM DIV 37AE THROUGH SUB 5N.  THIS IS A
862          KM        PRELIMINARY CHANNEL CONFIGURATION FOR THE GOLF COURSE CHANNEL.
863          RS       1    FLOW
864          RC    .055    .045    .055     800    .025
865          RX       0      16      26      30      40      44      54      70
866          RY       6       2       2       0       0       2       2       6
             *

867          KK   SUB5N
868          KM        RUNOFF FROM SUBBASIN 5 IN NORTH 18 MODEL.
869          BA   0.029
870          LS              77      18
871          UK     100    .013     .15     100
872          RK    1000   0.005    .018    .015    TRAP      50      20
873          RK     500    .015    .025            TRAP      10       4
             *

874          KK   CP5N
875          KM        ADD HYDROGRAPHS AT CP5N
876          HC       2   0.232
             *

877          KK   RET5N
878          KM        ROUTE FLOW THROUGH RETENTION BASIN NO. 5.  18" PIPE OUTFLOW WILL
879          KM        BLEED FLOWS TO DRAIN THE BASIN AFTER THE STORM HAS PASSED.
880          RS       1    STOR       0       0
881          SV       0     .04     .33     .93     1.8    2.35    3.16     4.2     6.1
882          SQ       0       8      10      12      15      17     102     191     668
883          SE    1797    1798    1800    1802    1804    1805    1806    1807    1808
             *

884          KK   R6N.1
885          KM        ROUTE FLOW FROM CP5 TO CP6 IN NORTH 18 MODEL
886          KM        ASSUME CHANNEL IS SAME CONFIGURATION AS ABOVE FOR PROPOSED GOLF COURSE
887          KM        CHANNEL.
888          RS       1    FLOW
889          RC    .055    .045    .055    2200    .025
890          RX       0      16      26      30      40      44      54      70
891          RY       6       2       2       0       0       2       2       6
             *

892          KK   SUB6B
893          KM        RUNOFF FROM WEST PORTION OF EXISTING SUB6N ADJACENT TO CHANNEL
894          BA    .032
895          LS              81       0
896          UK     200    .025     .15     100
```

```
897          RK    1300    .015    .025            TRAP      10       4
             *
1                                          HEC-1 INPUT                                                    PAGE 27

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

898          KK    SR6B
899          KM         ROUTE FLOW THROUGH RETENTION BASIN IN DRIVING RANGE CHANNEL
900          RS       1    STOR       0       0
901          SV       0     .17     .57    1.12    1.78
902          SQ       0       8      10     120     380
903          SE    1772    1773    1774    1775    1776
             *

904          KK   CP6.1
905          KM         ADD HYDROGRAPHS AT CP6.1
906          HC       2
             *

907          KK   SUB1N
908          KM         RUNOFF FROM SUBBASIN 1N
909          BA    .019
910          LS              77      18
911          UK     100    .013     .15     100
912          RK    1470   .0204    .018            TRAP      50      20
             *

913          KK    R2NA
914          KM         ROUTE FLOW FROM CP1 TO CP2NA
915          RS       1    FLOW
916          RC     .03     .03     .03     400    .025
917          RX       0       8      13      17      22      26      31      39
918          RY       4       2       2       0       0       2       2       4
             *

919          KK  SUB2NA
920          KM         RUNOFF FROM SUBBASIN 2NA
921          BA    .015
922          LS              81       0
923          UK     150    .013     .15     100
924          RK    1050   .0215    .025            TRAP      20       6
             *

925          KK   CP2NA
926          KM         ADD HYDROGRAPHS AT CP2NA
927          HC       2
             *

928          KK   SR2NA
929          KM         ROUTE FLOW THROUGH DETENTION BASIN IN SUB2NA
930          RS       1    STOR       0       0
931          SV       0    .076    .291    .708     1.2
932          SQ       0       0       0       0     160
933          SE    1772    1773    1774    1775    1776
             *
1                                          HEC-1 INPUT                                                    PAGE 28

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

934          KK    R2NB
935          KM         ROUTE FLOW FROM CP2NA TO CP2NB
936          RS       1    FLOW
937          RC     .03     .03     .03    1050    .015
938          RX       0       8      13      17      22      26      31      39
939          RY       4       2       2       0       0       2       2       4
             *

940          KK  SUB2NB
941          KM         RUNOFF FROM SUBBASIN 2NB
942          BA     .03
943          LS              77      53
944          UK     150    .013     .15     100
945          RK    1200    .015    .025            TRAP      20      50
             *

946          KK   CP2NB
947          KM         ADD HYDROGRAPHS AT CP2NB
948          HC       2
             *

949          KK   SR2NB
950          KM         STORAGE ROUTE FLOW THROUGH DETENTION BASIN IN SUB2NB
951          RS       1    STOR       0       0
952          SV       0     .19     .69    1.66    3.23     4.5
953          SQ       0       2       8      12      17     170
954          SE    1796    1798    1800    1802    1804    1805
             *

955          KK   RCP4N
956          KM         ROUTE FLOW FROM CP2NB TO CP4N
957          RS       1    FLOW
```

```
 958          RC     .03     .03     .03     740    .018
 959          RX       0       8      13      17      22      26      31      39
 960          RY       4       2       2       0       0       2       2       4
              *

 961          KK   SUB6N
 962          KM        RUNOFF FROM SUBBASIN 6 IN NORTH 18 MODEL.  TO LAKE NORTH OF CLUBHOUSE.
 963          BA    .049
 964          LS              81       0
 965          UK     200    .025     .15     100
 966          RK    1300    .015    .025            TRAP      10       4
              *

 967          KK   RET6N
 968          KM        RETENTION ROUTING THROUGH LAKE AT HOLE 18, NORTH COURSE.
 969          RS       1    STOR
 970          SV       0    3.01    6.64   10.75   13.09   15.90
 971          SQ       0       0       0      10      26     100
 972          SE    1782    1784    1786    1788    1789    1790
              *
1                                          HEC-1 INPUT                                          PAGE 29

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

 973          KK  RCP4N1
 974          KM        ROUTE FLOW FROM CP6N TO CP4N
 975          RS       1    FLOW
 976          RC     .03     .03     .03     550    .018
 977          RX       0       8      13      17      22      26      31      39
 978          RY       4       2       2       0       0       2       2       4
              *

 979          KK  CP4N.1
 980          KM        ADD HYDROGRAPHS AT CP4N.1
 981          HC       2
              *

 982          KK   SUB3N
 983          KM        RUNOFF FROM SUBBASIN 3N, NORTH 18 MODEL
 984          BA    .027
 985          LS              81       0
 986          UK     100     .02     .15     100
 987          RK    2800  0.0207    .025            TRAP      10       4
              *

 988          KK   RET3N
 989          KM        ROUTE FLOW THROUGH RETENTION BASIN NO. 3.  18" PIPE OUTFLOW WILL
 990          KM        BLEED FLOWS TO DRAIN THE BASIN AFTER THE STORM HAS PASSED.
 991          RS       1    STOR       0       0
 992          SV       0    1.73    8.97   13.32   15.74
 993          SQ       0       4       7       9      11
 994          SE    1793    1795    1800    1803    1804
              *

 995          KK     R4N
 996          KM        ROUTE FLOW FROM CP3N TO CP4N IN NORTH MODEL
 997          RS       1    FLOW
 998          RC    .035    .035    .035     950    .018
 999          RX       0       8      13      17      22      26      31      39
1000          RY       4       2       2       0       0       2       2       4
              *

1001          KK  CP4N.2
1002          KM        ADD HYDROGRAPHS AT CPN.2
1003          HC       2
              *

1004          KK   SUB4N
1005          KM        RUNOFF FROM SUBBASIN 4N.
1006          BA    .032
1007          LS              77      18
1008          UK     100    .015     .15     100
1009          RK    1200   0.007    .018            TRAP      50      20
              *
1                                          HEC-1 INPUT                                          PAGE 30

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

1010          KK    CP4N
1011          KM        ADD HYDROGRAPHS AT CP4N
1012          HC       2
              *

1013          KK     R6N
1014          KM        ROUTE FLOW FROM CP4N TO CP6N ALONG THOMPSON PEAK PKWY AT CLUBHOUSE
1015          RS       1    FLOW
1016          RC    .045    .035    .045     750    .025
1017          RX       0       8      13      17      22      26      31      39
1018          RY       4       2       2       0       0       2       2       4
              *
```

```
1019        KK   SUB6A
1020        KM        RUNOFF FROM SUBBASIN 6A (CLUBHOUSE AREA NORTH OF THOMPSON PEAK PKWY).
1021        BA    .013
1022        LS              83       68
1023        UK     100     .015      .12      100
1024        RK     800      .01     .025              TRAP        2        3
            *

1025        KK   CP6.2
1026        KM        ADD HYDROGRAPHS AT CP6.2
1027        HC       2
            *

1028        KK    CP6N
1029        KM        ADD HYDROGRAPHS AT CP6N
1030        HC       2
            *
            *       ABOVE DISCHARGE FROM NORTH 18 THROUGH BRIDGE AT TPP STATION 103+45
            *

1031        KK   RCP6N
1032        KM        ROUTE FLOW FROM CP6N TO CP3C
1033        RS       1    FLOW
1034        RC    .045    .035     .045      300     .015
1035        RX       0       8       13       17       37       45       51       59
1036        RY       4       2        2        0        0        2        2        4
            *

1037        KK   SUB3C
1038        KM        RUNOFF FROM SUBBASIN 3C, SOUTH COURSE AT MAINTENANCE FACILITY.
1039        BA   .0104
1040        LS              77       68
1041        UK     100     .025      .02      100
1042        RK     600     .015     .035              TRAP       50       20
            *
```

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HEC-1 INPUT

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

1043        KK    CP3C
1044        KM        COMBINE NORTH COURSE HYDROGRAPH WITH FIRST SOUTH COURSE HYDROGRAPH
1045        HC       2
            *

1046        KK     R3C
1047        KM        ROUTE FLOW FROM SUB3C TO CP3 THROUGH GC1018
1048        KM        ASSUME CHANNEL IS SAME CONFIGURATION AS ABOVE FOR PROPOSED GOLF COURSE
1049        KM        CHANNEL.
1050        RS       1    FLOW
1051        RC    .055    .045     .055     2050     .025
1052        RX       0      20       30       40       60       70       80      100
1053        RY    1650    1746     1744     1742     1742     1744     1746     1750
            *

1054        KK  GC1018
1055        KM        RUNOFF FROM HOLES NO. 10, 18 AND DRIVING RANGE THAT CONTRIBUTE TO WASH
1056        BA    .044
1057        LS              81        0
1058        UK     200    .025      .15      100
1059        RK    1800   .0233     .025              TRAP       10        4
            *

1060        KK   GC1-9
1061        KM        RUNOFF FROM GOLF COURSE HOLES 1 & 9 CONTRIBUTING TO WASH
1062        BA    .026
1063        LS              81        0
1064        UK     200    .025      .15      100
1065        RK    2110    .022     .025              TRAP       10        4
            *

1066        KK   SUB3S
1067        KM        RUNOFF FROM SUB BASIN 3 SOUTH COURSE
1068        BA   .0102
1069        LS              77       53
1070        UK     100    .010      .15      100
1071        RK     930    .016     .025              TRAP       50       20
            *

1072        KK    CP3S
1073        KM        COMBINE HYDROGRAPHS AT CP3 SOUTH COURSE
1074        HC       4
            *

1075        KK    RT3S
1076        KM        ROUTE FLOW FROM CP3S TO CPGC28
1077        RS       1    FLOW        0        0
1078        RC    .055    .045     .055      900     .023
1079        RX       0      20       30       40       60       70       80      100
1080        RY    1750    1746     1744     1742     1742     1744     1746     1750
            *
```

1

HEC-1 INPUT

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

1081          KK   SUB4S
1082          KM        RUNOFF FROM SUB BASIN 4 SOUTH COURSE
1083          BA   .0273
1084          LS              77      53
1085          UK     100    .010     .15     100
1086          RK    1780    .018    .015            TRAP      50      20
              *

1087          KK    RT4S
1088          KM        ROUTE FLOW FROM CP4S TO CPGC28
1089          RS       1    FLOW       0       0
1090          RC    .035    .035    .035     650    .015
1091          RX       0      20      30      40      45      55      65      75
1092          RY    1750    1746    1744    1742    1742    1744    1746    1750
              *

1093          KK   GC2-8
1094          KM        RUNOFF FROM SOUTH GOLF COURSE HOLES NO. 2 AND 8
1095          BA    .014
1096          LS              81       0
1097          UK     200    .025     .15     100
1098          RK     980    .016    .025            TRAP      10       4
              *

1099          KK  1PGC28
1100          KM        ADD HYDROGRAPHS AT CPGC28 AT PROPOSED LOOP ROAD, SOUTH COURSE
1101          HC       3
              *

1102          KK  SUB3D3
1103          KM        RUNOFF FROM GRAYHAWK ROAD SOUTH OF THOMPOSON PEAK
1104          BA    .014
1105          LS              81       0
1106          UK      50    .015      .1     100
1107          RK    2450    .016    .025            TRAP       5       4
              *

1108          KK  CPGC28
1109          KM        ADD HYDROGRAPHS AT CPGC28 AT PROPOSED LOOP ROAD, SOUTH COURSE
1110          HC       2
              *

1111          KK  SRGC28
1112          KM        STORAGE THRU DETENTION BASIN ON HOLES 2 AND 8.
1113          RS       1    STOR       0       0
1114          SV       0    .018    .085     .22      .5     1.0     1.7    2.68     3.9
1115          SE    1706    1707    1708    1709    1710    1711    1712    1713    1714
1116          SQ       0      10      18      20      30     108     324     651    1070
              *
```



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

1117          KK    RT7S
1118          KM        ROUTE FLOW FROM SRGC28 TO CP7S
1119          RS       1    STOR       0       0
1120          RC    .055    .045    .055    1700   .0187
1121          RX       0      20      30      40      60      70      80     100
1122          RY    1750    1746    1744    1742    1742    1744    1746    1750
              *

1123          KK     GC7
1124          KM        RUNOFF FROM SOUTH GOLF COURSE HOLE NO. 7
1125          BA   .0134
1126          LS              81       0
1127          UK     200    .025     .15     100
1128          RK    1380    .020    .025            TRAP      10       4
              *

1129          KK    CP7S
1130          KM        ADD HYDROGRAPHS AT CP7S ON SOUTH COURSE
1131          HC       2  0.6083
              *

1132          KK    R5CD
1133          KM        ROUTE FLOW THROUGH SUBBASIN SCN5C FROM GRAYHAWK
1134          RS       4    FLOW      -1
1135          RC    .050    .025    .050    3700  0.0176
1136          RX       0      60      80      81      87      88     108     168
1137          RY       5       2       1       0       0       1       2       5
              *

1138          KK  SUB3D2
1139          KM        RUNOFF FROM SUBBASIN 3D2, PARCEL 3D.
1140          BA    .022
1141          LS              77      35
1142          UD     .08
              *
```

```
1143          KK   RD2E2
1144          KM        ROUTE EXCESS FROM 3D2 TO CP3E2
1145          RS       1    FLOW      -1
1146          RC    0.03    0.03    0.03    1200   .0216
1147          RX       0     0.5       1       7      17      24    24.5      25
1148          RY     3.2     3.1     3.0     1.0     1.0     3.0     3.1     3.2
              *

1149          KK  SUB3E2
1150          KM        RUNOFF FROM SUBBASIN 3E2, PARCEL 3E.
1151          BA    .012
1152          LS              77      35
1153          UD     .06
              *
1                                          HEC-1 INPUT                                                    PAGE 34

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

1154          KK   CP3E2
1155          KM        ESTIMATED PEAK DISCHARGE RATE AT POINT CP3E2 ALONG THE POWER CORRIDOR
1156          HC       2
              *

1157          KK    R5CC
1158          KM        ROUTE FLOW THROUGH SUBBASIN SCN5C FROM GRAYHAWK
1159          RS       1    FLOW      -1
1160          RC    .050    .025    .050    4200  0.0176
1161          RX       0      20      40      41      47      48      68      88
1162          RY       3       2       1       0       0       1       2       3
              *

1163          KK  SUB3E3
1164          KM        RUNOFF FROM SUBBASIN 3E3, PARCEL 3E.
1165          BA    .020
1166          LS              77      32
1167          UD     .06
              *

1168          KK    R5CB
1169          KM        ROUTE FLOW THROUGH SUBBASIN SCN5C FROM GRAYHAWK
1170          RS       1    FLOW      -1
1171          RC    .050    .025    .050    3700  0.0176
1172          RX       0      20      40      41      47      48      68      88
1173          RY       3       2       1       0       0       1       2       3
              *

1174          KK  SUB3B2
1175          KM        RUNOFF FROM SUBBASIN 3B2, PARCEL 3B.
1176          BA   .0246
1177          LS              77      40
1178          UD     .10
              *

1179          KK   RB2E1
1180          KM        1/2 OF ENTIRE ROUTING REACH FROM 3B2 TO CP3E1
1181          RS       1    FLOW      -1
1182          RC    0.03    0.03    0.03     800    0.02
1183          RX       0     0.5       1       7      17      24    24.5      25
1184          RY     3.2     3.1     3.0     1.0     1.0     3.0     3.1     3.2
              *

1185          KK   RB2E2
1186          KM       SECOND 1/2 OF ENTIRE ROUTING REACH FROM 3B2 TO CP3E1
1187          RS       1    FLOW      -1
1188          RC    0.03    0.03    0.03     600    .015
1189          RX       0     0.5       1       7      17      24    24.5      25
1190          RY     3.2     3.1     3.0     1.0     1.0     3.0     3.1     3.2
              *
1                                          HEC-1 INPUT                                                    PAGE 35

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

1191          KK  SUB3E1
1192          KM        RUNOFF FROM SUBBASIN 3E1, PARCEL 3E.
1193          BA   .0246
1194          LS              77      40
1195          UD     .10
              *

1196          KK  1CPE31
1197          KM        ESTIMATED PEAK DISCHARGE RATE AT POINT CP3E1 ALONG THE POWER CORRIDOR
1198          HC       2
              *

1199          KK    R5CA
1200          KM        ROUTE FLOW THROUGH SUBBASIN SCN5C FROM GRAYHAWK
1201          RS       2    FLOW      -1
1202          RC    .050    .025    .050    4400  0.0176
1203          RX       0      20      40      41      47      48      68      88
1204          RY       3       2       1       0       0       1       2       3
              *
```

```
1205          KK   SCN5C
1206          KM     RUNOFF FROM SUBBASIN CN5C
1207          BA  0.2121
1208          LS              74        0
1209          UK     150   0.020     0.13      100
1210          RK    3700  0.0176     0.04             TRAP        0       15
              *

1211          KK    CN5C
1212          KM     COMBINE ROUTED HYDROGRAPHS FROM CP3E2, SUB3E3 AND CP7S W/RUNOFF FROM SCN5C
1213          HC       5
              *

1214          KK   SCN6E
1215          KM     RUNOFF FROM SUBBASIN CN6E
1216          BA  0.0427
1217          LS              74        5
1218          UK      50    0.01     0.13      100
1219          RK    3200   0.002    0.025             TRAP        0       50
              *

1220          KK    PIMA
1221          KM     COMBINE HYDROGRAPHS FROM CP5D WITH CN5C W/RUNOFF FROM SCN6E
1222          HC       3
              *
              *
              *
              *
              *
              *
              *
```



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

1223          KK   SCNA1     SUB
1224          KM         RUNOFF FROM SUB CNA1
1225          BA  0.1099
1226          LS              77
1227          UK     300   0.015     0.13      100
1228          RK    1900   0.015     0.04             TRAP        0       20
              *
1229          KM   ************************************************************
1230          KM   ************ BEGIN GILBERTSON GRAYHAWK VILLAGE ******************
1231          KM   ************************************************************
              *
              *

1232          KK      1G
1233          KM
1234          KM        NOTE: ALL HEC-1 DATA FOR SUB-BASINS 1G THROUGH 1L ARE TAKEN FROM
1235          KM              GILBERTSON ASSOCIATES MODEL UDPLAN.DAT, AS PUBLISHED IN THE
1236          KM              AUGUST 1995 REPORT TITLED "UNIT DRAINAGE PLAN, GRAYHAWK VILLAGE 1"
1237          KM              THE GILBERTSON MODEL USED SCS UNIT HYDROGRAPH METHODOLOGY.
1238          KM
1239          KM              THE CITY OF SCOTTSDALE HAS REQUIRED GILBERTSON ASSOCIATES TO RE-DO
1240          KM              THIS MODEL WITH KINEMATIC WAVE METHOGOLOGY IN ORDER TO BE
1241          KM              CONSISTENT WITH ALL PREVIOUS MODELING EFFORTS FOR THIS AREA.
1242          KM              AS OF 10/18/95, GILBERTSON ASSOCIATES HAS NOT COMPLIED WITH THIS
1243          KM              REQUEST.  ACCORDINGLY, THE UNIT HYDROGRAPH DATA WILL BE USED FOR
1244          KM              THE REFERENCED SUB-BASINS UNTIL THIS REVISED MODELING DATA IS
1245          KM              AVAILABLE.
1246          KM        EXCESS RUNOFF FROM SUBAREA 1G
1247          BA    .059
1248          LS              74       53
1249          UD     .06
              *

1250          KK   DET1G
1251          KM        DETENTION FOR PARCEL 1G
1252          RS       1    STOR        0
1253          SV       0     4.8
1254          SQ       0      26
1255          SE       0       3
1256          ST       3      15      2.8      1.5
              *

1257          KK   R1GI1
1258          KM        ROUTE DET1G TO THOMPSON PEAK PARKWAY
1259          KM        TRAPEZOIDAL CHANNEL PER 76TH STREET PLANS
1260          KM                        SIDE SLOPE = 3:1 (H:V)
1261          KM                        MAX DEPTH  = 1.6 FT.
1262          KM                        BOT.WIDTH  = 8.0 FT.
1263          RS       1    FLOW       -1
1264          RC   0.025   0.025    0.025     1400    0.017
1265          RX       0     0.5      1.0      5.8     13.8     18.6      19     19.5
1266          RY     1.8     1.7      1.6        0        0      1.6     1.7      1.8
              *
```



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

```
1267          KK      1I
1268          KM        EXCESS RUNOFF FROM SUBAREA 1I
1269          BA    .062
1270          LS              74       52
1271          UD     .07
              *

1272          KK   DET1I
1273          KM        DETENTION FOR SUBAREA 1I
1274          RS       1    STOR       0
1275          SV       0     4.0
1276          SQ       0      39
1277          SE       0       3
1278          ST       3      15     2.8     1.5
              *

1279          KK   CP1I1
1280          KM        COMBINE HYDROGRAPHS FROM R1G1I AND DET1I
1281          HC       2
              *

1282          KK      1J
1283          KM        EXCESS RUNOFF FROM SUBAREA 1J
1284          BA   .0175
1285          LS              74       64
1286          UD     .06
              *

1287          KK   DET1J
1288          KM        DETENTION FOR SUBAREA 1J
1289          RS       1    STOR       0
1290          SV       0     2.1
1291          SQ       0      11
1292          SE       0       3
1293          ST       3      15     2.8     1.5
              *

1294          KK   R1JI2
1295          KM        ROUTE DET1J TO 76TH STREET (WEST)
1296          KM        TRIANGULAR CHANNEL PER PLANS (1661-E-94)
1297          KM                        SIDE SLOPE = 4:1 (H:V)
1298          KM                        MAX DEPTH  = 3.0 FT.
1299          RS       1    FLOW      -1
1300          RC    .025    .025    .025    1400    .005
1301          RX       0     0.5     1.0    12.9      13      25    25.5      26
1302          RY     3.2     3.1     3.0       0       0     3.0     3.1     3.2
              *

1303          KK   CP1I2
1304          KM        COMBINE HYDROGRAPHS FROM DET1J AND 1I
1305          HC       2
              *
```



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

1306          KK   R1IL1
1307          KM        ROUTE 1I TO 1L
1308          KM        TRAPEZOIDAL CHANNEL PER 76TH STREET PLANS
1309          KM                        SIDE SLOPE = 3:1 (H:V)
1310          KM                        MAX DEPTH  = 3.5 FT.
1311          KM                        BOT.WIDTH  = 8.0 FT.
1312          RS       1    FLOW      -1
1313          RC     .03     .03     .03     730    .015
1314          RX       0     0.5     1.0    11.5    19.5      30    30.5      31
1315          RY     3.7     3.6     3.5       0       0     3.5     3.6     3.7
              *

1316          KK      1L
1317          KM        EXCESS RUNOFF FROM SUBAREA 1L
1318          BA   .0484
1319          LS              74       64
1320          UD    .217
              *

1321          KK   CP1L1
1322          KM        COMBINE HYDROGRAPHS FROM 1L AND R1IL1
1323          HC       2
              *
1324          KM   ************************************************************
1325          KM   ************ END GILBERTSON GRAYHAWK VILLAGE ******************
1326          KM   ************************************************************
              *

1327          KK     RA2
1328          KM        ROUTE FLOW THROUGH SUBBASIN CNA2 FROM GRAYHAWK
1329          KM        TRAPEZOIDAL CHANNEL B=20 Z=10
1330          RS       2    FLOW      -1
1331          RC    .050   0.025    .050    4200  0.0167
1332          RX       0      10      20      60      80     120     130     140
```

```
1333        RY       6       5       4       0       0       4       5       6
            *
            *

1334        KK   SCNA2     SUB
1335        KM          RUNOFF FROM SUB CNA2
1336        BA  0.1859
1337        LS              77
1338        UK     250  0.0167    0.13     100
1339        RK    3900  0.0167    0.04            TRAP       0      15
            *

1340        KK     CA2
1341        KM        COMBINE ROUTED HYDROGRAPH FROM CP1L1 W/RUNOFF FROM CNA2
1342        HC       2
            *
1                                        HEC-1 INPUT                                                    PAGE 39

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

1343        KK    CPA2
1344        KM        COMBINE RUNOFF FROM CNA1 WITH HYDROGRAPH FROM CA2
1345        HC       2
            *

1346        KK      1A
1347        KM        RUNOFF FROM INTERIM SUBBASIN 1A
1348        KM        GREEN AND AMPT RAINFALL LOSSES ARE USED FOR THIS SUBBASIN.
1349        KM        CLARK UNIT HYDROGRAPH IS USED FOR THIS SUBBASIN.  THE PARAMETERS ARE:
1350        KM                L = 4.02 mi     Lca = 1.72 mi     S = 152.4 ft/mi
1351        BA  1.3573
1352        LG    0.25    0.25    4.55    0.29      10
1353        UC    1.47    1.45
            *
            *     1A
            *       RUNOFF FROM INTERIM SUBBASIN 1A
            *  2.322
            *           74.5      10
            *    300   0.005     0.2     100
            *   2000    0.01   0.045  0.0061    TRAP     100      50
            *   8000   0.015   0.045            TRAP     100      50
            *
            *
            *
            *
            *     *****************  BEGIN GRAYHAWK WATERSHED  *****************
            *
            *
            *

1354        KK    R14R
1355        KM        ROUTE FLOW FROM DIVERT AT DEER VALLEY ROAD (UPSTREAM OF SUBBAIN 5) TO
1356        KM        RET14.1
1357        RS       1    FLOW
1358        RC    .055    .045    .055    2900     .01
1359        RX       0      16      26      30      50      54      64      80
1360        RY       6       2       2       0       0       2       2       6
            * RET 141 HAS BEEN REVISED FOLLOWING REFINEMENT OF GRADING PLANS 11-16-94
            *

1361        KK  RET141
1362        KM        ROUTE FLOW THROUGH RETENTION BASIN NO. 14.1.  18" PIPE OUTFLOW WILL
1363        KM        BLEED FLOWS TO DRAIN THE BASIN AFTER THE STORM HAS PASSED.
1364        RS       1    STOR       0       0
1365        SV       0     .46    2.79    4.56    5.71    6.92    8.24
1366        SQ       0      11      15      22     147     463     968
1367        SE    1778    1785    1790    1792    1793    1794    1795
            *
1                                        HEC-1 INPUT                                                    PAGE 40

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

1368        KK   R14.1
1369        KM        ROUTE FLOW FROM RET14.1 TO CP14
1370        KM        RET14.1
1371        RS       1    FLOW
1372        RC    .055    .045    .055    1900     .01
1373        RX       0      16      26      30      50      54      64      80
1374        RY       6       2       2       0       0       2       2       6
            *

1375        KK  SUB13N
1376        KM        RUNOFF FROM SUBBASIN 13 NORTH 18 MODEL.
1377        BA    .037
1378        LS              77      24
1379        UK     100    .015     .15     100
1380        RK    2400    .007    .018            TRAP      50      20
            *

1381        KK   R14.1
1382        KM        ROUTE FLOW FROM CP13 TO RET14 NORTH 18 MODEL.
```

```
1383        RS       1    FLOW
1384        RC    .055    .045    .055     950    .025
1385        RX       0       8      13      17      22      26      31      39
1386        RY       4       2       2       0       0       2       2       4
            *

1387        KK  SUB14N
1388        KM        RUNOFF FROM SUBBASIN 14 NORTH 18 MODEL.
1389        BA    .049
1390        LS              81       0
1391        UK     300    .025     .15     100
1392        RK    2300     .01    .025            TRAP      10       4
            *

1393        KK    CP14
1394        KM        ADD HYDROGRAPHS AT CP14
1395        HC       3  0.5595
            *

1396        KK   RET14
1397        KM        ROUTE FLOW THROUGH RETENTION BASIN NO. 14.  18" PIPE OUTFLOW WILL
1398        KM        BLEED FLOWS TO DRAIN THE BASIN AFTER THE STORM HAS PASSED.
1399        RS       1    STOR       0       0
1400        SV       0     .08     .31    1.01    2.16    3.20    4.19    5.69     7.8
1401        SQ       0      14      16      18      20      22     155     464     750
1402        SE    1744    1746    1748    1750    1752    1753    1754    1755    1756
            *

1403        KK   R18.1
1404        KM        ROUTE FLOW FROM RET14 TO CP18
1405        RS       1    FLOW
1406        RC    .055    .045    .055     500    .016
1407        RX       0      16      26      34      54      68      78      96
1408        RY       6       2       2       0       0       2       2       6
            *
```



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

1409        KK  SUB20N
1410        KM        RUNOFF FROM SUBBASIN 20.
1411        BA    .024
1412        LS              77      24
1413        UK     200     .01     .15     100
1414        RK    1400     .02    .018            TRAP      50      20
            *

1415        KK     R19
1416        KM        ROUTE FLOW FROM CP20 TO CP19
1417        RS       1    FLOW
1418        RC    .035    .035    .035     700     .02
1419        RX       0       8      13      17      22      26      31      39
1420        RY       4       2       2       0       0       2       2       4
            *

1421        KK  SUB19N
1422        KM        RUNOFF FROM SUBBASIN 19.
1423        BA    .038
1424        LS              77      31
1425        UK     150     .01     .15     100
1426        RK    1800    .015    .018            TRAP      50      20
            *

1427        KK   CP19N
1428        KM        ADD HYDROGRAPHS  AT CP19N
1429        HC       2
            *

1430        KK   R18NC
1431        KM        ROUTE FLOW FROM  CP19N TO CP18NC
1432        RS       1    FLOW
1433        RC    .035    .035    .035     700    .013
1434        RX       0       8      13      17      27      31      36      44
1435        RY       4       2       2       0       0       2       2       4
            *

1436        KK  UB18NC
1437        KM        RUNOFF FROM SUBBASIN 18NC.
1438        BA    .021
1439        LS              77      42
1440        UK     100     .01     .15     100
1441        RK    1550     .02    .018            TRAP      50      20
            *

1442        KK  CP18NC
1443        KM        ADD HYDROGRAPHS  AT CP18NC (INCLUDES R18.1, R18, AND SUB18)
1444        HC       3
            *
```



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

```
1445        KK    RPC1
1446        KM        ROUTE FLOW FROM CP18N TO CPC1.
1447        RS        1    FLOW
1448        RC     .035    .035    .035     510    .013
1449        RX        0      16      26      34      64      78      88     106
1450        RY        6       2       2       0       0       2       2       6
            *

1451        KK  UB18NA
1452        KM        RUNOFF FROM SUBBASIN 18NA.
1453        BA     .022
1454        LS               77      42
1455        UK      100     .01     .15     100
1456        RK     1450     .02    .018            TRAP      50      20
            *

1457        KK   1RPC1
1458        KM        ROUTE FLOW FROM CP18NA TO CPC1.
1459        RS        1    FLOW
1460        RC     .035    .035    .035    2550     .01
1461        RX        0      16      26      34      64      78      88     106
1462        RY        8       4       2       0       0       2       4       8
            *

1463        KK  UB18NB
1464        KM        RUNOFF FROM SUBBASIN 18NB.
1465        BA    .0096
1466        LS               77      42
1467        UK      100     .01     .15     100
1468        RK      800     .02    .018            TRAP      50      20
            *

1469        KK   2RPC1
1470        KM        ROUTE FLOW FROM CP18NB TO CPC1.
1471        RS        1    FLOW
1472        RC     .035    .035    .035    2000     .01
1473        RX        0      16      26      34      64      78      88     106
1474        RY        8       4       2       0       0       2       4       8
            *

1475        KK     PC1
1476        KM        RUNOFF FROM SUBBASIN PC1.
1477        BA     .062
1478        LS               77      10
1479        UK      500    .015     .15     100
1480        RK     2700     .01     .03            TRAP      30       4
            *

1481        KK   1CPC1
1482        KM        ADD HYDROGRAPHS  AT CPC1.
1483        HC        3
            *
```



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

1484        KK   SRPC1
1485        KM        STOAGE ROUTE THROUGH DET BASIN IN POWER CORRIDOR.
1486        RS        1    STOR       0       0
1487        SV        0     .29     .73
1488        SQ        0       0     350
1489        SE     1747    1748    1749
            *

1490        KK    CPC1
1491        KM        ADD HYDROGRAPHS  AT CPC1.
1492        HC        2
            *

1493        KK  R16NA1
1494        KM        ROUTE FLOW FROM CPC1 TO C16NA1.
1495        RS        1    FLOW
1496        RC     .035    .035    .035     700    .013
1497        RX        0      16      26      34      74      88      98     116
1498        RY        8       4       2       0       0       2       4       8
            *

1499        KK  UB16NA
1500        KM        RUNOFF FROM SUBBASIN 16NA.
1501        BA    .0139
1502        LS               77      42
1503        UK      100    .015     .15     100
1504        RK     1500    .015    .022            TRAP      50      20
            *

1505        KK  R16NA1
1506        KM        ROUTE FLOW FROM CP16NA TO CP16NA1.
1507        RS        1    FLOW
1508        RC     .035    .035    .035     550    .013
1509        RX        0      16      26      34      44      58      68      86
1510        RY        6       2       2       0       0       2       2       6
```

```
                *

1511            KK  C16NA1
1512            KM        ADD HYDROGRAPHS  AT CP16NA1.
1513            HC       2
                *

1514            KK  R16NB1
1515            KM        ROUTE FLOW FROM CP16NA1 TO CP16NB1.
1516            RS       1    FLOW
1517            RC    .035    .035    .035     650    .013
1518            RX       0      16      26      34      74      88      98     116
1519            RY       8       4       2       0       0       2       4       8
                *
1                                          HEC-1 INPUT                                                    PAGE 44

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

1520            KK  UB16NB
1521            KM        RUNOFF FROM SUBBASIN 16NB.
1522            BA   .0156
1523            LS              77      42
1524            UK     100    .015     .15     100
1525            RK    1500    .015    .022            TRAP      50      20
                *

1526            KK  R16NB1
1527            KM        ROUTE FLOW FROM CP16NB TO CP16NB1.
1528            RS       1    FLOW
1529            RC    .035    .035    .035     550    .013
1530            RX       0      16      26      34      44      58      68      86
1531            RY       6       2       2       0       0       2       2       6
                *

1532            KK  C16NB1
1533            KM        ADD HYDROGRAPHS  AT CP16NB1.
1534            HC       2
                *

1535            KK  R16NC1
1536            KM        ROUTE FLOW FROM CP16NB1 TO CP16NC1.
1537            RS       1    FLOW
1538            RC    .035    .035    .035     650    .013
1539            RX       0      16      26      34      54      68      78      96
1540            RY       6       2       2       0       0       2       2       6
                *

1541            KK   SUB7N
1542            KM        RUNOFF FROM SUBBASIN 7N.
1543            BA    .031
1544            LS              77      18
1545            UK     100    .015     .15     100
1546            RK    1900     .01    .018            TRAP      50      20
                *

1547            KK    R8NC
1548            KM        ROUTE FLOW FROM CP7N TO CP8NC.
1549            RS       1    FLOW
1550            RC    .055    .045    .055     700    .025
1551            RX       0       8      13      17      22      26      31      39
1552            RY       4       2       2       0       0       2       2       4
                *

1553            KK  SUB8NA
1554            KM        RUNOFF FROM SUBBASIN 8NA.
1555            BA   .0046
1556            LS              81       0
1557            UK     100     .03     .15     100
1558            RK     450     .03    .025            TRAP      20       6
                *
1                                          HEC-1 INPUT                                                    PAGE 45

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

1559            KK   SR8NA
1560            KM        STOAGE ROUTE THROUGH FAIRWAY DETENTION AREA IN SUB8NA.
1561            RS       1    STOR       0       0
1562            SV       0     .51    .816
1563            SQ       0       1      43
1564            SE    1791    1795    1796
                *

1565            KK    R8NB
1566            KM        ROUTE FLOW FROM CP8NA TO CP8NB.
1567            RS       1    FLOW
1568            RC    .025    .025    .025     300     .03
1569            RX       0      12      24      36      56      68      80      92
1570            RY       6       4       2       0       0       2       4       6
                *

1571            KK  SUB8NB
```

```
1572        KM        RUNOFF FROM SUBBASIN 8NB.
1573        BA   .0142
1574        LS              81       0
1575        UK     100     .03     .15     100
1576        RK    1150    .025    .025            TRAP      20       6
            *

1577        KK   CP8NB
1578        KM        ADD HYDROGRAPHS AT CP8NB.
1579        HC       2
            *

1580        KK   SR8NB
1581        KM        STOAGE ROUTE THROUGH FAIRWAY DETENTION AREA IN SUB8NB.
1582        RS       1    STOR       0       0
1583        SV       0   .0124   1.754    2.45
1584        SQ       0       2       2      72
1585        SE    1784    1785    1790    1791
            *

1586        KK    R8NC
1587        KM        ROUTE FLOW FROM CP8NB TO CP8NC.
1588        RS       1    FLOW
1589        RC    .025    .025    .025     500     .03
1590        RX       0      12      24      36      56      68      80      92
1591        RY       6       4       2       0       0       2       4       6
            *

1592        KK  SUB8NC
1593        KM        RUNOFF FROM SUBBASIN 8NC.
1594        BA   .0182
1595        LS              81       0
1596        UK     100     .03     .15     100
1597        RK     900     .03    .025            TRAP      20       6
            *
```



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

1598        KK   CP8NC
1599        KM        ADD HYDROGRAPHS AT CP8NC.
1600        HC       3
            *

1601        KK   SR8NC
1602        KM        STOAGE ROUTE THROUGH FAIRWAY DETENTION AREA IN SUB8NC.
1603        RS       1    STOR       0       0
1604        SV       0    .404   2.444    3.13   3.979
1605        SQ       0      10      14     151    1004
1606        SE    1771    1775    1780    1781    1782
            *

1607        KK     R9N
1608        KM        ROUTE FLOW FROM CP8N TO CP9N.
1609        RS       1    FLOW
1610        RC    .025    .025    .025    1150    .025
1611        RX       0       8      13      17      22      26      31      39
1612        RY       4       2       2       0       0       2       2       4
            *

1613        KK   SUB9N
1614        KM        RUNOFF FROM SUBBASIN 9N.
1615        BA    .055
1616        LS              77      28
1617        UK     100    .008     .15     100
1618        RK    1700     .01    .018            TRAP      50      20
            *

1619        KK    CP9N
1620        KM        ADD HYDROGRAPHS AT CP9N
1621        HC       2
            *

1622        KK    R10B
1623        KM        ROUTE FLOW FROM CP9N TO CP10B.
1624        RS       1    FLOW
1625        RC     .03     .03     .03     400     .02
1626        RX       0       8      16      24      29      37      45      53
1627        RY       6       4       2       0       0       2       4       6
            *

1628        KK  SUB10B
1629        KM        RUNOFF FROM SUBBASIN 10B.
1630        BA    .028
1631        LS              77      42
1632        UK     100    .015     .15     100
1633        RK     350    .008    .018            TRAP      50      20
1634        RK     600    .008    .025            TRAP      10       4
            *
```



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

```
1635        KK   CP10B
1636        KM        ADD HYDROGRAPHS AT CP10B
1637        HC       2
            *

1638        KK   R11NA
1639        KM        ROUTE FLOW FROM CP10B TO CP11NA.
1640        RS       1    FLOW
1641        RC     .03     .03     .03     200     .04
1642        RX       0       8      16      24      29      37      45      53
1643        RY       6       4       2       0       0       2       4       6
            *

1644        KK  UB11NA
1645        KM        RUNOFF FROM SUBBASIN 11NA.
1646        BA   .0076
1647        LS              81       0
1648        UK     100    .025     .15     100
1649        RK     500     .03    .025             TRAP      30       6
            *

1650        KK  CP11NA
1651        KM        ADD HYDROGRAPHS AT CP11NA
1652        HC       2
            *

1653        KK  SR11NA
1654        KM        STOAGE ROUTE THROUGH FAIRWAY DETENTION AREA IN SUB11NA.
1655        RS       1    STOR       0       0
1656        SV       0   .0462   1.425   2.480   3.109   3.856
1657        SQ       0      10      27      27      27     237
1658        SE    1734    1735    1740    1742    1743    1744
            *

1659        KK   R11NB
1660        KM        ROUTE FLOW FROM CP11NA TO CP11NB.
1661        RS       1    FLOW
1662        RC    .025    .025    .025     250     .03
1663        RX       0      12      24      36      56      68      80      92
1664        RY       6       4       2       0       0       2       4       6
            *

1665        KK  UB11NB
1666        KM        RUNOFF FROM SUBBASIN 11NB.
1667        BA   .0078
1668        LS              81       0
1669        UK     100     .04     .15     100
1670        RK     700    .025    .025             TRAP      30       6
            *
```



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

1671        KK  CP11NB
1672        KM        ADD HYDROGRAPHS AT CP11NB
1673        HC       2
            *

1674        KK  SR11NB
1675        KM        STOAGE ROUTE THROUGH FAIRWAY DETENTION AREA IN SUB11NB.
1676        RS       1    STOR       0       0
1677        SV       0    1.56   2.586
1678        SQ       0      27     111
1679        SE    1732    1737    1738
            *

1680        KK   R11NC
1681        KM        ROUTE FLOW FROM CP11NB TO CP11NC.
1682        RS       1    FLOW
1683        RC    .025    .025    .025     300     .03
1684        RX       0      12      24      36      56      68      80      92
1685        RY       6       4       2       0       0       2       4       6
            *

1686        KK  UB11NC
1687        KM        RUNOFF FROM SUBBASIN 11NC.
1688        BA   .0069
1689        LS              81       0
1690        UK     100     .03     .15     100
1691        RK     650    .028    .025             TRAP      20       5
            *

1692        KK  C11NC1
1693        KM        ADD HYDROGRAPHS AT CP11NC.1
1694        HC       2
            *

1695        KK  SUB10A
1696        KM        RUNOFF FROM SUBBASIN 10A.
1697        BA    .030
```

```
1698        LS              77      42
1699        UK     100    .015     .15     100
1700        RK     350    .008    .018            TRAP      50      20
1701        RK     800    .008    .025            TRAP      10       4
            *

1702        KK   R12NB
1703        KM        ROUTE FLOW FROM CP10A TO CP12NB.
1704        RS       1    FLOW
1705        RC    .025    .025    .025     400     .03
1706        RX       0      12      24      36      46      58      70      82
1707        RY       6       4       2       0       0       2       4       6
            *
1                                        HEC-1 INPUT                                                    PAGE 49

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

1708        KK  UB12NA
1709        KM        RUNOFF FROM SUBBASIN 12NA.
1710        BA   .0153
1711        LS              81       0
1712        UK     150    .025     .15     100
1713        RK     650    .017    .025            TRAP      30       6
            *

1714        KK  SR12NA
1715        KM        STOAGE ROUTE THROUGH FAIRWAY DETENTION AREA IN SUB1NA.
1716        RS       1    STOR       0       0
1717        SV       0    2.16   3.426   5.071
1718        SQ       0       1       2     142
1719        SE    1741    1745    1746    1747
            *

1720        KK   R12NA
1721        KM        ROUTE FLOW FROM CP12NA TO CP12NB.
1722        RS       1    FLOW
1723        RC    .025    .025    .025     550    .025
1724        RX       0      12      24      36      46      58      70      82
1725        RY       6       4       2       0       0       2       4       6
            *

1726        KK  UB12NB
1727        KM        RUNOFF FROM SUBBASIN 12NB.
1728        BA   .0157
1729        LS              81       0
1730        UK     150    .025     .15     100
1731        RK     650    .017    .025            TRAP      30       6
            *

1732        KK  CP12NB
1733        KM        ADD 3 HYDROGRAPHS AT CP12NB
1734        HC       3
            *

1735        KK  SR12NB
1736        KM        STOAGE ROUTE THROUGH FAIRWAY DETENTION AREA IN SUB12NB.
1737        RS       1    STOR       0       0
1738        SV       0    .922    4.24    7.53
1739        SQ       0       2       2     142
1740        SE    1741    1745    1746    1747
            *

1741        KK  R11NC2
1742        KM        ROUTE FLOW FROM CP12NA TO CP11NC.
1743        RS       1    FLOW
1744        RC    .025    .025    .025     550     .01
1745        RX       0      12      24      36      46      58      70      82
1746        RY       6       4       2       0       0       2       4       6
            *
1                                        HEC-1 INPUT                                                    PAGE 50

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

1747        KK  CP11NC
1748        KM        ADD HYDROGRAPHS  AT CP11NC
1749        HC       2
            *

1750        KK  SR11NC
1751        KM        ROUTE FLOW THROUGH RETENTION BASIN RT11NC.  18" PIPE OUTFLOW WILL
1752        KM        BLEED FLOWS TO DRAIN THE BASIN AFTER THE STORM HAS PASSED.
1753        RS       1    STOR       0       0
1754        SV       0   1.665   2.303   3.062
1755        SQ       0      27     111     344
1756        SE    1730    1735    1736    1737
            *

1757        KK   R16NC
1758        KM        ROUTE FLOW FROM CP11NC TO CP16NC.
1759        RS       1    FLOW
1760        RC    .035    .035   0.035     950    .025
```

```
1761        RX       0       8      13      17      22      26      31      39
1762        RY       4       2       2       0       0       2       2       4
            *

1763        KK  UB16NC
1764        KM        RUNOFF FROM SUBBASIN 16NC.
1765        BA   .0337
1766        LS              77      42
1767        UK     100    .015     .15     100
1768        RK    1600    .015    .022            TRAP      50      20
            *

1769        KK  CP16NC
1770        KM        ADD HYDROGRAPHS  AT CP16NC
1771        HC       2
            *

1772        KK  R16NC1
1773        KM        ROUTE FLOW FROM CP16NC TO CP16NC1.
1774        RS       1    FLOW
1775        RC     .03     .03     .03     550    .013
1776        RX       0      16      26      34      44      58      68      86
1777        RY       6       2       2       0       0       2       2       6
            *

1778        KK  C16NC1
1779        KM        ADD HYDROGRAPHS  AT CP16NC1.
1780        HC       2
            *

1781        KK   R15N1
1782        KM        ROUTE FLOW FROM CP16NC1 TO CP15N1.
1783        RS       1    FLOW
1784        RC    .035    .035    .035     600    .013
1785        RX       0      16      26      34      54      68      78      96
1786        RY       6       2       2       0       0       2       2       6
            *
```



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

1787        KK     PC2
1788        KM        RUNOFF FROM SUBBASIN PC2.
1789        BA    .054
1790        LS              77      10
1791        UK     100    .015     .15     100
1792        RK    2700     .01     .03            TRAP      50       4
            *

1793        KK  CP15N1
1794        KM        ADD HYDROGRAPHS  AT CP15N1
1795        HC       2
            *

1796        KK   SRPC2
1797        KM        STORAGE ROUTE THRU DETENTION BASINS IN POWER CORRIDOR THIS IS THE TOTAL
1798        KM        FLOW REACHING THE UPSTREAM SIDE OF THE THOMPSON PEAK PARKWAY BRIDGE
1799        RS       1    STOR       0       0
1800        SV       0    1.02    2.70    4.48     5.8     6.9
1801        SQ       0       0     150     350     550     850
1802        SE    1730    1731    1732    1733    1734    1735
            *

1803        KK  UB17NA
1804        KM        RUNOFF FROM SUBBASIN SUB17NA.
1805        BA  .00979
1806        LS              81       0
1807        UK     150    .025     .05     100
1808        RK     960   .0292    .025            TRAP      30      50
            *

1809        KK  SR17NA
1810        KM        STORAGE ROUTE THROUGH DETENTION BASIN SR17NA.
1811        RS       1    STOR       0       0
1812        SV       0   .0078    .241    .523    1.00   1.735
1813        SQ       0       1       1       1    17.4     251
1814        SE  1755.2    1756    1758    1759    1760    1761
            *

1815        KK   R17NB
1816        KM        ROUTE FLOW FROM SR17NA TO CP17NB.
1817        RS       1    FLOW
1818        RC    0.03    0.03    0.03     280  0.0286
1819        RX       0      10      20      35      70      85      90     100
1820        RY    1757  1756.8  1756.6    1756    1756    1757    1758    1759
            *

1821        KK  UB17NB
1822        KM        RUNOFF FROM SUBBASIN SUB17NB.
1823        BA   .0111
1824        LS              81       0
1825        UK     150    .025     .05     100
```

```
1826        RK    1200   .0217    .025            TRAP      30      50
            *
1                                   HEC-1 INPUT                                                    PAGE 52
LINE        ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1827        KK  CP17NB
1828        KM        ADD HYDROGRAPHS AT SUB17NB.
1829        HC       2
            *

1830        KK  SR17NB
1831        KM        STORAGE ROUTE THROUGH DETENTION BASIN SR17NB.
1832        RS       1    STOR       0       0
1833        SV       0   .0113   .1469    .635   .9795   1.509   2.254   3.243
1834        SQ       0       1       1       1       1       1    38.2     189
1835        SE  1751.5    1752    1753    1755    1756    1757    1758    1759
            *

1836        KK    R17A
1837        KM        ROUTE FLOW FROM SR17NB TO CP17A.
1838        RS       1    FLOW
1839        RC    0.03    0.03    0.03     280   0.033
1840        RX       0      15      18      20      24      27      30      35
1841        RY    1755    1754    1753    1752    1752    1753    1754    1755
            *

1842        KK  SUB17A
1843        KM        RUNOFF FROM SUBBASIN SUB17A.
1844        BA  .00792
1845        LS              77      34
1846        UK      75     .03     .05     100
1847        RK    1500     .02    .025            TRAP       8       4
            *

1848        KK  CP17A1
1849        KM        ADD HYDROGRAPHS AT CP17A1.
1850        HC       2
            *

1851        KK  UB17NC
1852        KM        RUNOFF FROM SUBBASIN SUB17NC.
1853        BA  .00559
1854        LS              77      12
1855        UK      75     .03     .05     100
1856        RK     910   .0187    .025            TRAP       8       4
            *

1857        KK   CP17A
1858        KM        ADD ALL HYDROGRAPHS AT CP17A.
1859        HC       2
            *

1860        KK    R15N
1861        KM        ROUTE FLOW FROM CP17A TO CP15N.
1862        RS       1    FLOW
1863        RC    .035    .035    .035    1950    .025
1864        RX       0       8      13      17      22      26      31      39
1865        RY       4       2       2       0       0       2       2       4
            *
1                                   HEC-1 INPUT                                                    PAGE 53
LINE        ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1866        KK  SUB15N
1867        KM        RUNOFF FROM SUBBASIN 15N.
1868        BA   .0391
1869        LS              77      68
1870        UK     100     .01     .15     100
1871        RK     400    .008    .018            TRAP      50      20
1872        RK    1700    .015    .025            TRAP      10       4
            *

1873        KK   CP15N
1874        KM        ADD HYDROGRAPHS  AT CP15N
1875        HC       2
            *

1876        KK   R15N2
1877        KM        ROUTE FLOW FROM CP15N TO CP15N1.
1878        RS       1    FLOW
1879        RC     .02     .02     .02     700    .013
1880        RX       0       8      13      17      22      26      31      39
1881        RY       6       2       2       0       0       2       2       6
            *

1882        KK  CP15N2
1883        KM        ADD HYDROGRAPHS  AT CP15N1
1884        KM        THIS IS THE INTERIM OUTFLOW DISCHARGE TO NATURAL WASH.
1885        HC       2  1.1611
            *
```

```
1886        KK   R5B1B
1887        KM        ROUTE FLOW THROUGH SUBBASIN CNA3 FROM GRAYHAWK
1888        KM        TRAPEZOIDAL CHANNEL B=10 Z=10
1889        RS       2    FLOW      -1
1890        RC    .050    .035    .050    5600  0.0179
1891        RX       0      10      20      60      70     110     120     130
1892        RY       6       5       4       0       0       4       5       6
            *

1893        KK   SCNA3     SUB
1894        KM         RUNOFF FROM SUB CNA3
1895        BA  0.2172
1896        LS              77
1897        UK     300  0.0179    0.13     100
1898        RK    5300  0.0179    0.04            TRAP       0      20
            *

1899        KK     CA3
1900        KM     COMBINE ROUTED HYDROGRAPH FROM CP15N2 W/RUNOFF FROM CNA3
1901        HC       2
            *
1                                        HEC-1 INPUT                                                    PAGE 54

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

1902        KK    CPA3
1903        KM        COMBINE HYDROGRAPHS CA3 AND CPA2
1904        HC       2
            *
            *
            *
            *
            *
            *
            *

1905        KK  SUB3D1
1906        KM        RUNOFF FROM SUBBASIN 3D1, PARCEL 3D.
1907        BA   .0088
1908        LS              77       34
1909        UD     .06
            *

1910        KK   RD1B1
1911        KM        FOUTE FLOW FROM 3D1 TO 3B1
1912        RS       1    FLOW      -1
1913        RC    0.03    0.03    0.03    1250    .015
1914        RX       0     0.5       1       7      12      19    19.5      20
1915        RY     3.2     3.1     3.0     1.0     1.0     3.0     3.1     3.2
            *

1916        KK  SUB3B1
1917        KM        RUNOFF FROM SUBBASIN 3B1, PARCEL 3B.
1918        BA   .0137
1919        LS              77       47
1920        UD     .06
            *

1921        KK   CP3B1
1922        KM        ADD HYDROGRAGHS AT CP3B1
1923        HC       2
            *

1924        KK   RB13F
1925        KM        ROUTE FLOW FROM 3B1 TO SUB3F
1926        RS       1    FLOW      -1
1927        RC    0.03    0.03    0.03    2150    .015
1928        RX       0     0.5       1       7      17      24    24.5      25
1929        RY     3.2     3.1     3.0     1.0     1.0     3.0     3.1     3.2
            *

1930        KK   SUB3F
1931        KM        RUNOFF FROM SUBBASIN 3F, PARCEL 3F, SOUTH COURSE MODEL.
1932        BA   .0344
1933        LS              77       68
1934        UK     100    .025     .15     100
1935        RK    1000    .015    .025            TRAP     100      20
            *
1                                        HEC-1 INPUT                                                    PAGE 55

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

1936        KK    CP3F
1937        KM        ESTIMATED PEAK DISCHARGE RATE AT POINT CP3F ALONG THE POWER CORRIDOR
1938        HC       2
            *

1939        KK     R3F
1940        KM        ROUTE FLOW THROUGH SUBBASIN SCN5B4 FROM GRAYHAWK
1941        KM        TRAPEZOIDAL CHANNEL B=15 Z=10
```

```
1942          RS       4    FLOW      -1
1943          RC    .050    .035    .050    4800  0.0181
1944          RX       0      10      20      60      75     115     125     135
1945          RY       6       5       4       0       0       4       5       6
              *

1946          KK   SCNA4     SUB
1947          KM         RUNOFF FROM SUB CNA4
1948          BA  0.1748
1949          LS              77
1950          UK     200   0.015    0.13     100
1951          RK    4500  0.0181    0.04            TRAP       0      15
              *

1952          KK     CA4
1953          KM     COMBINE ROUTED HYDROGRAPH FROM CP3F W/RUNOFF FROM CNA4
1954          HC       2
              *

1955          KK   SCNA5     SUB
1956          KM         RUNOFF FROM SUB CNA5
1957          BA  0.0678
1958          LS              77       5
1959          UK      50    0.01    0.13     100
1960          RK    5000   0.002   0.025            TRAP       0      50
              *

1961          KK  MILLER
1962          KM        COMBINE HYDROGRAPH FROM CA4 W/RUNOFF FROM SCNA5
1963          HC       3
              *

1964          KK  OLDB-I
1965          KM
1966          HC       2
              *

1967          KK  OLDB-O
1968          KM        OUTER LOOP BASIN LOCATED NORTH OF THE LOOP 101 FREEWAY
1969          KM        (2) 108" CONCRETE OUTLET CULVERTS
1970          RS       1    STOR      -1       0
1971          SV       0    8.44   20.76   38.23   77.47  239.71  263.87
1972          SQ       0     400     800    1200    1600    2000    2068
1973          SE  1590.0  1593.7  1595.8  1599.3  1603.8  1608.0  1609.0
              *
1974          ZZ
```

1

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

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

    22       S51.1
                 V
                 V
    31      DVDB-O
                 .
                 .
    46           .-------> B51.1T
    44      D51.1T
                 .
                 .
    49           .        52D4
                 .           V
                 .           V
    55           .       52D4R
                 .           .
                 .           .
    58           .           .       52D4B
                 .           .           .
                 .           .           .
    64           .      52D5C1............
                 .           .
                 .           .
    67           .           .       52D5A
                 .           .           V
                 .           .           V
    73           .           .      52D5AR
                 .           .           .
                 .           .           .
    76           .      52D5C2............
                 .           V
                 .           V
    79           .       52D5R
                 .           .
                 .           .
    82           .           .        52C3
                 .           .           V
                 .           .           V
    88           .           .       52C3R
                 .           .           .
                 .           .           .
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 91          .          .          .      52C3B
             .          .          .          .
             .          .          .          .
 97          .          .     2C3BC1............
             .          .          .
             .          .          .
100          .     2C3BC2............
             .          V
             .          V
103          .     52C3BR
             .          .
             .          .
106          .          .       51C
             .          .          .
             .          .          .
114          .          .          .-------> 51C1DV
112          .          .     51C1D
             .          .          V
             .          .          V
117          .          .     51C1R
             .          .          .
             .          .          .
120          .          .          .       52C1
             .          .          .          .
             .          .          .          .
126          .          .     52C1C............
             .          .          V
             .          .          V
129          .          .     52C1R
             .          .          .
             .          .          .
132          .          .          .      52C2A
             .          .          .          .
             .          .          .          .
138          .          .     52C2AC............
             .          .          .
             .          .          .
141          .          .          .      52C2B
             .          .          .          .
             .          .          .          .
147          .          .     52C2BC............
             .          .          V
             .          .          V
150          .          .     52C2BR
             .          .          .
             .          .          .
153          .          .          .      52C2C
             .          .          .          .
             .          .          .          .
159          .          .     52C2CC............
             .          .          V
             .          .          V
162          .          .     52C2R
             .          .          .
             .          .          .
165          .          .          .       52C4
             .          .          .          .
             .          .          .          .
171          .          .     52C4C1............
             .          .          .
             .          .          .
174          .     52C4C2............
             .          V
             .          V
177          .     52C4R
             .          .
             .          .
180          .          .     52C13
             .          .          .
             .          .          .
188          .          .          .-------> STORM
186          .          .     2C13DV
             .          .          .
             .          .          .
191          .          .          .      52C15
             .          .          .          .
             .          .          .          .
197          .          .     2C15C1............
             .          .          .
             .          .          .
200          .     2C15C2............
             .          V
             .          V
203          .     52C15R
             .          .
             .          .
206          .          .     52C14A
             .          .          .
             .          .          .
212          .     2C14AC............
             .          V
             .          V
215          .     2C14AR
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                .          .
                .          .
220             .          .          .<-------  51C1DV
218             .          .     51C1DV
                .          .          .
                .          .          .
223             .          .          .------->  51C2DV
221             .          .      51C2D
                .          .          V
                .          .          V
226             .          .      51C2R
                .          .          .
                .          .          .
229             .          .          .       52C5
                .          .          .          .
                .          .          .          .
235             .          .      52C5C............
                .          .          V
                .          .          V
238             .          .      52C5R
                .          .          .
                .          .          .
241             .          .          .       52C6
                .          .          .          .
                .          .          .          .
247             .          .      52C6C............
                .          .          V
                .          .          V
250             .          .      52C6R
                .          .          .
                .          .          .
255             .          .          .          .<-------  51C2DV
253             .          .          .     51C2DV
                .          .          .          V
                .          .          .          V
256             .          .          .      51C3R
                .          .          .          .
                .          .          .          .
259             .          .          .          .         51B
                .          .          .          .          .
                .          .          .          .          .
267             .          .          .          .          .------->  51B1DV
265             .          .          .          .      51B1D
                .          .          .          .          V
                .          .          .          .          V
270             .          .          .          .      51B1R
                .          .          .          .          .
                .          .          .          .          .
273             .          .          .          .          .        52C7
                .          .          .          .          .          .
                .          .          .          .          .          .
279             .          .          .      52C7C........................
                .          .          .          V
                .          .          .          V
282             .          .          .      52C7R
                .          .          .          .
                .          .          .          .
287             .          .          .          .          .<-------  51B1DV
285             .          .          .          .     51B1DV
                .          .          .          .          .
                .          .          .          .          .
290             .          .          .          .          .------->  51B2DV
288             .          .          .          .      51B2D
                .          .          .          .          V
                .          .          .          .          V
293             .          .          .          .      51B2R
                .          .          .          .          .
                .          .          .          .          .
296             .          .          .          .          .        52C8
                .          .          .          .          .          .
                .          .          .          .          .          .
302             .          .          .          .      52C8C............
                .          .          .          .          V
                .          .          .          .          V
305             .          .          .          .      52C8R
                .          .          .          .          .
                .          .          .          .          .
308             .          .          .     52C9C1............
                .          .          .          V
                .          .          .          V
311             .          .          .     52C9R1
                .          .          .          .
                .          .          .          .
314             .          .          .          .       52C9
                .          .          .          .          .
                .          .          .          .          .
320             .          .          .     52C9C2............
                .          .          .          V
                .          .          .          V
323             .          .          .     52C9R2
                .          .          .          .
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326             .          .     2C10C1............
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                .          .          V
                .          .          V
329             .          .     2C10R1
                .          .          .
                .          .          .
332             .          .          .       52C10
                .          .          .          .
                .          .          .          .
338             .          .     2C10C2............
                .          .          .
                .          .          .
341             .          .          .       52C11
                .          .          .          V
                .          .          .          V
347             .          .          .      2C11R1
                .          .          .          .
                .          .          .          .
352             .          .          .          .          .<-------   STORM
350             .          .          .          .      52C13D
                .          .          .          .          .
                .          .          .          .          .
353             .          .          .      52C11C............
                .          .          .          V
                .          .          .          V
356             .          .          .      2C11CR
                .          .          .          .
                .          .          .          .
359             .          .     2C11C2............
                .          .          V
                .          .          V
362             .          .     2C11R2
                .          .          .
                .          .          .
365             .          .          .       52C12
                .          .          .          .
                .          .          .          .
371             .          .     52C12C............
                .          .          V
                .          .          V
374             .          .     52C12R
                .          .          .
                .          .          .
377             .          .          .      52C14B
                .          .          .          .
                .          .          .          .
383             .          .     C14BC1............
                .          .          .
                .          .          .
386             .     C14BC2............
                .          V
                .          V
389             .     52C14R
                .          .
                .          .
394             .          .          .<-------  51B2DV
392             .          .     51B2DV
                .          .          .
                .          .          .
397             .          .          .------->  51B3DV
395             .          .      51B3D
                .          .          V
                .          .          V
400             .          .      51B3R
                .          .          .
                .          .          .
403             .          .          .        52B1
                .          .          .          .
                .          .          .          .
409             .          .      52B1C............
                .          .          V
                .          .          V
412             .          .      52B1R
                .          .          .
                .          .          .
417             .          .          .          .<-------  51B3DV
415             .          .          .      51B3DV
                .          .          .          .
                .          .          .          .
420             .          .          .          .------->  51B4DV
418             .          .          .       51B4D
                .          .          .          V
                .          .          .          V
423             .          .          .      51B4R1
                .          .          .          .
                .          .          .          .
426             .          .     52B2C1............
                .          .          V
                .          .          V
429             .          .     52B2R1
                .          .          .
                .          .          .
432             .          .          .        52B2
                .          .          .          .
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438          .          .          .          .
             .          .     52B2C2...........
             .          .          V
             .          .          V
441          .          .     52B2R2
             .          .          V
             .          .          V
444          .          .     52B3R1
             .          .          .
             .          .          .
447          .          .          .       52B3
             .          .          .          .
             .          .          .          .
453          .          .     52B3C2...........
             .          .          V
             .          .          V
456          .          .     52B3R2
             .          .          .
             .          .          .
459          .          .          .       52B4
             .          .          .          .
             .          .          .          .
465          .          .      52B4C...........
             .          .          V
             .          .          V
468          .          .      52B4R
             .          .          .
             .          .          .
471          .          .          .       52B5
             .          .          .          .
             .          .          .          .
477          .          .     52B5C1...........
             .          .          .
             .          .          .
480          .     52B5C2...........
             .          V
             .          V
483          .      52B5R
             .          .
             .          .
488          .          .          .<-------  51B4DV
486          .          .     51B4DV
             .          .          .
             .          .          .
491          .          .          .------->  51B5DV
489          .          .      51B5D
             .          .          V
             .          .          V
494          .          .      51B5R
             .          .          .
             .          .          .
499          .          .          .          .<-------  51B5DV
497          .          .          .     51B5DV
             .          .          .          .
             .          .          .          .
502          .          .          .          .------->  51B6DV
500          .          .          .      51B6D
             .          .          .          V
             .          .          .          V
505          .          .          .      51B6R
             .          .          .          .
             .          .          .          .
510          .          .          .          .          .<-------  51B6DV
508          .          .          .          .     51B6DV
             .          .          .          .          .
             .          .          .          .          .
513          .          .          .          .          .------->  51B7DV
511          .          .          .          .      51B7D
             .          .          .          .          V
             .          .          .          .          V
516          .          .          .          .     51B7R1
             .          .          .          .          .
             .          .          .          .          .
519          .          .      51B7C.......................
             .          .          V
             .          .          V
522          .          .     51B7R2
             .          .          .
             .          .          .
525          .          .          .       52B6
             .          .          .          .
             .          .          .          .
531          .          .      52B6C...........
             .          .          V
             .          .          V
534          .          .      52B6R
             .          .          .
             .          .          .
537          .          .          .       52B7
             .          .          .          .
             .          .          .          .
543          .          .     52B7C1...........
             .          .          .
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546          .     52B7C2............
             .         .
549          .         .       52A2
             .         .         .
             .         .         .
555          .     52A2C2............
             .         .
             .         .
560          .         .         .<-------  51B7DV
558          .         .     51B7DV
             .         .         V
             .         .         V
561          .         .      51B8R
             .         .         .
             .         .         .
564          .         .         .       52A1
             .         .         .         .
             .         .         .         .
570          .         .      52A1C............
             .         .         .
             .         .         .
575          .         .         .         .<-------  B51.1T
573          .         .         .      D51.1
             .         .         .         .
             .         .         .         .
576          .         .       C52A............
             .         .         .
             .         .         .
580          .       C52............
             .         V
             .         V
584          .       R52
             .         .
             .         .
590          .         .       S53A
             .         .         .
             .         .         .
597          .       C53............
             .         .
             .         .
600          .         .      S53A1
             .         .         .
             .         .         .
608          .     C53A1............
             .         .
             .         .
611          .         .      SCN6B
             .         .         .
             .         .         .
621          .      C53A............
             .         .
             .         .
624          .         .      SCN6D
             .         .         .
             .         .         .
631          .      CP6D............
             .         .
             .         .
634          .         .     SUB1-2
             .         .         .
             .         .         .
640          .         .         .     GCRB18
             .         .         .         .
             .         .         .         .
647          .         .     CPRET1............
             .         .         V
             .         .         V
650          .         .      SR18S
             .         .         .
             .         .         .
656          .         .         .      SUB5S
             .         .         .         .
             .         .         .         .
662          .         .         .         .     GC1216
             .         .         .         .         .
             .         .         .         .         .
668          .         .         .         .         .     GC1415
             .         .         .         .         .         .
             .         .         .         .         .         .
674          .         .         .         .         .         .      SUB6S
             .         .         .         .         .         .         .
             .         .         .         .         .         .         .
680          .         .         .         .         .         .         .      SUB7S
             .         .         .         .         .         .         .         .
             .         .         .         .         .         .         .         .
686          .         .         .     CPRET2.......................................
             .         .         .         V
             .         .         .         V
689          .         .         .     SRRET2
             .         .         .         .
             .         .         .         .
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695          .          .       CLEAR............
             .          .          .
             .          .          .
699          .          .          .       SUB7A
             .          .          .          V
             .          .          .          V
705          .          .          .        SR7A
             .          .          .          V
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711          .          .          .        R10S
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717          .          .          .          .      SUB10S
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723          .          .          .       CP10S............
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732          .          .          .          .        R11S
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741          .          .          .       C10SA............
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745          .          .          .       R10SA
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760          .          .       CGC45........................
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763          .          .       R6DB1
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769          .          .       R6DB2
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775          .          .          .       SCN6C
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784          .          .        CN6C............
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787          .       CP6C............
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790          .          .       SUB8S
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796          .          .       RGC36
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802          .          .          .        GC36
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808          .          .      C1GC36............
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817          .          .          .         R9S
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826          .          .      SRGC36
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832          .          .        R5DB
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847          .       CP5D............
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1961          .          .      MILLER........................
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1964          .      OLDB-I...........
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1967          .      OLDB-O
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(***) RUNOFF ALSO COMPUTED AT THIS LOCATION

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1*************************************
*                                   *
*   FLOOD HYDROGRAPH PACKAGE  (HEC-1)*
*              MAY   1991           *
*           VERSION 4.0.1E          *
*     Lahey F77L-EM/32 version 5.01 *
*       Dodson & Associates, Inc.   *
*  RUN DATE  04/02/98  TIME  10:58:41 *
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*                                   *
*    U.S. ARMY CORPS OF ENGINEERS   *
*    HYDROLOGIC ENGINEERING CENTER  *
*          609 SECOND STREET        *
*       DAVIS, CALIFORNIA 95616     *
*           (916) 551-1748          *
*                                   *
*************************************
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PIMA ROAD THREE BASINS                          File: INTRM-24.IH1
by  Stantech for the City of Scottsdale       Original: 03-16-98     mcg
    Project:  28900051

100-YEAR, 24-HOUR STORM
    INTERIM CONDITION --- NO IMPROVEMENTS UPSTREAM OF DEER VALLEY BASIN
    GRAYHAWK AND DC RANCH IMPROVEMENTS ARE INCLUDED

    THE GREYHAWK HEC-1 MODEL (VILLAGES II AND III) WAS DEVELOPED BY DEI
        DEI FILE NAME:  GH23FAB.H1I
        MODEL DATE:     21 MAY 96

    THE DC RANCH HEC-1 MODEL WAS DEVELOPED BY WOOD/PATEL ASSOCIATES
        WOOD/PATEL FILE NAME:  DC0721C.DAT
        MODEL DATE:            4 JANUARY 96


 21 IO          OUTPUT CONTROL VARIABLES
                     IPRNT          5  PRINT CONTROL
                     IPLOT          0  PLOT CONTROL
                     QSCAL         0.  HYDROGRAPH PLOT SCALE
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IT          HYDROGRAPH TIME DATA
                 NMIN          5  MINUTES IN COMPUTATION INTERVAL
                IDATE      1    0  STARTING DATE
                ITIME       0000  STARTING TIME
                   NQ       2000  NUMBER OF HYDROGRAPH ORDINATES
               NDDATE      7    0  ENDING DATE
               NDTIME       2235  ENDING TIME
               ICENT          19  CENTURY MARK

            COMPUTATION INTERVAL    0.08 HOURS
                 TOTAL TIME BASE  166.58 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

    *** FDKRUT - NEWTON RAPHSON FAILEDFIXED POINT ITERATION USED - ITERATION=  1

    *** FDKRUT WARNING TIME STEP CALCULATION FAILED TO CONVERGE. STABILITY PROBLEMS MAY RESULT

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WARNING --- ROUTED OUTFLOW (     264.) IS GREATER THAN MAXIMUM OUTFLOW (     205.) IN STORAGE-OUTFLOW TABLE
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                                   RUNOFF SUMMARY
                             FLOW IN CUBIC FEET PER SECOND
                          TIME IN HOURS,  AREA IN SQUARE MILES

      OPERATION        STATION     PEAK    TIME OF    AVERAGE FLOW FOR MAXIMUM PERIOD     BASIN    MAXIMUM    TIME OF
                                   FLOW    PEAK                                          AREA     STAGE      MAX STAGE
+                                                       6-HOUR      24-HOUR     72-HOUR
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	HYDROGRAPH AT								
+		S51.1	1328.	12.50	201.	60.	20.	1.13	
	ROUTED TO								
+		DVDB-O	493.	12.92	200.	60.	20.	1.13	
+									1880.07 12.92
	DIVERSION TO								
+		B51.1T	493.	0.08	200.	60.	20.	1.13	
	HYDROGRAPH AT								
+		D51.1T	0.	0.08	0.	0.	0.	1.13	
	HYDROGRAPH AT								
+		52D4	131.	12.25	13.	4.	1.	0.07	
	ROUTED TO								
+		52D4R	128.	12.25	13.	4.	1.	0.07	
	HYDROGRAPH AT								
+		52D4B	68.	12.17	6.	2.	1.	0.02	
	2 COMBINED AT								
+		52D5C1	182.	12.25	19.	6.	2.	0.09	
	HYDROGRAPH AT								
+		52D5A	77.	12.17	6.	2.	1.	0.02	
	ROUTED TO								
+		52D5AR	74.	12.17	6.	2.	1.	0.02	
	2 COMBINED AT								
+		52D5C2	237.	12.25	26.	8.	3.	0.12	
	ROUTED TO								
+		52D5R	237.	12.25	26.	8.	3.	0.12	
	HYDROGRAPH AT								
+		52C3	24.	12.08	2.	1.	0.	0.01	
	ROUTED TO								
+		52C3R	22.	12.17	2.	1.	0.	0.01	
	HYDROGRAPH AT								
+		52C3B	54.	12.08	4.	1.	0.	0.02	
	2 COMBINED AT								
+		2C3BC1	73.	12.17	6.	2.	1.	0.02	
	2 COMBINED AT								
+		2C3BC2	299.	12.17	32.	10.	3.	0.14	
	ROUTED TO								
+		52C3BR	284.	12.17	32.	10.	3.	0.14	
	HYDROGRAPH AT								
+		51C	202.	12.17	18.	5.	2.	0.10	
	DIVERSION TO								
+		51C1DV	135.	12.17	12.	4.	1.	0.10	
	HYDROGRAPH AT								
+		51C1D	67.	12.17	6.	2.	1.	0.10	
	ROUTED TO								
+		51C1R	61.	12.25	6.	2.	1.	0.10	
	HYDROGRAPH AT								
+		52C1	73.	12.17	6.	2.	1.	0.03	
	2 COMBINED AT								
+		52C1C	124.	12.17	12.	4.	1.	0.13	
	ROUTED TO								
+		52C1R	114.	12.25	12.	4.	1.	0.13	
	HYDROGRAPH AT								
+		52C2A	42.	12.17	3.	1.	0.	0.02	
	2 COMBINED AT								
+		52C2AC	145.	12.17	15.	4.	1.	0.15	
	HYDROGRAPH AT								
+		52C2B	64.	12.17	5.	1.	0.	0.03	
	2 COMBINED AT								
+		52C2BC	208.	12.17	20.	6.	2.	0.17	
	ROUTED TO								
+		52C2BR	194.	12.25	20.	6.	2.	0.17	
	HYDROGRAPH AT								

+		52C2C	47.	12.08	4.	1.	0.	0.01
	2 COMBINED AT							
+		52C2CC	218.	12.25	24.	7.	2.	0.19
	ROUTED TO							
+		52C2R	215.	12.25	24.	7.	2.	0.19
	HYDROGRAPH AT							
+		52C4	56.	12.17	5.	1.	0.	0.02
	2 COMBINED AT							
+		52C4C1	246.	12.25	28.	9.	3.	0.20
	2 COMBINED AT							
+		52C4C2	529.	12.25	60.	18.	6.	0.34
	ROUTED TO							
+		52C4R	523.	12.25	60.	18.	6.	0.34
	HYDROGRAPH AT							
+		52C13	75.	12.08	5.	2.	1.	0.02
	DIVERSION TO							
+		STORM	40.	12.08	4.	1.	0.	0.02
	HYDROGRAPH AT							
+		2C13DV	35.	12.08	1.	0.	0.	0.02
	HYDROGRAPH AT							
+		52C15	155.	12.08	13.	4.	1.	0.05
	2 COMBINED AT							
+		2C15C1	190.	12.08	14.	4.	1.	0.07
	2 COMBINED AT							
+		2C15C2	616.	12.17	73.	23.	8.	0.41
	ROUTED TO							
+		52C15R	607.	12.25	74.	23.	8.	0.41
	HYDROGRAPH AT							
+		52C14A	139.	12.17	12.	4.	1.	0.04
	2 COMBINED AT							
+		2C14AC	721.	12.17	85.	26.	9.	0.45
	ROUTED TO							
+		2C14AR	703.	12.17	85.	26.	9.	0.45
	HYDROGRAPH AT							
+		51C1DV	135.	12.17	12.	4.	1.	0.00
	DIVERSION TO							
+		51C2DV	37.	12.17	3.	1.	0.	0.00
	HYDROGRAPH AT							
+		51C2D	99.	12.17	9.	3.	1.	0.00
	ROUTED TO							
+		51C2R	88.	12.17	9.	3.	1.	0.00
	HYDROGRAPH AT							
+		52C5	42.	12.17	3.	1.	0.	0.02
	2 COMBINED AT							
+		52C5C	129.	12.17	12.	4.	1.	0.02
	ROUTED TO							
+		52C5R	123.	12.25	12.	4.	1.	0.02
	HYDROGRAPH AT							
+		52C6	88.	12.17	8.	2.	1.	0.04
	2 COMBINED AT							
+		52C6C	195.	12.25	20.	6.	2.	0.05
	ROUTED TO							
+		52C6R	190.	12.25	20.	6.	2.	0.05
	HYDROGRAPH AT							
+		51C2DV	37.	12.17	3.	1.	0.	0.00
	ROUTED TO							
+		51C3R	32.	12.25	3.	1.	0.	0.00
	HYDROGRAPH AT							
+		51B	741.	12.33	96.	29.	10.	0.57
	DIVERSION TO							
+		51B1DV	682.	12.33	89.	26.	9.	0.57
	HYDROGRAPH AT							

+	51B1D	59.	12.33	8.	2.	1.	0.57
ROUTED TO							
+	51B1R	58.	12.33	8.	2.	1.	0.57
HYDROGRAPH AT							
+	52C7	19.	12.08	1.	0.	0.	0.01
3 COMBINED AT							
+	52C7C	92.	12.25	12.	4.	1.	0.58
ROUTED TO							
+	52C7R	89.	12.33	12.	4.	1.	0.58
HYDROGRAPH AT							
+	51B1DV	682.	12.33	89.	26.	9.	0.00
DIVERSION TO							
+	51B2DV	573.	12.33	74.	22.	7.	0.00
HYDROGRAPH AT							
+	51B2D	109.	12.33	14.	4.	1.	0.00
ROUTED TO							
+	51B2R	107.	12.33	14.	4.	1.	0.00
HYDROGRAPH AT							
+	52C8	24.	12.08	2.	1.	0.	0.01
2 COMBINED AT							
+	52C8C	113.	12.33	16.	5.	2.	0.01
ROUTED TO							
+	52C8R	110.	12.33	16.	5.	2.	0.01
2 COMBINED AT							
+	52C9C1	200.	12.33	28.	8.	3.	0.59
ROUTED TO							
+	52C9R1	195.	12.33	28.	8.	3.	0.59
HYDROGRAPH AT							
+	52C9	185.	12.17	15.	5.	2.	0.07
2 COMBINED AT							
+	52C9C2	298.	12.25	43.	13.	4.	0.65
ROUTED TO							
+	52C9R2	298.	12.25	43.	13.	4.	0.65
2 COMBINED AT							
+	2C10C1	488.	12.25	63.	19.	6.	0.71
ROUTED TO							
+	2C10R1	484.	12.25	63.	19.	6.	0.71
HYDROGRAPH AT							
+	52C10	34.	12.08	3.	1.	0.	0.01
2 COMBINED AT							
+	2C10C2	500.	12.25	66.	20.	7.	0.72
HYDROGRAPH AT							
+	52C11	106.	12.17	9.	3.	1.	0.04
ROUTED TO							
+	2C11R1	99.	12.17	9.	3.	1.	0.04
HYDROGRAPH AT							
+	52C13D	40.	12.08	4.	1.	0.	0.00
2 COMBINED AT							
+	52C11C	139.	12.17	13.	4.	1.	0.04
ROUTED TO							
+	2C11CR	131.	12.17	13.	4.	1.	0.04
2 COMBINED AT							
+	2C11C2	619.	12.25	79.	24.	8.	0.76
ROUTED TO							
+	2C11R2	611.	12.25	79.	24.	8.	0.76
HYDROGRAPH AT							
+	52C12	115.	12.08	7.	2.	1.	0.02
2 COMBINED AT							
+	52C12C	647.	12.25	87.	26.	9.	0.79
ROUTED TO							
+	52C12R	634.	12.25	87.	26.	9.	0.79
HYDROGRAPH AT							

+	52C14B	75.	12.08	6.	2.	1.	0.02
2 COMBINED AT							
+	C14BC1	668.	12.25	92.	28.	9.	0.81
2 COMBINED AT							
+	C14BC2	1354.	12.25	178.	55.	18.	1.26
ROUTED TO							
+	52C14R	1349.	12.25	178.	55.	18.	1.26
HYDROGRAPH AT							
+	51B2DV	573.	12.33	74.	22.	7.	0.00
DIVERSION TO							
+	51B3DV	481.	12.33	63.	19.	6.	0.00
HYDROGRAPH AT							
+	51B3D	92.	12.33	12.	4.	1.	0.00
ROUTED TO							
+	51B3R	90.	12.33	12.	4.	1.	0.00
HYDROGRAPH AT							
+	52B1	9.	12.08	1.	0.	0.	0.00
2 COMBINED AT							
+	52B1C	93.	12.33	13.	4.	1.	0.00
ROUTED TO							
+	52B1R	90.	12.33	13.	4.	1.	0.00
HYDROGRAPH AT							
+	51B3DV	481.	12.33	63.	19.	6.	0.00
DIVERSION TO							
+	51B4DV	394.	12.33	51.	15.	5.	0.00
HYDROGRAPH AT							
+	51B4D	87.	12.33	11.	3.	1.	0.00
ROUTED TO							
+	51B4R1	83.	12.33	11.	3.	1.	0.00
2 COMBINED AT							
+	52B2C1	173.	12.33	24.	7.	2.	0.00
ROUTED TO							
+	52B2R1	168.	12.42	24.	7.	2.	0.00
HYDROGRAPH AT							
+	52B2	77.	12.17	6.	2.	1.	0.03
2 COMBINED AT							
+	52B2C2	200.	12.33	30.	9.	3.	0.04
ROUTED TO							
+	52B2R2	196.	12.33	30.	9.	3.	0.04
ROUTED TO							
+	52B3R1	195.	12.42	30.	9.	3.	0.04
HYDROGRAPH AT							
+	52B3	153.	12.17	14.	4.	1.	0.06
2 COMBINED AT							
+	52B3C2	294.	12.25	44.	13.	4.	0.10
ROUTED TO							
+	52B3R2	284.	12.33	44.	13.	4.	0.10
HYDROGRAPH AT							
+	52B4	86.	12.17	7.	2.	1.	0.03
2 COMBINED AT							
+	52B4C	331.	12.25	51.	15.	5.	0.12
ROUTED TO							
+	52B4R	324.	12.25	51.	15.	5.	0.12
HYDROGRAPH AT							
+	52B5	71.	12.08	6.	2.	1.	0.02
2 COMBINED AT							
+	52B5C1	359.	12.25	56.	17.	6.	0.14
2 COMBINED AT							
+	52B5C2	1709.	12.25	234.	72.	24.	1.40
ROUTED TO							
+	52B5R	1688.	12.25	234.	72.	24.	1.40
HYDROGRAPH AT							

+		51B4DV	394.	12.33	51.	15.	5.	0.00	
	DIVERSION TO								
+		51B5DV	268.	12.33	35.	10.	3.	0.00	
	HYDROGRAPH AT								
+		51B5D	126.	12.33	16.	5.	2.	0.00	
	ROUTED TO								
+		51B5R	122.	12.33	16.	5.	2.	0.00	
	HYDROGRAPH AT								
+		51B5DV	268.	12.33	35.	10.	3.	0.00	
	DIVERSION TO								
+		51B6DV	142.	12.33	18.	6.	2.	0.00	
	HYDROGRAPH AT								
+		51B6D	126.	12.33	16.	5.	2.	0.00	
	ROUTED TO								
+		51B6R	123.	12.33	16.	5.	2.	0.00	
	HYDROGRAPH AT								
+		51B6DV	142.	12.33	18.	6.	2.	0.00	
	DIVERSION TO								
+		51B7DV	82.	12.33	11.	3.	1.	0.00	
	HYDROGRAPH AT								
+		51B7D	60.	12.33	8.	2.	1.	0.00	
	ROUTED TO								
+		51B7R1	59.	12.33	8.	2.	1.	0.00	
	3 COMBINED AT								
+		51B7C	303.	12.33	41.	12.	4.	0.00	
	ROUTED TO								
+		51B7R2	295.	12.42	41.	12.	4.	0.00	
	HYDROGRAPH AT								
+		52B6	227.	12.17	18.	5.	2.	0.10	
	2 COMBINED AT								
+		52B6C	379.	12.33	59.	17.	6.	0.10	
	ROUTED TO								
+		52B6R	376.	12.42	59.	17.	6.	0.10	
	HYDROGRAPH AT								
+		52B7	293.	12.17	25.	8.	3.	0.08	
	2 COMBINED AT								
+		52B7C1	497.	12.25	82.	25.	8.	0.18	
	2 COMBINED AT								
+		52B7C2	2185.	12.25	316.	97.	32.	1.58	
	HYDROGRAPH AT								
+		52A2	250.	12.17	21.	7.	2.	0.06	
	2 COMBINED AT								
+		52A2C2	2341.	12.25	337.	104.	35.	1.64	
	HYDROGRAPH AT								
+		51B7DV	82.	12.33	11.	3.	1.	0.00	
	ROUTED TO								
+		51B8R	80.	12.42	11.	3.	1.	0.00	
	HYDROGRAPH AT								
+		52A1	361.	12.17	29.	9.	3.	0.13	
	2 COMBINED AT								
+		52A1C	373.	12.17	39.	12.	4.	0.13	
	HYDROGRAPH AT								
+		D51.1	493.	12.92	200.	60.	20.	0.00	
	2 COMBINED AT								
+		C52A	543.	12.92	239.	72.	24.	0.13	
	2 COMBINED AT								
+		C52	2764.	12.25	575.	175.	59.	1.77	
	ROUTED TO								
+		R52	2657.	12.33	574.	175.	59.	1.77	
+									103.90 12.33
	HYDROGRAPH AT								
+		S53A	312.	12.25	32.	9.	3.	0.18	

+	2 COMBINED AT	C53	2947.	12.25	606.	184.	62.	1.95	
+	HYDROGRAPH AT	S53A1	539.	12.33	64.	19.	6.	0.34	
+	2 COMBINED AT	C53A1	3477.	12.25	670.	204.	68.	2.29	
+	HYDROGRAPH AT	SCN6B	162.	12.17	14.	4.	1.	0.05	
+	2 COMBINED AT	C53A	3607.	12.25	683.	208.	70.	2.34	
+	HYDROGRAPH AT	SCN6D	75.	12.17	6.	2.	1.	0.04	
+	2 COMBINED AT	CP6D	3650.	12.25	689.	209.	70.	2.38	
+	HYDROGRAPH AT	SUB1-2	177.	12.17	16.	5.	2.	0.06	
+	HYDROGRAPH AT	GCRB18	29.	12.08	3.	1.	0.	0.01	
+	2 COMBINED AT	CPRET1	206.	12.17	19.	6.	2.	0.07	
+	ROUTED TO	SR18S	0.	0.08	0.	0.	0.	0.07	
+									1739.54 85.75
+	HYDROGRAPH AT	SUB5S	75.	12.17	6.	2.	1.	0.03	
+	HYDROGRAPH AT	GC1216	94.	12.17	8.	2.	1.	0.04	
+	HYDROGRAPH AT	GC1415	114.	12.17	10.	3.	1.	0.05	
+	HYDROGRAPH AT	SUB6S	57.	12.17	5.	2.	1.	0.02	
+	HYDROGRAPH AT	SUB7S	82.	12.17	7.	2.	1.	0.03	
+	5 COMBINED AT	CPRET2	423.	12.17	35.	10.	3.	0.16	
+	ROUTED TO	SRRET2	0.	0.08	0.	0.	0.	0.16	
+									1690.17 76.25
+	2 COMBINED AT	CLEAR	0.	0.08	0.	0.	0.	0.22	
+	HYDROGRAPH AT	SUB7A	27.	12.08	2.	1.	0.	0.01	
+	ROUTED TO	SR7A	8.	12.42	2.	1.	0.	0.01	
+									1702.31 12.42
+	ROUTED TO	R10S	7.	12.58	2.	1.	0.	0.01	
+									2.60 12.58
+	HYDROGRAPH AT	SUB10S	78.	12.17	7.	2.	1.	0.02	
+	2 COMBINED AT	CP10S	81.	12.17	9.	3.	1.	0.03	
+	HYDROGRAPH AT	SUB11S	115.	12.08	7.	2.	1.	0.02	
+	ROUTED TO	R11S	86.	12.17	7.	2.	1.	0.02	
+									3.71 12.17
+	2 COMBINED AT	C10SA	167.	12.17	16.	5.	2.	0.06	
+	ROUTED TO	R10SA	177.	12.17	16.	5.	2.	0.06	
+									4.31 12.17
+	HYDROGRAPH AT	GC45	50.	12.08	3.	1.	0.	0.01	

	3 COMBINED AT								
+		CGC45	201.	12.17	18.	6.	2.	0.29	
	ROUTED TO								
+		R6DB1	170.	12.17	18.	6.	2.	0.29	
+									1.32 12.17
	ROUTED TO								
+		R6DB2	168.	12.25	18.	6.	2.	0.29	
+									1.81 12.25
	HYDROGRAPH AT								
+		SCN6C	380.	12.17	32.	10.	3.	0.14	
	2 COMBINED AT								
+		CN6C	518.	12.17	50.	16.	5.	0.43	
	2 COMBINED AT								
+		CP6C	4119.	12.25	739.	225.	75.	2.81	
	HYDROGRAPH AT								
+		SUB8S	78.	12.17	6.	2.	1.	0.03	
	ROUTED TO								
+		RGC36	67.	12.17	6.	2.	1.	0.03	
+									1.18 12.17
	HYDROGRAPH AT								
+		GC36	98.	12.17	9.	2.	1.	0.04	
	2 COMBINED AT								
+		C1GC36	165.	12.17	15.	4.	1.	0.07	
	HYDROGRAPH AT								
+		SUB9S	68.	12.17	6.	2.	1.	0.02	
	ROUTED TO								
+		R9S	70.	12.17	6.	2.	1.	0.02	
+									3.48 12.17
	2 COMBINED AT								
+		CPGC36	235.	12.17	20.	6.	2.	0.09	
	ROUTED TO								
+		SRGC36	264.	12.17	20.	6.	2.	0.09	
+									1669.32 12.17
	ROUTED TO								
+		R5DB	169.	12.33	20.	6.	2.	0.09	
+									1.82 12.33
	HYDROGRAPH AT								
+		SCN5D	144.	12.17	14.	4.	1.	0.09	
	2 COMBINED AT								
+		CN5D	273.	12.25	34.	10.	3.	0.17	
	2 COMBINED AT								
+		CP5D	4392.	12.25	773.	235.	79.	2.99	
	HYDROGRAPH AT								
+		1B	323.	12.58	73.	20.	7.	0.36	
	ROUTED TO								
+		37AE1	322.	12.58	73.	20.	7.	0.36	
+									2.47 12.58
	HYDROGRAPH AT								
+		SUB5N	78.	12.17	6.	2.	1.	0.03	
	2 COMBINED AT								
+		CP5N	337.	12.58	79.	21.	7.	0.39	
	ROUTED TO								
+		RET5N	334.	12.67	77.	21.	7.	0.39	
+									1807.30 12.67
	ROUTED TO								
+		R6N.1	326.	12.75	77.	21.	7.	0.39	
+									2.48 12.75
	HYDROGRAPH AT								
+		SUB6B	82.	12.17	7.	2.	1.	0.03	
	ROUTED TO								
+		SR6B	62.	12.25	7.	2.	1.	0.03	
+									1774.47 12.25
	2 COMBINED AT								
+		CP6.1	338.	12.75	84.	23.	8.	0.42	
	HYDROGRAPH AT								
+		SUB1N	50.	12.17	4.	1.	0.	0.02	

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          ROUTED TO
+                         R2NA      51.   12.17       4.       1.       0.    0.02
+                                                                                   1.07     12.17
          HYDROGRAPH AT
+                         SUB2NA    38.   12.17       3.       1.       0.    0.01
          2 COMBINED AT
+                         CP2NA     89.   12.17       7.       2.       1.    0.03
          ROUTED TO
+                         SR2NA     75.   12.25       6.       2.       1.    0.03
+                                                                                1775.47     12.25
          ROUTED TO
+                         R2NB      71.   12.25       6.       2.       1.    0.03
+                                                                                   1.47     12.25
          HYDROGRAPH AT
+                         SUB2NB    95.   12.17       8.       2.       1.    0.03
          2 COMBINED AT
+                         CP2NB    134.   12.25      14.       4.       1.    0.06
          ROUTED TO
+                         SR2NB     43.   12.58      13.       4.       1.    0.06
+                                                                                1804.17     12.58
          ROUTED TO
+                         RCP4N     45.   12.58      13.       4.       1.    0.06
+                                                                                   1.09     12.58
          HYDROGRAPH AT
+                         SUB6N    125.   12.17      10.       3.       1.    0.05
          ROUTED TO
+                         RET6N      0.    0.08       0.       0.       0.    0.05
+                                                                                1785.55     68.00
          ROUTED TO
+                         RCP4N1     0.    0.08       0.       0.       0.    0.05
          2 COMBINED AT
+                         CP4N.1    45.   12.58      13.       4.       1.    0.11
          HYDROGRAPH AT
+                         SUB3N     74.   12.17       6.       2.       1.    0.03
          ROUTED TO
+                         RET3N      4.   13.08       4.       2.       1.    0.03
+                                                                                1795.12     13.08
          ROUTED TO
+                         R4N        4.   13.17       4.       2.       1.    0.03
+                                                                                   0.29     13.17
          2 COMBINED AT
+                         CP4N.2    49.   12.58      17.       6.       2.    0.14
          HYDROGRAPH AT
+                         SUB4N     84.   12.17       7.       2.       1.    0.03
          2 COMBINED AT
+                         CP4N      94.   12.17      23.       8.       3.    0.17
          ROUTED TO
+                         R6N       93.   12.17      23.       8.       3.    0.17
+                                                                                   1.59     12.17
          HYDROGRAPH AT
+                         SUB6A     63.   12.08       4.       1.       0.    0.01
          2 COMBINED AT
+                         CP6.2    130.   12.17      27.       9.       3.    0.18
          2 COMBINED AT
+                         CP6N     395.   12.67     110.      32.      11.    0.60
          ROUTED TO
+                         RCP6N    396.   12.67     110.      32.      11.    0.60
+                                                                                   2.06     12.67
          HYDROGRAPH AT
+                         SUB3C     54.   12.08       3.       1.       0.    0.01
          2 COMBINED AT
+                         CP3C     398.   12.67     113.      33.      11.    0.61
          ROUTED TO
+                         R3C      392.   12.75     113.      33.      11.    0.61
+                                                                                1672.29     12.75
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          HYDROGRAPH AT
+                         GC1018     113.  12.17        9.        3.        1.      0.04
          HYDROGRAPH AT
+                          GC1-9      67.  12.17        5.        2.        1.      0.03
          HYDROGRAPH AT
+                          SUB3S      33.  12.17        3.        1.        0.      0.01
          4 COMBINED AT
+                           CP3S     417.  12.75      130.       38.       13.      0.69
          ROUTED TO
+                           RT3S     415.  12.75      130.       38.       13.      0.69
+                                                                                 1744.04      12.75
          HYDROGRAPH AT
+                          SUB4S      87.  12.17        7.        2.        1.      0.03
          ROUTED TO
+                           RT4S      88.  12.17        7.        2.        1.      0.03
+                                                                                 1743.44      12.17
          HYDROGRAPH AT
+                          GC2-8      36.  12.17        3.        1.        0.      0.01
          3 COMBINED AT
+                         1PGC28     459.  12.17      140.       41.       14.      0.74
          HYDROGRAPH AT
+                         SUB3D3      37.  12.17        3.        1.        0.      0.01
          2 COMBINED AT
+                         CPGC28     496.  12.17      143.       42.       14.      0.75
          ROUTED TO
+                         SRGC28     483.  12.25      143.       42.       14.      0.75
+                                                                                 1712.49      12.25
          ROUTED TO
+                           RT7S     442.  12.33      143.       42.       14.      0.75
+                                                                                 1744.21      12.33
          HYDROGRAPH AT
+                            GC7      35.  12.17        3.        1.        0.      0.01
          2 COMBINED AT
+                           CP7S     457.  12.33      145.       43.       14.      0.76
          ROUTED TO
+                           R5CD     418.  13.08      145.       43.       14.      0.76
+                                                                                    2.54      13.08
          HYDROGRAPH AT
+                         SUB3D2      60.  12.17        5.        2.        1.      0.02
          ROUTED TO
+                          RD2E2      59.  12.17        5.        2.        1.      0.02
+                                                                                    1.83      12.17
          HYDROGRAPH AT
+                         SUB3E2      39.  12.08        3.        1.        0.      0.01
          2 COMBINED AT
+                          CP3E2      89.  12.17        8.        2.        1.      0.03
          ROUTED TO
+                           R5CC      66.  12.25        8.        2.        1.      0.03
+                                                                                    1.18      12.25
          HYDROGRAPH AT
+                         SUB3E3      63.  12.08        5.        1.        0.      0.02
          ROUTED TO
+                           R5CB      43.  12.17        5.        1.        0.      0.02
+                                                                                    0.94      12.17
          HYDROGRAPH AT
+                         SUB3B2      69.  12.17        6.        2.        1.      0.02
          ROUTED TO
+                          RB2E1      67.  12.17        6.        2.        1.      0.02
+                                                                                    1.91      12.17
          ROUTED TO
+                          RB2E2      62.  12.25        6.        2.        1.      0.02
+                                                                                    1.95      12.25
          HYDROGRAPH AT
+                         SUB3E1      69.  12.17        6.        2.        1.      0.02
          2 COMBINED AT
+                         1CPE31     130.  12.17       12.        4.        1.      0.05
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          ROUTED TO
+                    R5CA      96.  12.33      12.     4.     1.   0.05
+                                                                        1.42     12.33
          HYDROGRAPH AT
+                   SCN5C     345.  12.25      34.    10.     3.   0.21
          5 COMBINED AT
+                     CN5C    713.  12.42     203.    60.    20.   1.08
          HYDROGRAPH AT
+                   SCN6E      44.  12.50       7.     2.     1.   0.04
          3 COMBINED AT
+                    PIMA    5115.  12.25     983.   297.   100.   4.11
          HYDROGRAPH AT
+                   SCNA1     183.  12.25      20.     6.     2.   0.11
          HYDROGRAPH AT
+                      1G     203.  12.08      15.     5.     2.   0.06
          ROUTED TO
+                   DET1G      26.  12.50      14.     5.     2.   0.06
+                                                                        3.02     12.50
          ROUTED TO
+                   R1GI1      26.  12.58      14.     5.     2.   0.06
+                                                                        0.57     12.58
          HYDROGRAPH AT
+                      1I     193.  12.08      16.     5.     2.   0.06
          ROUTED TO
+                   DET1I      45.  12.42      15.     5.     2.   0.06
+                                                                        3.19     12.42
          2 COMBINED AT
+                   CP1I1      70.  12.42      29.    10.     3.   0.12
          HYDROGRAPH AT
+                      1J      65.  12.08       5.     2.     1.   0.02
          ROUTED TO
+                   DET1J       8.  12.50       4.     2.     1.   0.02
+                                                                        2.25     12.50
          ROUTED TO
+                   R1JI2       8.  12.67       4.     2.     1.   0.02
+                                                                        0.89     12.67
          2 COMBINED AT
+                   CP1I2      78.  12.42      33.    11.     4.   0.14
          ROUTED TO
+                   R1IL1      78.  12.50      33.    11.     4.   0.14
+                                                                        1.19     12.50
          HYDROGRAPH AT
+                      1L     110.  12.25      13.     4.     1.   0.05
          2 COMBINED AT
+                   CP1L1     173.  12.33      46.    15.     5.   0.19
          ROUTED TO
+                     RA2     158.  12.50      46.    15.     5.   0.19
+                                                                        0.90     12.50
          HYDROGRAPH AT
+                   SCNA2     309.  12.25      33.    10.     3.   0.19
          2 COMBINED AT
+                     CA2     403.  12.33      79.    25.     8.   0.37
          2 COMBINED AT
+                    CPA2     586.  12.25      99.    30.    10.   0.48
          HYDROGRAPH AT
+                      1A     681.  13.33     264.    71.    24.   1.36
          ROUTED TO
+                    R14R     671.  13.42     264.    71.    24.   1.36
+                                                                        3.31     13.42
          ROUTED TO
+                  RET141     671.  13.50     257.    71.    24.   1.36
+                                                                     1794.41     13.50
          ROUTED TO
+                   R14.1     667.  13.58     257.    71.    24.   1.36
+                                                                        3.30     13.58
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          HYDROGRAPH AT
+                     SUB13N      92.   12.17       8.       2.       1.    0.04
          ROUTED TO
+                      R14.1      85.   12.25       8.       2.       1.    0.04
+                                                                            1.73      12.25
          HYDROGRAPH AT
+                     SUB14N     102.   12.17      10.       3.       1.    0.05
          3 COMBINED AT
+                       CP14     677.   13.58     271.      76.      26.    1.44
          ROUTED TO
+                      RET14     671.   13.67     266.      76.      26.    1.44
+                                                                         1755.72      13.67
          ROUTED TO
+                      R18.1     671.   13.67     266.      76.      26.    1.44
+                                                                            2.68      13.67
          HYDROGRAPH AT
+                     SUB20N      54.   12.17       5.       2.       1.    0.02
          ROUTED TO
+                        R19      52.   12.25       5.       2.       1.    0.02
+                                                                            1.24      12.25
          HYDROGRAPH AT
+                     SUB19N     101.   12.17       9.       3.       1.    0.04
          2 COMBINED AT
+                      CP19N     148.   12.17      14.       4.       1.    0.06
          ROUTED TO
+                      R18NC     140.   12.25      14.       4.       1.    0.06
+                                                                            1.76      12.25
          HYDROGRAPH AT
+                     UB18NC      64.   12.17       5.       2.       1.    0.02
          3 COMBINED AT
+                     CP18NC     680.   13.67     283.      82.      27.    1.53
          ROUTED TO
+                       RPC1     680.   13.67     283.      82.      27.    1.53
+                                                                            2.23      13.67
          HYDROGRAPH AT
+                     UB18NA      66.   12.17       5.       2.       1.    0.02
          ROUTED TO
+                      1RPC1      33.   12.25       5.       2.       1.    0.02
+                                                                            0.43      12.25
          HYDROGRAPH AT
+                     UB18NB      28.   12.08       2.       1.       0.    0.01
          ROUTED TO
+                      2RPC1      16.   12.25       2.       1.       0.    0.01
+                                                                            0.22      12.25
          HYDROGRAPH AT
+                        PC1      81.   12.33      12.       4.       1.    0.06
          3 COMBINED AT
+                      1CPC1     129.   12.33      20.       6.       2.    0.09
          ROUTED TO
+                      SRPC1     129.   12.33      20.       6.       2.    0.09
+                                                                         1748.37      12.33
          2 COMBINED AT
+                       CPC1     694.   13.67     302.      88.      29.    1.62
          ROUTED TO
+                     R16NA1     694.   13.67     302.      88.      29.    1.62
+                                                                            1.99      13.67
          HYDROGRAPH AT
+                     UB16NA      43.   12.17       3.       1.       0.    0.01
          ROUTED TO
+                     R16NA1      39.   12.17       3.       1.       0.    0.01
+                                                                            0.78      12.17
          2 COMBINED AT
+                     C16NA1     696.   13.67     305.      89.      30.    1.63
          ROUTED TO
+                     R16NB1     695.   13.67     305.      89.      30.    1.63
+                                                                            1.99      13.67
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          HYDROGRAPH AT
+                    UB16NB      49.   12.17        4.        1.        0.     0.02
          ROUTED TO
+                    R16NB1      45.   12.17        4.        1.        0.     0.02
+                                                                                      0.84      12.17
          2 COMBINED AT
+                    C16NB1     696.   13.67      309.       90.       30.     1.65
          ROUTED TO
+                    R16NC1     696.   13.75      309.       90.       30.     1.65
+                                                                                      2.55      13.75
          HYDROGRAPH AT
+                     SUB7N      82.   12.17        6.        2.        1.     0.03
          ROUTED TO
+                      R8NC      73.   12.17        6.        2.        1.     0.03
+                                                                                      1.61      12.17
          HYDROGRAPH AT
+                    SUB8NA      16.   12.08        1.        0.        0.     0.00
          ROUTED TO
+                    SR8NA       1.   12.92        1.        0.        0.     0.00
+                                                                                   1793.65      13.00
          ROUTED TO
+                      R8NB       1.   13.00        1.        0.        0.     0.00
+                                                                                      0.01      13.08
          HYDROGRAPH AT
+                    SUB8NB      42.   12.08        3.        1.        0.     0.01
          2 COMBINED AT
+                     CP8NB      43.   12.08        4.        1.        0.     0.02
          ROUTED TO
+                    SR8NB       2.   11.92        2.        1.        0.     0.02
+                                                                                   1787.86      13.67
          ROUTED TO
+                      R8NC       2.   11.92        2.        1.        0.     0.02
+                                                                                      0.02      11.92
          HYDROGRAPH AT
+                    SUB8NC      59.   12.08        4.        1.        0.     0.02
          3 COMBINED AT
+                     CP8NC     116.   12.17       12.        4.        1.     0.07
          ROUTED TO
+                    SR8NC      37.   12.50       12.        4.        1.     0.07
+                                                                                   1780.17      12.50
          ROUTED TO
+                      R9N      37.   12.50       12.        4.        1.     0.07
+                                                                                      0.81      12.50
          HYDROGRAPH AT
+                     SUB9N     152.   12.17       12.        4.        1.     0.05
          2 COMBINED AT
+                      CP9N     162.   12.17       24.        8.        3.     0.12
          ROUTED TO
+                      R10B     162.   12.17       24.        8.        3.     0.12
+                                                                                      1.77      12.17
          HYDROGRAPH AT
+                    SUB10B      91.   12.08        7.        2.        1.     0.03
          2 COMBINED AT
+                     CP10B     241.   12.17       31.       10.        3.     0.15
          ROUTED TO
+                     R11NA     245.   12.17       31.       10.        3.     0.15
+                                                                                      1.84      12.17
          HYDROGRAPH AT
+                    UB11NA      25.   12.08        2.        0.        0.     0.01
          2 COMBINED AT
+                    CP11NA     262.   12.17       33.       10.        3.     0.16
          ROUTED TO
+                    SR11NA     165.   12.25       32.       10.        3.     0.16
+                                                                                   1743.66      12.25
          ROUTED TO
+                     R11NB     166.   12.33       32.       10.        3.     0.16
+                                                                                      0.82      12.33
```

	HYDROGRAPH AT								
+		UB11NB	26.	12.08	2.	0.	0.	0.01	
	2 COMBINED AT								
+		CP11NB	173.	12.33	34.	11.	4.	0.17	
	ROUTED TO								
+		SR11NB	105.	12.42	33.	11.	4.	0.17	
+									1737.93 12.42
	ROUTED TO								
+		R11NC	107.	12.42	33.	11.	4.	0.17	
+									0.64 12.42
	HYDROGRAPH AT								
+		UB11NC	23.	12.08	1.	0.	0.	0.01	
	2 COMBINED AT								
+		C11NC1	111.	12.42	34.	11.	4.	0.17	
	HYDROGRAPH AT								
+		SUB10A	92.	12.08	7.	2.	1.	0.03	
	ROUTED TO								
+		R12NB	96.	12.17	7.	2.	1.	0.03	
+									0.83 12.17
	HYDROGRAPH AT								
+		UB12NA	39.	12.08	3.	1.	0.	0.02	
	ROUTED TO								
+		SR12NA	1.	16.08	1.	1.	0.	0.02	
+									1743.51 16.50
	ROUTED TO								
+		R12NA	1.	16.08	1.	1.	0.	0.02	
+									0.01 16.58
	HYDROGRAPH AT								
+		UB12NB	40.	12.08	3.	1.	0.	0.02	
	3 COMBINED AT								
+		CP12NB	135.	12.17	11.	4.	1.	0.06	
	ROUTED TO								
+		SR12NB	6.	13.42	3.	2.	1.	0.06	
+									1746.03 13.42
	ROUTED TO								
+		R11NC2	6.	13.50	3.	2.	1.	0.06	
+									0.20 13.50
	2 COMBINED AT								
+		CP11NC	113.	12.42	37.	13.	5.	0.23	
	ROUTED TO								
+		SR11NC	99.	12.67	36.	13.	5.	0.23	
+									1735.86 12.67
	ROUTED TO								
+		R16NC	99.	12.67	36.	13.	5.	0.23	
+									1.65 12.67
	HYDROGRAPH AT								
+		UB16NC	103.	12.17	8.	3.	1.	0.03	
	2 COMBINED AT								
+		CP16NC	112.	12.17	43.	16.	6.	0.27	
	ROUTED TO								
+		R16NC1	112.	12.67	43.	16.	6.	0.27	
+									1.27 12.67
	2 COMBINED AT								
+		C16NC1	735.	13.75	351.	106.	36.	1.92	
	ROUTED TO								
+		R15N1	735.	13.75	351.	106.	36.	1.92	
+									2.61 13.75
	HYDROGRAPH AT								
+		PC2	108.	12.17	11.	3.	1.	0.05	
	2 COMBINED AT								
+		CP15N1	741.	13.75	362.	109.	37.	1.97	
	ROUTED TO								
+		SRPC2	739.	13.75	361.	109.	37.	1.97	
+									1734.63 13.75
	HYDROGRAPH AT								
+		UB17NA	32.	12.08	2.	1.	0.	0.01	

```
          ROUTED TO
+                    SR17NA     4.   12.58      1.      1.      0.    0.01
+                                                                          1759.16     12.58

          ROUTED TO
+                     R17NB     4.   12.67      1.      1.      0.    0.01
+                                                                          1756.04     12.67

          HYDROGRAPH AT
+                    UB17NB    31.   12.08      2.      1.      0.    0.01

          2 COMBINED AT
+                    CP17NB    32.   12.08      4.      1.      0.    0.02

          ROUTED TO
+                    SR17NB     1.   11.75      1.      1.      0.    0.02
+                                                                          1756.88     23.25

          ROUTED TO
+                     R17A      1.   11.83      1.      1.      0.    0.02
+                                                                          1752.09     11.83

          HYDROGRAPH AT
+                    SUB17A    31.   12.08      2.      1.      0.    0.01

          2 COMBINED AT
+                    CP17A1    32.   12.08      3.      2.      1.    0.03

          HYDROGRAPH AT
+                    UB17NC    20.   12.08      1.      0.      0.    0.01

          2 COMBINED AT
+                     CP17A    53.   12.08      4.      2.      1.    0.03

          ROUTED TO
+                      R15N    36.   12.17      4.      2.      1.    0.03
+                                                                             0.97     12.17

          HYDROGRAPH AT
+                    SUB15N   138.   12.17     11.      4.      1.    0.04

          2 COMBINED AT
+                     CP15N   175.   12.17     15.      5.      2.    0.07

          ROUTED TO
+                     R15N2   179.   12.17     15.      5.      2.    0.07
+                                                                             1.96     12.17

          2 COMBINED AT
+                    CP15N2   746.   13.75    374.    114.     39.    2.04

          ROUTED TO
+                     R5B1B   738.   13.92    373.    114.     39.    2.04
+                                                                             2.65     13.92

          HYDROGRAPH AT
+                     SCNA3   305.   12.33     39.     11.      4.    0.22

          2 COMBINED AT
+                       CA3   759.   13.92    410.    125.     43.    2.26

          2 COMBINED AT
+                      CPA3  1148.   12.33    509.    155.     53.    2.74

          HYDROGRAPH AT
+                    SUB3D1    28.   12.08      2.      1.      0.    0.01

          ROUTED TO
+                     RD1B1    23.   12.17      2.      1.      0.    0.01
+                                                                             1.76     12.17

          HYDROGRAPH AT
+                    SUB3B1    47.   12.08      4.      1.      0.    0.01

          2 COMBINED AT
+                     CP3B1    64.   12.08      6.      2.      1.    0.02

          ROUTED TO
+                     RB13F    50.   12.17      6.      2.      1.    0.02
+                                                                             1.84     12.17

          HYDROGRAPH AT
+                     SUB3F   138.   12.08     10.      3.      1.    0.03

          2 COMBINED AT
+                      CP3F   169.   12.08     16.      5.      2.    0.06

          ROUTED TO
+                       R3F   124.   12.33     16.      5.      2.    0.06
+                                                                             1.03     12.33

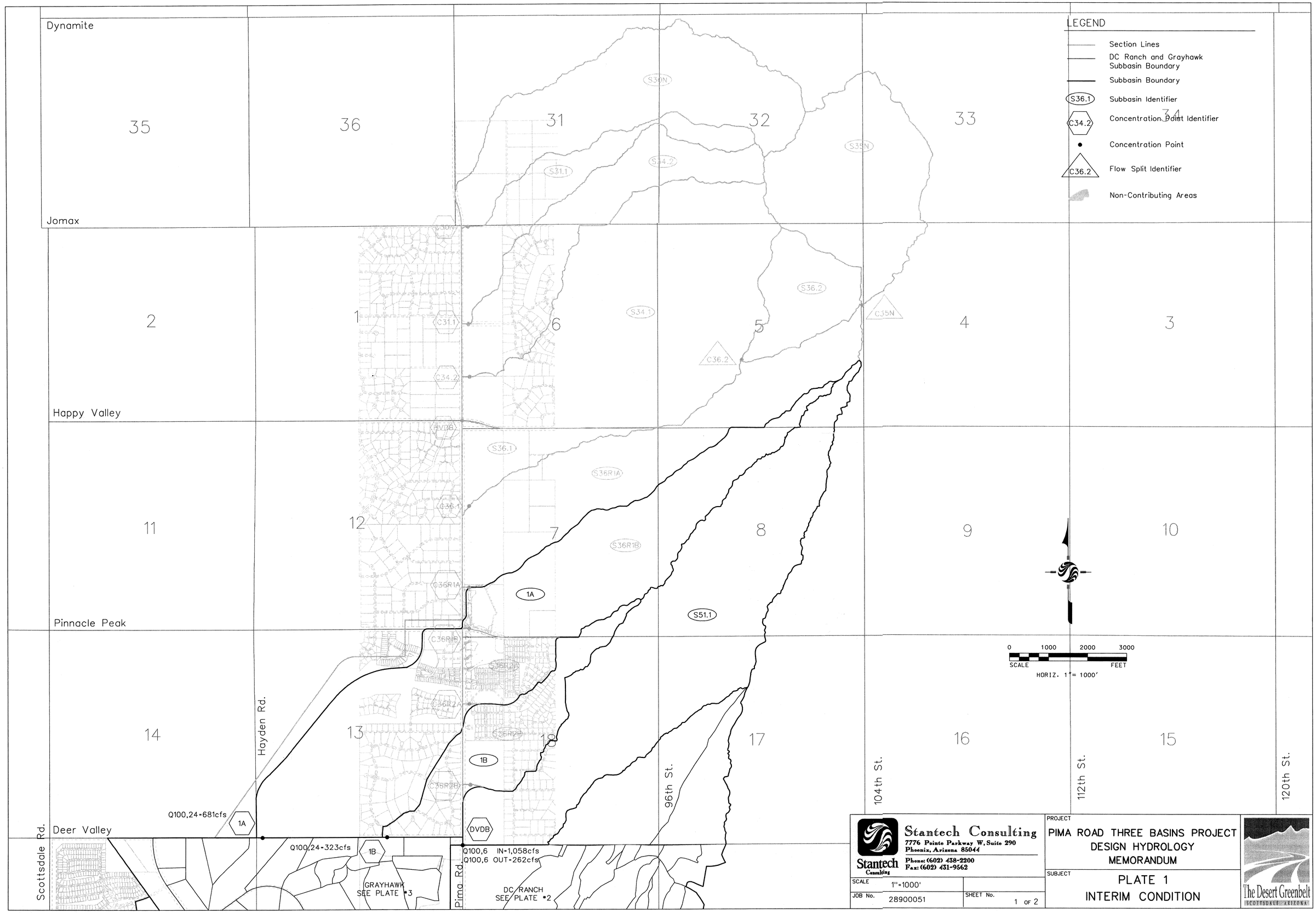
          HYDROGRAPH AT
```

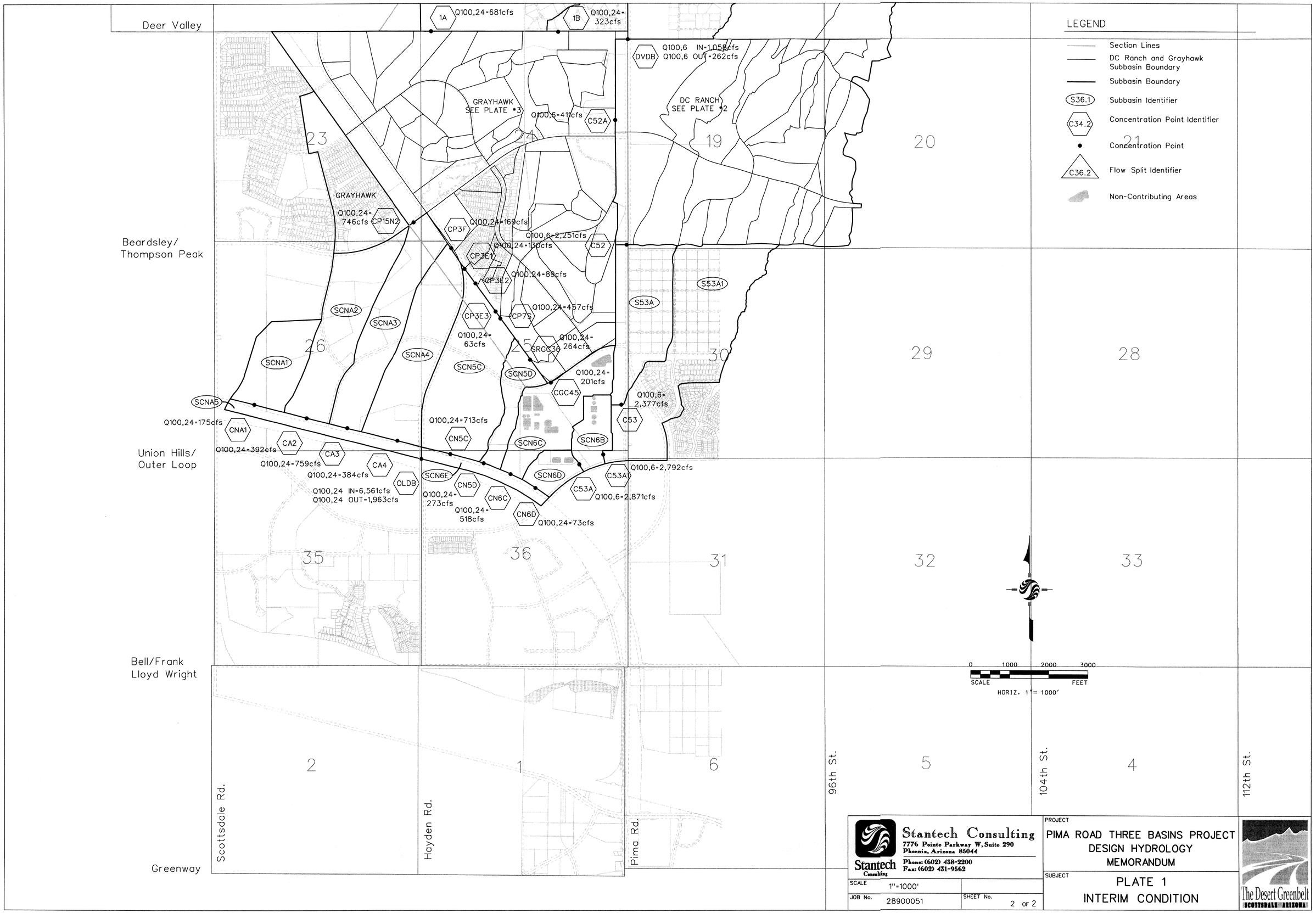
```
+                        SCNA4      285.   12.25        31.        9.        3.      0.17
          2 COMBINED AT
+                          CA4      384.   12.33        47.       14.        5.      0.23
          HYDROGRAPH AT
+                        SCNA5       61.   12.58        13.        4.        1.      0.07
          3 COMBINED AT
+                       MILLER     1583.   12.33       568.      172.       59.      3.04
          2 COMBINED AT
+                       OLDB-I     6561.   12.25      1548.      469.      158.      7.15
          ROUTED TO
+                       OLDB-O     1963.   13.25      1540.      469.      158.      7.15
+                                                                                 1607.61       13.25
1

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

APPENDIX E

Diskette of HEC-1 Files


LEGEND
Section Lines
DC Ranch and Grayhawk Subbasin Boundary
Subbasin Boundary
S36.1 Subbasin Identifier
C34.2 Concentration Point Identifier
Concentration Point
C36.2 Flow Split Identifier
Non-Contributing Areas
Dynamite
Jomax
Happy Valley
Pinnacle Peak
Deer Valley
Scottsdale Rd.
Hayden Rd.
Pima Rd.
96th St.
104th St.
112th St.
120th St.
35
36
31
32
33
34
2
1
6
5
4
3
11
12
7
8
9
10
14
13
18
17
16
15
S30N
S31.1
S34.2
S35N
S36.2
S34.1
C31.1
C34.2
C35N
C36.2
DVDB
S36.1
S36R1A
C36.1
S36R1B
C36R1A
1A
S51.1
C36R1B
C36R2A
S36R2B
1B
C36R2B
Q100,24-681cfs
Q100,24-323cfs
Q100,6 IN-1,058cfs
Q100,6 OUT-262cfs
GRAYHAWK SEE PLATE #3
DC RANCH SEE PLATE #2
0 1000 2000 3000
SCALE FEET
HORIZ. 1"= 1000'
Stantech Consulting
7776 Pointe Parkway W, Suite 290
Phoenix, Arizona 85044
Phone: (602) 438-2200
Fax: (602) 431-9562
SCALE 1"=1000'
JOB No. 28900051
SHEET No. 1 OF 2
PROJECT
PIMA ROAD THREE BASINS PROJECT
DESIGN HYDROLOGY
MEMORANDUM
SUBJECT
PLATE 1
INTERIM CONDITION
The Desert Greenbelt
SCOTTSDALE, ARIZONA



Stantech Consulting
7776 Pointe Parkway W, Suite 290
Phoenix, Arizona 85044
Phone: (602) 438-2200
Fax: (602) 431-9562

SCALE	1"=1000'
JOB No.	28900051
SHEET No.	2 OF 2

PROJECT
PIMA ROAD THREE BASINS PROJECT
DESIGN HYDROLOGY
MEMORANDUM

SUBJECT
PLATE 1
INTERIM CONDITION

The Desert Greenbelt
SCOTTSDALE ARIZONA

0 300 600 900
SCALE FEET
1" = 300'

NOTES:

ALL INFORMATION PROVIDED BY WOOD/PATEL ASSOCIATES

LEGEND

- FLOW PATH
- SUBBASIN BOUNDARY
- NONCONTRIBUTING SUBBASINS TO THE PIMA ROAD CHANNEL WATERSHED
- 52C15 — SUBBASIN IDENTIFIER
- ROUTE
- CONCENTRATION POINT

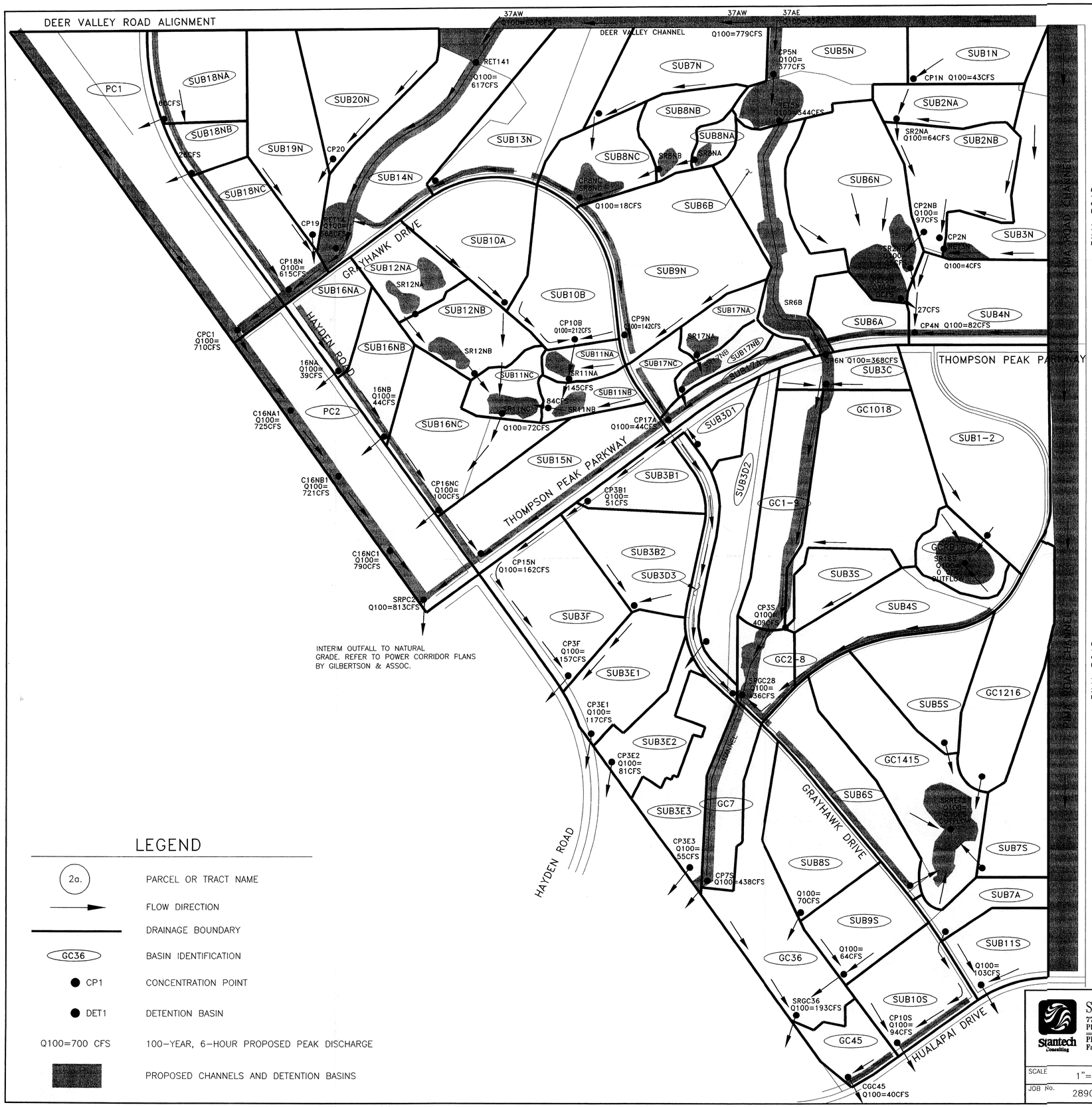
Stantech Consulting Inc.
7776 Pointe Parkway W, Suite 290
Phoenix, Arizona 85044 USA
Phone: (602) 438-2200 Fax: (602) 431-9562
Fax: (602) 431-9609 (Land Development)

SCALE	1" = 300'
JOB No.	28900051
SHEET No.	1 OF 1

PROJECT
PIMA ROAD THREE BASINS PROJECT
DESIGN HYDROLOGY
MEMORANDUM

SUBJECT
PLATE 2
DC Ranch On-Site Watershed Map

The Desert Greenbelt
SCOTTSDALE, ARIZONA



LEGEND

2a.	PARCEL OR TRACT NAME
→	FLOW DIRECTION
▬	DRAINAGE BOUNDARY
GC36	BASIN IDENTIFICATION
● CP1	CONCENTRATION POINT
● DET1	DETENTION BASIN
Q100=700 CFS	100-YEAR, 6-HOUR PROPOSED PEAK DISCHARGE
■	PROPOSED CHANNELS AND DETENTION BASINS

NOTES:

1. ALL INFORMATION PROVIDED BY DEI PROFESSIONAL SERVICES.
2. ALL OFF-SITE DISCHARGES TO BE CONVEYED DOWN THE POWER LINE CHANNEL TO THE UNION HILLS DETENTION BASIN.

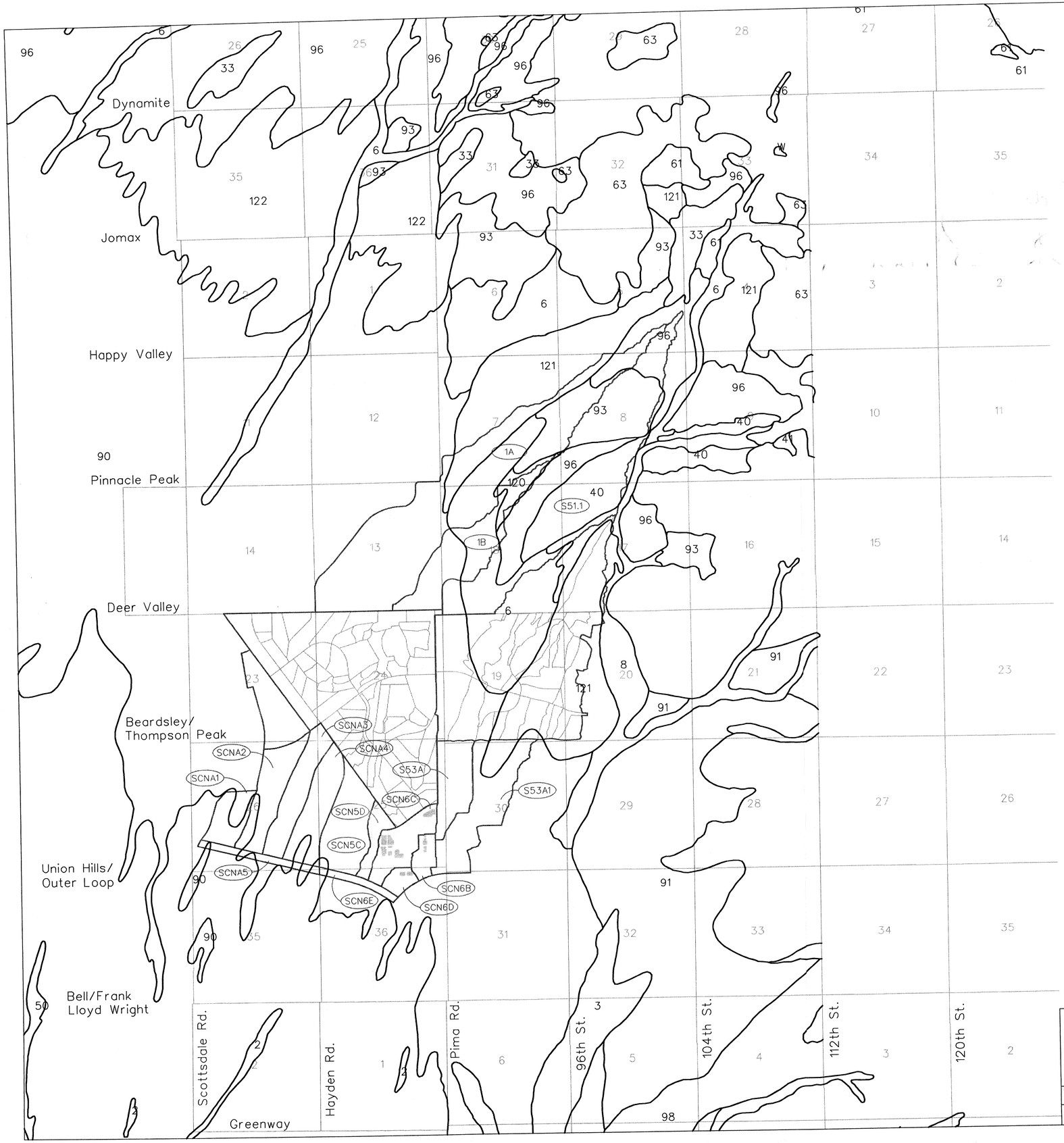
Stantech Consulting Inc.
7776 Pointe Parkway W, Suite 290
Phoenix, Arizona 85044 USA
Phone: (602) 438-2200 Fax: (602) 431-9562
Fax: (602) 431-9609 (Land Development)

SCALE 1"=400'	
JOB No. 28900051	SHEET No. 1 OF 1

PROJECT
PIMA ROAD THREE BASINS PROJECT
DESIGN HYDROLOGY
MEMORANDUM

SUBJECT
PLATE 3
Grayhawk On-Site Watershed Map

The Desert Greenbelt



LEGEND

- Section Lines
- DC Ranch and Grayhawk Subbasin Boundary
- Subbasin Boundary
- S51.1 Subbasin Identifier
- Soil Boundary
- 40 Soil Identifier
- Non-Contributing Area

0 2000 4000 6000
SCALE FEET
HORIZ. 1"= 2000'

Stantech Consulting
7776 Pointe Parkway W, Suite 290
Phoenix, Arizona 85044
Phone: (602) 438-2200
Fax: (602) 431-9562

SCALE	1"=2000'
JOB No.	28900051
SHEET No.	1 OF 1

PROJECT
PIMA ROAD THREE BASINS PROJECT
DESIGN HYDROLOGY
MEMORANDUM

SUBJECT
PLATE 4
INTERIM SOILS MAP

The Desert Greenbelt
SCOTTSDALE ARIZONA