PRELIMINARY DRAINAGE REPORT

K. Hovanian Great West Homes, LLC
Scottsdale, Arizona

Case No. _____

Prepared For:

K. Hovanian Great West Homes, LLC

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Review Cycle _____ Date 5/10/16

Approved

191948001
April 2016

Kimley»Horn

9-PP-2015
04/22/16

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List of Appendices

List of Figures in Appendix E (Exhibits)

1.0 Introduction

1.1 Project Description

K. Hovnanian Great Western Homes is proposing to construct a single-family housing development on Parcel F of Silverstone at Pinnacle Peak, which is located at the southeast corner of Scottsdale Road and Silverstone Drive. The project is anticipated to consist of a single-family housing development and associated site infrastructure, including drive aisles, parking areas, and underground utilities.

1.2 Site Location

The proposed development encompasses approximately 22.1± net acres in a portion of the Northwest Quarter of Section 14, Township 4 North, Range 4 East of the Gila and Salt River Meridian in Maricopa County, Arizona. The parcel is bounded by Silverstone Drive to the south, 74th Street to the east, Rawhide Wash channel to the west, and Pinnacle Peak Road to the north. See Appendix A for the site location map and legal description. See Figure 1 in Appendix F for a Context Aerial Map.

The site is located at the former "Rawhide" western theme park area. Based on site observations, the structures associated with the theme park have been demolished, however, grading features including a raised race track, local drainage ditches, and unpaved roadways are present on the site.

1.3 Purpose

This Preliminary Drainage Report is intended to satisfy City of Scottsdale requirements and demonstrate conformance to the overall drainage characteristics of the area. This report provides a description of the current storm water drainage patterns and systems and a description of the required and proposed drainage improvements.

1.4 Objectives

This report provides a drainage plan for the subject site that is intended to meet the drainage standards and guidelines of the City of Scottsdale and the Flood Control District of Maricopa County (FCDMC). In particular, this report will demonstrate the following:

1. Buildings and site amenities will be elevated such that regional storm water flows from Rawhide Wash do not adversely impact the development.

2. Permanent drainage facilities will have a positive outfall, and any detained storm water will be disposed of within 36 hours.

3. Drainage facilities will be designed such that the 100-year post-development flows are collected and conveyed in such a manner so as to not cause damage to buildings and property.

4. Storm water detention is provided for the difference between the pre-development and post-development storm water volume.

5. Building finished floor elevations are in compliance with FEMA and City of Scottsdale requirements.

6. The proposed drainage plan for the site will be in general conformance to the Master Drainage Report for Silverstone, prepared by Wood, Patel & Associates, March 2007 and subsequent revisions by Wood, Patel & Associates and Kimley-Horn and Associates, Inc.

2.0 Description of Existing Drainage Conditions and Characteristics

2.1 Existing Drainage Conditions

The site currently consists of vacant land. The site is a portion of the previously demolished "Rawhide" western theme park. The general topography of the site slopes from the northeast to the southwest at approximately 2%. However, grading features including several small on-site drainage ditches, and unpaved access roads remain from the theme park use. Desert vegetation exists throughout the site.

Three on-site sub-basins drain to the south and exit the site at three locations along the southern property line. These sub-basins and corresponding 100-year discharges are shown on Figure 3 Existing Conditions Map in Appendix F.

2.2 Existing Off-Site Drainage Conditions

The Rawhide Wash regional drainage channel improvements were recently completed to the west of the project site. These improvements consist of a 300 foot wide, eight foot deep drainage channel that is designed to convey a peak flow of the Rawhide Wash from the Pinnacle Peak Road Bridge to the north of the site to the Scottsdale Road Bridge to the west of the site. This channel discharges storm water onto open desert on the west side of Scottsdale Road where it continues as overland flow to the southwest.

It is our understanding that a Letter of Map Revision (LOMR) has been submitted to FEMA in conjunction with the Rawhide Wash regional drainage improvements. This LOMR would remove significant areas surrounding Rawhide Wash from Flood Zone AO. At the time of this report, the LOMR is under review by FEMA and it is not anticipated that this review will be completed prior to the construction of the proposed development.

Based on the Letter of Map Revision Technical Data Notebook (TDN), prepared by Wood, Patel & Associates in May 2014, the Rawhide Wash outfall on the west side of Scottsdale Road is currently in an interim condition. This interim condition prevents the 100-year design flow of Rawhide Wash from passing under the Scottsdale Road Bridge and onto the open land on the west side of Scottsdale Road. As a result of this restriction, a portion of the design flow overtops Scottsdale Road and Silverstone Drive. Although this backwater and overtopping affects other parcels within Silverstone, adjacent to Parcel F the TDN shows the Rawhide Wash contained in the channel. Refer to Appendix E for the LOMR Technical Data Notebook.

The adjacent portions of Silverstone Drive and 74th Street consist of paved roadways with curb and gutters and storm drain infrastructure. Storm water from Silverstone Drive is collected in catch basins and conveyed to the Rawhide Wash channel. Storm water from 74th Street is conveyed via surface flow between the curbs before being collected in catch basins north of its intersection with Silverstone drive.

The adjacent portion of Pinnacle Peak Road to the north consists of a paved roadway with curb and gutter and a median. Runoff in Pinnacle Peak Road is collected in catch basins and conveyed via storm drain into the Rawhide Wash. Drainage channels paralleling both the north and south sides of the roadway, convey offsite runoff from the north into the Rawhide Wash, preventing it from reaching the site.

The land to the south of the site consists of the Appaloosa Library. Silverstone Drive separates the project site from the Library.

Based on the adjacent site conditions and the LOMR TDN, the only offsite runoff impacting the proposed development is the Rawhide Wash. Adjacent to this project, the Rawhide Wash is contained in the channel. Proposed structures shall be elevated above the Base Flood Elevations shown in the LOMR TDN. Refer to Figure 3 in Appendix F for the Existing Conditions Topographic Map.

2.3 Context Relative to Adjacent Projects and Improvements

The improvements to the Rawhide Wash channel, Scottsdale Road, and Silverstone Drive have recently been completed. See Figure 1 in Appendix F for the Context Aerial Plan.

2.4 FEMA Flood Hazard Areas

The site is located in Flood Zone "AO" according to the Flood Insurance Rate Map 04013C1310L, dated October 16, 2013. Zone "AO" is designated by FEMA as "areas of flood depths of 1 foot (usually sheet flow on sloping terrain) average depths determined for areas of alluvial fan flooding, velocities also determined." Refer to Appendix B for the FEMA FIRMette map for the site. An elevation certificate will be required for each building constructed in this flood hazard designation. Approval of the LOMR will remove the proposed development from the FEMA Special Flood Hazard Area.

3.0 Proposed Drainage Plan

3.1 General Description

In the analysis of the proposed drainage conditions the following items are considered:

- Area Types (pavement, building, and desert landscaping)
- Magnitude of areas
- Slopes
- Storm Drain
- Detention Basins

3.2 Proposed Site Conditions

Site-generated storm water will be collected in multiple catch basins and conveyed to one underground storage basin and four surface detention basins via underground storm drain pipes and street flow.

Of the detention basins, four are interconnected and upon reaching the last detention basin the outflow discharges via a weir into to the Rawhide Wash channel near the southwest corner of the site. The only detention basin that doesn't discharge into Rawhide Wash is Basin 3A and it discharges east into the stormdrain system in 74th Street. Basin 1A is the underground storage basin and consists of 10' CMP chambers providing an equivalent storage of 0.63 ac-feet. Refer to Exhibit 4 – Proposed Conditions Map for proposed sub-basins and detention basin locations.

The proposed site was modeled hydrologically in two fashions: 1) as a contributing sub-basin to the Rawhide Wash during a 24-hour rainfall event; 2) as an isolated site using the Rational Method. HEC-1 was used to perform the sub-basin and detention basin routing analysis. The Rawhide Wash models, both with and without the proposed site, are included in the Addendum 3 to the Master Drainage Report (MDR) for Silverstone. The routing analysis for the site, by itself, using Rational Method and synthetic unit hydrographs is included in Appendix C.

As stated in the Addendum 3 to the MDR, the proposed drainage concept does not increase flows in the Rawhide Wash during the 100-year event. Flow in the Rawhide Wash remains at 9865 cfs after development of the site. Since the adjacent Rawhide channel is designed for a 100-year event of 10,900 cfs (Patel 2006) and the Rawhide Wash Model results in a discharge less than that, it is demonstrated that the channel meets the criteria of providing sufficient capacity for the site and therefore the 2-year and 10-year events were not included in the Rawhide Wash Model.

The on-site sub-basins were modeled using the Rational Method to confirm that the detention basins could handle the sharper peaking and more localized storm. DDMSW was used to generate Rational Method results and output hydrographs that could be imported into HEC-1 for routing purposes. For the lone detention basin that does not drain to the Rawhide Wash, Basin 3A, an outflow of 1 cfs will leave the basin during the 100-Year event. The existing discharge at that same point is approximately 6 cfs. The "Site Only" HEC-1 model is located in Appendix C.

Only one proposed Sub-basin discharges unregulated from the site and that is Sub-Basin On-3 which discharges to 74th Street. Table 1 shows a comparison of discharge reduction at detention basins.

Table 1: 100-Yr Peak Discharge Reduction from Detention Basins

Detention Basin	24-Hr Storm		Rational Method	
	Inflow (cfs)	Outflow (cfs)	Inflow (cfs)	Outflow (cfs)
Basin 1A	5	1	13	1
Basin 1B	22	22	23	18
Basin 2A	40	34	38	6
Basin 2B	50	45	26	21
Basin 3A	*	*	12	1

* not included in Rawhide Wash Routing Analysis

Of the 45 cfs that leaves Detention Basin 2B during the 100-year, 24hr event, 41 cfs weirs into Rawhide Wash Channel and 4 cfs flows through a bleeder orifice into the park area. This was modeled in HEC-1 as a diversion.

3.3 Proposed Off-Site Conditions

No changes to the off-site conditions are proposed with these improvements. Storm water from adjacent portions of Silverstone Drive and 74th Street will continue to be collected in catch basins and conveyed to regional drainage facilities.

Administratively this site will remain in the FEMA floodplain and comply with AO zone requirements; however the Rawhide Wash Channel has been demonstrated to contain the 100-year flow event.

3.4 Future Conditions

The roadways to the north and east of the site are in their built-out conditions; therefore, these areas are not anticipated to have any future impacts to the project site. The area to the south is undeveloped, and any future developments in this area will be responsible for on-site management of storm water runoff.

It is also anticipated that at some point in the future the Rawhide Wash outfall will be completed to its final condition. At this point, off-site flows would no longer be anticipated to affect the site. The completion of this outfall would involve coordination between the City of Scottsdale, the City of Phoenix, the Arizona State Land Department,

3.5 Storm Water Storage Requirements

According to Addendum 2 to the Master Drainage Report for Silverstone, approved in April 2015, the required detention volume for the parcel is approximately 147,000 cubic feet. This volume contemplates detention for the 100-year, 2-hour rainfall event associated with the NOAA Atlas 14 rainfall depths. Due to a portion of the site's previous development (9 ac), storm water storage will be provided for the difference between the pre-development and post-development storm water runoff volume on that portion and full detention for the remaining 13 acres. An addendum to the Master Drainage Report that reflects this change will be submitted along with this Preliminary Drainage Report for the proposed development.

Table 2 below summarizes the contributing area, runoff coefficient for the contributing area, and the required and provided retention volumes.

Table 2: Storm Water Volume Required

Proposed Storage Volume Summary - Silverstone Parcel F						
Drainage Area	**Area [A]**		**Runoff Coefficient [C]**	**Precipitation Depth [P]**	**Required Storage (V_{REQ} = CPA/12)**	
	sf	**ac**		**in**	**cf**	**ac-ft**
Roadway	207,028	4.753	0.88	2.30	34,919	0.80
Pavement	21,399	0.491	0.95	2.30	3,896	0.09
Landscaping	232,504	5.338	0.45	2.30	20,053	0.46
Building	156,852	3.601	0.95	2.30	28,560	0.66
Duplex	343,201	7.879	0.81	2.30	53,282	1.22
TOTAL	**960,984**	**22.061**	**0.76**	-	**140,711**	**3.23**
Existing Storage Volume Summary - Silverstone Parcel F						
Drainage Area	**Area [A]**		**Runoff Coefficient [C]**	**Precipitation Depth [P]**	**Required Storage (V_{REQ} = CPA/12)**	
	sf	**ac**		**in**	**cf**	**ac-ft**
Roof	10,940	0.250	0.95	2.30	1,992	0.05
Disturbed Desert	379,843	8.720	0.55	2.30	40,042	0.92
Undist Desert (no credit)	569,765	13.090	0.00	2.30	0	0.00
TOTAL	**960,548**	**22.061**			**42,034**	**(0.96)**
					Total Required	**2.27**

Table 3: Stormwater Storage Functional Volume Provided

Detention Basin	Peak Volume
	AC-FT
Basin 1A/1C	0.61
Basin 1B	0.19
Basin 2A	0.93
Basin 2B	0.21
Basin 3A	0.35
Total	2.29

The storage volume summary reveals that 2.27 ac-ft of peak storage will be required to comply with pre versus post runoff volume storage requirements. Table 3, shows actual peak volume from the On-site HEC-1 model and provides slightly more than the required volume.

Refer to Figures 2 and 4 in Appendix E for the Preliminary Grading and Drainage Plan and the Developed Conditions Map, respectively. Refer to Appendix C for the Hydrologic/Hydraulic Calculations.

3.6 Pre- and Post-Development Runoff Characteristics at Concentration Points

The existing site consists of approximately 22.1 acres of vacant land that drains from the northeast to the southwest. The existing drainage patterns have three concentration points on the south perimeter of the site, reference Figure 3. In the pre-developed condition approximately 50 cfs combined exits the site on the south and enters the park.

The post-development flow at the south property line will be approximately 5 cfs combined. The bulk of the post development flow will discharge into the Rawhide Wash on the west where it presently does not; however, due to the difference in times of concentration of the Rawhide Wash and the site, the drainage from the site has no impact on the peak of the Rawhide Wash.

3.7 Proposed Drainage Structures or Special Drainage Facilities

Storm water quality will be maintained by elevating the outfall headwalls 3-6 inches above the basin bottom. This will allow the first flush of storm water to remain in the basin, where it will be disposed of via natural percolation. Orifice plates or pipe sizing will be used to meter the storm water outflow; sizing will be included with the Final Drainage Report.

Basin 1A (underground storage) will have a 4" orifice plate rather than the standard 6" orifice plate provided in the surface basins. This was verbally agreed to by City of Scottsdale.

MAP SCALE 1" = 1000'

500 0 1000 2000 FEET METE

PANEL 1310L

NFIP

NATIONAL FLOOD INSURANCE PROGRAM

FIRM

FLOOD INSURANCE RATE MAP

MARICOPA COUNTY, ARIZONA

AND INCORPORATED AREAS

PANEL 1310 OF 4425

(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

COMMUNITY	NUMBER	PANEL	SUFFIX
MARICOPA COUNTY	040037	1310	L
PHOENIX, CITY OF	040051	1310	L
SCOTTSDALE, CITY OF	045012	1310	L

Notice to User: The **Map Number** shown below should be used when placing map orders; the **Community Number** shown above should be used on insurance applications for the subject community.

MAP NUMBER
04013C1310L

MAP REVISED
OCTOBER 16, 2013

Federal Emergency Management Agency

Appendix C

Hydrologic/Hydraulic Calculations

Silverstone Parcel F						
100 Year 2 Hour Full Retention Calculation						
Drainage Area	Area [A]		Runoff Coefficient [C]	Precipitation Depth [P]	Required Storage (V_{REQ} = CPA/12)	
	sf	ac		in	cf	ac-ft
Roadway	207,028	4.753	0.88	2.30	34,919	0.80
Pavement	21,399	0.491	0.95	2.30	3,896	0.09
Landscaping	232,504	5.338	0.45	2.30	20,053	0.46
Building	156,852	3.601	0.95	2.30	28,560	0.66
Duplex	343,201	7.879	0.81	2.30	53,282	1.22
TOTAL	**960,984**	**22.061**	**0.76**	**-**	**140,711**	**3.23**

Retention Credit for Disturbed Areas						
Drainage Area	Area [A]		Runoff Coefficient [C]	Precipitation Depth [P]	Required Storage (V_{REQ} = CPA/12)	
	sf	ac		in	cf	ac-ft
Roof	10,940	0.250	0.95	2.30	1,992	0.05
Disturbed Desert	379,843	8.720	0.55	2.30	40,042	0.92
Undist Desert (no credit)	569,765	13.080	0.00	2.30	0	0.00
TOTAL	**960,548**	**22.051**			**42,034**	**0.96**

Pre Vs. Post Retention Calculations		
Drainage Area	Required Storage (V_{REQ} =	
	cf	ac-ft
Post	140,711	3.2
Pre	42,034	1.0
Required	98,677	2.27

Silverstone Weighted C Average

46' Roadway Tract		
Area		C
Pavement	40	0.95
Landscape	6	0.45
Weighted Average	46	0.88

Duplex Lots		
Area		C
Building	6962	0.95
Landscape	2786.5	0.45
Weighted Average	9748.5	0.81

ID	Sub Basin Data							Sub Basin Hydrology Summary					
	Area (acres)	Length (ft)	USGE	DSGE	Slope (ft/mi)	Kb		2 Year	5 Year	10 Year	25 Year	50 Year	100 Year
Major Basin ID: ON													
ON01	2.7	503	1,870.30	1,863.00	76.6	0.037	Q (cfs)	4.1	5.5	6.6	8.8	10.9	13.0
							C	0.62	0.62	0.62	0.68	0.74	0.78
							CA (ac)	1.64	1.64	1.64	1.80	1.96	2.07
							Tc (min)	10	10	10	10	10	10
							i (in/hr)	2.48	3.35	4.01	4.90	5.57	6.26
ON02	4.6	1,029	1,870.10	1,859.20	55.9	0.036	Q (cfs)	6.9	9.6	11.5	15.4	19.0	22.5
							C	0.62	0.62	0.62	0.68	0.74	0.78
							CA (ac)	2.86	2.86	2.86	3.14	3.42	3.60
							Tc (min)	11	10	10	10	10	10
							i (in/hr)	2.40	3.35	4.01	4.90	5.57	6.26
ON03	0.7	78	1,870.10	1,860.50	649.8	0.041	Q (cfs)	1.0	1.4	1.7	2.3	2.8	3.3
							C	0.62	0.62	0.62	0.68	0.74	0.78
							CA (ac)	0.42	0.42	0.42	0.46	0.50	0.53
							Tc (min)	10	10	10	10	10	10
							i (in/hr)	2.48	3.35	4.01	4.90	5.57	6.26
ON04	5.5	897	1,860.00	1,847.00	76.5	0.035	Q (cfs)	8.5	11.5	13.7	18.4	22.7	26.9
							C	0.62	0.62	0.62	0.68	0.74	0.78
							CA (ac)	3.42	3.42	3.42	3.75	4.08	4.30
							Tc (min)	10	10	10	10	10	10
							i (in/hr)	2.48	3.35	4.01	4.90	5.57	6.26
ON05	2.5	428	1,848.20	1,841.30	85.1	0.038	Q (cfs)	3.8	5.1	6.1	8.2	10.2	12.1
							C	0.62	0.62	0.62	0.68	0.74	0.78
							CA (ac)	1.53	1.53	1.53	1.68	1.83	1.93
							Tc (min)	10	10	10	10	10	10
							i (in/hr)	2.48	3.35	4.01	4.90	5.57	6.26
ON06	2.8	509	1,854.70	1,839.90	153.5	0.037	Q (cfs)	4.3	5.8	7.0	9.4	11.6	13.7
							C	0.62	0.62	0.62	0.68	0.74	0.78
							CA (ac)	1.74	1.74	1.74	1.91	2.08	2.19

* Non default value

Flood Control District of Maricopa County
Drainage Design Management System
SUB BASINS
Project Reference: SILVERSTONE F RATION

ID	Sub Basin Data							Sub Basin Hydrology Summary					
	Area (acres)	Length (ft)	USGE	DSGE	Slope (ft/mi)	Kb		2 Year	5 Year	10 Year	25 Year	50 Year	100 Year
Major Basin ID: ON													
							Tc (min)	10	10	10	10	10	10
							i (in/hr)	2.48	3.35	4.01	4.90	5.57	6.26
ON07	2.5	665	1,855.10	1,837.00	143.7	0.038	Q (cfs)	3.8	5.2	6.2	8.3	10.2	12.1
							C	0.62	0.62	0.62	0.68	0.74	0.78
							CA (ac)	1.54	1.54	1.54	1.69	1.84	1.94
							Tc (min)	10	10	10	10	10	10
							i (in/hr)	2.48	3.35	4.01	4.90	5.57	6.26

* Non default value

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 *              JUN   1998               *                                       *    HYDROLOGIC ENGINEERING CENTER
 *                                       *
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 *                                       *
 *                                       *                                       *       DAVIS, CALIFORNIA 95616
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THIS PROGRAM REPLACES ALL PREVIOUS VERSIONS OF HEC-1 KNOWN AS HEC1 (JAN 73), HEC1GS, HEC1DB, AND HEC1KW.

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


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

   1          ID        Flood Control District of Maricopa County
   2          ID        SILVERSTONE F - Silverstone F Onsite
   3          ID        100 YEAR
   4          ID        Rational Method
   5          ID        Synthetic Unit Hydrograph
   6          ID        11/30/2015
              *DIAGRAM
   7          IT       2  1JAN99       0     750
   8          IO       2
   9          IN       5
              *
              *

  10          KK    ON01   BASIN
  11          BA   0.004
  12          QI       0     6.5    13.0     9.1     5.2     1.3       0
              *

  13          KK  RET1A
  14          KM   UG RETENTION BASIN 1A
  15          RS       1    STOR       0
  16          SV       0    0.03    0.16    0.32    0.47    0.60    0.63
  17          SE       0       1       3       5       7       9      10
  18          SS     9.9       1     2.3     1.5
  19          SL    0.17  0.0871     0.6     0.5
              *

  20          KK    ON02   BASIN
  21          BA   0.007
  22          QI       0    11.3    22.5    15.8     9.0     2.3       0
              *

  23          KK    1BIN
  24          KM   INFLOW TO RETENTION BASIN 1B
  25          HC       2
              *

  26          KK   RET1B
  27          KM   RETENTION BASIN 1B
  28          RS       1    STOR       0
  29          SV       0   0.037   0.105   0.205
  30          SE       0       1       2       3
  31          SS     2.3      15     2.3     1.5
  32          SL    1.25  0.1963     0.6     0.5
              *

  33          KK    ON04   BASIN
  34          BA   0.009
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          35          QI       0    13.5    26.9    18.8    10.8     2.7       0
                      *
1                                        HEC-1 INPUT                                        PAGE  2

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          36          KK    2AIN
          37          KM    INFLOW TO RETENTION BASIN 2A
          38          HC       2
                      *

          39          KK    RET2A
          40          KM    RETENTION BASIN 2A
          41          RS       1    STOR       0
          42          SV       0   0.339   0.678   1.017
          43          SE       0       1       2       3
          44          SS     2.6      50     2.3     1.5
          45          SL    1.25  0.1963     0.6     0.5
                      *

          46          KK    ON05   BASIN
          47          BA   0.004
          48          QI       0     6.1    12.1     8.5     4.9     1.2       0
                      *

          49          KK    ON06   BASIN
          50          BA   0.004
          51          QI       0     6.9    13.7     9.6     5.5     1.4       0
                      *

          52          KK    2BIN
          53          KM    INFLOW TO RETENTION BASIN 2B
          54          HC       3
                      *

          55          KK    RET2B
          56          KM    RETENTION BASIN 2B
          57          RS       1    STOR       0
          58          SV       0    0.05   0.125   0.229
          59          SE       0       1       2       3
          60          SS     2.4      40     2.3     1.5
          61          SL    0.25   0.393     0.6     0.5
                      *

          62          KK    ON07   BASIN
          63          BA   0.004
          64          QI       0     6.1    12.1     8.5     4.9     1.2       0
                      *

          65          KK    RET3A
          66          KM    RETENTION BASIN 3A
          67          RS       1    STOR       0
          68          SV       0   0.096   0.216   0.364
          69          SE       0       1       2       3
          70          SS     2.9      10     2.3     1.5
          71          SL    1.25  0.1963     0.6     0.5
                      *
          72          ZZ
1
                  SCHEMATIC DIAGRAM OF STREAM NETWORK

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

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

    10        ON01
                V
                V
    13       RET1A
                .
                .
    20          .         ON02
                .            .
                .            .
    23        1BIN............
                V
                V
    26       RET1B
                .
                .
    33          .         ON04
                .            .
                .            .
    36        2AIN............
                V
                V
    39       RET2A
                .
                .
    46          .         ON05
                .            .
                .            .
    49          .            .         ON06
                .            .            .
```

```
                   .          .          .
  52       2BIN.......................
             V
             V
  55       RET2B
             .
             .
  62         .          ON07
             .            V
             .            V
  65         .         RET3A

 (***) RUNOFF ALSO COMPUTED AT THIS LOCATION
1*****************************************
****************************************
 *                                       *                                                   *
*
 *   FLOOD HYDROGRAPH PACKAGE  (HEC-1)   *                                                   *    U.S. ARMY CORPS OF ENGINEERS
*
 *              JUN   1998               *                                                   *    HYDROLOGIC ENGINEERING CENTER
*
 *           VERSION 4.1                 *                                                   *          609 SECOND STREET
*
 *                                       *                                                   *       DAVIS, CALIFORNIA 95616
*
 *  RUN DATE   19APR16  TIME  10:18:42   *                                                   *           (916) 756-1104
*
 *                                       *                                                   *
*
 *****************************************
****************************************


                                Flood Control District of Maricopa County
                                SILVERSTONE F - Silverstone F Onsite
                                100 YEAR
                                Rational Method
                                Synthetic Unit Hydrograph
                                11/30/2015

    8 IO         OUTPUT CONTROL VARIABLES
                       IPRNT           2  PRINT CONTROL
                       IPLOT           0  PLOT CONTROL
                       QSCAL          0.  HYDROGRAPH PLOT SCALE

      IT         HYDROGRAPH TIME DATA
                        NMIN           2  MINUTES IN COMPUTATION INTERVAL
                       IDATE      1JAN99  STARTING DATE
                       ITIME        0000  STARTING TIME
                          NQ         750  NUMBER OF HYDROGRAPH ORDINATES
                      NDDATE      2JAN99  ENDING DATE
                      NDTIME        0058  ENDING TIME
                       ICENT          19  CENTURY MARK

                   COMPUTATION INTERVAL     .03 HOURS
                        TOTAL TIME BASE   24.97 HOURS

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


 *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***
***

            **************
            *            *
  10 KK     *    ON01    *       BASIN
            *            *
            **************

   9 IN         TIME DATA FOR INPUT TIME SERIES
                      JXMIN            5  TIME INTERVAL IN MINUTES
                     JXDATE       1JAN99  STARTING DATE
                     JXTIME            0  STARTING TIME

               SUBBASIN RUNOFF DATA

  11 BA         SUBBASIN CHARACTERISTICS
                      TAREA          .00  SUBBASIN AREA

                                                          ***
```

HYDROGRAPH AT STATION ON01

DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW
1	JAN	0000	1	0.	1	JAN	0616	189	1.	1	JAN	1232	377	1.	1	JAN	1848	565	1.
1	JAN	0002	2	3.	1	JAN	0618	190	1.	1	JAN	1234	378	1.	1	JAN	1850	566	1.
1	JAN	0004	3	5.	1	JAN	0620	191	1.	1	JAN	1236	379	1.	1	JAN	1852	567	1.
1	JAN	0006	4	8.	1	JAN	0622	192	1.	1	JAN	1238	380	1.	1	JAN	1854	568	1.
1	JAN	0008	5	10.	1	JAN	0624	193	1.	1	JAN	1240	381	1.	1	JAN	1856	569	1.
1	JAN	0010	6	13.	1	JAN	0626	194	1.	1	JAN	1242	382	1.	1	JAN	1858	570	1.
1	JAN	0012	7	11.	1	JAN	0628	195	1.	1	JAN	1244	383	1.	1	JAN	1900	571	1.
1	JAN	0014	8	10.	1	JAN	0630	196	1.	1	JAN	1246	384	1.	1	JAN	1902	572	1.
1	JAN	0016	9	8.	1	JAN	0632	197	1.	1	JAN	1248	385	1.	1	JAN	1904	573	1.
1	JAN	0018	10	7.	1	JAN	0634	198	1.	1	JAN	1250	386	1.	1	JAN	1906	574	1.
1	JAN	0020	11	5.	1	JAN	0636	199	1.	1	JAN	1252	387	1.	1	JAN	1908	575	1.
1	JAN	0022	12	4.	1	JAN	0638	200	1.	1	JAN	1254	388	1.	1	JAN	1910	576	1.
1	JAN	0024	13	2.	1	JAN	0640	201	1.	1	JAN	1256	389	1.	1	JAN	1912	577	1.
1	JAN	0026	14	1.	1	JAN	0642	202	1.	1	JAN	1258	390	1.	1	JAN	1914	578	1.
1	JAN	0028	15	1.	1	JAN	0644	203	1.	1	JAN	1300	391	1.	1	JAN	1916	579	1.
1	JAN	0030	16	1.	1	JAN	0646	204	1.	1	JAN	1302	392	1.	1	JAN	1918	580	1.
1	JAN	0032	17	1.	1	JAN	0648	205	1.	1	JAN	1304	393	1.	1	JAN	1920	581	1.
1	JAN	0034	18	1.	1	JAN	0650	206	1.	1	JAN	1306	394	1.	1	JAN	1922	582	1.
1	JAN	0036	19	1.	1	JAN	0652	207	1.	1	JAN	1308	395	1.	1	JAN	1924	583	1.
1	JAN	0038	20	1.	1	JAN	0654	208	1.	1	JAN	1310	396	1.	1	JAN	1926	584	1.
1	JAN	0040	21	1.	1	JAN	0656	209	1.	1	JAN	1312	397	1.	1	JAN	1928	585	1.
1	JAN	0042	22	1.	1	JAN	0658	210	1.	1	JAN	1314	398	1.	1	JAN	1930	586	1.
1	JAN	0044	23	1.	1	JAN	0700	211	1.	1	JAN	1316	399	1.	1	JAN	1932	587	1.
1	JAN	0046	24	1.	1	JAN	0702	212	1.	1	JAN	1318	400	1.	1	JAN	1934	588	1.
1	JAN	0048	25	1.	1	JAN	0704	213	1.	1	JAN	1320	401	1.	1	JAN	1936	589	1.
1	JAN	0050	26	1.	1	JAN	0706	214	1.	1	JAN	1322	402	1.	1	JAN	1938	590	1.
1	JAN	0052	27	1.	1	JAN	0708	215	1.	1	JAN	1324	403	1.	1	JAN	1940	591	1.
1	JAN	0054	28	1.	1	JAN	0710	216	1.	1	JAN	1326	404	1.	1	JAN	1942	592	1.
1	JAN	0056	29	1.	1	JAN	0712	217	1.	1	JAN	1328	405	1.	1	JAN	1944	593	1.
1	JAN	0058	30	1.	1	JAN	0714	218	1.	1	JAN	1330	406	1.	1	JAN	1946	594	1.
1	JAN	0100	31	1.	1	JAN	0716	219	1.	1	JAN	1332	407	1.	1	JAN	1948	595	1.
1	JAN	0102	32	1.	1	JAN	0718	220	1.	1	JAN	1334	408	1.	1	JAN	1950	596	1.
1	JAN	0104	33	1.	1	JAN	0720	221	1.	1	JAN	1336	409	1.	1	JAN	1952	597	1.
1	JAN	0106	34	1.	1	JAN	0722	222	1.	1	JAN	1338	410	1.	1	JAN	1954	598	1.
1	JAN	0108	35	1.	1	JAN	0724	223	1.	1	JAN	1340	411	1.	1	JAN	1956	599	1.
1	JAN	0110	36	1.	1	JAN	0726	224	1.	1	JAN	1342	412	1.	1	JAN	1958	600	1.
1	JAN	0112	37	1.	1	JAN	0728	225	1.	1	JAN	1344	413	1.	1	JAN	2000	601	1.
1	JAN	0114	38	1.	1	JAN	0730	226	1.	1	JAN	1346	414	1.	1	JAN	2002	602	1.
1	JAN	0116	39	1.	1	JAN	0732	227	1.	1	JAN	1348	415	1.	1	JAN	2004	603	1.
1	JAN	0118	40	1.	1	JAN	0734	228	1.	1	JAN	1350	416	1.	1	JAN	2006	604	1.
1	JAN	0120	41	1.	1	JAN	0736	229	1.	1	JAN	1352	417	1.	1	JAN	2008	605	1.
1	JAN	0122	42	1.	1	JAN	0738	230	1.	1	JAN	1354	418	1.	1	JAN	2010	606	1.
1	JAN	0124	43	1.	1	JAN	0740	231	1.	1	JAN	1356	419	1.	1	JAN	2012	607	1.
1	JAN	0126	44	1.	1	JAN	0742	232	1.	1	JAN	1358	420	1.	1	JAN	2014	608	1.
1	JAN	0128	45	1.	1	JAN	0744	233	1.	1	JAN	1400	421	1.	1	JAN	2016	609	1.
1	JAN	0130	46	1.	1	JAN	0746	234	1.	1	JAN	1402	422	1.	1	JAN	2018	610	1.
1	JAN	0132	47	1.	1	JAN	0748	235	1.	1	JAN	1404	423	1.	1	JAN	2020	611	1.
1	JAN	0134	48	1.	1	JAN	0750	236	1.	1	JAN	1406	424	1.	1	JAN	2022	612	1.
1	JAN	0136	49	1.	1	JAN	0752	237	1.	1	JAN	1408	425	1.	1	JAN	2024	613	1.
1	JAN	0138	50	1.	1	JAN	0754	238	1.	1	JAN	1410	426	1.	1	JAN	2026	614	1.
1	JAN	0140	51	1.	1	JAN	0756	239	1.	1	JAN	1412	427	1.	1	JAN	2028	615	1.
1	JAN	0142	52	1.	1	JAN	0758	240	1.	1	JAN	1414	428	1.	1	JAN	2030	616	1.
1	JAN	0144	53	1.	1	JAN	0800	241	1.	1	JAN	1416	429	1.	1	JAN	2032	617	1.
1	JAN	0146	54	1.	1	JAN	0802	242	1.	1	JAN	1418	430	1.	1	JAN	2034	618	1.
1	JAN	0148	55	1.	1	JAN	0804	243	1.	1	JAN	1420	431	1.	1	JAN	2036	619	1.
1	JAN	0150	56	1.	1	JAN	0806	244	1.	1	JAN	1422	432	1.	1	JAN	2038	620	1.
1	JAN	0152	57	1.	1	JAN	0808	245	1.	1	JAN	1424	433	1.	1	JAN	2040	621	1.
1	JAN	0154	58	1.	1	JAN	0810	246	1.	1	JAN	1426	434	1.	1	JAN	2042	622	1.
1	JAN	0156	59	1.	1	JAN	0812	247	1.	1	JAN	1428	435	1.	1	JAN	2044	623	1.
1	JAN	0158	60	1.	1	JAN	0814	248	1.	1	JAN	1430	436	1.	1	JAN	2046	624	1.
1	JAN	0200	61	1.	1	JAN	0816	249	1.	1	JAN	1432	437	1.	1	JAN	2048	625	1.
1	JAN	0202	62	1.	1	JAN	0818	250	1.	1	JAN	1434	438	1.	1	JAN	2050	626	1.
1	JAN	0204	63	1.	1	JAN	0820	251	1.	1	JAN	1436	439	1.	1	JAN	2052	627	1.
1	JAN	0206	64	1.	1	JAN	0822	252	1.	1	JAN	1438	440	1.	1	JAN	2054	628	1.
1	JAN	0208	65	1.	1	JAN	0824	253	1.	1	JAN	1440	441	1.	1	JAN	2056	629	1.
1	JAN	0210	66	1.	1	JAN	0826	254	1.	1	JAN	1442	442	1.	1	JAN	2058	630	1.
1	JAN	0212	67	1.	1	JAN	0828	255	1.	1	JAN	1444	443	1.	1	JAN	2100	631	1.
1	JAN	0214	68	1.	1	JAN	0830	256	1.	1	JAN	1446	444	1.	1	JAN	2102	632	1.
1	JAN	0216	69	1.	1	JAN	0832	257	1.	1	JAN	1448	445	1.	1	JAN	2104	633	1.
1	JAN	0218	70	1.	1	JAN	0834	258	1.	1	JAN	1450	446	1.	1	JAN	2106	634	1.
1	JAN	0220	71	1.	1	JAN	0836	259	1.	1	JAN	1452	447	1.	1	JAN	2108	635	1.
1	JAN	0222	72	1.	1	JAN	0838	260	1.	1	JAN	1454	448	1.	1	JAN	2110	636	1.
1	JAN	0224	73	1.	1	JAN	0840	261	1.	1	JAN	1456	449	1.	1	JAN	2112	637	1.
1	JAN	0226	74	1.	1	JAN	0842	262	1.	1	JAN	1458	450	1.	1	JAN	2114	638	1.
1	JAN	0228	75	1.	1	JAN	0844	263	1.	1	JAN	1500	451	1.	1	JAN	2116	639	1.
1	JAN	0230	76	1.	1	JAN	0846	264	1.	1	JAN	1502	452	1.	1	JAN	2118	640	1.
1	JAN	0232	77	1.	1	JAN	0848	265	1.	1	JAN	1504	453	1.	1	JAN	2120	641	1.
1	JAN	0234	78	1.	1	JAN	0850	266	1.	1	JAN	1506	454	1.	1	JAN	2122	642	1.
1	JAN	0236	79	1.	1	JAN	0852	267	1.	1	JAN	1508	455	1.	1	JAN	2124	643	1.
1	JAN	0238	80	1.	1	JAN	0854	268	1.	1	JAN	1510	456	1.	1	JAN	2126	644	1.
1	JAN	0240	81	1.	1	JAN	0856	269	1.	1	JAN	1512	457	1.	1	JAN	2128	645	1.
1	JAN	0242	82	1.	1	JAN	0858	270	1.	1	JAN	1514	458	1.	1	JAN	2130	646	1.
1	JAN	0244	83	1.	1	JAN	0900	271	1.	1	JAN	1516	459	1.	1	JAN	2132	647	1.

1	JAN	0246	84	1.	*	1	JAN	0902	272	1.	*	1	JAN	1518	460	1.	*	1	JAN	2134	648	1.
1	JAN	0248	85	1.	*	1	JAN	0904	273	1.	*	1	JAN	1520	461	1.	*	1	JAN	2136	649	1.
1	JAN	0250	86	1.	*	1	JAN	0906	274	1.	*	1	JAN	1522	462	1.	*	1	JAN	2138	650	1.
1	JAN	0252	87	1.	*	1	JAN	0908	275	1.	*	1	JAN	1524	463	1.	*	1	JAN	2140	651	1.
1	JAN	0254	88	1.	*	1	JAN	0910	276	1.	*	1	JAN	1526	464	1.	*	1	JAN	2142	652	1.
1	JAN	0256	89	1.	*	1	JAN	0912	277	1.	*	1	JAN	1528	465	1.	*	1	JAN	2144	653	1.
1	JAN	0258	90	1.	*	1	JAN	0914	278	1.	*	1	JAN	1530	466	1.	*	1	JAN	2146	654	1.
1	JAN	0300	91	1.	*	1	JAN	0916	279	1.	*	1	JAN	1532	467	1.	*	1	JAN	2148	655	1.
1	JAN	0302	92	1.	*	1	JAN	0918	280	1.	*	1	JAN	1534	468	1.	*	1	JAN	2150	656	1.
1	JAN	0304	93	1.	*	1	JAN	0920	281	1.	*	1	JAN	1536	469	1.	*	1	JAN	2152	657	1.
1	JAN	0306	94	1.	*	1	JAN	0922	282	1.	*	1	JAN	1538	470	1.	*	1	JAN	2154	658	1.
1	JAN	0308	95	1.	*	1	JAN	0924	283	1.	*	1	JAN	1540	471	1.	*	1	JAN	2156	659	1.
1	JAN	0310	96	1.	*	1	JAN	0926	284	1.	*	1	JAN	1542	472	1.	*	1	JAN	2158	660	1.
1	JAN	0312	97	1.	*	1	JAN	0928	285	1.	*	1	JAN	1544	473	1.	*	1	JAN	2200	661	1.
1	JAN	0314	98	1.	*	1	JAN	0930	286	1.	*	1	JAN	1546	474	1.	*	1	JAN	2202	662	1.
1	JAN	0316	99	1.	*	1	JAN	0932	287	1.	*	1	JAN	1548	475	1.	*	1	JAN	2204	663	1.
1	JAN	0318	100	1.	*	1	JAN	0934	288	1.	*	1	JAN	1550	476	1.	*	1	JAN	2206	664	1.
1	JAN	0320	101	1.	*	1	JAN	0936	289	1.	*	1	JAN	1552	477	1.	*	1	JAN	2208	665	1.
1	JAN	0322	102	1.	*	1	JAN	0938	290	1.	*	1	JAN	1554	478	1.	*	1	JAN	2210	666	1.
1	JAN	0324	103	1.	*	1	JAN	0940	291	1.	*	1	JAN	1556	479	1.	*	1	JAN	2212	667	1.
1	JAN	0326	104	1.	*	1	JAN	0942	292	1.	*	1	JAN	1558	480	1.	*	1	JAN	2214	668	1.
1	JAN	0328	105	1.	*	1	JAN	0944	293	1.	*	1	JAN	1600	481	1.	*	1	JAN	2216	669	1.
1	JAN	0330	106	1.	*	1	JAN	0946	294	1.	*	1	JAN	1602	482	1.	*	1	JAN	2218	670	1.
1	JAN	0332	107	1.	*	1	JAN	0948	295	1.	*	1	JAN	1604	483	1.	*	1	JAN	2220	671	1.
1	JAN	0334	108	1.	*	1	JAN	0950	296	1.	*	1	JAN	1606	484	1.	*	1	JAN	2222	672	1.
1	JAN	0336	109	1.	*	1	JAN	0952	297	1.	*	1	JAN	1608	485	1.	*	1	JAN	2224	673	1.
1	JAN	0338	110	1.	*	1	JAN	0954	298	1.	*	1	JAN	1610	486	1.	*	1	JAN	2226	674	1.
1	JAN	0340	111	1.	*	1	JAN	0956	299	1.	*	1	JAN	1612	487	1.	*	1	JAN	2228	675	1.
1	JAN	0342	112	1.	*	1	JAN	0958	300	1.	*	1	JAN	1614	488	1.	*	1	JAN	2230	676	1.
1	JAN	0344	113	1.	*	1	JAN	1000	301	1.	*	1	JAN	1616	489	1.	*	1	JAN	2232	677	1.
1	JAN	0346	114	1.	*	1	JAN	1002	302	1.	*	1	JAN	1618	490	1.	*	1	JAN	2234	678	1.
1	JAN	0348	115	1.	*	1	JAN	1004	303	1.	*	1	JAN	1620	491	1.	*	1	JAN	2236	679	1.
1	JAN	0350	116	1.	*	1	JAN	1006	304	1.	*	1	JAN	1622	492	1.	*	1	JAN	2238	680	1.
1	JAN	0352	117	1.	*	1	JAN	1008	305	1.	*	1	JAN	1624	493	1.	*	1	JAN	2240	681	1.
1	JAN	0354	118	1.	*	1	JAN	1010	306	1.	*	1	JAN	1626	494	1.	*	1	JAN	2242	682	1.
1	JAN	0356	119	1.	*	1	JAN	1012	307	1.	*	1	JAN	1628	495	1.	*	1	JAN	2244	683	1.
1	JAN	0358	120	1.	*	1	JAN	1014	308	1.	*	1	JAN	1630	496	1.	*	1	JAN	2246	684	1.
1	JAN	0400	121	1.	*	1	JAN	1016	309	1.	*	1	JAN	1632	497	1.	*	1	JAN	2248	685	1.
1	JAN	0402	122	1.	*	1	JAN	1018	310	1.	*	1	JAN	1634	498	1.	*	1	JAN	2250	686	1.
1	JAN	0404	123	1.	*	1	JAN	1020	311	1.	*	1	JAN	1636	499	1.	*	1	JAN	2252	687	1.
1	JAN	0406	124	1.	*	1	JAN	1022	312	1.	*	1	JAN	1638	500	1.	*	1	JAN	2254	688	1.
1	JAN	0408	125	1.	*	1	JAN	1024	313	1.	*	1	JAN	1640	501	1.	*	1	JAN	2256	689	1.
1	JAN	0410	126	1.	*	1	JAN	1026	314	1.	*	1	JAN	1642	502	1.	*	1	JAN	2258	690	1.
1	JAN	0412	127	1.	*	1	JAN	1028	315	1.	*	1	JAN	1644	503	1.	*	1	JAN	2300	691	1.
1	JAN	0414	128	1.	*	1	JAN	1030	316	1.	*	1	JAN	1646	504	1.	*	1	JAN	2302	692	1.
1	JAN	0416	129	1.	*	1	JAN	1032	317	1.	*	1	JAN	1648	505	1.	*	1	JAN	2304	693	1.
1	JAN	0418	130	1.	*	1	JAN	1034	318	1.	*	1	JAN	1650	506	1.	*	1	JAN	2306	694	1.
1	JAN	0420	131	1.	*	1	JAN	1036	319	1.	*	1	JAN	1652	507	1.	*	1	JAN	2308	695	1.
1	JAN	0422	132	1.	*	1	JAN	1038	320	1.	*	1	JAN	1654	508	1.	*	1	JAN	2310	696	1.
1	JAN	0424	133	1.	*	1	JAN	1040	321	1.	*	1	JAN	1656	509	1.	*	1	JAN	2312	697	1.
1	JAN	0426	134	1.	*	1	JAN	1042	322	1.	*	1	JAN	1658	510	1.	*	1	JAN	2314	698	1.
1	JAN	0428	135	1.	*	1	JAN	1044	323	1.	*	1	JAN	1700	511	1.	*	1	JAN	2316	699	1.
1	JAN	0430	136	1.	*	1	JAN	1046	324	1.	*	1	JAN	1702	512	1.	*	1	JAN	2318	700	1.
1	JAN	0432	137	1.	*	1	JAN	1048	325	1.	*	1	JAN	1704	513	1.	*	1	JAN	2320	701	1.
1	JAN	0434	138	1.	*	1	JAN	1050	326	1.	*	1	JAN	1706	514	1.	*	1	JAN	2322	702	1.
1	JAN	0436	139	1.	*	1	JAN	1052	327	1.	*	1	JAN	1708	515	1.	*	1	JAN	2324	703	1.
1	JAN	0438	140	1.	*	1	JAN	1054	328	1.	*	1	JAN	1710	516	1.	*	1	JAN	2326	704	1.
1	JAN	0440	141	1.	*	1	JAN	1056	329	1.	*	1	JAN	1712	517	1.	*	1	JAN	2328	705	1.
1	JAN	0442	142	1.	*	1	JAN	1058	330	1.	*	1	JAN	1714	518	1.	*	1	JAN	2330	706	1.
1	JAN	0444	143	1.	*	1	JAN	1100	331	1.	*	1	JAN	1716	519	1.	*	1	JAN	2332	707	1.
1	JAN	0446	144	1.	*	1	JAN	1102	332	1.	*	1	JAN	1718	520	1.	*	1	JAN	2334	708	1.
1	JAN	0448	145	1.	*	1	JAN	1104	333	1.	*	1	JAN	1720	521	1.	*	1	JAN	2336	709	1.
1	JAN	0450	146	1.	*	1	JAN	1106	334	1.	*	1	JAN	1722	522	1.	*	1	JAN	2338	710	1.
1	JAN	0452	147	1.	*	1	JAN	1108	335	1.	*	1	JAN	1724	523	1.	*	1	JAN	2340	711	1.
1	JAN	0454	148	1.	*	1	JAN	1110	336	1.	*	1	JAN	1726	524	1.	*	1	JAN	2342	712	1.
1	JAN	0456	149	1.	*	1	JAN	1112	337	1.	*	1	JAN	1728	525	1.	*	1	JAN	2344	713	1.
1	JAN	0458	150	1.	*	1	JAN	1114	338	1.	*	1	JAN	1730	526	1.	*	1	JAN	2346	714	1.
1	JAN	0500	151	1.	*	1	JAN	1116	339	1.	*	1	JAN	1732	527	1.	*	1	JAN	2348	715	1.
1	JAN	0502	152	1.	*	1	JAN	1118	340	1.	*	1	JAN	1734	528	1.	*	1	JAN	2350	716	1.
1	JAN	0504	153	1.	*	1	JAN	1120	341	1.	*	1	JAN	1736	529	1.	*	1	JAN	2352	717	1.
1	JAN	0506	154	1.	*	1	JAN	1122	342	1.	*	1	JAN	1738	530	1.	*	1	JAN	2354	718	1.
1	JAN	0508	155	1.	*	1	JAN	1124	343	1.	*	1	JAN	1740	531	1.	*	1	JAN	2356	719	1.
1	JAN	0510	156	1.	*	1	JAN	1126	344	1.	*	1	JAN	1742	532	1.	*	1	JAN	2358	720	1.
1	JAN	0512	157	1.	*	1	JAN	1128	345	1.	*	1	JAN	1744	533	1.	*	2	JAN	0000	721	1.
1	JAN	0514	158	1.	*	1	JAN	1130	346	1.	*	1	JAN	1746	534	1.	*	2	JAN	0002	722	1.
1	JAN	0516	159	1.	*	1	JAN	1132	347	1.	*	1	JAN	1748	535	1.	*	2	JAN	0004	723	1.
1	JAN	0518	160	1.	*	1	JAN	1134	348	1.	*	1	JAN	1750	536	1.	*	2	JAN	0006	724	1.
1	JAN	0520	161	1.	*	1	JAN	1136	349	1.	*	1	JAN	1752	537	1.	*	2	JAN	0008	725	1.
1	JAN	0522	162	1.	*	1	JAN	1138	350	1.	*	1	JAN	1754	538	1.	*	2	JAN	0010	726	1.
1	JAN	0524	163	1.	*	1	JAN	1140	351	1.	*	1	JAN	1756	539	1.	*	2	JAN	0012	727	1.
1	JAN	0526	164	1.	*	1	JAN	1142	352	1.	*	1	JAN	1758	540	1.	*	2	JAN	0014	728	1.
1	JAN	0528	165	1.	*	1	JAN	1144	353	1.	*	1	JAN	1800	541	1.	*	2	JAN	0016	729	1.
1	JAN	0530	166	1.	*	1	JAN	1146	354	1.	*	1	JAN	1802	542	1.	*	2	JAN	0018	730	1.
1	JAN	0532	167	1.	*	1	JAN	1148	355	1.	*	1	JAN	1804	543	1.	*	2	JAN	0020	731	1.
1	JAN	0534	168	1.	*	1	JAN	1150	356	1.	*	1	JAN	1806	544	1.	*	2	JAN	0022	732	1.
1	JAN	0536	169	1.	*	1	JAN	1152	357	1.	*	1	JAN	1808	545	1.	*	2	JAN	0024	733	1.
1	JAN	0538	170	1.	*	1	JAN	1154	358	1.	*	1	JAN	1810	546	1.	*	2	JAN	0026	734	1.
1	JAN	0540	171	1.	*	1	JAN	1156	359	1.	*	1	JAN	1812	547	1.	*	2	JAN	0028	735	1.
1	JAN	0542	172	1.	*	1	JAN	1158	360	1.	*	1	JAN	1814	548	1.	*	2	JAN	0030	736	1.
1	JAN	0544	173	1.	*	1	JAN	1200	361	1.	*	1	JAN	1816	549	1.	*	2	JAN	0032	737	1.
1	JAN	0546	174	1.	*	1	JAN	1202	362	1.	*	1	JAN	1818	550	1.	*	2	JAN	0034	738	1.
1	JAN	0548	175	1.	*	1	JAN	1204	363	1.	*	1	JAN	1820	551	1.	*	2	JAN	0036	739	1.
1	JAN	0550	176	1.	*	1	JAN	1206	364	1.	*	1	JAN	1822	552	1.	*	2	JAN	0038	740	1.
1	JAN	0552	177	1.	*	1	JAN	1208	365	1.	*	1	JAN	1824	553	1.	*	2	JAN	0040	741	1.
1	JAN	0554	178	1.	*	1	JAN	1210	366	1.	*	1	JAN	1826	554	1.	*	2	JAN	0042	742	1.

1 JAN 0556	179	1.	1 JAN 1212	367	1.	1 JAN 1828	555	1.	2 JAN 0044	743	1.
1 JAN 0558	180	1.	1 JAN 1214	368	1.	1 JAN 1830	556	1.	2 JAN 0046	744	1.
1 JAN 0600	181	1.	1 JAN 1216	369	1.	1 JAN 1832	557	1.	2 JAN 0048	745	1.
1 JAN 0602	182	1.	1 JAN 1218	370	1.	1 JAN 1834	558	1.	2 JAN 0050	746	1.
1 JAN 0604	183	1.	1 JAN 1220	371	1.	1 JAN 1836	559	1.	2 JAN 0052	747	1.
1 JAN 0606	184	1.	1 JAN 1222	372	1.	1 JAN 1838	560	1.	2 JAN 0054	748	1.
1 JAN 0608	185	1.	1 JAN 1224	373	1.	1 JAN 1840	561	1.	2 JAN 0056	749	1.
1 JAN 0610	186	1.	1 JAN 1226	374	1.	1 JAN 1842	562	1.	2 JAN 0058	750	1.
1 JAN 0612	187	1.	1 JAN 1228	375	1.	1 JAN 1844	563	1.			
1 JAN 0614	188	1.	1 JAN 1230	376	1.	1 JAN 1846	564	1.			

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.97-HR
+ (CFS)	(HR)					
		(CFS)				
+ 13.	.17		2.	1.	1.	1.
		(INCHES)	3.927	12.992	13.478	13.478
		(AC-FT)	1.	3.	3.	3.

CUMULATIVE AREA = .00 SQ MI

13 KK RET1A

UG RETENTION BASIN 1A

HYDROGRAPH ROUTING DATA

15 RS STORAGE ROUTING

NSTPS	1	NUMBER OF SUBREACHES
ITYP	STOR	TYPE OF INITIAL CONDITION
RSVRIC	.00	INITIAL CONDITION
X	.00	WORKING R AND D COEFFICIENT

16 SV	STORAGE	.0	.0	.2	.3	.5	.6	.6
17 SE	ELEVATION	.00	1.00	3.00	5.00	7.00	9.00	10.00

19 SL LOW-LEVEL OUTLET

ELEVL	.17	ELEVATION AT CENTER OF OUTLET
CAREA	.09	CROSS-SECTIONAL AREA
COQL	.60	COEFFICIENT
EXPL	.50	EXPONENT OF HEAD

18 SS SPILLWAY

CREL	9.90	SPILLWAY CREST ELEVATION
SPWID	1.00	SPILLWAY WIDTH
COQW	2.30	WEIR COEFFICIENT
EXPW	1.50	EXPONENT OF HEAD

***

COMPUTED OUTFLOW-ELEVATION DATA

OUTFLOW	.00	.00	.18	.20	.23	.28	.35	.46	.68	1.31
ELEVATION	.00	.17	.35	.40	.48	.62	.86	1.39	2.83	9.90
OUTFLOW	1.31	1.31	1.31	1.31	1.32	1.33	1.34	1.35	1.37	1.39
ELEVATION	9.90	9.91	9.91	9.92	9.93	9.94	9.95	9.97	9.98	10.00

COMPUTED STORAGE-OUTFLOW-ELEVATION DATA

STORAGE	.00	.01	.01	.01	.01	.02	.03	.03	.06	.15
OUTFLOW	.00	.00	.18	.20	.23	.28	.35	.38	.46	.68
ELEVATION	.00	.17	.35	.40	.48	.62	.86	1.00	1.39	2.83
STORAGE	.16	.32	.47	.60	.63	.63	.63	.63	.63	.63
OUTFLOW	.71	.92	1.10	1.25	1.31	1.31	1.32	1.33	1.34	1.35
ELEVATION	3.00	5.00	7.00	9.00	9.90	9.91	9.93	9.94	9.95	9.97
STORAGE	.63	.63								
OUTFLOW	1.37	1.39								
ELEVATION	9.98	10.00								

HYDROGRAPH AT STATION RET1A

DA	MON	HRMN	ORD	OUTFLOW	STORAGE	STAGE	DA	MON	HRMN	ORD	OUTFLOW	STORAGE	STAGE	DA	MON	HRMN	ORD	OUTFLOW	STORAGE	STAGE
1	JAN	0000	1	0.	.0	.0	1	JAN	0820	251	1.	.4	6.7	1	JAN	1640	501	1.	.6	8.3
1	JAN	0002	2	0.	.0	.1	1	JAN	0822	252	1.	.4	6.7	1	JAN	1642	502	1.	.6	8.3
1	JAN	0004	3	0.	.0	.5	1	JAN	0824	253	1.	.4	6.7	1	JAN	1644	503	1.	.6	8.3
1	JAN	0006	4	0.	.0	1.0	1	JAN	0826	254	1.	.4	6.7	1	JAN	1646	504	1.	.6	8.4
1	JAN	0008	5	0.	.1	1.4	1	JAN	0828	255	1.	.5	6.7	1	JAN	1648	505	1.	.6	8.4
1	JAN	0010	6	1.	.1	1.9	1	JAN	0830	256	1.	.5	6.7	1	JAN	1650	506	1.	.6	8.4
1	JAN	0012	7	1.	.1	2.4	1	JAN	0832	257	1.	.5	6.8	1	JAN	1652	507	1.	.6	8.4
1	JAN	0014	8	1.	.1	2.8	1	JAN	0834	258	1.	.5	6.8	1	JAN	1654	508	1.	.6	8.4
1	JAN	0016	9	1.	.2	3.1	1	JAN	0836	259	1.	.5	6.8	1	JAN	1656	509	1.	.6	8.4
1	JAN	0018	10	1.	.2	3.3	1	JAN	0838	260	1.	.5	6.8	1	JAN	1658	510	1.	.6	8.4
1	JAN	0020	11	1.	.2	3.5	1	JAN	0840	261	1.	.5	6.8	1	JAN	1700	511	1.	.6	8.4
1	JAN	0022	12	1.	.2	3.6	1	JAN	0842	262	1.	.5	6.8	1	JAN	1702	512	1.	.6	8.4
1	JAN	0024	13	1.	.2	3.7	1	JAN	0844	263	1.	.5	6.8	1	JAN	1704	513	1.	.6	8.4
1	JAN	0026	14	1.	.2	3.8	1	JAN	0846	264	1.	.5	6.8	1	JAN	1706	514	1.	.6	8.4
1	JAN	0028	15	1.	.2	3.8	1	JAN	0848	265	1.	.5	6.8	1	JAN	1708	515	1.	.6	8.4
1	JAN	0030	16	1.	.2	3.8	1	JAN	0850	266	1.	.5	6.8	1	JAN	1710	516	1.	.6	8.4
1	JAN	0032	17	1.	.2	3.8	1	JAN	0852	267	1.	.5	6.8	1	JAN	1712	517	1.	.6	8.4
1	JAN	0034	18	1.	.2	3.8	1	JAN	0854	268	1.	.5	6.8	1	JAN	1714	518	1.	.6	8.4
1	JAN	0036	19	1.	.2	3.8	1	JAN	0856	269	1.	.5	6.8	1	JAN	1716	519	1.	.6	8.4
1	JAN	0038	20	1.	.2	3.9	1	JAN	0858	270	1.	.5	6.9	1	JAN	1718	520	1.	.6	8.4
1	JAN	0040	21	1.	.2	3.9	1	JAN	0900	271	1.	.5	6.9	1	JAN	1720	521	1.	.6	8.4
1	JAN	0042	22	1.	.2	3.9	1	JAN	0902	272	1.	.5	6.9	1	JAN	1722	522	1.	.6	8.4
1	JAN	0044	23	1.	.2	3.9	1	JAN	0904	273	1.	.5	6.9	1	JAN	1724	523	1.	.6	8.4
1	JAN	0046	24	1.	.2	3.9	1	JAN	0906	274	1.	.5	6.9	1	JAN	1726	524	1.	.6	8.4
1	JAN	0048	25	1.	.2	3.9	1	JAN	0908	275	1.	.5	6.9	1	JAN	1728	525	1.	.6	8.4
1	JAN	0050	26	1.	.2	4.0	1	JAN	0910	276	1.	.5	6.9	1	JAN	1730	526	1.	.6	8.4
1	JAN	0052	27	1.	.2	4.0	1	JAN	0912	277	1.	.5	6.9	1	JAN	1732	527	1.	.6	8.5
1	JAN	0054	28	1.	.2	4.0	1	JAN	0914	278	1.	.5	6.9	1	JAN	1734	528	1.	.6	8.5
1	JAN	0056	29	1.	.2	4.0	1	JAN	0916	279	1.	.5	6.9	1	JAN	1736	529	1.	.6	8.5
1	JAN	0058	30	1.	.2	4.0	1	JAN	0918	280	1.	.5	6.9	1	JAN	1738	530	1.	.6	8.5
1	JAN	0100	31	1.	.2	4.0	1	JAN	0920	281	1.	.5	6.9	1	JAN	1740	531	1.	.6	8.5
1	JAN	0102	32	1.	.2	4.1	1	JAN	0922	282	1.	.5	7.0	1	JAN	1742	532	1.	.6	8.5
1	JAN	0104	33	1.	.2	4.1	1	JAN	0924	283	1.	.5	7.0	1	JAN	1744	533	1.	.6	8.5
1	JAN	0106	34	1.	.2	4.1	1	JAN	0926	284	1.	.5	7.0	1	JAN	1746	534	1.	.6	8.5
1	JAN	0108	35	1.	.2	4.1	1	JAN	0928	285	1.	.5	7.0	1	JAN	1748	535	1.	.6	8.5
1	JAN	0110	36	1.	.3	4.1	1	JAN	0930	286	1.	.5	7.0	1	JAN	1750	536	1.	.6	8.5
1	JAN	0112	37	1.	.3	4.1	1	JAN	0932	287	1.	.5	7.0	1	JAN	1752	537	1.	.6	8.5
1	JAN	0114	38	1.	.3	4.2	1	JAN	0934	288	1.	.5	7.0	1	JAN	1754	538	1.	.6	8.5
1	JAN	0116	39	1.	.3	4.2	1	JAN	0936	289	1.	.5	7.0	1	JAN	1756	539	1.	.6	8.5
1	JAN	0118	40	1.	.3	4.2	1	JAN	0938	290	1.	.5	7.0	1	JAN	1758	540	1.	.6	8.5
1	JAN	0120	41	1.	.3	4.2	1	JAN	0940	291	1.	.5	7.0	1	JAN	1800	541	1.	.6	8.5
1	JAN	0122	42	1.	.3	4.2	1	JAN	0942	292	1.	.5	7.0	1	JAN	1802	542	1.	.6	8.5
1	JAN	0124	43	1.	.3	4.2	1	JAN	0944	293	1.	.5	7.0	1	JAN	1804	543	1.	.6	8.5
1	JAN	0126	44	1.	.3	4.3	1	JAN	0946	294	1.	.5	7.0	1	JAN	1806	544	1.	.6	8.5

1	JAN	0128	45	1.	.3	4.3	*	1	JAN	0948	295	1.	.5	7.1	*	1	JAN	1808	545	1.	.6
8.5																					
1	JAN	0130	46	1.	.3	4.3	*	1	JAN	0950	296	1.	.5	7.1	*	1	JAN	1810	546	1.	.6
8.5																					
1	JAN	0132	47	1.	.3	4.3	*	1	JAN	0952	297	1.	.5	7.1	*	1	JAN	1812	547	1.	.6
8.5																					
1	JAN	0134	48	1.	.3	4.3	*	1	JAN	0954	298	1.	.5	7.1	*	1	JAN	1814	548	1.	.6
8.5																					
1	JAN	0136	49	1.	.3	4.3	*	1	JAN	0956	299	1.	.5	7.1	*	1	JAN	1816	549	1.	.6
8.5																					
1	JAN	0138	50	1.	.3	4.3	*	1	JAN	0958	300	1.	.5	7.1	*	1	JAN	1818	550	1.	.6
8.5																					
1	JAN	0140	51	1.	.3	4.4	*	1	JAN	1000	301	1.	.5	7.1	*	1	JAN	1820	551	1.	.6
8.5																					
1	JAN	0142	52	1.	.3	4.4	*	1	JAN	1002	302	1.	.5	7.1	*	1	JAN	1822	552	1.	.6
8.5																					
1	JAN	0144	53	1.	.3	4.4	*	1	JAN	1004	303	1.	.5	7.1	*	1	JAN	1824	553	1.	.6
8.6																					
1	JAN	0146	54	1.	.3	4.4	*	1	JAN	1006	304	1.	.5	7.1	*	1	JAN	1826	554	1.	.6
8.6																					
1	JAN	0148	55	1.	.3	4.4	*	1	JAN	1008	305	1.	.5	7.1	*	1	JAN	1828	555	1.	.6
8.6																					
1	JAN	0150	56	1.	.3	4.4	*	1	JAN	1010	306	1.	.5	7.1	*	1	JAN	1830	556	1.	.6
8.6																					
1	JAN	0152	57	1.	.3	4.5	*	1	JAN	1012	307	1.	.5	7.2	*	1	JAN	1832	557	1.	.6
8.6																					
1	JAN	0154	58	1.	.3	4.5	*	1	JAN	1014	308	1.	.5	7.2	*	1	JAN	1834	558	1.	.6
8.6																					
1	JAN	0156	59	1.	.3	4.5	*	1	JAN	1016	309	1.	.5	7.2	*	1	JAN	1836	559	1.	.6
8.6																					
1	JAN	0158	60	1.	.3	4.5	*	1	JAN	1018	310	1.	.5	7.2	*	1	JAN	1838	560	1.	.6
8.6																					
1	JAN	0200	61	1.	.3	4.5	*	1	JAN	1020	311	1.	.5	7.2	*	1	JAN	1840	561	1.	.6
8.6																					
1	JAN	0202	62	1.	.3	4.5	*	1	JAN	1022	312	1.	.5	7.2	*	1	JAN	1842	562	1.	.6
8.6																					
1	JAN	0204	63	1.	.3	4.5	*	1	JAN	1024	313	1.	.5	7.2	*	1	JAN	1844	563	1.	.6
8.6																					
1	JAN	0206	64	1.	.3	4.6	*	1	JAN	1026	314	1.	.5	7.2	*	1	JAN	1846	564	1.	.6
8.6																					
1	JAN	0208	65	1.	.3	4.6	*	1	JAN	1028	315	1.	.5	7.2	*	1	JAN	1848	565	1.	.6
8.6																					
1	JAN	0210	66	1.	.3	4.6	*	1	JAN	1030	316	1.	.5	7.2	*	1	JAN	1850	566	1.	.6
8.6																					
1	JAN	0212	67	1.	.3	4.6	*	1	JAN	1032	317	1.	.5	7.2	*	1	JAN	1852	567	1.	.6
8.6																					
1	JAN	0214	68	1.	.3	4.6	*	1	JAN	1034	318	1.	.5	7.2	*	1	JAN	1854	568	1.	.6
8.6																					
1	JAN	0216	69	1.	.3	4.6	*	1	JAN	1036	319	1.	.5	7.3	*	1	JAN	1856	569	1.	.6
8.6																					
1	JAN	0218	70	1.	.3	4.6	*	1	JAN	1038	320	1.	.5	7.3	*	1	JAN	1858	570	1.	.6
8.6																					
1	JAN	0220	71	1.	.3	4.7	*	1	JAN	1040	321	1.	.5	7.3	*	1	JAN	1900	571	1.	.6
8.6																					
1	JAN	0222	72	1.	.3	4.7	*	1	JAN	1042	322	1.	.5	7.3	*	1	JAN	1902	572	1.	.6
8.6																					
1	JAN	0224	73	1.	.3	4.7	*	1	JAN	1044	323	1.	.5	7.3	*	1	JAN	1904	573	1.	.6
8.6																					
1	JAN	0226	74	1.	.3	4.7	*	1	JAN	1046	324	1.	.5	7.3	*	1	JAN	1906	574	1.	.6
8.6																					
1	JAN	0228	75	1.	.3	4.7	*	1	JAN	1048	325	1.	.5	7.3	*	1	JAN	1908	575	1.	.6
8.6																					
1	JAN	0230	76	1.	.3	4.7	*	1	JAN	1050	326	1.	.5	7.3	*	1	JAN	1910	576	1.	.6
8.6																					
1	JAN	0232	77	1.	.3	4.7	*	1	JAN	1052	327	1.	.5	7.3	*	1	JAN	1912	577	1.	.6
8.6																					
1	JAN	0234	78	1.	.3	4.8	*	1	JAN	1054	328	1.	.5	7.3	*	1	JAN	1914	578	1.	.6
8.6																					
1	JAN	0236	79	1.	.3	4.8	*	1	JAN	1056	329	1.	.5	7.3	*	1	JAN	1916	579	1.	.6
8.6																					
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8.6																					
1	JAN	0240	81	1.	.3	4.8	*	1	JAN	1100	331	1.	.5	7.3	*	1	JAN	1920	581	1.	.6
8.7																					
1	JAN	0242	82	1.	.3	4.8	*	1	JAN	1102	332	1.	.5	7.4	*	1	JAN	1922	582	1.	.6
8.7																					
1	JAN	0244	83	1.	.3	4.8	*	1	JAN	1104	333	1.	.5	7.4	*	1	JAN	1924	583	1.	.6
8.7																					
1	JAN	0246	84	1.	.3	4.8	*	1	JAN	1106	334	1.	.5	7.4	*	1	JAN	1926	584	1.	.6
8.7																					
1	JAN	0248	85	1.	.3	4.9	*	1	JAN	1108	335	1.	.5	7.4	*	1	JAN	1928	585	1.	.6
8.7																					
1	JAN	0250	86	1.	.3	4.9	*	1	JAN	1110	336	1.	.5	7.4	*	1	JAN	1930	586	1.	.6
8.7																					
1	JAN	0252	87	1.	.3	4.9	*	1	JAN	1112	337	1.	.5	7.4	*	1	JAN	1932	587	1.	.6
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1	JAN	0254	88	1.	.3	4.9	*	1	JAN	1114	338	1.	.5	7.4	*	1	JAN	1934	588	1.	.6
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1	JAN	0256	89	1.	.3	4.9	*	1	JAN	1116	339	1.	.5	7.4	*	1	JAN	1936	589	1.	.6
8.7																					
1	JAN	0258	90	1.	.3	4.9	*	1	JAN	1118	340	1.	.5	7.4	*	1	JAN	1938	590	1.	.6
8.7																					
1	JAN	0300	91	1.	.3	4.9	*	1	JAN	1120	341	1.	.5	7.4	*	1	JAN	1940	591	1.	.6
8.7																					

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1	JAN	0002	2	5.	1	JAN	0618	190	2.	1	JAN	1234	378	2.	1	JAN	1850	566	2.
1	JAN	0004	3	9.	1	JAN	0620	191	2.	1	JAN	1236	379	2.	1	JAN	1852	567	2.
1	JAN	0006	4	14.	1	JAN	0622	192	2.	1	JAN	1238	380	2.	1	JAN	1854	568	2.
1	JAN	0008	5	18.	1	JAN	0624	193	2.	1	JAN	1240	381	2.	1	JAN	1856	569	2.
1	JAN	0010	6	23.	1	JAN	0626	194	2.	1	JAN	1242	382	2.	1	JAN	1858	570	2.
1	JAN	0012	7	20.	1	JAN	0628	195	2.	1	JAN	1244	383	2.	1	JAN	1900	571	2.
1	JAN	0014	8	17.	1	JAN	0630	196	2.	1	JAN	1246	384	2.	1	JAN	1902	572	2.
1	JAN	0016	9	14.	1	JAN	0632	197	2.	1	JAN	1248	385	2.	1	JAN	1904	573	2.
1	JAN	0018	10	12.	1	JAN	0634	198	2.	1	JAN	1250	386	2.	1	JAN	1906	574	2.
1	JAN	0020	11	9.	1	JAN	0636	199	2.	1	JAN	1252	387	2.	1	JAN	1908	575	2.
1	JAN	0022	12	6.	1	JAN	0638	200	2.	1	JAN	1254	388	2.	1	JAN	1910	576	2.
1	JAN	0024	13	4.	1	JAN	0640	201	2.	1	JAN	1256	389	2.	1	JAN	1912	577	2.
1	JAN	0026	14	2.	1	JAN	0642	202	2.	1	JAN	1258	390	2.	1	JAN	1914	578	2.
1	JAN	0028	15	2.	1	JAN	0644	203	2.	1	JAN	1300	391	2.	1	JAN	1916	579	2.
1	JAN	0030	16	2.	1	JAN	0646	204	2.	1	JAN	1302	392	2.	1	JAN	1918	580	2.
1	JAN	0032	17	2.	1	JAN	0648	205	2.	1	JAN	1304	393	2.	1	JAN	1920	581	2.
1	JAN	0034	18	2.	1	JAN	0650	206	2.	1	JAN	1306	394	2.	1	JAN	1922	582	2.
1	JAN	0036	19	2.	1	JAN	0652	207	2.	1	JAN	1308	395	2.	1	JAN	1924	583	2.
1	JAN	0038	20	2.	1	JAN	0654	208	2.	1	JAN	1310	396	2.	1	JAN	1926	584	2.
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1	JAN	0042	22	2.	1	JAN	0658	210	2.	1	JAN	1314	398	2.	1	JAN	1930	586	2.
1	JAN	0044	23	2.	1	JAN	0700	211	2.	1	JAN	1316	399	2.	1	JAN	1932	587	2.
1	JAN	0046	24	2.	1	JAN	0702	212	2.	1	JAN	1318	400	2.	1	JAN	1934	588	2.
1	JAN	0048	25	2.	1	JAN	0704	213	2.	1	JAN	1320	401	2.	1	JAN	1936	589	2.
1	JAN	0050	26	2.	1	JAN	0706	214	2.	1	JAN	1322	402	2.	1	JAN	1938	590	2.
1	JAN	0052	27	2.	1	JAN	0708	215	2.	1	JAN	1324	403	2.	1	JAN	1940	591	2.
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1	JAN	0056	29	2.	1	JAN	0712	217	2.	1	JAN	1328	405	2.	1	JAN	1944	593	2.
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1	JAN	0102	32	2.	1	JAN	0718	220	2.	1	JAN	1334	408	2.	1	JAN	1950	596	2.
1	JAN	0104	33	2.	1	JAN	0720	221	2.	1	JAN	1336	409	2.	1	JAN	1952	597	2.
1	JAN	0106	34	2.	1	JAN	0722	222	2.	1	JAN	1338	410	2.	1	JAN	1954	598	2.
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1	JAN	0110	36	2.	1	JAN	0726	224	2.	1	JAN	1342	412	2.	1	JAN	1958	600	2.
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1	JAN	0116	39	2.	1	JAN	0732	227	2.	1	JAN	1348	415	2.	1	JAN	2004	603	2.
1	JAN	0118	40	2.	1	JAN	0734	228	2.	1	JAN	1350	416	2.	1	JAN	2006	604	2.
1	JAN	0120	41	2.	1	JAN	0736	229	2.	1	JAN	1352	417	2.	1	JAN	2008	605	2.
1	JAN	0122	42	2.	1	JAN	0738	230	2.	1	JAN	1354	418	2.	1	JAN	2010	606	2.
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1 JAN 0310	96	2.	*	1 JAN 0926	284	2.	*	1 JAN 1542	472	2.	*	1 JAN 2158	660	2.
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1 JAN 0318	100	2.	*	1 JAN 0934	288	2.	*	1 JAN 1550	476	2.	*	1 JAN 2206	664	2.
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1 JAN 0324	103	2.	*	1 JAN 0940	291	2.	*	1 JAN 1556	479	2.	*	1 JAN 2212	667	2.
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1 JAN 0328	105	2.	*	1 JAN 0944	293	2.	*	1 JAN 1600	481	2.	*	1 JAN 2216	669	2.
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1 JAN 0334	108	2.	*	1 JAN 0950	296	2.	*	1 JAN 1606	484	2.	*	1 JAN 2222	672	2.
1 JAN 0336	109	2.	*	1 JAN 0952	297	2.	*	1 JAN 1608	485	2.	*	1 JAN 2224	673	2.
1 JAN 0338	110	2.	*	1 JAN 0954	298	2.	*	1 JAN 1610	486	2.	*	1 JAN 2226	674	2.
1 JAN 0340	111	2.	*	1 JAN 0956	299	2.	*	1 JAN 1612	487	2.	*	1 JAN 2228	675	2.
1 JAN 0342	112	2.	*	1 JAN 0958	300	2.	*	1 JAN 1614	488	2.	*	1 JAN 2230	676	2.
1 JAN 0344	113	2.	*	1 JAN 1000	301	2.	*	1 JAN 1616	489	2.	*	1 JAN 2232	677	2.
1 JAN 0346	114	2.	*	1 JAN 1002	302	2.	*	1 JAN 1618	490	2.	*	1 JAN 2234	678	2.
1 JAN 0348	115	2.	*	1 JAN 1004	303	2.	*	1 JAN 1620	491	2.	*	1 JAN 2236	679	2.
1 JAN 0350	116	2.	*	1 JAN 1006	304	2.	*	1 JAN 1622	492	2.	*	1 JAN 2238	680	2.
1 JAN 0352	117	2.	*	1 JAN 1008	305	2.	*	1 JAN 1624	493	2.	*	1 JAN 2240	681	2.
1 JAN 0354	118	2.	*	1 JAN 1010	306	2.	*	1 JAN 1626	494	2.	*	1 JAN 2242	682	2.
1 JAN 0356	119	2.	*	1 JAN 1012	307	2.	*	1 JAN 1628	495	2.	*	1 JAN 2244	683	2.
1 JAN 0358	120	2.	*	1 JAN 1014	308	2.	*	1 JAN 1630	496	2.	*	1 JAN 2246	684	2.
1 JAN 0400	121	2.	*	1 JAN 1016	309	2.	*	1 JAN 1632	497	2.	*	1 JAN 2248	685	2.
1 JAN 0402	122	2.	*	1 JAN 1018	310	2.	*	1 JAN 1634	498	2.	*	1 JAN 2250	686	2.
1 JAN 0404	123	2.	*	1 JAN 1020	311	2.	*	1 JAN 1636	499	2.	*	1 JAN 2252	687	2.
1 JAN 0406	124	2.	*	1 JAN 1022	312	2.	*	1 JAN 1638	500	2.	*	1 JAN 2254	688	2.
1 JAN 0408	125	2.	*	1 JAN 1024	313	2.	*	1 JAN 1640	501	2.	*	1 JAN 2256	689	2.
1 JAN 0410	126	2.	*	1 JAN 1026	314	2.	*	1 JAN 1642	502	2.	*	1 JAN 2258	690	2.
1 JAN 0412	127	2.	*	1 JAN 1028	315	2.	*	1 JAN 1644	503	2.	*	1 JAN 2300	691	2.
1 JAN 0414	128	2.	*	1 JAN 1030	316	2.	*	1 JAN 1646	504	2.	*	1 JAN 2302	692	2.
1 JAN 0416	129	2.	*	1 JAN 1032	317	2.	*	1 JAN 1648	505	2.	*	1 JAN 2304	693	2.
1 JAN 0418	130	2.	*	1 JAN 1034	318	2.	*	1 JAN 1650	506	2.	*	1 JAN 2306	694	2.
1 JAN 0420	131	2.	*	1 JAN 1036	319	2.	*	1 JAN 1652	507	2.	*	1 JAN 2308	695	2.
1 JAN 0422	132	2.	*	1 JAN 1038	320	2.	*	1 JAN 1654	508	2.	*	1 JAN 2310	696	2.
1 JAN 0424	133	2.	*	1 JAN 1040	321	2.	*	1 JAN 1656	509	2.	*	1 JAN 2312	697	2.
1 JAN 0426	134	2.	*	1 JAN 1042	322	2.	*	1 JAN 1658	510	2.	*	1 JAN 2314	698	2.
1 JAN 0428	135	2.	*	1 JAN 1044	323	2.	*	1 JAN 1700	511	2.	*	1 JAN 2316	699	2.
1 JAN 0430	136	2.	*	1 JAN 1046	324	2.	*	1 JAN 1702	512	2.	*	1 JAN 2318	700	2.
1 JAN 0432	137	2.	*	1 JAN 1048	325	2.	*	1 JAN 1704	513	2.	*	1 JAN 2320	701	2.
1 JAN 0434	138	2.	*	1 JAN 1050	326	2.	*	1 JAN 1706	514	2.	*	1 JAN 2322	702	2.
1 JAN 0436	139	2.	*	1 JAN 1052	327	2.	*	1 JAN 1708	515	2.	*	1 JAN 2324	703	2.
1 JAN 0438	140	2.	*	1 JAN 1054	328	2.	*	1 JAN 1710	516	2.	*	1 JAN 2326	704	2.
1 JAN 0440	141	2.	*	1 JAN 1056	329	2.	*	1 JAN 1712	517	2.	*	1 JAN 2328	705	2.
1 JAN 0442	142	2.	*	1 JAN 1058	330	2.	*	1 JAN 1714	518	2.	*	1 JAN 2330	706	2.
1 JAN 0444	143	2.	*	1 JAN 1100	331	2.	*	1 JAN 1716	519	2.	*	1 JAN 2332	707	2.
1 JAN 0446	144	2.	*	1 JAN 1102	332	2.	*	1 JAN 1718	520	2.	*	1 JAN 2334	708	2.
1 JAN 0448	145	2.	*	1 JAN 1104	333	2.	*	1 JAN 1720	521	2.	*	1 JAN 2336	709	2.
1 JAN 0450	146	2.	*	1 JAN 1106	334	2.	*	1 JAN 1722	522	2.	*	1 JAN 2338	710	2.
1 JAN 0452	147	2.	*	1 JAN 1108	335	2.	*	1 JAN 1724	523	2.	*	1 JAN 2340	711	2.
1 JAN 0454	148	2.	*	1 JAN 1110	336	2.	*	1 JAN 1726	524	2.	*	1 JAN 2342	712	2.
1 JAN 0456	149	2.	*	1 JAN 1112	337	2.	*	1 JAN 1728	525	2.	*	1 JAN 2344	713	2.
1 JAN 0458	150	2.	*	1 JAN 1114	338	2.	*	1 JAN 1730	526	2.	*	1 JAN 2346	714	2.
1 JAN 0500	151	2.	*	1 JAN 1116	339	2.	*	1 JAN 1732	527	2.	*	1 JAN 2348	715	2.
1 JAN 0502	152	2.	*	1 JAN 1118	340	2.	*	1 JAN 1734	528	2.	*	1 JAN 2350	716	2.
1 JAN 0504	153	2.	*	1 JAN 1120	341	2.	*	1 JAN 1736	529	2.	*	1 JAN 2352	717	2.
1 JAN 0506	154	2.	*	1 JAN 1122	342	2.	*	1 JAN 1738	530	2.	*	1 JAN 2354	718	2.
1 JAN 0508	155	2.	*	1 JAN 1124	343	2.	*	1 JAN 1740	531	2.	*	1 JAN 2356	719	2.
1 JAN 0510	156	2.	*	1 JAN 1126	344	2.	*	1 JAN 1742	532	2.	*	1 JAN 2358	720	2.
1 JAN 0512	157	2.	*	1 JAN 1128	345	2.	*	1 JAN 1744	533	2.	*	2 JAN 0000	721	2.
1 JAN 0514	158	2.	*	1 JAN 1130	346	2.	*	1 JAN 1746	534	2.	*	2 JAN 0002	722	2.
1 JAN 0516	159	2.	*	1 JAN 1132	347	2.	*	1 JAN 1748	535	2.	*	2 JAN 0004	723	2.
1 JAN 0518	160	2.	*	1 JAN 1134	348	2.	*	1 JAN 1750	536	2.	*	2 JAN 0006	724	2.
1 JAN 0520	161	2.	*	1 JAN 1136	349	2.	*	1 JAN 1752	537	2.	*	2 JAN 0008	725	2.
1 JAN 0522	162	2.	*	1 JAN 1138	350	2.	*	1 JAN 1754	538	2.	*	2 JAN 0010	726	2.
1 JAN 0524	163	2.	*	1 JAN 1140	351	2.	*	1 JAN 1756	539	2.	*	2 JAN 0012	727	2.
1 JAN 0526	164	2.	*	1 JAN 1142	352	2.	*	1 JAN 1758	540	2.	*	2 JAN 0014	728	2.
1 JAN 0528	165	2.	*	1 JAN 1144	353	2.	*	1 JAN 1800	541	2.	*	2 JAN 0016	729	2.
1 JAN 0530	166	2.	*	1 JAN 1146	354	2.	*	1 JAN 1802	542	2.	*	2 JAN 0018	730	2.
1 JAN 0532	167	2.	*	1 JAN 1148	355	2.	*	1 JAN 1804	543	2.	*	2 JAN 0020	731	2.
1 JAN 0534	168	2.	*	1 JAN 1150	356	2.	*	1 JAN 1806	544	2.	*	2 JAN 0022	732	2.
1 JAN 0536	169	2.	*	1 JAN 1152	357	2.	*	1 JAN 1808	545	2.	*	2 JAN 0024	733	2.
1 JAN 0538	170	2.	*	1 JAN 1154	358	2.	*	1 JAN 1810	546	2.	*	2 JAN 0026	734	2.
1 JAN 0540	171	2.	*	1 JAN 1156	359	2.	*	1 JAN 1812	547	2.	*	2 JAN 0028	735	2.
1 JAN 0542	172	2.	*	1 JAN 1158	360	2.	*	1 JAN 1814	548	2.	*	2 JAN 0030	736	2.
1 JAN 0544	173	2.	*	1 JAN 1200	361	2.	*	1 JAN 1816	549	2.	*	2 JAN 0032	737	2.
1 JAN 0546	174	2.	*	1 JAN 1202	362	2.	*	1 JAN 1818	550	2.	*	2 JAN 0034	738	2.
1 JAN 0548	175	2.	*	1 JAN 1204	363	2.	*	1 JAN 1820	551	2.	*	2 JAN 0036	739	2.
1 JAN 0550	176	2.	*	1 JAN 1206	364	2.	*	1 JAN 1822	552	2.	*	2 JAN 0038	740	2.
1 JAN 0552	177	2.	*	1 JAN 1208	365	2.	*	1 JAN 1824	553	2.	*	2 JAN 0040	741	2.
1 JAN 0554	178	2.	*	1 JAN 1210	366	2.	*	1 JAN 1826	554	2.	*	2 JAN 0042	742	2.
1 JAN 0556	179	2.	*	1 JAN 1212	367	2.	*	1 JAN 1828	555	2.	*	2 JAN 0044	743	2.
1 JAN 0558	180	2.	*	1 JAN 1214	368	2.	*	1 JAN 1830	556	2.	*	2 JAN 0046	744	2.
1 JAN 0600	181	2.	*	1 JAN 1216	369	2.	*	1 JAN 1832	557	2.	*	2 JAN 0048	745	2.
1 JAN 0602	182	2.	*	1 JAN 1218	370	2.	*	1 JAN 1834	558	2.	*	2 JAN 0050	746	2.
1 JAN 0604	183	2.	*	1 JAN 1220	371	2.	*	1 JAN 1836	559	2.	*	2 JAN 0052	747	2.
1 JAN 0606	184	2.	*	1 JAN 1222	372	2.	*	1 JAN 1838	560	2.	*	2 JAN 0054	748	2.
1 JAN 0608	185	2.	*	1 JAN 1224	373	2.	*	1 JAN 1840	561	2.	*	2 JAN 0056	749	2.
1 JAN 0610	186	2.	*	1 JAN 1226	374	2.	*	1 JAN 1842	562	2.	*	2 JAN 0058	750	2.
1 JAN 0612	187	2.	*	1 JAN 1228	375	2.	*	1 JAN 1844	563	2.	*			

1 JAN 0614	188	2.	*	1 JAN 1230	376	2.	*	1 JAN 1846	564	2.	*

****

PEAK FLOW	TIME	MAXIMUM AVERAGE FLOW			
		6-HR	24-HR	72-HR	24.97-HR
(CFS)	(HR)				
		(CFS)			
23.	.17	3.	2.	2.	2.
		(INCHES) 3.948	13.112	13.604	13.604
		(AC-FT) 1.	5.	5.	5.

CUMULATIVE AREA = .01 SQ MI

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            **************
            *            *
   23 KK    *      1BIN  *
            *            *
            **************
                  INFLOW TO RETENTION BASIN 1B

   25 HC          HYDROGRAPH COMBINATION
                       ICOMP          2  NUMBER OF HYDROGRAPHS TO COMBINE
                                                        ***
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HYDROGRAPH AT STATION 1BIN
SUM OF 2 HYDROGRAPHS

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DA MON HRMN	ORD	FLOW	*	DA MON HRMN	ORD	FLOW	*	DA MON HRMN	ORD	FLOW	*	DA MON HRMN	ORD	FLOW
1 JAN 0000	1	0.	*	1 JAN 0616	189	3.	*	1 JAN 1232	377	3.	*	1 JAN 1848	565	4.
1 JAN 0002	2	5.	*	1 JAN 0618	190	3.	*	1 JAN 1234	378	3.	*	1 JAN 1850	566	4.
1 JAN 0004	3	9.	*	1 JAN 0620	191	3.	*	1 JAN 1236	379	3.	*	1 JAN 1852	567	4.
1 JAN 0006	4	14.	*	1 JAN 0622	192	3.	*	1 JAN 1238	380	3.	*	1 JAN 1854	568	4.
1 JAN 0008	5	18.	*	1 JAN 0624	193	3.	*	1 JAN 1240	381	3.	*	1 JAN 1856	569	4.
1 JAN 0010	6	23.	*	1 JAN 0626	194	3.	*	1 JAN 1242	382	3.	*	1 JAN 1858	570	4.
1 JAN 0012	7	20.	*	1 JAN 0628	195	3.	*	1 JAN 1244	383	3.	*	1 JAN 1900	571	4.
1 JAN 0014	8	18.	*	1 JAN 0630	196	3.	*	1 JAN 1246	384	3.	*	1 JAN 1902	572	4.
1 JAN 0016	9	15.	*	1 JAN 0632	197	3.	*	1 JAN 1248	385	3.	*	1 JAN 1904	573	4.
1 JAN 0018	10	12.	*	1 JAN 0634	198	3.	*	1 JAN 1250	386	3.	*	1 JAN 1906	574	4.
1 JAN 0020	11	10.	*	1 JAN 0636	199	3.	*	1 JAN 1252	387	3.	*	1 JAN 1908	575	4.
1 JAN 0022	12	7.	*	1 JAN 0638	200	3.	*	1 JAN 1254	388	3.	*	1 JAN 1910	576	4.
1 JAN 0024	13	4.	*	1 JAN 0640	201	3.	*	1 JAN 1256	389	3.	*	1 JAN 1912	577	4.
1 JAN 0026	14	3.	*	1 JAN 0642	202	3.	*	1 JAN 1258	390	3.	*	1 JAN 1914	578	4.
1 JAN 0028	15	3.	*	1 JAN 0644	203	3.	*	1 JAN 1300	391	3.	*	1 JAN 1916	579	4.
1 JAN 0030	16	3.	*	1 JAN 0646	204	3.	*	1 JAN 1302	392	3.	*	1 JAN 1918	580	4.
1 JAN 0032	17	3.	*	1 JAN 0648	205	3.	*	1 JAN 1304	393	3.	*	1 JAN 1920	581	4.
1 JAN 0034	18	3.	*	1 JAN 0650	206	3.	*	1 JAN 1306	394	3.	*	1 JAN 1922	582	4.
1 JAN 0036	19	3.	*	1 JAN 0652	207	3.	*	1 JAN 1308	395	3.	*	1 JAN 1924	583	4.
1 JAN 0038	20	3.	*	1 JAN 0654	208	3.	*	1 JAN 1310	396	3.	*	1 JAN 1926	584	4.
1 JAN 0040	21	3.	*	1 JAN 0656	209	3.	*	1 JAN 1312	397	3.	*	1 JAN 1928	585	4.
1 JAN 0042	22	3.	*	1 JAN 0658	210	3.	*	1 JAN 1314	398	3.	*	1 JAN 1930	586	4.
1 JAN 0044	23	3.	*	1 JAN 0700	211	3.	*	1 JAN 1316	399	3.	*	1 JAN 1932	587	4.
1 JAN 0046	24	3.	*	1 JAN 0702	212	3.	*	1 JAN 1318	400	3.	*	1 JAN 1934	588	4.
1 JAN 0048	25	3.	*	1 JAN 0704	213	3.	*	1 JAN 1320	401	3.	*	1 JAN 1936	589	4.
1 JAN 0050	26	3.	*	1 JAN 0706	214	3.	*	1 JAN 1322	402	3.	*	1 JAN 1938	590	4.
1 JAN 0052	27	3.	*	1 JAN 0708	215	3.	*	1 JAN 1324	403	3.	*	1 JAN 1940	591	4.
1 JAN 0054	28	3.	*	1 JAN 0710	216	3.	*	1 JAN 1326	404	3.	*	1 JAN 1942	592	4.
1 JAN 0056	29	3.	*	1 JAN 0712	217	3.	*	1 JAN 1328	405	3.	*	1 JAN 1944	593	4.
1 JAN 0058	30	3.	*	1 JAN 0714	218	3.	*	1 JAN 1330	406	3.	*	1 JAN 1946	594	4.
1 JAN 0100	31	3.	*	1 JAN 0716	219	3.	*	1 JAN 1332	407	3.	*	1 JAN 1948	595	4.
1 JAN 0102	32	3.	*	1 JAN 0718	220	3.	*	1 JAN 1334	408	3.	*	1 JAN 1950	596	4.
1 JAN 0104	33	3.	*	1 JAN 0720	221	3.	*	1 JAN 1336	409	3.	*	1 JAN 1952	597	4.
1 JAN 0106	34	3.	*	1 JAN 0722	222	3.	*	1 JAN 1338	410	3.	*	1 JAN 1954	598	4.
1 JAN 0108	35	3.	*	1 JAN 0724	223	3.	*	1 JAN 1340	411	3.	*	1 JAN 1956	599	4.
1 JAN 0110	36	3.	*	1 JAN 0726	224	3.	*	1 JAN 1342	412	3.	*	1 JAN 1958	600	4.
1 JAN 0112	37	3.	*	1 JAN 0728	225	3.	*	1 JAN 1344	413	3.	*	1 JAN 2000	601	4.
1 JAN 0114	38	3.	*	1 JAN 0730	226	3.	*	1 JAN 1346	414	3.	*	1 JAN 2002	602	4.
1 JAN 0116	39	3.	*	1 JAN 0732	227	3.	*	1 JAN 1348	415	3.	*	1 JAN 2004	603	4.
1 JAN 0118	40	3.	*	1 JAN 0734	228	3.	*	1 JAN 1350	416	3.	*	1 JAN 2006	604	4.
1 JAN 0120	41	3.	*	1 JAN 0736	229	3.	*	1 JAN 1352	417	3.	*	1 JAN 2008	605	4.
1 JAN 0122	42	3.	*	1 JAN 0738	230	3.	*	1 JAN 1354	418	3.	*	1 JAN 2010	606	4.
1 JAN 0124	43	3.	*	1 JAN 0740	231	3.	*	1 JAN 1356	419	3.	*	1 JAN 2012	607	4.
1 JAN 0126	44	3.	*	1 JAN 0742	232	3.	*	1 JAN 1358	420	3.	*	1 JAN 2014	608	4.
1 JAN 0128	45	3.	*	1 JAN 0744	233	3.	*	1 JAN 1400	421	3.	*	1 JAN 2016	609	4.
1 JAN 0130	46	3.	*	1 JAN 0746	234	3.	*	1 JAN 1402	422	3.	*	1 JAN 2018	610	4.
1 JAN 0132	47	3.	*	1 JAN 0748	235	3.	*	1 JAN 1404	423	3.	*	1 JAN 2020	611	4.

1	JAN	0134	48	3.	*	1	JAN	0750	236	3.	*	1	JAN	1406	424	3.	*	1	JAN	2022	612	4.
1	JAN	0136	49	3.	*	1	JAN	0752	237	3.	*	1	JAN	1408	425	3.	*	1	JAN	2024	613	4.
1	JAN	0138	50	3.	*	1	JAN	0754	238	3.	*	1	JAN	1410	426	3.	*	1	JAN	2026	614	4.
1	JAN	0140	51	3.	*	1	JAN	0756	239	3.	*	1	JAN	1412	427	3.	*	1	JAN	2028	615	4.
1	JAN	0142	52	3.	*	1	JAN	0758	240	3.	*	1	JAN	1414	428	3.	*	1	JAN	2030	616	4.
1	JAN	0144	53	3.	*	1	JAN	0800	241	3.	*	1	JAN	1416	429	3.	*	1	JAN	2032	617	4.
1	JAN	0146	54	3.	*	1	JAN	0802	242	3.	*	1	JAN	1418	430	3.	*	1	JAN	2034	618	4.
1	JAN	0148	55	3.	*	1	JAN	0804	243	3.	*	1	JAN	1420	431	3.	*	1	JAN	2036	619	4.
1	JAN	0150	56	3.	*	1	JAN	0806	244	3.	*	1	JAN	1422	432	3.	*	1	JAN	2038	620	4.
1	JAN	0152	57	3.	*	1	JAN	0808	245	3.	*	1	JAN	1424	433	3.	*	1	JAN	2040	621	4.
1	JAN	0154	58	3.	*	1	JAN	0810	246	3.	*	1	JAN	1426	434	3.	*	1	JAN	2042	622	4.
1	JAN	0156	59	3.	*	1	JAN	0812	247	3.	*	1	JAN	1428	435	3.	*	1	JAN	2044	623	4.
1	JAN	0158	60	3.	*	1	JAN	0814	248	3.	*	1	JAN	1430	436	3.	*	1	JAN	2046	624	4.
1	JAN	0200	61	3.	*	1	JAN	0816	249	3.	*	1	JAN	1432	437	3.	*	1	JAN	2048	625	4.
1	JAN	0202	62	3.	*	1	JAN	0818	250	3.	*	1	JAN	1434	438	3.	*	1	JAN	2050	626	4.
1	JAN	0204	63	3.	*	1	JAN	0820	251	3.	*	1	JAN	1436	439	3.	*	1	JAN	2052	627	4.
1	JAN	0206	64	3.	*	1	JAN	0822	252	3.	*	1	JAN	1438	440	3.	*	1	JAN	2054	628	4.
1	JAN	0208	65	3.	*	1	JAN	0824	253	3.	*	1	JAN	1440	441	3.	*	1	JAN	2056	629	4.
1	JAN	0210	66	3.	*	1	JAN	0826	254	3.	*	1	JAN	1442	442	3.	*	1	JAN	2058	630	4.
1	JAN	0212	67	3.	*	1	JAN	0828	255	3.	*	1	JAN	1444	443	3.	*	1	JAN	2100	631	4.
1	JAN	0214	68	3.	*	1	JAN	0830	256	3.	*	1	JAN	1446	444	3.	*	1	JAN	2102	632	4.
1	JAN	0216	69	3.	*	1	JAN	0832	257	3.	*	1	JAN	1448	445	3.	*	1	JAN	2104	633	4.
1	JAN	0218	70	3.	*	1	JAN	0834	258	3.	*	1	JAN	1450	446	3.	*	1	JAN	2106	634	4.
1	JAN	0220	71	3.	*	1	JAN	0836	259	3.	*	1	JAN	1452	447	3.	*	1	JAN	2108	635	4.
1	JAN	0222	72	3.	*	1	JAN	0838	260	3.	*	1	JAN	1454	448	3.	*	1	JAN	2110	636	4.
1	JAN	0224	73	3.	*	1	JAN	0840	261	3.	*	1	JAN	1456	449	3.	*	1	JAN	2112	637	4.
1	JAN	0226	74	3.	*	1	JAN	0842	262	3.	*	1	JAN	1458	450	3.	*	1	JAN	2114	638	4.
1	JAN	0228	75	3.	*	1	JAN	0844	263	3.	*	1	JAN	1500	451	3.	*	1	JAN	2116	639	4.
1	JAN	0230	76	3.	*	1	JAN	0846	264	3.	*	1	JAN	1502	452	3.	*	1	JAN	2118	640	4.
1	JAN	0232	77	3.	*	1	JAN	0848	265	3.	*	1	JAN	1504	453	3.	*	1	JAN	2120	641	4.
1	JAN	0234	78	3.	*	1	JAN	0850	266	3.	*	1	JAN	1506	454	3.	*	1	JAN	2122	642	4.
1	JAN	0236	79	3.	*	1	JAN	0852	267	3.	*	1	JAN	1508	455	3.	*	1	JAN	2124	643	4.
1	JAN	0238	80	3.	*	1	JAN	0854	268	3.	*	1	JAN	1510	456	3.	*	1	JAN	2126	644	4.
1	JAN	0240	81	3.	*	1	JAN	0856	269	3.	*	1	JAN	1512	457	3.	*	1	JAN	2128	645	4.
1	JAN	0242	82	3.	*	1	JAN	0858	270	3.	*	1	JAN	1514	458	3.	*	1	JAN	2130	646	4.
1	JAN	0244	83	3.	*	1	JAN	0900	271	3.	*	1	JAN	1516	459	3.	*	1	JAN	2132	647	4.
1	JAN	0246	84	3.	*	1	JAN	0902	272	3.	*	1	JAN	1518	460	3.	*	1	JAN	2134	648	4.
1	JAN	0248	85	3.	*	1	JAN	0904	273	3.	*	1	JAN	1520	461	3.	*	1	JAN	2136	649	4.
1	JAN	0250	86	3.	*	1	JAN	0906	274	3.	*	1	JAN	1522	462	3.	*	1	JAN	2138	650	4.
1	JAN	0252	87	3.	*	1	JAN	0908	275	3.	*	1	JAN	1524	463	3.	*	1	JAN	2140	651	4.
1	JAN	0254	88	3.	*	1	JAN	0910	276	3.	*	1	JAN	1526	464	3.	*	1	JAN	2142	652	4.
1	JAN	0256	89	3.	*	1	JAN	0912	277	3.	*	1	JAN	1528	465	3.	*	1	JAN	2144	653	4.
1	JAN	0258	90	3.	*	1	JAN	0914	278	3.	*	1	JAN	1530	466	3.	*	1	JAN	2146	654	4.
1	JAN	0300	91	3.	*	1	JAN	0916	279	3.	*	1	JAN	1532	467	3.	*	1	JAN	2148	655	4.
1	JAN	0302	92	3.	*	1	JAN	0918	280	3.	*	1	JAN	1534	468	3.	*	1	JAN	2150	656	4.
1	JAN	0304	93	3.	*	1	JAN	0920	281	3.	*	1	JAN	1536	469	3.	*	1	JAN	2152	657	4.
1	JAN	0306	94	3.	*	1	JAN	0922	282	3.	*	1	JAN	1538	470	3.	*	1	JAN	2154	658	4.
1	JAN	0308	95	3.	*	1	JAN	0924	283	3.	*	1	JAN	1540	471	3.	*	1	JAN	2156	659	4.
1	JAN	0310	96	3.	*	1	JAN	0926	284	3.	*	1	JAN	1542	472	3.	*	1	JAN	2158	660	4.
1	JAN	0312	97	3.	*	1	JAN	0928	285	3.	*	1	JAN	1544	473	3.	*	1	JAN	2200	661	4.
1	JAN	0314	98	3.	*	1	JAN	0930	286	3.	*	1	JAN	1546	474	3.	*	1	JAN	2202	662	4.
1	JAN	0316	99	3.	*	1	JAN	0932	287	3.	*	1	JAN	1548	475	3.	*	1	JAN	2204	663	4.
1	JAN	0318	100	3.	*	1	JAN	0934	288	3.	*	1	JAN	1550	476	3.	*	1	JAN	2206	664	4.
1	JAN	0320	101	3.	*	1	JAN	0936	289	3.	*	1	JAN	1552	477	3.	*	1	JAN	2208	665	4.
1	JAN	0322	102	3.	*	1	JAN	0938	290	3.	*	1	JAN	1554	478	3.	*	1	JAN	2210	666	4.
1	JAN	0324	103	3.	*	1	JAN	0940	291	3.	*	1	JAN	1556	479	3.	*	1	JAN	2212	667	4.
1	JAN	0326	104	3.	*	1	JAN	0942	292	3.	*	1	JAN	1558	480	3.	*	1	JAN	2214	668	4.
1	JAN	0328	105	3.	*	1	JAN	0944	293	3.	*	1	JAN	1600	481	3.	*	1	JAN	2216	669	4.
1	JAN	0330	106	3.	*	1	JAN	0946	294	3.	*	1	JAN	1602	482	3.	*	1	JAN	2218	670	4.
1	JAN	0332	107	3.	*	1	JAN	0948	295	3.	*	1	JAN	1604	483	3.	*	1	JAN	2220	671	4.
1	JAN	0334	108	3.	*	1	JAN	0950	296	3.	*	1	JAN	1606	484	3.	*	1	JAN	2222	672	4.
1	JAN	0336	109	3.	*	1	JAN	0952	297	3.	*	1	JAN	1608	485	3.	*	1	JAN	2224	673	4.
1	JAN	0338	110	3.	*	1	JAN	0954	298	3.	*	1	JAN	1610	486	3.	*	1	JAN	2226	674	4.
1	JAN	0340	111	3.	*	1	JAN	0956	299	3.	*	1	JAN	1612	487	3.	*	1	JAN	2228	675	4.
1	JAN	0342	112	3.	*	1	JAN	0958	300	3.	*	1	JAN	1614	488	3.	*	1	JAN	2230	676	4.
1	JAN	0344	113	3.	*	1	JAN	1000	301	3.	*	1	JAN	1616	489	3.	*	1	JAN	2232	677	4.
1	JAN	0346	114	3.	*	1	JAN	1002	302	3.	*	1	JAN	1618	490	3.	*	1	JAN	2234	678	4.
1	JAN	0348	115	3.	*	1	JAN	1004	303	3.	*	1	JAN	1620	491	3.	*	1	JAN	2236	679	4.
1	JAN	0350	116	3.	*	1	JAN	1006	304	3.	*	1	JAN	1622	492	3.	*	1	JAN	2238	680	4.
1	JAN	0352	117	3.	*	1	JAN	1008	305	3.	*	1	JAN	1624	493	3.	*	1	JAN	2240	681	4.
1	JAN	0354	118	3.	*	1	JAN	1010	306	3.	*	1	JAN	1626	494	3.	*	1	JAN	2242	682	4.
1	JAN	0356	119	3.	*	1	JAN	1012	307	3.	*	1	JAN	1628	495	3.	*	1	JAN	2244	683	4.
1	JAN	0358	120	3.	*	1	JAN	1014	308	3.	*	1	JAN	1630	496	3.	*	1	JAN	2246	684	4.
1	JAN	0400	121	3.	*	1	JAN	1016	309	3.	*	1	JAN	1632	497	3.	*	1	JAN	2248	685	4.
1	JAN	0402	122	3.	*	1	JAN	1018	310	3.	*	1	JAN	1634	498	3.	*	1	JAN	2250	686	4.
1	JAN	0404	123	3.	*	1	JAN	1020	311	3.	*	1	JAN	1636	499	3.	*	1	JAN	2252	687	4.
1	JAN	0406	124	3.	*	1	JAN	1022	312	3.	*	1	JAN	1638	500	3.	*	1	JAN	2254	688	4.
1	JAN	0408	125	3.	*	1	JAN	1024	313	3.	*	1	JAN	1640	501	3.	*	1	JAN	2256	689	4.
1	JAN	0410	126	3.	*	1	JAN	1026	314	3.	*	1	JAN	1642	502	3.	*	1	JAN	2258	690	4.
1	JAN	0412	127	3.	*	1	JAN	1028	315	3.	*	1	JAN	1644	503	3.	*	1	JAN	2300	691	4.
1	JAN	0414	128	3.	*	1	JAN	1030	316	3.	*	1	JAN	1646	504	3.	*	1	JAN	2302	692	4.
1	JAN	0416	129	3.	*	1	JAN	1032	317	3.	*	1	JAN	1648	505	3.	*	1	JAN	2304	693	4.
1	JAN	0418	130	3.	*	1	JAN	1034	318	3.	*	1	JAN	1650	506	3.	*	1	JAN	2306	694	4.
1	JAN	0420	131	3.	*	1	JAN	1036	319	3.	*	1	JAN	1652	507	3.	*	1	JAN	2308	695	4.
1	JAN	0422	132	3.	*	1	JAN	1038	320	3.	*	1	JAN	1654	508	3.	*	1	JAN	2310	696	4.
1	JAN	0424	133	3.	*	1	JAN	1040	321	3.	*	1	JAN	1656	509	3.	*	1	JAN	2312	697	4.
1	JAN	0426	134	3.	*	1	JAN	1042	322	3.	*	1	JAN	1658	510	3.	*	1	JAN	2314	698	4.
1	JAN	0428	135	3.	*	1	JAN	1044	323	3.	*	1	JAN	1700	511	3.	*	1	JAN	2316	699	4.
1	JAN	0430	136	3.	*	1	JAN	1046	324	3.	*	1	JAN	1702	512	3.	*	1	JAN	2318	700	4.
1	JAN	0432	137	3.	*	1	JAN	1048	325	3.	*	1	JAN	1704	513	3.	*	1	JAN	2320	701	4.
1	JAN	0434	138	3.	*	1	JAN	1050	326	3.	*	1	JAN	1706	514	4.	*	1	JAN	2322	702	4.
1	JAN	0436	139	3.	*	1	JAN	1052	327	3.	*	1	JAN	1708	515	4.	*	1	JAN	2324	703	4.
1	JAN	0438	140	3.	*	1	JAN	1054	328	3.	*	1	JAN	1710	516	4.	*	1	JAN	2326	704	4.
1	JAN	0440	141	3.	*	1	JAN	1056	329	3.	*	1	JAN	1712	517	4.	*	1	JAN	2328	705	4.
1	JAN	0442	142	3.	*	1	JAN	1058	330	3.	*	1	JAN	1714	518	4.	*	1	JAN	2330	706	4.

SPWID	15.00	SPILLWAY WIDTH
COQW	2.30	WEIR COEFFICIENT
EXPW	1.50	EXPONENT OF HEAD

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COMPUTED OUTFLOW-ELEVATION DATA

OUTFLOW	.00	.00	.47	.50	.55	.60	.66	.74	.84	.97
ELEVATION	.00	1.25	1.49	1.53	1.59	1.65	1.74	1.86	2.04	2.30
OUTFLOW	1.00	1.17	1.59	2.38	3.65	5.54	8.14	11.58	15.98	21.45
ELEVATION	2.31	2.33	2.37	2.42	2.48	2.56	2.65	2.75	2.87	3.00

COMPUTED STORAGE-OUTFLOW-ELEVATION DATA

STORAGE	.00	.04	.05	.07	.07	.08	.08	.09	.10	.10
OUTFLOW	.00	.00	.00	.47	.50	.55	.60	.66	.74	.82
ELEVATION	.00	1.00	1.25	1.49	1.53	1.59	1.65	1.74	1.86	2.00
STORAGE	.11	.13	.14	.14	.15	.15	.16	.17	.18	.19
OUTFLOW	.84	.97	1.17	1.59	2.38	3.65	5.54	8.14	11.58	15.98
ELEVATION	2.04	2.30	2.33	2.37	2.42	2.48	2.56	2.65	2.75	2.87
STORAGE	.20									
OUTFLOW	21.45									
ELEVATION	3.00									

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HYDROGRAPH AT STATION RET1B

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DA MON HRMN	ORD	OUTFLOW	STORAGE	STAGE	DA MON HRMN	ORD	OUTFLOW	STORAGE	STAGE	DA MON HRMN	ORD	OUTFLOW	STORAGE	STAGE
1 JAN 0000	1	0.	.0	.0	1 JAN 0820	251	3.	.2	2.5	1 JAN 1640	501	3.	.2	2.5
1 JAN 0002	2	0.	.0	.2	1 JAN 0822	252	3.	.2	2.5	1 JAN 1642	502	3.	.2	2.5
1 JAN 0004	3	0.	.0	.7	1 JAN 0824	253	3.	.2	2.5	1 JAN 1644	503	3.	.2	2.5
1 JAN 0006	4	0.	.1	1.3	1 JAN 0826	254	3.	.2	2.5	1 JAN 1646	504	3.	.2	2.5
1 JAN 0008	5	1.	.1	1.9	1 JAN 0828	255	3.	.2	2.5	1 JAN 1648	505	3.	.2	2.5
1 JAN 0010	6	3.	.2	2.5	1 JAN 0830	256	3.	.2	2.5	1 JAN 1650	506	3.	.2	2.5
1 JAN 0012	7	14.	.2	2.8	1 JAN 0832	257	3.	.2	2.5	1 JAN 1652	507	3.	.2	2.5
1 JAN 0014	8	18.	.2	2.9	1 JAN 0834	258	3.	.2	2.5	1 JAN 1654	508	3.	.2	2.5
1 JAN 0016	9	17.	.2	2.9	1 JAN 0836	259	3.	.2	2.5	1 JAN 1656	509	3.	.2	2.5
1 JAN 0018	10	15.	.2	2.8	1 JAN 0838	260	3.	.2	2.5	1 JAN 1658	510	3.	.2	2.5
1 JAN 0020	11	12.	.2	2.8	1 JAN 0840	261	3.	.2	2.5	1 JAN 1700	511	3.	.2	2.5
1 JAN 0022	12	10.	.2	2.7	1 JAN 0842	262	3.	.2	2.5	1 JAN 1702	512	3.	.2	2.5
1 JAN 0024	13	7.	.2	2.6	1 JAN 0844	263	3.	.2	2.5	1 JAN 1704	513	3.	.2	2.5
1 JAN 0026	14	5.	.2	2.5	1 JAN 0846	264	3.	.2	2.5	1 JAN 1706	514	3.	.2	2.5
1 JAN 0028	15	4.	.2	2.5	1 JAN 0848	265	3.	.2	2.5	1 JAN 1708	515	3.	.2	2.5
1 JAN 0030	16	4.	.2	2.5	1 JAN 0850	266	3.	.2	2.5	1 JAN 1710	516	4.	.2	2.5
1 JAN 0032	17	3.	.2	2.5	1 JAN 0852	267	3.	.2	2.5	1 JAN 1712	517	4.	.2	2.5
1 JAN 0034	18	3.	.2	2.5	1 JAN 0854	268	3.	.2	2.5	1 JAN 1714	518	4.	.2	2.5
1 JAN 0036	19	3.	.2	2.5	1 JAN 0856	269	3.	.2	2.5	1 JAN 1716	519	4.	.2	2.5
1 JAN 0038	20	3.	.2	2.5	1 JAN 0858	270	3.	.2	2.5	1 JAN 1718	520	4.	.2	2.5
1 JAN 0040	21	3.	.2	2.5	1 JAN 0900	271	3.	.2	2.5	1 JAN 1720	521	4.	.2	2.5
1 JAN 0042	22	3.	.2	2.5	1 JAN 0902	272	3.	.2	2.5	1 JAN 1722	522	4.	.2	2.5
1 JAN 0044	23	3.	.2	2.5	1 JAN 0904	273	3.	.2	2.5	1 JAN 1724	523	4.	.2	2.5
1 JAN 0046	24	3.	.2	2.5	1 JAN 0906	274	3.	.2	2.5	1 JAN 1726	524	4.	.2	2.5
1 JAN 0048	25	3.	.2	2.5	1 JAN 0908	275	3.	.2	2.5	1 JAN 1728	525	4.	.2	2.5
1 JAN 0050	26	3.	.2	2.5	1 JAN 0910	276	3.	.2	2.5	1 JAN 1730	526	4.	.2	2.5

1	JAN	0052	27	3.	.2	2.5	*	1	JAN	0912	277	3.	.2	2.5	*	1	JAN	1732	527	4.	.2	2.5
1	JAN	0054	28	3.	.2	2.5	*	1	JAN	0914	278	3.	.2	2.5	*	1	JAN	1734	528	4.	.2	2.5
1	JAN	0056	29	3.	.2	2.5	*	1	JAN	0916	279	3.	.2	2.5	*	1	JAN	1736	529	4.	.2	2.5
1	JAN	0058	30	3.	.2	2.5	*	1	JAN	0918	280	3.	.2	2.5	*	1	JAN	1738	530	4.	.2	2.5
1	JAN	0100	31	3.	.2	2.5	*	1	JAN	0920	281	3.	.2	2.5	*	1	JAN	1740	531	4.	.2	2.5
1	JAN	0102	32	3.	.2	2.5	*	1	JAN	0922	282	3.	.2	2.5	*	1	JAN	1742	532	4.	.2	2.5
1	JAN	0104	33	3.	.2	2.5	*	1	JAN	0924	283	3.	.2	2.5	*	1	JAN	1744	533	4.	.2	2.5
1	JAN	0106	34	3.	.2	2.5	*	1	JAN	0926	284	3.	.2	2.5	*	1	JAN	1746	534	4.	.2	2.5
1	JAN	0108	35	3.	.2	2.5	*	1	JAN	0928	285	3.	.2	2.5	*	1	JAN	1748	535	4.	.2	2.5
1	JAN	0110	36	3.	.2	2.5	*	1	JAN	0930	286	3.	.2	2.5	*	1	JAN	1750	536	4.	.2	2.5
1	JAN	0112	37	3.	.2	2.5	*	1	JAN	0932	287	3.	.2	2.5	*	1	JAN	1752	537	4.	.2	2.5
1	JAN	0114	38	3.	.2	2.5	*	1	JAN	0934	288	3.	.2	2.5	*	1	JAN	1754	538	4.	.2	2.5
1	JAN	0116	39	3.	.2	2.5	*	1	JAN	0936	289	3.	.2	2.5	*	1	JAN	1756	539	4.	.2	2.5
1	JAN	0118	40	3.	.2	2.5	*	1	JAN	0938	290	3.	.2	2.5	*	1	JAN	1758	540	4.	.2	2.5
1	JAN	0120	41	3.	.2	2.5	*	1	JAN	0940	291	3.	.2	2.5	*	1	JAN	1800	541	4.	.2	2.5
1	JAN	0122	42	3.	.2	2.5	*	1	JAN	0942	292	3.	.2	2.5	*	1	JAN	1802	542	4.	.2	2.5
1	JAN	0124	43	3.	.2	2.5	*	1	JAN	0944	293	3.	.2	2.5	*	1	JAN	1804	543	4.	.2	2.5
1	JAN	0126	44	3.	.2	2.5	*	1	JAN	0946	294	3.	.2	2.5	*	1	JAN	1806	544	4.	.2	2.5
1	JAN	0128	45	3.	.2	2.5	*	1	JAN	0948	295	3.	.2	2.5	*	1	JAN	1808	545	4.	.2	2.5
1	JAN	0130	46	3.	.2	2.5	*	1	JAN	0950	296	3.	.2	2.5	*	1	JAN	1810	546	4.	.2	2.5
1	JAN	0132	47	3.	.2	2.5	*	1	JAN	0952	297	3.	.2	2.5	*	1	JAN	1812	547	4.	.2	2.5
1	JAN	0134	48	3.	.2	2.5	*	1	JAN	0954	298	3.	.2	2.5	*	1	JAN	1814	548	4.	.2	2.5
1	JAN	0136	49	3.	.2	2.5	*	1	JAN	0956	299	3.	.2	2.5	*	1	JAN	1816	549	4.	.2	2.5
1	JAN	0138	50	3.	.2	2.5	*	1	JAN	0958	300	3.	.2	2.5	*	1	JAN	1818	550	4.	.2	2.5
1	JAN	0140	51	3.	.2	2.5	*	1	JAN	1000	301	3.	.2	2.5	*	1	JAN	1820	551	4.	.2	2.5
1	JAN	0142	52	3.	.2	2.5	*	1	JAN	1002	302	3.	.2	2.5	*	1	JAN	1822	552	4.	.2	2.5
1	JAN	0144	53	3.	.2	2.5	*	1	JAN	1004	303	3.	.2	2.5	*	1	JAN	1824	553	4.	.2	2.5
1	JAN	0146	54	3.	.2	2.5	*	1	JAN	1006	304	3.	.2	2.5	*	1	JAN	1826	554	4.	.2	2.5
1	JAN	0148	55	3.	.2	2.5	*	1	JAN	1008	305	3.	.2	2.5	*	1	JAN	1828	555	4.	.2	2.5
1	JAN	0150	56	3.	.2	2.5	*	1	JAN	1010	306	3.	.2	2.5	*	1	JAN	1830	556	4.	.2	2.5
1	JAN	0152	57	3.	.2	2.5	*	1	JAN	1012	307	3.	.2	2.5	*	1	JAN	1832	557	4.	.2	2.5
1	JAN	0154	58	3.	.2	2.5	*	1	JAN	1014	308	3.	.2	2.5	*	1	JAN	1834	558	4.	.2	2.5
1	JAN	0156	59	3.	.2	2.5	*	1	JAN	1016	309	3.	.2	2.5	*	1	JAN	1836	559	4.	.2	2.5
1	JAN	0158	60	3.	.2	2.5	*	1	JAN	1018	310	3.	.2	2.5	*	1	JAN	1838	560	4.	.2	2.5
1	JAN	0200	61	3.	.2	2.5	*	1	JAN	1020	311	3.	.2	2.5	*	1	JAN	1840	561	4.	.2	2.5
1	JAN	0202	62	3.	.2	2.5	*	1	JAN	1022	312	3.	.2	2.5	*	1	JAN	1842	562	4.	.2	2.5
1	JAN	0204	63	3.	.2	2.5	*	1	JAN	1024	313	3.	.2	2.5	*	1	JAN	1844	563	4.	.2	2.5
1	JAN	0206	64	3.	.2	2.5	*	1	JAN	1026	314	3.	.2	2.5	*	1	JAN	1846	564	4.	.2	2.5
1	JAN	0208	65	3.	.2	2.5	*	1	JAN	1028	315	3.	.2	2.5	*	1	JAN	1848	565	4.	.2	2.5
1	JAN	0210	66	3.	.2	2.5	*	1	JAN	1030	316	3.	.2	2.5	*	1	JAN	1850	566	4.	.2	2.5
1	JAN	0212	67	3.	.2	2.5	*	1	JAN	1032	317	3.	.2	2.5	*	1	JAN	1852	567	4.	.2	2.5
1	JAN	0214	68	3.	.2	2.5	*	1	JAN	1034	318	3.	.2	2.5	*	1	JAN	1854	568	4.	.2	2.5
1	JAN	0216	69	3.	.2	2.5	*	1	JAN	1036	319	3.	.2	2.5	*	1	JAN	1856	569	4.	.2	2.5
1	JAN	0218	70	3.	.2	2.5	*	1	JAN	1038	320	3.	.2	2.5	*	1	JAN	1858	570	4.	.2	2.5
1	JAN	0220	71	3.	.2	2.5	*	1	JAN	1040	321	3.	.2	2.5	*	1	JAN	1900	571	4.	.2	2.5
1	JAN	0222	72	3.	.2	2.5	*	1	JAN	1042	322	3.	.2	2.5	*	1	JAN	1902	572	4.	.2	2.5
1	JAN	0224	73	3.	.2	2.5	*	1	JAN	1044	323	3.	.2	2.5	*	1	JAN	1904	573	4.	.2	2.5

1	JAN	0226	74	3.	.2	2.5	*	1	JAN	1046	324	3.	.2	2.5	*	1	JAN	1906	574	4.	.2	2.5
1	JAN	0228	75	3.	.2	2.5	*	1	JAN	1048	325	3.	.2	2.5	*	1	JAN	1908	575	4.	.2	2.5
1	JAN	0230	76	3.	.2	2.5	*	1	JAN	1050	326	3.	.2	2.5	*	1	JAN	1910	576	4.	.2	2.5
1	JAN	0232	77	3.	.2	2.5	*	1	JAN	1052	327	3.	.2	2.5	*	1	JAN	1912	577	4.	.2	2.5
1	JAN	0234	78	3.	.2	2.5	*	1	JAN	1054	328	3.	.2	2.5	*	1	JAN	1914	578	4.	.2	2.5
1	JAN	0236	79	3.	.2	2.5	*	1	JAN	1056	329	3.	.2	2.5	*	1	JAN	1916	579	4.	.2	2.5
1	JAN	0238	80	3.	.2	2.5	*	1	JAN	1058	330	3.	.2	2.5	*	1	JAN	1918	580	4.	.2	2.5
1	JAN	0240	81	3.	.2	2.5	*	1	JAN	1100	331	3.	.2	2.5	*	1	JAN	1920	581	4.	.2	2.5
1	JAN	0242	82	3.	.2	2.5	*	1	JAN	1102	332	3.	.2	2.5	*	1	JAN	1922	582	4.	.2	2.5
1	JAN	0244	83	3.	.2	2.5	*	1	JAN	1104	333	3.	.2	2.5	*	1	JAN	1924	583	4.	.2	2.5
1	JAN	0246	84	3.	.2	2.5	*	1	JAN	1106	334	3.	.2	2.5	*	1	JAN	1926	584	4.	.2	2.5
1	JAN	0248	85	3.	.2	2.5	*	1	JAN	1108	335	3.	.2	2.5	*	1	JAN	1928	585	4.	.2	2.5
1	JAN	0250	86	3.	.2	2.5	*	1	JAN	1110	336	3.	.2	2.5	*	1	JAN	1930	586	4.	.2	2.5
1	JAN	0252	87	3.	.2	2.5	*	1	JAN	1112	337	3.	.2	2.5	*	1	JAN	1932	587	4.	.2	2.5
1	JAN	0254	88	3.	.2	2.5	*	1	JAN	1114	338	3.	.2	2.5	*	1	JAN	1934	588	4.	.2	2.5
1	JAN	0256	89	3.	.2	2.5	*	1	JAN	1116	339	3.	.2	2.5	*	1	JAN	1936	589	4.	.2	2.5
1	JAN	0258	90	3.	.2	2.5	*	1	JAN	1118	340	3.	.2	2.5	*	1	JAN	1938	590	4.	.2	2.5
1	JAN	0300	91	3.	.2	2.5	*	1	JAN	1120	341	3.	.2	2.5	*	1	JAN	1940	591	4.	.2	2.5
1	JAN	0302	92	3.	.2	2.5	*	1	JAN	1122	342	3.	.2	2.5	*	1	JAN	1942	592	4.	.2	2.5
1	JAN	0304	93	3.	.2	2.5	*	1	JAN	1124	343	3.	.2	2.5	*	1	JAN	1944	593	4.	.2	2.5
1	JAN	0306	94	3.	.2	2.5	*	1	JAN	1126	344	3.	.2	2.5	*	1	JAN	1946	594	4.	.2	2.5
1	JAN	0308	95	3.	.2	2.5	*	1	JAN	1128	345	3.	.2	2.5	*	1	JAN	1948	595	4.	.2	2.5
1	JAN	0310	96	3.	.2	2.5	*	1	JAN	1130	346	3.	.2	2.5	*	1	JAN	1950	596	4.	.2	2.5
1	JAN	0312	97	3.	.2	2.5	*	1	JAN	1132	347	3.	.2	2.5	*	1	JAN	1952	597	4.	.2	2.5
1	JAN	0314	98	3.	.2	2.5	*	1	JAN	1134	348	3.	.2	2.5	*	1	JAN	1954	598	4.	.2	2.5
1	JAN	0316	99	3.	.2	2.5	*	1	JAN	1136	349	3.	.2	2.5	*	1	JAN	1956	599	4.	.2	2.5
1	JAN	0318	100	3.	.2	2.5	*	1	JAN	1138	350	3.	.2	2.5	*	1	JAN	1958	600	4.	.2	2.5
1	JAN	0320	101	3.	.2	2.5	*	1	JAN	1140	351	3.	.2	2.5	*	1	JAN	2000	601	4.	.2	2.5
1	JAN	0322	102	3.	.2	2.5	*	1	JAN	1142	352	3.	.2	2.5	*	1	JAN	2002	602	4.	.2	2.5
1	JAN	0324	103	3.	.2	2.5	*	1	JAN	1144	353	3.	.2	2.5	*	1	JAN	2004	603	4.	.2	2.5
1	JAN	0326	104	3.	.2	2.5	*	1	JAN	1146	354	3.	.2	2.5	*	1	JAN	2006	604	4.	.2	2.5
1	JAN	0328	105	3.	.2	2.5	*	1	JAN	1148	355	3.	.2	2.5	*	1	JAN	2008	605	4.	.2	2.5
1	JAN	0330	106	3.	.2	2.5	*	1	JAN	1150	356	3.	.2	2.5	*	1	JAN	2010	606	4.	.2	2.5
1	JAN	0332	107	3.	.2	2.5	*	1	JAN	1152	357	3.	.2	2.5	*	1	JAN	2012	607	4.	.2	2.5
1	JAN	0334	108	3.	.2	2.5	*	1	JAN	1154	358	3.	.2	2.5	*	1	JAN	2014	608	4.	.2	2.5
1	JAN	0336	109	3.	.2	2.5	*	1	JAN	1156	359	3.	.2	2.5	*	1	JAN	2016	609	4.	.2	2.5
1	JAN	0338	110	3.	.2	2.5	*	1	JAN	1158	360	3.	.2	2.5	*	1	JAN	2018	610	4.	.2	2.5
1	JAN	0340	111	3.	.2	2.5	*	1	JAN	1200	361	3.	.2	2.5	*	1	JAN	2020	611	4.	.2	2.5
1	JAN	0342	112	3.	.2	2.5	*	1	JAN	1202	362	3.	.2	2.5	*	1	JAN	2022	612	4.	.2	2.5
1	JAN	0344	113	3.	.2	2.5	*	1	JAN	1204	363	3.	.2	2.5	*	1	JAN	2024	613	4.	.2	2.5
1	JAN	0346	114	3.	.2	2.5	*	1	JAN	1206	364	3.	.2	2.5	*	1	JAN	2026	614	4.	.2	2.5
1	JAN	0348	115	3.	.2	2.5	*	1	JAN	1208	365	3.	.2	2.5	*	1	JAN	2028	615	4.	.2	2.5
1	JAN	0350	116	3.	.2	2.5	*	1	JAN	1210	366	3.	.2	2.5	*	1	JAN	2030	616	4.	.2	2.5
1	JAN	0352	117	3.	.2	2.5	*	1	JAN	1212	367	3.	.2	2.5	*	1	JAN	2032	617	4.	.2	2.5
1	JAN	0354	118	3.	.2	2.5	*	1	JAN	1214	368	3.	.2	2.5	*	1	JAN	2034	618	4.	.2	2.5
1	JAN	0356	119	3.	.2	2.5	*	1	JAN	1216	369	3.	.2	2.5	*	1	JAN	2036	619	4.	.2	2.5
1	JAN	0358	120	3.	.2	2.5	*	1	JAN	1218	370	3.	.2	2.5	*	1	JAN	2038	620	4.	.2	2.5

1	JAN	0400	121	3.	.2	2.5	*	1	JAN	1220	371	3.	.2	2.5	*	1	JAN	2040	621	4.	.2	2.5
1	JAN	0402	122	3.	.2	2.5	*	1	JAN	1222	372	3.	.2	2.5	*	1	JAN	2042	622	4.	.2	2.5
1	JAN	0404	123	3.	.2	2.5	*	1	JAN	1224	373	3.	.2	2.5	*	1	JAN	2044	623	4.	.2	2.5
1	JAN	0406	124	3.	.2	2.5	*	1	JAN	1226	374	3.	.2	2.5	*	1	JAN	2046	624	4.	.2	2.5
1	JAN	0408	125	3.	.2	2.5	*	1	JAN	1228	375	3.	.2	2.5	*	1	JAN	2048	625	4.	.2	2.5
1	JAN	0410	126	3.	.2	2.5	*	1	JAN	1230	376	3.	.2	2.5	*	1	JAN	2050	626	4.	.2	2.5
1	JAN	0412	127	3.	.2	2.5	*	1	JAN	1232	377	3.	.2	2.5	*	1	JAN	2052	627	4.	.2	2.5
1	JAN	0414	128	3.	.2	2.5	*	1	JAN	1234	378	3.	.2	2.5	*	1	JAN	2054	628	4.	.2	2.5
1	JAN	0416	129	3.	.2	2.5	*	1	JAN	1236	379	3.	.2	2.5	*	1	JAN	2056	629	4.	.2	2.5
1	JAN	0418	130	3.	.2	2.5	*	1	JAN	1238	380	3.	.2	2.5	*	1	JAN	2058	630	4.	.2	2.5
1	JAN	0420	131	3.	.2	2.5	*	1	JAN	1240	381	3.	.2	2.5	*	1	JAN	2100	631	4.	.2	2.5
1	JAN	0422	132	3.	.2	2.5	*	1	JAN	1242	382	3.	.2	2.5	*	1	JAN	2102	632	4.	.2	2.5
1	JAN	0424	133	3.	.2	2.5	*	1	JAN	1244	383	3.	.2	2.5	*	1	JAN	2104	633	4.	.2	2.5
1	JAN	0426	134	3.	.2	2.5	*	1	JAN	1246	384	3.	.2	2.5	*	1	JAN	2106	634	4.	.2	2.5
1	JAN	0428	135	3.	.2	2.5	*	1	JAN	1248	385	3.	.2	2.5	*	1	JAN	2108	635	4.	.2	2.5
1	JAN	0430	136	3.	.2	2.5	*	1	JAN	1250	386	3.	.2	2.5	*	1	JAN	2110	636	4.	.2	2.5
1	JAN	0432	137	3.	.2	2.5	*	1	JAN	1252	387	3.	.2	2.5	*	1	JAN	2112	637	4.	.2	2.5
1	JAN	0434	138	3.	.2	2.5	*	1	JAN	1254	388	3.	.2	2.5	*	1	JAN	2114	638	4.	.2	2.5
1	JAN	0436	139	3.	.2	2.5	*	1	JAN	1256	389	3.	.2	2.5	*	1	JAN	2116	639	4.	.2	2.5
1	JAN	0438	140	3.	.2	2.5	*	1	JAN	1258	390	3.	.2	2.5	*	1	JAN	2118	640	4.	.2	2.5
1	JAN	0440	141	3.	.2	2.5	*	1	JAN	1300	391	3.	.2	2.5	*	1	JAN	2120	641	4.	.2	2.5
1	JAN	0442	142	3.	.2	2.5	*	1	JAN	1302	392	3.	.2	2.5	*	1	JAN	2122	642	4.	.2	2.5
1	JAN	0444	143	3.	.2	2.5	*	1	JAN	1304	393	3.	.2	2.5	*	1	JAN	2124	643	4.	.2	2.5
1	JAN	0446	144	3.	.2	2.5	*	1	JAN	1306	394	3.	.2	2.5	*	1	JAN	2126	644	4.	.2	2.5
1	JAN	0448	145	3.	.2	2.5	*	1	JAN	1308	395	3.	.2	2.5	*	1	JAN	2128	645	4.	.2	2.5
1	JAN	0450	146	3.	.2	2.5	*	1	JAN	1310	396	3.	.2	2.5	*	1	JAN	2130	646	4.	.2	2.5
1	JAN	0452	147	3.	.2	2.5	*	1	JAN	1312	397	3.	.2	2.5	*	1	JAN	2132	647	4.	.2	2.5
1	JAN	0454	148	3.	.2	2.5	*	1	JAN	1314	398	3.	.2	2.5	*	1	JAN	2134	648	4.	.2	2.5
1	JAN	0456	149	3.	.2	2.5	*	1	JAN	1316	399	3.	.2	2.5	*	1	JAN	2136	649	4.	.2	2.5
1	JAN	0458	150	3.	.2	2.5	*	1	JAN	1318	400	3.	.2	2.5	*	1	JAN	2138	650	4.	.2	2.5
1	JAN	0500	151	3.	.2	2.5	*	1	JAN	1320	401	3.	.2	2.5	*	1	JAN	2140	651	4.	.2	2.5
1	JAN	0502	152	3.	.2	2.5	*	1	JAN	1322	402	3.	.2	2.5	*	1	JAN	2142	652	4.	.2	2.5
1	JAN	0504	153	3.	.2	2.5	*	1	JAN	1324	403	3.	.2	2.5	*	1	JAN	2144	653	4.	.2	2.5
1	JAN	0506	154	3.	.2	2.5	*	1	JAN	1326	404	3.	.2	2.5	*	1	JAN	2146	654	4.	.2	2.5
1	JAN	0508	155	3.	.2	2.5	*	1	JAN	1328	405	3.	.2	2.5	*	1	JAN	2148	655	4.	.2	2.5
1	JAN	0510	156	3.	.2	2.5	*	1	JAN	1330	406	3.	.2	2.5	*	1	JAN	2150	656	4.	.2	2.5
1	JAN	0512	157	3.	.2	2.5	*	1	JAN	1332	407	3.	.2	2.5	*	1	JAN	2152	657	4.	.2	2.5
1	JAN	0514	158	3.	.2	2.5	*	1	JAN	1334	408	3.	.2	2.5	*	1	JAN	2154	658	4.	.2	2.5
1	JAN	0516	159	3.	.2	2.5	*	1	JAN	1336	409	3.	.2	2.5	*	1	JAN	2156	659	4.	.2	2.5
1	JAN	0518	160	3.	.2	2.5	*	1	JAN	1338	410	3.	.2	2.5	*	1	JAN	2158	660	4.	.2	2.5
1	JAN	0520	161	3.	.2	2.5	*	1	JAN	1340	411	3.	.2	2.5	*	1	JAN	2200	661	4.	.2	2.5
1	JAN	0522	162	3.	.2	2.5	*	1	JAN	1342	412	3.	.2	2.5	*	1	JAN	2202	662	4.	.2	2.5
1	JAN	0524	163	3.	.2	2.5	*	1	JAN	1344	413	3.	.2	2.5	*	1	JAN	2204	663	4.	.2	2.5
1	JAN	0526	164	3.	.2	2.5	*	1	JAN	1346	414	3.	.2	2.5	*	1	JAN	2206	664	4.	.2	2.5
1	JAN	0528	165	3.	.2	2.5	*	1	JAN	1348	415	3.	.2	2.5	*	1	JAN	2208	665	4.	.2	2.5
1	JAN	0530	166	3.	.2	2.5	*	1	JAN	1350	416	3.	.2	2.5	*	1	JAN	2210	666	4.	.2	2.5
1	JAN	0532	167	3.	.2	2.5	*	1	JAN	1352	417	3.	.2	2.5	*	1	JAN	2212	667	4.	.2	2.5

1	JAN	0038	20	1.	*	1	JAN	0654	208	1.	*	1	JAN	1310	396	1.	*	1	JAN	1926	584	1.
1	JAN	0040	21	1.	*	1	JAN	0656	209	1.	*	1	JAN	1312	397	1.	*	1	JAN	1928	585	1.
1	JAN	0042	22	1.	*	1	JAN	0658	210	1.	*	1	JAN	1314	398	1.	*	1	JAN	1930	586	1.
1	JAN	0044	23	1.	*	1	JAN	0700	211	1.	*	1	JAN	1316	399	1.	*	1	JAN	1932	587	1.
1	JAN	0046	24	1.	*	1	JAN	0702	212	1.	*	1	JAN	1318	400	1.	*	1	JAN	1934	588	1.
1	JAN	0048	25	1.	*	1	JAN	0704	213	1.	*	1	JAN	1320	401	1.	*	1	JAN	1936	589	1.
1	JAN	0050	26	1.	*	1	JAN	0706	214	1.	*	1	JAN	1322	402	1.	*	1	JAN	1938	590	1.
1	JAN	0052	27	1.	*	1	JAN	0708	215	1.	*	1	JAN	1324	403	1.	*	1	JAN	1940	591	1.
1	JAN	0054	28	1.	*	1	JAN	0710	216	1.	*	1	JAN	1326	404	1.	*	1	JAN	1942	592	1.
1	JAN	0056	29	1.	*	1	JAN	0712	217	1.	*	1	JAN	1328	405	1.	*	1	JAN	1944	593	1.
1	JAN	0058	30	1.	*	1	JAN	0714	218	1.	*	1	JAN	1330	406	1.	*	1	JAN	1946	594	1.
1	JAN	0100	31	1.	*	1	JAN	0716	219	1.	*	1	JAN	1332	407	1.	*	1	JAN	1948	595	1.
1	JAN	0102	32	1.	*	1	JAN	0718	220	1.	*	1	JAN	1334	408	1.	*	1	JAN	1950	596	1.
1	JAN	0104	33	1.	*	1	JAN	0720	221	1.	*	1	JAN	1336	409	1.	*	1	JAN	1952	597	1.
1	JAN	0106	34	1.	*	1	JAN	0722	222	1.	*	1	JAN	1338	410	1.	*	1	JAN	1954	598	1.
1	JAN	0108	35	1.	*	1	JAN	0724	223	1.	*	1	JAN	1340	411	1.	*	1	JAN	1956	599	1.
1	JAN	0110	36	1.	*	1	JAN	0726	224	1.	*	1	JAN	1342	412	1.	*	1	JAN	1958	600	1.
1	JAN	0112	37	1.	*	1	JAN	0728	225	1.	*	1	JAN	1344	413	1.	*	1	JAN	2000	601	1.
1	JAN	0114	38	1.	*	1	JAN	0730	226	1.	*	1	JAN	1346	414	1.	*	1	JAN	2002	602	1.
1	JAN	0116	39	1.	*	1	JAN	0732	227	1.	*	1	JAN	1348	415	1.	*	1	JAN	2004	603	1.
1	JAN	0118	40	1.	*	1	JAN	0734	228	1.	*	1	JAN	1350	416	1.	*	1	JAN	2006	604	1.
1	JAN	0120	41	1.	*	1	JAN	0736	229	1.	*	1	JAN	1352	417	1.	*	1	JAN	2008	605	1.
1	JAN	0122	42	1.	*	1	JAN	0738	230	1.	*	1	JAN	1354	418	1.	*	1	JAN	2010	606	1.
1	JAN	0124	43	1.	*	1	JAN	0740	231	1.	*	1	JAN	1356	419	1.	*	1	JAN	2012	607	1.
1	JAN	0126	44	1.	*	1	JAN	0742	232	1.	*	1	JAN	1358	420	1.	*	1	JAN	2014	608	1.
1	JAN	0128	45	1.	*	1	JAN	0744	233	1.	*	1	JAN	1400	421	1.	*	1	JAN	2016	609	1.
1	JAN	0130	46	1.	*	1	JAN	0746	234	1.	*	1	JAN	1402	422	1.	*	1	JAN	2018	610	1.
1	JAN	0132	47	1.	*	1	JAN	0748	235	1.	*	1	JAN	1404	423	1.	*	1	JAN	2020	611	1.
1	JAN	0134	48	1.	*	1	JAN	0750	236	1.	*	1	JAN	1406	424	1.	*	1	JAN	2022	612	1.
1	JAN	0136	49	1.	*	1	JAN	0752	237	1.	*	1	JAN	1408	425	1.	*	1	JAN	2024	613	1.
1	JAN	0138	50	1.	*	1	JAN	0754	238	1.	*	1	JAN	1410	426	1.	*	1	JAN	2026	614	1.
1	JAN	0140	51	1.	*	1	JAN	0756	239	1.	*	1	JAN	1412	427	1.	*	1	JAN	2028	615	1.
1	JAN	0142	52	1.	*	1	JAN	0758	240	1.	*	1	JAN	1414	428	1.	*	1	JAN	2030	616	1.
1	JAN	0144	53	1.	*	1	JAN	0800	241	1.	*	1	JAN	1416	429	1.	*	1	JAN	2032	617	1.
1	JAN	0146	54	1.	*	1	JAN	0802	242	1.	*	1	JAN	1418	430	1.	*	1	JAN	2034	618	1.
1	JAN	0148	55	1.	*	1	JAN	0804	243	1.	*	1	JAN	1420	431	1.	*	1	JAN	2036	619	1.
1	JAN	0150	56	1.	*	1	JAN	0806	244	1.	*	1	JAN	1422	432	1.	*	1	JAN	2038	620	1.
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1	JAN	0154	58	1.	*	1	JAN	0810	246	1.	*	1	JAN	1426	434	1.	*	1	JAN	2042	622	1.
1	JAN	0156	59	1.	*	1	JAN	0812	247	1.	*	1	JAN	1428	435	1.	*	1	JAN	2044	623	1.
1	JAN	0158	60	1.	*	1	JAN	0814	248	1.	*	1	JAN	1430	436	1.	*	1	JAN	2046	624	1.
1	JAN	0200	61	1.	*	1	JAN	0816	249	1.	*	1	JAN	1432	437	1.	*	1	JAN	2048	625	1.
1	JAN	0202	62	1.	*	1	JAN	0818	250	1.	*	1	JAN	1434	438	1.	*	1	JAN	2050	626	1.
1	JAN	0204	63	1.	*	1	JAN	0820	251	1.	*	1	JAN	1436	439	1.	*	1	JAN	2052	627	1.
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1	JAN	0214	68	1.	*	1	JAN	0830	256	1.	*	1	JAN	1446	444	1.	*	1	JAN	2102	632	1.
1	JAN	0216	69	1.	*	1	JAN	0832	257	1.	*	1	JAN	1448	445	1.	*	1	JAN	2104	633	1.
1	JAN	0218	70	1.	*	1	JAN	0834	258	1.	*	1	JAN	1450	446	1.	*	1	JAN	2106	634	1.
1	JAN	0220	71	1.	*	1	JAN	0836	259	1.	*	1	JAN	1452	447	1.	*	1	JAN	2108	635	1.
1	JAN	0222	72	1.	*	1	JAN	0838	260	1.	*	1	JAN	1454	448	1.	*	1	JAN	2110	636	1.
1	JAN	0224	73	1.	*	1	JAN	0840	261	1.	*	1	JAN	1456	449	1.	*	1	JAN	2112	637	1.
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1	JAN	0228	75	1.	*	1	JAN	0844	263	1.	*	1	JAN	1500	451	1.	*	1	JAN	2116	639	1.
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1	JAN	0236	79	1.	*	1	JAN	0852	267	1.	*	1	JAN	1508	455	1.	*	1	JAN	2124	643	1.
1	JAN	0238	80	1.	*	1	JAN	0854	268	1.	*	1	JAN	1510	456	1.	*	1	JAN	2126	644	1.
1	JAN	0240	81	1.	*	1	JAN	0856	269	1.	*	1	JAN	1512	457	1.	*	1	JAN	2128	645	1.
1	JAN	0242	82	1.	*	1	JAN	0858	270	1.	*	1	JAN	1514	458	1.	*	1	JAN	2130	646	1.
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1	JAN	0248	85	1.	*	1	JAN	0904	273	1.	*	1	JAN	1520	461	1.	*	1	JAN	2136	649	1.
1	JAN	0250	86	1.	*	1	JAN	0906	274	1.	*	1	JAN	1522	462	1.	*	1	JAN	2138	650	1.
1	JAN	0252	87	1.	*	1	JAN	0908	275	1.	*	1	JAN	1524	463	1.	*	1	JAN	2140	651	1.
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1	JAN	0256	89	1.	*	1	JAN	0912	277	1.	*	1	JAN	1528	465	1.	*	1	JAN	2144	653	1.
1	JAN	0258	90	1.	*	1	JAN	0914	278	1.	*	1	JAN	1530	466	1.	*	1	JAN	2146	654	1.
1	JAN	0300	91	1.	*	1	JAN	0916	279	1.	*	1	JAN	1532	467	1.	*	1	JAN	2148	655	1.
1	JAN	0302	92	1.	*	1	JAN	0918	280	1.	*	1	JAN	1534	468	1.	*	1	JAN	2150	656	1.
1	JAN	0304	93	1.	*	1	JAN	0920	281	1.	*	1	JAN	1536	469	1.	*	1	JAN	2152	657	1.
1	JAN	0306	94	1.	*	1	JAN	0922	282	1.	*	1	JAN	1538	470	1.	*	1	JAN	2154	658	1.
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1	JAN	0314	98	1.	*	1	JAN	0930	286	1.	*	1	JAN	1546	474	1.	*	1	JAN	2202	662	1.
1	JAN	0316	99	1.	*	1	JAN	0932	287	1.	*	1	JAN	1548	475	1.	*	1	JAN	2204	663	1.
1	JAN	0318	100	1.	*	1	JAN	0934	288	1.	*	1	JAN	1550	476	1.	*	1	JAN	2206	664	1.
1	JAN	0320	101	1.	*	1	JAN	0936	289	1.	*	1	JAN	1552	477	1.	*	1	JAN	2208	665	1.
1	JAN	0322	102	1.	*	1	JAN	0938	290	1.	*	1	JAN	1554	478	1.	*	1	JAN	2210	666	1.
1	JAN	0324	103	1.	*	1	JAN	0940	291	1.	*	1	JAN	1556	479	1.	*	1	JAN	2212	667	1.
1	JAN	0326	104	1.	*	1	JAN	0942	292	1.	*	1	JAN	1558	480	1.	*	1	JAN	2214	668	1.
1	JAN	0328	105	1.	*	1	JAN	0944	293	1.	*	1	JAN	1600	481	1.	*	1	JAN	2216	669	1.
1	JAN	0330	106	1.	*	1	JAN	0946	294	1.	*	1	JAN	1602	482	1.	*	1	JAN	2218	670	1.
1	JAN	0332	107	1.	*	1	JAN	0948	295	1.	*	1	JAN	1604	483	1.	*	1	JAN	2220	671	1.
1	JAN	0334	108	1.	*	1	JAN	0950	296	1.	*	1	JAN	1606	484	1.	*	1	JAN	2222	672	1.
1	JAN	0336	109	1.	*	1	JAN	0952	297	1.	*	1	JAN	1608	485	1.	*	1	JAN	2224	673	1.
1	JAN	0338	110	1.	*	1	JAN	0954	298	1.	*	1	JAN	1610	486	1.	*	1	JAN	2226	674	1.
1	JAN	0340	111	1.	*	1	JAN	0956	299	1.	*	1	JAN	1612	487	1.	*	1	JAN	2228	675	1.
1	JAN	0342	112	1.	*	1	JAN	0958	300	1.	*	1	JAN	1614	488	1.	*	1	JAN	2230	676	1.
1	JAN	0344	113	1.	*	1	JAN	1000	301	1.	*	1	JAN	1616	489	1.	*	1	JAN	2232	677	1.
1	JAN	0346	114	1.	*	1	JAN	1002	302	1.	*	1	JAN	1618	490	1.	*	1	JAN	2234	678	1.

1 JAN 0348	115	1.	*	1 JAN 1004	303	1.	*	1 JAN 1620	491	1.	*	1 JAN 2236	679	1.
1 JAN 0350	116	1.	*	1 JAN 1006	304	1.	*	1 JAN 1622	492	1.	*	1 JAN 2238	680	1.
1 JAN 0352	117	1.	*	1 JAN 1008	305	1.	*	1 JAN 1624	493	1.	*	1 JAN 2240	681	1.
1 JAN 0354	118	1.	*	1 JAN 1010	306	1.	*	1 JAN 1626	494	1.	*	1 JAN 2242	682	1.
1 JAN 0356	119	1.	*	1 JAN 1012	307	1.	*	1 JAN 1628	495	1.	*	1 JAN 2244	683	1.
1 JAN 0358	120	1.	*	1 JAN 1014	308	1.	*	1 JAN 1630	496	1.	*	1 JAN 2246	684	1.
1 JAN 0400	121	1.	*	1 JAN 1016	309	1.	*	1 JAN 1632	497	1.	*	1 JAN 2248	685	1.
1 JAN 0402	122	1.	*	1 JAN 1018	310	1.	*	1 JAN 1634	498	1.	*	1 JAN 2250	686	1.
1 JAN 0404	123	1.	*	1 JAN 1020	311	1.	*	1 JAN 1636	499	1.	*	1 JAN 2252	687	1.
1 JAN 0406	124	1.	*	1 JAN 1022	312	1.	*	1 JAN 1638	500	1.	*	1 JAN 2254	688	1.
1 JAN 0408	125	1.	*	1 JAN 1024	313	1.	*	1 JAN 1640	501	1.	*	1 JAN 2256	689	1.
1 JAN 0410	126	1.	*	1 JAN 1026	314	1.	*	1 JAN 1642	502	1.	*	1 JAN 2258	690	1.
1 JAN 0412	127	1.	*	1 JAN 1028	315	1.	*	1 JAN 1644	503	1.	*	1 JAN 2300	691	1.
1 JAN 0414	128	1.	*	1 JAN 1030	316	1.	*	1 JAN 1646	504	1.	*	1 JAN 2302	692	1.
1 JAN 0416	129	1.	*	1 JAN 1032	317	1.	*	1 JAN 1648	505	1.	*	1 JAN 2304	693	1.
1 JAN 0418	130	1.	*	1 JAN 1034	318	1.	*	1 JAN 1650	506	1.	*	1 JAN 2306	694	1.
1 JAN 0420	131	1.	*	1 JAN 1036	319	1.	*	1 JAN 1652	507	1.	*	1 JAN 2308	695	1.
1 JAN 0422	132	1.	*	1 JAN 1038	320	1.	*	1 JAN 1654	508	1.	*	1 JAN 2310	696	1.
1 JAN 0424	133	1.	*	1 JAN 1040	321	1.	*	1 JAN 1656	509	1.	*	1 JAN 2312	697	1.
1 JAN 0426	134	1.	*	1 JAN 1042	322	1.	*	1 JAN 1658	510	1.	*	1 JAN 2314	698	1.
1 JAN 0428	135	1.	*	1 JAN 1044	323	1.	*	1 JAN 1700	511	1.	*	1 JAN 2316	699	1.
1 JAN 0430	136	1.	*	1 JAN 1046	324	1.	*	1 JAN 1702	512	1.	*	1 JAN 2318	700	1.
1 JAN 0432	137	1.	*	1 JAN 1048	325	1.	*	1 JAN 1704	513	1.	*	1 JAN 2320	701	1.
1 JAN 0434	138	1.	*	1 JAN 1050	326	1.	*	1 JAN 1706	514	1.	*	1 JAN 2322	702	1.
1 JAN 0436	139	1.	*	1 JAN 1052	327	1.	*	1 JAN 1708	515	1.	*	1 JAN 2324	703	1.
1 JAN 0438	140	1.	*	1 JAN 1054	328	1.	*	1 JAN 1710	516	1.	*	1 JAN 2326	704	1.
1 JAN 0440	141	1.	*	1 JAN 1056	329	1.	*	1 JAN 1712	517	1.	*	1 JAN 2328	705	1.
1 JAN 0442	142	1.	*	1 JAN 1058	330	1.	*	1 JAN 1714	518	1.	*	1 JAN 2330	706	1.
1 JAN 0444	143	1.	*	1 JAN 1100	331	1.	*	1 JAN 1716	519	1.	*	1 JAN 2332	707	1.
1 JAN 0446	144	1.	*	1 JAN 1102	332	1.	*	1 JAN 1718	520	1.	*	1 JAN 2334	708	1.
1 JAN 0448	145	1.	*	1 JAN 1104	333	1.	*	1 JAN 1720	521	1.	*	1 JAN 2336	709	1.
1 JAN 0450	146	1.	*	1 JAN 1106	334	1.	*	1 JAN 1722	522	1.	*	1 JAN 2338	710	1.
1 JAN 0452	147	1.	*	1 JAN 1108	335	1.	*	1 JAN 1724	523	1.	*	1 JAN 2340	711	1.
1 JAN 0454	148	1.	*	1 JAN 1110	336	1.	*	1 JAN 1726	524	1.	*	1 JAN 2342	712	1.
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1 JAN 0458	150	1.	*	1 JAN 1114	338	1.	*	1 JAN 1730	526	1.	*	1 JAN 2346	714	1.
1 JAN 0500	151	1.	*	1 JAN 1116	339	1.	*	1 JAN 1732	527	1.	*	1 JAN 2348	715	1.
1 JAN 0502	152	1.	*	1 JAN 1118	340	1.	*	1 JAN 1734	528	1.	*	1 JAN 2350	716	1.
1 JAN 0504	153	1.	*	1 JAN 1120	341	1.	*	1 JAN 1736	529	1.	*	1 JAN 2352	717	1.
1 JAN 0506	154	1.	*	1 JAN 1122	342	1.	*	1 JAN 1738	530	1.	*	1 JAN 2354	718	1.
1 JAN 0508	155	1.	*	1 JAN 1124	343	1.	*	1 JAN 1740	531	1.	*	1 JAN 2356	719	1.
1 JAN 0510	156	1.	*	1 JAN 1126	344	1.	*	1 JAN 1742	532	1.	*	1 JAN 2358	720	1.
1 JAN 0512	157	1.	*	1 JAN 1128	345	1.	*	1 JAN 1744	533	1.	*	2 JAN 0000	721	1.
1 JAN 0514	158	1.	*	1 JAN 1130	346	1.	*	1 JAN 1746	534	1.	*	2 JAN 0002	722	1.
1 JAN 0516	159	1.	*	1 JAN 1132	347	1.	*	1 JAN 1748	535	1.	*	2 JAN 0004	723	1.
1 JAN 0518	160	1.	*	1 JAN 1134	348	1.	*	1 JAN 1750	536	1.	*	2 JAN 0006	724	1.
1 JAN 0520	161	1.	*	1 JAN 1136	349	1.	*	1 JAN 1752	537	1.	*	2 JAN 0008	725	1.
1 JAN 0522	162	1.	*	1 JAN 1138	350	1.	*	1 JAN 1754	538	1.	*	2 JAN 0010	726	1.
1 JAN 0524	163	1.	*	1 JAN 1140	351	1.	*	1 JAN 1756	539	1.	*	2 JAN 0012	727	1.
1 JAN 0526	164	1.	*	1 JAN 1142	352	1.	*	1 JAN 1758	540	1.	*	2 JAN 0014	728	1.
1 JAN 0528	165	1.	*	1 JAN 1144	353	1.	*	1 JAN 1800	541	1.	*	2 JAN 0016	729	1.
1 JAN 0530	166	1.	*	1 JAN 1146	354	1.	*	1 JAN 1802	542	1.	*	2 JAN 0018	730	1.
1 JAN 0532	167	1.	*	1 JAN 1148	355	1.	*	1 JAN 1804	543	1.	*	2 JAN 0020	731	1.
1 JAN 0534	168	1.	*	1 JAN 1150	356	1.	*	1 JAN 1806	544	1.	*	2 JAN 0022	732	1.
1 JAN 0536	169	1.	*	1 JAN 1152	357	1.	*	1 JAN 1808	545	1.	*	2 JAN 0024	733	1.
1 JAN 0538	170	1.	*	1 JAN 1154	358	1.	*	1 JAN 1810	546	1.	*	2 JAN 0026	734	1.
1 JAN 0540	171	1.	*	1 JAN 1156	359	1.	*	1 JAN 1812	547	1.	*	2 JAN 0028	735	1.
1 JAN 0542	172	1.	*	1 JAN 1158	360	1.	*	1 JAN 1814	548	1.	*	2 JAN 0030	736	1.
1 JAN 0544	173	1.	*	1 JAN 1200	361	1.	*	1 JAN 1816	549	1.	*	2 JAN 0032	737	1.
1 JAN 0546	174	1.	*	1 JAN 1202	362	1.	*	1 JAN 1818	550	1.	*	2 JAN 0034	738	1.
1 JAN 0548	175	1.	*	1 JAN 1204	363	1.	*	1 JAN 1820	551	1.	*	2 JAN 0036	739	1.
1 JAN 0550	176	1.	*	1 JAN 1206	364	1.	*	1 JAN 1822	552	1.	*	2 JAN 0038	740	1.
1 JAN 0552	177	1.	*	1 JAN 1208	365	1.	*	1 JAN 1824	553	1.	*	2 JAN 0040	741	1.
1 JAN 0554	178	1.	*	1 JAN 1210	366	1.	*	1 JAN 1826	554	1.	*	2 JAN 0042	742	1.
1 JAN 0556	179	1.	*	1 JAN 1212	367	1.	*	1 JAN 1828	555	1.	*	2 JAN 0044	743	1.
1 JAN 0558	180	1.	*	1 JAN 1214	368	1.	*	1 JAN 1830	556	1.	*	2 JAN 0046	744	1.
1 JAN 0600	181	1.	*	1 JAN 1216	369	1.	*	1 JAN 1832	557	1.	*	2 JAN 0048	745	1.
1 JAN 0602	182	1.	*	1 JAN 1218	370	1.	*	1 JAN 1834	558	1.	*	2 JAN 0050	746	1.
1 JAN 0604	183	1.	*	1 JAN 1220	371	1.	*	1 JAN 1836	559	1.	*	2 JAN 0052	747	1.
1 JAN 0606	184	1.	*	1 JAN 1222	372	1.	*	1 JAN 1838	560	1.	*	2 JAN 0054	748	1.
1 JAN 0608	185	1.	*	1 JAN 1224	373	1.	*	1 JAN 1840	561	1.	*	2 JAN 0056	749	1.
1 JAN 0610	186	1.	*	1 JAN 1226	374	1.	*	1 JAN 1842	562	1.	*	2 JAN 0058	750	1.
1 JAN 0612	187	1.	*	1 JAN 1228	375	1.	*	1 JAN 1844	563	1.	*			
1 JAN 0614	188	1.	*	1 JAN 1230	376	1.	*	1 JAN 1846	564	1.	*			

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.97-HR
+ (CFS)	(HR)					
		(CFS)				
+ 12.	.17		2.	1.	1.	1.
		(INCHES)	3.637	12.005	12.455	12.455
		(AC-FT)	1.	3.	3.	3.

CUMULATIVE AREA = .00 SQ MI

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          **************
          *            *
 49 KK    *    ON06    *        BASIN
          *            *
          **************

  9 IN         TIME DATA FOR INPUT TIME SERIES
                  JXMIN          5  TIME INTERVAL IN MINUTES
                  JXDATE    1JAN99  STARTING DATE
                  JXTIME         0  STARTING TIME

             SUBBASIN RUNOFF DATA

 50 BA         SUBBASIN CHARACTERISTICS
                  TAREA        .00  SUBBASIN AREA

                                        ***
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****

HYDROGRAPH AT STATION ON06

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DA MON HRMN	ORD	FLOW	DA MON HRMN	ORD	FLOW	DA MON HRMN	ORD	FLOW	DA MON HRMN	ORD	FLOW
1 JAN 0000	1	0.	1 JAN 0616	189	1.	1 JAN 1232	377	1.	1 JAN 1848	565	1.
1 JAN 0002	2	3.	1 JAN 0618	190	1.	1 JAN 1234	378	1.	1 JAN 1850	566	1.
1 JAN 0004	3	6.	1 JAN 0620	191	1.	1 JAN 1236	379	1.	1 JAN 1852	567	1.
1 JAN 0006	4	8.	1 JAN 0622	192	1.	1 JAN 1238	380	1.	1 JAN 1854	568	1.
1 JAN 0008	5	11.	1 JAN 0624	193	1.	1 JAN 1240	381	1.	1 JAN 1856	569	1.
1 JAN 0010	6	14.	1 JAN 0626	194	1.	1 JAN 1242	382	1.	1 JAN 1858	570	1.
1 JAN 0012	7	12.	1 JAN 0628	195	1.	1 JAN 1244	383	1.	1 JAN 1900	571	1.
1 JAN 0014	8	10.	1 JAN 0630	196	1.	1 JAN 1246	384	1.	1 JAN 1902	572	1.
1 JAN 0016	9	9.	1 JAN 0632	197	1.	1 JAN 1248	385	1.	1 JAN 1904	573	1.
1 JAN 0018	10	7.	1 JAN 0634	198	1.	1 JAN 1250	386	1.	1 JAN 1906	574	1.
1 JAN 0020	11	6.	1 JAN 0636	199	1.	1 JAN 1252	387	1.	1 JAN 1908	575	1.
1 JAN 0022	12	4.	1 JAN 0638	200	1.	1 JAN 1254	388	1.	1 JAN 1910	576	1.
1 JAN 0024	13	2.	1 JAN 0640	201	1.	1 JAN 1256	389	1.	1 JAN 1912	577	1.
1 JAN 0026	14	1.	1 JAN 0642	202	1.	1 JAN 1258	390	1.	1 JAN 1914	578	1.
1 JAN 0028	15	1.	1 JAN 0644	203	1.	1 JAN 1300	391	1.	1 JAN 1916	579	1.
1 JAN 0030	16	1.	1 JAN 0646	204	1.	1 JAN 1302	392	1.	1 JAN 1918	580	1.
1 JAN 0032	17	1.	1 JAN 0648	205	1.	1 JAN 1304	393	1.	1 JAN 1920	581	1.
1 JAN 0034	18	1.	1 JAN 0650	206	1.	1 JAN 1306	394	1.	1 JAN 1922	582	1.
1 JAN 0036	19	1.	1 JAN 0652	207	1.	1 JAN 1308	395	1.	1 JAN 1924	583	1.
1 JAN 0038	20	1.	1 JAN 0654	208	1.	1 JAN 1310	396	1.	1 JAN 1926	584	1.
1 JAN 0040	21	1.	1 JAN 0656	209	1.	1 JAN 1312	397	1.	1 JAN 1928	585	1.
1 JAN 0042	22	1.	1 JAN 0658	210	1.	1 JAN 1314	398	1.	1 JAN 1930	586	1.
1 JAN 0044	23	1.	1 JAN 0700	211	1.	1 JAN 1316	399	1.	1 JAN 1932	587	1.
1 JAN 0046	24	1.	1 JAN 0702	212	1.	1 JAN 1318	400	1.	1 JAN 1934	588	1.
1 JAN 0048	25	1.	1 JAN 0704	213	1.	1 JAN 1320	401	1.	1 JAN 1936	589	1.
1 JAN 0050	26	1.	1 JAN 0706	214	1.	1 JAN 1322	402	1.	1 JAN 1938	590	1.
1 JAN 0052	27	1.	1 JAN 0708	215	1.	1 JAN 1324	403	1.	1 JAN 1940	591	1.
1 JAN 0054	28	1.	1 JAN 0710	216	1.	1 JAN 1326	404	1.	1 JAN 1942	592	1.
1 JAN 0056	29	1.	1 JAN 0712	217	1.	1 JAN 1328	405	1.	1 JAN 1944	593	1.
1 JAN 0058	30	1.	1 JAN 0714	218	1.	1 JAN 1330	406	1.	1 JAN 1946	594	1.
1 JAN 0100	31	1.	1 JAN 0716	219	1.	1 JAN 1332	407	1.	1 JAN 1948	595	1.
1 JAN 0102	32	1.	1 JAN 0718	220	1.	1 JAN 1334	408	1.	1 JAN 1950	596	1.
1 JAN 0104	33	1.	1 JAN 0720	221	1.	1 JAN 1336	409	1.	1 JAN 1952	597	1.
1 JAN 0106	34	1.	1 JAN 0722	222	1.	1 JAN 1338	410	1.	1 JAN 1954	598	1.
1 JAN 0108	35	1.	1 JAN 0724	223	1.	1 JAN 1340	411	1.	1 JAN 1956	599	1.
1 JAN 0110	36	1.	1 JAN 0726	224	1.	1 JAN 1342	412	1.	1 JAN 1958	600	1.
1 JAN 0112	37	1.	1 JAN 0728	225	1.	1 JAN 1344	413	1.	1 JAN 2000	601	1.
1 JAN 0114	38	1.	1 JAN 0730	226	1.	1 JAN 1346	414	1.	1 JAN 2002	602	1.
1 JAN 0116	39	1.	1 JAN 0732	227	1.	1 JAN 1348	415	1.	1 JAN 2004	603	1.
1 JAN 0118	40	1.	1 JAN 0734	228	1.	1 JAN 1350	416	1.	1 JAN 2006	604	1.
1 JAN 0120	41	1.	1 JAN 0736	229	1.	1 JAN 1352	417	1.	1 JAN 2008	605	1.
1 JAN 0122	42	1.	1 JAN 0738	230	1.	1 JAN 1354	418	1.	1 JAN 2010	606	1.
1 JAN 0124	43	1.	1 JAN 0740	231	1.	1 JAN 1356	419	1.	1 JAN 2012	607	1.
1 JAN 0126	44	1.	1 JAN 0742	232	1.	1 JAN 1358	420	1.	1 JAN 2014	608	1.
1 JAN 0128	45	1.	1 JAN 0744	233	1.	1 JAN 1400	421	1.	1 JAN 2016	609	1.
1 JAN 0130	46	1.	1 JAN 0746	234	1.	1 JAN 1402	422	1.	1 JAN 2018	610	1.
1 JAN 0132	47	1.	1 JAN 0748	235	1.	1 JAN 1404	423	1.	1 JAN 2020	611	1.
1 JAN 0134	48	1.	1 JAN 0750	236	1.	1 JAN 1406	424	1.	1 JAN 2022	612	1.
1 JAN 0136	49	1.	1 JAN 0752	237	1.	1 JAN 1408	425	1.	1 JAN 2024	613	1.
1 JAN 0138	50	1.	1 JAN 0754	238	1.	1 JAN 1410	426	1.	1 JAN 2026	614	1.
1 JAN 0140	51	1.	1 JAN 0756	239	1.	1 JAN 1412	427	1.	1 JAN 2028	615	1.
1 JAN 0142	52	1.	1 JAN 0758	240	1.	1 JAN 1414	428	1.	1 JAN 2030	616	1.
1 JAN 0144	53	1.	1 JAN 0800	241	1.	1 JAN 1416	429	1.	1 JAN 2032	617	1.
1 JAN 0146	54	1.	1 JAN 0802	242	1.	1 JAN 1418	430	1.	1 JAN 2034	618	1.
1 JAN 0148	55	1.	1 JAN 0804	243	1.	1 JAN 1420	431	1.	1 JAN 2036	619	1.
1 JAN 0150	56	1.	1 JAN 0806	244	1.	1 JAN 1422	432	1.	1 JAN 2038	620	1.
1 JAN 0152	57	1.	1 JAN 0808	245	1.	1 JAN 1424	433	1.	1 JAN 2040	621	1.
1 JAN 0154	58	1.	1 JAN 0810	246	1.	1 JAN 1426	434	1.	1 JAN 2042	622	1.
1 JAN 0156	59	1.	1 JAN 0812	247	1.	1 JAN 1428	435	1.	1 JAN 2044	623	1.
1 JAN 0158	60	1.	1 JAN 0814	248	1.	1 JAN 1430	436	1.	1 JAN 2046	624	1.
1 JAN 0200	61	1.	1 JAN 0816	249	1.	1 JAN 1432	437	1.	1 JAN 2048	625	1.
1 JAN 0202	62	1.	1 JAN 0818	250	1.	1 JAN 1434	438	1.	1 JAN 2050	626	1.
1 JAN 0204	63	1.	1 JAN 0820	251	1.	1 JAN 1436	439	1.	1 JAN 2052	627	1.
1 JAN 0206	64	1.	1 JAN 0822	252	1.	1 JAN 1438	440	1.	1 JAN 2054	628	1.

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1	JAN	0210	66	1.	*	1	JAN	0826	254	1.	*	1	JAN	1442	442	1.	*	1	JAN	2058	630	1.
1	JAN	0212	67	1.	*	1	JAN	0828	255	1.	*	1	JAN	1444	443	1.	*	1	JAN	2100	631	1.
1	JAN	0214	68	1.	*	1	JAN	0830	256	1.	*	1	JAN	1446	444	1.	*	1	JAN	2102	632	1.
1	JAN	0216	69	1.	*	1	JAN	0832	257	1.	*	1	JAN	1448	445	1.	*	1	JAN	2104	633	1.
1	JAN	0218	70	1.	*	1	JAN	0834	258	1.	*	1	JAN	1450	446	1.	*	1	JAN	2106	634	1.
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1	JAN	0256	89	1.	*	1	JAN	0912	277	1.	*	1	JAN	1528	465	1.	*	1	JAN	2144	653	1.
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1	JAN	0428	135	1.	*	1	JAN	1044	323	1.	*	1	JAN	1700	511	1.	*	1	JAN	2316	699	1.
1	JAN	0430	136	1.	*	1	JAN	1046	324	1.	*	1	JAN	1702	512	1.	*	1	JAN	2318	700	1.
1	JAN	0432	137	1.	*	1	JAN	1048	325	1.	*	1	JAN	1704	513	1.	*	1	JAN	2320	701	1.
1	JAN	0434	138	1.	*	1	JAN	1050	326	1.	*	1	JAN	1706	514	1.	*	1	JAN	2322	702	1.
1	JAN	0436	139	1.	*	1	JAN	1052	327	1.	*	1	JAN	1708	515	1.	*	1	JAN	2324	703	1.
1	JAN	0438	140	1.	*	1	JAN	1054	328	1.	*	1	JAN	1710	516	1.	*	1	JAN	2326	704	1.
1	JAN	0440	141	1.	*	1	JAN	1056	329	1.	*	1	JAN	1712	517	1.	*	1	JAN	2328	705	1.
1	JAN	0442	142	1.	*	1	JAN	1058	330	1.	*	1	JAN	1714	518	1.	*	1	JAN	2330	706	1.
1	JAN	0444	143	1.	*	1	JAN	1100	331	1.	*	1	JAN	1716	519	1.	*	1	JAN	2332	707	1.
1	JAN	0446	144	1.	*	1	JAN	1102	332	1.	*	1	JAN	1718	520	1.	*	1	JAN	2334	708	1.
1	JAN	0448	145	1.	*	1	JAN	1104	333	1.	*	1	JAN	1720	521	1.	*	1	JAN	2336	709	1.
1	JAN	0450	146	1.	*	1	JAN	1106	334	1.	*	1	JAN	1722	522	1.	*	1	JAN	2338	710	1.
1	JAN	0452	147	1.	*	1	JAN	1108	335	1.	*	1	JAN	1724	523	1.	*	1	JAN	2340	711	1.
1	JAN	0454	148	1.	*	1	JAN	1110	336	1.	*	1	JAN	1726	524	1.	*	1	JAN	2342	712	1.
1	JAN	0456	149	1.	*	1	JAN	1112	337	1.	*	1	JAN	1728	525	1.	*	1	JAN	2344	713	1.
1	JAN	0458	150	1.	*	1	JAN	1114	338	1.	*	1	JAN	1730	526	1.	*	1	JAN	2346	714	1.
1	JAN	0500	151	1.	*	1	JAN	1116	339	1.	*	1	JAN	1732	527	1.	*	1	JAN	2348	715	1.
1	JAN	0502	152	1.	*	1	JAN	1118	340	1.	*	1	JAN	1734	528	1.	*	1	JAN	2350	716	1.
1	JAN	0504	153	1.	*	1	JAN	1120	341	1.	*	1	JAN	1736	529	1.	*	1	JAN	2352	717	1.
1	JAN	0506	154	1.	*	1	JAN	1122	342	1.	*	1	JAN	1738	530	1.	*	1	JAN	2354	718	1.
1	JAN	0508	155	1.	*	1	JAN	1124	343	1.	*	1	JAN	1740	531	1.	*	1	JAN	2356	719	1.
1	JAN	0510	156	1.	*	1	JAN	1126	344	1.	*	1	JAN	1742	532	1.	*	1	JAN	2358	720	1.
1	JAN	0512	157	1.	*	1	JAN	1128	345	1.	*	1	JAN	1744	533	1.	*	2	JAN	0000	721	1.
1	JAN	0514	158	1.	*	1	JAN	1130	346	1.	*	1	JAN	1746	534	1.	*	2	JAN	0002	722	1.
1	JAN	0516	159	1.	*	1	JAN	1132	347	1.	*	1	JAN	1748	535	1.	*	2	JAN	0004	723	1.

1 JAN	0518	160	1.	*	1 JAN	1134	348	1.	*	1 JAN	1750	536	1.	*	2 JAN	0006	724	1.
1 JAN	0520	161	1.	*	1 JAN	1136	349	1.	*	1 JAN	1752	537	1.	*	2 JAN	0008	725	1.
1 JAN	0522	162	1.	*	1 JAN	1138	350	1.	*	1 JAN	1754	538	1.	*	2 JAN	0010	726	1.
1 JAN	0524	163	1.	*	1 JAN	1140	351	1.	*	1 JAN	1756	539	1.	*	2 JAN	0012	727	1.
1 JAN	0526	164	1.	*	1 JAN	1142	352	1.	*	1 JAN	1758	540	1.	*	2 JAN	0014	728	1.
1 JAN	0528	165	1.	*	1 JAN	1144	353	1.	*	1 JAN	1800	541	1.	*	2 JAN	0016	729	1.
1 JAN	0530	166	1.	*	1 JAN	1146	354	1.	*	1 JAN	1802	542	1.	*	2 JAN	0018	730	1.
1 JAN	0532	167	1.	*	1 JAN	1148	355	1.	*	1 JAN	1804	543	1.	*	2 JAN	0020	731	1.
1 JAN	0534	168	1.	*	1 JAN	1150	356	1.	*	1 JAN	1806	544	1.	*	2 JAN	0022	732	1.
1 JAN	0536	169	1.	*	1 JAN	1152	357	1.	*	1 JAN	1808	545	1.	*	2 JAN	0024	733	1.
1 JAN	0538	170	1.	*	1 JAN	1154	358	1.	*	1 JAN	1810	546	1.	*	2 JAN	0026	734	1.
1 JAN	0540	171	1.	*	1 JAN	1156	359	1.	*	1 JAN	1812	547	1.	*	2 JAN	0028	735	1.
1 JAN	0542	172	1.	*	1 JAN	1158	360	1.	*	1 JAN	1814	548	1.	*	2 JAN	0030	736	1.
1 JAN	0544	173	1.	*	1 JAN	1200	361	1.	*	1 JAN	1816	549	1.	*	2 JAN	0032	737	1.
1 JAN	0546	174	1.	*	1 JAN	1202	362	1.	*	1 JAN	1818	550	1.	*	2 JAN	0034	738	1.
1 JAN	0548	175	1.	*	1 JAN	1204	363	1.	*	1 JAN	1820	551	1.	*	2 JAN	0036	739	1.
1 JAN	0550	176	1.	*	1 JAN	1206	364	1.	*	1 JAN	1822	552	1.	*	2 JAN	0038	740	1.
1 JAN	0552	177	1.	*	1 JAN	1208	365	1.	*	1 JAN	1824	553	1.	*	2 JAN	0040	741	1.
1 JAN	0554	178	1.	*	1 JAN	1210	366	1.	*	1 JAN	1826	554	1.	*	2 JAN	0042	742	1.
1 JAN	0556	179	1.	*	1 JAN	1212	367	1.	*	1 JAN	1828	555	1.	*	2 JAN	0044	743	1.
1 JAN	0558	180	1.	*	1 JAN	1214	368	1.	*	1 JAN	1830	556	1.	*	2 JAN	0046	744	1.
1 JAN	0600	181	1.	*	1 JAN	1216	369	1.	*	1 JAN	1832	557	1.	*	2 JAN	0048	745	1.
1 JAN	0602	182	1.	*	1 JAN	1218	370	1.	*	1 JAN	1834	558	1.	*	2 JAN	0050	746	1.
1 JAN	0604	183	1.	*	1 JAN	1220	371	1.	*	1 JAN	1836	559	1.	*	2 JAN	0052	747	1.
1 JAN	0606	184	1.	*	1 JAN	1222	372	1.	*	1 JAN	1838	560	1.	*	2 JAN	0054	748	1.
1 JAN	0608	185	1.	*	1 JAN	1224	373	1.	*	1 JAN	1840	561	1.	*	2 JAN	0056	749	1.
1 JAN	0610	186	1.	*	1 JAN	1226	374	1.	*	1 JAN	1842	562	1.	*	2 JAN	0058	750	1.
1 JAN	0612	187	1.	*	1 JAN	1228	375	1.	*	1 JAN	1844	563	1.	*				
1 JAN	0614	188	1.	*	1 JAN	1230	376	1.	*	1 JAN	1846	564	1.	*				

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  PEAK FLOW      TIME                                MAXIMUM AVERAGE FLOW
                                      6-HR          24-HR          72-HR       24.97-HR
+   (CFS)        (HR)
                          (CFS)
+      14.        .17                    2.             2.             1.             1.
                          (INCHES)     4.206         13.969         14.493         14.493
                          (AC-FT)          1.             3.             3.             3.

                        CUMULATIVE AREA =      .00 SQ MI


 *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***
***

              **************
              *            *
   52 KK      *     2BIN   *
              *            *
              **************
                          INFLOW TO RETENTION BASIN 2B

   54 HC            HYDROGRAPH COMBINATION
                          ICOMP          3  NUMBER OF HYDROGRAPHS TO COMBINE
                                                                          ***

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                                                HYDROGRAPH AT STATION     2BIN
                                                SUM OF  3 HYDROGRAPHS

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DA	MON	HRMN	ORD	FLOW	*	DA	MON	HRMN	ORD	FLOW	*	DA	MON	HRMN	ORD	FLOW	*	DA	MON	HRMN	ORD	FLOW
1	JAN	0000	1	0.	*	1	JAN	0616	189	9.	*	1	JAN	1232	377	9.	*	1	JAN	1848	565	9.
1	JAN	0002	2	5.	*	1	JAN	0618	190	9.	*	1	JAN	1234	378	9.	*	1	JAN	1850	566	9.
1	JAN	0004	3	10.	*	1	JAN	0620	191	9.	*	1	JAN	1236	379	9.	*	1	JAN	1852	567	9.
1	JAN	0006	4	16.	*	1	JAN	0622	192	9.	*	1	JAN	1238	380	9.	*	1	JAN	1854	568	9.
1	JAN	0008	5	21.	*	1	JAN	0624	193	9.	*	1	JAN	1240	381	9.	*	1	JAN	1856	569	9.
1	JAN	0010	6	26.	*	1	JAN	0626	194	9.	*	1	JAN	1242	382	9.	*	1	JAN	1858	570	9.
1	JAN	0012	7	23.	*	1	JAN	0628	195	9.	*	1	JAN	1244	383	9.	*	1	JAN	1900	571	9.
1	JAN	0014	8	20.	*	1	JAN	0630	196	9.	*	1	JAN	1246	384	9.	*	1	JAN	1902	572	9.
1	JAN	0016	9	17.	*	1	JAN	0632	197	9.	*	1	JAN	1248	385	9.	*	1	JAN	1904	573	9.
1	JAN	0018	10	14.	*	1	JAN	0634	198	9.	*	1	JAN	1250	386	9.	*	1	JAN	1906	574	9.
1	JAN	0020	11	11.	*	1	JAN	0636	199	9.	*	1	JAN	1252	387	9.	*	1	JAN	1908	575	9.
1	JAN	0022	12	8.	*	1	JAN	0638	200	9.	*	1	JAN	1254	388	9.	*	1	JAN	1910	576	9.
1	JAN	0024	13	5.	*	1	JAN	0640	201	9.	*	1	JAN	1256	389	9.	*	1	JAN	1912	577	9.
1	JAN	0026	14	4.	*	1	JAN	0642	202	9.	*	1	JAN	1258	390	9.	*	1	JAN	1914	578	9.
1	JAN	0028	15	4.	*	1	JAN	0644	203	9.	*	1	JAN	1300	391	9.	*	1	JAN	1916	579	9.
1	JAN	0030	16	4.	*	1	JAN	0646	204	9.	*	1	JAN	1302	392	9.	*	1	JAN	1918	580	9.
1	JAN	0032	17	4.	*	1	JAN	0648	205	9.	*	1	JAN	1304	393	9.	*	1	JAN	1920	581	9.
1	JAN	0034	18	4.	*	1	JAN	0650	206	9.	*	1	JAN	1306	394	9.	*	1	JAN	1922	582	9.
1	JAN	0036	19	4.	*	1	JAN	0652	207	9.	*	1	JAN	1308	395	9.	*	1	JAN	1924	583	9.

1 JAN 0038	20	4.	*	1 JAN 0654	208	9.	*	1 JAN 1310	396	9.	*	1 JAN 1926	584	9.
1 JAN 0040	21	4.	*	1 JAN 0656	209	9.	*	1 JAN 1312	397	9.	*	1 JAN 1928	585	9.
1 JAN 0042	22	4.	*	1 JAN 0658	210	9.	*	1 JAN 1314	398	9.	*	1 JAN 1930	586	9.
1 JAN 0044	23	4.	*	1 JAN 0700	211	9.	*	1 JAN 1316	399	9.	*	1 JAN 1932	587	9.
1 JAN 0046	24	5.	*	1 JAN 0702	212	9.	*	1 JAN 1318	400	9.	*	1 JAN 1934	588	9.
1 JAN 0048	25	6.	*	1 JAN 0704	213	9.	*	1 JAN 1320	401	9.	*	1 JAN 1936	589	9.
1 JAN 0050	26	7.	*	1 JAN 0706	214	9.	*	1 JAN 1322	402	9.	*	1 JAN 1938	590	9.
1 JAN 0052	27	7.	*	1 JAN 0708	215	9.	*	1 JAN 1324	403	9.	*	1 JAN 1940	591	9.
1 JAN 0054	28	8.	*	1 JAN 0710	216	9.	*	1 JAN 1326	404	9.	*	1 JAN 1942	592	9.
1 JAN 0056	29	8.	*	1 JAN 0712	217	9.	*	1 JAN 1328	405	9.	*	1 JAN 1944	593	9.
1 JAN 0058	30	8.	*	1 JAN 0714	218	9.	*	1 JAN 1330	406	9.	*	1 JAN 1946	594	9.
1 JAN 0100	31	8.	*	1 JAN 0716	219	9.	*	1 JAN 1332	407	9.	*	1 JAN 1948	595	9.
1 JAN 0102	32	8.	*	1 JAN 0718	220	9.	*	1 JAN 1334	408	9.	*	1 JAN 1950	596	9.
1 JAN 0104	33	8.	*	1 JAN 0720	221	9.	*	1 JAN 1336	409	9.	*	1 JAN 1952	597	9.
1 JAN 0106	34	8.	*	1 JAN 0722	222	9.	*	1 JAN 1338	410	9.	*	1 JAN 1954	598	9.
1 JAN 0108	35	8.	*	1 JAN 0724	223	9.	*	1 JAN 1340	411	9.	*	1 JAN 1956	599	9.
1 JAN 0110	36	8.	*	1 JAN 0726	224	9.	*	1 JAN 1342	412	9.	*	1 JAN 1958	600	9.
1 JAN 0112	37	8.	*	1 JAN 0728	225	9.	*	1 JAN 1344	413	9.	*	1 JAN 2000	601	9.
1 JAN 0114	38	8.	*	1 JAN 0730	226	9.	*	1 JAN 1346	414	9.	*	1 JAN 2002	602	9.
1 JAN 0116	39	8.	*	1 JAN 0732	227	9.	*	1 JAN 1348	415	9.	*	1 JAN 2004	603	9.
1 JAN 0118	40	8.	*	1 JAN 0734	228	9.	*	1 JAN 1350	416	9.	*	1 JAN 2006	604	9.
1 JAN 0120	41	8.	*	1 JAN 0736	229	9.	*	1 JAN 1352	417	9.	*	1 JAN 2008	605	9.
1 JAN 0122	42	8.	*	1 JAN 0738	230	9.	*	1 JAN 1354	418	9.	*	1 JAN 2010	606	9.
1 JAN 0124	43	8.	*	1 JAN 0740	231	9.	*	1 JAN 1356	419	9.	*	1 JAN 2012	607	9.
1 JAN 0126	44	8.	*	1 JAN 0742	232	9.	*	1 JAN 1358	420	9.	*	1 JAN 2014	608	9.
1 JAN 0128	45	8.	*	1 JAN 0744	233	9.	*	1 JAN 1400	421	9.	*	1 JAN 2016	609	9.
1 JAN 0130	46	8.	*	1 JAN 0746	234	9.	*	1 JAN 1402	422	9.	*	1 JAN 2018	610	9.
1 JAN 0132	47	8.	*	1 JAN 0748	235	9.	*	1 JAN 1404	423	9.	*	1 JAN 2020	611	9.
1 JAN 0134	48	8.	*	1 JAN 0750	236	9.	*	1 JAN 1406	424	9.	*	1 JAN 2022	612	9.
1 JAN 0136	49	8.	*	1 JAN 0752	237	9.	*	1 JAN 1408	425	9.	*	1 JAN 2024	613	9.
1 JAN 0138	50	8.	*	1 JAN 0754	238	9.	*	1 JAN 1410	426	9.	*	1 JAN 2026	614	9.
1 JAN 0140	51	8.	*	1 JAN 0756	239	9.	*	1 JAN 1412	427	9.	*	1 JAN 2028	615	9.
1 JAN 0142	52	8.	*	1 JAN 0758	240	9.	*	1 JAN 1414	428	9.	*	1 JAN 2030	616	9.
1 JAN 0144	53	8.	*	1 JAN 0800	241	9.	*	1 JAN 1416	429	9.	*	1 JAN 2032	617	9.
1 JAN 0146	54	8.	*	1 JAN 0802	242	9.	*	1 JAN 1418	430	9.	*	1 JAN 2034	618	9.
1 JAN 0148	55	8.	*	1 JAN 0804	243	9.	*	1 JAN 1420	431	9.	*	1 JAN 2036	619	9.
1 JAN 0150	56	8.	*	1 JAN 0806	244	9.	*	1 JAN 1422	432	9.	*	1 JAN 2038	620	9.
1 JAN 0152	57	8.	*	1 JAN 0808	245	9.	*	1 JAN 1424	433	9.	*	1 JAN 2040	621	9.
1 JAN 0154	58	8.	*	1 JAN 0810	246	9.	*	1 JAN 1426	434	9.	*	1 JAN 2042	622	9.
1 JAN 0156	59	8.	*	1 JAN 0812	247	9.	*	1 JAN 1428	435	9.	*	1 JAN 2044	623	9.
1 JAN 0158	60	8.	*	1 JAN 0814	248	9.	*	1 JAN 1430	436	9.	*	1 JAN 2046	624	9.
1 JAN 0200	61	8.	*	1 JAN 0816	249	9.	*	1 JAN 1432	437	9.	*	1 JAN 2048	625	9.
1 JAN 0202	62	8.	*	1 JAN 0818	250	9.	*	1 JAN 1434	438	9.	*	1 JAN 2050	626	9.
1 JAN 0204	63	8.	*	1 JAN 0820	251	9.	*	1 JAN 1436	439	9.	*	1 JAN 2052	627	9.
1 JAN 0206	64	8.	*	1 JAN 0822	252	9.	*	1 JAN 1438	440	9.	*	1 JAN 2054	628	9.
1 JAN 0208	65	8.	*	1 JAN 0824	253	9.	*	1 JAN 1440	441	9.	*	1 JAN 2056	629	9.
1 JAN 0210	66	8.	*	1 JAN 0826	254	9.	*	1 JAN 1442	442	9.	*	1 JAN 2058	630	9.
1 JAN 0212	67	8.	*	1 JAN 0828	255	9.	*	1 JAN 1444	443	9.	*	1 JAN 2100	631	9.
1 JAN 0214	68	8.	*	1 JAN 0830	256	9.	*	1 JAN 1446	444	9.	*	1 JAN 2102	632	9.
1 JAN 0216	69	8.	*	1 JAN 0832	257	9.	*	1 JAN 1448	445	9.	*	1 JAN 2104	633	9.
1 JAN 0218	70	8.	*	1 JAN 0834	258	9.	*	1 JAN 1450	446	9.	*	1 JAN 2106	634	9.
1 JAN 0220	71	8.	*	1 JAN 0836	259	9.	*	1 JAN 1452	447	9.	*	1 JAN 2108	635	9.
1 JAN 0222	72	8.	*	1 JAN 0838	260	9.	*	1 JAN 1454	448	9.	*	1 JAN 2110	636	9.
1 JAN 0224	73	8.	*	1 JAN 0840	261	9.	*	1 JAN 1456	449	9.	*	1 JAN 2112	637	9.
1 JAN 0226	74	8.	*	1 JAN 0842	262	9.	*	1 JAN 1458	450	9.	*	1 JAN 2114	638	9.
1 JAN 0228	75	8.	*	1 JAN 0844	263	9.	*	1 JAN 1500	451	9.	*	1 JAN 2116	639	9.
1 JAN 0230	76	8.	*	1 JAN 0846	264	9.	*	1 JAN 1502	452	9.	*	1 JAN 2118	640	9.
1 JAN 0232	77	8.	*	1 JAN 0848	265	9.	*	1 JAN 1504	453	9.	*	1 JAN 2120	641	9.
1 JAN 0234	78	8.	*	1 JAN 0850	266	9.	*	1 JAN 1506	454	9.	*	1 JAN 2122	642	9.
1 JAN 0236	79	8.	*	1 JAN 0852	267	9.	*	1 JAN 1508	455	9.	*	1 JAN 2124	643	9.
1 JAN 0238	80	8.	*	1 JAN 0854	268	9.	*	1 JAN 1510	456	9.	*	1 JAN 2126	644	9.
1 JAN 0240	81	8.	*	1 JAN 0856	269	9.	*	1 JAN 1512	457	9.	*	1 JAN 2128	645	9.
1 JAN 0242	82	8.	*	1 JAN 0858	270	9.	*	1 JAN 1514	458	9.	*	1 JAN 2130	646	9.
1 JAN 0244	83	8.	*	1 JAN 0900	271	9.	*	1 JAN 1516	459	9.	*	1 JAN 2132	647	9.
1 JAN 0246	84	8.	*	1 JAN 0902	272	9.	*	1 JAN 1518	460	9.	*	1 JAN 2134	648	9.
1 JAN 0248	85	8.	*	1 JAN 0904	273	9.	*	1 JAN 1520	461	9.	*	1 JAN 2136	649	9.
1 JAN 0250	86	9.	*	1 JAN 0906	274	9.	*	1 JAN 1522	462	9.	*	1 JAN 2138	650	9.
1 JAN 0252	87	9.	*	1 JAN 0908	275	9.	*	1 JAN 1524	463	9.	*	1 JAN 2140	651	9.
1 JAN 0254	88	9.	*	1 JAN 0910	276	9.	*	1 JAN 1526	464	9.	*	1 JAN 2142	652	9.
1 JAN 0256	89	9.	*	1 JAN 0912	277	9.	*	1 JAN 1528	465	9.	*	1 JAN 2144	653	9.
1 JAN 0258	90	9.	*	1 JAN 0914	278	9.	*	1 JAN 1530	466	9.	*	1 JAN 2146	654	9.
1 JAN 0300	91	9.	*	1 JAN 0916	279	9.	*	1 JAN 1532	467	9.	*	1 JAN 2148	655	9.
1 JAN 0302	92	9.	*	1 JAN 0918	280	9.	*	1 JAN 1534	468	9.	*	1 JAN 2150	656	9.
1 JAN 0304	93	9.	*	1 JAN 0920	281	9.	*	1 JAN 1536	469	9.	*	1 JAN 2152	657	9.
1 JAN 0306	94	9.	*	1 JAN 0922	282	9.	*	1 JAN 1538	470	9.	*	1 JAN 2154	658	9.
1 JAN 0308	95	9.	*	1 JAN 0924	283	9.	*	1 JAN 1540	471	9.	*	1 JAN 2156	659	9.
1 JAN 0310	96	9.	*	1 JAN 0926	284	9.	*	1 JAN 1542	472	9.	*	1 JAN 2158	660	9.
1 JAN 0312	97	9.	*	1 JAN 0928	285	9.	*	1 JAN 1544	473	9.	*	1 JAN 2200	661	9.
1 JAN 0314	98	9.	*	1 JAN 0930	286	9.	*	1 JAN 1546	474	9.	*	1 JAN 2202	662	9.
1 JAN 0316	99	9.	*	1 JAN 0932	287	9.	*	1 JAN 1548	475	9.	*	1 JAN 2204	663	9.
1 JAN 0318	100	9.	*	1 JAN 0934	288	9.	*	1 JAN 1550	476	9.	*	1 JAN 2206	664	9.
1 JAN 0320	101	9.	*	1 JAN 0936	289	9.	*	1 JAN 1552	477	9.	*	1 JAN 2208	665	9.
1 JAN 0322	102	9.	*	1 JAN 0938	290	9.	*	1 JAN 1554	478	9.	*	1 JAN 2210	666	9.
1 JAN 0324	103	9.	*	1 JAN 0940	291	9.	*	1 JAN 1556	479	9.	*	1 JAN 2212	667	9.
1 JAN 0326	104	9.	*	1 JAN 0942	292	9.	*	1 JAN 1558	480	9.	*	1 JAN 2214	668	9.
1 JAN 0328	105	9.	*	1 JAN 0944	293	9.	*	1 JAN 1600	481	9.	*	1 JAN 2216	669	9.
1 JAN 0330	106	9.	*	1 JAN 0946	294	9.	*	1 JAN 1602	482	9.	*	1 JAN 2218	670	9.
1 JAN 0332	107	9.	*	1 JAN 0948	295	9.	*	1 JAN 1604	483	9.	*	1 JAN 2220	671	9.
1 JAN 0334	108	9.	*	1 JAN 0950	296	9.	*	1 JAN 1606	484	9.	*	1 JAN 2222	672	9.
1 JAN 0336	109	9.	*	1 JAN 0952	297	9.	*	1 JAN 1608	485	9.	*	1 JAN 2224	673	9.
1 JAN 0338	110	9.	*	1 JAN 0954	298	9.	*	1 JAN 1610	486	9.	*	1 JAN 2226	674	9.
1 JAN 0340	111	9.	*	1 JAN 0956	299	9.	*	1 JAN 1612	487	9.	*	1 JAN 2228	675	9.
1 JAN 0342	112	9.	*	1 JAN 0958	300	9.	*	1 JAN 1614	488	9.	*	1 JAN 2230	676	9.
1 JAN 0344	113	9.	*	1 JAN 1000	301	9.	*	1 JAN 1616	489	9.	*	1 JAN 2232	677	9.
1 JAN 0346	114	9.	*	1 JAN 1002	302	9.	*	1 JAN 1618	490	9.	*	1 JAN 2234	678	9.

1 JAN 0348	115	9.	*	1 JAN 1004	303	9.	*	1 JAN 1620	491	9.	*	1 JAN 2236	679	9.
1 JAN 0350	116	9.	*	1 JAN 1006	304	9.	*	1 JAN 1622	492	9.	*	1 JAN 2238	680	9.
1 JAN 0352	117	9.	*	1 JAN 1008	305	9.	*	1 JAN 1624	493	9.	*	1 JAN 2240	681	9.
1 JAN 0354	118	9.	*	1 JAN 1010	306	9.	*	1 JAN 1626	494	9.	*	1 JAN 2242	682	9.
1 JAN 0356	119	9.	*	1 JAN 1012	307	9.	*	1 JAN 1628	495	9.	*	1 JAN 2244	683	9.
1 JAN 0358	120	9.	*	1 JAN 1014	308	9.	*	1 JAN 1630	496	9.	*	1 JAN 2246	684	9.
1 JAN 0400	121	9.	*	1 JAN 1016	309	9.	*	1 JAN 1632	497	9.	*	1 JAN 2248	685	9.
1 JAN 0402	122	9.	*	1 JAN 1018	310	9.	*	1 JAN 1634	498	9.	*	1 JAN 2250	686	9.
1 JAN 0404	123	9.	*	1 JAN 1020	311	9.	*	1 JAN 1636	499	9.	*	1 JAN 2252	687	9.
1 JAN 0406	124	9.	*	1 JAN 1022	312	9.	*	1 JAN 1638	500	9.	*	1 JAN 2254	688	9.
1 JAN 0408	125	9.	*	1 JAN 1024	313	9.	*	1 JAN 1640	501	9.	*	1 JAN 2256	689	9.
1 JAN 0410	126	9.	*	1 JAN 1026	314	9.	*	1 JAN 1642	502	9.	*	1 JAN 2258	690	9.
1 JAN 0412	127	9.	*	1 JAN 1028	315	9.	*	1 JAN 1644	503	9.	*	1 JAN 2300	691	9.
1 JAN 0414	128	9.	*	1 JAN 1030	316	9.	*	1 JAN 1646	504	9.	*	1 JAN 2302	692	9.
1 JAN 0416	129	9.	*	1 JAN 1032	317	9.	*	1 JAN 1648	505	9.	*	1 JAN 2304	693	9.
1 JAN 0418	130	9.	*	1 JAN 1034	318	9.	*	1 JAN 1650	506	9.	*	1 JAN 2306	694	9.
1 JAN 0420	131	9.	*	1 JAN 1036	319	9.	*	1 JAN 1652	507	9.	*	1 JAN 2308	695	9.
1 JAN 0422	132	9.	*	1 JAN 1038	320	9.	*	1 JAN 1654	508	9.	*	1 JAN 2310	696	9.
1 JAN 0424	133	9.	*	1 JAN 1040	321	9.	*	1 JAN 1656	509	9.	*	1 JAN 2312	697	9.
1 JAN 0426	134	9.	*	1 JAN 1042	322	9.	*	1 JAN 1658	510	9.	*	1 JAN 2314	698	9.
1 JAN 0428	135	9.	*	1 JAN 1044	323	9.	*	1 JAN 1700	511	9.	*	1 JAN 2316	699	9.
1 JAN 0430	136	9.	*	1 JAN 1046	324	9.	*	1 JAN 1702	512	9.	*	1 JAN 2318	700	9.
1 JAN 0432	137	9.	*	1 JAN 1048	325	9.	*	1 JAN 1704	513	9.	*	1 JAN 2320	701	9.
1 JAN 0434	138	9.	*	1 JAN 1050	326	9.	*	1 JAN 1706	514	9.	*	1 JAN 2322	702	9.
1 JAN 0436	139	9.	*	1 JAN 1052	327	9.	*	1 JAN 1708	515	9.	*	1 JAN 2324	703	9.
1 JAN 0438	140	9.	*	1 JAN 1054	328	9.	*	1 JAN 1710	516	9.	*	1 JAN 2326	704	9.
1 JAN 0440	141	9.	*	1 JAN 1056	329	9.	*	1 JAN 1712	517	9.	*	1 JAN 2328	705	9.
1 JAN 0442	142	9.	*	1 JAN 1058	330	9.	*	1 JAN 1714	518	9.	*	1 JAN 2330	706	9.
1 JAN 0444	143	9.	*	1 JAN 1100	331	9.	*	1 JAN 1716	519	9.	*	1 JAN 2332	707	9.
1 JAN 0446	144	9.	*	1 JAN 1102	332	9.	*	1 JAN 1718	520	9.	*	1 JAN 2334	708	9.
1 JAN 0448	145	9.	*	1 JAN 1104	333	9.	*	1 JAN 1720	521	9.	*	1 JAN 2336	709	9.
1 JAN 0450	146	9.	*	1 JAN 1106	334	9.	*	1 JAN 1722	522	9.	*	1 JAN 2338	710	9.
1 JAN 0452	147	9.	*	1 JAN 1108	335	9.	*	1 JAN 1724	523	9.	*	1 JAN 2340	711	9.
1 JAN 0454	148	9.	*	1 JAN 1110	336	9.	*	1 JAN 1726	524	9.	*	1 JAN 2342	712	9.
1 JAN 0456	149	9.	*	1 JAN 1112	337	9.	*	1 JAN 1728	525	9.	*	1 JAN 2344	713	9.
1 JAN 0458	150	9.	*	1 JAN 1114	338	9.	*	1 JAN 1730	526	9.	*	1 JAN 2346	714	9.
1 JAN 0500	151	9.	*	1 JAN 1116	339	9.	*	1 JAN 1732	527	9.	*	1 JAN 2348	715	9.
1 JAN 0502	152	9.	*	1 JAN 1118	340	9.	*	1 JAN 1734	528	9.	*	1 JAN 2350	716	9.
1 JAN 0504	153	9.	*	1 JAN 1120	341	9.	*	1 JAN 1736	529	9.	*	1 JAN 2352	717	9.
1 JAN 0506	154	9.	*	1 JAN 1122	342	9.	*	1 JAN 1738	530	9.	*	1 JAN 2354	718	9.
1 JAN 0508	155	9.	*	1 JAN 1124	343	9.	*	1 JAN 1740	531	9.	*	1 JAN 2356	719	9.
1 JAN 0510	156	9.	*	1 JAN 1126	344	9.	*	1 JAN 1742	532	9.	*	1 JAN 2358	720	9.
1 JAN 0512	157	9.	*	1 JAN 1128	345	9.	*	1 JAN 1744	533	9.	*	2 JAN 0000	721	9.
1 JAN 0514	158	9.	*	1 JAN 1130	346	9.	*	1 JAN 1746	534	9.	*	2 JAN 0002	722	9.
1 JAN 0516	159	9.	*	1 JAN 1132	347	9.	*	1 JAN 1748	535	9.	*	2 JAN 0004	723	9.
1 JAN 0518	160	9.	*	1 JAN 1134	348	9.	*	1 JAN 1750	536	9.	*	2 JAN 0006	724	9.
1 JAN 0520	161	9.	*	1 JAN 1136	349	9.	*	1 JAN 1752	537	9.	*	2 JAN 0008	725	9.
1 JAN 0522	162	9.	*	1 JAN 1138	350	9.	*	1 JAN 1754	538	9.	*	2 JAN 0010	726	9.
1 JAN 0524	163	9.	*	1 JAN 1140	351	9.	*	1 JAN 1756	539	9.	*	2 JAN 0012	727	9.
1 JAN 0526	164	9.	*	1 JAN 1142	352	9.	*	1 JAN 1758	540	9.	*	2 JAN 0014	728	9.
1 JAN 0528	165	9.	*	1 JAN 1144	353	9.	*	1 JAN 1800	541	9.	*	2 JAN 0016	729	9.
1 JAN 0530	166	9.	*	1 JAN 1146	354	9.	*	1 JAN 1802	542	9.	*	2 JAN 0018	730	9.
1 JAN 0532	167	9.	*	1 JAN 1148	355	9.	*	1 JAN 1804	543	9.	*	2 JAN 0020	731	9.
1 JAN 0534	168	9.	*	1 JAN 1150	356	9.	*	1 JAN 1806	544	9.	*	2 JAN 0022	732	9.
1 JAN 0536	169	9.	*	1 JAN 1152	357	9.	*	1 JAN 1808	545	9.	*	2 JAN 0024	733	9.
1 JAN 0538	170	9.	*	1 JAN 1154	358	9.	*	1 JAN 1810	546	9.	*	2 JAN 0026	734	9.
1 JAN 0540	171	9.	*	1 JAN 1156	359	9.	*	1 JAN 1812	547	9.	*	2 JAN 0028	735	9.
1 JAN 0542	172	9.	*	1 JAN 1158	360	9.	*	1 JAN 1814	548	9.	*	2 JAN 0030	736	9.
1 JAN 0544	173	9.	*	1 JAN 1200	361	9.	*	1 JAN 1816	549	9.	*	2 JAN 0032	737	9.
1 JAN 0546	174	9.	*	1 JAN 1202	362	9.	*	1 JAN 1818	550	9.	*	2 JAN 0034	738	9.
1 JAN 0548	175	9.	*	1 JAN 1204	363	9.	*	1 JAN 1820	551	9.	*	2 JAN 0036	739	9.
1 JAN 0550	176	9.	*	1 JAN 1206	364	9.	*	1 JAN 1822	552	9.	*	2 JAN 0038	740	9.
1 JAN 0552	177	9.	*	1 JAN 1208	365	9.	*	1 JAN 1824	553	9.	*	2 JAN 0040	741	9.
1 JAN 0554	178	9.	*	1 JAN 1210	366	9.	*	1 JAN 1826	554	9.	*	2 JAN 0042	742	9.
1 JAN 0556	179	9.	*	1 JAN 1212	367	9.	*	1 JAN 1828	555	9.	*	2 JAN 0044	743	9.
1 JAN 0558	180	9.	*	1 JAN 1214	368	9.	*	1 JAN 1830	556	9.	*	2 JAN 0046	744	9.
1 JAN 0600	181	9.	*	1 JAN 1216	369	9.	*	1 JAN 1832	557	9.	*	2 JAN 0048	745	9.
1 JAN 0602	182	9.	*	1 JAN 1218	370	9.	*	1 JAN 1834	558	9.	*	2 JAN 0050	746	9.
1 JAN 0604	183	9.	*	1 JAN 1220	371	9.	*	1 JAN 1836	559	9.	*	2 JAN 0052	747	9.
1 JAN 0606	184	9.	*	1 JAN 1222	372	9.	*	1 JAN 1838	560	9.	*	2 JAN 0054	748	9.
1 JAN 0608	185	9.	*	1 JAN 1224	373	9.	*	1 JAN 1840	561	9.	*	2 JAN 0056	749	9.
1 JAN 0610	186	9.	*	1 JAN 1226	374	9.	*	1 JAN 1842	562	9.	*	2 JAN 0058	750	9.
1 JAN 0612	187	9.	*	1 JAN 1228	375	9.	*	1 JAN 1844	563	9.	*			
1 JAN 0614	188	9.	*	1 JAN 1230	376	9.	*	1 JAN 1846	564	9.	*			
			*				*				*			

****

	PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
				6-HR	24-HR	72-HR	24.97-HR
+	(CFS)	(HR)					
			(CFS)				
+	26.	.17		9.	9.	9.	9.
			(INCHES)	2.934	11.588	12.048	12.048
			(AC-FT)	4.	17.	18.	18.

CUMULATIVE AREA = .03 SQ MI

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          **************
          *            *
55 KK     *     RET2B  *
          *            *
          **************
                    RETENTION BASIN 2B

               HYDROGRAPH ROUTING DATA

57 RS          STORAGE ROUTING
                    NSTPS          1  NUMBER OF SUBREACHES
                     ITYP       STOR  TYPE OF INITIAL CONDITION
                   RSVRIC        .00  INITIAL CONDITION
                        X        .00 WORKING R AND D COEFFICIENT

58 SV            STORAGE         .0        .1        .1        .2

59 SE          ELEVATION        .00      1.00      2.00      3.00

61 SL          LOW-LEVEL OUTLET
                    ELEVL        .25  ELEVATION AT CENTER OF OUTLET
                    CAREA        .39  CROSS-SECTIONAL AREA
                     COQL        .60  COEFFICIENT
                     EXPL        .50  EXPONENT OF HEAD

60 SS          SPILLWAY
                     CREL       2.40  SPILLWAY CREST ELEVATION
                    SPWID      40.00  SPILLWAY WIDTH
                     COQW       2.30  WEIR COEFFICIENT
                     EXPW       1.50  EXPONENT OF HEAD

                                  ***

                          COMPUTED OUTFLOW-ELEVATION DATA

      OUTFLOW        .00       .00      1.12      1.23      1.35      1.51      1.70      1.95      2.29      2.77
    ELEVATION        .00       .25       .60       .67       .76       .88      1.06      1.32      1.72      2.40

      OUTFLOW       2.83      3.16      4.01      5.65      8.31     12.26     17.74     25.00     34.30     45.89
    ELEVATION       2.41      2.43      2.46      2.50      2.55      2.62      2.70      2.79      2.89      3.00

                       COMPUTED STORAGE-OUTFLOW-ELEVATION DATA

      STORAGE        .00       .01       .03       .03       .04       .04       .05       .05       .07       .10
      OUTFLOW        .00       .00      1.12      1.23      1.35      1.51      1.64      1.70      1.95      2.29
    ELEVATION        .00       .25       .60       .67       .76       .88      1.00      1.06      1.32      1.72

      STORAGE        .13       .17       .17       .17       .18       .18       .19       .20       .21       .22
      OUTFLOW       2.50      2.77      3.16      4.01      5.65      8.31     12.26     17.74     25.00     34.30
    ELEVATION       2.00      2.40      2.43      2.46      2.50      2.55      2.62      2.70      2.79      2.89

      STORAGE        .23
      OUTFLOW      45.89
    ELEVATION       3.00

 *** WARNING *** MODIFIED PULS ROUTING MAY BE NUMERICALLY UNSTABLE FOR OUTFLOWS BETWEEN       18. TO       46.
                 THE ROUTED HYDROGRAPH SHOULD BE EXAMINED FOR OSCILLATIONS OR OUTFLOWS GREATER THAN PEAK INFLOWS.
                 THIS CAN BE CORRECTED BY DECREASING THE TIME INTERVAL OR INCREASING STORAGE (USE A LONGER REACH.)

**********************************************************************************************************************
**
                                  HYDROGRAPH AT STATION    RET2B

**********************************************************************************************************************
**
                                                *                                                *
  DA MON HRMN ORD  OUTFLOW  STORAGE   STAGE * DA MON HRMN ORD  OUTFLOW  STORAGE   STAGE * DA MON HRMN ORD  OUTFLOW  STORAGE
STAGE                                           *                                                *
   1 JAN 0000   1       0.       .0      .0 *  1 JAN 0820 251       9.       .2     2.6 *  1 JAN 1640 501       9.       .2
2.6
   1 JAN 0002   2       0.       .0      .1 *  1 JAN 0822 252       9.       .2     2.6 *  1 JAN 1642 502       9.       .2
2.6
   1 JAN 0004   3       1.       .0      .5 *  1 JAN 0824 253       9.       .2     2.6 *  1 JAN 1644 503       9.       .2
2.6
   1 JAN 0006   4       2.       .1     1.1 *  1 JAN 0826 254       9.       .2     2.6 *  1 JAN 1646 504       9.       .2
2.6
   1 JAN 0008   5       2.       .1     1.7 *  1 JAN 0828 255       9.       .2     2.6 *  1 JAN 1648 505       9.       .2
2.6
   1 JAN 0010   6       3.       .2     2.3 *  1 JAN 0830 256       9.       .2     2.6 *  1 JAN 1650 506       9.       .2
2.6
   1 JAN 0012   7      19.       .2     2.7 *  1 JAN 0832 257       9.       .2     2.6 *  1 JAN 1652 507       9.       .2
2.6
   1 JAN 0014   8      21.       .2     2.7 *  1 JAN 0834 258       9.       .2     2.6 *  1 JAN 1654 508       9.       .2
2.6
   1 JAN 0016   9      18.       .2     2.7 *  1 JAN 0836 259       9.       .2     2.6 *  1 JAN 1656 509       9.       .2
2.6
   1 JAN 0018  10      16.       .2     2.7 *  1 JAN 0838 260       9.       .2     2.6 *  1 JAN 1658 510       9.       .2
2.6
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   1 JAN 0020  11      13.      .2      2.6 *  1 JAN 0840 261      9.      .2      2.6 *  1 JAN 1700 511      9.      .2
2.6
   1 JAN 0022  12      10.      .2      2.6 *  1 JAN 0842 262      9.      .2      2.6 *  1 JAN 1702 512      9.      .2
2.6
   1 JAN 0024  13       7.      .2      2.5 *  1 JAN 0844 263      9.      .2      2.6 *  1 JAN 1704 513      9.      .2
2.6
   1 JAN 0026  14       5.      .2      2.5 *  1 JAN 0846 264      9.      .2      2.6 *  1 JAN 1706 514      9.      .2
2.6
   1 JAN 0028  15       4.      .2      2.5 *  1 JAN 0848 265      9.      .2      2.6 *  1 JAN 1708 515      9.      .2
2.6
   1 JAN 0030  16       4.      .2      2.4 *  1 JAN 0850 266      9.      .2      2.6 *  1 JAN 1710 516      9.      .2
2.6
   1 JAN 0032  17       4.      .2      2.4 *  1 JAN 0852 267      9.      .2      2.6 *  1 JAN 1712 517      9.      .2
2.6
   1 JAN 0034  18       4.      .2      2.4 *  1 JAN 0854 268      9.      .2      2.6 *  1 JAN 1714 518      9.      .2
2.6
   1 JAN 0036  19       4.      .2      2.4 *  1 JAN 0856 269      9.      .2      2.6 *  1 JAN 1716 519      9.      .2
2.6
   1 JAN 0038  20       4.      .2      2.4 *  1 JAN 0858 270      9.      .2      2.6 *  1 JAN 1718 520      9.      .2
2.6
   1 JAN 0040  21       4.      .2      2.4 *  1 JAN 0900 271      9.      .2      2.6 *  1 JAN 1720 521      9.      .2
2.6
   1 JAN 0042  22       4.      .2      2.4 *  1 JAN 0902 272      9.      .2      2.6 *  1 JAN 1722 522      9.      .2
2.6
   1 JAN 0044  23       4.      .2      2.4 *  1 JAN 0904 273      9.      .2      2.6 *  1 JAN 1724 523      9.      .2
2.6
   1 JAN 0046  24       4.      .2      2.5 *  1 JAN 0906 274      9.      .2      2.6 *  1 JAN 1726 524      9.      .2
2.6
   1 JAN 0048  25       5.      .2      2.5 *  1 JAN 0908 275      9.      .2      2.6 *  1 JAN 1728 525      9.      .2
2.6
   1 JAN 0050  26       6.      .2      2.5 *  1 JAN 0910 276      9.      .2      2.6 *  1 JAN 1730 526      9.      .2
2.6
   1 JAN 0052  27       7.      .2      2.5 *  1 JAN 0912 277      9.      .2      2.6 *  1 JAN 1732 527      9.      .2
2.6
   1 JAN 0054  28       7.      .2      2.5 *  1 JAN 0914 278      9.      .2      2.6 *  1 JAN 1734 528      9.      .2
2.6
   1 JAN 0056  29       8.      .2      2.5 *  1 JAN 0916 279      9.      .2      2.6 *  1 JAN 1736 529      9.      .2
2.6
   1 JAN 0058  30       8.      .2      2.5 *  1 JAN 0918 280      9.      .2      2.6 *  1 JAN 1738 530      9.      .2
2.6
   1 JAN 0100  31       8.      .2      2.5 *  1 JAN 0920 281      9.      .2      2.6 *  1 JAN 1740 531      9.      .2
2.6
   1 JAN 0102  32       8.      .2      2.6 *  1 JAN 0922 282      9.      .2      2.6 *  1 JAN 1742 532      9.      .2
2.6
   1 JAN 0104  33       8.      .2      2.6 *  1 JAN 0924 283      9.      .2      2.6 *  1 JAN 1744 533      9.      .2
2.6
   1 JAN 0106  34       8.      .2      2.6 *  1 JAN 0926 284      9.      .2      2.6 *  1 JAN 1746 534      9.      .2
2.6
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1	JAN	0134	48	1.	*	1	JAN	0750	236	1.	*	1	JAN	1406	424	1.	*	1	JAN	2022	612	1.
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1	JAN	0138	50	1.	*	1	JAN	0754	238	1.	*	1	JAN	1410	426	1.	*	1	JAN	2026	614	1.
1	JAN	0140	51	1.	*	1	JAN	0756	239	1.	*	1	JAN	1412	427	1.	*	1	JAN	2028	615	1.
1	JAN	0142	52	1.	*	1	JAN	0758	240	1.	*	1	JAN	1414	428	1.	*	1	JAN	2030	616	1.
1	JAN	0144	53	1.	*	1	JAN	0800	241	1.	*	1	JAN	1416	429	1.	*	1	JAN	2032	617	1.
1	JAN	0146	54	1.	*	1	JAN	0802	242	1.	*	1	JAN	1418	430	1.	*	1	JAN	2034	618	1.
1	JAN	0148	55	1.	*	1	JAN	0804	243	1.	*	1	JAN	1420	431	1.	*	1	JAN	2036	619	1.
1	JAN	0150	56	1.	*	1	JAN	0806	244	1.	*	1	JAN	1422	432	1.	*	1	JAN	2038	620	1.
1	JAN	0152	57	1.	*	1	JAN	0808	245	1.	*	1	JAN	1424	433	1.	*	1	JAN	2040	621	1.
1	JAN	0154	58	1.	*	1	JAN	0810	246	1.	*	1	JAN	1426	434	1.	*	1	JAN	2042	622	1.
1	JAN	0156	59	1.	*	1	JAN	0812	247	1.	*	1	JAN	1428	435	1.	*	1	JAN	2044	623	1.
1	JAN	0158	60	1.	*	1	JAN	0814	248	1.	*	1	JAN	1430	436	1.	*	1	JAN	2046	624	1.
1	JAN	0200	61	1.	*	1	JAN	0816	249	1.	*	1	JAN	1432	437	1.	*	1	JAN	2048	625	1.
1	JAN	0202	62	1.	*	1	JAN	0818	250	1.	*	1	JAN	1434	438	1.	*	1	JAN	2050	626	1.
1	JAN	0204	63	1.	*	1	JAN	0820	251	1.	*	1	JAN	1436	439	1.	*	1	JAN	2052	627	1.
1	JAN	0206	64	1.	*	1	JAN	0822	252	1.	*	1	JAN	1438	440	1.	*	1	JAN	2054	628	1.
1	JAN	0208	65	1.	*	1	JAN	0824	253	1.	*	1	JAN	1440	441	1.	*	1	JAN	2056	629	1.
1	JAN	0210	66	1.	*	1	JAN	0826	254	1.	*	1	JAN	1442	442	1.	*	1	JAN	2058	630	1.
1	JAN	0212	67	1.	*	1	JAN	0828	255	1.	*	1	JAN	1444	443	1.	*	1	JAN	2100	631	1.
1	JAN	0214	68	1.	*	1	JAN	0830	256	1.	*	1	JAN	1446	444	1.	*	1	JAN	2102	632	1.
1	JAN	0216	69	1.	*	1	JAN	0832	257	1.	*	1	JAN	1448	445	1.	*	1	JAN	2104	633	1.
1	JAN	0218	70	1.	*	1	JAN	0834	258	1.	*	1	JAN	1450	446	1.	*	1	JAN	2106	634	1.
1	JAN	0220	71	1.	*	1	JAN	0836	259	1.	*	1	JAN	1452	447	1.	*	1	JAN	2108	635	1.
1	JAN	0222	72	1.	*	1	JAN	0838	260	1.	*	1	JAN	1454	448	1.	*	1	JAN	2110	636	1.
1	JAN	0224	73	1.	*	1	JAN	0840	261	1.	*	1	JAN	1456	449	1.	*	1	JAN	2112	637	1.
1	JAN	0226	74	1.	*	1	JAN	0842	262	1.	*	1	JAN	1458	450	1.	*	1	JAN	2114	638	1.
1	JAN	0228	75	1.	*	1	JAN	0844	263	1.	*	1	JAN	1500	451	1.	*	1	JAN	2116	639	1.
1	JAN	0230	76	1.	*	1	JAN	0846	264	1.	*	1	JAN	1502	452	1.	*	1	JAN	2118	640	1.
1	JAN	0232	77	1.	*	1	JAN	0848	265	1.	*	1	JAN	1504	453	1.	*	1	JAN	2120	641	1.
1	JAN	0234	78	1.	*	1	JAN	0850	266	1.	*	1	JAN	1506	454	1.	*	1	JAN	2122	642	1.
1	JAN	0236	79	1.	*	1	JAN	0852	267	1.	*	1	JAN	1508	455	1.	*	1	JAN	2124	643	1.
1	JAN	0238	80	1.	*	1	JAN	0854	268	1.	*	1	JAN	1510	456	1.	*	1	JAN	2126	644	1.
1	JAN	0240	81	1.	*	1	JAN	0856	269	1.	*	1	JAN	1512	457	1.	*	1	JAN	2128	645	1.
1	JAN	0242	82	1.	*	1	JAN	0858	270	1.	*	1	JAN	1514	458	1.	*	1	JAN	2130	646	1.
1	JAN	0244	83	1.	*	1	JAN	0900	271	1.	*	1	JAN	1516	459	1.	*	1	JAN	2132	647	1.
1	JAN	0246	84	1.	*	1	JAN	0902	272	1.	*	1	JAN	1518	460	1.	*	1	JAN	2134	648	1.
1	JAN	0248	85	1.	*	1	JAN	0904	273	1.	*	1	JAN	1520	461	1.	*	1	JAN	2136	649	1.
1	JAN	0250	86	1.	*	1	JAN	0906	274	1.	*	1	JAN	1522	462	1.	*	1	JAN	2138	650	1.
1	JAN	0252	87	1.	*	1	JAN	0908	275	1.	*	1	JAN	1524	463	1.	*	1	JAN	2140	651	1.
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1	JAN	0256	89	1.	*	1	JAN	0912	277	1.	*	1	JAN	1528	465	1.	*	1	JAN	2144	653	1.
1	JAN	0258	90	1.	*	1	JAN	0914	278	1.	*	1	JAN	1530	466	1.	*	1	JAN	2146	654	1.
1	JAN	0300	91	1.	*	1	JAN	0916	279	1.	*	1	JAN	1532	467	1.	*	1	JAN	2148	655	1.
1	JAN	0302	92	1.	*	1	JAN	0918	280	1.	*	1	JAN	1534	468	1.	*	1	JAN	2150	656	1.
1	JAN	0304	93	1.	*	1	JAN	0920	281	1.	*	1	JAN	1536	469	1.	*	1	JAN	2152	657	1.
1	JAN	0306	94	1.	*	1	JAN	0922	282	1.	*	1	JAN	1538	470	1.	*	1	JAN	2154	658	1.
1	JAN	0308	95	1.	*	1	JAN	0924	283	1.	*	1	JAN	1540	471	1.	*	1	JAN	2156	659	1.
1	JAN	0310	96	1.	*	1	JAN	0926	284	1.	*	1	JAN	1542	472	1.	*	1	JAN	2158	660	1.
1	JAN	0312	97	1.	*	1	JAN	0928	285	1.	*	1	JAN	1544	473	1.	*	1	JAN	2200	661	1.
1	JAN	0314	98	1.	*	1	JAN	0930	286	1.	*	1	JAN	1546	474	1.	*	1	JAN	2202	662	1.
1	JAN	0316	99	1.	*	1	JAN	0932	287	1.	*	1	JAN	1548	475	1.	*	1	JAN	2204	663	1.
1	JAN	0318	100	1.	*	1	JAN	0934	288	1.	*	1	JAN	1550	476	1.	*	1	JAN	2206	664	1.
1	JAN	0320	101	1.	*	1	JAN	0936	289	1.	*	1	JAN	1552	477	1.	*	1	JAN	2208	665	1.
1	JAN	0322	102	1.	*	1	JAN	0938	290	1.	*	1	JAN	1554	478	1.	*	1	JAN	2210	666	1.
1	JAN	0324	103	1.	*	1	JAN	0940	291	1.	*	1	JAN	1556	479	1.	*	1	JAN	2212	667	1.
1	JAN	0326	104	1.	*	1	JAN	0942	292	1.	*	1	JAN	1558	480	1.	*	1	JAN	2214	668	1.
1	JAN	0328	105	1.	*	1	JAN	0944	293	1.	*	1	JAN	1600	481	1.	*	1	JAN	2216	669	1.
1	JAN	0330	106	1.	*	1	JAN	0946	294	1.	*	1	JAN	1602	482	1.	*	1	JAN	2218	670	1.
1	JAN	0332	107	1.	*	1	JAN	0948	295	1.	*	1	JAN	1604	483	1.	*	1	JAN	2220	671	1.
1	JAN	0334	108	1.	*	1	JAN	0950	296	1.	*	1	JAN	1606	484	1.	*	1	JAN	2222	672	1.
1	JAN	0336	109	1.	*	1	JAN	0952	297	1.	*	1	JAN	1608	485	1.	*	1	JAN	2224	673	1.
1	JAN	0338	110	1.	*	1	JAN	0954	298	1.	*	1	JAN	1610	486	1.	*	1	JAN	2226	674	1.
1	JAN	0340	111	1.	*	1	JAN	0956	299	1.	*	1	JAN	1612	487	1.	*	1	JAN	2228	675	1.
1	JAN	0342	112	1.	*	1	JAN	0958	300	1.	*	1	JAN	1614	488	1.	*	1	JAN	2230	676	1.
1	JAN	0344	113	1.	*	1	JAN	1000	301	1.	*	1	JAN	1616	489	1.	*	1	JAN	2232	677	1.
1	JAN	0346	114	1.	*	1	JAN	1002	302	1.	*	1	JAN	1618	490	1.	*	1	JAN	2234	678	1.
1	JAN	0348	115	1.	*	1	JAN	1004	303	1.	*	1	JAN	1620	491	1.	*	1	JAN	2236	679	1.
1	JAN	0350	116	1.	*	1	JAN	1006	304	1.	*	1	JAN	1622	492	1.	*	1	JAN	2238	680	1.
1	JAN	0352	117	1.	*	1	JAN	1008	305	1.	*	1	JAN	1624	493	1.	*	1	JAN	2240	681	1.
1	JAN	0354	118	1.	*	1	JAN	1010	306	1.	*	1	JAN	1626	494	1.	*	1	JAN	2242	682	1.

1 JAN 0356	119	1.	1 JAN 1012	307	1.	1 JAN 1628	495	1.	1 JAN 2244	683	1.
1 JAN 0358	120	1.	1 JAN 1014	308	1.	1 JAN 1630	496	1.	1 JAN 2246	684	1.
1 JAN 0400	121	1.	1 JAN 1016	309	1.	1 JAN 1632	497	1.	1 JAN 2248	685	1.
1 JAN 0402	122	1.	1 JAN 1018	310	1.	1 JAN 1634	498	1.	1 JAN 2250	686	1.
1 JAN 0404	123	1.	1 JAN 1020	311	1.	1 JAN 1636	499	1.	1 JAN 2252	687	1.
1 JAN 0406	124	1.	1 JAN 1022	312	1.	1 JAN 1638	500	1.	1 JAN 2254	688	1.
1 JAN 0408	125	1.	1 JAN 1024	313	1.	1 JAN 1640	501	1.	1 JAN 2256	689	1.
1 JAN 0410	126	1.	1 JAN 1026	314	1.	1 JAN 1642	502	1.	1 JAN 2258	690	1.
1 JAN 0412	127	1.	1 JAN 1028	315	1.	1 JAN 1644	503	1.	1 JAN 2300	691	1.
1 JAN 0414	128	1.	1 JAN 1030	316	1.	1 JAN 1646	504	1.	1 JAN 2302	692	1.
1 JAN 0416	129	1.	1 JAN 1032	317	1.	1 JAN 1648	505	1.	1 JAN 2304	693	1.
1 JAN 0418	130	1.	1 JAN 1034	318	1.	1 JAN 1650	506	1.	1 JAN 2306	694	1.
1 JAN 0420	131	1.	1 JAN 1036	319	1.	1 JAN 1652	507	1.	1 JAN 2308	695	1.
1 JAN 0422	132	1.	1 JAN 1038	320	1.	1 JAN 1654	508	1.	1 JAN 2310	696	1.
1 JAN 0424	133	1.	1 JAN 1040	321	1.	1 JAN 1656	509	1.	1 JAN 2312	697	1.
1 JAN 0426	134	1.	1 JAN 1042	322	1.	1 JAN 1658	510	1.	1 JAN 2314	698	1.
1 JAN 0428	135	1.	1 JAN 1044	323	1.	1 JAN 1700	511	1.	1 JAN 2316	699	1.
1 JAN 0430	136	1.	1 JAN 1046	324	1.	1 JAN 1702	512	1.	1 JAN 2318	700	1.
1 JAN 0432	137	1.	1 JAN 1048	325	1.	1 JAN 1704	513	1.	1 JAN 2320	701	1.
1 JAN 0434	138	1.	1 JAN 1050	326	1.	1 JAN 1706	514	1.	1 JAN 2322	702	1.
1 JAN 0436	139	1.	1 JAN 1052	327	1.	1 JAN 1708	515	1.	1 JAN 2324	703	1.
1 JAN 0438	140	1.	1 JAN 1054	328	1.	1 JAN 1710	516	1.	1 JAN 2326	704	1.
1 JAN 0440	141	1.	1 JAN 1056	329	1.	1 JAN 1712	517	1.	1 JAN 2328	705	1.
1 JAN 0442	142	1.	1 JAN 1058	330	1.	1 JAN 1714	518	1.	1 JAN 2330	706	1.
1 JAN 0444	143	1.	1 JAN 1100	331	1.	1 JAN 1716	519	1.	1 JAN 2332	707	1.
1 JAN 0446	144	1.	1 JAN 1102	332	1.	1 JAN 1718	520	1.	1 JAN 2334	708	1.
1 JAN 0448	145	1.	1 JAN 1104	333	1.	1 JAN 1720	521	1.	1 JAN 2336	709	1.
1 JAN 0450	146	1.	1 JAN 1106	334	1.	1 JAN 1722	522	1.	1 JAN 2338	710	1.
1 JAN 0452	147	1.	1 JAN 1108	335	1.	1 JAN 1724	523	1.	1 JAN 2340	711	1.
1 JAN 0454	148	1.	1 JAN 1110	336	1.	1 JAN 1726	524	1.	1 JAN 2342	712	1.
1 JAN 0456	149	1.	1 JAN 1112	337	1.	1 JAN 1728	525	1.	1 JAN 2344	713	1.
1 JAN 0458	150	1.	1 JAN 1114	338	1.	1 JAN 1730	526	1.	1 JAN 2346	714	1.
1 JAN 0500	151	1.	1 JAN 1116	339	1.	1 JAN 1732	527	1.	1 JAN 2348	715	1.
1 JAN 0502	152	1.	1 JAN 1118	340	1.	1 JAN 1734	528	1.	1 JAN 2350	716	1.
1 JAN 0504	153	1.	1 JAN 1120	341	1.	1 JAN 1736	529	1.	1 JAN 2352	717	1.
1 JAN 0506	154	1.	1 JAN 1122	342	1.	1 JAN 1738	530	1.	1 JAN 2354	718	1.
1 JAN 0508	155	1.	1 JAN 1124	343	1.	1 JAN 1740	531	1.	1 JAN 2356	719	1.
1 JAN 0510	156	1.	1 JAN 1126	344	1.	1 JAN 1742	532	1.	1 JAN 2358	720	1.
1 JAN 0512	157	1.	1 JAN 1128	345	1.	1 JAN 1744	533	1.	2 JAN 0000	721	1.
1 JAN 0514	158	1.	1 JAN 1130	346	1.	1 JAN 1746	534	1.	2 JAN 0002	722	1.
1 JAN 0516	159	1.	1 JAN 1132	347	1.	1 JAN 1748	535	1.	2 JAN 0004	723	1.
1 JAN 0518	160	1.	1 JAN 1134	348	1.	1 JAN 1750	536	1.	2 JAN 0006	724	1.
1 JAN 0520	161	1.	1 JAN 1136	349	1.	1 JAN 1752	537	1.	2 JAN 0008	725	1.
1 JAN 0522	162	1.	1 JAN 1138	350	1.	1 JAN 1754	538	1.	2 JAN 0010	726	1.
1 JAN 0524	163	1.	1 JAN 1140	351	1.	1 JAN 1756	539	1.	2 JAN 0012	727	1.
1 JAN 0526	164	1.	1 JAN 1142	352	1.	1 JAN 1758	540	1.	2 JAN 0014	728	1.
1 JAN 0528	165	1.	1 JAN 1144	353	1.	1 JAN 1800	541	1.	2 JAN 0016	729	1.
1 JAN 0530	166	1.	1 JAN 1146	354	1.	1 JAN 1802	542	1.	2 JAN 0018	730	1.
1 JAN 0532	167	1.	1 JAN 1148	355	1.	1 JAN 1804	543	1.	2 JAN 0020	731	1.
1 JAN 0534	168	1.	1 JAN 1150	356	1.	1 JAN 1806	544	1.	2 JAN 0022	732	1.
1 JAN 0536	169	1.	1 JAN 1152	357	1.	1 JAN 1808	545	1.	2 JAN 0024	733	1.
1 JAN 0538	170	1.	1 JAN 1154	358	1.	1 JAN 1810	546	1.	2 JAN 0026	734	1.
1 JAN 0540	171	1.	1 JAN 1156	359	1.	1 JAN 1812	547	1.	2 JAN 0028	735	1.
1 JAN 0542	172	1.	1 JAN 1158	360	1.	1 JAN 1814	548	1.	2 JAN 0030	736	1.
1 JAN 0544	173	1.	1 JAN 1200	361	1.	1 JAN 1816	549	1.	2 JAN 0032	737	1.
1 JAN 0546	174	1.	1 JAN 1202	362	1.	1 JAN 1818	550	1.	2 JAN 0034	738	1.
1 JAN 0548	175	1.	1 JAN 1204	363	1.	1 JAN 1820	551	1.	2 JAN 0036	739	1.
1 JAN 0550	176	1.	1 JAN 1206	364	1.	1 JAN 1822	552	1.	2 JAN 0038	740	1.
1 JAN 0552	177	1.	1 JAN 1208	365	1.	1 JAN 1824	553	1.	2 JAN 0040	741	1.
1 JAN 0554	178	1.	1 JAN 1210	366	1.	1 JAN 1826	554	1.	2 JAN 0042	742	1.
1 JAN 0556	179	1.	1 JAN 1212	367	1.	1 JAN 1828	555	1.	2 JAN 0044	743	1.
1 JAN 0558	180	1.	1 JAN 1214	368	1.	1 JAN 1830	556	1.	2 JAN 0046	744	1.
1 JAN 0600	181	1.	1 JAN 1216	369	1.	1 JAN 1832	557	1.	2 JAN 0048	745	1.
1 JAN 0602	182	1.	1 JAN 1218	370	1.	1 JAN 1834	558	1.	2 JAN 0050	746	1.
1 JAN 0604	183	1.	1 JAN 1220	371	1.	1 JAN 1836	559	1.	2 JAN 0052	747	1.
1 JAN 0606	184	1.	1 JAN 1222	372	1.	1 JAN 1838	560	1.	2 JAN 0054	748	1.
1 JAN 0608	185	1.	1 JAN 1224	373	1.	1 JAN 1840	561	1.	2 JAN 0056	749	1.
1 JAN 0610	186	1.	1 JAN 1226	374	1.	1 JAN 1842	562	1.	2 JAN 0058	750	1.
1 JAN 0612	187	1.	1 JAN 1228	375	1.	1 JAN 1844	563	1.			
1 JAN 0614	188	1.	1 JAN 1230	376	1.	1 JAN 1846	564	1.			

```
   PEAK FLOW      TIME                          MAXIMUM AVERAGE FLOW
                                       6-HR        24-HR       72-HR      24.97-HR
+   (CFS)         (HR)
                               (CFS)
+      12.         .17                   2.           1.          1.          1.
                            (INCHES)  3.637       12.005      12.455      12.455
                             (AC-FT)     1.           3.          3.          3.

                            CUMULATIVE AREA =       .00 SQ MI
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                  **************
                  *            *
   65 KK          *    RET3A   *
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*           *
*************
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RETENTION BASIN 3A

HYDROGRAPH ROUTING DATA

```
67 RS          STORAGE ROUTING
                    NSTPS          1  NUMBER OF SUBREACHES
                     ITYP       STOR  TYPE OF INITIAL CONDITION
                   RSVRIC         .00  INITIAL CONDITION
                        X         .00 WORKING R AND D COEFFICIENT

68 SV            STORAGE          .0        .1        .2        .4

69 SE          ELEVATION         .00      1.00      2.00      3.00

71 SL          LOW-LEVEL OUTLET
                   ELEVL        1.25  ELEVATION AT CENTER OF OUTLET
                   CAREA         .20  CROSS-SECTIONAL AREA
                    COQL         .60  COEFFICIENT
                    EXPL         .50  EXPONENT OF HEAD

70 SS          SPILLWAY
                    CREL        2.90  SPILLWAY CREST ELEVATION
                   SPWID       10.00  SPILLWAY WIDTH
                    COQW        2.30  WEIR COEFFICIENT
                    EXPW        1.50  EXPONENT OF HEAD
```

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COMPUTED OUTFLOW-ELEVATION DATA

OUTFLOW	.00	.00	.47	.52	.57	.64	.73	.84	.99	1.21
ELEVATION	.00	1.25	1.50	1.55	1.62	1.71	1.84	2.04	2.35	2.90
OUTFLOW	1.22	1.22	1.24	1.27	1.32	1.40	1.49	1.62	1.78	1.98
ELEVATION	2.90	2.91	2.91	2.92	2.93	2.94	2.95	2.97	2.98	3.00

COMPUTED STORAGE-OUTFLOW-ELEVATION DATA

STORAGE	.00	.10	.13	.16	.16	.17	.18	.20	.22	.22
OUTFLOW	.00	.00	.00	.47	.52	.57	.64	.73	.82	.84
ELEVATION	.00	1.00	1.25	1.50	1.55	1.62	1.71	1.84	2.00	2.04
STORAGE	.27	.35	.35	.35	.35	.36	.36	.36	.36	
OUTFLOW	.99	1.21	1.24	1.32	1.40	1.49	1.62	1.78	1.98	
ELEVATION	2.35	2.90	2.91	2.93	2.94	2.95	2.97	2.98	3.00	

****
**

HYDROGRAPH AT STATION RET3A

****
**

DA	MON	HRMN	ORD	OUTFLOW	STORAGE	STAGE	DA	MON	HRMN	ORD	OUTFLOW	STORAGE	STAGE	DA	MON	HRMN	ORD	OUTFLOW	STORAGE	STAGE
1	JAN	0000	1	0.	.0	.0	1	JAN	0820	251	1.	.3	2.7	1	JAN	1640	501	1.	.3	2.8
1	JAN	0002	2	0.	.0	.0	1	JAN	0822	252	1.	.3	2.7	1	JAN	1642	502	1.	.3	2.8
1	JAN	0004	3	0.	.0	.1	1	JAN	0824	253	1.	.3	2.7	1	JAN	1644	503	1.	.3	2.8
1	JAN	0006	4	0.	.0	.3	1	JAN	0826	254	1.	.3	2.7	1	JAN	1646	504	1.	.3	2.8
1	JAN	0008	5	0.	.1	.6	1	JAN	0828	255	1.	.3	2.7	1	JAN	1648	505	1.	.3	2.8
1	JAN	0010	6	0.	.1	.9	1	JAN	0830	256	1.	.3	2.7	1	JAN	1650	506	1.	.3	2.8
1	JAN	0012	7	0.	.1	1.2	1	JAN	0832	257	1.	.3	2.7	1	JAN	1652	507	1.	.3	2.8
1	JAN	0014	8	0.	.1	1.4	1	JAN	0834	258	1.	.3	2.7	1	JAN	1654	508	1.	.3	2.8
1	JAN	0016	9	1.	.2	1.6	1	JAN	0836	259	1.	.3	2.7	1	JAN	1656	509	1.	.3	2.8
1	JAN	0018	10	1.	.2	1.7	1	JAN	0838	260	1.	.3	2.7	1	JAN	1658	510	1.	.3	2.8
1	JAN	0020	11	1.	.2	1.8	1	JAN	0840	261	1.	.3	2.7	1	JAN	1700	511	1.	.3	2.8
1	JAN	0022	12	1.	.2	1.9	1	JAN	0842	262	1.	.3	2.7	1	JAN	1702	512	1.	.3	2.8
1	JAN	0024	13	1.	.2	2.0	1	JAN	0844	263	1.	.3	2.7	1	JAN	1704	513	1.	.3	2.8
1	JAN	0026	14	1.	.2	2.0	1	JAN	0846	264	1.	.3	2.7	1	JAN	1706	514	1.	.3	2.8
1	JAN	0028	15	1.	.2	2.0	1	JAN	0848	265	1.	.3	2.7	1	JAN	1708	515	1.	.3	2.8
1	JAN	0030	16	1.	.2	2.0	1	JAN	0850	266	1.	.3	2.7	1	JAN	1710	516	1.	.3	2.8

Appendix D

Master Drainage Report for Silverstone, Addendums No. 1 - 3 to the Master Drainage Report for Silverstone

MASTER DRAINAGE REPORT

FOR

SILVERSTONE

March 2007

WP #042309

APPROVED
Reviewer:
Date: 3/18/07
Stormwater Management Division
City of Scottsdale

Prepared for:

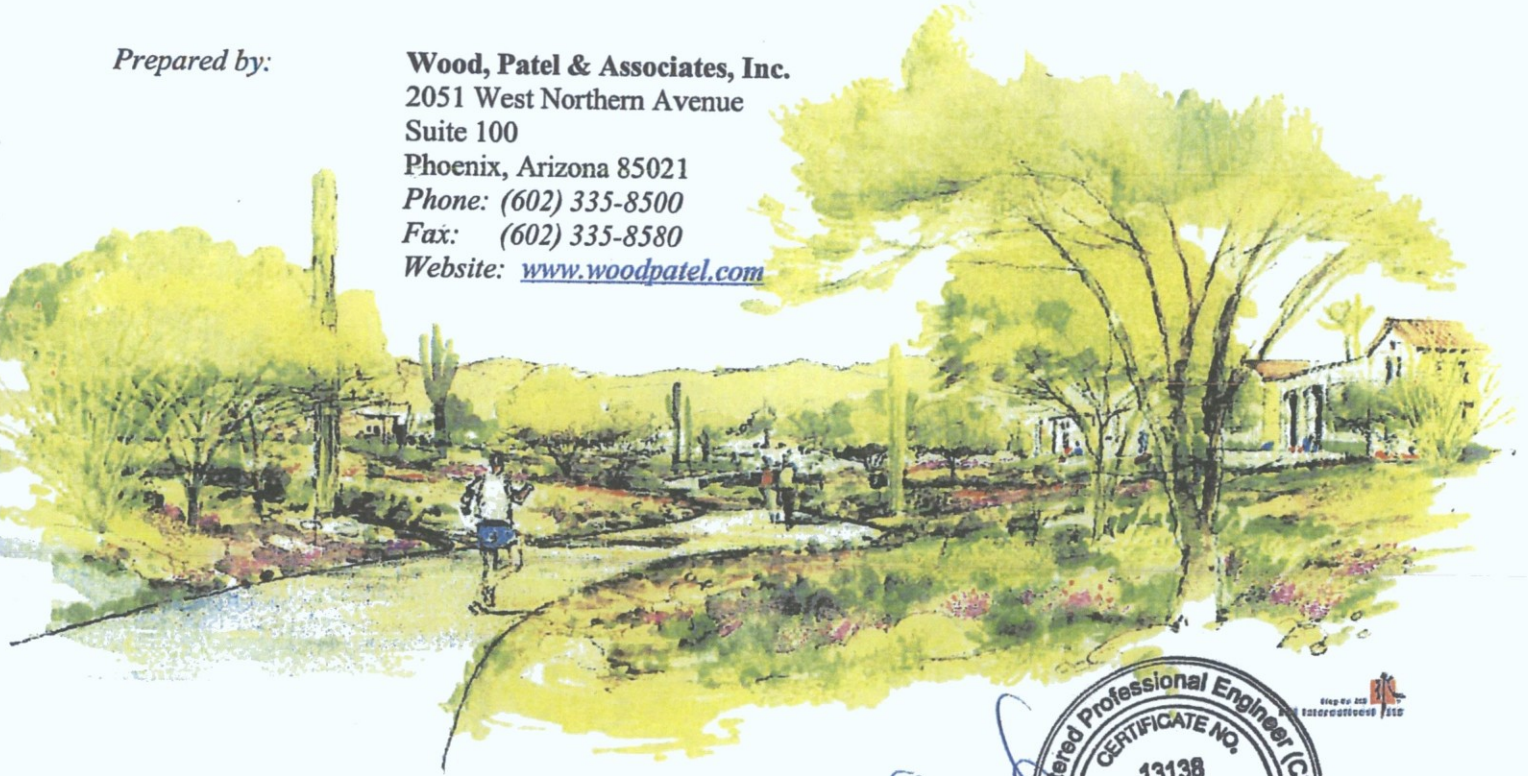
Silverstone Development, Inc.
1550 East Missouri Avenue
Suite 300
Phoenix, Arizona 85011
Phone: (602) 230-1051
Fax: (602) 230-2826
Attn: Mr. Mike Pacheco

Submitted to:

City of Scottsdale
7447 East Indian School Road
Scottsdale, Arizona 85251

Prepared by:

Wood, Patel & Associates, Inc.
2051 West Northern Avenue
Suite 100
Phoenix, Arizona 85021
Phone: (602) 335-8500
Fax: (602) 335-8580
Website: www.woodpatel.com



Registered Professional Engineer (Civil)
CERTIFICATE NO.
13138
DARREL E.
WOOD
Date Signed 3/13/07
ARIZONA, U.S.A.

Engineer-in-Training
Darren Forstie

Engineer

TABLE OF CONTENTS

PLATES

TABLES

1.0 INTRODUCTION

1.1 General Background

This report has been prepared to address drainage requirements and provide a Master Drainage Plan for the development known as Silverstone. The Silverstone site (hereafter referred to as the Site) located in north Scottsdale, is approximately 160 acres and is bounded by Pinnacle Peak Road on the north, Miller Road on the east, Williams Drive on the south, and Scottsdale Road on the west. More specifically, the site is located in Section 14, Township 4 North, Range 4 East of the Gila and Salt River Meridian. Plate 1 – *Vicinity Map,* illustrates the Site's location.

The proposed Silverstone consist of mixed use land including municipal, retail, office, residential, open space, and public streets as applicable per City of Scottsdale Zoning Case 15-ZN-2005, 13-UP-2005.

As per the City of Scottsdale Stipulations, this master drainage plan endeavors to address the following:

1. *DRAINAGE MASTER PLAN: The developer shall submit a master drainage report and plan subject to city manager or designee approval. The master drainage report and plan shall conform the approved Drainage Design Report (Plan Check #3678-05) and to the Design Standards and Policies Manual – Drainage Report Preparation. In addition, the master drainage report and plan shall:*
   - *A. Include a complete description of requirements relating to project phasing.*
   - *B. Identify the timing of and parties responsible for construction of all storm water management facilities.*
   - *C. Identify improvements to the Rawhide Wash, including but not limited to retaining walls, scour walls, head walls, bridges, control structures, street and pedestrian crossing, and open space amenities.*
   - *D. Correspondence with State Lands/City of Phoenix to west*
   - *E. Bridge timing/responsibility (Scottsdale Rd. and Pinnacle Peak), with possible grade separated crossing for pedestrian access under Pinnacle Peak Road and under Scottsdale Road.*

F. *Before master drainage report approval, the developer shall, when requested by City Manager or Designee, submit two (2) hard copies and one (1) disc copy of the complete master drainage report.*

G. *Before the improvement plan submittal, the developer shall have obtained approval of the master drainage report.*

1.2 Drainage Background

The Site is situated on an alluvial plain within upland Sonoran Desert containing moderate slopes. The entire Site is located within the Rawhide Wash watershed and its Federal Emergency Management Agency (FEMA) designated 100 year floodplain (see Section 1.4 FEMA Floodplain). The Site consists of undeveloped desert terrain with vegetation and a mixture of buildings, dirt paths and drives from the now abandoned Rawhide development. Rawhide has disturbed the Site from historic conditions. The Site generally slopes toward the southwest at approximately 2.4 percent. Some exceptions are a raised dirt track located in the southwest corner of the site and a raised dirt dike bordering the site on the north and east sides. A major named wash, Rawhide Wash traverses the north western portion of the site.

In a rainfall/runoff event, Site is believed to receive offsite flows from the upstream Rawhide Wash watershed. The offsite flows from Rawhide Wash are believed to currently continue through the Site in Rawhide Wash and the small drainage corridors created by the previous owner. This offsite flow leaves the Site at a dip section in Scottsdale Road. The raised berms on the north and east boundaries of the Site are believed to protect the Site from any other offsite flow potential. Therefore, the Site is not impacted from offsite flows other than previously mentioned and only generates local onsite flows which generally start at the north portion of the Site and travel south-southwest through the Site.

1.3 Drainage Concept

This Drainage Master Plan presents a drainage investigation of the Site and addresses several areas: the Site, the proposed public roadways within the Site, and Rawhide Wash.

The Silverstone Development consists of proposed public roadways (Silverstone Drive and 74th Street) and private parcels. The north-south public roadway 74th Street, will

contain a proposed storm drain system to capture roadway flows and provide a bleed off option to parcel detention basins. This storm drain system will outlet into the proposed channel along Williams Drive while the storm drain system on Silverstone Drive will outlet into the proposed scenic corridor along Scottsdale Road (see Plate 3 – *Silverstone Drainage Map*).

The proposed parcels will retain the 100-year, 2-hour volume as required by the City of Scottsdale development guidelines. The detention basins will bleed off within 36 hours into the roadway storm drain system or existing drainage corridors per the design of the parcel developer and their engineer.

Rawhide Wash will be channelized from Pinnacle Peak Road to Scottsdale Road. The channel will be designed in two phases, an interim and ultimate condition.

1.4 FEMA Floodplain

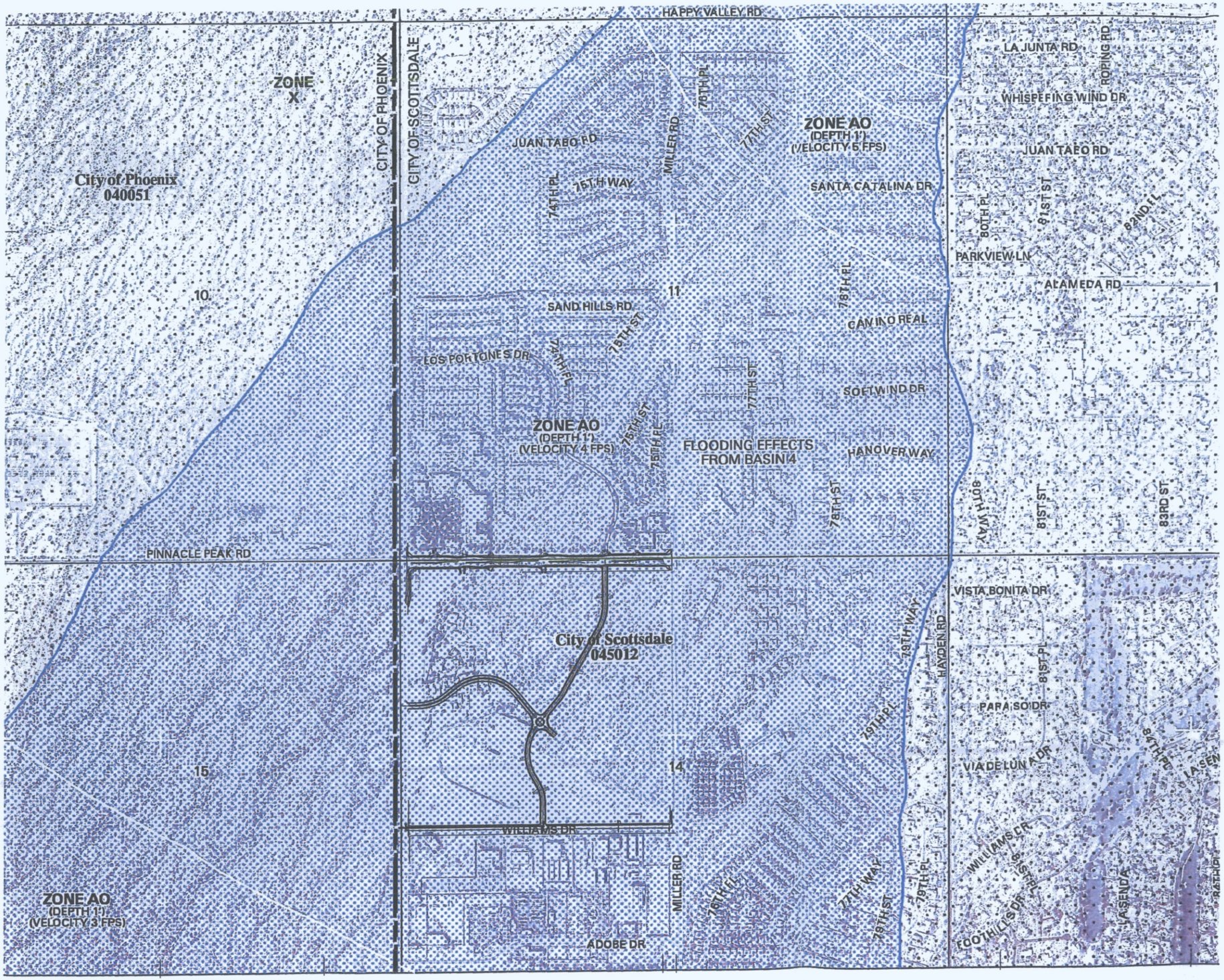
The Site lies within a Federal Emergency Management Agency (FEMA) designated Zone AO, per Flood Insurance Rate Map (FIRM) Panel 1235 of 4350, number 04013C1235G, dated September 30, 2005 (See Plate 2 – Flood Insurance Rate Map). Zone AO is defined by FEMA and per the FIRM Panel as follows:

> *Flood depths of 1 to 3 feet (usually sheet flow on sloping terrain), average depths determined. For areas of alluvial fan flooding, velocities also determined.*

The average depth displayed on the FEMA FIRM for the Project Area is one (1) foot with a velocity shown as four (4) feet per second.

PLATE 2

Flood Insurance Rate Map (FIRM)



NFIP

NATIONAL FLOOD INSURANCE PROGRAM

PANEL 1235G

FIRM

FLOOD INSURANCE RATE MAP

MARICOPA COUNTY, ARIZONA

AND INCORPORATED AREAS

PANEL 1235 OF 4350

(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

COMMUNITY	NUMBER	PANEL	SUFFIX
MARICOPA COUNTY	040037	1235	G
PHOENIX, CITY OF	040051	1235	G
SCOTTSDALE, CITY OF	045012	1235	G

Notice to User: The Map Number shown below should be used when placing map orders; the Community Number shown above should be used on insurance applications for the subject community.

MAP NUMBER
04013C1235G
MAP REVISED
SEPTEMBER 30, 2005

Federal Emergency Management Agency

MAP SCALE 1" = 1000'

0 1000 2000 FEET

Flood Insurance Rate Map (FIRM)

Wood, Patel & Associates, Inc.
2051 West Northern, Suite 100
Phoenix, Arizona 85021 (602) 335-8500

DRAWN BY: D FORSTIE
JOB NO: 042309

PLATE 2

PLATE 3

Project Area Drainage Map

PINNACLE PEAK ROAD IMPROVEMENT AREA

SCOTTSDALE ROAD

RAWHIDE WASH CHANNEL

FLOOD WALL LOCATION

MILLER ROAD IMPROVEMENT AREA

WILLIAMS DRIVE IMPROVEMENT AREA

SILVERSTONE DRIVE

PARK

C
PARCEL AREA=12.4 AC
DETENTION REQ.=2.6 AC-FT

F
PARCEL AREA=22.1 AC
DETENTION REQ.=3.9 AC-FT

G
PARCEL AREA=23.8 AC
DETENTION REQ.=1.8 AC-FT

B
PARCEL AREA=4.48 AC
DETENTION REQ.=1.0 AC-FT

A
DETENTION REQ.=0.2 AC-FT

PROPOSED STORM DRAIN

DETENTION REQ.=2.4 AC-FT

E
PARCEL AREA=16.7 AC
DETENTION REQ.=0.9 AC-FT

PROPOSED STORM DRAIN

H
PARCEL AREA=33 AC

DETENTION REQ.=2.0 AC-FT

D
PARCEL AREA=13.5 AC
DETENTION REQ.=2.9 AC-FT

DETENTION REQ.=5.9 AC-FT

N

150 0 75 150

1 inch = 150 ft.

LEGEND

- FLOW DIRECTION
- PROPOSED STORM DRAIN SYSTEM
- PROPOSED CATCH BASIN
- PROPOSED DETENTION BASIN (POSSIBLE LOCATIONS)
- TEMPORARY/PROPOSED DRAINAGE CORRIDOR PER FINAL PARCEL DETAILS (APPROXIMATE LOCATION)
- APPROXIMATE PROPOSED FLOODWALL LOCATION

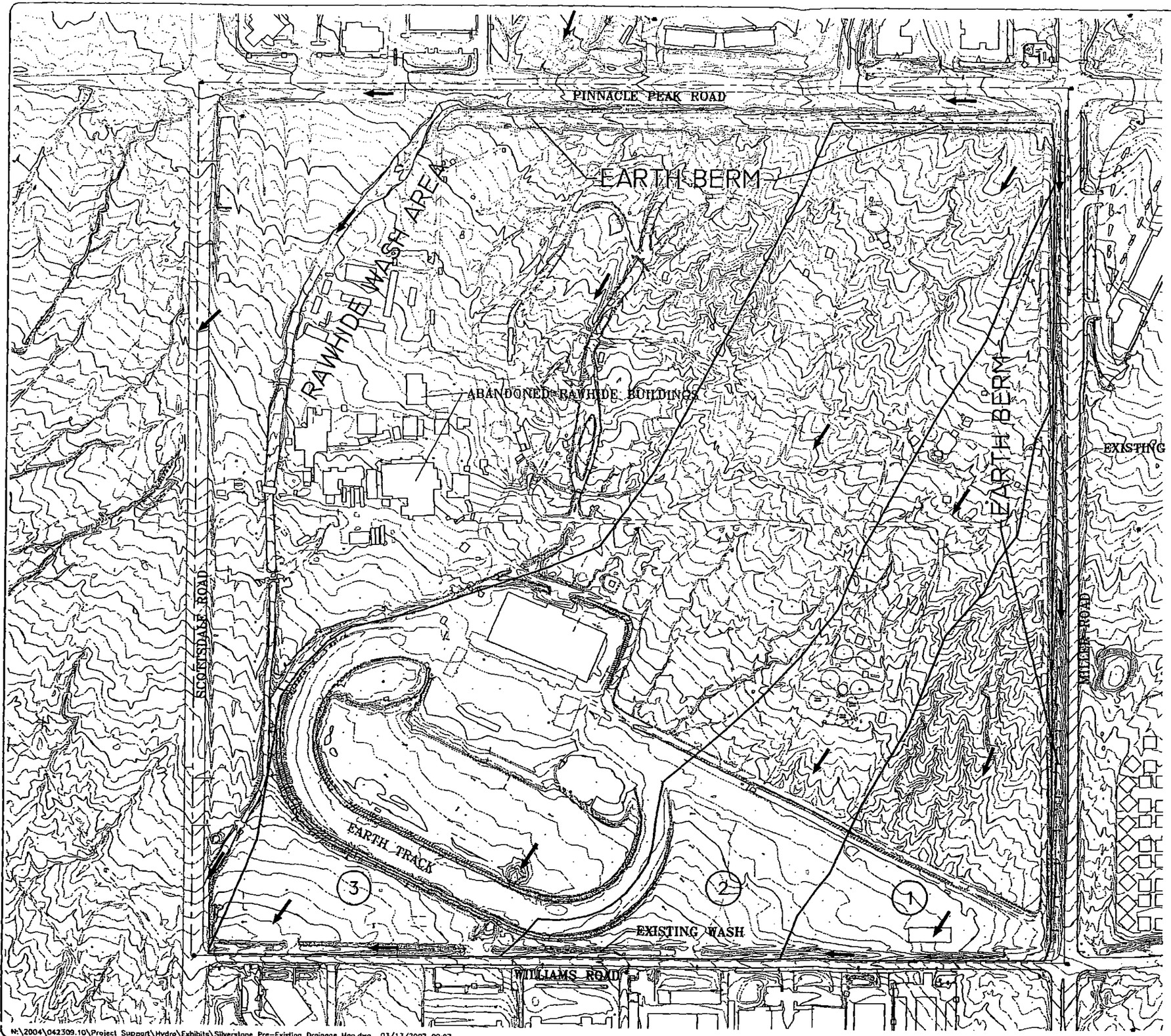
WOOD/PATEL
LAND DEVELOPMENT • CIVIL ENGINEERING
TRANSPORTATION / UTILITIES
WATER / WASTEWATER • SURVEYING
CONSTRUCTION MANAGEMENT
2051 W. Northern Ave.
Phoenix, AZ 85021
(602) 335-8500

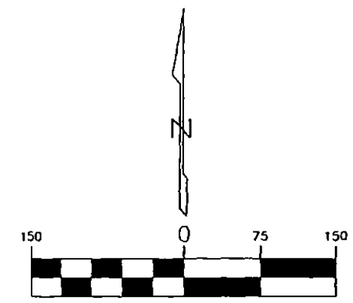
SILVERSTONE
SCOTTSDALE
DRAINAGE MAP

PRELIMINARY
NOT
FOR
CONSTRUCTION
OR RECORDING

DRAWN	DF
CHECKED	
DATE	MARCH 0
SCALE	1"=150
JOB NO.	042309.10
SHEET	1 OF 1

N:\2004\042309.10\Project Support\Hydro\Exhibits\Project Area Drainage Map_3-12-07.dwg 03/13/2007 09:39





1 inch = 150 ft.

LEGEND

PRE-EXISTING FLOW DIRECTION

(2) PRE-EXISTING/PRE-DEVELOPED SUBBASIN

WOOD/PATEL
LAND DEVELOPMENT • WATER RESOURCES
TRANSPORTATION/TRAFFIC
WATER/WASTEWATER • SURVEYING
CONSTRUCTION MANAGEMENT
2051 W. Northern Ave.
Phoenix, AZ 85021
(602) 335-8500
www.woodpatel.com

SILVERSTONE

SCOTTSDALE

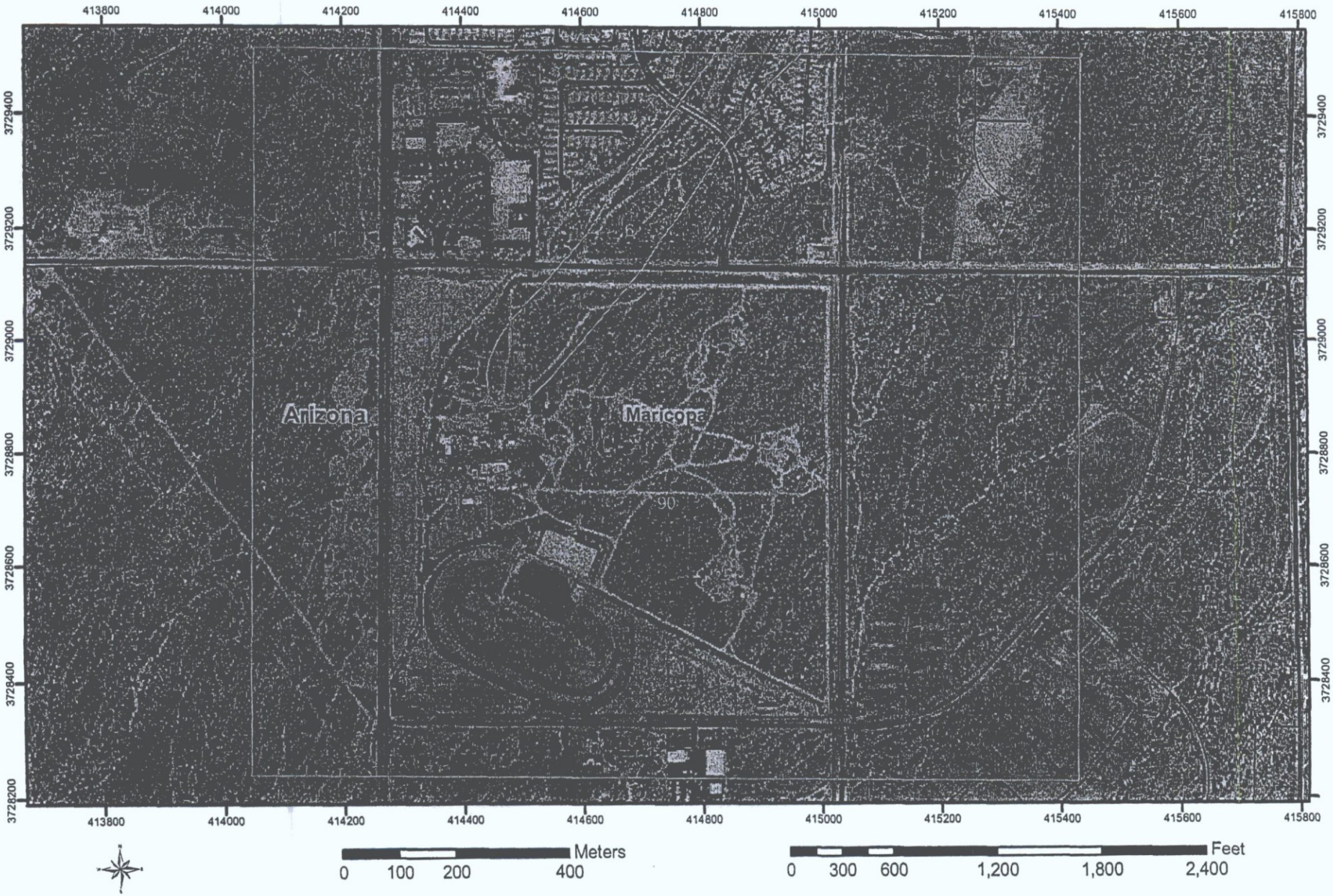
PRE-EXISTING DRAINAGE MAP

PRELIMINARY
NOT
FOR
CONSTRUCTION
OR RECORDING

DRAWN	DF
CHECKED	
DATE	MARCH 07
SCALE	1" = 150'
JOB NO.	042309.10
SHEET	

SOIL MAP

SOIL SURVEY OF AGUILA-CAREFREE AREA, ARIZONA, PARTS OF MARICOPA AND PINAL COUNTIES



MAP LEGEND

- Soil Map Units
- Cities
- Detailed Counties
- Detailed States
- Interstate Highways
- Roads
- Rails
- Water
- Hydrography
- Oceans
- Escarpment, bedrock
- Escarpment, non-bedrock
- Gulley
- Levee
- Slope
- Blowout
- Borrow Pit
- Clay Spot
- Depression, closed
- Eroded Spot
- Gravel Pit
- Gravelly Spot
- Gulley
- Lava Flow
- Landfill
- Marsh or Swamp
- Miscellaneous Water
- Rock Outcrop
- Saline Spot
- Sandy Spot
- Slide or Slip
- Sinkhole
- Sodic Spot
- Spoil Area
- Stony Spot
- Very Stony Spot
- Perennial Water
- Wet Spot

MAP INFORMATION

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL: http://websoilsurvey.nrcs.usda.gov

Coordinate System: UTM Zone 12

Soil Survey Area: Aguila-Carefree Area, Arizona, Parts of Maricopa and Pinal Counties
Spatial Version of Data: 1
Soil Map Compilation Scale: 1:24000

Map comprised of aerial images photographed on these dates:
4/30/1997

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Engineering Properties

Aguila-Carefree Area, Arizona, Parts of Maricopa and Pinal Counties

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percent passing sieve number--				Liquid limit	Plasticity Index
			Unified	AASHTO	>10 Inches	3-10 Inches	4	10	40	200		
	In				*Pct*	*Pct*					*Pct*	
6:												
Anthony	0-2	Sandy loam	ML, SM	A-4	0	0	95-100	90-100	55-85	35-65	20-30	NP-5
	2-40	Gravelly sandy loam, Very gravelly sandy loam	GM, SM	A-1, A-2	0	15-20	45-65	40-60	25-35	10-30	0-14	NP
	40-60	Loam	CL, CL-ML, ML	A-4	0	0	100	100	95-100	70-80	20-30	NP-10
Arizo	0-1	Gravelly sandy loam	SM	A-2	0	0-5	65-80	60-75	35-50	20-30	15-20	NP-5
	1-8	Very gravelly sandy loam	GM, SM	A-1	0	0-5	45-65	35-50	25-35	10-20	15-20	NP-5
	8-60	Very cobbly loamy sand, Very gravelly loamy sand	GM, GP-GM, SM, SP-SM	A-1	0	25-30	50-60	40-55	20-40	10-15	0-14	NP
90:												
Momoli	0-3	Gravelly sandy loam	SM	A-1, A-2	0	0-5	65-80	60-75	35-50	20-30	20-30	NP-5
	3-60	Very gravelly fine sandy loam, Very gravelly loam, Very gravelly sandy loam	GC-GM, GM	A-1, A-2	0	0-5	40-65	25-50	20-40	10-35	20-30	NP-10

Pre-Existing Hydrology

ON-SITE WEIGHTED "C" FACTOR - 10 and 100 YEAR STORM EVENT

Site:	Pre-existing Sliverstone
Location:	Scottsdale, Arizona
Description:	Pre-existing conditions of subbasins that leave the Silverstone Site
References:	Design Standards and Policies Manual, Rev. Jan., 1993, City of Scottsdale Fig. 2.2-17, Runoff Coefficients (C) for Use with the Rational Formula Drainage Design Manual for Maricopa County, Volume I, Hydrology, Table 3.2
Date:	3/13/2007

Known Values:

Land Type	"C" Value	Subbasin 1	Subbasin 2	Subbasin 3
		ac	ac	ac
Undisturbed Desert	0.31	15	15	30
Commercial	0.90			
Gravel Rds/Dirt/Corrals	0.60		7	27
Sum		15	22	57

Weighted "C" Factor (10 yr) =	0.31	0.40	0.45
Weighted "C" Factor (100 yr) =	0.39	0.50	0.56

Note: Soil C values based on hydrologic soil group B.

Flood Control District of Maricopa County
Drainage Design Manual Rational Method

Computed by: DF Date: 9/26/06

LOCATION DATA

Location: Silverstone

Project Name: Subarea id: 1

Drainage Area Cover:

DESIGN DATA

Drainage Area	15.0000	acres
Watercourse Length	1683.0000	feet
Top Elevation	1856.0000	feet
Bottom Elevation	1810.0000	feet
Slope	0.027	feet/feet
Roughness Coefficient (Kb)	0.0302	
10-year, 6-Hour Rainfall	2.2000	inches

Hydrological Summary Table

Parameter	2-Yr	5-Yr	10-Yr	25-Yr	50-Yr	100-Yr
Q (cfs)	16	22	26	35	44	53
C	0.310	0.310	0.310	0.340	0.370	0.390
Tc (min)	8.5	7.5	7.0	6.4	6.1	5.8
i (in/hr)	3.4	4.6	5.5	6.9	7.9	9.1

Flood Control District of Maricopa County
Drainage Design Manual Rational Method

Computed by: DF Date: 9/26/06

LOCATION DATA

Location: Silverstone

Project Name: Subarea id: 2

Drainage Area Cover:

DESIGN DATA

Drainage Area	22.0000	acres
Watercourse Length	2591.0000	feet
Top Elevation	1869.0000	feet
Bottom Elevation	1802.0000	feet
Slope	0.026	feet/feet
Roughness Coefficient (Kb)	0.0316	
10-year, 6-Hour Rainfall	2.2000	inches

Hydrological Summary Table

Parameter	2-Yr	5-Yr	10-Yr	25-Yr	50-Yr	100-Yr
Q (cfs)	26	36	43	60	75	90
C	0.400	0.400	0.400	0.440	0.480	0.500
Tc (min)	11.5	10.1	9.5	8.7	8.2	7.8
i (in/hr)	3.0	4.1	4.9	6.2	7.1	8.2

Flood Control District of Maricopa County
Drainage Design Manual Rational Method

Computed by: DF Date: 9/26/06

LOCATION DATA

Location: Silverstone

Project Name: Subarea id: 3

Drainage Area Cover:

DESIGN DATA

Drainage Area	57.0000 acres
Watercourse Length	3720.0000 feet
Top Elevation	1876.0000 feet
Bottom Elevation	1790.0000 feet
Slope	0.023 feet/feet
Roughness Coefficient (Kb)	0.0290
10-year, 6-Hour Rainfall	2.2000 inches

Hydrological Summary Table

Parameter	2-Yr	5-Yr	10-Yr	25-Yr	50-Yr	100-Yr
Q (cfs)	69	96	114	161	202	243
C	0.450	0.450	0.450	0.500	0.540	0.560
Tc (min)	14.1	12.5	11.7	10.6	10.1	9.5
i (in/hr)	2.7	3.7	4.5	5.7	6.6	7.6

Parcel Detention Volumes

SILVERSTONE

Parcel Detention Requirements

Known Values:

V= (P/12)AC
A(sf)= Contributing Area
P(in)= 2.82 (from COS Drainage guidelines)
C_{100}= Weighted Runoff Coefficient

Basin	Tributary Area	Comparable Zoning	Weighted runoff coefficient[1]	Required Volume	Required Volume
	ac	(from Stips.)		cf	ac-ft
A&B	4.5	C-O	0.9	41274	0.95
C	12.4	C-2	0.9	113964	2.62
D	13.5	C-O	0.9	124559	2.86
E	16.7	R-5	0.76	130001	2.98
F	22.1	R-5	0.76	171623	3.94
G	23.8	R-5	0.76	184771	4.24
H	32.8	R-5	0.76	254867	5.85
Park	1.9	-	0.33	6998	0.16

1. Weighted runoff coefficient values based of COS grading and drainage manuel and hydrologic soil group B.

WOOD/PATEL
MISSION: CLIENT SERVICE™

CIVIL ENGINEERS • HYDROLOGISTS • LAND SURVEYORS • CONSTRUCTION MANAGERS

Darrel E. Wood, P.E., R.L.S.
Ashok C. Patel, P.E., R.L.S., CFM
James S. Campbell, P.E.
Thomas R Gettings, R.L.S.
Michael T. Young, P.E.
Jeffrey R. Minch, P.E.
Robert D. Gofonia, P.E., R.L.S.
Patrick W. Marum, P.E.
Kenneth L. Knickerbocker, P.E., R.L.S.
Darin L. Moore, P.E.
John M. Bulka, P.E.
Daniel J. Cronin, PMP, LEED AP, CDT
James G. Taillon, CFM
Daniel W. Matthews, P.E.
Christopher A. Salas, P.E.
R. Stuart Barney, P.E.
Kathy M. Svechovsky, R.L.S.
Joseph C. Daconta, P.E.
Shane D. McClara, P.E.
Ken S. Snow, P.E.
Ethan A. Boyle, P.E.
Michael R. Havill, P.E., R.L.S.
Cesar Castillo, P.E.
Edward M. Rajnovich, P.E.
James L. Kary, P.E.
Mark A. Everett, P.E., CFM
Ronald F. Martinez, P.E.
Stefanie M. Thrush, P.E.

February 13, 2014

City of Scottsdale
Stormwater/Drainage Division
7447 East Indian School Road
Scottsdale, Arizona

Ph: (480) 312-2500

Re: **Silverstone Parcel C**
Addendum No. 1 Master Drainage Report
Comment Response Letter
WP# 042309

Dear Mr. Anderson:

Following are our responses to Addendum No. 1 of the Master Drainage Report 1st Review Comments, dated January 7, 2014:

1. Comment #1: Provide a cover sheet similar to the original master plan cover sheet that clearly identifies this report as addendum #1 to the original report.
   Response #1: As requested, a cover sheet has been added to the report identifying it as Addendum No.1 to the Master Drainage Report for Silverstone.

2. Comment #2: Provide a full .pdf copy of the report on disc for City records by approval.
   Response #2: As requested, a CD containing a PDF of the MDR addendum has been included in the back of the revised report.

3. Comment #3: Please call me to discuss the including parcels D and hopefully E in the pre versus post C analysis as part of the master plan update. Ideally, the City would like to include the entire development in the update. A pre versus post C analysis for these parcels would result in a substantial reduction in storage. (If amenable to your client.)
   Response #3: Wood/Patel has been directed by our client only to pursue the Pre vs. Post C analysis for Parcel C of the Silverstone Development. It is our understanding that our client would prefer to pursue pre. Vs. post C analysis of the other undeveloped parcels at time of parcel development, and would submit additional addendums to the MDR at that time.

Please contact our office with questions regarding the above responses.

Sincerely,

WOOD, PATEL & ASSOCIATES, INC

Registered Professional Engineer (Civil) CERTIFICATE NO. 13138 DARREL E. WOOD DATE SIGNED 2/13/14 ARIZONA U.S.A. Expires 12/31/2016

Darrel E. Wood, P.E., R.L.S
Principal

DEW/bm

Y:\WP\General Correspondence\134000 Silverstone Parcel C Add No. 1 Master Drainage Report 1st Review Comment Response COS R Anderson 2-13-14.docx

ADDENDUM NO.1
TO THE
MASTER DRAINAGE REPORT
FOR
SILVERSTONE

Revised February 2014
March 2007

WP# 042309

Prepared for:

Silverstone Development, Inc.
1550 East Missouri Avenue
Suite 300
Phoenix, Arizona 85011
Phone: (602) 230-1051
Fax: (602) 230-2826
Attn: Mr. Mike Pacheco

Submitted to:

City of Scottsdale
7447 East Indian School Road
Scottsdale, Arizona 85251

Prepared by:

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Phone: (602) 335-8500
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Website: www.woodpatel.com

Stormwater Review By:
Richard Anderson
Phone 480-312-2729
FAX 480-312-9202
E-MAIL rianderson@ScottsdaleAZ.gov
Review Cycle _____ Date 3/6/14

3476-06-17 Approved

Darrel E. Wood, P.E., R.L.S.
Ashok C. Patel, P.E., R.L.S., CFM
James S. Campbell, P.E.
Thomas R Gettings, R.L.S.
Michael T. Young, P.E.
Jeffrey R. Minch, P.E.
Robert D. Gofonia, P.E., R.L.S.
Patrick W. Marum, P.E.
Kenneth L. Knickerbocker, P.E., R.L.S.
Darin L. Moore, P.E.
John M. Bulka, P.E.
Daniel J. Cronin, PMP, LEED AP, CDT
James G. Taillon, CFM
Daniel W. Matthews, P.E.
Christopher A. Salas, P.E.
R. Stuart Barney, P.E.
Kathy M. Svechovsky, R.L.S.
Joseph C. Daconta, P.E.
Shane D. McClara, P.E.
Ken S. Snow, P.E.
Ethan A. Boyle, P.E.
Michael R. Havill, P.E., R.L.S.
Cesar Castillo, P.E.
Edward M. Rajnovich, P.E.
James L. Kary, P.E.
Mark A. Everett, P.E., CFM
Ronald F. Martinez, P.E.
Stefanie M. Thrush, P.E.

February 13, 2014

ADDENDUM No.1

COS # 425-SA-2006 #15-ZN-2006, 124-NP-2006, PC# 3476-06-2

- Addendum No.1 to the Master Drainage Report
  Silverstone - March 2007, WP# 042309
- City of Scottsdale, Stormwater Management Division, Approved 3/18/07
- Justification #1: In January 2010, City of Scottsdale updated "Design Standards and Policies Manual, Chapter 4. Grading & Drainage, NOAA Atlas 14, Volume 1, Version 5, Point Precipitation Frequency Estimate. The updated rainfall volumes are lower in this area of north Scottsdale. (P=2.41 inches 100-year, 2-hour event)
- Justification #2: During recent correspondence with the City of Scottsdale Stormwater Management Division (COS), Wood, Patel & Associates, Inc. (Wood/Patel) was informed of a recent revision to the COS stormwater storage policy. The policy revision is valid for previously developed sites, such as Silverstone Parcel C (previously a portion of the Rawhide development). Per the revised policy, areas of the proposed development that were previously developed are required to provide a storage volume equal to the increase in runoff volume generated by the proposed development during the design storm event (100-year, 2-hour storm). Areas of the proposed development that were previously undeveloped are required to provide a storage volume equal to the entire runoff volume generated by the proposed development during the design storm event.
- Revisions to the Master Drainage Report (MDR) are as follows:
  - Table 4.1 – *Parcel Detention Requirements* is revised as shown below:

Table 4.1 – Parcel Detention Requirements

Parcel 1 Basin	Tributary Area	Weighted runoff coefficient	Required Volume	Required Volume
	ac		cf	ac-ft
A&B*	4.5	0.9	41274	0.95
C	12.35	**See Appendix B**	**47766**	**1.10**
D**	13.5	0.9	106291	2.44
E**	16.7	0.76	111033	2.54
F**	22.1	0.76	146936	3.37
G**	23.8	0.76	158239	3.63
H*	32.8	0.76	254867	5.85
Park*	1.9	0.33	6998	0.16

* These parcels are built out. Volumes are not updated.

ADDENDUM No.1

COS # 425-SA-2006 #15-ZN-2006, 124-NP-2006, PC# 3476-06-2

** Required detention volumes for these parcels are updated based upon updated rainfall depth data. Recent changes in C.O.S. stormwater storage policy for previously developed sites may allow for a reduction in required storage volume, but this reduction was not explored for these parcels in this addendum.

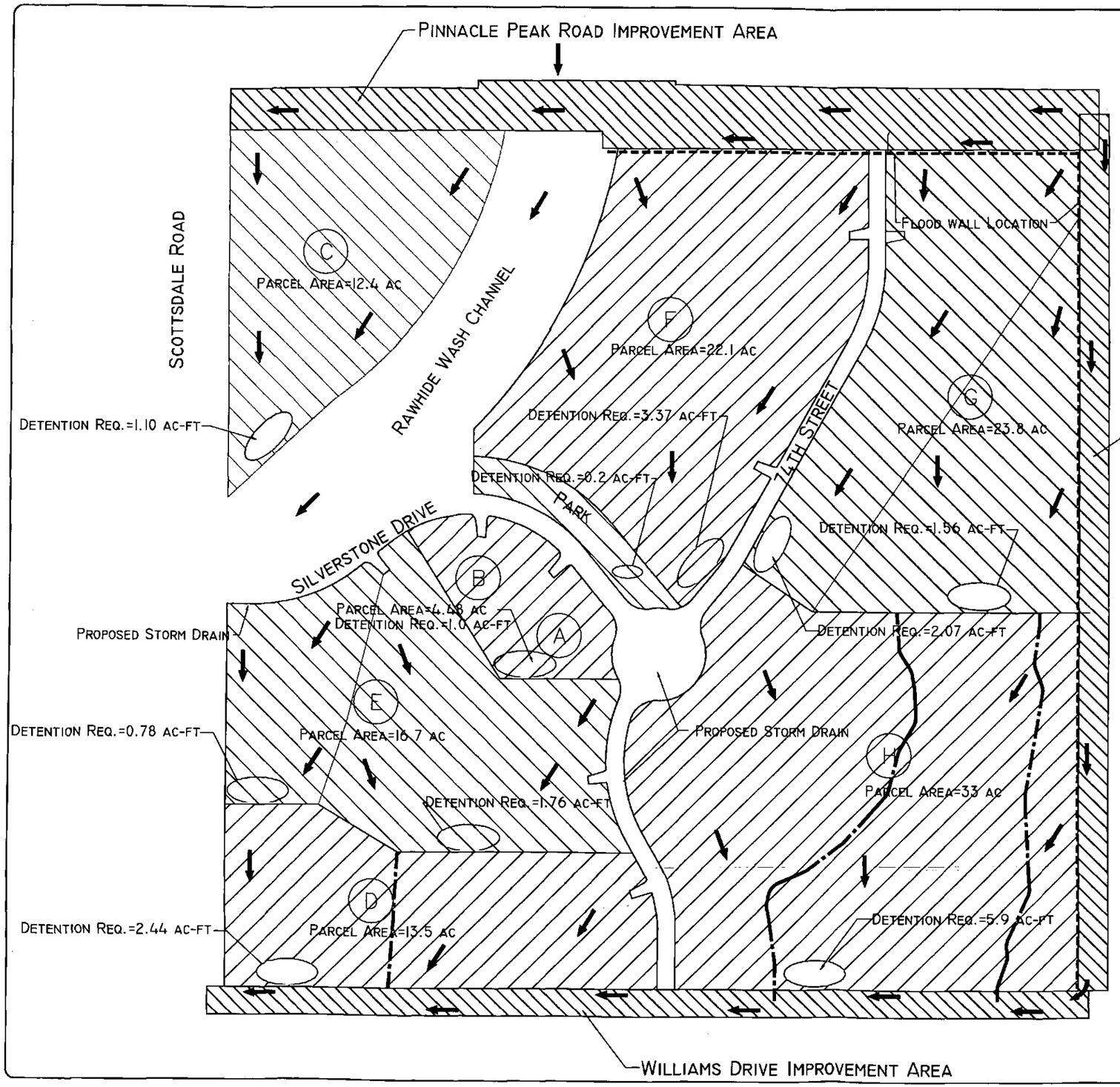
- Plate 3 – *Silverstone Drainage Map*, which displays possible locations of proposed detention basins, is revised. The revised plate is attached and dated December 3, 2013.

- Additions to MDR are as follows:
  - Appendix B is added to the MDR and includes the following:
    - Table B1 – *Parcel C Required Stormwater Detention Volume*
    - Table B2 – *Parcel C Pre-Existing Condition Weighted Runoff Coefficients*
    - Table B3 – *Parcel C Post-Developed Condition Weighted Runoff Coefficients*
    - Exhibit 1 – *Pre-Existing Condition Map*
    - Exhibit 2 – *Post-Developed Condition Map*

Darrel E. Wood, P.E., R.L.S.
Principal

PLATE 3

Silverstone Drainage Map



150 0 75 150

1 inch = 150 ft.

LEGEND

- FLOW DIRECTION
- PROPOSED STORM DRAIN SYSTEM
- PROPOSED CATCH BASIN
- PROPOSED DETENTION BASIN (POSSIBLE LOCATIONS)
- TEMPORARY/PROPOSED DRAINAGE CORRIDOR PER FINAL PARCEL DETAILS (APPROXIMATE LOCATION)
- APPROXIMATE PROPOSED FLOODWALL LOCATION

UPDATED 12/3/2013

WOOD/PATEL
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SILVERSTONE
SCOTTSDALE
DRAINAGE MAP

PRELIMINARY
NOT
FOR
CONSTRUCTION
OR RECORDING

DRAWN	
CHECKED	DF
DATE	MARCH 07
SCALE	1"=150'
JOB NO.	042309.10
SHEET	1 OF 1

N:\2013\134000\Project Support\Reports\Drainage\Exhibits\MDR Addendum\Project Area Drainage Map_11-26-2013.dwg 12/03/2013 11:00

APPENDIX B

Table B1 – Parcel C Required Stormwater Detention Volume
Table B2 – Parcel C Pre-Existing Condition Weighted Runoff Coefficients
Table B3 – Parcel C Post-Developed Condition Weighted Runoff Coefficients
Exhibit 1 – Pre-Existing Condition Map
Exhibit 2 – Post-Developed Condition Map

Table B1 - Parcel C Required Stormwater Detention Volume, $V_{REQ'D}$

Project: Addendum to Master Drainage Report for Silverstone
Location: Scottsdale, Arizona
Description: Calculation of required stormwater detention volume
References: Design Standards and Policies Manual, Chapter 4 - Grading & Drainage, City of Scottsdale, January 2010
NOAA Atlas 14, Volume 1, Version 5, Point Precipitation Frequency Estimates

Known Values: Design storm: 100-year, 2-hour
Rainfall, P: 2.41 inches

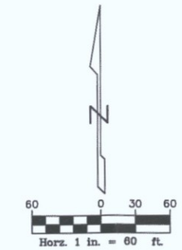
Calc. Values[1]: $V_{REQ'D} = \frac{P}{12} \; x \; A \; x \; C$

Where: $V_{REQ'D}$ = Required stormwater detention volume
P = Rainfall depth for design storm event
A = Area of watershed contributing
C = Runoff coefficient (see below for calculation)

For Pre-Existing Developed Areas[2]: $C = C_{POST} - C_{PRE}$ **For Pre-Existing Undeveloped Areas[3]:** $C = C_{POST}$

Where: C_{PRE} = Weighted runoff coefficient for pre-existing condition
C_{POST} = Weighted runoff coefficient for post-developed condition

Notes:
1. Based upon current C.O.S. stormwater storage requirements, areas of the proposed development that were previously developed are required to provide a storage volume equal to the increase in runoff volume generated by the proposed development during the design storm event (100-year, 2-hr storm). Areas of the proposed development that were previously undeveloped are required to provide storage volume equal to the entire runoff volume generated by the proposed development during the design storm event.
2. For previously developed areas, the required storage volume is calculated using a runoff coefficient equal to the inrease in the runoff coefficient from the pre-existing to the post-developed condition ($C=C_{POST}-C_{PRE}$)
3. For previously undeveloped areas, the required storage volume is calculated using a runoff coefficient equal to the post-developed runoff coefficient ($C=C_{POST}$)



LEGEND

- 1 — PRE-EXISTING DEVELOPED AREA ID
- PRE-EXISTING DEVELOPED AREA BOUNDARY
- 3 — PRE-EXISTING UNDEVELOPED AREA ID
- PROPERTY LINE

NOTES:
1. AERIAL IMAGE FROM ALTA/ACSM LAND TITLE SURVEY FOR SILVERSTONE PREPARED BY WOOD, PATEL & ASSOCIATES, INC. DATED DECEMBER 6, 2005. AERIAL IMAGE PROVIDED BY KENNEY AERIAL MAPPING INC. DATED OCTOBER 5, 2005.

CALL TWO WORKING DAYS BEFORE YOU DIG
602-263-1100
1-800-STAKE-IT
(OUTSIDE MARICOPA COUNTY)

SILVERSTONE

PARCEL C

EXHIBIT 1 – PRE-EXISTING CONDITION MAP

PRELIMINARY
NOT
FOR
CONSTRUCTION
OR RECORDING

WOOD/PATEL
CIVIL ENGINEERS
HYDROLOGISTS
LAND SURVEYORS
CONSTRUCTION MANAGERS
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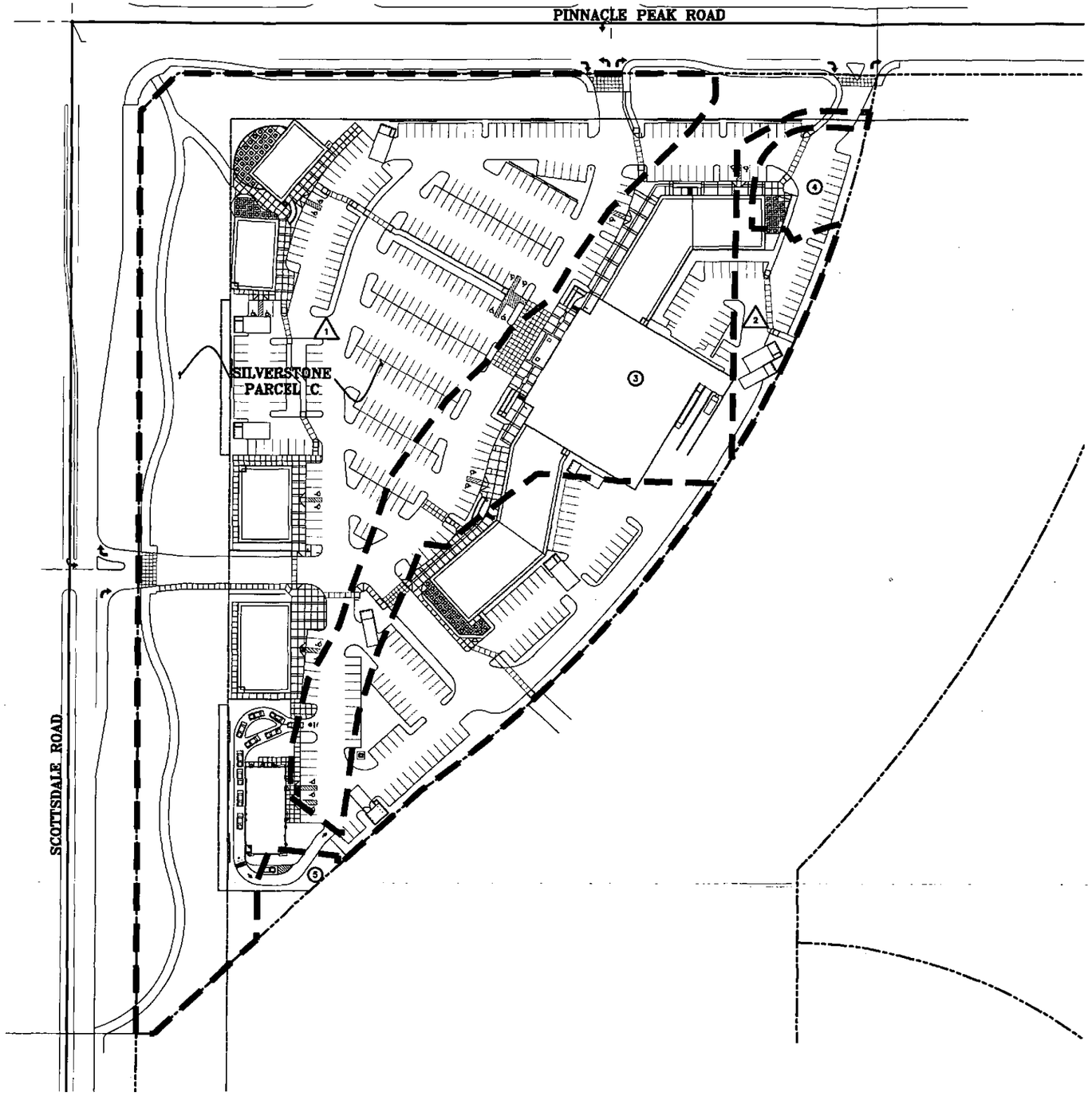
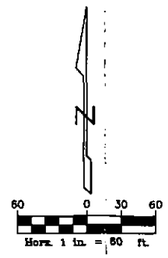
PHOENIX • MESA • TUCSON

ENGINEER	D.WOOD
DESIGNER	D.NICHOLS
CAD TECHNICIAN	D.NICHOLS
SCALE (HORIZ)	1"=60'
SCALE (VERT)	N/A
DATE	12/3/13
JOB NUMBER	134000
SHEET	1 OF 1





LEGEND

- ① PRE-EXISTING DEVELOPED AREA ID
- PRE-EXISTING DEVELOPED AREA BOUNDARY
- ③ PRE-EXISTING UNDEVELOPED AREA ID
- PROPERTY LINE

SILVERSTONE
PARCEL C
EXHIBIT 2 - POST-DEVELOPED CONDITION MAP

PRELIMINARY
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HYDROLOGISTS
LAND SURVEYORS
CONSTRUCTION MANAGERS
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ENGINEER	D.WOOD
DESIGNER	D.NICHOLS
CAD TECHNICIAN	D.NICHOLS
SCALE (HORIZ)	1"=60'
SCALE (VERT)	N/A
DATE	12/3/13
JOB NUMBER	134000
SHEET	1 OF 1

ADDENDUM No. 2 TO THE MASTER DRAINAGE REPORT FOR SILVERSTONE

Prepared For:

Mark-Taylor Residential
6623 North Scottsdale Road
Scottsdale, Arizona 85250

Prepared By:

Kimley-Horn and Associates, Inc.
7740 North 16th Street
Suite 300
Phoenix, Arizona 85020

191769002
April 2015

Kimley»Horn

ADDENDUM No. 2 TO THE MASTER DRAINAGE REPORT FOR SILVERSTONE

Prepared For:

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Prepared By:

Kimley-Horn and Associates, Inc.
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Suite 300
Phoenix, Arizona 85020

191769002
April 2015

NORTH

GRAPHIC SCALE IN FEET
0 40 80 160

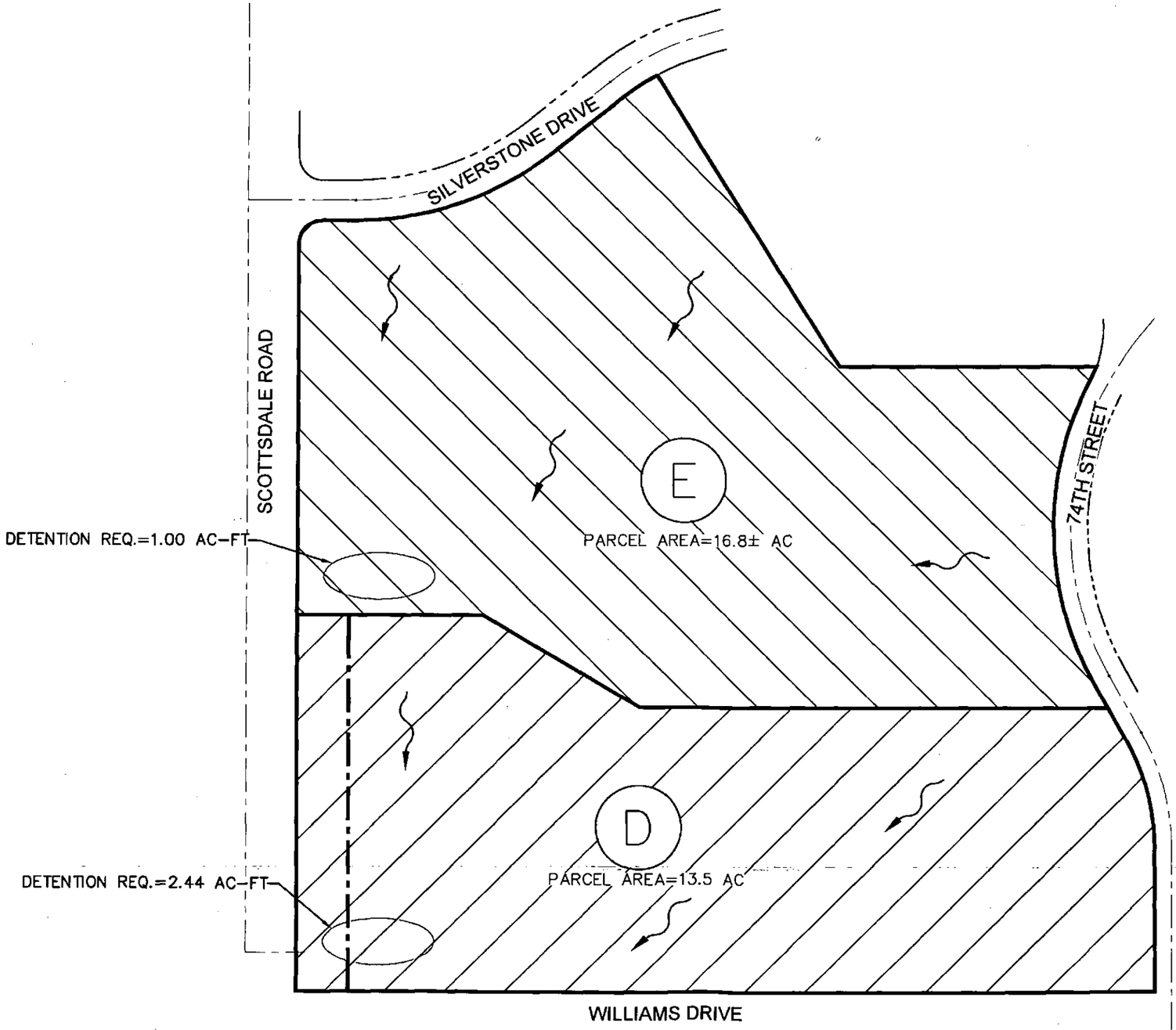
Kimley»Horn

7878 North 16th Street, Suite 300
Phoenix, Arizona 85020 (602) 944-5500

PLATE 3A - SILVERSTONE DRAINAGE MAP (ENLARGED PARCEL E AND D)

LEGEND

- PROPOSED DETENTION BASIN (POSSIBLE LOCATIONS)
- PROPOSED FLOW DIRECTION
- TEMPORARY/PROPOSED DRAINAGE CORRIDOR PER FINAL PARCEL DETAILS (APPROXIMATE LOCATION)



APPENDIX B

Table B4- Parcel E Required Stormwater Detention Volume

Table B5- Parcel E Pre-Existing Runoff Coeeficients

Table B6- Parcel E Post-Developed Condition Runoff Coefficients

Exhibit 3- Pre-Existing Condition Map Parcel E

Exhibit 4- Post-Developed Condition Map Parcel E

Drainage Area[1]	Surface Type[2]	Area (SF)	Area (AC)	100-YR C Value[2] (C_{POST})
385	Pavement	5,608	0.129	0.95
390	Desert Landscaping (no impervious weed barrier)	2,235	0.051	0.45
395	Pavement	4,186	0.096	0.95
400	Desert Landscaping (no impervious weed barrier)	1,059	0.024	0.45
405	Roof	7,424	0.170	0.95
410	Roof	7,997	0.184	0.95
415	Desert Landscaping (no impervious weed barrier)	28,662	0.658	0.45
420	Desert Landscaping (no impervious weed barrier)	1,290	0.030	0.45
425	Pavement	11,797	0.271	0.95
430	Pavement	33,776	0.775	0.95
435	Desert Landscaping (no impervious weed barrier)	14,014	0.322	0.45
440	Desert Landscaping (no impervious weed barrier)	6,102	0.140	0.45
445	Desert Landscaping (no impervious weed barrier)	58,293	1.338	0.45
OS1	Pavement	14,368	0.330	0.95
OS2	Pavement	12,874	0.296	0.95

NORTH

GRAPHIC SCALE IN FEET
0 20 40 80

Kimley»Horn

7878 North 16th Street, Suite 300
Phoenix, Arizona 85020 (602) 944-5500

EXHIBIT 3 - PRE-EXISTING CONDITION MAP
PARCEL E

NORTH

GRAPHIC SCALE IN FEET
0 20 40 80

Kimley»Horn

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Phoenix, Arizona 85020 (602) 944-5500

EXHIBIT 4 - POST-DEVELOPED CONDITION MAP PARCEL E

LEGEND

- 10 — PROPOSED MAJOR CONTOUR
- 12 — PROPOSED MINOR CONTOUR
- 10 — EXISTING MINOR CONTOUR
- 12 — EXISTING MAJOR CONTOUR
- (00) DRAINAGE AREA ID

SILVERSTONE DRIVE

SCOTTSDALE ROAD

74TH STREET

BASIN A
HWL= 11.00
BTM= 8.00
Vreq= 22,513 CF
Vprov= 22,954 CF

BASIN B
HWL= 5.50
BTM= 0.50
Vreq= 21,021 CF
Vprov= 21,545 CF

ADDENDUM No. 3 TO THE MASTER DRAINAGE REPORT FOR SILVERSTONE

Prepared For:

K. Hovanian Great West Homes, LLC
20830 N Tatum Blvd. Suite 350
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Prepared By:

Kimley-Horn and Associates, Inc.
7740 North 16th Street
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Phoenix, Arizona 85020

191948001
Feb 2016

ADDENDUM No. 3 TO THE MASTER DRAINAGE REPORT FOR SILVERSTONE

Prepared For:

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Phoenix, AZ 85050

Prepared By:

Kimley-Horn and Associates, Inc.
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Suite 300
Phoenix, Arizona 85020

191948001
Feb 2016

ADDENDUM No.3

COS #425-SA-2006, 315-ZN-2006, PC#3476-06-2

- Addendum No.3 to the Master Drainage Report Silverstone- March 2007
- City of Scottsdale, Stormwater Management Division, Approved 3/18/07 (Original), Addendum No. 1 approved 3/6/14, Addendum No. 2 approved April 2015.

- Justification #1: In 2013/2014 a large drainage channel was constructed to convey the Rawhide Wash from the recently constructed box culverts under Pinnacle Peak Road to the recently constructed box culverts under Scottsdale Road. This drainage channel comprises the eastern edge of Parcel F of Silverstone. The design discharge for the Rawhide Wash channel was estimated by URS utilizing USGS Regional Regression Equation #13. The design discharge was 10,900 cfs. The Flood Control District of Maricopa County previously completed a Drainage Study for Rawhide Wash upstream of Happy Valley Road. The Hydrology for this study was completed utilizing HEC-1, following Maricopa County standards. Kimley-Horn extended the HEC-1 model to Scottsdale Road. The 100-year discharge at Scottsdale Road per the extended HEC-1 model is 9,865 cfs. Although the HEC-1 discharge is less than the Regional Regression discharge, it is within the standard error of the Regression Equation. The extended HEC-1 model for Rawhide Wash was then updated to include the proposed runoff from Parcel F. The results show that the onsite discharge does not impact the discharge within the Rawhide Wash.

- Justification #2: The series of retention basins for Parcel F will provide detention for the design storm (100-year 2-hr) runoff volume. Per discussion with the City of Scottsdale areas of the proposed development that were previously developed are only required to provide a storage volume equal to the increase in the runoff volume generated by the proposed development during the design storm event (100-year 2-hr). Silverstone is part of the previously developed Rawhide development of which approximately 9 acres included rooftop and disturbed desert. These 9-acres were credited as existing development and the volume provided is only the increase in development runoff while the remaining 13 acres were calculated to provide the 100% design storm retention requirements.

Revisions to the Master Drainage Report (MDR) are as follows:

- Table 4.1 – Parcel Detention Requirements (Revisions shown in **BOLD**)

Table 4.1- Parcel Detention Requirements

Parcel 1 Basin	Tributary Area (ac)	Weighted runoff coefficient	Required Volume (cf)	Required Volume (ac-ft)
A&B	4.5	0.9	41,274	0.95
C*	12.35	See Appendix B	47,766	1.10
D*	13.5	0.9	106,291	2.44
E*	16.7	See Appendix B	43,534	0.99
F	**22.1**	**See Appendix B**	**98,677**	**2.27**
G*	23.8	0.76	158,239	3.63
H	32.8	0.76	254,867	5.85
Park	1.9	0.33	6,998	0.16

* Revised in a previous Addendum

Additions to the Master Drainage Report are as follows:

- Plate 3B – Silverstone Drainage Map (Enlarged for Parcel F)
- Table B7 – Parcel F Required Stormwater Detention Volume.
- Exhibit 3 – Existing Condition Map Parcel F
- Exhibit 4 – Developed Condition Map Parcel F
- Rawhide Extended, Existing Condition HEC-1 Model
- Rawhide Extended, Developed Condition HEC-1 Model

PLATE 3B

Silverstone Drainage Map

(Enlarged Parcel F)

NORTH

GRAPHIC SCALE IN FEET
0 40 80 160

Kimley»Horn

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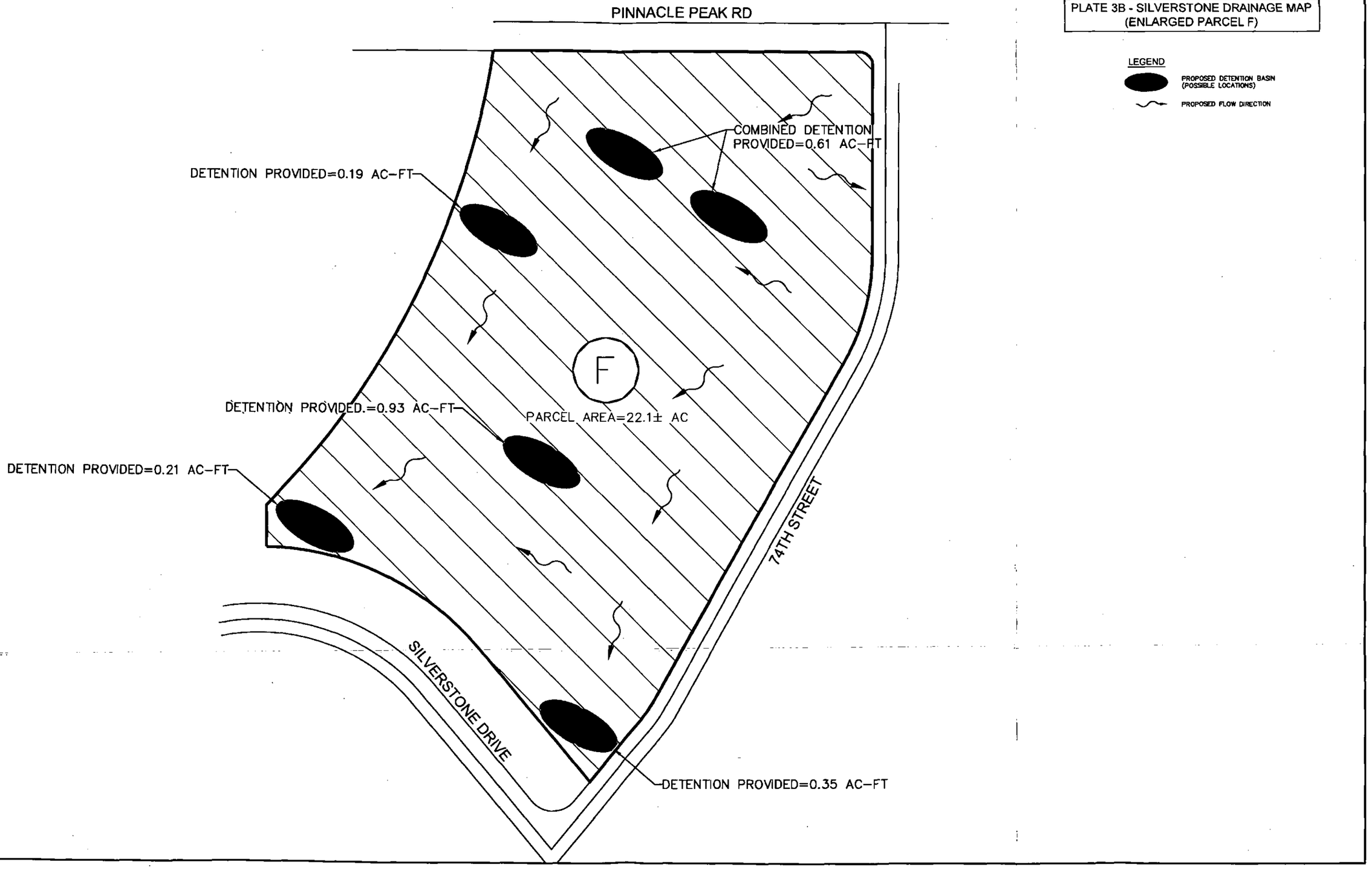
Phoenix, Arizona 85020 (602) 944-5500

PLATE 3B - SILVERSTONE DRAINAGE MAP (ENLARGED PARCEL F)

LEGEND

PROPOSED DETENTION BASIN (POSSIBLE LOCATIONS)

PROPOSED FLOW DIRECTION



APPENDIX B

Table B7- Parcel F Required Stormwater Detention Volume

Exhibit 3- Existing Condition Map Parcel F

Exhibit 4- Developed Condition Map Parcel F

Rawhide Extended, Existing Condition HEC-1 Model

Rawhide Extended, Developed Condition HEC-1 Model

Silverstone Parcel F						
100 Year 2 Hour Full Retention Calculation						
Drainage Area	Area [A]		Runoff Coefficient [C]	Precipitation Depth [P]	Required Storage (V_{REQ} = CPA/12)	
	sf	ac		in	cf	ac-ft
Roadway	207,028	4.753	0.88	2.30	34,919	0.80
Pavement	21,399	0.491	0.95	2.30	3,896	0.09
Landscaping	232,504	5.338	0.45	2.30	20,053	0.46
Building	156,852	3.601	0.95	2.30	28,560	0.66
Duplex	343,201	7.879	0.81	2.30	53,282	1.22
TOTAL	**960,984**	**22.061**	**0.76**	**-**	**140,711**	**3.23**

Retention Credit for Disturbed Areas						
Drainage Area	Area [A]		Runoff Coefficient [C]	Precipitation Depth [P]	Required Storage (V_{REQ} = CPA/12)	
	sf	ac		in	cf	ac-ft
Roof	10,940	0.250	0.95	2.30	1,992	0.05
Disturbed Desert	379,843	8.720	0.55	2.30	40,042	0.92
Undist Desert (no credit)	569,765	13.080	0.00	2.30	0	0.00
TOTAL	**960,548**	**22.051**			**42,034**	**0.96**

Pre Vs. Post Retention Calculations		
Drainage Area	Required Storage (V_{REQ} =	
	cf	ac-ft
Post	140,711	3.2
Pre	42,034	1.0
Required	98,677	2.27

Silverstone Weighted C Average

46' Roadway Tract		
	Area	C
Pavement	40	0.95
Landscape	6	0.45
Weighted Average	46	0.88

Duplex Lots		
	Area	C
Building	6962	0.95
Landscape	2786.5	0.45
Weighted Average	9748.5	0.81

Pinnacle Peak Rd

1
5.03 Acres
Q_{100} = 12 cfs

2
13.53 Acres
Q_{100} = 32 cfs

3
2.68 Acres
Q_{100} = 6 cfs

Silverstone at Pinnacle Peak
Parcel G
APN:212-03-599

Silverstone at Pinnacle Peak
Parcel F
APN:212-03-598

Silverstone at Pinnacle Peak
Parcel J
APN:212-03-601

Silverstone Property
Owners Association
APN:212-03-600

Appaloosa Library
City of Scottsdale
APN:212-02-001L

VI At Silverstone
CC/FDR Silverstone LLC
APN:212-02-001H

Rawhide Wash

74th St

Silverstone Drive

0 40 80 160 Feet
1 inch = 80 feet

Kimley»Horn

7740 North 16th Street, Suite 300
Phoenix, Arizona 85020 (602) 944-5500

Engineering, Planning and
Environmental Consultants

SCALE(H):1"= SHOWN	
SCALE(V):	NONE
DESIGNED BY:	BY
DRAWN BY:	BY
CHECKED BY:	SJA
DATE:	DEC 2015

EXISTING CONDITIONS MAP PARCEL F
SILVERSTONE PARCEL F
SCOTTSDALE, ARIZONA

PROJECT N
19194800

DRAWING N
EXISTING CON

Area ID	Sub Basin Parameters: Area (sq mi)	Length (mi)	Slope (ft/mi)	Adj Slope	Time-Area	Kb	Rainfall Losses: IA (in)	DTHETA	PSIF (in)	XKSAT (in/hr)	RTIMP (%)		Return Period Parameters: 2 Yr	5 Yr	10 Yr	25 Yr	50 Yr	100 Yr
Major Basin ID: B2																		
CP72	0.502	0.87	119.3	119.3	HEC1 DEFAULT	0.043	0.93*	0.25 *	4.00*	0.500*	28*	**Tc (Hrs)**	0.627	0.567	0.507	0.446	0.415	0.389
												Vel (f/s)	2.04	2.25	2.52	2.86	3.07	3.28
												R (Hrs)	0.292	0.261	0.231	0.200	0.185	0.172

* Non default value or value out of range

Flood Control District of Maricopa County
Drainage Design Management System
SUB BASINS
Project Reference: SILVERSTONE F

Area ID	Sub Basin Parameters							Rainfall Losses				
	Area (sq mi)	Length (mi)	Slope (ft/mi)	S-Graph	Lca (mi)	Lag (min)	Velocity (f/s)	Kn	IA (in)	DTHETA	PSIF (in)	XKSAT (in/hr)	RTIMP (%)
Major Basin ID: ON													
ON01	0.002	0.10	76.8	VALLEY	0.05	1.70	5.06	0.020	0.25	0.25	4.03	0.562	40
ON02	0.008	0.20	55.9	VALLEY	0.10	3.00	5.71	0.020	0.25	0.25	3.90	0.603	40
ON04	0.007	0.17	76.5	VALLEY	0.09	2.60	5.80	0.020	0.25	0.25	4.03	0.566	40
ON05	0.004	0.08	85.2	VALLEY	0.04	1.40	5.09	0.020	0.25	0.25	4.03	0.562	40
ON06	0.004	0.10	158.3	VALLEY	0.05	1.40	5.84	0.020	0.25	0.25	4.03	0.562	40

* Non default value

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1*****************************************
*****************************************
 *                                   *                                   *
 *                                   *                                   *
 *   FLOOD HYDROGRAPH PACKAGE  (HEC-1)   *                                   *   U.S. ARMY CORPS OF ENGINEERS
 *                                   *                                   *
 *              JUN   1998           *                                   *   HYDROLOGIC ENGINEERING CENTER
 *                                   *                                   *
 *           VERSION 4.1             *                                   *        609 SECOND STREET
 *                                   *                                   *
 *                                   *                                   *      DAVIS, CALIFORNIA 95616
 *                                   *                                   *
 *  RUN DATE   19APR16  TIME  10:31:21   *                                   *          (916) 756-1104
 *                                   *                                   *
 *                                   *                                   *
 *****************************************
*****************************************
```

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

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

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


```
LINE          ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10
   1          ID   DDM MCUHP1 Upper Rawhide Wash - Existing Conditions 100 yr, 24 hr storm
```

Flood Control District of Maricopa County
Upper Rawhide Wash Floodplain Delineation Study
FCD98-12

DEVELOPED CONDITIONS HYDROLOGY W/ CONTRIBUTION FROM SILVERSTONE PARCEL F

100 yr, 24 hr storm event
Prepared by Kimley-Horn and Associates, Inc.
KHA Job No. 191948001

UPDATED DECEMBER 1, 2015

This hydrology represents conditions of the Upper Rawhide Wash and its tributaries in existing conditions.

There are two existing flow splits at CP062 and CP066, they will be cut off and routed 100% to the dam site as part of the dam project. This model accounts for the proposed diversion works with Rawhide Wash Dam.

Input parameters for the model were determined using the Flood Control District of Maricopa County's (FCDMC) Drainage Design Menu System (DDMS).

The values entered into DDMS were based on the following:

Rainfall depths	Point precipitation values were determined using the isopluvial maps in the FCDMC Hydrology Manual
Rainfall excess	The Green and Ampt Methodology was used for estimation of rainfall losses. Digital soil maps for the City of Scottsdale were used to determine soil distributions. Existing land use conditions were determined from the City of Scottsdale General Plan digital zoning map and aerial photos.
Unit hydrographs	The Clark Unit Hydrograph methodology was applied. City of Scottsdale digital topographic mapping with 1' and 2' contour intervals was used.
Routing	Normal Depth Channel Routing was used with 8 point cross sections approximated from the BOSS River Modeling System.

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                * ************************************************************************
                *
                *DIAGRAM
          2     IT       2                    750
          3     IO       3
          4     IN      15
                * DDM   ***** Preserved *****
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     LINE       ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

          5     KK     005
          6     KM   SUB-BASIN 005
          7     KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
          8     KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .928
          9     KM     L = 2.10  Kb = .047  Adj. Slope =  130.0
         10     BA    .417
         11     IN      15
         12     KM   RAINFALL DEPTH OF 4.60 WAS SPACIALLY REDUCED AS SHOWN BY THE PB RECORD
         13     PB   4.269
         14     KM   THE FOLLOWING PC RECORD USED A 24-HR SCS TYPE II STORM
         15     PC    .000    .002    .005    .008    .011    .014    .017    .020    .023    .026
         16     PC    .029    .032    .035    .038    .041    .044    .048    .052    .056    .060
         17     PC    .064    .068    .072    .076    .080    .085    .090    .095    .100    .105
         18     PC    .110    .115    .120    .126    .133    .140    .147    .155    .163    .172
         19     PC    .181    .191    .203    .218    .236    .257    .283    .387    .663    .707
         20     PC    .735    .758    .776    .791    .804    .815    .825    .834    .842    .849
         21     PC    .856    .863    .869    .875    .881    .887    .893    .898    .903    .908
         22     PC    .913    .918    .922    .926    .930    .934    .938    .942    .946    .950
         23     PC    .953    .956    .959    .962    .965    .968    .971    .974    .977    .980
         24     PC    .983    .986    .989    .992    .995    .998   1.000
         25     LG    .150    .390   6.200    .150   3.000
         26     UC    .475    .483
         27     UA       0       3       5       8      12      20      43      75      90      96
         28     UA     100
                * DDM   ***** Preserved *****

         29     KK  R010-1
         30     KM   Route the runoff hydrograph from CP005 to CP010
         31     RS       1    FLOW      -1
         32     RC   0.045   0.035   0.045     884   0.024
         33     RX       0      40     156     172     201     253     546     571
         34     RY    2870    2868    2868    2866    2866    2868    2868    2870
                * DDM   ***** Preserved *****

         35     KK     010
         36     KM   SUB-BASIN 010
         37     KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
         38     KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .928
         39     KM     L = 1.93  Kb = .048  Adj. Slope =  146.0
         40     BA    .336
         41     LG    .150    .390   5.800    .170   3.000
         42     UC    .442    .471
         43     UA       0       3       5       8      12      20      43      75      90      96
         44     UA     100
                * DDM   ***** Preserved *****

         45     KK   CP010
         46     KM   Combine routed hydrograph from 005 and runoff hydrograph from 010
         47     HC       2
                * DDM   ***** Preserved *****
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     LINE       ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

         48     KK  R012-1
         49     KM   Route the combined hydrograph from CP010 to CP012
         50     RS       5    FLOW      -1
         51     RC   0.045   0.035   0.045    3716   0.019
         52     RX     261     486     555     684     700     716     743     778
         53     RY    2794    2792    2792    2790    2788    2790    2792    2794
                * DDM   ***** Preserved *****

         54     KK     012
         55     KM   SUB-BASIN 012
         56     KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
         57     KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .928
         58     KM     L = 1.68  Kb = .049  Adj. Slope =  117.0
         59     BA    .297
         60     LG    .150    .370   5.200    .220   3.000
         61     UC    .450    .461
         62     UA       0       3       5       8      12      20      43      75      90      96
         63     UA     100
                * DDM   ***** Preserved *****

         64     KK   CP012
         65     KM   Combine runoff hydrograph from 012 with routed hydrograph from CP010
         66     HC       2
                * DDM   ***** Preserved *****

         67     KK    D012
         68     KM   Divert flow away from main Rawhide Wash to the West.
         69     DT  012OUT
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 70          DI       0      43     152     330     586     929    1365
 71          DQ       0      10      43     105     203     344     533
             * DDM   ***** Preserved *****

 72          KK  R030-1
 73          KM   Route the combined hydrograph from CP012 to CP030A.
 74          RS      26    FLOW      -1
 75          RC   0.045   0.035   0.045   10780   0.018
 76          RX     428     497     753     780     835     868     897     992
 77          RY    2684    2680    2680    2682    2682    2680    2680    2684
             * DDM   ***** Preserved *****

 78          KK     030
 79          KM   SUB-BASIN 030
 80          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
 81          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .928
 82          KM     L = 2.38  Kb = .048  Adj. Slope =  100.0
 83          BA    .355
 84          LG    .150    .390   5.700    .180   8.000
 85          UC    .600    .758
 86          UA       0       3       5       8      12      20      43      75      90      96
 87          UA     100
             * DDM   ***** Preserved *****
1                                    HEC-1 INPUT                                        PAGE  4

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

 88          KK  CP030A
 89          KM   Combine routed hydrograph from CP012 with runoff hydrograph 030.
 90          KM   This combination was made for use in the hydraulic modeling of a
 91          KM   tributary to Rawhide Wash.
 92          HC       2
             * DDM   ***** Preserved *****

 93          KK     015
 94          KM   SUB-BASIN 015
 95          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
 96          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .928
 97          KM     L = 2.54  Kb = .040  Adj. Slope =  108.0
 98          BA   1.268
 99          LG    .150    .390   5.800    .170   3.000
100          UC    .525    .333
101          UA       0       3       5       8      12      20      43      75      90      96
102          UA     100
             * DDM   ***** Preserved *****

103          KK  R022-1
104          KM   Route the runoff hydrograph from 015 to CP022A.
105          RS       6    FLOW      -1
106          RC   0.045   0.035   0.045    4466   0.018
107          RX    9714    9798    9905    9943   10002   10037   10299   10412
108          RY    2740    2734    2734    2728    2726    2728    2730    2740
             * DDM   ***** Preserved *****

109          KK     017
110          KM   SUB-BASIN 017
111          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
112          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .928
113          KM     L = 1.34  Kb = .051  Adj. Slope =  113.0
114          BA    .216
115          LG    .150    .390   6.200    .150   5.000
116          UC    .400    .405
117          UA       0       3       5       8      12      20      43      75      90      96
118          UA     100
             * DDM   ***** Preserved *****

119          KK  CP022A
120          KM   Combine routed hydrograph from 015 with runoff hydrograph from 017.
121          KM   This combination was made for use in the hydraulic modeling of a
122          KM   tributary to Rawhide Wash.
123          HC       2
             * DDM   ***** Preserved *****

124          KK     020
125          KM   SUB-BASIN 020
126          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
127          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .928
128          KM     L = 1.74  Kb = .043  Adj. Slope =  199.0
129          BA    .761
130          LG    .150    .380   6.400    .140  12.000
131          UC    .338    .202
1                                    HEC-1 INPUT                                        PAGE  5

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

132          UA       0       3       5       8      12      20      43      75      90      96
133          UA     100
             * DDM   ***** Preserved *****

134          KK  R022-2
135          KM   Route the runoff hydrograph from 020 to CP022B
136          RS       6    FLOW      -1
137          RC   0.045   0.035   0.045    4146   0.017
138          RX    9805    9902   10081   10090   10098   10102   10253   10264
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139          RY    2690    2686    2688    2686    2686    2688    2688    2690
             * DDM   ***** Preserved *****

140          KK     022
141          KM   SUB-BASIN 022
142          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
143          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .928
144          KM     L = 2.71  Kb = .047  Adj. Slope =  128.0
145          BA    .381
146          LG    .150    .360   6.800    .120   8.000
147          UC    .563    .752
148          UA       0       3       5       8      12      20      43      75      90      96
149          UA     100
             * DDM   ***** Preserved *****

150          KK  CP022B
151          KM   Combine routed hydrograph from 020 with runoff hydrograph from 022.
152          KM   This combination was made for use in the hydraulic modeling of a
153          KM   tributary to Rawhide Wash.
154          HC       2
             * DDM   ***** Preserved *****

155          KK   CP022
156          KM   Combine hydrographs from CP022A and CP022B.
157          KM   This combination was made for use in the hydraulic modeling of a
158          KM   tributary to Rawhide Wash.
159          HC       2
             * DDM   ***** Preserved *****

160          KK     024
161          KM   SUB-BASIN 024
162          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
163          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .928
164          KM     L = 1.35  Kb = .041  Adj. Slope =  294.0
165          BA   1.020
166          LG    .150    .380   6.400    .140  12.000
167          UC    .242    .096
168          UA       0       3       5       8      12      20      43      75      90      96
169          UA     100
             * DDM   ***** Preserved *****
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LINE         ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

170          KK  R026-1
171          KM   Route the runoff hydrograph from 024 to CP026A.
172          RS       6    FLOW      -1
173          RC   0.045   0.035   0.045    6097   0.016
174          RX    9712    9782    9851    9931    9950   10050   10176   10237
175          RY    2700    2692    2688    2686    2686    2696    2700
             * DDM   ***** Preserved *****

176          KK     026
177          KM   SUB-BASIN 026
178          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
179          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .928
180          KM     L = 2.41  Kb = .049  Adj. Slope =  249.8
181          BA    .269
182          LG    .150    .350   7.000    .110  24.000
183          UC    .404    .578
184          UA       0       3       5       8      12      20      43      75      90      96
185          UA     100
             * DDM   ***** Preserved *****

186          KK  CP026A
187          KM   Combine routed hydrograph from 024 with runoff hydrograph from 026.
188          KM   This combination was made for use in the hydraulic modeling of a
189          KM   tributary to Rawhide Wash.
190          HC       2
             * DDM   ***** Preserved *****

191          KK   CP026
192          KM   Combine hydrographs from CP022 and CP026A.
193          KM   This combination was made for use in the hydraulic modeling of a
194          KM   tributary to Rawhide Wash.
195          HC       2
             * DDM   ***** Preserved *****

196          KK  R030-2
197          KM   Route the combined hydrograph from CP026 to CP030
198          RS       1    FLOW      -1
199          RC   0.045   0.035   0.045    1354   0.016
200          RX     214     314     479     518     654     771     852     939
201          RY    2604    2598    2598    2596    2596    2594    2594    2604
             * DDM   ***** Preserved *****

202          KK   CP030
203          KM   Combine hydrograph from CP026 and CP030A.
204          KM   This combination was made for use in the hydraulic modeling of a
205          KM   tributary to Rawhide Wash.
206          HC       2
             * DDM   ***** Preserved *****
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LINE      ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

  207     KK  R038-1
  208     KM   Route combined hydrograph from CP030 to CP038
  209     RS      2    FLOW      -1
  210     RC   0.045   0.035   0.045    1605   0.012
  211     RX     290     378     536     538     607     650     727     753
  212     RY    2582    2576    2574    2572    2572    2580    2580    2582
          * DDM   ***** Preserved *****

  213     KK     034
  214     KM   SUB-BASIN 034
  215     KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
  216     KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .928
  217     KM     L = 1.32  Kb = .049  Adj. Slope =   97.0
  218     BA    .298
  219     LG    .150    .380   6.400    .140  16.000
  220     UC    .408    .341
  221     UA       0       3       5       8      12      20      43      75      90      96
  222     UA     100
          * DDM   ***** Preserved *****

  223     KK  R036-1
  224     KM   Route runoff hydrograph from 034 to CP036
  225     RS      8    FLOW      -1
  226     RC   0.045   0.035   0.045    5295   0.019
  227     RX    9725    9842    9891    9970   10030   10032   10143   10241
  228     RY    2652    2646    2646    2642    2642    2644    2644    2652
          * DDM   ***** Preserved *****

  229     KK     036
  230     KM   SUB-BASIN 036
  231     KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
  232     KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .928
  233     KM     L = 1.37  Kb = .050  Adj. Slope =  278.2
  234     BA    .250
  235     LG    .150    .350   7.000    .110  19.000
  236     UC    .275    .250
  237     UA       0       3       5       8      12      20      43      75      90      96
  238     UA     100
          * DDM   ***** Preserved *****

  239     KK   CP036
  240     KM   Combine routed hydrograph from 034 with runoff hydrograph from 036
  241     HC      2
          * DDM   ***** Preserved *****

  242     KK  R038-2
  243     KM   Route combined hydrograph from CP036 to CP038A.
  244     RS      1    FLOW      -1
  245     RC   0.045   0.035   0.045     483   0.025
  246     RX    9837    9891    9971    9988   10012   10126   10148   10177
  247     RY    2578    2574    2574    2572    2572    2574    2576    2578
          * DDM   ***** Preserved *****
1                                    HEC-1 INPUT                                    PAGE  8

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

  248     KK     038
  249     KM   SUB-BASIN 038
  250     KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
  251     KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .928
  252     KM     L = 1.27  Kb = .052  Adj. Slope =  303.0
  253     BA    .183
  254     LG    .150    .370   6.600    .130  16.000
  255     UC    .262    .267
  256     UA       0       3       5       8      12      20      43      75      90      96
  257     UA     100
          * DDM   ***** Preserved *****

  258     KK  CP038A
  259     KM   Combine routed hydrograph from CP036 with runoff hydrograph from 038.
  260     KM   This combination was made for use in the hydraulic modeling of a
  261     KM   tributary to Rawhide Wash.
  262     HC      2
          * DDM   ***** Preserved *****

  263     KK     032
  264     KM   SUB-BASIN 032
  265     KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
  266     KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .928
  267     KM     L =  .40  Kb = .062  Adj. Slope =  100.0
  268     BA    .033
  269     LG    .150    .350   4.550    .310   3.000
  270     UC    .233    .247
  271     UA       0       3       5       8      12      20      43      75      90      96
  272     UA     100
          * DDM   ***** Preserved *****

  273     KK   CP038
  274     KM   Combine hydrograph from CP038a with runoff hydrographs from 032.
  275     KM   This combination was made for use in the hydraulic modeling of a
  276     KM   tributary to Rawhide Wash.
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277          HC       3
             * DDM   ***** Preserved *****

278          KK  R040-1
279          KM   Route combined hydrograph from CP038 to CP040
280          RS       4    FLOW      -1
281          RC   0.045   0.035   0.045    3775   0.019
282          RX      47      75     224     433     448     523     609     678
283          RY    2540    2536    2530    2530    2528    2528    2534    2540
             * DDM   ***** Preserved *****

284          KK     040
285          KM   SUB-BASIN 040
286          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
287          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .928
288          KM     L = 1.56  Kb = .048  Adj. Slope =  245.0
289          BA    .328
290          LG    .150    .380   5.600    .190   5.000
291          UC    .317    .278
1                                        HEC-1 INPUT                                        PAGE  9

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

292          UA       0       3       5       8      12      20      43      75      90      96
293          UA     100
             * DDM   ***** Preserved *****

294          KK   CP040
295          KM   Combine routed hydrographs from CP038 with runoff hydrograph from 040
296          HC       2
             * DDM   ***** Preserved *****

297          KK  R042-1
298          KM   Route combined hydrograph from CP040 to CP042
299          RS       2    FLOW      -1
300          RC   0.045   0.035   0.045    2074   0.018
301          RX     263     349     381     450     522     756     847     973
302          RY    2486    2482    2476    2482    2476    2476    2482    2486
             *
             * DDM   ***** Preserved *****

303          KK     041
304          KM   SUB-BASIN 041
305          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
306          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .928
307          KM     L =  .69  Kb = .058  Adj. Slope =  133.0
308          BA    .064
309          LG    .150    .350   4.800    .260   3.000
310          UC    .271    .309
311          UA       0       3       5       8      12      20      43      75      90      96
312          UA     100
             * DDM   ***** Preserved *****

313          KK     042
314          KM   SUB-BASIN 042
315          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
316          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .928
317          KM     L = 1.51  Kb = .048  Adj. Slope =  296.4
318          BA    .325
319          LG    .150    .400   6.000    .160   8.000
320          UC    .283    .241
321          UA       0       3       5       8      12      20      43      75      90      96
322          UA     100
             * DDM   ***** Preserved *****

323          KK   CP042
324          KM   Combine routed hydrograph from CP040 with runoff hydrographs from 041 & 042
325          HC       3
             * DDM   ***** Preserved *****

326          KK  R043-1
327          KM   Route combined hydrograph from CP040 to CP042
328          RS       7    FLOW      -1
329          RC   0.045   0.035   0.045    7504   0.017
330          RX     263     349     381     450     522     756     847     973
331          RY    2486    2482    2476    2482    2476    2476    2482    2486
             * DDM   ***** Preserved *****
1                                        HEC-1 INPUT                                        PAGE 10

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

332          KK     043
333          KM   SUB-BASIN 043
334          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
335          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .928
336          KM     L = 1.92  Kb = .049  Adj. Slope =   99.0
337          BA    .286
338          LG    .150    .350   4.650    .290   3.000
339          UC    .538    .639
340          UA       0       3       5       8      12      20      43      75      90      96
341          UA     100
             * DDM   ***** Preserved *****

342          KK   CP043
```

```
343          KM   Combine routed hydrograph from CP042 with runoff hydrograph from 043
344          HC       2
             * DDM   ***** Preserved *****

345          KK  R046-1
346          KM   Route combined hydrograph from CP043 to CP046
347          RS       4    FLOW      -1
348          RC   0.045   0.035   0.045    2845   0.015
349          RX    9425    9601    9923    9945   10019   10043   10267   10435
350          RY    2300    2288    2288    2286    2286    2288    2288    2302
             * DDM   ***** Preserved *****

351          KK     044
352          KM   SUB-BASIN 044
353          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
354          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .928
355          KM     L = 2.99  Kb = .039  Adj. Slope =  240.0
356          BA   1.400
357          LG    .150    .390   5.800    .170   5.000
358          UC    .417    .278
359          UA       0       3       5       8      12      20      43      75      90      96
360          UA     100
             * DDM   ***** Preserved *****

361          KK  R046-2
362          KM   Route runoff hydrograph from 044 to CP046
363          RS       4    FLOW      -1
364          RC   0.045   0.035   0.045    1882   0.016
365          RX    9425    9601    9923    9945   10019   10043   10267   10435
366          RY    2300    2288    2288    2286    2286    2288    2288    2302
             * DDM   ***** Preserved *****

367          KK     046
368          KM   SUB-BASIN 046
369          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
370          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .928
371          KM     L =  .67  Kb = .055  Adj. Slope =  101.0
372          BA    .111
373          LG    .150    .360   5.100    .230   3.000
374          UC    .287    .236
375          UA       0       3       5       8      12      20      43      75      90      96
```



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

376          UA     100
             * DDM   ***** Preserved *****

377          KK   CP046
378          KM   Combine routed hydrographs from CP042 and 044 with runoff hydrograph from
379          KM   046
380          HC       3
             * DDM   ***** Preserved *****

381          KK  R051-1
382          KM   Route combined hydrograph from CP046 to CP051
383          RS       2    FLOW      -1
384          RC   0.045   0.035   0.045    1557   0.017
385          RX    9822    9952    9976    9977   10023   10046   10356   10509
386          RY    2275    2261    2262    2260    2260    2263    2264    2275
             * DDM   ***** Preserved *****

387          KK     048
388          KM   SUB-BASIN 048
389          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
390          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .928
391          KM     L =  .43  Kb = .059  Adj. Slope =  112.0
392          BA    .056
393          LG    .150    .350   4.900    .250   3.000
394          UC    .225    .186
395          UA       0       3       5       8      12      20      43      75      90      96
396          UA     100
             * DDM   ***** Preserved *****

397          KK     051
398          KM   SUB-BASIN 051
399          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
400          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .928
401          KM     L = 1.41  Kb = .052  Adj. Slope =  128.0
402          BA    .164
403          LG    .150    .390   6.200    .150   3.000
404          UC    .400    .494
405          UA       0       3       5       8      12      20      43      75      90      96
406          UA     100
             * DDM   ***** Preserved *****

407          KK   CP051
408          KM   Combine routed hydrograph from CP046 with runoff hydrographs from 048 and 051
409          HC       3
             * DDM   ***** Preserved *****

410          KK  R053-1
411          KM   Route combined hydrograph from CP051 to CP053
412          RS       1    FLOW      -1
413          RC   0.045   0.035   0.045    1681   0.030
```

```
414          RX    9910    9935    9963    9987   10041   10046   10075   10085
415          RY    2249    2245    2245    2238    2238    2239    2239    2242
             * DDM   ***** Preserved *****
1                                    HEC-1 INPUT                                    PAGE 12

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


416          KK     053
417          KM   SUB-BASIN 053
418          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
419          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .928
420          KM     L =  .66  Kb = .056  Adj. Slope =  126.0
421          BA    .094
422          LG    .150    .370   6.600    .130   3.000
423          UC    .258    .227
424          UA       0       3       5       8      12      20      43      75      90      96
425          UA     100
             * DDM   ***** Preserved *****

426          KK   CP053
427          KM   Combine routed hydrographs from CP051 with runoff hydrograph from 053
428          HC       2
             * DDM   ***** Preserved *****

429          KK  R055-1
430          KM   Route combined hydrograph from CP053 to CP055
431          RS       1    FLOW      -1
432          RC   0.045   0.035   0.045     784   0.019
433          RX     111     154     304     389     510     725     836     937
434          RY    2208    2202    2200    2197    2199    2200    2199    2208
             * DDM   ***** Preserved *****

435          KK     055
436          KM   SUB-BASIN 055
437          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
438          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .928
439          KM     L = 2.43  Kb = .047  Adj. Slope =  125.0
440          BA    .366
441          LG    .150    .400   6.000    .160   5.000
442          UC    .538    .670
443          UA       0       3       5       8      12      20      43      75      90      96
444          UA     100
             * DDM   ***** Preserved *****

445          KK   CP055
446          KM   Combine routed hydrograph from CP053 with runoff hydrograph from 055
447          HC       2
             * DDM   ***** Preserved *****

448          KK  R068-1
449          KM   Route combined hydrograph from CP055 to CP068
450          RS       2    FLOW      -1
451          RC   0.045   0.035   0.045    1728   0.017
452          RX     111     154     304     389     510     725     836     937
453          RY    2208    2202    2200    2197    2199    2200    2199    2208
             * DDM   ***** Preserved *****
1                                    HEC-1 INPUT                                    PAGE 13

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


454          KK     058
455          KM   SUB-BASIN 058
456          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
457          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .928
458          KM     L = 2.86  Kb = .038  Adj. Slope =  120.0
459          BA   1.756
460          LG    .150    .400   6.000    .160   4.000
461          UC    .525    .304
462          UA       0       3       5       8      12      20      43      75      90      96
463          UA     100
             * DDM   ***** Preserved *****

464          KK  R064-1
465          KM   Route runoff hydrograph from 058
466          RS       7    FLOW      -1
467          RC   0.045   0.035   0.045    7694   0.023
468          RX       0      76     102     111     117     118     168     205
469          RY    2323    2321    2319    2319    2320    2321    2323    2325
             * DDM   ***** Preserved *****

470          KK     060
471          KM   SUB-BASIN 060
472          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
473          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .928
474          KM     L = 3.39  Kb = .043  Adj. Slope =  152.0
475          BA    .778
476          LG    .150    .390   6.200    .140   6.000
477          UC    .583    .623
478          UA       0       3       5       8      12      20      43      75      90      96
479          UA     100
             * DDM   ***** Preserved *****

480          KK  R062-1
```

```
481          KM   Route runoff hydrograph from 060
482          RS       1    FLOW      -1
483          RC   0.045   0.035   0.045     441   0.018
484          RX       0      20      38      41      45      60      94     128
485          RY  2328.5    2328    2327    2327    2326    2326    2327  2328.5
             * DDM   ***** Preserved *****

486          KK     062
487          KM   SUB-BASIN 062
488          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
489          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .928
490          KM     L = 2.26  Kb = .043  Adj. Slope =  158.0
491          BA    .730
492          LG    .150    .400   6.000    .150   8.000
493          UC    .438    .340
494          UA       0       3       5       8      12      20      43      75      90      96
495          UA     100
             * DDM   ***** Preserved *****
1                                        HEC-1 INPUT                                        PAGE 14

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

496          KK   CP062
497          KM   Combine routed hydrograph from 060 with runoff hydrograph from 062
498          HC       2
             *
             * Currently flow splits at this location.  With the Rawhide Wash Dam project
             * these flows will be cut off and routed to the dam site.  The routing in this
             * model indicates this.
             *
             * DDM   ***** Preserved *****

499          KK  R064-2
500          KM   Route combined hydrograph from CP062
501          RS       1    FLOW      -1
502          RC   0.045   0.035   0.045    1554   0.024
503          RX       0      17      23      73      83      90      99     107
504          RY    2316    2316    2315    2315    2316    2317    2318    2319
             * DDM   ***** Preserved *****

505          KK     064
506          KM   SUB-BASIN 064
507          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
508          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .928
509          KM     L = 1.80  Kb = .046  Adj. Slope =  149.0
510          BA    .473
511          LG    .150    .390   6.200    .150   5.000
512          UC    .404    .332
513          UA       0       3       5       8      12      20      43      75      90      96
514          UA     100
             * DDM   ***** Preserved *****

515          KK   CP064
516          KM   Combine routed hydrographs from 058 and CP062 with runoff hydrograph from
517          KM   064
518          HC       3
             * DDM   ***** Preserved *****

519          KK  R066-1
520          KM   Route combined hydrograph from CP064
521          RS       1    FLOW      -1
522          RC   0.045   0.035   0.045     934   0.021
523          RX       0      31      66     104     111     121     129     149
524          RY    2281    2281    2280    2280    2281    2282    2283    2284
             * DDM   ***** Preserved *****

525          KK     066
526          KM   SUB-BASIN 066
527          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
528          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .928
529          KM     L =  .18  Kb = .072  Adj. Slope =  122.0
530          BA    .006
531          LG    .150    .350   4.200    .360   3.000
532          UC    .159    .224
533          UA       0       3       5       8      12      20      43      75      90      96
534          UA     100
             * DDM   ***** Preserved *****
1                                        HEC-1 INPUT                                        PAGE 15

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

535          KK   CP066
536          KM   Combine routed hydrograph from CP064 with runoff hydrograph from 066
537          HC       2
             *
             * Currently flow splits at this location.  With the Rawhide Wash Dam project
             * these flows will be cut off and routed to the dam site.  The routing in this
             * model indicates this.
             *
             * DDM   ***** Preserved *****

538          KK  R068-2
539          KM   Route combined hydrograph from CP066
```

```
 540          RS       4    FLOW      -1
 541          RC   0.045   0.035   0.045    3234   0.025
 542          RX     198     224     270     283     684     688     721     769
 543          RY    2228    2227    2227  2226.5  2226.5    2227    2227    2228
              * DDM   ***** Preserved *****

 544          KK     068
 545          KM   SUB-BASIN 068
 546          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
 547          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .928
 548          KM     L = 1.05  Kb = .050  Adj. Slope =  133.0
 549          BA    .248
 550          LG    .150    .360   5.100    .220   3.000
 551          UC    .321    .241
 552          UA       0       3       5       8      12      20      43      75      90      96
 553          UA     100
              * DDM   ***** Preserved *****

 554          KK   CP068
 555          KM   Combine routed hydrographs from CP055 and CP066 with runoff hydrograph from
 556          KM   068
 557          HC       3
              * DDM   ***** Preserved *****

 558          KK  R070-1
 559          KM   Route combined hydrograph from CP068
 560          RS       7    FLOW      -1
 561          RC   0.045   0.035   0.045    7672   0.019
 562          RX    65.2   145.6   307.4   320.0   550.3   564.7   809.8   963.5
 563          RY    2130    2127    2127  2125.5  2125.5    2124    2124    2130
              * DDM   ***** Preserved *****

 564          KK     070
 565          KM   SUB-BASIN 070
 566          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
 567          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .928
 568          KM     L = 2.68  Kb = .043  Adj. Slope =  131.0
 569          BA    .794
 570          LG    .170    .340   4.500    .310   3.000
 571          UC    .550    .478
 572          UA       0       3       5       8      12      20      43      75      90      96
 573          UA     100
              * DDM   ***** Preserved *****
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LINE          ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

 574          KK   CP070
 575          KM   Combine routed hydrograph from CP068 with runoff hydrograph from 070
 576          HC       2
              * DDM   ***** Preserved *****

 577          KK  R072-1
 578          KM   Route combined hydrograph from CP070
 579          RS       8    FLOW      -1
 580          RC   0.045   0.035   0.045    8409   0.023
 581          RX       0    38.0    77.0   109.0   196.5   270.0   328.5   364.5
 582          RY    1902    1900    1898  1897.0  1899.0    1897    1896    1901
              * DDM   ***** Preserved *****

 583          KK     072
 584          KM   SUB-BASIN 072
 585          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
 586          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .928
 587          KM     L = 0.87  Kb = .043  Adj. Slope =  119.3
 588          BA    .502
 589          LG    .110    .250   4.000    .500   28.200
 590          UC    .389    .172
 591          UA       0       3       5       8      12      20      43      75      90      96
 592          UA     100
              * DDM   ***** Preserved *****

 593          KK   CP072
 594          KM   Combine routed hydrograph from CP070 with runoff hydrograph from 072
 595          HC       2
              *

 596          KK    ON01   BASIN
 597          BA   0.004
 598          LG    0.25    0.25    4.03    0.56      40
 599          UI       0      25      13       0
              *

 600          KK  RET1A
 601          KM   UG RETENTION BASIN 1A
 602          RS       1    STOR       0
 603          SV       0    0.03    0.16    0.32    0.47    0.60    0.63
 604          SE       0       1       3       5       7       9      10
 605          SS     9.9       1     2.3     1.5
 606          SL    0.17  0.0871     0.6     0.5
              *

 607          KK    ON02   BASIN
 608          BA   0.007
```

```
          609          LG    0.25    0.25    3.90    0.60      40
          610          UI       0      32      85      32       5       0
                       *
1                                                HEC-1 INPUT                                                PAGE 17

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


          611          KK    1BIN
          612          KM   INFLOW TO RETENTION BASIN 1B
          613          HC       2
                       *
          614          KK   RET1B
          615          KM   RETENTION BASIN 1B
          616          RS       1    STOR       0
          617          SV       0   0.037   0.105   0.205
          618          SE       0       1       2       3
          619          SS     2.3      15     2.3     1.5
          620          SL    1.25  0.1963     0.6     0.5
                       *
          621          KK    ON04   BASIN
          622          BA   0.009
          623          LG    0.25    0.25    4.03    0.57      40
          624          UI       0      37      79      17       0
                       *
          625          KK    2AIN
          626          KM   INFLOW TO RETENTION BASIN 2A
          627          HC       2
                       *
          628          KK   RET2A
          629          KM   RETENTION BASIN 2A
          630          RS       1    STOR       0
          631          SV       0   0.339   0.678   1.017
          632          SE       0       1       2       3
          633          SS     2.6      50     2.3     1.5
          634          SL    1.25  0.1963     0.6     0.5
                       *
          635          KK    ON05   BASIN
          636          BA   0.004
          637          LG    0.25    0.25    4.03    0.56      40
          638          UI       0      62      15       0
                       *
          639          KK    ON06   BASIN
          640          BA   0.004
          641          LG    0.25    0.25    4.03    0.56      40
          642          UI       0      62      15       0
                       *
          643          KK    2BIN
          644          KM   INFLOW TO RETENTION BASIN 2B
          645          HC       3
                       *
1                                                HEC-1 INPUT                                                PAGE 18

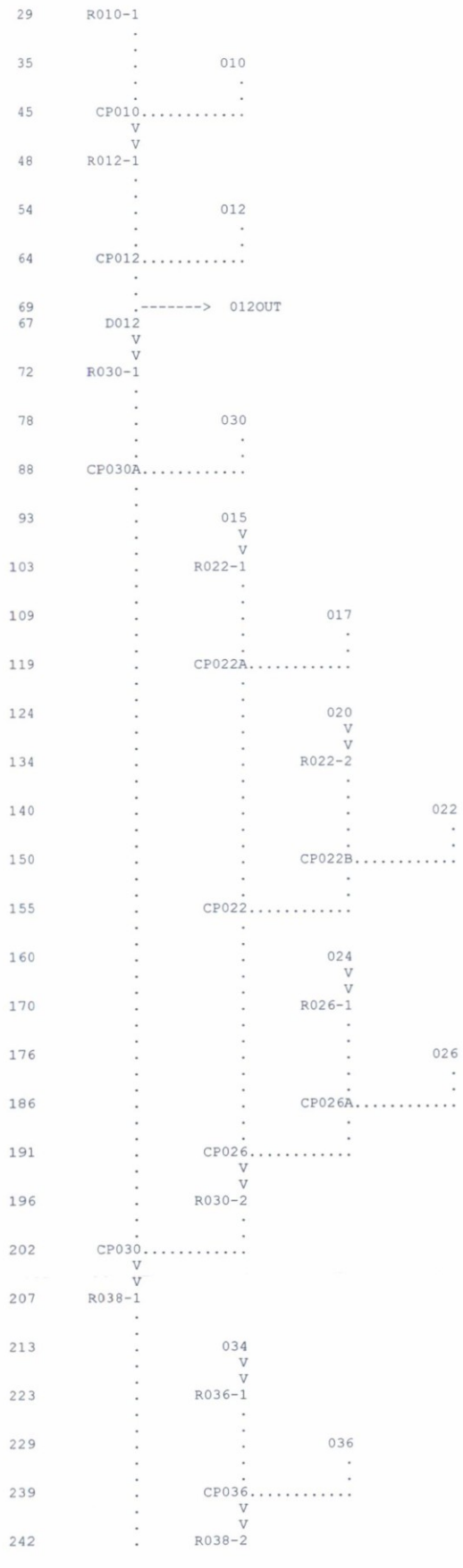
          LINE         ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10


          646          KK   RET2B
          647          KO       2
          648          KM   RETENTION BASIN 2B
          649          RS       1    STOR       0
          650          SV       0    0.05   0.125   0.229
          651          SE       0       1       2       3
          652          SS     2.4      40     2.3     1.5
          653          SL    0.25   0.393     0.6     0.5
                       *
          654          KK   DIV1
          655          KM   Diversion to Park
          656          DT    DIV1
          657          DI       0       3      40
          658          DQ       0       3       4
                       *
          659          KK  CP072A
          660          KM   Combine CP072 with onsite runoff
          661          HC       2
                       *
          662          ZZ
1
               SCHEMATIC DIAGRAM OF STREAM NETWORK

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

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

      5         005
                  V
                  V
```


29 R010-1
35 010
45 CP010
48 R012-1
54 012
64 CP012
69 012OUT
67 D012
72 R030-1
78 030
88 CP030A
93 015
103 R022-1
109 017
119 CP022A
124 020
134 R022-2
140 022
150 CP022B
155 CP022
160 024
170 R026-1
176 026
186 CP026A
191 CP026
196 R030-2
202 CP030
207 R038-1
213 034
223 R036-1
229 036
239 CP036
242 R038-2

```
          **************
          *            *
 48 KK    *   R012-1   *
          *            *
          **************
                     Route the combined hydrograph from CP010 to CP012

            HYDROGRAPH ROUTING DATA

 50 RS        STORAGE ROUTING
                    NSTPS         5  NUMBER OF SUBREACHES
                     ITYP      FLOW  TYPE OF INITIAL CONDITION
                   RSVRIC     -1.00  INITIAL CONDITION
                        X       .00 WORKING R AND D COEFFICIENT

 51 RC        NORMAL DEPTH CHANNEL
                      ANL      .045  LEFT OVERBANK N-VALUE
                     ANCH      .035  MAIN CHANNEL N-VALUE
                      ANR      .045  RIGHT OVERBANK N-VALUE
                    RLNTH     3716.  REACH LENGTH
                      SEL     .0190  ENERGY SLOPE
                    ELMAX        .0  MAX. ELEV. FOR STORAGE/OUTFLOW CALCULATION

                                   CROSS-SECTION DATA
                  --- LEFT OVERBANK --- + ------ MAIN CHANNEL ------- + --- RIGHT OVERBANK ---
 53 RY      ELEVATION  2794.00  2792.00  2792.00  2790.00  2788.00  2790.00  2792.00  2794.00
 52 RX      DISTANCE    261.00   486.00   555.00   684.00   700.00   716.00   743.00   778.00

                                                ***

                                   COMPUTED STORAGE-OUTFLOW-ELEVATION DATA

        STORAGE       .00      .07      .27      .61     1.09     1.70     2.45     3.45     5.08     7.38
        OUTFLOW       .00     1.36     8.63    25.45    54.80    99.36   161.57   215.99   312.74   473.97
      ELEVATION   2788.00  2788.32  2788.63  2788.95  2789.26  2789.58  2789.89  2790.21  2790.53  2790.84

        STORAGE     10.34    13.96    18.25    23.83    31.67    40.61    50.66    61.81    74.07    87.43
        OUTFLOW    708.36  1026.17  1437.71  2004.60  2839.19  3857.50  5066.87  6477.20  8098.83  9942.11
      ELEVATION   2791.16  2791.47  2791.79  2792.10  2792.42  2792.74  2793.05  2793.37  2793.68  2794.00


      ***             ***             ***             ***             ***

                          HYDROGRAPH AT STATION   R012-1

 PEAK FLOW      TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR         24-HR        72-HR      24.97-HR
+   (CFS)       (HR)
                            (CFS)
+     832.      12.47                 123.          31.          30.          30.
                         (INCHES)    1.519        1.556        1.556        1.556
                          (AC-FT)      61.          62.          62.          62.

 PEAK STORAGE   TIME                         MAXIMUM AVERAGE STORAGE
                                     6-HR         24-HR        72-HR      24.97-HR
+  (AC-FT)      (HR)
          2.    12.47                   0.           0.           0.           0.

 PEAK STAGE     TIME                          MAXIMUM AVERAGE STAGE
                                     6-HR         24-HR        72-HR      24.97-HR
+    (FEET)     (HR)
   2791.28      12.47              2789.14      2788.45      2788.43      2788.43

                          CUMULATIVE AREA =     .75 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***
***

          **************
          *            *
 54 KK    *      012   *
          *            *
          **************
                     SUB-BASIN 012
                     24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
                     THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .928
                       L = 1.68  Kb = .049  Adj. Slope =  117.0

            SUBBASIN RUNOFF DATA

 59 BA        SUBBASIN CHARACTERISTICS
                    TAREA        .30  SUBBASIN AREA

              PRECIPITATION DATA

 14 PB              STORM       4.27  BASIN TOTAL PRECIPITATION

 14 PI          INCREMENTAL PRECIPITATION PATTERN
                    .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                    .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                    .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
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              *            *
93 KK         *     015    *
              *            *
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                            SUB-BASIN 015
                            24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
                            THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .928
                              L = 2.54  Kb = .040  Adj. Slope =  108.0

                SUBBASIN RUNOFF DATA

98 BA             SUBBASIN CHARACTERISTICS
                        TAREA        1.27  SUBBASIN AREA

                  PRECIPITATION DATA

14 PB                   STORM        4.27  BASIN TOTAL PRECIPITATION

14 PI               INCREMENTAL PRECIPITATION PATTERN
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.01	.01	.03	.04	.04	.04	.04	.04	.04	.04
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99 LG           GREEN AND AMPT LOSS RATE
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                    STRTL        .15  STARTING LOSS
                      DTH        .39  MOISTURE DEFICIT
                     PSIF       5.80  WETTING FRONT SUCTION
                    XKSAT        .17  HYDRAULIC CONDUCTIVITY
                    RTIMP       3.00  PERCENT IMPERVIOUS AREA

 100 UC          CLARK UNITGRAPH
                      TC        .52  TIME OF CONCENTRATION
                       R        .33  STORAGE COEFFICIENT

 101 UA          ACCUMULATED-AREA VS. TIME,  11 ORDINATES
                      .0      3.0      5.0      8.0     12.0     20.0     43.0     75.0     90.0     96.0
                   100.0

                                                  ***

                                              UNIT HYDROGRAPH PARAMETERS
                                        CLARK   TC=   .52 HR,       R=   .33 HR
                                      SNYDER    TP=   .44 HR,      CP=   .81

                                              UNIT HYDROGRAPH
                                        63 END-OF-PERIOD ORDINATES
                    22.      62.      90.     117.     152.     191.     253.     353.     563.     888.
                  1249.    1482.    1540.    1523.    1454.    1370.    1262.    1142.    1033.     934.
                   845.     765.     692.     626.     566.     512.     463.     419.     379.     343.
                   310.     281.     254.     230.     208.     188.     170.     154.     139.     126.
                   114.     103.      93.      84.      76.      69.      62.      57.      51.      46.
                    42.      38.      34.      31.      28.      25.      23.      21.      19.      17.
                    15.      14.      13.

         ***             ***              ***              ***              ***

                          HYDROGRAPH AT STATION       015

       TOTAL RAINFALL =     4.27, TOTAL LOSS =     2.72, TOTAL EXCESS =     1.55

     PEAK FLOW      TIME                          MAXIMUM AVERAGE FLOW
                                          6-HR        24-HR        72-HR      24.97-HR
+      (CFS)        (HR)
                      (CFS)
+      1766.      12.33                    205.         52.          50.          50.
                  (INCHES)                1.500        1.537        1.538        1.538
                   (AC-FT)                 101.         104.         104.         104.

                          CUMULATIVE AREA =     1.27 SQ MI


 *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***
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                ***************
                *             *
 103 KK         *    R022-1   *
                *             *
                ***************
                          Route the runoff hydrograph from 015 to CP022A.

                   HYDROGRAPH ROUTING DATA

 105 RS            STORAGE ROUTING
                        NSTPS           6  NUMBER OF SUBREACHES
                         ITYP        FLOW  TYPE OF INITIAL CONDITION
                       RSVRIC       -1.00  INITIAL CONDITION
                            X         .00 WORKING R AND D COEFFICIENT

 106 RC            NORMAL DEPTH CHANNEL
                          ANL        .045  LEFT OVERBANK N-VALUE
                         ANCH        .035  MAIN CHANNEL N-VALUE
                          ANR        .045  RIGHT OVERBANK N-VALUE
                        RLNTH       4466.  REACH LENGTH
                          SEL       .0180  ENERGY SLOPE
                        ELMAX          .0  MAX. ELEV. FOR STORAGE/OUTFLOW CALCULATION

                                       CROSS-SECTION DATA
                              --- LEFT OVERBANK --- + ------ MAIN CHANNEL ------- + --- RIGHT OVERBANK ---
 108 RY         ELEVATION   2740.00   2734.00   2734.00   2728.00   2726.00   2728.00   2730.00   2740.00
 107 RX         DISTANCE    9714.00   9798.00   9905.00   9943.00  10002.00  10037.00  10299.00  10412.00

                                                  ***

                                       COMPUTED STORAGE-OUTFLOW-ELEVATION DATA

              STORAGE        .00      1.31      5.23     11.98     25.08     45.83     73.14    102.04    131.93    162.79
              OUTFLOW        .00     37.42    237.63    735.05   1761.95   3478.22   6207.14   9915.32  14419.45  19678.21
            ELEVATION    2726.00   2726.74   2727.47   2728.21   2728.95   2729.68   2730.42   2731.16   2731.89   2732.63

              STORAGE     194.64    228.62    270.78    314.36    359.34    405.73    453.53    502.74    553.35    605.38
              OUTFLOW   25666.15  32426.68  40529.64  49673.28  59794.69  70868.67  82882.85  95831.55 109713.20 124529.00
            ELEVATION    2733.37   2734.10   2734.84   2735.58   2736.32   2737.05   2737.79   2738.53   2739.26   2740.00

*** WARNING *** MODIFIED PULS ROUTING MAY BE NUMERICALLY UNSTABLE FOR OUTFLOWS BETWEEN     6207. TO   124529.
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THE ROUTED HYDROGRAPH SHOULD BE EXAMINED FOR OSCILLATIONS OR OUTFLOWS GREATER THAN PEAK INFLOWS.
THIS CAN BE CORRECTED BY DECREASING THE TIME INTERVAL OR INCREASING STORAGE (USE A LONGER REACH.)

    ***            ***            ***            ***            ***

                          HYDROGRAPH AT STATION   R022-1

   PEAK FLOW     TIME                              MAXIMUM AVERAGE FLOW
                                       6-HR         24-HR        72-HR       24.97-HR
 +   (CFS)       (HR)
                             (CFS)
 +    1674.      12.50                 205.          52.          50.           50.
                          (INCHES)    1.500         1.537        1.537         1.537
                           (AC-FT)     101.          104.         104.          104.

  PEAK STORAGE   TIME                            MAXIMUM AVERAGE STORAGE
                                       6-HR         24-HR        72-HR       24.97-HR
 +  (AC-FT)      (HR)
         4.      12.50                   1.           0.           0.            0.

   PEAK STAGE    TIME                              MAXIMUM AVERAGE STAGE
                                       6-HR         24-HR        72-HR       24.97-HR
 +   (FEET)      (HR)
    2728.88      12.50              2726.70      2726.19      2726.18       2726.18

                         CUMULATIVE AREA =     1.27 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***
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                *            *
   109 KK       *     017    *
                *            *
                **************
                             SUB-BASIN 017
                             24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
                             THIS BASIN USED RAINFALL REDUCTION FACTOR OF   .928
                               L = 1.34  Kb = .051  Adj. Slope =  113.0

                 SUBBASIN RUNOFF DATA

   114 BA          SUBBASIN CHARACTERISTICS
                         TAREA          .22  SUBBASIN AREA

                   PRECIPITATION DATA

    14 PB                STORM         4.27  BASIN TOTAL PRECIPITATION

    14 PI            INCREMENTAL PRECIPITATION PATTERN
                       .00      .00      .00      .00      .00      .00      .00      .00      .00      .00
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115 LG         GREEN AND AMPT LOSS RATE
                     STRTL          .15  STARTING LOSS
                       DTH          .39  MOISTURE DEFICIT
                      PSIF         6.20  WETTING FRONT SUCTION
                     XKSAT          .15  HYDRAULIC CONDUCTIVITY
                     RTIMP         5.00  PERCENT IMPERVIOUS AREA

116 UC         CLARK UNITGRAPH
                        TC          .40  TIME OF CONCENTRATION
                         R          .41  STORAGE COEFFICIENT

117 UA         ACCUMULATED-AREA VS. TIME,  11 ORDINATES
                    .0       3.0       5.0       8.0      12.0      20.0      43.0      75.0      90.0      96.0
                 100.0

                                                         ***

                                        UNIT HYDROGRAPH PARAMETERS
                                  CLARK   TC=   .40 HR,        R=   .41 HR
                                 SNYDER   TP=   .35 HR,       CP=   .61

                                             UNIT HYDROGRAPH
                                        72 END-OF-PERIOD ORDINATES
               4.        11.       17.       24.       33.       48.       87.      153.      213.      242.
             246.       240.      226.      209.      192.      177.      163.      150.      138.      127.
             117.       108.       99.       92.       84.       78.       71.       66.       61.       56.
              51.        47.       44.       40.       37.       34.       31.       29.       27.       25.
              23.        21.       19.       18.       16.       15.       14.       13.       12.       11.
              10.         9.        8.        8.        7.        7.        6.        6.        5.        5.
               4.         4.        4.        3.        3.        3.        3.        2.        2.        2.
               2.         2.

      ***              ***              ***              ***              ***

                        HYDROGRAPH AT STATION       017

   TOTAL RAINFALL =     4.27, TOTAL LOSS =     2.63, TOTAL EXCESS =     1.63

  PEAK FLOW      TIME                          MAXIMUM AVERAGE FLOW
                                         6-HR        24-HR       72-HR      24.97-HR
+    (CFS)       (HR)
                             (CFS)
+     286.      12.27                    36.          9.          9.           9.
                          (INCHES)     1.565       1.626       1.626        1.626
                           (AC-FT)       18.         19.         19.          19.

                        CUMULATIVE AREA =      .22 SQ MI


 *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***
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              **************
              *            *
119 KK        *   CP022A   *
              *            *
              **************
                           Combine routed hydrograph from 015 with runoff hydrograph from 017.
                           This combination was made for use in the hydraulic modeling of a
                           tributary to Rawhide Wash.
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123 HC HYDROGRAPH COMBINATION
ICOMP 2 NUMBER OF HYDROGRAPHS TO COMBINE

***

*** *** *** *** ***

HYDROGRAPH AT STATION CP022A

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.97-HR
+ (CFS)	(HR)					
		(CFS)				
+ 1875.	12.47		241.	62.	59.	59.
		(INCHES)	1.510	1.550	1.550	1.550
		(AC-FT)	119.	123.	123.	123.

CUMULATIVE AREA = 1.48 SQ MI

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              **************
              *            *
124 KK        *    020     *
              *            *
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SUB-BASIN 020
24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
THIS BASIN USED RAINFALL REDUCTION FACTOR OF .928
L = 1.74 Kb = .043 Adj. Slope = 199.0

SUBBASIN RUNOFF DATA

129 BA SUBBASIN CHARACTERISTICS
TAREA .76 SUBBASIN AREA

PRECIPITATION DATA

14 PB STORM 4.27 BASIN TOTAL PRECIPITATION

14 PI INCREMENTAL PRECIPITATION PATTERN

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.01	.01	.03	.04	.04	.04	.04	.04	.04	.04
.01	.01	.01	.01	.01	.01	.01	.00	.00	.00
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.00	.00	.00	.00	.00	.00	.00	.00	.00	.00

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130 LG        GREEN AND AMPT LOSS RATE
                   STRTL        .15  STARTING LOSS
                     DTH        .38  MOISTURE DEFICIT
                    PSIF       6.40  WETTING FRONT SUCTION
                   XKSAT        .14  HYDRAULIC CONDUCTIVITY
                   RTIMP      12.00  PERCENT IMPERVIOUS AREA

131 UC        CLARK UNITGRAPH
                      TC        .34  TIME OF CONCENTRATION
                       R        .20  STORAGE COEFFICIENT

132 UA        ACCUMULATED-AREA VS. TIME,  11 ORDINATES
                  .0        3.0       5.0       8.0      12.0      20.0      43.0      75.0      90.0      96.0
               100.0

                                                ***

                                   UNIT HYDROGRAPH PARAMETERS
                              CLARK   TC=    .34 HR,       R=    .20 HR
                             SNYDER   TP=    .28 HR,      CP=    .83

                                        UNIT HYDROGRAPH
                                   39 END-OF-PERIOD ORDINATES
        33.       84.      126.      184.      286.      571.     1073.     1440.     1483.     1382.
      1224.     1044.      885.      750.      636.      539.      457.      387.      328.      278.
       236.      200.      169.      143.      122.      103.       87.       74.       63.       53.
        45.       38.       32.       27.       23.       20.       17.       14.       12.

     ***            ***             ***             ***             ***

                      HYDROGRAPH AT STATION      020

   TOTAL RAINFALL =    4.27, TOTAL LOSS =    2.41, TOTAL EXCESS =    1.85

  PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
                                   6-HR        24-HR       72-HR     24.97-HR
+   (CFS)       (HR)
                          (CFS)
+    1458.     12.20               139.          38.         36.          36.
                        (INCHES)  1.698        1.846       1.846        1.846
                         (AC-FT)    69.          75.         75.          75.

                      CUMULATIVE AREA =    .76 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***
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            *            *
134 KK      *   R022-2   *
            *            *
            **************
                   Route the runoff hydrograph from 020 to CP022B

          HYDROGRAPH ROUTING DATA

136 RS        STORAGE ROUTING
                   NSTPS          6  NUMBER OF SUBREACHES
                    ITYP       FLOW  TYPE OF INITIAL CONDITION
                  RSVRIC      -1.00  INITIAL CONDITION
                       X        .00 WORKING R AND D COEFFICIENT

137 RC        NORMAL DEPTH CHANNEL
                     ANL       .045  LEFT OVERBANK N-VALUE
                    ANCH       .035  MAIN CHANNEL N-VALUE
                     ANR       .045  RIGHT OVERBANK N-VALUE
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                   RLNTH        4146.  REACH LENGTH
                     SEL        .0170  ENERGY SLOPE
                   ELMAX           .0  MAX. ELEV. FOR STORAGE/OUTFLOW CALCULATION

                                          CROSS-SECTION DATA
                           --- LEFT OVERBANK --- + ------ MAIN CHANNEL ------- + --- RIGHT OVERBANK ---
 139 RY       ELEVATION   2690.00   2686.00   2688.00   2686.00   2686.00   2688.00   2688.00   2690.00
 138 RX        DISTANCE   9805.00   9902.00  10081.00  10090.00  10098.00  10102.00  10253.00  10264.00

                                                       ***

                                          COMPUTED STORAGE-OUTFLOW-ELEVATION DATA

          STORAGE        .00       .41      1.33      2.76      4.70      7.14     10.09     13.54     17.50     21.97
          OUTFLOW        .00      5.82     26.51     68.00    135.60    234.17    368.21    541.98    759.51   1024.65
        ELEVATION    2686.00   2686.21   2686.42   2686.63   2686.84   2687.05   2687.26   2687.47   2687.68   2687.89

          STORAGE      28.40     36.53     44.78     53.16     61.66     70.29     79.05     87.93     96.93    106.06
          OUTFLOW    1387.11   1896.58   2502.97   3197.06   3973.60   4829.03   5760.71   6766.61   7845.13   8994.96
        ELEVATION    2688.10   2688.31   2688.53   2688.74   2688.95   2689.16   2689.37   2689.58   2689.79   2690.00

*** WARNING *** MODIFIED PULS ROUTING MAY BE NUMERICALLY UNSTABLE FOR OUTFLOWS BETWEEN      7845. TO      8995.
                THE ROUTED HYDROGRAPH SHOULD BE EXAMINED FOR OSCILLATIONS OR OUTFLOWS GREATER THAN PEAK INFLOWS.
                THIS CAN BE CORRECTED BY DECREASING THE TIME INTERVAL OR INCREASING STORAGE (USE A LONGER REACH.)

      ***              ***              ***              ***              ***

                              HYDROGRAPH AT STATION   R022-2

  PEAK FLOW      TIME                           MAXIMUM AVERAGE FLOW
                                       6-HR         24-HR        72-HR       24.97-HR
+   (CFS)        (HR)
                               (CFS)
+     1293.     12.40                  139.           38.          36.            36.
                            (INCHES)  1.698         1.845        1.845          1.845
                             (AC-FT)    69.           75.          75.            75.

 PEAK STORAGE    TIME                           MAXIMUM AVERAGE STORAGE
                                       6-HR         24-HR        72-HR       24.97-HR
+   (AC-FT)      (HR)
         4.     12.40                    1.            0.           0.             0.

  PEAK STAGE     TIME                           MAXIMUM AVERAGE STAGE
                                       6-HR         24-HR        72-HR       24.97-HR
+   (FEET)       (HR)
    2688.05     12.40                2686.55       2686.25      2686.24        2686.24

                              CUMULATIVE AREA =      .76 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***
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             *            *
 140 KK      *      022   *
             *            *
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                                SUB-BASIN 022
                                24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
                                THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .928
                                  L = 2.71  Kb = .047  Adj. Slope =  128.0

                 SUBBASIN RUNOFF DATA

 145 BA            SUBBASIN CHARACTERISTICS
                         TAREA          .38  SUBBASIN AREA

                   PRECIPITATION DATA

  14 PB                  STORM         4.27  BASIN TOTAL PRECIPITATION

  14 PI              INCREMENTAL PRECIPITATION PATTERN
                         .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                         .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                         .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                         .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
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                      .00       .00       .00       .00       .00       .01       .01       .01       .01       .01
                      .01       .01       .03       .04       .04       .04       .04       .04       .04       .04
                      .01       .01       .01       .01       .01       .01       .01       .00       .00       .00
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                      .00       .00       .00       .00       .00       .00       .00       .00       .00       .00

146 LG          GREEN AND AMPT LOSS RATE
                      STRTL         .15  STARTING LOSS
                        DTH         .36  MOISTURE DEFICIT
                       PSIF        6.80  WETTING FRONT SUCTION
                      XKSAT         .12  HYDRAULIC CONDUCTIVITY
                      RTIMP        8.00  PERCENT IMPERVIOUS AREA

147 UC          CLARK UNITGRAPH
                         TC         .56  TIME OF CONCENTRATION
                          R         .75  STORAGE COEFFICIENT

148 UA          ACCUMULATED-AREA VS. TIME,  11 ORDINATES
                       .0       3.0       5.0       8.0      12.0      20.0      43.0      75.0      90.0      96.0
                    100.0

                                                                 ***

                                                    UNIT HYDROGRAPH PARAMETERS
                                              CLARK   TC=   .56 HR,        R=   .75 HR
                                             SNYDER   TP=   .51 HR,       CP=   .50

                                                         UNIT HYDROGRAPH
                                                   130 END-OF-PERIOD ORDINATES
                 3.        8.       12.       16.       21.       26.       34.       44.       66.      100.
               147.      197.      230.      244.      249.      248.      245.      238.      228.      218.
               208.      199.      191.      182.      174.      167.      160.      153.      146.      140.
               134.      128.      122.      117.      112.      107.      102.       98.       94.       90.
                86.       82.       79.       75.       72.       69.       66.       63.       60.       58.
                55.       53.       50.       48.       46.       44.       42.       40.       39.       37.
                35.       34.       32.       31.       30.       28.       27.       26.       25.       24.
                23.       22.       21.       20.       19.       18.       17.       17.       16.       15.
                15.       14.       13.       13.       12.       12.       11.       11.       10.       10.
                 9.        9.        9.        8.        8.        7.        7.        7.        7.        6.
                 6.        6.        5.        5.        5.        5.        5.        4.        4.        4.
                 4.        4.        4.        3.        3.        3.        3.        3.        3.        3.
                 2.        2.        2.        2.        2.        2.        2.        2.        2.        2.

     ***             ***             ***             ***             ***

                        HYDROGRAPH AT STATION      022
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TOTAL RAINFALL = 4.27, TOTAL LOSS = 2.46, TOTAL EXCESS = 1.81

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.97-HR
+ (CFS)	(HR)					
		(CFS)				
+ 340.	12.40		70.	18.	18.	18.
		(INCHES)	1.699	1.798	1.799	1.799
		(AC-FT)	35.	37.	37.	37.

CUMULATIVE AREA = .38 SQ MI

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              **************
              *            *
150 KK        *   CP022B   *
              *            *
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Combine routed hydrograph from 020 with runoff hydrograph from 022.
This combination was made for use in the hydraulic modeling of a
tributary to Rawhide Wash.

154 HC HYDROGRAPH COMBINATION
ICOMP 2 NUMBER OF HYDROGRAPHS TO COMBINE

***

*** *** *** *** ***

HYDROGRAPH AT STATION CP022B

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.97-HR
+ (CFS)	(HR)					
		(CFS)				
+ 1633.	12.40		209.	56.	54.	54.
		(INCHES)	1.698	1.829	1.829	1.829
		(AC-FT)	103.	111.	111.	111.

CUMULATIVE AREA = 1.14 SQ MI

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              **************
              *            *
155 KK        *   CP022    *
              *            *
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Combine hydrographs from CP022A and CP022B.
This combination was made for use in the hydraulic modeling of a
tributary to Rawhide Wash.

159 HC HYDROGRAPH COMBINATION
ICOMP 2 NUMBER OF HYDROGRAPHS TO COMBINE

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HYDROGRAPH AT STATION CP022

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.97-HR
+ (CFS)	(HR)					
		(CFS)				
+ 3445.	12.43		449.	118.	113.	113.
		(INCHES)	1.591	1.671	1.672	1.672
		(AC-FT)	223.	234.	234.	234.

CUMULATIVE AREA = 2.63 SQ MI

*** ***

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              **************
              *            *
160 KK        *     024    *
              *            *
              **************
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SUB-BASIN 024
24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
THIS BASIN USED RAINFALL REDUCTION FACTOR OF .928
L = 1.35 Kb = .041 Adj. Slope = 294.0

SUBBASIN RUNOFF DATA

165 BA SUBBASIN CHARACTERISTICS
TAREA 1.02 SUBBASIN AREA

PRECIPITATION DATA

14 PB STORM 4.27 BASIN TOTAL PRECIPITATION

14 PI INCREMENTAL PRECIPITATION PATTERN

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166 LG GREEN AND AMPT LOSS RATE

STRTL	.15	STARTING LOSS
DTH	.38	MOISTURE DEFICIT
PSIF	6.40	WETTING FRONT SUCTION
XKSAT	.14	HYDRAULIC CONDUCTIVITY
RTIMP	12.00	PERCENT IMPERVIOUS AREA

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 167 UC          CLARK UNITGRAPH
                        TC         .24  TIME OF CONCENTRATION
                         R         .10  STORAGE COEFFICIENT

 168 UA          ACCUMULATED-AREA VS. TIME,  11 ORDINATES
                       .0       3.0       5.0       8.0      12.0      20.0      43.0      75.0      90.0      96.0
                    100.0

                                                      ***

                                                 UNIT HYDROGRAPH PARAMETERS
                                              CLARK   TC=    .24 HR,       R=    .10 HR
                                             SNYDER   TP=    .20 HR,      CP=  1.03

                                                 UNIT HYDROGRAPH
                                             20 END-OF-PERIOD ORDINATES
                     110.      289.      476.     1049.     2443.     3469.     3237.     2525.     1820.     1281.
                     902.      635.      447.      315.      222.      156.      110.       77.       55.       38.

          ***             ***             ***             ***             ***

                                HYDROGRAPH AT STATION      024

            TOTAL RAINFALL =    4.27, TOTAL LOSS =    2.41, TOTAL EXCESS =    1.85

          PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                                6-HR       24-HR       72-HR      24.97-HR
        +   (CFS)       (HR)
                                (CFS)
        +    2481.     12.10                    186.         51.         49.         49.
                              (INCHES)          1.698       1.846       1.846       1.846
                              (AC-FT)            92.        100.        100.        100.

                              CUMULATIVE AREA =    1.02 SQ MI


        *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***
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                     *            *
          170 KK     *   R026-1   *
                     *            *
                     **************
                                Route the runoff hydrograph from 024 to CP026A.

                        HYDROGRAPH ROUTING DATA

          172 RS        STORAGE ROUTING
                             NSTPS          6  NUMBER OF SUBREACHES
                              ITYP       FLOW  TYPE OF INITIAL CONDITION
                             RSVRIC      -1.00  INITIAL CONDITION
                                  X        .00 WORKING R AND D COEFFICIENT

          173 RC          NORMAL DEPTH CHANNEL
                               ANL        .045  LEFT OVERBANK N-VALUE
                              ANCH        .035  MAIN CHANNEL N-VALUE
                               ANR        .045  RIGHT OVERBANK N-VALUE
                              RLNTH      6097.  REACH LENGTH
                               SEL       .0160  ENERGY SLOPE
                              ELMAX          .0  MAX. ELEV. FOR STORAGE/OUTFLOW CALCULATION

                                              CROSS-SECTION DATA
                                --- LEFT OVERBANK --- + ------ MAIN CHANNEL ------- + --- RIGHT OVERBANK ---
          175 RY        ELEVATION  2700.00  2692.00  2688.00  2688.00  2686.00  2686.00  2696.00  2700.00
          174 RX        DISTANCE   9712.00  9782.00  9851.00  9931.00  9950.00 10050.00 10176.00 10237.00

                                                      ***

                                              COMPUTED STORAGE-OUTFLOW-ELEVATION DATA

                     STORAGE        .00     11.15     23.98     40.88     65.78     92.95    122.39    154.10    188.08    224.09
                     OUTFLOW        .00    334.93   1100.22   1820.00   3853.22   6532.27   9844.59  13788.80  18369.50  23637.11
                   ELEVATION    2686.00   2686.74   2687.47   2688.21   2688.95   2689.68   2690.42   2691.16   2691.89   2692.63

                     STORAGE     261.72    300.98    341.86    384.37    428.51    474.45    522.21    571.79    623.20    676.43
                     OUTFLOW   29545.92  36086.96  43261.93  51074.35  59496.30  68532.05  78237.41  88621.69  99694.59 111466.10
                   ELEVATION    2693.37   2694.10   2694.84   2695.58   2696.32   2697.05   2697.79   2698.53   2699.26   2700.00

        *** WARNING *** MODIFIED PULS ROUTING MAY BE NUMERICALLY UNSTABLE FOR OUTFLOWS BETWEEN     9845. TO   111466.
                        THE ROUTED HYDROGRAPH SHOULD BE EXAMINED FOR OSCILLATIONS OR OUTFLOWS GREATER THAN PEAK INFLOWS.
                        THIS CAN BE CORRECTED BY DECREASING THE TIME INTERVAL OR INCREASING STORAGE (USE A LONGER REACH.)

          ***             ***             ***             ***             ***

                                HYDROGRAPH AT STATION   R026-1

          PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                                6-HR       24-HR       72-HR      24.97-HR
        +   (CFS)       (HR)
                                (CFS)
```

```
+     2173.      12.27                    186.        51.        49.         49.
                            (INCHES)    1.698      1.846      1.846       1.846
                            (AC-FT)       92.       100.       100.        100.

  PEAK STORAGE    TIME                          MAXIMUM AVERAGE STORAGE
                                          6-HR       24-HR      72-HR    24.97-HR
+   (AC-FT)       (HR)
        8.       12.27                      1.          0.         0.          0.

   PEAK STAGE     TIME                           MAXIMUM AVERAGE STAGE
                                          6-HR       24-HR      72-HR    24.97-HR
+    (FEET)       (HR)
    2688.34      12.27                 2686.28     2686.07    2686.06     2686.06

                           CUMULATIVE AREA =     1.02 SQ MI
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*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***
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               **************
               *            *
   176 KK      *     026    *
               *            *
               **************
                              SUB-BASIN 026
                              24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
                              THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .928
                                L = 2.41  Kb = .049  Adj. Slope =  249.8

                 SUBBASIN RUNOFF DATA

   181 BA          SUBBASIN CHARACTERISTICS
                         TAREA          .27  SUBBASIN AREA

                   PRECIPITATION DATA

    14 PB                STORM        4.27  BASIN TOTAL PRECIPITATION

    14 PI            INCREMENTAL PRECIPITATION PATTERN
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182 LG        GREEN AND AMPT LOSS RATE
                    STRTL         .15  STARTING LOSS
                      DTH         .35  MOISTURE DEFICIT
                     PSIF        7.00  WETTING FRONT SUCTION
                    XKSAT         .11  HYDRAULIC CONDUCTIVITY
                    RTIMP       24.00  PERCENT IMPERVIOUS AREA

183 UC        CLARK UNITGRAPH
                       TC         .40  TIME OF CONCENTRATION
                        R         .58  STORAGE COEFFICIENT

184 UA        ACCUMULATED-AREA VS. TIME,  11 ORDINATES
                   .0       3.0       5.0       8.0      12.0      20.0      43.0      75.0      90.0      96.0
                100.0

                                                         ***

                                          UNIT HYDROGRAPH PARAMETERS
                                    CLARK   TC=    .40 HR,        R=   .58 HR
                                   SNYDER   TP=    .37 HR,       CP=   .49

                                                 UNIT HYDROGRAPH
                                            100 END-OF-PERIOD ORDINATES
             4.       10.       15.       21.       30.       43.       77.      135.      191.      223.
           232.      231.      223.      212.      200.      188.      178.      168.      159.      150.
           141.      133.      126.      119.      112.      106.      100.       94.       89.       84.
            79.       75.       71.       67.       63.       59.       56.       53.       50.       47.
            45.       42.       40.       37.       35.       33.       32.       30.       28.       27.
            25.       24.       22.       21.       20.       19.       18.       17.       16.       15.
            14.       13.       13.       12.       11.       11.       10.        9.        9.        8.
             8.        7.        7.        7.        6.        6.        6.        5.        5.        5.
             4.        4.        4.        4.        4.        3.        3.        3.        3.        3.
             2.        2.        2.        2.        2.        2.        2.        2.        2.        1.

      ***          ***           ***           ***            ***

                       HYDROGRAPH AT STATION       026

   TOTAL RAINFALL =     4.27, TOTAL LOSS =     2.00, TOTAL EXCESS =     2.27

  PEAK FLOW     TIME                         MAXIMUM AVERAGE FLOW
                                     6-HR         24-HR        72-HR      24.97-HR
+   (CFS)       (HR)
                           (CFS)
+     309.     12.27                  57.           16.          16.           16.
                        (INCHES)    1.960         2.255        2.257         2.257
                         (AC-FT)      28.           32.          32.           32.

                       CUMULATIVE AREA =      .27 SQ MI


 *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***
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            **************
            *            *
186 KK      *    CP026A  *
            *            *
            **************
                          Combine routed hydrograph from 024 with runoff hydrograph from 026.
                          This combination was made for use in the hydraulic modeling of a
                          tributary to Rawhide Wash.

190 HC        HYDROGRAPH COMBINATION
                    ICOMP           2  NUMBER OF HYDROGRAPHS TO COMBINE

                                                         ***

      ***          ***           ***           ***            ***

                       HYDROGRAPH AT STATION    CP026A
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  PEAK FLOW     TIME                             MAXIMUM AVERAGE FLOW
                                         6-HR       24-HR       72-HR      24.97-HR
+    (CFS)       (HR)
                              (CFS)
+     2481.     12.27                    243.         67.         64.           64.
                            (INCHES)    1.752       1.931       1.932         1.932
                             (AC-FT)     120.        133.        133.          133.

                             CUMULATIVE AREA =    1.29 SQ MI


 *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***
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                 **************
                 *            *
  191 KK         *    CP026   *
                 *            *
                 **************
                              Combine hydrographs from CP022 and CP026A.
                              This combination was made for use in the hydraulic modeling of a
                              tributary to Rawhide Wash.

  195 HC            HYDROGRAPH COMBINATION
                          ICOMP           2  NUMBER OF HYDROGRAPHS TO COMBINE

                                                                          ***

       ***              ***              ***             ***              ***

                              HYDROGRAPH AT STATION    CP026

  PEAK FLOW     TIME                             MAXIMUM AVERAGE FLOW
                                         6-HR       24-HR       72-HR      24.97-HR
+    (CFS)       (HR)
                              (CFS)
+     5412.     12.40                    692.        185.        178.          178.
                            (INCHES)    1.644       1.757       1.757         1.757
                             (AC-FT)     343.        367.        367.          367.

                             CUMULATIVE AREA =    3.91 SQ MI


 *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***
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                 *            *
  196 KK         *   R030-2   *
                 *            *
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                              Route the combined hydrograph from CP026 to CP030

                 HYDROGRAPH ROUTING DATA

  198 RS            STORAGE ROUTING
                         NSTPS           1  NUMBER OF SUBREACHES
                          ITYP        FLOW  TYPE OF INITIAL CONDITION
                        RSVRIC       -1.00  INITIAL CONDITION
                             X         .00 WORKING R AND D COEFFICIENT

  199 RC            NORMAL DEPTH CHANNEL
                           ANL        .045  LEFT OVERBANK N-VALUE
                          ANCH        .035  MAIN CHANNEL N-VALUE
                           ANR        .045  RIGHT OVERBANK N-VALUE
                         RLNTH       1354.  REACH LENGTH
                           SEL       .0160  ENERGY SLOPE
                         ELMAX          .0  MAX. ELEV. FOR STORAGE/OUTFLOW CALCULATION

                                          CROSS-SECTION DATA
                               --- LEFT OVERBANK --- + ------ MAIN CHANNEL ------- + --- RIGHT OVERBANK ---
  201 RY        ELEVATION   2604.00   2598.00   2598.00   2596.00   2596.00   2594.00   2594.00   2604.00
  200 RX        DISTANCE     214.00    314.00    479.00    518.00    654.00    771.00    852.00    939.00

                                                                          ***

                                        COMPUTED STORAGE-OUTFLOW-ELEVATION DATA

           STORAGE         .00      1.61      3.81      6.58     10.37     16.29     22.45     28.86     36.59     46.15
           OUTFLOW         .00    135.45    490.76   1084.49   1751.86   3365.03   5493.72   8096.17  11260.71  15276.39
         ELEVATION     2594.00   2594.53   2595.05   2595.58   2596.11   2596.63   2597.16   2597.68   2598.21   2598.74

           STORAGE       55.94     65.95     76.17     86.61     97.27    108.15    119.25    130.57    142.10    153.85
           OUTFLOW    19974.87  25303.44  31232.77  37743.36  44821.39  52456.68  60641.67  69370.69  78639.52  88446.43
         ELEVATION     2599.26   2599.79   2600.32   2600.84   2601.37   2601.90   2602.42   2602.95   2603.47   2604.00

*** WARNING *** MODIFIED PULS ROUTING MAY BE NUMERICALLY UNSTABLE FOR OUTFLOWS BETWEEN    52457. TO    88446.
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                THE ROUTED HYDROGRAPH SHOULD BE EXAMINED FOR OSCILLATIONS OR OUTFLOWS GREATER THAN PEAK INFLOWS.
                THIS CAN BE CORRECTED BY DECREASING THE TIME INTERVAL OR INCREASING STORAGE (USE A LONGER REACH.)

      ***            ***            ***            ***            ***

                          HYDROGRAPH AT STATION   R030-2

  PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
                                    6-HR       24-HR       72-HR     24.97-HR
+   (CFS)      (HR)
                          (CFS)
+    5366.     12.43                 692.        185.        178.         178.
                        (INCHES)    1.644       1.757       1.757        1.757
                        (AC-FT)      343.        367.        367.         367.

 PEAK STORAGE   TIME                        MAXIMUM AVERAGE STORAGE
                                    6-HR       24-HR       72-HR     24.97-HR
+  (AC-FT)     (HR)
       22.     12.43                   4.          1.          1.           1.

  PEAK STAGE    TIME                        MAXIMUM AVERAGE STAGE
                                    6-HR       24-HR       72-HR     24.97-HR
+   (FEET)     (HR)
   2597.13     12.43              2594.78     2594.23     2594.22      2594.22

                         CUMULATIVE AREA =    3.91 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***
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              *            *
 202 KK       *    CP030   *
              *            *
              **************
                           Combine hydrograph from CP026 and CP030A.
                           This combination was made for use in the hydraulic modeling of a
                           tributary to Rawhide Wash.

 206 HC           HYDROGRAPH COMBINATION
                        ICOMP          2  NUMBER OF HYDROGRAPHS TO COMBINE

                                                                     ***

      ***            ***            ***            ***            ***

                          HYDROGRAPH AT STATION    CP030

  PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
                                    6-HR       24-HR       72-HR     24.97-HR
+   (CFS)      (HR)
                          (CFS)
+    5666.     12.43                 861.        229.        220.         220.
                        (INCHES)    1.504       1.602       1.602        1.602
                        (AC-FT)      427.        454.        455.         455.

                         CUMULATIVE AREA =    5.32 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***
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              *            *
 207 KK       *   R038-1   *
              *            *
              **************
                           Route combined hydrograph from CP030 to CP038

              HYDROGRAPH ROUTING DATA

 209 RS           STORAGE ROUTING
                        NSTPS          2  NUMBER OF SUBREACHES
                         ITYP       FLOW  TYPE OF INITIAL CONDITION
                       RSVRIC      -1.00  INITIAL CONDITION
                            X        .00 WORKING R AND D COEFFICIENT

 210 RC           NORMAL DEPTH CHANNEL
                          ANL       .045  LEFT OVERBANK N-VALUE
                         ANCH       .035  MAIN CHANNEL N-VALUE
                          ANR       .045  RIGHT OVERBANK N-VALUE
                        RLNTH      1605.  REACH LENGTH
                          SEL      .0120  ENERGY SLOPE
                        ELMAX         .0  MAX. ELEV. FOR STORAGE/OUTFLOW CALCULATION

                                           CROSS-SECTION DATA
                            --- LEFT OVERBANK --- + ------ MAIN CHANNEL ------- + --- RIGHT OVERBANK ---
 212 RY         ELEVATION   2582.00   2576.00   2574.00   2572.00   2572.00   2580.00   2580.00   2582.00
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 211 RX        DISTANCE     290.00    378.00    536.00    538.00    607.00    650.00    727.00    753.00

                                                                  ***

                                                 COMPUTED STORAGE-OUTFLOW-ELEVATION DATA

            STORAGE        .00       1.37       2.81       4.31       5.89       8.08      11.13      15.04      19.76      24.80
            OUTFLOW        .00     111.07     354.99     702.85    1145.64    1708.56    2438.05    3373.12    4578.89    6077.35
          ELEVATION    2572.00    2572.53    2573.05    2573.58    2574.11    2574.63    2575.16    2575.68    2576.21    2576.74

            STORAGE      30.05      35.50      41.16      47.02      53.08      59.35      67.05      75.33      83.88      92.72
            OUTFLOW    7807.90    9764.12   11942.63   14341.88   16961.61   19802.34   23091.44   26775.24   30785.12   35113.73
          ELEVATION    2577.26    2577.79    2578.32    2578.84    2579.37    2579.90    2580.42    2580.95    2581.47    2582.00

 *** WARNING *** MODIFIED PULS ROUTING MAY BE NUMERICALLY UNSTABLE FOR OUTFLOWS BETWEEN      9764. TO     35114.
                 THE ROUTED HYDROGRAPH SHOULD BE EXAMINED FOR OSCILLATIONS OR OUTFLOWS GREATER THAN PEAK INFLOWS.
                 THIS CAN BE CORRECTED BY DECREASING THE TIME INTERVAL OR INCREASING STORAGE (USE A LONGER REACH.)

       ***             ***             ***             ***             ***

                               HYDROGRAPH AT STATION    R038-1

  PEAK FLOW      TIME                               MAXIMUM AVERAGE FLOW
                                          6-HR        24-HR        72-HR       24.97-HR
+   (CFS)        (HR)
                             (CFS)
+    5638.      12.47                     861.         229.         220.         220.
                           (INCHES)      1.504        1.602        1.602        1.602
                            (AC-FT)       427.         454.         454.         454.

 PEAK STORAGE    TIME                               MAXIMUM AVERAGE STORAGE
                                          6-HR        24-HR        72-HR       24.97-HR
+  (AC-FT)       (HR)
       12.      12.47                       2.           1.           1.           1.

  PEAK STAGE     TIME                               MAXIMUM AVERAGE STAGE
                                          6-HR        24-HR        72-HR       24.97-HR
+   (FEET)       (HR)
   2576.58      12.47                  2573.29      2572.40      2572.38      2572.38

                            CUMULATIVE AREA =      5.32 SQ MI


 *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***
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              *            *
 213 KK       *      034   *
              *            *
              **************
                              SUB-BASIN 034
                              24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
                              THIS BASIN USED RAINFALL REDUCTION FACTOR OF   .928
                                L = 1.32  Kb = .049  Adj. Slope =    97.0

                SUBBASIN RUNOFF DATA

 218 BA           SUBBASIN CHARACTERISTICS
                        TAREA         .30  SUBBASIN AREA

                  PRECIPITATION DATA

  14 PB                 STORM        4.27  BASIN TOTAL PRECIPITATION

  14 PI             INCREMENTAL PRECIPITATION PATTERN
                        .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                        .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                        .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
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219 LG GREEN AND AMPT LOSS RATE

STRTL	.15	STARTING LOSS
DTH	.38	MOISTURE DEFICIT
PSIF	6.40	WETTING FRONT SUCTION
XKSAT	.14	HYDRAULIC CONDUCTIVITY
RTIMP	16.00	PERCENT IMPERVIOUS AREA

220 UC CLARK UNITGRAPH

TC	.41	TIME OF CONCENTRATION
R	.34	STORAGE COEFFICIENT

221 UA ACCUMULATED-AREA VS. TIME, 11 ORDINATES

.0	3.0	5.0	8.0	12.0	20.0	43.0	75.0	90.0	96.0
100.0									

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UNIT HYDROGRAPH PARAMETERS

CLARK TC= .41 HR, R= .34 HR

SNYDER TP= .35 HR, CP= .68

UNIT HYDROGRAPH

62 END-OF-PERIOD ORDINATES

7.	17.	26.	37.	50.	73.	130.	228.	325.	377.
384.	370.	347.	317.	287.	260.	236.	214.	194.	176.
160.	145.	131.	119.	108.	98.	89.	80.	73.	66.
60.	54.	49.	45.	41.	37.	33.	30.	27.	25.
23.	20.	19.	17.	15.	14.	13.	11.	10.	9.
8.	8.	7.	6.	6.	5.	5.	4.	4.	4.
3.	3.								

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HYDROGRAPH AT STATION 034

TOTAL RAINFALL = 4.27, TOTAL LOSS = 2.30, TOTAL EXCESS = 1.96

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.97-HR
+ (CFS)	(HR)					
		(CFS)				
+ 444.	12.27		56.	16.	15.	15.
		(INCHES)	1.757	1.954	1.955	1.955
		(AC-FT)	28.	31.	31.	31.

CUMULATIVE AREA = .30 SQ MI

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              *            *
 223 KK       *   R036-1   *
              *            *
              **************
                       Route runoff hydrograph from 034 to CP036

                HYDROGRAPH ROUTING DATA

 225 RS           STORAGE ROUTING
                        NSTPS            8  NUMBER OF SUBREACHES
                         ITYP         FLOW  TYPE OF INITIAL CONDITION
                       RSVRIC        -1.00  INITIAL CONDITION
                            X          .00  WORKING R AND D COEFFICIENT

 226 RC           NORMAL DEPTH CHANNEL
                          ANL         .045  LEFT OVERBANK N-VALUE
                         ANCH         .035  MAIN CHANNEL N-VALUE
                          ANR         .045  RIGHT OVERBANK N-VALUE
                        RLNTH        5295.  REACH LENGTH
                          SEL        .0190  ENERGY SLOPE
                        ELMAX           .0  MAX. ELEV. FOR STORAGE/OUTFLOW CALCULATION

                                         CROSS-SECTION DATA
                           --- LEFT OVERBANK --- + ------ MAIN CHANNEL ------- + --- RIGHT OVERBANK ---
 228 RY        ELEVATION  2652.00   2646.00   2646.00   2642.00   2642.00   2644.00   2644.00   2652.00
 227 RX        DISTANCE   9725.00   9842.00   9891.00   9970.00  10030.00  10032.00  10143.00  10241.00

                                                  ***

                                      COMPUTED STORAGE-OUTFLOW-ELEVATION DATA

      STORAGE       .00      4.19      9.08     14.66     22.38     36.73     52.16     68.66     87.50    109.29
      OUTFLOW       .00    124.69    410.56    838.99   1423.58   2375.94   3679.40   5308.21   7367.13   9992.12
    ELEVATION   2642.00   2642.53   2643.05   2643.58   2644.11   2644.63   2645.16   2645.68   2646.21   2646.74

      STORAGE    132.15    156.08    181.08    207.15    234.28    262.49    291.76    322.11    353.52    386.00
      OUTFLOW  13022.68  16447.67  20263.81  24471.14  29071.57  34068.16  39464.79  45265.89  51476.34  58102.60
    ELEVATION   2647.26   2647.79   2648.32   2648.84   2649.37   2649.90   2650.42   2650.95   2651.47   2652.00

*** WARNING *** MODIFIED PULS ROUTING MAY BE NUMERICALLY UNSTABLE FOR OUTFLOWS BETWEEN      3679. TO     58103.
                THE ROUTED HYDROGRAPH SHOULD BE EXAMINED FOR OSCILLATIONS OR OUTFLOWS GREATER THAN PEAK INFLOWS.
                THIS CAN BE CORRECTED BY DECREASING THE TIME INTERVAL OR INCREASING STORAGE (USE A LONGER REACH.)

      ***             ***             ***             ***             ***

                     HYDROGRAPH AT STATION   R036-1

  PEAK FLOW     TIME                         MAXIMUM AVERAGE FLOW
                                      6-HR        24-HR        72-HR      24.97-HR
+   (CFS)       (HR)
                           (CFS)
+      415.     12.47                  56.          16.          15.          15.
                         (INCHES)    1.757        1.953        1.954        1.954
                          (AC-FT)      28.          31.          31.          31.

 PEAK STORAGE   TIME                        MAXIMUM AVERAGE STORAGE
                                      6-HR        24-HR        72-HR      24.97-HR
+  (AC-FT)      (HR)
         1.     12.47                   0.           0.           0.           0.

  PEAK STAGE    TIME                         MAXIMUM AVERAGE STAGE
                                      6-HR        24-HR        72-HR      24.97-HR
+   (FEET)      (HR)
    2643.06     12.47              2642.19      2642.04      2642.04      2642.04

                        CUMULATIVE AREA =      .30 SQ MI
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              **************
              *            *
 229 KK       *       036  *
              *            *
              **************
                       SUB-BASIN 036
                       24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
                       THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .928
                         L = 1.37  Kb = .050  Adj. Slope =  278.2

                SUBBASIN RUNOFF DATA
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234 BA          SUBBASIN CHARACTERISTICS
                      TAREA         .25  SUBBASIN AREA

                PRECIPITATION DATA

 14 PB                STORM        4.27  BASIN TOTAL PRECIPITATION

 14 PI            INCREMENTAL PRECIPITATION PATTERN
                      .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                      .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                      .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                      .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                      .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                      .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
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                      .01       .01       .03       .04       .04       .04       .04       .04       .04       .04
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235 LG          GREEN AND AMPT LOSS RATE
                      STRTL         .15  STARTING LOSS
                        DTH         .35  MOISTURE DEFICIT
                       PSIF        7.00  WETTING FRONT SUCTION
                      XKSAT         .11  HYDRAULIC CONDUCTIVITY
                      RTIMP       19.00  PERCENT IMPERVIOUS AREA

236 UC          CLARK UNITGRAPH
                         TC         .28  TIME OF CONCENTRATION
                          R         .25  STORAGE COEFFICIENT

237 UA          ACCUMULATED-AREA VS. TIME,  11 ORDINATES
                       .0       3.0       5.0       8.0      12.0      20.0      43.0      75.0      90.0      96.0
                    100.0
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                                      UNIT HYDROGRAPH PARAMETERS
                                 CLARK   TC=   .28 HR,        R=   .25 HR
                                SNYDER   TP=   .24 HR,       CP=   .65

                                           UNIT HYDROGRAPH
                                      45 END-OF-PERIOD ORDINATES
          10.       28.       46.       78.      172.      333.      437.      442.      408.      361.
         316.      276.      242.      211.      185.      162.      142.      124.      108.       95.
          83.       73.       64.       56.       49.       43.       37.       33.       29.       25.
          22.       19.       17.       15.       13.       11.       10.        9.        8.        7.
           6.        5.        4.        4.        3.

     ***            ***            ***            ***            ***

                      HYDROGRAPH AT STATION      036

      TOTAL RAINFALL =     4.27, TOTAL LOSS =     2.13, TOTAL EXCESS =     2.14

   PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
                                    6-HR       24-HR       72-HR     24.97-HR
 +   (CFS)       (HR)
                              (CFS)
 +      463.     12.17                 51.         14.         14.          14.
                           (INCHES)  1.893       2.127       2.128        2.128
                            (AC-FT)    25.         28.         28.          28.

                        CUMULATIVE AREA =      .25 SQ MI


 *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***
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              *            *
   239 KK     *    CP036   *
              *            *
              **************
                      Combine routed hydrograph from 034 with runoff hydrograph from 036

   241 HC          HYDROGRAPH COMBINATION
                          ICOMP            2  NUMBER OF HYDROGRAPHS TO COMBINE

                                                     ***

     ***            ***            ***            ***            ***

                      HYDROGRAPH AT STATION    CP036

   PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
                                    6-HR       24-HR       72-HR     24.97-HR
 +   (CFS)       (HR)
                              (CFS)
 +      648.     12.40                107.         30.         29.          29.
                           (INCHES)  1.818       2.032       2.033        2.033
                            (AC-FT)    53.         59.         59.          59.

                        CUMULATIVE AREA =      .55 SQ MI


 *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***
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              *            *
   242 KK     *   R038-2   *
              *            *
              **************
                      Route combined hydrograph from CP036 to CP038A.

                HYDROGRAPH ROUTING DATA

   244 RS          STORAGE ROUTING
                        NSTPS            1  NUMBER OF SUBREACHES
                         ITYP         FLOW  TYPE OF INITIAL CONDITION
                       RSVRIC        -1.00  INITIAL CONDITION
                            X          .00 WORKING R AND D COEFFICIENT

   245 RC          NORMAL DEPTH CHANNEL
                          ANL         .045  LEFT OVERBANK N-VALUE
                         ANCH         .035  MAIN CHANNEL N-VALUE
                          ANR         .045  RIGHT OVERBANK N-VALUE
                        RLNTH         483.  REACH LENGTH
                          SEL        .0250  ENERGY SLOPE
                        ELMAX           .0  MAX. ELEV. FOR STORAGE/OUTFLOW CALCULATION

                                          CROSS-SECTION DATA
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                              --- LEFT OVERBANK --- + ------ MAIN CHANNEL ------- + --- RIGHT OVERBANK ---
  247 RY        ELEVATION   2578.00   2574.00   2574.00   2572.00   2572.00   2574.00   2576.00   2578.00
  246 RX         DISTANCE   9837.00   9891.00   9971.00   9988.00  10012.00  10126.00  10148.00  10177.00

                                                                ***

                                              COMPUTED STORAGE-OUTFLOW-ELEVATION DATA

          STORAGE          .00        .12        .31        .58        .92       1.32       1.81       2.54       3.39       4.27
          OUTFLOW          .00      28.37     108.39     250.90     467.74     770.07    1168.46    1781.94    2624.95    3632.54
        ELEVATION      2572.00    2572.32    2572.63    2572.95    2573.26    2573.58    2573.89    2574.21    2574.53    2574.84

          STORAGE         5.18       6.12       7.08       8.07       9.09      10.14      11.22      12.33      13.48      14.65
          OUTFLOW      4794.00    6103.20    7556.16    9149.00   10879.70   12750.32   14760.52   16910.30   19199.89   21629.75
        ELEVATION      2575.16    2575.47    2575.79    2576.10    2576.42    2576.74    2577.05    2577.37    2577.68    2578.00

 *** WARNING *** MODIFIED PULS ROUTING MAY BE NUMERICALLY UNSTABLE FOR OUTFLOWS BETWEEN      468. TO    21630.
                 THE ROUTED HYDROGRAPH SHOULD BE EXAMINED FOR OSCILLATIONS OR OUTFLOWS GREATER THAN PEAK INFLOWS.
                 THIS CAN BE CORRECTED BY DECREASING THE TIME INTERVAL OR INCREASING STORAGE (USE A LONGER REACH.)

       ***             ***             ***             ***             ***

                                HYDROGRAPH AT STATION   R038-2

  PEAK FLOW      TIME                              MAXIMUM AVERAGE FLOW
                                         6-HR        24-HR        72-HR       24.97-HR
+   (CFS)        (HR)
                             (CFS)
+      647.     12.40                   107.          30.          29.           29.
                          (INCHES)     1.818        2.032        2.033         2.033
                           (AC-FT)       53.          59.          59.           59.

 PEAK STORAGE    TIME                            MAXIMUM AVERAGE STORAGE
                                         6-HR        24-HR        72-HR       24.97-HR
+  (AC-FT)       (HR)
        1.      12.40                     0.           0.           0.            0.

  PEAK STAGE     TIME                              MAXIMUM AVERAGE STAGE
                                         6-HR        24-HR        72-HR       24.97-HR
+   (FEET)       (HR)
   2573.45      12.40                2572.42      2572.13      2572.13       2572.13

                              CUMULATIVE AREA =      .55 SQ MI


 *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***
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              *            *
  248 KK      *      038   *
              *            *
              **************
                           SUB-BASIN 038
                           24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
                           THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .928
                             L = 1.27  Kb = .052  Adj. Slope =  303.0

               SUBBASIN RUNOFF DATA

  253 BA         SUBBASIN CHARACTERISTICS
                       TAREA          .18  SUBBASIN AREA

                 PRECIPITATION DATA

   14 PB               STORM          4.27  BASIN TOTAL PRECIPITATION

   14 PI           INCREMENTAL PRECIPITATION PATTERN
                       .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
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254 LG          GREEN AND AMPT LOSS RATE
                      STRTL         .15  STARTING LOSS
                        DTH         .37  MOISTURE DEFICIT
                       PSIF        6.60  WETTING FRONT SUCTION
                      XKSAT         .13  HYDRAULIC CONDUCTIVITY
                      RTIMP       16.00  PERCENT IMPERVIOUS AREA

255 UC          CLARK UNITGRAPH
                         TC         .26  TIME OF CONCENTRATION
                          R         .27  STORAGE COEFFICIENT

256 UA          ACCUMULATED-AREA VS. TIME,  11 ORDINATES
                        .0        3.0       5.0       8.0      12.0      20.0      43.0      75.0      90.0      96.0
                     100.0
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UNIT HYDROGRAPH PARAMETERS

CLARK TC= .26 HR, R= .27 HR

SNYDER TP= .23 HR, CP= .61

UNIT HYDROGRAPH

48 END-OF-PERIOD ORDINATES

7.	20.	34.	62.	145.	258.	313.	308.	281.	248.
219.	193.	171.	151.	133.	117.	104.	91.	81.	71.
63.	55.	49.	43.	38.	34.	30.	26.	23.	20.
18.	16.	14.	12.	11.	10.	8.	7.	7.	6.
5.	5.	4.	4.	3.	3.	2.	2.		

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HYDROGRAPH AT STATION 038

TOTAL RAINFALL = 4.27, TOTAL LOSS = 2.28, TOTAL EXCESS = 1.99

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 PEAK FLOW     TIME                       MAXIMUM AVERAGE FLOW
                                 6-HR        24-HR       72-HR     24.97-HR
+   (CFS)      (HR)
                       (CFS)
+    323.     12.17                35.          10.          9.          9.
                     (INCHES)     1.784        1.981       1.982       1.982
                      (AC-FT)      17.          19.          19.         19.

                CUMULATIVE AREA =     .18 SQ MI
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*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***
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            **************
            *            *
 258 KK     *   CP038A   *
            *            *
            **************
                        Combine routed hydrograph from CP036 with runoff hydrograph from 038.
                        This combination was made for use in the hydraulic modeling of a
                        tributary to Rawhide Wash.

 262 HC          HYDROGRAPH COMBINATION
                      ICOMP           2  NUMBER OF HYDROGRAPHS TO COMBINE

                                                                        ***

      ***             ***             ***             ***             ***

                         HYDROGRAPH AT STATION   CP038A

 PEAK FLOW     TIME                           MAXIMUM AVERAGE FLOW
                                    6-HR        24-HR       72-HR      24.97-HR
+   (CFS)      (HR)
                          (CFS)
+      855.    12.30                142.         40.         38.         38.
                        (INCHES)   1.810       2.019       2.020       2.020
                         (AC-FT)     71.         79.         79.         79.

                        CUMULATIVE AREA =      .73 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***
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            **************
            *            *
 263 KK     *      032   *
            *            *
            **************
                        SUB-BASIN 032
                        24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
                        THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .928
                          L =  .40  Kb = .062  Adj. Slope =  100.0

                 SUBBASIN RUNOFF DATA

 268 BA           SUBBASIN CHARACTERISTICS
                      TAREA          .03  SUBBASIN AREA

                  PRECIPITATION DATA

  14 PB               STORM         4.27  BASIN TOTAL PRECIPITATION

  14 PI             INCREMENTAL PRECIPITATION PATTERN
                      .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
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269 LG GREEN AND AMPT LOSS RATE

STRTL	.15	STARTING LOSS
DTH	.35	MOISTURE DEFICIT
PSIF	4.55	WETTING FRONT SUCTION
XKSAT	.31	HYDRAULIC CONDUCTIVITY
RTIMP	3.00	PERCENT IMPERVIOUS AREA

270 UC CLARK UNITGRAPH

TC	.23	TIME OF CONCENTRATION
R	.25	STORAGE COEFFICIENT

271 UA ACCUMULATED-AREA VS. TIME, 11 ORDINATES

.0	3.0	5.0	8.0	12.0	20.0	43.0	75.0	90.0	96.0
100.0									

***

UNIT HYDROGRAPH PARAMETERS
CLARK TC= .23 HR, R= .25 HR
SNYDER TP= .21 HR, CP= .59

UNIT HYDROGRAPH
44 END-OF-PERIOD ORDINATES

2.	4.	8.	19.	42.	60.	61.	56.	49.	43.
37.	33.	29.	25.	22.	19.	17.	15.	13.	11.
10.	8.	7.	6.	6.	5.	4.	4.	3.	3.
3.	2.	2.	2.	1.	1.	1.	1.	1.	1.
1.	1.	0.	0.						

*** *** *** *** ***

HYDROGRAPH AT STATION 032

TOTAL RAINFALL = 4.27, TOTAL LOSS = 2.89, TOTAL EXCESS = 1.38

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.97-HR
+ (CFS)	(HR)					
		(CFS)				
+ 55.	12.13		5.	1.	1.	1.
		(INCHES)	1.338	1.375	1.375	1.375
		(AC-FT)	2.	2.	2.	2.

CUMULATIVE AREA = .03 SQ MI

*** ***
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273 KK * CP038 *

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              *            *
              **************
                             Combine hydrograph from CP038a with runoff hydrographs from 032.
                             This combination was made for use in the hydraulic modeling of a
                             tributary to Rawhide Wash.

 277 HC           HYDROGRAPH COMBINATION
                        ICOMP            3  NUMBER OF HYDROGRAPHS TO COMBINE

                                                                            ***

      ***            ***             ***             ***             ***

                             HYDROGRAPH AT STATION    CP038

  PEAK FLOW       TIME                              MAXIMUM AVERAGE FLOW
                                          6-HR         24-HR       72-HR       24.97-HR
+   (CFS)        (HR)
                               (CFS)
+    6445.      12.43                    1007.         270.        260.          260.
                              (INCHES)   1.539        1.650       1.651         1.651
                              (AC-FT)     499.         536.        536.          536.

                             CUMULATIVE AREA =     6.08 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***
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              *            *
 278 KK       *   R040-1   *
              *            *
              **************
                             Route combined hydrograph from CP038 to CP040

              HYDROGRAPH ROUTING DATA

 280 RS           STORAGE ROUTING
                        NSTPS            4  NUMBER OF SUBREACHES
                         ITYP         FLOW  TYPE OF INITIAL CONDITION
                       RSVRIC        -1.00  INITIAL CONDITION
                            X          .00 WORKING R AND D COEFFICIENT

 281 RC           NORMAL DEPTH CHANNEL
                          ANL         .045  LEFT OVERBANK N-VALUE
                         ANCH         .035  MAIN CHANNEL N-VALUE
                          ANR         .045  RIGHT OVERBANK N-VALUE
                        RLNTH        3775.  REACH LENGTH
                          SEL        .0190  ENERGY SLOPE
                        ELMAX           .0  MAX. ELEV. FOR STORAGE/OUTFLOW CALCULATION

                                                   CROSS-SECTION DATA
                             --- LEFT OVERBANK --- + ------ MAIN CHANNEL ------- + --- RIGHT OVERBANK ---
 283 RY         ELEVATION   2540.00    2536.00    2530.00    2530.00    2528.00    2528.00    2534.00    2540.00
 282 RX         DISTANCE      47.00      75.00     224.00     433.00     448.00     523.00     609.00     678.00

                                                                            ***

                                                 COMPUTED STORAGE-OUTFLOW-ELEVATION DATA

             STORAGE          .00       4.48       9.72      15.71      32.20      51.94      73.04      95.48     119.29     144.44
             OUTFLOW          .00     212.85     702.51    1434.46    2238.57    4782.60    8128.00   12242.12   17109.96   22725.81
           ELEVATION      2528.00    2528.63    2529.26    2529.89    2530.53    2531.16    2531.79    2532.42    2533.05    2533.68

             STORAGE       170.94     198.71     227.73     257.97     288.99     320.65     352.95     385.89     419.47     453.69
             OUTFLOW     29105.71   36248.01   44138.50   52852.61   62452.03   72781.60   83832.40   95597.65  108072.30  121252.80
           ELEVATION      2534.32    2534.95    2535.58    2536.21    2536.84    2537.47    2538.11    2538.74    2539.37    2540.00

*** WARNING *** MODIFIED PULS ROUTING MAY BE NUMERICALLY UNSTABLE FOR OUTFLOWS BETWEEN      8128. TO    121253.
                THE ROUTED HYDROGRAPH SHOULD BE EXAMINED FOR OSCILLATIONS OR OUTFLOWS GREATER THAN PEAK INFLOWS.
                THIS CAN BE CORRECTED BY DECREASING THE TIME INTERVAL OR INCREASING STORAGE (USE A LONGER REACH.)

      ***            ***             ***             ***             ***

                             HYDROGRAPH AT STATION    R040-1

  PEAK FLOW       TIME                              MAXIMUM AVERAGE FLOW
                                          6-HR         24-HR       72-HR       24.97-HR
+   (CFS)        (HR)
                               (CFS)
+    6379.      12.53                    1007.         270.        260.          260.
                              (INCHES)   1.539        1.650       1.650         1.650
                              (AC-FT)     499.         535.        535.          535.

 PEAK STORAGE     TIME                             MAXIMUM AVERAGE STORAGE
                                          6-HR         24-HR       72-HR       24.97-HR
+  (AC-FT)       (HR)
       16.      12.53                       3.           1.          1.            1.

  PEAK STAGE      TIME                              MAXIMUM AVERAGE STAGE
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319 LG         GREEN AND AMPT LOSS RATE
                     STRTL        .15  STARTING LOSS
                       DTH        .40  MOISTURE DEFICIT
                      PSIF       6.00  WETTING FRONT SUCTION
                     XKSAT        .16  HYDRAULIC CONDUCTIVITY
                     RTIMP       8.00  PERCENT IMPERVIOUS AREA

320 UC         CLARK UNITGRAPH
                        TC        .28  TIME OF CONCENTRATION
                         R        .24  STORAGE COEFFICIENT

321 UA         ACCUMULATED-AREA VS. TIME,  11 ORDINATES
                     .0       3.0       5.0       8.0      12.0      20.0      43.0      75.0      90.0      96.0
                  100.0

                                                ***

                                     UNIT HYDROGRAPH PARAMETERS
                               CLARK   TC=   .28 HR,        R=   .24 HR
                              SNYDER   TP=   .24 HR,       CP=   .67

                                          UNIT HYDROGRAPH
                                     44 END-OF-PERIOD ORDINATES
            14.       37.       59.       99.      210.      420.      573.      587.      546.      485.
           422.      367.      320.      279.      243.      211.      184.      160.      139.      121.
           106.       92.       80.       70.       61.       53.       46.       40.       35.       30.
            26.       23.       20.       17.       15.       13.       12.       10.        9.        8.
             7.        6.        5.        4.

      ***             ***             ***             ***             ***

                       HYDROGRAPH AT STATION       042

   TOTAL RAINFALL =     4.27, TOTAL LOSS =     2.57, TOTAL EXCESS =     1.69

  PEAK FLOW      TIME                          MAXIMUM AVERAGE FLOW
                                      6-HR        24-HR       72-HR     24.97-HR
+   (CFS)        (HR)
                           (CFS)
+      579.     12.17                   55.          15.         14.          14.
                         (INCHES)     1.587        1.686       1.686        1.686
                          (AC-FT)       28.          29.         29.          29.

                       CUMULATIVE AREA =      .32 SQ MI


 *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***
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            *            *
 323 KK     *    CP042   *
            *            *
            **************
                        Combine routed hydrograph from CP040 with runoff hydrographs from 041 & 042

 325 HC        HYDROGRAPH COMBINATION
                     ICOMP            3  NUMBER OF HYDROGRAPHS TO COMBINE

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      ***            ***            ***            ***            ***

                          HYDROGRAPH AT STATION    CP042

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                      6-HR       24-HR       72-HR     24.97-HR
+   (CFS)       (HR)
                    (CFS)
+    6755.     12.53                1125.        301.        289.         289.
                (INCHES)            1.537       1.645       1.645        1.645
                (AC-FT)              558.        597.        597.         597.

                          CUMULATIVE AREA =    6.80 SQ MI


 *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***
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             *            *
  326 KK     *    R043-1  *
             *            *
             **************
                          Route combined hydrograph from CP040 to CP042

               HYDROGRAPH ROUTING DATA

  328 RS         STORAGE ROUTING
                      NSTPS           7  NUMBER OF SUBREACHES
                       ITYP        FLOW  TYPE OF INITIAL CONDITION
                     RSVRIC       -1.00  INITIAL CONDITION
                          X         .00 WORKING R AND D COEFFICIENT

  329 RC         NORMAL DEPTH CHANNEL
                        ANL        .045  LEFT OVERBANK N-VALUE
                       ANCH        .035  MAIN CHANNEL N-VALUE
                        ANR        .045  RIGHT OVERBANK N-VALUE
                      RLNTH       7504.  REACH LENGTH
                        SEL       .0170  ENERGY SLOPE
                      ELMAX          .0  MAX. ELEV. FOR STORAGE/OUTFLOW CALCULATION

                                    CROSS-SECTION DATA
                          --- LEFT OVERBANK --- + ------ MAIN CHANNEL ------- + --- RIGHT OVERBANK ---
  331 RY        ELEVATION   2486.00   2482.00   2476.00   2482.00   2476.00   2476.00   2482.00   2486.00
  330 RX        DISTANCE     263.00    349.00    381.00    450.00    522.00    756.00    847.00    973.00

                                                   ***

                                    COMPUTED STORAGE-OUTFLOW-ELEVATION DATA

            STORAGE        .00     22.27     46.64     73.11    101.67    132.34    165.11    199.98    236.95    276.02
            OUTFLOW        .00    454.75   1473.44   2956.16   4874.13   7216.91   9982.34  13172.81  16793.50  20851.32
          ELEVATION    2476.00   2476.53   2477.05   2477.58   2478.11   2478.63   2479.16   2479.68   2480.21   2480.74

            STORAGE     317.19    360.46    405.90    453.84    504.32    557.32    612.85    670.91    731.50    794.62
            OUTFLOW   25354.43  30311.79  35963.23  42334.57  49282.25  56802.84  64899.93  73580.38  82852.70  92727.70
          ELEVATION    2481.26   2481.79   2482.32   2482.84   2483.37   2483.90   2484.42   2484.95   2485.47   2486.00

 *** WARNING *** MODIFIED PULS ROUTING MAY BE NUMERICALLY UNSTABLE FOR OUTFLOWS BETWEEN    16793. TO    92728.
                 THE ROUTED HYDROGRAPH SHOULD BE EXAMINED FOR OSCILLATIONS OR OUTFLOWS GREATER THAN PEAK INFLOWS.
                 THIS CAN BE CORRECTED BY DECREASING THE TIME INTERVAL OR INCREASING STORAGE (USE A LONGER REACH.)

      ***            ***            ***            ***            ***

                          HYDROGRAPH AT STATION   R043-1

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                      6-HR       24-HR       72-HR     24.97-HR
+   (CFS)       (HR)
                    (CFS)
+    6555.     12.73                1124.        300.        289.         289.
                (INCHES)            1.537       1.643       1.643        1.643
                (AC-FT)              557.        596.        596.         596.

 PEAK STORAGE   TIME                          MAXIMUM AVERAGE STORAGE
                                      6-HR       24-HR       72-HR     24.97-HR
+  (AC-FT)      (HR)
       18.     12.73                  4.          1.          1.           1.

  PEAK STAGE    TIME                          MAXIMUM AVERAGE STAGE
                                      6-HR       24-HR       72-HR     24.97-HR
+   (FEET)      (HR)
   2478.48     12.73              2476.67     2476.18     2476.18      2476.18

                          CUMULATIVE AREA =    6.80 SQ MI
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                  *            *
 332 KK           *      043   *
                  *            *
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SUB-BASIN 043
24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
THIS BASIN USED RAINFALL REDUCTION FACTOR OF .928
L = 1.92 Kb = .049 Adj. Slope = 99.0

SUBBASIN RUNOFF DATA

337 BA SUBBASIN CHARACTERISTICS
TAREA .29 SUBBASIN AREA

PRECIPITATION DATA

14 PB STORM 4.27 BASIN TOTAL PRECIPITATION

14 PI INCREMENTAL PRECIPITATION PATTERN

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  338 LG          GREEN AND AMPT LOSS RATE
                        STRTL         .15  STARTING LOSS
                          DTH         .35  MOISTURE DEFICIT
                         PSIF        4.65  WETTING FRONT SUCTION
                        XKSAT         .29  HYDRAULIC CONDUCTIVITY
                        RTIMP        3.00  PERCENT IMPERVIOUS AREA

  339 UC          CLARK UNITGRAPH
                           TC         .54  TIME OF CONCENTRATION
                            R         .64  STORAGE COEFFICIENT

  340 UA          ACCUMULATED-AREA VS. TIME,  11 ORDINATES
                        .0       3.0       5.0       8.0      12.0      20.0      43.0      75.0      90.0      96.0
                    100.0

                                                                        ***

                                                             UNIT HYDROGRAPH PARAMETERS
                                                       CLARK   TC=   .54 HR,        R=   .64 HR
                                                      SNYDER   TP=   .48 HR,       CP=   .54

                                                                  UNIT HYDROGRAPH
                                                            112 END-OF-PERIOD ORDINATES
                        3.         7.        11.        15.        19.        24.        32.        43.        67.       105.
                      150.       188.       208.       215.       214.       211.       204.       194.       184.       175.
                      166.       158.       150.       142.       135.       128.       121.       115.       109.       104.
                       99.        94.        89.        84.        80.        76.        72.        68.        65.        62.
                       59.        56.        53.        50.        47.        45.        43.        41.        39.        37.
                       35.        33.        31.        30.        28.        27.        25.        24.        23.        22.
                       21.        20.        19.        18.        17.        16.        15.        14.        14.        13.
                       12.        12.        11.        10.        10.         9.         9.         8.         8.         8.
                        7.         7.         7.         6.         6.         6.         5.         5.         5.         5.
                        4.         4.         4.         4.         3.         3.         3.         3.         3.         3.
                        3.         2.         2.         2.         2.         2.         2.         2.         2.         2.
                        2.         1.

        ***             ***             ***             ***             ***

                          HYDROGRAPH AT STATION      043

     TOTAL RAINFALL =     4.27, TOTAL LOSS =     2.86, TOTAL EXCESS =     1.41

  PEAK FLOW      TIME                            MAXIMUM AVERAGE FLOW
                                         6-HR        24-HR        72-HR      24.97-HR
 +   (CFS)       (HR)
                                 (CFS)
 +      253.     12.37                     42.          11.          10.          10.
                              (INCHES)   1.362        1.399        1.399        1.399
                               (AC-FT)     21.          21.          21.          21.

                             CUMULATIVE AREA =       .29 SQ MI


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              *            *
  342 KK      *    CP043   *
              *            *
              **************
                          Combine routed hydrograph from CP042 with runoff hydrograph from 043

  344 HC          HYDROGRAPH COMBINATION
                        ICOMP           2  NUMBER OF HYDROGRAPHS TO COMBINE

                                                                        ***

        ***             ***             ***             ***             ***

                          HYDROGRAPH AT STATION    CP043

  PEAK FLOW      TIME                            MAXIMUM AVERAGE FLOW
                                         6-HR        24-HR        72-HR      24.97-HR
 +   (CFS)       (HR)
                                 (CFS)
 +     6720.     12.70                   1166.         311.         299.         299.
                              (INCHES)   1.530        1.633        1.633        1.633
                               (AC-FT)    578.         617.         617.         617.

                             CUMULATIVE AREA =      7.09 SQ MI


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                *             *
345 KK          *   R046-1    *
                *             *
                ***************
                       Route combined hydrograph from CP043 to CP046

               HYDROGRAPH ROUTING DATA

347 RS            STORAGE ROUTING
                        NSTPS         4  NUMBER OF SUBREACHES
                         ITYP      FLOW  TYPE OF INITIAL CONDITION
                       RSVRIC     -1.00  INITIAL CONDITION
                            X       .00 WORKING R AND D COEFFICIENT

348 RC            NORMAL DEPTH CHANNEL
                          ANL      .045  LEFT OVERBANK N-VALUE
                         ANCH      .035  MAIN CHANNEL N-VALUE
                          ANR      .045  RIGHT OVERBANK N-VALUE
                        RLNTH     2845.  REACH LENGTH
                          SEL     .0150  ENERGY SLOPE
                        ELMAX        .0  MAX. ELEV. FOR STORAGE/OUTFLOW CALCULATION

                                              CROSS-SECTION DATA
                             --- LEFT OVERBANK --- + ------ MAIN CHANNEL ------- + --- RIGHT OVERBANK ---
350 RY         ELEVATION   2300.00   2288.00   2288.00   2286.00   2286.00   2288.00   2288.00   2302.00
349 RX          DISTANCE   9425.00   9601.00   9923.00   9945.00  10019.00  10043.00  10267.00  10435.00

                                                         ***

                                                 COMPUTED STORAGE-OUTFLOW-ELEVATION DATA

            STORAGE        .00      4.60     10.27     35.80     73.81    113.06    153.55    195.27    238.23    282.42
            OUTFLOW        .00    304.39   1022.54   2988.66   7644.51  14316.07  22761.18  32851.81  44508.63  57679.07
          ELEVATION    2286.00   2286.84   2287.68   2288.53   2289.37   2290.21   2291.05   2291.89   2292.74   2293.58

            STORAGE     327.84    374.50    422.40    471.53    521.89    573.49    626.33    680.35    735.06    790.33
            OUTFLOW   72327.22  88428.42 105966.00 124929.20 145311.60 167110.60 190325.90 215531.00 243137.20 272184.30
          ELEVATION    2294.42   2295.26   2296.10   2296.95   2297.79   2298.63   2299.47   2300.31   2301.16   2302.00

*** WARNING *** MODIFIED PULS ROUTING MAY BE NUMERICALLY UNSTABLE FOR OUTFLOWS BETWEEN     14316. TO   272184.
                THE ROUTED HYDROGRAPH SHOULD BE EXAMINED FOR OSCILLATIONS OR OUTFLOWS GREATER THAN PEAK INFLOWS.
                THIS CAN BE CORRECTED BY DECREASING THE TIME INTERVAL OR INCREASING STORAGE (USE A LONGER REACH.)

      ***            ***            ***            ***            ***

                        HYDROGRAPH AT STATION   R046-1

  PEAK FLOW      TIME                          MAXIMUM AVERAGE FLOW
                                       6-HR        24-HR       72-HR      24.97-HR
+   (CFS)        (HR)
                             (CFS)
+    6583.      12.83                 1166.         311.        299.         299.
                           (INCHES)   1.530        1.632       1.633        1.633
                            (AC-FT)    578.         617.        617.         617.

 PEAK STORAGE    TIME                         MAXIMUM AVERAGE STORAGE
                                       6-HR        24-HR       72-HR      24.97-HR
+  (AC-FT)       (HR)
       16.      12.83                    3.           1.          1.           1.

  PEAK STAGE     TIME                          MAXIMUM AVERAGE STAGE
                                       6-HR        24-HR       72-HR      24.97-HR
+   (FEET)       (HR)
   2289.18      12.83                2287.19      2286.35     2286.34      2286.34

                          CUMULATIVE AREA =     7.09 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***
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               *             *
351 KK         *     044     *
               *             *
               ***************
                       SUB-BASIN 044
                       24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
                       THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .928
                         L = 2.99  Kb = .039  Adj. Slope =  240.0

               SUBBASIN RUNOFF DATA

356 BA            SUBBASIN CHARACTERISTICS
                        TAREA        1.40  SUBBASIN AREA

                  PRECIPITATION DATA

 14 PB                  STORM        4.27  BASIN TOTAL PRECIPITATION

 14 PI                INCREMENTAL PRECIPITATION PATTERN
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357 LG          GREEN AND AMPT LOSS RATE
                      STRTL          .15  STARTING LOSS
                        DTH          .39  MOISTURE DEFICIT
                       PSIF         5.80  WETTING FRONT SUCTION
                      XKSAT          .17  HYDRAULIC CONDUCTIVITY
                      RTIMP         5.00  PERCENT IMPERVIOUS AREA

358 UC          CLARK UNITGRAPH
                         TC          .42  TIME OF CONCENTRATION
                          R          .28  STORAGE COEFFICIENT

359 UA          ACCUMULATED-AREA VS. TIME,  11 ORDINATES
                        .0        3.0        5.0        8.0       12.0       20.0       43.0       75.0       90.0       96.0
                     100.0

                                                 ***

                                         UNIT HYDROGRAPH PARAMETERS
                                     CLARK   TC=    .42 HR,        R=    .28 HR
                                    SNYDER   TP=    .35 HR,       CP=    .77

                                               UNIT HYDROGRAPH
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                                                   52 END-OF-PERIOD ORDINATES
        37.        97.       144.       198.       265.       382.       671.      1167.      1712.      2044.
      2071.      1967.      1824.      1643.      1457.      1292.      1146.      1017.       902.       800.
       709.       629.       558.       495.       439.       389.       345.       306.       271.       241.
       213.       189.       168.       149.       132.       117.       104.        92.        82.        72.
        64.        57.        51.        45.        40.        35.        31.        28.        25.        22.
        19.        17.

          ***            ***            ***            ***            ***

                              HYDROGRAPH AT STATION      044

       TOTAL RAINFALL =     4.27, TOTAL LOSS =     2.67, TOTAL EXCESS =     1.60

    PEAK FLOW     TIME                               MAXIMUM AVERAGE FLOW
                                             6-HR        24-HR       72-HR     24.97-HR
 +    (CFS)       (HR)
                                  (CFS)
 +     2207.     12.27                         231.          60.         58.          58.
                                (INCHES)      1.531       1.593       1.593        1.593
                                 (AC-FT)       114.        119.        119.         119.

                             CUMULATIVE AREA =     1.40 SQ MI


 *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***
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              *            *
   361 KK     *   R046-2   *
              *            *
              **************
                               Route runoff hydrograph from 044 to CP046

                 HYDROGRAPH ROUTING DATA

   363 RS          STORAGE ROUTING
                         NSTPS           4  NUMBER OF SUBREACHES
                          ITYP        FLOW  TYPE OF INITIAL CONDITION
                        RSVRIC       -1.00  INITIAL CONDITION
                             X         .00 WORKING R AND D COEFFICIENT

   364 RC          NORMAL DEPTH CHANNEL
                           ANL        .045  LEFT OVERBANK N-VALUE
                          ANCH        .035  MAIN CHANNEL N-VALUE
                           ANR        .045  RIGHT OVERBANK N-VALUE
                         RLNTH       1882.  REACH LENGTH
                           SEL       .0160  ENERGY SLOPE
                         ELMAX          .0  MAX. ELEV. FOR STORAGE/OUTFLOW CALCULATION

                                                 CROSS-SECTION DATA
                           --- LEFT OVERBANK --- + ------ MAIN CHANNEL ------- + --- RIGHT OVERBANK ---
   366 RY        ELEVATION  2300.00   2288.00   2288.00   2286.00   2286.00   2288.00   2288.00   2302.00
   365 RX         DISTANCE  9425.00   9601.00   9923.00   9945.00  10019.00  10043.00  10267.00  10435.00
                                                                           ***

                                                   COMPUTED STORAGE-OUTFLOW-ELEVATION DATA

              STORAGE        .00       3.04       6.79      23.68      48.83      74.79     101.57     129.17     157.59     186.82
              OUTFLOW        .00     314.37    1056.07    3086.67    7895.22   14785.57   23507.65   33929.21   45968.32   59570.69
            ELEVATION    2286.00    2286.84    2287.68    2288.53    2289.37    2290.21    2291.05    2291.89    2292.74    2293.58

              STORAGE     216.87     247.74     279.42     311.92     345.24     379.37     414.32     450.06     486.25     522.81
              OUTFLOW   74699.23   91328.48  109441.20  129026.30  150077.20  172591.00  196567.80  222599.40  251111.00  281110.70
            ELEVATION    2294.42    2295.26    2296.10    2296.95    2297.79    2298.63    2299.47    2300.31    2301.16    2302.00

 *** WARNING *** MODIFIED PULS ROUTING MAY BE NUMERICALLY UNSTABLE FOR OUTFLOWS BETWEEN      314. TO    281111.
                 THE ROUTED HYDROGRAPH SHOULD BE EXAMINED FOR OSCILLATIONS OR OUTFLOWS GREATER THAN PEAK INFLOWS.
                 THIS CAN BE CORRECTED BY DECREASING THE TIME INTERVAL OR INCREASING STORAGE (USE A LONGER REACH.)

          ***            ***            ***            ***            ***

                              HYDROGRAPH AT STATION    R046-2

    PEAK FLOW     TIME                               MAXIMUM AVERAGE FLOW
                                             6-HR        24-HR       72-HR     24.97-HR
 +    (CFS)       (HR)
                                  (CFS)
 +     2118.     12.37                         231.          60.         58.          58.
                                (INCHES)      1.531       1.593       1.593        1.593
                                 (AC-FT)       114.        119.        119.         119.

   PEAK STORAGE   TIME                              MAXIMUM AVERAGE STORAGE
                                             6-HR        24-HR       72-HR     24.97-HR
 +   (AC-FT)      (HR)
            4.   12.37                           0.          0.          0.           0.

    PEAK STAGE    TIME                               MAXIMUM AVERAGE STAGE
                                             6-HR        24-HR       72-HR     24.97-HR
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+   (FEET)      (HR)
   2288.12     12.37              2286.35     2286.09     2286.08      2286.08

                         CUMULATIVE AREA =    1.40 SQ MI



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              **************
              *            *
  367 KK      *      046   *
              *            *
              **************
                          SUB-BASIN 046
                          24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
                          THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .928
                            L =  .67  Kb = .055  Adj. Slope =  101.0

                SUBBASIN RUNOFF DATA

  372 BA          SUBBASIN CHARACTERISTICS
                        TAREA         .11  SUBBASIN AREA

                  PRECIPITATION DATA

   14 PB                STORM        4.27  BASIN TOTAL PRECIPITATION

   14 PI            INCREMENTAL PRECIPITATION PATTERN
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373 LG         GREEN AND AMPT LOSS RATE
                     STRTL         .15  STARTING LOSS
                       DTH         .36  MOISTURE DEFICIT
                      PSIF        5.10  WETTING FRONT SUCTION
                     XKSAT         .23  HYDRAULIC CONDUCTIVITY
                     RTIMP        3.00  PERCENT IMPERVIOUS AREA

374 UC         CLARK UNITGRAPH
                        TC         .29  TIME OF CONCENTRATION
                         R         .24  STORAGE COEFFICIENT

375 UA         ACCUMULATED-AREA VS. TIME,  11 ORDINATES
                   .0       3.0       5.0       8.0      12.0      20.0      43.0      75.0      90.0      96.0
                100.0

                                                  ***

                                       UNIT HYDROGRAPH PARAMETERS
                                 CLARK   TC=   .29 HR,        R=   .24 HR
                                SNYDER   TP=   .24 HR,       CP=   .69

                                            UNIT HYDROGRAPH
                                       43 END-OF-PERIOD ORDINATES
              5.       13.       20.       33.       70.      141.      196.      203.      190.      169.
            146.      127.      110.       96.       83.       72.       63.       54.       47.       41.
             36.       31.       27.       23.       20.       18.       15.       13.       11.       10.
              9.        8.        7.        6.        5.        4.        4.        3.        3.        2.
              2.        2.        2.

      ***            ***            ***            ***            ***

                         HYDROGRAPH AT STATION       046

     TOTAL RAINFALL =     4.27, TOTAL LOSS =     2.80, TOTAL EXCESS =     1.47

   PEAK FLOW     TIME                       MAXIMUM AVERAGE FLOW
                                    6-HR        24-HR       72-HR     24.97-HR
 +   (CFS)       (HR)
                          (CFS)
 +      192.     12.17                17.           4.          4.           4.
                        (INCHES)    1.429       1.466       1.466        1.466
                         (AC-FT)       8.           9.          9.           9.

                        CUMULATIVE AREA =       .11 SQ MI


 *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***
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             *            *
  377 KK     *    CP046   *
             *            *
             **************
                          Combine routed hydrographs from CP042 and 044 with runoff hydrograph from
                          046

  380 HC         HYDROGRAPH COMBINATION
                       ICOMP          3  NUMBER OF HYDROGRAPHS TO COMBINE

                                                  ***

      ***            ***            ***            ***            ***

                         HYDROGRAPH AT STATION     CP046

   PEAK FLOW     TIME                       MAXIMUM AVERAGE FLOW
                                    6-HR        24-HR       72-HR     24.97-HR
 +   (CFS)       (HR)
                          (CFS)
 +     7150.     12.80              1412.         375.        361.         361.
                        (INCHES)    1.527       1.624       1.624        1.624
                         (AC-FT)     700.         745.        745.         745.

                        CUMULATIVE AREA =      8.60 SQ MI


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              *            *
 381 KK       *   R051-1   *
              *            *
              **************
                          Route combined hydrograph from CP046 to CP051

                 HYDROGRAPH ROUTING DATA

 383 RS            STORAGE ROUTING
                         NSTPS          2  NUMBER OF SUBREACHES
                          ITYP       FLOW  TYPE OF INITIAL CONDITION
                        RSVRIC      -1.00  INITIAL CONDITION
                             X        .00 WORKING R AND D COEFFICIENT

 384 RC            NORMAL DEPTH CHANNEL
                           ANL       .045  LEFT OVERBANK N-VALUE
                          ANCH       .035  MAIN CHANNEL N-VALUE
                           ANR       .045  RIGHT OVERBANK N-VALUE
                         RLNTH      1557.  REACH LENGTH
                           SEL      .0170  ENERGY SLOPE
                         ELMAX         .0  MAX. ELEV. FOR STORAGE/OUTFLOW CALCULATION

                                           CROSS-SECTION DATA
                            --- LEFT OVERBANK --- + ------ MAIN CHANNEL ------- + --- RIGHT OVERBANK ---
 386 RY          ELEVATION  2275.00   2261.00   2262.00   2260.00   2260.00   2263.00   2264.00   2275.00
 385 RX           DISTANCE  9822.00   9952.00   9976.00   9977.00  10023.00  10046.00  10356.00  10509.00

                                                                                     ***

                                            COMPUTED STORAGE-OUTFLOW-ELEVATION DATA

              STORAGE         .00      1.39      3.16      5.77      8.97     17.13     29.52     42.45     55.90     69.86
              OUTFLOW         .00    175.45    580.60   1264.40   2280.04   4032.57   7248.55  11658.77  17126.96  23592.90
            ELEVATION     2260.00   2260.79   2261.58   2262.37   2263.16   2263.95   2264.74   2265.53   2266.32   2267.11

              STORAGE       84.34     99.34    114.85    130.88    147.43    164.49    182.07    200.17    218.78    237.91
              OUTFLOW    31022.00  39393.51  48695.23  58920.66  70067.29  82135.57  95128.18 109049.50 123905.30 139706.00
            ELEVATION     2267.90   2268.69   2269.47   2270.26   2271.05   2271.84   2272.63   2273.42   2274.21   2275.00

 *** WARNING *** MODIFIED PULS ROUTING MAY BE NUMERICALLY UNSTABLE FOR OUTFLOWS BETWEEN    11659. TO    139706.
                 THE ROUTED HYDROGRAPH SHOULD BE EXAMINED FOR OSCILLATIONS OR OUTFLOWS GREATER THAN PEAK INFLOWS.
                 THIS CAN BE CORRECTED BY DECREASING THE TIME INTERVAL OR INCREASING STORAGE (USE A LONGER REACH.)

       ***             ***             ***             ***             ***

                           HYDROGRAPH AT STATION   R051-1

  PEAK FLOW     TIME                            MAXIMUM AVERAGE FLOW
                                        6-HR        24-HR       72-HR      24.97-HR
 +   (CFS)      (HR)
                               (CFS)
 +    7079.     12.87                  1412.        375.        361.         361.
                            (INCHES)   1.526        1.624       1.624        1.624
                             (AC-FT)    700.         744.        745.         745.

 PEAK STORAGE   TIME                           MAXIMUM AVERAGE STORAGE
                                        6-HR        24-HR       72-HR      24.97-HR
 +  (AC-FT)     (HR)
        14.     12.87                     3.           1.          1.           1.

  PEAK STAGE    TIME                            MAXIMUM AVERAGE STAGE
                                        6-HR        24-HR       72-HR      24.97-HR
 +   (FEET)     (HR)
   2264.70      12.87                2261.89      2260.57     2260.55      2260.55

                          CUMULATIVE AREA =    8.60 SQ MI


 *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***
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              *            *
 387 KK       *       048  *
              *            *
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                          SUB-BASIN 048
                          24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
                          THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .928
                            L =  .43  Kb = .059  Adj. Slope =  112.0

                 SUBBASIN RUNOFF DATA

 392 BA            SUBBASIN CHARACTERISTICS
                         TAREA        .06  SUBBASIN AREA

                   PRECIPITATION DATA

  14 PB                  STORM       4.27  BASIN TOTAL PRECIPITATION
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14 PI          INCREMENTAL PRECIPITATION PATTERN
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393 LG         GREEN AND AMPT LOSS RATE
                     STRTL         .15  STARTING LOSS
                       DTH         .35  MOISTURE DEFICIT
                      PSIF        4.90  WETTING FRONT SUCTION
                     XKSAT         .25  HYDRAULIC CONDUCTIVITY
                     RTIMP        3.00  PERCENT IMPERVIOUS AREA

394 UC         CLARK UNITGRAPH
                        TC         .22  TIME OF CONCENTRATION
                         R         .19  STORAGE COEFFICIENT

395 UA         ACCUMULATED-AREA VS. TIME,  11 ORDINATES
                  .0       3.0       5.0       8.0      12.0      20.0      43.0      75.0      90.0      96.0
               100.0

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                                      UNIT HYDROGRAPH PARAMETERS
                                  CLARK    TC=    .22 HR,        R=    .19 HR
                                 SNYDER    TP=    .20 HR,       CP=    .70
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                                                       UNIT HYDROGRAPH
                                                  34 END-OF-PERIOD ORDINATES
                    4.        10.        19.        45.        96.       129.       124.       108.        90.        75.
                   63.        53.        44.        37.        31.        26.        21.        18.        15.        13.
                   10.         9.         7.         6.         5.         4.         4.         3.         2.         2.
                    2.         1.         1.         1.

         ***             ***             ***             ***             ***

                            HYDROGRAPH AT STATION      048

       TOTAL RAINFALL =    4.27, TOTAL LOSS =    2.81, TOTAL EXCESS =    1.46

    PEAK FLOW     TIME                       MAXIMUM AVERAGE FLOW
                                      6-HR        24-HR        72-HR       24.97-HR
 +   (CFS)        (HR)
                              (CFS)
 +     108.      12.13                  9.          2.           2.            2.
                            (INCHES)  1.412       1.449        1.449         1.449
                             (AC-FT)     4.          4.           4.            4.

                            CUMULATIVE AREA =     .06 SQ MI


 *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***
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               **************
               *            *
  397 KK       *     051    *
               *            *
               **************
                              SUB-BASIN 051
                              24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
                              THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .928
                                L = 1.41  Kb = .052  Adj. Slope =  128.0

                 SUBBASIN RUNOFF DATA

  402 BA           SUBBASIN CHARACTERISTICS
                         TAREA         .16  SUBBASIN AREA

                   PRECIPITATION DATA

   14 PB                 STORM         4.27  BASIN TOTAL PRECIPITATION

   14 PI             INCREMENTAL PRECIPITATION PATTERN
                           .00        .00        .00        .00        .00        .00        .00        .00        .00        .00
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403 LG GREEN AND AMPT LOSS RATE

STRTL	.15	STARTING LOSS
DTH	.39	MOISTURE DEFICIT
PSIF	6.20	WETTING FRONT SUCTION
XKSAT	.15	HYDRAULIC CONDUCTIVITY
RTIMP	3.00	PERCENT IMPERVIOUS AREA

404 UC CLARK UNITGRAPH

TC	.40	TIME OF CONCENTRATION
R	.49	STORAGE COEFFICIENT

405 UA ACCUMULATED-AREA VS. TIME, 11 ORDINATES

.0	3.0	5.0	8.0	12.0	20.0	43.0	75.0	90.0	96.0
100.0									

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UNIT HYDROGRAPH PARAMETERS

CLARK TC= .40 HR, R= .49 HR

SNYDER TP= .37 HR, CP= .54

UNIT HYDROGRAPH

86 END-OF-PERIOD ORDINATES

3.	7.	11.	15.	21.	31.	56.	98.	136.	156.
161.	158.	152.	142.	132.	124.	116.	108.	101.	95.
88.	83.	77.	72.	67.	63.	59.	55.	51.	48.
45.	42.	39.	37.	34.	32.	30.	28.	26.	24.
23.	21.	20.	19.	17.	16.	15.	14.	13.	12.
12.	11.	10.	10.	9.	8.	8.	7.	7.	6.
6.	6.	5.	5.	5.	4.	4.	4.	3.	3.
3.	3.	3.	2.	2.	2.	2.	2.	2.	2.
2.	1.	1.	1.	1.	1.				

*** *** *** *** ***

HYDROGRAPH AT STATION 051

TOTAL RAINFALL = 4.27, TOTAL LOSS = 2.69, TOTAL EXCESS = 1.58

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.97-HR
+ (CFS)	(HR)					
		(CFS)				
+ 192.	12.27		27.	7.	7.	7.
		(INCHES)	1.534	1.571	1.571	1.571
		(AC-FT)	13.	14.	14.	14.

CUMULATIVE AREA = .16 SQ MI

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              *            *
407 KK        *   CP051    *
              *            *
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Combine routed hydrograph from CP046 with runoff hydrographs from 048 and 051

409 HC HYDROGRAPH COMBINATION

ICOMP 3 NUMBER OF HYDROGRAPHS TO COMBINE

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                                                                   ***

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                              HYDROGRAPH AT STATION    CP051

   PEAK FLOW      TIME                             MAXIMUM AVERAGE FLOW
                                          6-HR        24-HR       72-HR      24.97-HR
 +   (CFS)        (HR)
                                (CFS)
 +    7153.      12.87                   1447.        384.        370.         370.
                              (INCHES)   1.526       1.621       1.622        1.622
                               (AC-FT)    717.        763.        763.         763.

                             CUMULATIVE AREA =    8.82 SQ MI


 *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***
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             *            *
  410 KK     *   R053-1   *
             *            *
             **************
                               Route combined hydrograph from CP051 to CP053

                HYDROGRAPH ROUTING DATA

  412 RS          STORAGE ROUTING
                        NSTPS           1  NUMBER OF SUBREACHES
                         ITYP        FLOW  TYPE OF INITIAL CONDITION
                       RSVRIC       -1.00  INITIAL CONDITION
                            X         .00 WORKING R AND D COEFFICIENT

  413 RC          NORMAL DEPTH CHANNEL
                          ANL        .045  LEFT OVERBANK N-VALUE
                         ANCH        .035  MAIN CHANNEL N-VALUE
                          ANR        .045  RIGHT OVERBANK N-VALUE
                        RLNTH       1681.  REACH LENGTH
                          SEL       .0300  ENERGY SLOPE
                        ELMAX          .0  MAX. ELEV. FOR STORAGE/OUTFLOW CALCULATION

                                                      CROSS-SECTION DATA
                          --- LEFT OVERBANK --- + ------ MAIN CHANNEL ------- + --- RIGHT OVERBANK ---
  415 RY        ELEVATION   2249.00   2245.00   2245.00   2238.00   2238.00   2239.00   2239.00   2242.00
  414 RX         DISTANCE   9910.00   9935.00   9963.00   9987.00  10041.00  10046.00  10075.00  10085.00

                                                                   ***

                                                    COMPUTED STORAGE-OUTFLOW-ELEVATION DATA

            STORAGE        .00      1.26      2.81      4.92      7.11      9.40     11.77     14.23     16.75     19.32
            OUTFLOW        .00    162.41    535.30   1165.96   2016.62   3065.61   4301.85   5722.16   7355.02   9162.64
          ELEVATION    2238.00   2238.58   2239.16   2239.74   2240.32   2240.89   2241.47   2242.05   2242.63   2243.21

            STORAGE      21.93     24.58     27.28     30.61     34.07     37.62     41.24     44.95     48.74     52.61
            OUTFLOW   11140.55  13285.33  15594.36  18301.48  21279.04  24488.79  27923.77  31580.25  35456.09  39550.02
          ELEVATION    2243.79   2244.37   2244.95   2245.53   2246.10   2246.68   2247.26   2247.84   2248.42   2249.00

 *** WARNING *** MODIFIED PULS ROUTING MAY BE NUMERICALLY UNSTABLE FOR OUTFLOWS BETWEEN      9163. TO     39550.
                 THE ROUTED HYDROGRAPH SHOULD BE EXAMINED FOR OSCILLATIONS OR OUTFLOWS GREATER THAN PEAK INFLOWS.
                 THIS CAN BE CORRECTED BY DECREASING THE TIME INTERVAL OR INCREASING STORAGE (USE A LONGER REACH.)

     ***            ***            ***            ***            ***

                              HYDROGRAPH AT STATION   R053-1

   PEAK FLOW      TIME                             MAXIMUM AVERAGE FLOW
                                          6-HR        24-HR       72-HR      24.97-HR
 +   (CFS)        (HR)
                                (CFS)
 +    7142.      12.87                   1447.        384.        370.         370.
                              (INCHES)   1.525       1.621       1.621        1.621
                               (AC-FT)    717.        762.        762.         762.

  PEAK STORAGE    TIME                           MAXIMUM AVERAGE STORAGE
                                          6-HR        24-HR       72-HR      24.97-HR
 +  (AC-FT)       (HR)
        16.      12.87                      5.          1.          1.           1.

   PEAK STAGE     TIME                             MAXIMUM AVERAGE STAGE
                                          6-HR        24-HR       72-HR      24.97-HR
 +   (FEET)       (HR)
   2242.56       12.87                 2239.58     2238.48     2238.46      2238.46

                             CUMULATIVE AREA =    8.82 SQ MI
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*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***
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              *            *
  416 KK      *      053   *
              *            *
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                          SUB-BASIN 053
                          24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
                          THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .928
                            L =  .66  Kb = .056  Adj. Slope =  126.0

                 SUBBASIN RUNOFF DATA

  421 BA           SUBBASIN CHARACTERISTICS
                         TAREA          .09  SUBBASIN AREA

                   PRECIPITATION DATA

   14 PB                 STORM        4.27  BASIN TOTAL PRECIPITATION

   14 PI             INCREMENTAL PRECIPITATION PATTERN
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  422 LG          GREEN AND AMPT LOSS RATE
                        STRTL         .15  STARTING LOSS
                          DTH         .37  MOISTURE DEFICIT
                         PSIF        6.60  WETTING FRONT SUCTION
                        XKSAT         .13  HYDRAULIC CONDUCTIVITY
                        RTIMP        3.00  PERCENT IMPERVIOUS AREA

  423 UC          CLARK UNITGRAPH
                          TC         .26  TIME OF CONCENTRATION
                           R         .23  STORAGE COEFFICIENT

  424 UA          ACCUMULATED-AREA VS. TIME,  11 ORDINATES
                        .0       3.0       5.0       8.0      12.0      20.0      43.0      75.0      90.0      96.0
                     100.0

                                                      ***

                                                UNIT HYDROGRAPH PARAMETERS
                                          CLARK   TC=   .26 HR,       R=   .23 HR
                                         SNYDER   TP=   .23 HR,      CP=   .69

                                                   UNIT HYDROGRAPH
                                               41 END-OF-PERIOD ORDINATES
                      4.       12.       20.       39.       91.      156.      183.      175.      156.      134.
                    116.      100.       86.       75.       64.       56.       48.       41.       36.       31.
                     27.       23.       20.       17.       15.       13.       11.       10.        8.        7.
                      6.        5.        5.        4.        3.        3.        3.        2.        2.        2.
                      1.

        ***             ***             ***             ***             ***

                            HYDROGRAPH AT STATION      053

       TOTAL RAINFALL =     4.27, TOTAL LOSS =     2.63, TOTAL EXCESS =     1.64

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                      6-HR       24-HR       72-HR     24.97-HR
+   (CFS)       (HR)
                          (CFS)
+     175.     12.13                  16.          4.          4.          4.
                         (INCHES)     1.594       1.631       1.631       1.631
                          (AC-FT)       8.          8.          8.          8.

                           CUMULATIVE AREA =     .09 SQ MI


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                *             *
  426 KK        *     CP053   *
                *             *
                ***************
                            Combine routed hydrographs from CP051 with runoff hydrograph from 053

  428 HC          HYDROGRAPH COMBINATION
                        ICOMP           2  NUMBER OF HYDROGRAPHS TO COMBINE

                                                      ***

        ***             ***             ***             ***             ***

                            HYDROGRAPH AT STATION    CP053

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                      6-HR       24-HR       72-HR     24.97-HR
+   (CFS)       (HR)
                          (CFS)
+     7157.     12.87                1463.        389.        373.        373.
                         (INCHES)     1.526       1.621       1.621       1.621
                          (AC-FT)     725.        771.        771.        771.

                           CUMULATIVE AREA =     8.91 SQ MI


 *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***
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                *             *
  429 KK        *    R055-1   *
                *             *
                ***************
                            Route combined hydrograph from CP053 to CP055

                HYDROGRAPH ROUTING DATA
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431 RS STORAGE ROUTING

NSTPS	1	NUMBER OF SUBREACHES
ITYP	FLOW	TYPE OF INITIAL CONDITION
RSVRIC	-1.00	INITIAL CONDITION
X	.00	WORKING R AND D COEFFICIENT

432 RC NORMAL DEPTH CHANNEL

ANL	.045	LEFT OVERBANK N-VALUE
ANCH	.035	MAIN CHANNEL N-VALUE
ANR	.045	RIGHT OVERBANK N-VALUE
RLNTH	784.	REACH LENGTH
SEL	.0190	ENERGY SLOPE
ELMAX	.0	MAX. ELEV. FOR STORAGE/OUTFLOW CALCULATION

CROSS-SECTION DATA

		--- LEFT OVERBANK --- +		------ MAIN CHANNEL ------- +			--- RIGHT OVERBANK ---		
434 RY	ELEVATION	2208.00	2202.00	2200.00	2197.00	2199.00	2200.00	2199.00	2208.00
433 RX	DISTANCE	111.00	154.00	304.00	389.00	510.00	725.00	836.00	937.00

***

COMPUTED STORAGE-OUTFLOW-ELEVATION DATA

STORAGE	.00	.27	1.07	2.41	4.53	8.69	14.48	20.83	27.69	35.05
OUTFLOW	.00	38.21	242.59	715.24	1417.61	2839.03	5983.19	10362.77	15810.12	22358.68
ELEVATION	2197.00	2197.58	2198.16	2198.74	2199.32	2199.89	2200.47	2201.05	2201.63	2202.21
STORAGE	42.60	50.27	58.04	65.92	73.92	82.03	90.24	98.57	107.01	115.56
OUTFLOW	30008.63	38626.77	48170.81	58608.81	69915.68	82071.25	95058.98	108865.20	123478.40	138889.00
ELEVATION	2202.79	2203.37	2203.95	2204.53	2205.10	2205.68	2206.26	2206.84	2207.42	2208.00

*** WARNING *** MODIFIED PULS ROUTING MAY BE NUMERICALLY UNSTABLE FOR OUTFLOWS BETWEEN 10363. TO 138889.
THE ROUTED HYDROGRAPH SHOULD BE EXAMINED FOR OSCILLATIONS OR OUTFLOWS GREATER THAN PEAK INFLOWS.
THIS CAN BE CORRECTED BY DECREASING THE TIME INTERVAL OR INCREASING STORAGE (USE A LONGER REACH.)

*** *** *** *** ***

HYDROGRAPH AT STATION R055-1

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.97-HR
+ (CFS)	(HR)					
		(CFS)				
+ 7136.	12.90		1463.	388.	373.	373.
		(INCHES)	1.526	1.621	1.621	1.621
		(AC-FT)	725.	770.	770.	770.

PEAK STORAGE	TIME	MAXIMUM AVERAGE STORAGE			
		6-HR	24-HR	72-HR	24.97-HR
+ (AC-FT)	(HR)				
16.	12.90	4.	1.	1.	1.

PEAK STAGE	TIME	MAXIMUM AVERAGE STAGE			
		6-HR	24-HR	72-HR	24.97-HR
+ (FEET)	(HR)				
2200.63	12.90	2198.82	2197.77	2197.74	2197.74

CUMULATIVE AREA = 8.91 SQ MI

*** ***
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435 KK * 055 *

SUB-BASIN 055
24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
THIS BASIN USED RAINFALL REDUCTION FACTOR OF .928
L = 2.43 Kb = .047 Adj. Slope = 125.0

SUBBASIN RUNOFF DATA

440 BA SUBBASIN CHARACTERISTICS
TAREA .37 SUBBASIN AREA

PRECIPITATION DATA

14 PB STORM 4.27 BASIN TOTAL PRECIPITATION

14 PI INCREMENTAL PRECIPITATION PATTERN

.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
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441 LG GREEN AND AMPT LOSS RATE

STRTL	.15	STARTING LOSS
DTH	.40	MOISTURE DEFICIT
PSIF	6.00	WETTING FRONT SUCTION
XKSAT	.16	HYDRAULIC CONDUCTIVITY
RTIMP	5.00	PERCENT IMPERVIOUS AREA

442 UC CLARK UNITGRAPH

TC	.54	TIME OF CONCENTRATION
R	.67	STORAGE COEFFICIENT

443 UA ACCUMULATED-AREA VS. TIME, 11 ORDINATES

.0	3.0	5.0	8.0	12.0	20.0	43.0	75.0	90.0	96.0
100.0									

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UNIT HYDROGRAPH PARAMETERS

CLARK TC= .54 HR, R= .67 HR

SNYDER TP= .48 HR, CP= .52

UNIT HYDROGRAPH

117 END-OF-PERIOD ORDINATES

3.	9.	14.	18.	23.	30.	39.	52.	82.	129.
184.	231.	256.	265.	264.	261.	253.	241.	230.	219.
208.	198.	188.	179.	170.	162.	154.	147.	140.	133.
126.	120.	114.	109.	104.	99.	94.	89.	85.	81.
77.	73.	70.	66.	63.	60.	57.	54.	52.	49.
47.	44.	42.	40.	38.	36.	35.	33.	31.	30.

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                28.       27.       26.       24.       23.       22.       21.       20.       19.       18.
                17.       16.       16.       15.       14.       13.       13.       12.       12.       11.
                11.       10.       10.        9.        9.        8.        8.        7.        7.        7.
                 6.        6.        6.        5.        5.        5.        5.        5.        4.        4.
                 4.        4.        4.        3.        3.        3.        3.        3.        3.        2.
                 2.        2.        2.        2.        2.        2.        2.

      ***             ***             ***             ***             ***

                          HYDROGRAPH AT STATION      055

     TOTAL RAINFALL =    4.27, TOTAL LOSS =    2.66, TOTAL EXCESS =    1.61

  PEAK FLOW     TIME                              MAXIMUM AVERAGE FLOW
                                        6-HR       24-HR       72-HR     24.97-HR
+   (CFS)       (HR)
                          (CFS)
+     338.     12.37                    61.         16.         15.         15.
                         (INCHES)     1.540       1.601       1.602       1.602
                         (AC-FT)       30.         31.         31.         31.

                         CUMULATIVE AREA =     .37 SQ MI


 *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***
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             +**************
             +              +
  445 KK     +      CP055   +
             +              +
             +**************
                          Combine routed hydrograph from CP053 with runoff hydrograph from 055

  447 HC           HYDROGRAPH COMBINATION
                        ICOMP           2  NUMBER OF HYDROGRAPHS TO COMBINE

                                                                    ***

      ***             ***             ***             ***             ***

                          HYDROGRAPH AT STATION    CP055

  PEAK FLOW     TIME                              MAXIMUM AVERAGE FLOW
                                        6-HR       24-HR       72-HR     24.97-HR
+   (CFS)       (HR)
                          (CFS)
+    7319.     12.90                  1523.        404.        389.        389.
                         (INCHES)     1.526       1.620       1.620       1.620
                         (AC-FT)       755.        802.        802.        802.

                         CUMULATIVE AREA =    9.28 SQ MI


 *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***
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             +**************
             +              +
  448 KK     +    R068-1    +
             +              +
             +**************
                          Route combined hydrograph from CP055 to CP068

               HYDROGRAPH ROUTING DATA

  450 RS           STORAGE ROUTING
                        NSTPS           2  NUMBER OF SUBREACHES
                         ITYP        FLOW  TYPE OF INITIAL CONDITION
                        RSVRIC      -1.00  INITIAL CONDITION
                            X        .00 WORKING R AND D COEFFICIENT

  451 RC           NORMAL DEPTH CHANNEL
                          ANL        .045  LEFT OVERBANK N-VALUE
                         ANCH        .035  MAIN CHANNEL N-VALUE
                          ANR        .045  RIGHT OVERBANK N-VALUE
                        RLNTH       1728.  REACH LENGTH
                          SEL       .0170  ENERGY SLOPE
                        ELMAX          .0  MAX. ELEV. FOR STORAGE/OUTFLOW CALCULATION

                                    CROSS-SECTION DATA
                          --- LEFT OVERBANK --- + ------ MAIN CHANNEL ------- + --- RIGHT OVERBANK ---
  453 RY       ELEVATION  2208.00   2202.00   2200.00   2197.00   2199.00   2200.00   2199.00   2208.00
  452 RX       DISTANCE    111.00    154.00    304.00    389.00    510.00    725.00    836.00    937.00

                                                 ***

                                    COMPUTED STORAGE-OUTFLOW-ELEVATION DATA
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STORAGE	.00	.59	2.36	5.31	9.99	19.15	31.93	45.91	61.04	77.26
OUTFLOW	.00	36.14	229.47	676.55	1340.93	2685.46	5659.53	9802.20	14954.88	21149.19
ELEVATION	2197.00	2197.58	2198.16	2198.74	2199.32	2199.89	2200.47	2201.05	2201.63	2202.21
STORAGE	93.90	110.79	127.92	145.30	162.92	180.79	198.90	217.26	235.86	254.70
OUTFLOW	28385.32	36537.27	45565.02	55438.39	66133.62	77631.63	89916.80	102976.10	116798.90	131375.80
ELEVATION	2202.79	2203.37	2203.95	2204.53	2205.10	2205.68	2206.26	2206.84	2207.42	2208.00

*** WARNING *** MODIFIED PULS ROUTING MAY BE NUMERICALLY UNSTABLE FOR OUTFLOWS BETWEEN 14955. TO 131376.
THE ROUTED HYDROGRAPH SHOULD BE EXAMINED FOR OSCILLATIONS OR OUTFLOWS GREATER THAN PEAK INFLOWS.
THIS CAN BE CORRECTED BY DECREASING THE TIME INTERVAL OR INCREASING STORAGE (USE A LONGER REACH.)

*** *** *** *** ***

HYDROGRAPH AT STATION R068-1

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 PEAK FLOW     TIME                       MAXIMUM AVERAGE FLOW
                                 6-HR        24-HR       72-HR     24.97-HR
+   (CFS)      (HR)
                        (CFS)
+    7280.    12.93              1523.        404.        388.         388.
                     (INCHES)    1.526       1.620       1.620        1.620
                      (AC-FT)     755.        801.        801.         801.

PEAK STORAGE   TIME                     MAXIMUM AVERAGE STORAGE
                                 6-HR        24-HR       72-HR     24.97-HR
+  (AC-FT)     (HR)
       19.    12.93                5.           1.          1.           1.

 PEAK STAGE    TIME                      MAXIMUM AVERAGE STAGE
                                 6-HR        24-HR       72-HR     24.97-HR
+   (FEET)     (HR)
   2200.70    12.93           2198.88     2197.80     2197.77      2197.77

                     CUMULATIVE AREA =    9.28 SQ MI
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            **************
            *            *
 454 KK     *      058   *
            *            *
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SUB-BASIN 058
24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
THIS BASIN USED RAINFALL REDUCTION FACTOR OF .928
L = 2.86 Kb = .038 Adj. Slope = 120.0

SUBBASIN RUNOFF DATA

459 BA SUBBASIN CHARACTERISTICS
TAREA 1.76 SUBBASIN AREA

PRECIPITATION DATA

14 PB STORM 4.27 BASIN TOTAL PRECIPITATION

14 PI INCREMENTAL PRECIPITATION PATTERN

.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
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460 LG          GREEN AND AMPT LOSS RATE
                      STRTL        .15  STARTING LOSS
                        DTH        .40  MOISTURE DEFICIT
                       PSIF       6.00  WETTING FRONT SUCTION
                      XKSAT        .16  HYDRAULIC CONDUCTIVITY
                      RTIMP       4.00  PERCENT IMPERVIOUS AREA

461 UC          CLARK UNITGRAPH
                         TC        .52  TIME OF CONCENTRATION
                          R        .30  STORAGE COEFFICIENT

462 UA          ACCUMULATED-AREA VS. TIME,  11 ORDINATES
                     .0      3.0      5.0      8.0     12.0     20.0     43.0     75.0     90.0     96.0
                  100.0

                                          ***

                                  UNIT HYDROGRAPH PARAMETERS
                            CLARK   TC=   .52 HR,       R=   .30 HR
                           SNYDER   TP=   .44 HR,      CP=   .85

                                       UNIT HYDROGRAPH
                                  59 END-OF-PERIOD ORDINATES
      34.       93.      134.      175.      225.      284.      375.      523.      838.     1322.
    1857.     2196.     2269.     2228.     2113.     1976.     1804.     1616.     1448.     1298.
    1163.     1042.      934.      837.      750.      672.      602.      539.      483.      433.
     388.      348.      312.      279.      250.      224.      201.      180.      161.      144.
     129.      116.      104.       93.       83.       75.       67.       60.       54.       48.
      43.       39.       35.       31.       28.       25.       22.       20.       18.

   ***           ***            ***            ***             ***

                    HYDROGRAPH AT STATION       058

   TOTAL RAINFALL =     4.27, TOTAL LOSS =     2.69, TOTAL EXCESS =     1.58

   PEAK FLOW      TIME                      MAXIMUM AVERAGE FLOW
                                     6-HR        24-HR       72-HR      24.97-HR
 +   (CFS)        (HR)
                               (CFS)
 +    2569.      12.33                  288.          74.         71.          71.
                             (INCHES)  1.526        1.575       1.575        1.575
                              (AC-FT)   143.         147.        148.         148.

                            CUMULATIVE AREA =    1.76 SQ MI


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464 KK      *    R064-1  *
            *            *
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                          Route runoff hydrograph from 058

               HYDROGRAPH ROUTING DATA

466 RS           STORAGE ROUTING
                       NSTPS           7  NUMBER OF SUBREACHES
                        ITYP        FLOW  TYPE OF INITIAL CONDITION
                       RSVRIC       -1.00  INITIAL CONDITION
                           X         .00 WORKING R AND D COEFFICIENT

467 RC           NORMAL DEPTH CHANNEL
                        ANL        .045  LEFT OVERBANK N-VALUE
                       ANCH        .035  MAIN CHANNEL N-VALUE
                        ANR        .045  RIGHT OVERBANK N-VALUE
                       RLNTH       7694.  REACH LENGTH
                        SEL        .0230  ENERGY SLOPE
                       ELMAX          .0  MAX. ELEV. FOR STORAGE/OUTFLOW CALCULATION

                                    CROSS-SECTION DATA
                          --- LEFT OVERBANK --- + ------ MAIN CHANNEL ------- + --- RIGHT OVERBANK ---
469 RY        ELEVATION   2323.00   2321.00   2319.00   2319.00   2320.00   2321.00   2323.00   2325.00
468 RX        DISTANCE        .00     76.00    102.00    111.00    117.00    118.00    168.00    205.00

                                                  ***

                                          COMPUTED STORAGE-OUTFLOW-ELEVATION DATA

            STORAGE        .00       .67      1.67      3.01      4.65      6.54      8.68     11.25     14.88     19.62
            OUTFLOW        .00      9.78     35.31     78.03    143.67    230.48    338.65    459.52    618.19    829.03
          ELEVATION    2319.00   2319.32   2319.63   2319.95   2320.26   2320.58   2320.89   2321.21   2321.53   2321.84

            STORAGE      25.48     32.44     40.50     49.64     59.28     69.24     79.53     90.14    101.08    112.35
            OUTFLOW    1099.51   1437.19   1849.40   2371.41   3034.28   3778.27   4602.60   5506.89   6491.07   7555.25
          ELEVATION    2322.16   2322.47   2322.79   2323.10   2323.42   2323.74   2324.05   2324.37   2324.68   2325.00

      ***             ***             ***             ***             ***

                        HYDROGRAPH AT STATION   R064-1

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                      6-HR        24-HR        72-HR     24.97-HR
+   (CFS)       (HR)
                          (CFS)
+    2367.     12.53                  288.          74.          71.          71.
                         (INCHES)     1.525        1.574        1.574        1.574
                          (AC-FT)     143.         147.         147.         147.

 PEAK STORAGE   TIME                       MAXIMUM AVERAGE STORAGE
                                      6-HR        24-HR        72-HR     24.97-HR
+  (AC-FT)      (HR)
        7.     12.53                    1.           0.           0.           0.

  PEAK STAGE    TIME                          MAXIMUM AVERAGE STAGE
                                      6-HR        24-HR        72-HR     24.97-HR
+   (FEET)      (HR)
   2323.10     12.53               2320.02      2319.34      2319.32      2319.32

                         CUMULATIVE AREA =    1.76 SQ MI



 *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***
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            *            *
470 KK      *       060  *
            *            *
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                          SUB-BASIN 060
                          24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
                          THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .928
                            L = 3.39  Kb = .043  Adj. Slope =  152.0

               SUBBASIN RUNOFF DATA

475 BA           SUBBASIN CHARACTERISTICS
                       TAREA         .78  SUBBASIN AREA

               PRECIPITATION DATA

 14 PB                 STORM        4.27  BASIN TOTAL PRECIPITATION

 14 PI             INCREMENTAL PRECIPITATION PATTERN
                     .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
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476 LG          GREEN AND AMPT LOSS RATE
                      STRTL         .15  STARTING LOSS
                        DTH         .39  MOISTURE DEFICIT
                       PSIF        6.20  WETTING FRONT SUCTION
                      XKSAT         .14  HYDRAULIC CONDUCTIVITY
                      RTIMP        6.00  PERCENT IMPERVIOUS AREA

477 UC          CLARK UNITGRAPH
                         TC         .58  TIME OF CONCENTRATION
                          R         .62  STORAGE COEFFICIENT

478 UA          ACCUMULATED-AREA VS. TIME, 11 ORDINATES
                     .0       3.0       5.0       8.0      12.0      20.0      43.0      75.0      90.0      96.0
                  100.0

                                                   ***

                                        UNIT HYDROGRAPH PARAMETERS
                                    CLARK   TC=   .58 HR,      R=   .62 HR
                                   SNYDER   TP=   .51 HR,     CP=   .58

                                              UNIT HYDROGRAPH
                                        110 END-OF-PERIOD ORDINATES
           7.       19.       29.       38.       48.       61.       75.       98.      137.      208.
         311.      428.      521.      570.      587.      582.      573.      557.      532.      504.
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478.	453.	430.	407.	386.	366.	347.	329.	312.	295.
280.	265.	252.	238.	226.	214.	203.	193.	182.	173.
164.	155.	147.	140.	132.	125.	119.	113.	107.	101.
96.	91.	86.	82.	78.	73.	70.	66.	63.	59.
56.	53.	51.	48.	45.	43.	41.	39.	37.	35.
33.	31.	30.	28.	27.	25.	24.	23.	21.	20.
19.	18.	17.	16.	16.	15.	14.	13.	13.	12.
11.	11.	10.	10.	9.	9.	8.	8.	7.	7.
7.	6.	6.	6.	5.	5.	5.	5.	4.	4.

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HYDROGRAPH AT STATION 060

TOTAL RAINFALL = 4.27, TOTAL LOSS = 2.58, TOTAL EXCESS = 1.69

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.97-HR
+ (CFS)	(HR)					
		(CFS)				
+ 764.	12.40		135.	35.	34.	34.
		(INCHES)	1.609	1.682	1.683	1.683
		(AC-FT)	67.	70.	70.	70.

CUMULATIVE AREA = .78 SQ MI

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480 KK    *   R062-1   *
          *            *
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Route runoff hydrograph from 060

HYDROGRAPH ROUTING DATA

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482 RS       STORAGE ROUTING
                   NSTPS          1  NUMBER OF SUBREACHES
                    ITYP       FLOW  TYPE OF INITIAL CONDITION
                  RSVRIC      -1.00  INITIAL CONDITION
                       X        .00  WORKING R AND D COEFFICIENT

483 RC       NORMAL DEPTH CHANNEL
                     ANL       .045  LEFT OVERBANK N-VALUE
                    ANCH       .035  MAIN CHANNEL N-VALUE
                     ANR       .045  RIGHT OVERBANK N-VALUE
                   RLNTH       441.  REACH LENGTH
                     SEL      .0180  ENERGY SLOPE
                   ELMAX         .0  MAX. ELEV. FOR STORAGE/OUTFLOW CALCULATION
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CROSS-SECTION DATA

		--- LEFT OVERBANK --- +		------ MAIN CHANNEL ------- +				--- RIGHT OVERBANK ---	
485 RY	ELEVATION	2328.50	2328.00	2327.00	2327.00	2326.00	2326.00	2327.00	2328.50
484 RX	DISTANCE	.00	20.00	38.00	41.00	45.00	60.00	94.00	128.00

***

COMPUTED STORAGE-OUTFLOW-ELEVATION DATA

STORAGE	.00	.02	.05	.09	.13	.18	.24	.30	.37	.46
OUTFLOW	.00	3.15	10.71	22.50	38.67	59.49	85.22	116.17	146.03	192.97
ELEVATION	2326.00	2326.13	2326.26	2326.39	2326.53	2326.66	2326.79	2326.92	2327.05	2327.18
STORAGE	.54	.64	.74	.85	.97	1.09	1.22	1.37	1.52	1.69
OUTFLOW	246.61	307.28	375.26	450.85	534.33	625.98	724.30	831.98	949.90	1078.53
ELEVATION	2327.32	2327.45	2327.58	2327.71	2327.84	2327.97	2328.11	2328.24	2328.37	2328.50

*** WARNING *** MODIFIED PULS ROUTING MAY BE NUMERICALLY UNSTABLE FOR OUTFLOWS BETWEEN 534. TO 1079.
THE ROUTED HYDROGRAPH SHOULD BE EXAMINED FOR OSCILLATIONS OR OUTFLOWS GREATER THAN PEAK INFLOWS.
THIS CAN BE CORRECTED BY DECREASING THE TIME INTERVAL OR INCREASING STORAGE (USE A LONGER REACH.)

*** *** *** *** ***

HYDROGRAPH AT STATION R062-1

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.97-HR
+ (CFS)	(HR)					
		(CFS)				
+ 761.	12.43		135.	35.	34.	34.
		(INCHES)	1.609	1.682	1.683	1.683
		(AC-FT)	67.	70.	70.	70.

PEAK STORAGE	TIME	MAXIMUM AVERAGE STORAGE			
		6-HR	24-HR	72-HR	24.97-HR
+ (AC-FT)	(HR)				
1.	12.43	0.	0.	0.	0.

PEAK STAGE	TIME		MAXIMUM AVERAGE STAGE		
		6-HR	24-HR	72-HR	24.97-HR
+ (FEET)	(HR)				
2328.15	12.43	2326.71	2326.25	2326.24	2326.24

CUMULATIVE AREA = .78 SQ MI

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              **************
              *            *
   486 KK     *      062   *
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SUB-BASIN 062
24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
THIS BASIN USED RAINFALL REDUCTION FACTOR OF .928
L = 2.26 Kb = .043 Adj. Slope = 158.0

SUBBASIN RUNOFF DATA

491 BA SUBBASIN CHARACTERISTICS
TAREA .73 SUBBASIN AREA

PRECIPITATION DATA

14 PB STORM 4.27 BASIN TOTAL PRECIPITATION

14 PI INCREMENTAL PRECIPITATION PATTERN

.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
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        .00     .00     .00     .00     .00     .00     .00     .00     .00     .00

492 LG         GREEN AND AMPT LOSS RATE
                 STRTL       .15  STARTING LOSS
                   DTH       .40  MOISTURE DEFICIT
                  PSIF      6.00  WETTING FRONT SUCTION
                 XKSAT       .15  HYDRAULIC CONDUCTIVITY
                 RTIMP      8.00  PERCENT IMPERVIOUS AREA

493 UC         CLARK UNITGRAPH
                    TC       .44  TIME OF CONCENTRATION
                     R       .34  STORAGE COEFFICIENT

494 UA         ACCUMULATED-AREA VS. TIME,  11 ORDINATES
                  .0      3.0      5.0      8.0     12.0     20.0     43.0     75.0     90.0     96.0
               100.0

                                        ***

                              UNIT HYDROGRAPH PARAMETERS
                            CLARK   TC=   .44 HR,       R=   .34 HR
                           SNYDER   TP=   .37 HR,      CP=   .71

                                   UNIT HYDROGRAPH
                               63 END-OF-PERIOD ORDINATES
           15.      40.      60.      82.     110.     155.     248.     418.     661.     852.
          918.     914.     877.     818.     744.     675.     612.     555.     503.     456.
          413.     375.     340.     308.     279.     253.     229.     208.     188.     171.
          155.     140.     127.     115.     105.      95.      86.      78.      71.      64.
           58.      53.      48.      43.      39.      36.      32.      29.      26.      24.
           22.      20.      18.      16.      15.      13.      12.      11.      10.       9.
            8.       7.       7.

   ***         ***         ***         ***         ***

                HYDROGRAPH AT STATION      062

   TOTAL RAINFALL =    4.27, TOTAL LOSS =    2.55, TOTAL EXCESS =    1.72

  PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
                                    6-HR       24-HR      72-HR     24.97-HR
+  (CFS)       (HR)
                          (CFS)
+   1056.      12.27                 127.        34.        32.        32.
                        (INCHES)    1.613      1.711      1.712      1.712
                         (AC-FT)      63.        67.        67.        67.

                 CUMULATIVE AREA =      .73 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***
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          *            *
496 KK    *   CP062    *
          *            *
          **************
                  Combine routed hydrograph from 060 with runoff hydrograph from 062

498 HC         HYDROGRAPH COMBINATION
                 ICOMP           2  NUMBER OF HYDROGRAPHS TO COMBINE

                                        ***
   ***         ***         ***         ***         ***

                HYDROGRAPH AT STATION    CP062

  PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
                                    6-HR       24-HR      72-HR     24.97-HR
+  (CFS)       (HR)
                          (CFS)
+   1707.      12.33                 261.        69.        66.        66.
                        (INCHES)    1.610      1.696      1.697      1.697
                         (AC-FT)     130.       136.       136.       136.

                 CUMULATIVE AREA =     1.51 SQ MI
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*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***
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              *            *
 499 KK       *   R064-2   *
              *            *
              **************
                        Route combined hydrograph from CP062

                HYDROGRAPH ROUTING DATA

 501 RS           STORAGE ROUTING
                        NSTPS          1  NUMBER OF SUBREACHES
                         ITYP       FLOW  TYPE OF INITIAL CONDITION
                       RSVRIC      -1.00  INITIAL CONDITION
                            X        .00 WORKING R AND D COEFFICIENT

 502 RC           NORMAL DEPTH CHANNEL
                          ANL       .045  LEFT OVERBANK N-VALUE
                         ANCH       .035  MAIN CHANNEL N-VALUE
                          ANR       .045  RIGHT OVERBANK N-VALUE
                        RLNTH      1554.  REACH LENGTH
                          SEL      .0240  ENERGY SLOPE
                        ELMAX         .0  MAX. ELEV. FOR STORAGE/OUTFLOW CALCULATION

                                              CROSS-SECTION DATA
                              --- LEFT OVERBANK --- + ------ MAIN CHANNEL ------- + --- RIGHT OVERBANK ---
 504 RY         ELEVATION   2316.00   2316.00   2315.00   2315.00   2316.00   2317.00   2318.00   2319.00
 503 RX          DISTANCE       .00     17.00     23.00     73.00     83.00     90.00     99.00    107.00

                                                                   ***

                                                COMPUTED STORAGE-OUTFLOW-ELEVATION DATA

              STORAGE        .00        .39        .80       1.24       1.70       2.22       2.86       3.50       4.15       4.82
              OUTFLOW        .00      24.88      80.05     159.50     261.21     380.70     537.92     721.34     929.32    1160.80
            ELEVATION    2315.00    2315.21    2315.42    2315.63    2315.84    2316.05    2316.26    2316.47    2316.68    2316.89

              STORAGE       5.49       6.18       6.89       7.60       8.34       9.08       9.84      10.61      11.40      12.20
              OUTFLOW    1423.55    1718.28    2036.46    2377.85    2742.27    3129.69    3539.77    3972.29    4427.11    4904.13
            ELEVATION    2317.10    2317.31    2317.53    2317.74    2317.95    2318.16    2318.37    2318.58    2318.79    2319.00

       ***             ***             ***             ***             ***

                         HYDROGRAPH AT STATION   R064-2

 PEAK FLOW      TIME                           MAXIMUM AVERAGE FLOW
                                    6-HR         24-HR         72-HR      24.97-HR
+   (CFS)       (HR)
                           (CFS)
+    1694.     12.37                261.           69.           66.           66.
                        (INCHES)   1.610         1.696         1.697         1.697
                         (AC-FT)    129.          136.          136.          136.

PEAK STORAGE    TIME                          MAXIMUM AVERAGE STORAGE
                                    6-HR         24-HR         72-HR      24.97-HR
+  (AC-FT)      (HR)
        6.     12.37                  1.            0.            0.            0.

 PEAK STAGE     TIME                           MAXIMUM AVERAGE STAGE
                                    6-HR         24-HR         72-HR      24.97-HR
+   (FEET)      (HR)
   2317.30     12.37             2315.59       2315.17       2315.16       2315.16

                        CUMULATIVE AREA =     1.51 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***
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              *            *
 505 KK       *      064   *
              *            *
              **************
                        SUB-BASIN 064
                        24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
                        THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .928
                          L = 1.80  Kb = .046  Adj. Slope =  149.0

                SUBBASIN RUNOFF DATA

 510 BA           SUBBASIN CHARACTERISTICS
                        TAREA        .47  SUBBASIN AREA

                  PRECIPITATION DATA

  14 PB                 STORM       4.27  BASIN TOTAL PRECIPITATION
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 14 PI            INCREMENTAL PRECIPITATION PATTERN
                     .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                     .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
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                     .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                     .00       .00       .00       .00       .00       .01       .01       .01       .01       .01
                     .01       .01       .03       .04       .04       .04       .04       .04       .04       .04
                     .01       .01       .01       .01       .01       .01       .01       .00       .00       .00
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                     .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                     .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                     .00       .00       .00       .00       .00       .00       .00       .00       .00       .00

511 LG            GREEN AND AMPT LOSS RATE
                        STRTL          .15  STARTING LOSS
                          DTH          .39  MOISTURE DEFICIT
                         PSIF         6.20  WETTING FRONT SUCTION
                        XKSAT          .15  HYDRAULIC CONDUCTIVITY
                        RTIMP         5.00  PERCENT IMPERVIOUS AREA

512 UC            CLARK UNITGRAPH
                           TC          .40  TIME OF CONCENTRATION
                            R          .33  STORAGE COEFFICIENT

513 UA            ACCUMULATED-AREA VS. TIME,  11 ORDINATES
                      .0       3.0       5.0       8.0      12.0      20.0      43.0      75.0      90.0      96.0
                   100.0

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                                          UNIT HYDROGRAPH PARAMETERS
                                    CLARK    TC=    .40 HR,        R=   .33 HR
                                   SNYDER    TP=    .35 HR,       CP=   .69
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                                        UNIT HYDROGRAPH
                                   61 END-OF-PERIOD ORDINATES
            11.      29.      43.      61.      84.     121.     218.     384.     538.     615.
           621.     597.     556.     505.     457.     413.     373.     338.     305.     276.
           250.     226.     204.     185.     167.     151.     137.     124.     112.     101.
            91.      83.      75.      68.      61.      55.      50.      45.      41.      37.
            33.      30.      27.      25.      22.      20.      18.      17.      15.      14.
            12.      11.      10.       9.       8.       7.       7.       6.       5.       5.
             4.

     ***           ***           ***           ***           ***

                    HYDROGRAPH AT STATION      064

   TOTAL RAINFALL =    4.27, TOTAL LOSS =    2.63, TOTAL EXCESS =    1.63

  PEAK FLOW     TIME                     MAXIMUM AVERAGE FLOW
                                   6-HR       24-HR       72-HR      24.97-HR
+   (CFS)       (HR)
                           (CFS)
+     694.     12.27                80.         21.         20.          20.
                         (INCHES)  1.565       1.627       1.627        1.627
                          (AC-FT)    39.         41.         41.          41.

                    CUMULATIVE AREA =     .47 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***
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           *            *
  515 KK   *    CP064   *
           *            *
           **************
                    Combine routed hydrographs from 058 and CP062 with runoff hydrograph from
                    064

  518 HC       HYDROGRAPH COMBINATION
                    ICOMP          3  NUMBER OF HYDROGRAPHS TO COMBINE
                                                             ***

     ***           ***           ***           ***           ***

                    HYDROGRAPH AT STATION    CP064

  PEAK FLOW     TIME                     MAXIMUM AVERAGE FLOW
                                   6-HR       24-HR       72-HR      24.97-HR
+   (CFS)       (HR)
                           (CFS)
+    4244.     12.50               629.        164.        157.         157.
                         (INCHES)  1.565       1.630       1.630        1.630
                          (AC-FT)   312.        325.        325.         325.

                    CUMULATIVE AREA =    3.74 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***
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           *            *
  519 KK   *   R066-1   *
           *            *
           **************
                    Route combined hydrograph from CP064

           HYDROGRAPH ROUTING DATA

  521 RS       STORAGE ROUTING
                    NSTPS          1  NUMBER OF SUBREACHES
                    ITYP        FLOW  TYPE OF INITIAL CONDITION
                  RSVRIC       -1.00  INITIAL CONDITION
                       X         .00  WORKING R AND D COEFFICIENT

  522 RC       NORMAL DEPTH CHANNEL
                     ANL        .045  LEFT OVERBANK N-VALUE
                    ANCH        .035  MAIN CHANNEL N-VALUE
                     ANR        .045  RIGHT OVERBANK N-VALUE
                   RLNTH        934.  REACH LENGTH
                     SEL       .0210  ENERGY SLOPE
                   ELMAX          .0  MAX. ELEV. FOR STORAGE/OUTFLOW CALCULATION

                                         CROSS-SECTION DATA
                         --- LEFT OVERBANK --- + ------ MAIN CHANNEL ------- + --- RIGHT OVERBANK ---
  524 RY       ELEVATION  2281.00   2281.00   2280.00   2280.00   2281.00   2282.00   2283.00   2284.00
  523 RX       DISTANCE       .00     31.00     66.00    104.00    111.00    121.00    129.00    149.00
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COMPUTED STORAGE-OUTFLOW-ELEVATION DATA

STORAGE	.00	.19	.42	.69	1.00	1.39	1.90	2.42	2.94	3.48
OUTFLOW	.00	18.40	61.41	126.66	214.24	310.48	467.25	656.42	875.88	1124.27
ELEVATION	2280.00	2280.21	2280.42	2280.63	2280.84	2281.05	2281.26	2281.47	2281.68	2281.89
STORAGE	4.02	4.58	5.14	5.71	6.28	6.87	7.48	8.10	8.75	9.41
OUTFLOW	1410.84	1735.81	2088.53	2468.48	2875.18	3306.93	3765.90	4252.77	4767.77	5311.19
ELEVATION	2282.10	2282.31	2282.53	2282.74	2282.95	2283.16	2283.37	2283.58	2283.79	2284.00

*** WARNING *** MODIFIED PULS ROUTING MAY BE NUMERICALLY UNSTABLE FOR OUTFLOWS BETWEEN 2875. TO 5311.
THE ROUTED HYDROGRAPH SHOULD BE EXAMINED FOR OSCILLATIONS OR OUTFLOWS GREATER THAN PEAK INFLOWS.
THIS CAN BE CORRECTED BY DECREASING THE TIME INTERVAL OR INCREASING STORAGE (USE A LONGER REACH.)

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HYDROGRAPH AT STATION R066-1

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.97-HR
+ (CFS)	(HR)					
		(CFS)				
+ 4241.	12.50		629.	164.	157.	157.
		(INCHES)	1.564	1.630	1.630	1.630
		(AC-FT)	312.	325.	325.	325.

PEAK STORAGE	TIME	MAXIMUM AVERAGE STORAGE			
		6-HR	24-HR	72-HR	24.97-HR
+ (AC-FT)	(HR)				
8.	12.50	2.	0.	0.	0.

PEAK STAGE	TIME	MAXIMUM AVERAGE STAGE			
		6-HR	24-HR	72-HR	24.97-HR
+ (FEET)	(HR)				
2283.57	12.50	2280.95	2280.32	2280.31	2280.31

CUMULATIVE AREA = 3.74 SQ MI

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              **************
              *            *
525 KK        *     066    *
              *            *
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SUB-BASIN 066
24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
THIS BASIN USED RAINFALL REDUCTION FACTOR OF .928
L = .18 Kb = .072 Adj. Slope = 122.0

SUBBASIN RUNOFF DATA

530 BA SUBBASIN CHARACTERISTICS
TAREA .01 SUBBASIN AREA

PRECIPITATION DATA

14 PB STORM 4.27 BASIN TOTAL PRECIPITATION

14 PI INCREMENTAL PRECIPITATION PATTERN

.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
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.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
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.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
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.01	.01	.03	.04	.04	.04	.04	.04	.04	.04
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.00	.00	.00	.00	.00	.00	.00	.00	.00	.00

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531 LG          GREEN AND AMPT LOSS RATE
                      STRTL          .15  STARTING LOSS
                        DTH          .35  MOISTURE DEFICIT
                       PSIF         4.20  WETTING FRONT SUCTION
                      XKSAT          .36  HYDRAULIC CONDUCTIVITY
                      RTIMP         3.00  PERCENT IMPERVIOUS AREA

532 UC          CLARK UNITGRAPH
                         TC          .16  TIME OF CONCENTRATION
                          R          .22  STORAGE COEFFICIENT

533 UA          ACCUMULATED-AREA VS. TIME,  11 ORDINATES
                      .0      3.0      5.0      8.0     12.0     20.0     43.0     75.0     90.0     96.0
                   100.0

                                                ***

                                   UNIT HYDROGRAPH PARAMETERS
                              CLARK   TC=   .16 HR,      R=   .22 HR
                             SNYDER   TP=   .16 HR,     CP=   .53

                                          UNIT HYDROGRAPH
                                   39 END-OF-PERIOD ORDINATES
                 0.       1.       5.      11.      13.      12.      10.       9.       8.       7.
                 6.       5.       4.       4.       3.       3.       2.       2.       2.       1.
                 1.       1.       1.       1.       1.       1.       1.       0.       0.       0.
                 0.       0.       0.       0.       0.       0.       0.       0.       0.

       ***          ***          ***          ***          ***

                      HYDROGRAPH AT STATION        066

     TOTAL RAINFALL =     4.27, TOTAL LOSS =     2.94, TOTAL EXCESS =     1.33

   PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                      6-HR        24-HR        72-HR       24.97-HR
+   (CFS)        (HR)
                             (CFS)
+       10.     12.07                    1.           0.           0.           0.
                          (INCHES)    1.289        1.326        1.326        1.326
                           (AC-FT)       0.           0.           0.           0.

                      CUMULATIVE AREA =     .01 SQ MI


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              *            *
  535 KK      *     CP066  *
              *            *
              **************
                             Combine routed hydrograph from CP064 with runoff hydrograph from 066

  537 HC            HYDROGRAPH COMBINATION
                          ICOMP           2  NUMBER OF HYDROGRAPHS TO COMBINE

                                                                    ***

       ***               ***               ***               ***               ***

                            HYDROGRAPH AT STATION    CP066

    PEAK FLOW      TIME                          MAXIMUM AVERAGE FLOW
                                          6-HR        24-HR        72-HR      24.97-HR
+     (CFS)         (HR)
                           (CFS)
+      4243.      12.50                   630.         164.         158.         158.
                         (INCHES)        1.564        1.629        1.630        1.630
                          (AC-FT)          312.         325.         325.         325.

                          CUMULATIVE AREA =    3.74 SQ MI



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              *            *
  538 KK      *    R068-2  *
              *            *
              **************
                             Route combined hydrograph from CP066

                HYDROGRAPH ROUTING DATA

  540 RS            STORAGE ROUTING
                         NSTPS           4  NUMBER OF SUBREACHES
                          ITYP        FLOW  TYPE OF INITIAL CONDITION
                        RSVRIC       -1.00  INITIAL CONDITION
                             X         .00 WORKING R AND D COEFFICIENT

  541 RC            NORMAL DEPTH CHANNEL
                           ANL        .045  LEFT OVERBANK N-VALUE
                          ANCH        .035  MAIN CHANNEL N-VALUE
                           ANR        .045  RIGHT OVERBANK N-VALUE
                         RLNTH       3234.  REACH LENGTH
                           SEL       .0250  ENERGY SLOPE
                         ELMAX          .0  MAX. ELEV. FOR STORAGE/OUTFLOW CALCULATION

                                                CROSS-SECTION DATA
                                --- LEFT OVERBANK --- + ------ MAIN CHANNEL ------- + --- RIGHT OVERBANK ---
  543 RY          ELEVATION   2228.00   2227.00   2227.00   2226.50   2226.50   2227.00   2227.00   2228.00
  542 RX          DISTANCE     198.00    224.00    270.00    283.00    684.00    688.00    721.00    769.00

                                                                    ***

                                                COMPUTED STORAGE-OUTFLOW-ELEVATION DATA

             STORAGE        .00      2.36      4.73      7.11      9.52     11.93     14.37     17.13     20.08     23.06
             OUTFLOW        .00     39.18    124.54    245.07    396.30    575.50    780.76   1016.19   1284.93   1582.74
           ELEVATION    2226.50   2226.58   2226.66   2226.74   2226.82   2226.89   2226.97   2227.05   2227.13   2227.21

             STORAGE      26.08     29.13     32.22     35.34     38.49     41.68     44.90     48.16     51.45     54.77
             OUTFLOW    1908.11   2260.02   2637.71   3040.54   3468.02   3919.71   4395.25   4894.34   5416.68   5962.06
           ELEVATION    2227.29   2227.37   2227.45   2227.53   2227.60   2227.68   2227.76   2227.84   2227.92   2228.00

       ***               ***               ***               ***               ***

                            HYDROGRAPH AT STATION    R068-2

    PEAK FLOW      TIME                          MAXIMUM AVERAGE FLOW
                                          6-HR        24-HR        72-HR      24.97-HR
+     (CFS)         (HR)
                           (CFS)
+      4181.      12.60                   629.         164.         158.         158.
                         (INCHES)        1.564        1.628        1.628        1.628
                          (AC-FT)          312.         325.         325.         325.

   PEAK STORAGE   TIME                       MAXIMUM AVERAGE STORAGE
                                          6-HR        24-HR        72-HR      24.97-HR
+    (AC-FT)       (HR)
          11.     12.60                     2.           1.           1.           1.

    PEAK STAGE    TIME                       MAXIMUM AVERAGE STAGE
                                          6-HR        24-HR        72-HR      24.97-HR
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+ (FEET)	(HR)				
2227.73	12.60	2226.79	2226.58	2226.57	2226.57

CUMULATIVE AREA = 3.74 SQ MI

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            *            *
544 KK      *     068    *
            *            *
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SUB-BASIN 068
24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
THIS BASIN USED RAINFALL REDUCTION FACTOR OF .928
L = 1.05 Kb = .050 Adj. Slope = 133.0

SUBBASIN RUNOFF DATA

549 BA SUBBASIN CHARACTERISTICS
TAREA .25 SUBBASIN AREA

PRECIPITATION DATA

14 PB STORM 4.27 BASIN TOTAL PRECIPITATION

14 PI INCREMENTAL PRECIPITATION PATTERN

.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
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.01	.01	.03	.04	.04	.04	.04	.04	.04	.04
.01	.01	.01	.01	.01	.01	.01	.00	.00	.00
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                                                  UNIT HYDROGRAPH
                                            87 END-OF-PERIOD ORDINATES
           9.       27.       39.       51.       66.       84.      108.      144.      219.      340.
         493.      636.      717.      740.      733.      714.      685.      645.      601.      561.
         523.      488.      455.      424.      396.      369.      344.      321.      299.      279.
         260.      243.      226.      211.      197.      184.      171.      160.      149.      139.
         130.      121.      113.      105.       98.       91.       85.       80.       74.       69.
          64.       60.       56.       52.       49.       46.       42.       40.       37.       34.
          32.       30.       28.       26.       24.       23.       21.       20.       18.       17.
          16.       15.       14.       13.       12.       11.       11.       10.        9.        9.
           8.        7.        7.        6.        6.        6.        5.

   ***            ***            ***            ***            ***

                             HYDROGRAPH AT STATION      070

    TOTAL RAINFALL =    4.27, TOTAL LOSS =    2.88, TOTAL EXCESS =    1.39

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                    6-HR       24-HR       72-HR      24.97-HR
+   (CFS)       (HR)
                           (CFS)
+      833.     12.37               115.         29.         28.         28.
                         (INCHES)   1.344       1.381       1.381       1.381
                          (AC-FT)     57.         58.         58.         58.

                           CUMULATIVE AREA =     .79 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***
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              *            *
  574 KK      *    CP070   *
              *            *
              **************
                              Combine routed hydrograph from CP068 with runoff hydrograph from 070

  576 HC           HYDROGRAPH COMBINATION
                         ICOMP            2  NUMBER OF HYDROGRAPHS TO COMBINE

                                                                         ***

   ***            ***            ***            ***            ***

                             HYDROGRAPH AT STATION    CP070

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                    6-HR       24-HR       72-HR      24.97-HR
+   (CFS)       (HR)
                           (CFS)
+     9940.     13.07              2293.        606.        583.        583.
                         (INCHES)   1.516       1.603       1.603       1.603
                          (AC-FT)   1137.       1202.       1202.       1202.

                           CUMULATIVE AREA =   14.06 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***
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              *            *
  577 KK      *   R072-1   *
              *            *
              **************
                              Route combined hydrograph from CP070

                 HYDROGRAPH ROUTING DATA

  579 RS           STORAGE ROUTING
                         NSTPS            8  NUMBER OF SUBREACHES
                          ITYP         FLOW  TYPE OF INITIAL CONDITION
                        RSVRIC        -1.00  INITIAL CONDITION
                             X          .00  WORKING R AND D COEFFICIENT

  580 RC           NORMAL DEPTH CHANNEL
                           ANL         .045  LEFT OVERBANK N-VALUE
                          ANCH         .035  MAIN CHANNEL N-VALUE
                           ANR         .045  RIGHT OVERBANK N-VALUE
                         RLNTH        8409.  REACH LENGTH
                           SEL        .0230  ENERGY SLOPE
                         ELMAX           .0  MAX. ELEV. FOR STORAGE/OUTFLOW CALCULATION

                                                 CROSS-SECTION DATA
                              --- LEFT OVERBANK --- + ------ MAIN CHANNEL ------- + --- RIGHT OVERBANK ---
  582 RY          ELEVATION   1902.00   1900.00   1898.00   1897.00   1899.00   1897.00   1896.00   1901.00
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                    ICOMP           2  NUMBER OF HYDROGRAPHS TO COMBINE

                                                                  ***

        ***             ***             ***             ***             ***

                      HYDROGRAPH AT STATION     1BIN

   PEAK FLOW      TIME                         MAXIMUM AVERAGE FLOW
                                      6-HR        24-HR       72-HR     24.97-HR
 +   (CFS)        (HR)
                              (CFS)
 +       22.     12.03                  2.           1.          1.            1.
                            (INCHES)  1.656        2.118       2.119         2.119
                             (AC-FT)     1.           1.          1.            1.

                         CUMULATIVE AREA =       .01 SQ MI


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              **************
              *            *
   614 KK     *     RET1B  *
              *            *
              **************
                             RETENTION BASIN 1B

                HYDROGRAPH ROUTING DATA

   616 RS         STORAGE ROUTING
                        NSTPS           1  NUMBER OF SUBREACHES
                         ITYP        STOR  TYPE OF INITIAL CONDITION
                       RSVRIC         .00  INITIAL CONDITION
                            X         .00 WORKING R AND D COEFFICIENT

   617 SV           STORAGE         .0         .0         .1         .2

   618 SE         ELEVATION        .00       1.00       2.00       3.00

   620 SL         LOW-LEVEL OUTLET
                        ELEVL        1.25  ELEVATION AT CENTER OF OUTLET
                        CAREA         .20  CROSS-SECTIONAL AREA
                         COQL         .60  COEFFICIENT
                         EXPL         .50  EXPONENT OF HEAD

   619 SS         SPILLWAY
                         CREL        2.30  SPILLWAY CREST ELEVATION
                        SPWID       15.00  SPILLWAY WIDTH
                         COQW        2.30  WEIR COEFFICIENT
                         EXPW        1.50  EXPONENT OF HEAD

                                                                  ***

                                            COMPUTED OUTFLOW-ELEVATION DATA

            OUTFLOW        .00        .00        .47        .50        .55        .60        .66        .74        .84        .97
          ELEVATION        .00       1.25       1.49       1.53       1.59       1.65       1.74       1.86       2.04       2.30

            OUTFLOW       1.00       1.17       1.59       2.38       3.65       5.54       8.14      11.58      15.98      21.45
          ELEVATION       2.31       2.33       2.37       2.42       2.48       2.56       2.65       2.75       2.87       3.00

                                        COMPUTED STORAGE-OUTFLOW-ELEVATION DATA

            STORAGE        .00        .04        .05        .07        .07        .08        .08        .09        .10        .10
            OUTFLOW        .00        .00        .00        .47        .50        .55        .60        .66        .74        .82
          ELEVATION        .00       1.00       1.25       1.49       1.53       1.59       1.65       1.74       1.86       2.00

            STORAGE        .11        .13        .14        .14        .15        .15        .16        .17        .18        .19
            OUTFLOW        .84        .97       1.17       1.59       2.38       3.65       5.54       8.14      11.58      15.98
          ELEVATION       2.04       2.30       2.33       2.37       2.42       2.48       2.56       2.65       2.75       2.87

            STORAGE        .20
            OUTFLOW      21.45
          ELEVATION       3.00

 WARNING --- ROUTED OUTFLOW (      22.) IS GREATER THAN MAXIMUM OUTFLOW (      21.) IN STORAGE-OUTFLOW TABLE

 WARNING --- ROUTED OUTFLOW (      22.) IS GREATER THAN MAXIMUM OUTFLOW (      21.) IN STORAGE-OUTFLOW TABLE

        ***             ***             ***             ***             ***

                      HYDROGRAPH AT STATION    RET1B

   PEAK FLOW      TIME                         MAXIMUM AVERAGE FLOW
                                      6-HR        24-HR       72-HR     24.97-HR
 +   (CFS)        (HR)
                              (CFS)
 +       22.     12.03                  2.           1.          1.            1.
                            (INCHES)  1.633        2.026       2.026         2.026
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                    (AC-FT)        1.          1.          1.            1.

  PEAK STORAGE   TIME                          MAXIMUM AVERAGE STORAGE
                                       6-HR       24-HR       72-HR     24.97-HR
+  (AC-FT)       (HR)
        0.      11.97                   0.          0.          0.            0.

   PEAK STAGE    TIME                           MAXIMUM AVERAGE STAGE
                                       6-HR       24-HR       72-HR     24.97-HR
+    (FEET)      (HR)
       3.00     12.03                  2.12        1.43        1.38         1.38

                    CUMULATIVE AREA =      .01 SQ MI


 *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***
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             *            *
  621 KK     *     ON04   *       BASIN
             *            *
             **************

                SUBBASIN RUNOFF DATA

  622 BA          SUBBASIN CHARACTERISTICS
                        TAREA          .01  SUBBASIN AREA

                  PRECIPITATION DATA

   14 PB                STORM        4.27  BASIN TOTAL PRECIPITATION

   14 PI              INCREMENTAL PRECIPITATION PATTERN
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                         .01       .01       .03       .04       .04       .04       .04       .04       .04       .04
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623 LG         GREEN AND AMPT LOSS RATE
                    STRTL         .25  STARTING LOSS
                      DTH         .25  MOISTURE DEFICIT
                     PSIF        4.03  WETTING FRONT SUCTION
                    XKSAT         .57  HYDRAULIC CONDUCTIVITY
                    RTIMP       40.00  PERCENT IMPERVIOUS AREA

622 UI         INPUT UNITGRAPH,    4 ORDINATES,   VOLUME =  .76
                      .0      37.0       79.0       17.0

                                                                 ***

      ***            ***            ***            ***            ***

                    HYDROGRAPH AT STATION      ON04

   TOTAL RAINFALL =    4.27, TOTAL LOSS =     1.90, TOTAL EXCESS =     2.37

   PEAK FLOW     TIME                         MAXIMUM AVERAGE FLOW
                                     6-HR        24-HR       72-HR      24.97-HR
+    (CFS)       (HR)
                             (CFS)
+       18.      12.03                  1.          0.          0.          0.
                          (INCHES)   1.428       1.807       1.807       1.807
                           (AC-FT)      1.          1.          1.          1.

                    CUMULATIVE AREA =     .01 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***
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             *            *
  625 KK     *    2AIN    *
             *            *
             **************
                        INFLOW TO RETENTION BASIN 2A

  627 HC         HYDROGRAPH COMBINATION
                      ICOMP           2  NUMBER OF HYDROGRAPHS TO COMBINE

                                                                 ***

      ***            ***            ***            ***            ***

                    HYDROGRAPH AT STATION      2AIN

   PEAK FLOW     TIME                         MAXIMUM AVERAGE FLOW
                                     6-HR        24-HR       72-HR      24.97-HR
+    (CFS)       (HR)
                             (CFS)
+       40.      12.03                  3.          1.          1.          1.
                          (INCHES)   1.528       1.924       1.927       1.927
                           (AC-FT)      2.          2.          2.          2.

                    CUMULATIVE AREA =     .02 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***
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             *            *
  628 KK     *   RET2A    *
             *            *
             **************
                        RETENTION BASIN 2A

             HYDROGRAPH ROUTING DATA

  630 RS         STORAGE ROUTING
                      NSTPS           1  NUMBER OF SUBREACHES
                       ITYP        STOR  TYPE OF INITIAL CONDITION
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                RSVRIC        .00  INITIAL CONDITION
                     X        .00 WORKING R AND D COEFFICIENT

631 SV          STORAGE        .0        .3        .7       1.0

632 SE        ELEVATION       .00      1.00      2.00      3.00

634 SL        LOW-LEVEL OUTLET
                 ELEVL       1.25  ELEVATION AT CENTER OF OUTLET
                 CAREA        .20  CROSS-SECTIONAL AREA
                  COQL        .60  COEFFICIENT
                  EXPL        .50  EXPONENT OF HEAD

633 SS        SPILLWAY
                  CREL       2.60  SPILLWAY CREST ELEVATION
                 SPWID      50.00  SPILLWAY WIDTH
                  COQW       2.30  WEIR COEFFICIENT
                  EXPW       1.50  EXPONENT OF HEAD

                                                          ***

                                   COMPUTED OUTFLOW-ELEVATION DATA

        OUTFLOW      .00      .00      .47      .51      .56      .62      .70      .79      .92     1.10
      ELEVATION      .00     1.25     1.50     1.54     1.60     1.68     1.80     1.96     2.20     2.60

        OUTFLOW     1.13     1.35     1.92     3.02     4.82     7.49    11.20    16.13    22.46    30.34
      ELEVATION     2.60     2.62     2.64     2.66     2.70     2.74     2.80     2.86     2.92     3.00

                                COMPUTED STORAGE-OUTFLOW-ELEVATION DATA

        STORAGE      .00      .34      .42      .51      .52      .54      .57      .61      .66      .68
        OUTFLOW      .00      .00      .00      .47      .51      .56      .62      .70      .79      .82
      ELEVATION      .00     1.00     1.25     1.50     1.54     1.60     1.68     1.80     1.96     2.00

        STORAGE      .75      .88      .89      .89      .90      .92      .93      .95      .97      .99
        OUTFLOW      .92     1.10     1.35     1.92     3.02     4.82     7.49    11.20    16.13    22.46
      ELEVATION     2.20     2.60     2.62     2.64     2.66     2.70     2.74     2.80     2.86     2.92

        STORAGE     1.02
        OUTFLOW    30.34
      ELEVATION     3.00

WARNING --- ROUTED OUTFLOW (      34.) IS GREATER THAN MAXIMUM OUTFLOW (      30.) IN STORAGE-OUTFLOW TABLE

      ***            ***            ***            ***            ***

                     HYDROGRAPH AT STATION    RET2A

  PEAK FLOW      TIME                        MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR      24.97-HR
+    (CFS)       (HR)
                             (CFS)
+       34.     12.07                  2.          1.          1.          1.
                          (INCHES)  1.039       1.452       1.452       1.452
                           (AC-FT)     1.          2.          2.          2.

 PEAK STORAGE    TIME                      MAXIMUM AVERAGE STORAGE
                                     6-HR       24-HR       72-HR      24.97-HR
+   (AC-FT)      (HR)
         1.     12.07                  1.          0.          0.          0.

  PEAK STAGE     TIME                       MAXIMUM AVERAGE STAGE
                                     6-HR       24-HR       72-HR      24.97-HR
+    (FEET)      (HR)
      3.03      12.07                2.59        1.35        1.30        1.30

                    CUMULATIVE AREA =      .02 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***
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            *            *
635 KK      *    ON05    *      BASIN
            *            *
            **************

               SUBBASIN RUNOFF DATA

636 BA           SUBBASIN CHARACTERISTICS
                    TAREA       .00  SUBBASIN AREA

                 PRECIPITATION DATA

 14 PB              STORM      4.27  BASIN TOTAL PRECIPITATION

 14 PI             INCREMENTAL PRECIPITATION PATTERN
                     .00      .00      .00      .00      .00      .00      .00      .00      .00      .00
                     .00      .00      .00      .00      .00      .00      .00      .00      .00      .00
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637 LG          GREEN AND AMPT LOSS RATE
                      STRTL        .25  STARTING LOSS
                        DTH        .25  MOISTURE DEFICIT
                       PSIF       4.03  WETTING FRONT SUCTION
                      XKSAT        .56  HYDRAULIC CONDUCTIVITY
                      RTIMP      40.00  PERCENT IMPERVIOUS AREA

636 UI          INPUT UNITGRAPH,   3 ORDINATES,  VOLUME =  .99
                       .0      62.0      15.0

                                                                ***

      ***             ***             ***             ***             ***

                          HYDROGRAPH AT STATION      ON05

     TOTAL RAINFALL =     4.27, TOTAL LOSS =    1.90, TOTAL EXCESS =     2.37

  PEAK FLOW      TIME                             MAXIMUM AVERAGE FLOW
                                         6-HR        24-HR        72-HR       24.97-HR
+   (CFS)        (HR)
                              (CFS)
+       11.      12.03                     1.           0.           0.            0.
                           (INCHES)     1.865        2.359        2.359         2.359
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(AC-FT) 0. 1. 1. 1.

CUMULATIVE AREA = .00 SQ MI

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              **************
              *            *
639 KK        *    ON06    *        BASIN
              *            *
              **************

            SUBBASIN RUNOFF DATA

640 BA        SUBBASIN CHARACTERISTICS
                 TAREA       .00  SUBBASIN AREA

              PRECIPITATION DATA

 14 PB           STORM      4.27  BASIN TOTAL PRECIPITATION

 14 PI         INCREMENTAL PRECIPITATION PATTERN
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.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
.00	.00	.00	.00	.00	.01	.01	.01	.01	.01
.01	.01	.03	.04	.04	.04	.04	.04	.04	.04
.01	.01	.01	.01	.01	.01	.01	.00	.00	.00
.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
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.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
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.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
.00	.00	.00	.00	.00	.00	.00	.00	.00	.00

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                    .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                    .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                    .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                    .00       .00       .00       .00       .00       .00       .00       .00       .00       .00

  641 LG          GREEN AND AMPT LOSS RATE
                        STRTL         .25  STARTING LOSS
                          DTH         .25  MOISTURE DEFICIT
                         PSIF        4.03  WETTING FRONT SUCTION
                        XKSAT         .56  HYDRAULIC CONDUCTIVITY
                        RTIMP       40.00  PERCENT IMPERVIOUS AREA

  640 UI          INPUT UNITGRAPH,   3 ORDINATES,  VOLUME =  .99
                        .0      62.0      15.0

                                                                  ***

       ***             ***             ***             ***             ***

                          HYDROGRAPH AT STATION     ON06

     TOTAL RAINFALL =    4.27, TOTAL LOSS =    1.90, TOTAL EXCESS =    2.37

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                      6-HR       24-HR       72-HR     24.97-HR
+   (CFS)        (HR)
                         (CFS)
+       11.     12.03                  1.          0.          0.          0.
                       (INCHES)     1.865       2.359       2.359       2.359
                        (AC-FT)        0.          1.          1.          1.

                        CUMULATIVE AREA =     .00 SQ MI


 *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***
***


              **************
              *            *
  643 KK      *      2BIN  *
              *            *
              **************
                             INFLOW TO RETENTION BASIN 2B

  645 HC          HYDROGRAPH COMBINATION
                        ICOMP           3  NUMBER OF HYDROGRAPHS TO COMBINE

                                                                  ***

       ***             ***             ***             ***             ***

                          HYDROGRAPH AT STATION     2BIN

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                      6-HR       24-HR       72-HR     24.97-HR
+   (CFS)        (HR)
                         (CFS)
+       50.     12.03                  4.          1.          1.          1.
                       (INCHES)     1.220       1.706       1.711       1.711
                        (AC-FT)        2.          3.          3.          3.

                        CUMULATIVE AREA =     .03 SQ MI


 *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***
***


              **************
              *            *
  646 KK      *     RET2B  *
              *            *
              **************

  647 KO          OUTPUT CONTROL VARIABLES
                        IPRNT           2  PRINT CONTROL
                        IPLOT           0  PLOT CONTROL
                        QSCAL          0.  HYDROGRAPH PLOT SCALE
                            RETENTION BASIN 2B

                HYDROGRAPH ROUTING DATA

  649 RS          STORAGE ROUTING
                        NSTPS           1  NUMBER OF SUBREACHES
                         ITYP        STOR  TYPE OF INITIAL CONDITION
                       RSVRIC         .00  INITIAL CONDITION
                            X         .00  WORKING R AND D COEFFICIENT

  650 SV            STORAGE          .0        .1        .1        .2
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651 SE ELEVATION .00 1.00 2.00 3.00

653 SL LOW-LEVEL OUTLET

ELEVL	.25	ELEVATION AT CENTER OF OUTLET
CAREA	.39	CROSS-SECTIONAL AREA
COQL	.60	COEFFICIENT
EXPL	.50	EXPONENT OF HEAD

652 SS SPILLWAY

CREL	2.40	SPILLWAY CREST ELEVATION
SPWID	40.00	SPILLWAY WIDTH
COQW	2.30	WEIR COEFFICIENT
EXPW	1.50	EXPONENT OF HEAD

***

COMPUTED OUTFLOW-ELEVATION DATA

OUTFLOW	.00	.00	1.12	1.23	1.35	1.51	1.70	1.95	2.29	2.77
ELEVATION	.00	.25	.60	.67	.76	.88	1.06	1.32	1.72	2.40
OUTFLOW	2.83	3.16	4.01	5.65	8.31	12.26	17.74	25.00	34.30	45.89
ELEVATION	2.41	2.43	2.46	2.50	2.55	2.62	2.70	2.79	2.89	3.00

COMPUTED STORAGE-OUTFLOW-ELEVATION DATA

STORAGE	.00	.01	.03	.03	.04	.04	.05	.05	.07	.10
OUTFLOW	.00	.00	1.12	1.23	1.35	1.51	1.64	1.70	1.95	2.29
ELEVATION	.00	.25	.60	.67	.76	.88	1.00	1.06	1.32	1.72
STORAGE	.13	.17	.17	.17	.18	.18	.19	.20	.21	.22
OUTFLOW	2.50	2.77	3.16	4.01	5.65	8.31	12.26	17.74	25.00	34.30
ELEVATION	2.00	2.40	2.43	2.46	2.50	2.55	2.62	2.70	2.79	2.89
STORAGE	.23									
OUTFLOW	45.89									
ELEVATION	3.00									

*** WARNING *** MODIFIED PULS ROUTING MAY BE NUMERICALLY UNSTABLE FOR OUTFLOWS BETWEEN 18. TO 46.
THE ROUTED HYDROGRAPH SHOULD BE EXAMINED FOR OSCILLATIONS OR OUTFLOWS GREATER THAN PEAK INFLOWS.
THIS CAN BE CORRECTED BY DECREASING THE TIME INTERVAL OR INCREASING STORAGE (USE A LONGER REACH.)

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**

HYDROGRAPH AT STATION RET2B

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**

DA	MON	HRMN	ORD	OUTFLOW	STORAGE	STAGE	DA	MON	HRMN	ORD	OUTFLOW	STORAGE	STAGE	DA	MON	HRMN	ORD	OUTFLOW	STORAGE	STAGE
1		0000	1	0.	.0	.0	1		0820	251	0.	.0	.3	1		1640	501	1.	.0	.7
1		0002	2	0.	.0	.0	1		0822	252	0.	.0	.3	1		1642	502	1.	.0	.7
1		0004	3	0.	.0	.0	1		0824	253	0.	.0	.3	1		1644	503	1.	.0	.7
1		0006	4	0.	.0	.0	1		0826	254	0.	.0	.3	1		1646	504	1.	.0	.7
1		0008	5	0.	.0	.0	1		0828	255	0.	.0	.3	1		1648	505	1.	.0	.7
1		0010	6	0.	.0	.0	1		0830	256	0.	.0	.3	1		1650	506	1.	.0	.7
1		0012	7	0.	.0	.0	1		0832	257	0.	.0	.3	1		1652	507	1.	.0	.7
1		0014	8	0.	.0	.0	1		0834	258	0.	.0	.3	1		1654	508	1.	.0	.7
1		0016	9	0.	.0	.0	1		0836	259	0.	.0	.3	1		1656	509	1.	.0	.7
1		0018	10	0.	.0	.0	1		0838	260	0.	.0	.3	1		1658	510	1.	.0	.7
1		0020	11	0.	.0	.0	1		0840	261	0.	.0	.3	1		1700	511	1.	.0	.7
1		0022	12	0.	.0	.0	1		0842	262	0.	.0	.3	1		1702	512	1.	.0	.7
1		0024	13	0.	.0	.0	1		0844	263	0.	.0	.3	1		1704	513	1.	.0	.7
1		0026	14	0.	.0	.1	1		0846	264	0.	.0	.3	1		1706	514	1.	.0	.7
1		0028	15	0.	.0	.1	1		0848	265	0.	.0	.3	1		1708	515	1.	.0	.7
1		0030	16	0.	.0	.1	1		0850	266	0.	.0	.3	1		1710	516	1.	.0	.7
1		0032	17	0.	.0	.1	1		0852	267	0.	.0	.3	1		1712	517	1.	.0	.7
1		0034	18	0.	.0	.1	1		0854	268	0.	.0	.3	1		1714	518	1.	.0	.7
1		0036	19	0.	.0	.1	1		0856	269	0.	.0	.3	1		1716	519	1.	.0	.7

```
   1    0038  20        0.       .0      .1 *  1    0858 270        0.       .0      .3 *  1    1718 520        1.       .0
.7
   1    0040  21        0.       .0      .1 *  1    0900 271        0.       .0      .3 *  1    1720 521        1.       .0
.7
   1    0042  22        0.       .0      .1 *  1    0902 272        0.       .0      .3 *  1    1722 522        1.       .0
.7
   1    0044  23        0.       .0      .1 *  1    0904 273        0.       .0      .3 *  1    1724 523        1.       .0
.7
   1    0046  24        0.       .0      .1 *  1    0906 274        0.       .0      .3 *  1    1726 524        1.       .0
.7
   1    0048  25        0.       .0      .1 *  1    0908 275        0.       .0      .3 *  1    1728 525        1.       .0
.7
   1    0050  26        0.       .0      .1 *  1    0910 276        0.       .0      .3 *  1    1730 526        1.       .0
.7
   1    0052  27        0.       .0      .1 *  1    0912 277        0.       .0      .3 *  1    1732 527        1.       .0
.7
   1    0054  28        0.       .0      .1 *  1    0914 278        0.       .0      .3 *  1    1734 528        1.       .0
.7
   1    0056  29        0.       .0      .1 *  1    0916 279        0.       .0      .3 *  1    1736 529        1.       .0
.7
   1    0058  30        0.       .0      .1 *  1    0918 280        0.       .0      .3 *  1    1738 530        1.       .0
.7
   1    0100  31        0.       .0      .1 *  1    0920 281        0.       .0      .3 *  1    1740 531        1.       .0
.7
   1    0102  32        0.       .0      .2 *  1    0922 282        0.       .0      .3 *  1    1742 532        1.       .0
.7
   1    0104  33        0.       .0      .2 *  1    0924 283        0.       .0      .3 *  1    1744 533        1.       .0
.7
   1    0106  34        0.       .0      .2 *  1    0926 284        0.       .0      .3 *  1    1746 534        1.       .0
.7
   1    0108  35        0.       .0      .2 *  1    0928 285        0.       .0      .3 *  1    1748 535        1.       .0
.7
   1    0110  36        0.       .0      .2 *  1    0930 286        0.       .0      .3 *  1    1750 536        1.       .0
.7
   1    0112  37        0.       .0      .2 *  1    0932 287        0.       .0      .3 *  1    1752 537        1.       .0
.7
   1    0114  38        0.       .0      .2 *  1    0934 288        0.       .0      .3 *  1    1754 538        1.       .0
.7
   1    0116  39        0.       .0      .2 *  1    0936 289        0.       .0      .3 *  1    1756 539        1.       .0
.6
   1    0118  40        0.       .0      .2 *  1    0938 290        0.       .0      .3 *  1    1758 540        1.       .0
.6
   1    0120  41        0.       .0      .2 *  1    0940 291        0.       .0      .3 *  1    1800 541        1.       .0
.6
   1    0122  42        0.       .0      .2 *  1    0942 292        0.       .0      .3 *  1    1802 542        1.       .0
.6
   1    0124  43        0.       .0      .2 *  1    0944 293        0.       .0      .3 *  1    1804 543        1.       .0
.6
   1    0126  44        0.       .0      .2 *  1    0946 294        0.       .0      .3 *  1    1806 544        1.       .0
.6
   1    0128  45        0.       .0      .2 *  1    0948 295        0.       .0      .3 *  1    1808 545        1.       .0
.6
   1    0130  46        0.       .0      .2 *  1    0950 296        0.       .0      .3 *  1    1810 546        1.       .0
.6
   1    0132  47        0.       .0      .2 *  1    0952 297        0.       .0      .3 *  1    1812 547        1.       .0
.6
   1    0134  48        0.       .0      .2 *  1    0954 298        0.       .0      .3 *  1    1814 548        1.       .0
.6
   1    0136  49        0.       .0      .3 *  1    0956 299        0.       .0      .3 *  1    1816 549        1.       .0
.6
   1    0138  50        0.       .0      .3 *  1    0958 300        0.       .0      .3 *  1    1818 550        1.       .0
.6
   1    0140  51        0.       .0      .3 *  1    1000 301        0.       .0      .3 *  1    1820 551        1.       .0
.6
   1    0142  52        0.       .0      .3 *  1    1002 302        0.       .0      .3 *  1    1822 552        1.       .0
.6
   1    0144  53        0.       .0      .3 *  1    1004 303        0.       .0      .3 *  1    1824 553        1.       .0
.6
   1    0146  54        0.       .0      .3 *  1    1006 304        0.       .0      .4 *  1    1826 554        1.       .0
.6
   1    0148  55        0.       .0      .3 *  1    1008 305        0.       .0      .4 *  1    1828 555        1.       .0
.6
   1    0150  56        0.       .0      .3 *  1    1010 306        0.       .0      .4 *  1    1830 556        1.       .0
.6
   1    0152  57        0.       .0      .3 *  1    1012 307        0.       .0      .4 *  1    1832 557        1.       .0
.6
   1    0154  58        0.       .0      .3 *  1    1014 308        0.       .0      .4 *  1    1834 558        1.       .0
.6
   1    0156  59        0.       .0      .3 *  1    1016 309        0.       .0      .4 *  1    1836 559        1.       .0
.6
   1    0158  60        0.       .0      .3 *  1    1018 310        0.       .0      .4 *  1    1838 560        1.       .0
.6
   1    0200  61        0.       .0      .3 *  1    1020 311        0.       .0      .4 *  1    1840 561        1.       .0
.6
   1    0202  62        0.       .0      .3 *  1    1022 312        0.       .0      .4 *  1    1842 562        1.       .0
.6
   1    0204  63        0.       .0      .3 *  1    1024 313        0.       .0      .4 *  1    1844 563        1.       .0
.6
   1    0206  64        0.       .0      .3 *  1    1026 314        0.       .0      .4 *  1    1846 564        1.       .0
.6
   1    0208  65        0.       .0      .3 *  1    1028 315        0.       .0      .4 *  1    1848 565        1.       .0
.6
   1    0210  66        0.       .0      .3 *  1    1030 316        0.       .0      .4 *  1    1850 566        1.       .0
.6
```

1	0212	67	0.	.0	.3	1	1032	317	0.	.0	.4	1	1852	567	1.	.0
.6																
1	0214	68	0.	.0	.3	1	1034	318	0.	.0	.4	1	1854	568	1.	.0
.6																
1	0216	69	0.	.0	.3	1	1036	319	0.	.0	.4	1	1856	569	1.	.0
.6																
1	0218	70	0.	.0	.3	1	1038	320	0.	.0	.4	1	1858	570	1.	.0
.6																
1	0220	71	0.	.0	.3	1	1040	321	0.	.0	.4	1	1900	571	1.	.0
.6																
1	0222	72	0.	.0	.3	1	1042	322	0.	.0	.4	1	1902	572	1.	.0
.6																
1	0224	73	0.	.0	.3	1	1044	323	0.	.0	.4	1	1904	573	1.	.0
.6																
1	0226	74	0.	.0	.3	1	1046	324	0.	.0	.4	1	1906	574	1.	.0
.6																
1	0228	75	0.	.0	.3	1	1048	325	0.	.0	.4	1	1908	575	1.	.0
.6																
1	0230	76	0.	.0	.3	1	1050	326	1.	.0	.4	1	1910	576	1.	.0
.6																
1	0232	77	0.	.0	.3	1	1052	327	1.	.0	.4	1	1912	577	1.	.0
.6																
1	0234	78	0.	.0	.3	1	1054	328	1.	.0	.4	1	1914	578	1.	.0
.6																
1	0236	79	0.	.0	.3	1	1056	329	1.	.0	.4	1	1916	579	1.	.0
.6																
1	0238	80	0.	.0	.3	1	1058	330	1.	.0	.4	1	1918	580	1.	.0
.6																
1	0240	81	0.	.0	.3	1	1100	331	1.	.0	.4	1	1920	581	1.	.0
.6																
1	0242	82	0.	.0	.3	1	1102	332	1.	.0	.4	1	1922	582	1.	.0
.6																
1	0244	83	0.	.0	.3	1	1104	333	1.	.0	.4	1	1924	583	1.	.0
.6																
1	0246	84	0.	.0	.3	1	1106	334	1.	.0	.4	1	1926	584	1.	.0
.6																
1	0248	85	0.	.0	.3	1	1108	335	1.	.0	.5	1	1928	585	1.	.0
.6																
1	0250	86	0.	.0	.3	1	1110	336	1.	.0	.5	1	1930	586	1.	.0
.6																
1	0252	87	0.	.0	.3	1	1112	337	1.	.0	.5	1	1932	587	1.	.0
.6																
1	0254	88	0.	.0	.3	1	1114	338	1.	.0	.5	1	1934	588	1.	.0
.6																
1	0256	89	0.	.0	.3	1	1116	339	1.	.0	.5	1	1936	589	1.	.0
.6																
1	0258	90	0.	.0	.3	1	1118	340	1.	.0	.5	1	1938	590	1.	.0
.6																
1	0300	91	0.	.0	.3	1	1120	341	1.	.0	.5	1	1940	591	1.	.0
.6																
1	0302	92	0.	.0	.3	1	1122	342	1.	.0	.5	1	1942	592	1.	.0
.6																
1	0304	93	0.	.0	.3	1	1124	343	1.	.0	.5	1	1944	593	1.	.0
.6																
1	0306	94	0.	.0	.3	1	1126	344	1.	.0	.5	1	1946	594	1.	.0
.6																
1	0308	95	0.	.0	.3	1	1128	345	1.	.0	.5	1	1948	595	1.	.0
.6																
1	0310	96	0.	.0	.3	1	1130	346	1.	.0	.5	1	1950	596	1.	.0
.6																
1	0312	97	0.	.0	.3	1	1132	347	1.	.0	.5	1	1952	597	1.	.0
.6																
1	0314	98	0.	.0	.3	1	1134	348	1.	.0	.6	1	1954	598	1.	.0
.6																
1	0316	99	0.	.0	.3	1	1136	349	1.	.0	.8	1	1956	599	1.	.0
.6																
1	0318	100	0.	.0	.3	1	1138	350	2.	.1	1.0	1	1958	600	1.	.0
.6																
1	0320	101	0.	.0	.3	1	1140	351	2.	.1	1.2	1	2000	601	1.	.0
.6																
1	0322	102	0.	.0	.3	1	1142	352	2.	.1	1.3	1	2002	602	1.	.0
.6																
1	0324	103	0.	.0	.3	1	1144	353	2.	.1	1.5	1	2004	603	1.	.0
.6																
1	0326	104	0.	.0	.3	1	1146	354	2.	.1	1.6	1	2006	604	1.	.0
.6																
1	0328	105	0.	.0	.3	1	1148	355	2.	.1	1.9	1	2008	605	1.	.0
.6																
1	0330	106	0.	.0	.3	1	1150	356	3.	.2	2.3	1	2010	606	1.	.0
.6																
1	0332	107	0.	.0	.3	1	1152	357	12.	.2	2.6	1	2012	607	1.	.0
.6																
1	0334	108	0.	.0	.3	1	1154	358	22.	.2	2.7	1	2014	608	1.	.0
.6																
1	0336	109	0.	.0	.3	1	1156	359	22.	.2	2.7	1	2016	609	1.	.0
.6																
1	0338	110	0.	.0	.3	1	1158	360	22.	.2	2.8	1	2018	610	1.	.0
.5																
1	0340	111	0.	.0	.3	1	1200	361	30.	.2	2.8	1	2020	611	1.	.0
.5																
1	0342	112	0.	.0	.3	1	1202	362	45.	.2	3.0	1	2022	612	1.	.0
.5																
1	0344	113	0.	.0	.3	1	1204	363	45.	.2	3.0	1	2024	613	1.	.0
.5																

```
 1  0346 114   0.   .0   .3 * 1   1206 364   33.   .2   2.9 * 1   2026 614   1.   .0
.5
 1  0348 115   0.   .0   .3 * 1   1208 365   25.   .2   2.8 * 1   2028 615   1.   .0
.5
 1  0350 116   0.   .0   .3 * 1   1210 366   18.   .2   2.7 * 1   2030 616   1.   .0
.5
 1  0352 117   0.   .0   .3 * 1   1212 367   13.   .2   2.6 * 1   2032 617   1.   .0
.5
 1  0354 118   0.   .0   .3 * 1   1214 368   10.   .2   2.6 * 1   2034 618   1.   .0
.5
 1  0356 119   0.   .0   .3 * 1   1216 369    9.   .2   2.6 * 1   2036 619   1.   .0
.5
 1  0358 120   0.   .0   .3 * 1   1218 370    7.   .2   2.5 * 1   2038 620   1.   .0
.5
 1  0400 121   0.   .0   .3 * 1   1220 371    6.   .2   2.5 * 1   2040 621   1.   .0
.5
 1  0402 122   0.   .0   .3 * 1   1222 372    6.   .2   2.5 * 1   2042 622   1.   .0
.5
 1  0404 123   0.   .0   .3 * 1   1224 373    5.   .2   2.5 * 1   2044 623   1.   .0
.5
 1  0406 124   0.   .0   .3 * 1   1226 374    5.   .2   2.5 * 1   2046 624   1.   .0
.5
 1  0408 125   0.   .0   .3 * 1   1228 375    4.   .2   2.5 * 1   2048 625   1.   .0
.5
 1  0410 126   0.   .0   .3 * 1   1230 376    4.   .2   2.5 * 1   2050 626   1.   .0
.5
 1  0412 127   0.   .0   .3 * 1   1232 377    4.   .2   2.5 * 1   2052 627   1.   .0
.5
 1  0414 128   0.   .0   .3 * 1   1234 378    4.   .2   2.4 * 1   2054 628   1.   .0
.5
 1  0416 129   0.   .0   .3 * 1   1236 379    4.   .2   2.4 * 1   2056 629   1.   .0
.5
 1  0418 130   0.   .0   .3 * 1   1238 380    4.   .2   2.4 * 1   2058 630   1.   .0
.5
 1  0420 131   0.   .0   .3 * 1   1240 381    3.   .2   2.4 * 1   2100 631   1.   .0
.5
 1  0422 132   0.   .0   .3 * 1   1242 382    3.   .2   2.4 * 1   2102 632   1.   .0
.5
 1  0424 133   0.   .0   .3 * 1   1244 383    3.   .2   2.4 * 1   2104 633   1.   .0
.5
 1  0426 134   0.   .0   .3 * 1   1246 384    3.   .2   2.4 * 1   2106 634   1.   .0
.5
 1  0428 135   0.   .0   .3 * 1   1248 385    3.   .2   2.4 * 1   2108 635   1.   .0
.5
 1  0430 136   0.   .0   .3 * 1   1250 386    3.   .2   2.4 * 1   2110 636   1.   .0
.5
 1  0432 137   0.   .0   .3 * 1   1252 387    3.   .2   2.4 * 1   2112 637   1.   .0
.5
 1  0434 138   0.   .0   .3 * 1   1254 388    3.   .2   2.4 * 1   2114 638   1.   .0
.5
 1  0436 139   0.   .0   .3 * 1   1256 389    3.   .2   2.4 * 1   2116 639   1.   .0
.5
 1  0438 140   0.   .0   .3 * 1   1258 390    3.   .2   2.4 * 1   2118 640   1.   .0
.5
 1  0440 141   0.   .0   .3 * 1   1300 391    3.   .2   2.4 * 1   2120 641   1.   .0
.5
 1  0442 142   0.   .0   .3 * 1   1302 392    3.   .2   2.4 * 1   2122 642   1.   .0
.5
 1  0444 143   0.   .0   .3 * 1   1304 393    3.   .2   2.4 * 1   2124 643   1.   .0
.5
 1  0446 144   0.   .0   .3 * 1   1306 394    3.   .2   2.4 * 1   2126 644   1.   .0
.5
 1  0448 145   0.   .0   .3 * 1   1308 395    3.   .2   2.4 * 1   2128 645   1.   .0
.5
 1  0450 146   0.   .0   .3 * 1   1310 396    3.   .2   2.3 * 1   2130 646   1.   .0
.5
 1  0452 147   0.   .0   .3 * 1   1312 397    3.   .2   2.3 * 1   2132 647   1.   .0
.5
 1  0454 148   0.   .0   .3 * 1   1314 398    3.   .2   2.3 * 1   2134 648   1.   .0
.5
 1  0456 149   0.   .0   .3 * 1   1316 399    3.   .2   2.3 * 1   2136 649   1.   .0
.5
 1  0458 150   0.   .0   .3 * 1   1318 400    3.   .2   2.3 * 1   2138 650   1.   .0
.5
 1  0500 151   0.   .0   .3 * 1   1320 401    3.   .2   2.3 * 1   2140 651   1.   .0
.5
 1  0502 152   0.   .0   .3 * 1   1322 402    3.   .2   2.3 * 1   2142 652   1.   .0
.5
 1  0504 153   0.   .0   .3 * 1   1324 403    3.   .2   2.2 * 1   2144 653   1.   .0
.5
 1  0506 154   0.   .0   .3 * 1   1326 404    3.   .1   2.2 * 1   2146 654   1.   .0
.5
 1  0508 155   0.   .0   .3 * 1   1328 405    3.   .1   2.2 * 1   2148 655   1.   .0
.5
 1  0510 156   0.   .0   .3 * 1   1330 406    3.   .1   2.2 * 1   2150 656   1.   .0
.5
 1  0512 157   0.   .0   .3 * 1   1332 407    3.   .1   2.2 * 1   2152 657   1.   .0
.5
 1  0514 158   0.   .0   .3 * 1   1334 408    3.   .1   2.2 * 1   2154 658   1.   .0
.5
 1  0516 159   0.   .0   .3 * 1   1336 409    3.   .1   2.1 * 1   2156 659   1.   .0
.5
 1  0518 160   0.   .0   .3 * 1   1338 410    3.   .1   2.1 * 1   2158 660   1.   .0
.5
```

```
   1    0520 161       0.       .0      .3 *  1    1340 411       3.       .1     2.1 *  1    2200 661       1.       .0
.5
   1    0522 162       0.       .0      .3 *  1    1342 412       3.       .1     2.1 *  1    2202 662       1.       .0
.5
   1    0524 163       0.       .0      .3 *  1    1344 413       3.       .1     2.1 *  1    2204 663       1.       .0
.5
   1    0526 164       0.       .0      .3 *  1    1346 414       3.       .1     2.0 *  1    2206 664       1.       .0
.5
   1    0528 165       0.       .0      .3 *  1    1348 415       3.       .1     2.0 *  1    2208 665       1.       .0
.5
   1    0530 166       0.       .0      .3 *  1    1350 416       2.       .1     2.0 *  1    2210 666       1.       .0
.5
   1    0532 167       0.       .0      .3 *  1    1352 417       2.       .1     2.0 *  1    2212 667       1.       .0
.5
   1    0534 168       0.       .0      .3 *  1    1354 418       2.       .1     1.9 *  1    2214 668       1.       .0
.5
   1    0536 169       0.       .0      .3 *  1    1356 419       2.       .1     1.9 *  1    2216 669       1.       .0
.5
   1    0538 170       0.       .0      .3 *  1    1358 420       2.       .1     1.9 *  1    2218 670       1.       .0
.5
   1    0540 171       0.       .0      .3 *  1    1400 421       2.       .1     1.9 *  1    2220 671       1.       .0
.5
   1    0542 172       0.       .0      .3 *  1    1402 422       2.       .1     1.8 *  1    2222 672       1.       .0
.5
   1    0544 173       0.       .0      .3 *  1    1404 423       2.       .1     1.8 *  1    2224 673       1.       .0
.5
   1    0546 174       0.       .0      .3 *  1    1406 424       2.       .1     1.8 *  1    2226 674       1.       .0
.5
   1    0548 175       0.       .0      .3 *  1    1408 425       2.       .1     1.7 *  1    2228 675       1.       .0
.5
   1    0550 176       0.       .0      .3 *  1    1410 426       2.       .1     1.7 *  1    2230 676       1.       .0
.5
   1    0552 177       0.       .0      .3 *  1    1412 427       2.       .1     1.7 *  1    2232 677       1.       .0
.5
   1    0554 178       0.       .0      .3 *  1    1414 428       2.       .1     1.7 *  1    2234 678       1.       .0
.5
   1    0556 179       0.       .0      .3 *  1    1416 429       2.       .1     1.6 *  1    2236 679       1.       .0
.5
   1    0558 180       0.       .0      .3 *  1    1418 430       2.       .1     1.6 *  1    2238 680       1.       .0
.5
   1    0600 181       0.       .0      .3 *  1    1420 431       2.       .1     1.6 *  1    2240 681       1.       .0
.5
   1    0602 182       0.       .0      .3 *  1    1422 432       2.       .1     1.6 *  1    2242 682       1.       .0
.5
   1    0604 183       0.       .0      .3 *  1    1424 433       2.       .1     1.5 *  1    2244 683       1.       .0
.5
   1    0606 184       0.       .0      .3 *  1    1426 434       2.       .1     1.5 *  1    2246 684       1.       .0
.5
   1    0608 185       0.       .0      .3 *  1    1428 435       2.       .1     1.5 *  1    2248 685       1.       .0
.5
   1    0610 186       0.       .0      .3 *  1    1430 436       2.       .1     1.5 *  1    2250 686       1.       .0
.5
   1    0612 187       0.       .0      .3 *  1    1432 437       2.       .1     1.5 *  1    2252 687       1.       .0
.5
   1    0614 188       0.       .0      .3 *  1    1434 438       2.       .1     1.4 *  1    2254 688       1.       .0
.5
   1    0616 189       0.       .0      .3 *  1    1436 439       2.       .1     1.4 *  1    2256 689       1.       .0
.5
   1    0618 190       0.       .0      .3 *  1    1438 440       2.       .1     1.4 *  1    2258 690       1.       .0
.5
   1    0620 191       0.       .0      .3 *  1    1440 441       2.       .1     1.4 *  1    2300 691       1.       .0
.5
   1    0622 192       0.       .0      .3 *  1    1442 442       2.       .1     1.4 *  1    2302 692       1.       .0
.5
   1    0624 193       0.       .0      .3 *  1    1444 443       2.       .1     1.3 *  1    2304 693       1.       .0
.5
   1    0626 194       0.       .0      .3 *  1    1446 444       2.       .1     1.3 *  1    2306 694       1.       .0
.5
   1    0628 195       0.       .0      .3 *  1    1448 445       2.       .1     1.3 *  1    2308 695       1.       .0
.5
   1    0630 196       0.       .0      .3 *  1    1450 446       2.       .1     1.3 *  1    2310 696       1.       .0
.5
   1    0632 197       0.       .0      .3 *  1    1452 447       2.       .1     1.3 *  1    2312 697       1.       .0
.5
   1    0634 198       0.       .0      .3 *  1    1454 448       2.       .1     1.2 *  1    2314 698       1.       .0
.5
   1    0636 199       0.       .0      .3 *  1    1456 449       2.       .1     1.2 *  1    2316 699       1.       .0
.5
   1    0638 200       0.       .0      .3 *  1    1458 450       2.       .1     1.2 *  1    2318 700       1.       .0
.5
   1    0640 201       0.       .0      .3 *  1    1500 451       2.       .1     1.2 *  1    2320 701       1.       .0
.5
   1    0642 202       0.       .0      .3 *  1    1502 452       2.       .1     1.2 *  1    2322 702       1.       .0
.5
   1    0644 203       0.       .0      .3 *  1    1504 453       2.       .1     1.2 *  1    2324 703       1.       .0
.5
   1    0646 204       0.       .0      .3 *  1    1506 454       2.       .1     1.1 *  1    2326 704       1.       .0
.5
   1    0648 205       0.       .0      .3 *  1    1508 455       2.       .1     1.1 *  1    2328 705       1.       .0
.5
   1    0650 206       0.       .0      .3 *  1    1510 456       2.       .1     1.1 *  1    2330 706       1.       .0
.5
   1    0652 207       0.       .0      .3 *  1    1512 457       2.       .1     1.1 *  1    2332 707       1.       .0
.5
```

```
   1     0654 208       0.       .0      .3 *  1     1514 458       2.       .1     1.1 *  1     2334 708       1.       .0
.5
   1     0656 209       0.       .0      .3 *  1     1516 459       2.       .1     1.1 *  1     2336 709       1.       .0
.5
   1     0658 210       0.       .0      .3 *  1     1518 460       2.       .1     1.0 *  1     2338 710       1.       .0
.5
   1     0700 211       0.       .0      .3 *  1     1520 461       2.       .1     1.0 *  1     2340 711       1.       .0
.5
   1     0702 212       0.       .0      .3 *  1     1522 462       2.       .1     1.0 *  1     2342 712       1.       .0
.5
   1     0704 213       0.       .0      .3 *  1     1524 463       2.       .1     1.0 *  1     2344 713       1.       .0
.5
   1     0706 214       0.       .0      .3 *  1     1526 464       2.       .0     1.0 *  1     2346 714       1.       .0
.5
   1     0708 215       0.       .0      .3 *  1     1528 465       2.       .0     1.0 *  1     2348 715       1.       .0
.5
   1     0710 216       0.       .0      .3 *  1     1530 466       2.       .0     1.0 *  1     2350 716       1.       .0
.5
   1     0712 217       0.       .0      .3 *  1     1532 467       2.       .0      .9 *  1     2352 717       1.       .0
.5
   1     0714 218       0.       .0      .3 *  1     1534 468       2.       .0      .9 *  1     2354 718       1.       .0
.5
   1     0716 219       0.       .0      .3 *  1     1536 469       2.       .0      .9 *  1     2356 719       1.       .0
.5
   1     0718 220       0.       .0      .3 *  1     1538 470       2.       .0      .9 *  1     2358 720       1.       .0
.5
   1     0720 221       0.       .0      .3 *  1     1540 471       2.       .0      .9 *  2     0000 721       1.       .0
.5
   1     0722 222       0.       .0      .3 *  1     1542 472       2.       .0      .9 *  2     0002 722       1.       .0
.5
   1     0724 223       0.       .0      .3 *  1     1544 473       1.       .0      .9 *  2     0004 723       1.       .0
.5
   1     0726 224       0.       .0      .3 *  1     1546 474       1.       .0      .9 *  2     0006 724       1.       .0
.4
   1     0728 225       0.       .0      .3 *  1     1548 475       1.       .0      .9 *  2     0008 725       1.       .0
.4
   1     0730 226       0.       .0      .3 *  1     1550 476       1.       .0      .8 *  2     0010 726       1.       .0
.4
   1     0732 227       0.       .0      .3 *  1     1552 477       1.       .0      .8 *  2     0012 727       1.       .0
.4
   1     0734 228       0.       .0      .3 *  1     1554 478       1.       .0      .8 *  2     0014 728       1.       .0
.4
   1     0736 229       0.       .0      .3 *  1     1556 479       1.       .0      .8 *  2     0016 729       1.       .0
.4
   1     0738 230       0.       .0      .3 *  1     1558 480       1.       .0      .8 *  2     0018 730       1.       .0
.4
   1     0740 231       0.       .0      .3 *  1     1600 481       1.       .0      .8 *  2     0020 731       1.       .0
.4
   1     0742 232       0.       .0      .3 *  1     1602 482       1.       .0      .8 *  2     0022 732       1.       .0
.4
   1     0744 233       0.       .0      .3 *  1     1604 483       1.       .0      .8 *  2     0024 733       1.       .0
.4
   1     0746 234       0.       .0      .3 *  1     1606 484       1.       .0      .8 *  2     0026 734       1.       .0
.4
   1     0748 235       0.       .0      .3 *  1     1608 485       1.       .0      .8 *  2     0028 735       1.       .0
.4
   1     0750 236       0.       .0      .3 *  1     1610 486       1.       .0      .8 *  2     0030 736       1.       .0
.4
   1     0752 237       0.       .0      .3 *  1     1612 487       1.       .0      .8 *  2     0032 737       1.       .0
.4
   1     0754 238       0.       .0      .3 *  1     1614 488       1.       .0      .8 *  2     0034 738       1.       .0
.4
   1     0756 239       0.       .0      .3 *  1     1616 489       1.       .0      .8 *  2     0036 739       1.       .0
.4
   1     0758 240       0.       .0      .3 *  1     1618 490       1.       .0      .8 *  2     0038 740       1.       .0
.4
   1     0800 241       0.       .0      .3 *  1     1620 491       1.       .0      .8 *  2     0040 741       1.       .0
.4
   1     0802 242       0.       .0      .3 *  1     1622 492       1.       .0      .8 *  2     0042 742       1.       .0
.4
   1     0804 243       0.       .0      .3 *  1     1624 493       1.       .0      .8 *  2     0044 743       1.       .0
.4
   1     0806 244       0.       .0      .3 *  1     1626 494       1.       .0      .8 *  2     0046 744       1.       .0
.4
   1     0808 245       0.       .0      .3 *  1     1628 495       1.       .0      .7 *  2     0048 745       1.       .0
.4
   1     0810 246       0.       .0      .3 *  1     1630 496       1.       .0      .7 *  2     0050 746       1.       .0
.4
   1     0812 247       0.       .0      .3 *  1     1632 497       1.       .0      .7 *  2     0052 747       0.       .0
.4
   1     0814 248       0.       .0      .3 *  1     1634 498       1.       .0      .7 *  2     0054 748       0.       .0
.4
   1     0816 249       0.       .0      .3 *  1     1636 499       1.       .0      .7 *  2     0056 749       0.       .0
.4
   1     0818 250       0.       .0      .3 *  1     1638 500       1.       .0      .7 *  2     0058 750       0.       .0
.4                                                  *                                                  *

**********************************************************************************************************************************
**

  PEAK FLOW      TIME                        MAXIMUM AVERAGE FLOW
                                        6-HR        24-HR       72-HR      24.97-HR
+   (CFS)         (HR)
                          (CFS)
```

```
+      45.     12.03                          4.           1.           1.            1.
                           (INCHES)       1.215        1.697        1.697         1.697
                            (AC-FT)          2.           3.           3.            3.

 PEAK STORAGE   TIME                            MAXIMUM AVERAGE STORAGE
                                           6-HR        24-HR        72-HR      24.97-HR
+  (AC-FT)      (HR)
        0.     12.03                         0.           0.           0.            0.

  PEAK STAGE    TIME                             MAXIMUM AVERAGE STAGE
                                           6-HR        24-HR        72-HR      24.97-HR
+   (FEET)      (HR)
      2.99     12.03                       1.52          .68          .66           .66

                            CUMULATIVE AREA =       .03 SQ MI


 *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***
***

              **************
              *            *
  654 KK      *    DIV1    *
              *            *
              **************
                               Diversion to Park

      DT          DIVERSION
                        ISTAD         DIV1  DIVERSION HYDROGRAPH IDENTIFICATION

      DI              INFLOW          .00       3.00      40.00

      DQ      DIVERTED FLOW           .00       3.00       4.00
                                                                         ***

       ***            ***            ***            ***            ***

                             DIVERSION HYDROGRAPH      DIV1

  PEAK FLOW     TIME                             MAXIMUM AVERAGE FLOW
                                           6-HR        24-HR        72-HR      24.97-HR
+   (CFS)       (HR)
                              (CFS)
+       4.     12.03                         2.           1.           1.            1.
                           (INCHES)        .698        1.180        1.180         1.180
                            (AC-FT)          1.           2.           2.            2.

                            CUMULATIVE AREA =       .03 SQ MI

       ***            ***            ***            ***            ***

                             HYDROGRAPH AT STATION     DIV1

  PEAK FLOW     TIME                             MAXIMUM AVERAGE FLOW
                                           6-HR        24-HR        72-HR      24.97-HR
+   (CFS)       (HR)
                              (CFS)
+      41.     12.03                         2.           0.           0.            0.
                           (INCHES)        .518         .518         .518          .518
                            (AC-FT)          1.           1.           1.            1.

                            CUMULATIVE AREA =       .03 SQ MI


 *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***
***

              **************
              *            *
  659 KK      *   CP072A   *
              *            *
              **************
                               Combine CP072 with onsite runoff

  661 HC          HYDROGRAPH COMBINATION
                        ICOMP            2  NUMBER OF HYDROGRAPHS TO COMBINE
                                                                         ***

       ***            ***            ***            ***            ***

                             HYDROGRAPH AT STATION    CP072A

  PEAK FLOW     TIME                             MAXIMUM AVERAGE FLOW
                                           6-HR        24-HR        72-HR      24.97-HR
+   (CFS)       (HR)
                              (CFS)
```

+ 9865.	13.20		2371.	633.	608.	608.
		(INCHES)	1.511	1.612	1.612	1.612
		(AC-FT)	1176.	1255.	1255.	1255.

CUMULATIVE AREA = 14.59 SQ MI

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	005	484.	12.30	69.	18.	17.	.42		
+	ROUTED TO	R010-1	480.	12.33	69.	18.	17.	.42		
+									2867.40	12.33
+	HYDROGRAPH AT	010	395.	12.30	54.	14.	13.	.34		
+	2 COMBINED AT	CP010	867.	12.33	123.	32.	30.	.75		
+	ROUTED TO	R012-1	832.	12.47	123.	31.	30.	.75		
+									2791.28	12.47
+	HYDROGRAPH AT	012	344.	12.30	46.	12.	11.	.30		
+	2 COMBINED AT	CP012	1111.	12.43	169.	43.	42.	1.05		
+	DIVERSION TO	012OUT	423.	12.43	58.	15.	14.	1.05		
+	HYDROGRAPH AT	D012	688.	12.43	111.	28.	27.	1.05		
+	ROUTED TO	R030-1	599.	13.17	111.	28.	27.	1.05		
+									2680.62	13.17
+	HYDROGRAPH AT	030	297.	12.43	60.	16.	15.	.35		
+	2 COMBINED AT	CP030A	731.	13.17	170.	44.	43.	1.40		
+	HYDROGRAPH AT	015	1766.	12.33	205.	52.	50.	1.27		
+	ROUTED TO	R022-1	1674.	12.50	205.	52.	50.	1.27		
+									2728.88	12.50
+	HYDROGRAPH AT	017	286.	12.27	36.	9.	9.	.22		
+	2 COMBINED AT	CP022A	1875.	12.47	241.	62.	59.	1.48		
+	HYDROGRAPH AT	020	1458.	12.20	139.	38.	36.	.76		
+	ROUTED TO	R022-2	1293.	12.40	139.	38.	36.	.76		
+									2688.05	12.40
+	HYDROGRAPH AT	022	340.	12.40	70.	18.	18.	.38		
+	2 COMBINED AT	CP022B	1633.	12.40	209.	56.	54.	1.14		
+	2 COMBINED AT	CP022	3445.	12.43	449.	118.	113.	2.63		
+	HYDROGRAPH AT	024	2481.	12.10	186.	51.	49.	1.02		
+	ROUTED TO	R026-1	2173.	12.27	186.	51.	49.	1.02		
+									2688.34	12.27
+	HYDROGRAPH AT	026	309.	12.27	57.	16.	16.	.27		
+	2 COMBINED AT	CP026A	2481.	12.27	243.	67.	64.	1.29		

	2 COMBINED AT								
+		CP026	5412.	12.40	692.	185.	178.	3.91	
	ROUTED TO								
+		R030-2	5366.	12.43	692.	185.	178.	3.91	
+									2597.13 12.43
	2 COMBINED AT								
+		CP030	5666.	12.43	861.	229.	220.	5.32	
	ROUTED TO								
+		R038-1	5638.	12.47	861.	229.	220.	5.32	
+									2576.58 12.47
	HYDROGRAPH AT								
+		034	444.	12.27	56.	16.	15.	.30	
	ROUTED TO								
+		R036-1	415.	12.47	56.	16.	15.	.30	
+									2643.06 12.47
	HYDROGRAPH AT								
+		036	463.	12.17	51.	14.	14.	.25	
	2 COMBINED AT								
+		CP036	648.	12.40	107.	30.	29.	.55	
	ROUTED TO								
+		R038-2	647.	12.40	107.	30.	29.	.55	
+									2573.45 12.40
	HYDROGRAPH AT								
+		038	323.	12.17	35.	10.	9.	.18	
	2 COMBINED AT								
+		CP038A	855.	12.30	142.	40.	38.	.73	
	HYDROGRAPH AT								
+		032	55.	12.13	5.	1.	1.	.03	
	3 COMBINED AT								
+		CP038	6445.	12.43	1007.	270.	260.	6.08	
	ROUTED TO								
+		R040-1	6379.	12.53	1007.	270.	260.	6.08	
+									2531.46 12.53
	HYDROGRAPH AT								
+		040	529.	12.20	53.	14.	13.	.33	
	2 COMBINED AT								
+		CP040	6600.	12.50	1060.	284.	273.	6.41	
	ROUTED TO								
+		R042-1	6557.	12.57	1060.	284.	273.	6.41	
+									2478.44 12.57
	HYDROGRAPH AT								
+		041	97.	12.17	10.	2.	2.	.06	
	HYDROGRAPH AT								
+		042	579.	12.17	55.	15.	14.	.32	
	3 COMBINED AT								
+		CP042	6755.	12.53	1125.	301.	289.	6.80	
	ROUTED TO								
+		R043-1	6555.	12.73	1124.	300.	289.	6.80	
+									2478.48 12.73
	HYDROGRAPH AT								
+		043	253.	12.37	42.	11.	10.	.29	
	2 COMBINED AT								
+		CP043	6720.	12.70	1166.	311.	299.	7.09	
	ROUTED TO								
+		R046-1	6583.	12.83	1166.	311.	299.	7.09	
+									2289.18 12.83
	HYDROGRAPH AT								
+		044	2207.	12.27	231.	60.	58.	1.40	
	ROUTED TO								
+		R046-2	2118.	12.37	231.	60.	58.	1.40	
+									2288.12 12.37
	HYDROGRAPH AT								
+		046	192.	12.17	17.	4.	4.	.11	
	3 COMBINED AT								
+		CP046	7150.	12.80	1412.	375.	361.	8.60	
	ROUTED TO								

+		R051-1	7079.	12.87	1412.	375.	361.	8.60	
+									2264.70 12.87
	HYDROGRAPH AT								
+		048	108.	12.13	9.	2.	2.	.06	
	HYDROGRAPH AT								
+		051	192.	12.27	27.	7.	7.	.16	
	3 COMBINED AT								
+		CP051	7153.	12.87	1447.	384.	370.	8.82	
	ROUTED TO								
+		R053-1	7142.	12.87	1447.	384.	370.	8.82	
+									2242.56 12.87
	HYDROGRAPH AT								
+		053	175.	12.13	16.	4.	4.	.09	
	2 COMBINED AT								
+		CP053	7157.	12.87	1463.	389.	373.	8.91	
	ROUTED TO								
+		R055-1	7136.	12.90	1463.	388.	373.	8.91	
+									2200.63 12.90
	HYDROGRAPH AT								
+		055	338.	12.37	61.	16.	15.	.37	
	2 COMBINED AT								
+		CP055	7319.	12.90	1523.	404.	389.	9.28	
	ROUTED TO								
+		R068-1	7280.	12.93	1523.	404.	388.	9.28	
+									2200.70 12.93
	HYDROGRAPH AT								
+		058	2569.	12.33	288.	74.	71.	1.76	
	ROUTED TO								
+		R064-1	2367.	12.53	288.	74.	71.	1.76	
+									2323.10 12.53
	HYDROGRAPH AT								
+		060	764.	12.40	135.	35.	34.	.78	
	ROUTED TO								
+		R062-1	761.	12.43	135.	35.	34.	.78	
+									2328.15 12.43
	HYDROGRAPH AT								
+		062	1056.	12.27	127.	34.	32.	.73	
	2 COMBINED AT								
+		CP062	1707.	12.33	261.	69.	66.	1.51	
	ROUTED TO								
+		R064-2	1694.	12.37	261.	69.	66.	1.51	
+									2317.30 12.37
	HYDROGRAPH AT								
+		064	694.	12.27	80.	21.	20.	.47	
	3 COMBINED AT								
+		CP064	4244.	12.50	629.	164.	157.	3.74	
	ROUTED TO								
+		R066-1	4241.	12.50	629.	164.	157.	3.74	
+									2283.57 12.50
	HYDROGRAPH AT								
+		066	10.	12.07	1.	0.	0.	.01	
	2 COMBINED AT								
+		CP066	4243.	12.50	630.	164.	158.	3.74	
	ROUTED TO								
+		R068-2	4181.	12.60	629.	164.	158.	3.74	
+									2227.73 12.60
	HYDROGRAPH AT								
+		068	421.	12.20	39.	10.	10.	.25	
	3 COMBINED AT								
+		CP068	9990.	12.90	2190.	578.	555.	13.27	
	ROUTED TO								
+		R070-1	9712.	13.07	2185.	577.	554.	13.27	
+									2126.90 13.07
	HYDROGRAPH AT								
+		070	833.	12.37	115.	29.	28.	.79	
	2 COMBINED AT								
+		CP070	9940.	13.07	2293.	606.	583.	14.06	

	ROUTED TO								
+		R072-1	9834.	13.20	2291.	605.	581.	14.06	
+								1900.49	13.20
	HYDROGRAPH AT								
+		072	919.	12.20	91.	28.	27.	.50	
	2 COMBINED AT								
+		CP072	9865.	13.20	2370.	632.	608.	14.56	
	HYDROGRAPH AT								
+		ON01	5.	12.03	0.	0.	0.	.00	
	ROUTED TO								
+		RET1A	1.	12.10	0.	0.	0.	.00	
+								2.54	12.10
	HYDROGRAPH AT								
+		ON02	21.	12.03	2.	1.	0.	.01	
	2 COMBINED AT								
+		1BIN	22.	12.03	2.	1.	1.	.01	
	ROUTED TO								
+		RET1B	22.	12.03	2.	1.	1.	.01	
+								3.00	12.03
	HYDROGRAPH AT								
+		ON04	18.	12.03	1.	0.	0.	.01	
	2 COMBINED AT								
+		2AIN	40.	12.03	3.	1.	1.	.02	
	ROUTED TO								
+		RET2A	34.	12.07	2.	1.	1.	.02	
+								3.03	12.07
	HYDROGRAPH AT								
+		ON05	11.	12.03	1.	0.	0.	.00	
	HYDROGRAPH AT								
+		ON06	11.	12.03	1.	0.	0.	.00	
	3 COMBINED AT								
+		2BIN	50.	12.03	4.	1.	1.	.03	
	ROUTED TO								
+		RET2B	45.	12.03	4.	1.	1.	.03	
+								2.99	12.03
	DIVERSION TO								
+		DIV1	4.	12.03	2.	1.	1.	.03	
	HYDROGRAPH AT								
+		DIV1	41.	12.03	2.	0.	0.	.03	
	2 COMBINED AT								
+		CP072A	9865.	13.20	2371.	633.	608.	14.59	

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

Appendix E

Exhibits

Pinnacle Peak Rd

Rawhide Wash

Silverstone Property
Owners Association
APN:212-03-600

Silverstone at Pinnacle Peak
Parcel F
APN:212-03-598

Silverstone at Pinnacle Peak
Parcel J
APN:212-03-601

Silverstone Drive

Appaloosa Library
City of Scottsdale
APN:212-02-001L

74th St

Silverstone at Pinnacle Peak
Parcel G
APN:212-03-599

Miller Rd

VI At Silverstone
CC/PDR Silverstone LLC
APN: 212-02-001H

0 40 80 160 Feet
1 inch = 80 feet

Kimley»Horn

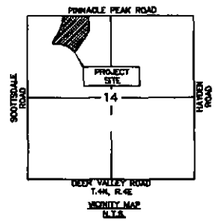
)*85(&217(;7$(5$/0$3
3$55&(/)
6,9(56721(3$55&(/)
6&2776$/(5$21$

352-(&712

DRAWING NAME

PRELIMINARY PLAT GRADING PLAN
FOR
SILVERSTONE PARCEL F

A PORTION OF THE NORTHWEST QUARTER OF SECTION 14, T-4-N, R-4-E, OF THE GILA AND SALT RIVER BASE AND MERIDIAN, MARICOPA COUNTY, ARIZONA



ENGINEER
KIMLEY-HORN & ASSOCIATES
7740 N. 16TH STREET, SUITE 300
PHOENIX, ARIZONA 85020
TELEPHONE: (602) 944-5500
CONTACT: ANDREW JUPP, P.E.

OWNER/DEVELOPER
K. HOVANIAN GREAT WEST HOMES, LLC
20830 NORTH TATUM BLVD. SUITE 350
PHOENIX AZ 85050
TELEPHONE: (480) 824-4175
CONTACT: CHUCK CHISHOLM

SURVEYOR
ALLIANCE LAND SURVEYING, LLC.
7900 N. 70TH AVENUE, SUITE 104
GLENDALE, AZ 85303
TELEPHONE: (623) 972-2200
CONTACT: G. BRYAN GOETZENBERGER

SITE DATA

GROSS AREA	22.07 AC±
NET AREA	22.07 AC±
TOTAL NUMBER OF LOTS	174
MAXIMUM LOT AREA	5,891 S.F.
MINIMUM LOT AREA	1,407 S.F.
AVERAGE LOT AREA	2,872 S.F.
DENSITY	7.98 DU/AC

UTILITIES

WATER & SEWER	CITY OF SCOTTSDALE
ELECTRIC	APS
TELEPHONE	CENTURY LINK
GAS	SOUTHWEST GAS CO.
CABLE T.V.	COX COMMUNICATIONS

LEGEND

- PROPERTY LINE
- PROPOSED EASEMENT
- EXISTING EASEMENT
- SS — PROPOSED SEWER LINE
- SS — EXISTING SEWER LINE
- W — PROPOSED WATER LINE
- W — EXISTING WATER LINE
- PROPOSED CULVERT
- PROPOSED RETAINING WALL
- PROPOSED SURVEY MONUMENT PER MAG STD DET 120-1, TYPE 'B'
- PROPOSED MANHOLE (4' DIA)
- PROPOSED FIRE HYDRANT
- EXISTING MANHOLE
- EXISTING FIRE HYDRANT
- 33 — PROPOSED LOT NUMBERS
- 100 YEAR WATER SURFACE ELEVATION
- FIRE APPARATUS TURNING RADII (R35', R49', R225')

LEGAL DESCRIPTION

PARCEL F OF THE NORTHWEST QUARTER OF SECTION 14, TOWNSHIP 3 NORTH, RANGE 4 EAST OF THE GILA AND SALT RIVER BASE AND MERIDIAN MARICOPA COUNTY, ARIZONA;

BASIS OF BEARING

THE BASIS OF BEARING IS THE MONUMENT LINE OF SCOTTSDALE ROAD, ALSO BEING THE WEST LINE OF THE NORTHWEST QUARTER OF SECTION 14, USING A BEARING OF NORTH 00 DEGREES 00 MINUTES 24 SECONDS EAST, PER THE MAP OF DEDICATION AND PARCEL MAP FOR SILVERSTONE AT PINNACLE PEAK, RECORDED IN BOOK 883, PAGE 17, M.C.R.

ZONING

R-5 (RESIDENTIAL)

SETBACK TABLE

R-5 (RESIDENTIAL)	
FRONT	0 FT
REAR	0 FT
SIDE	0 FT

ABBREVIATIONS

AC	ACRE
AE	ACCESS EASEMENT
A.P.N.	ASSESSOR'S PARCEL NUMBER
C/L	CENTERLINE
COR	CORNER
C.O.S.	CITY OF SCOTTSDALE
DE	DRAINAGE EASEMENT
EAE	EMERGENCY ACCESS EASEMENT
ELEV	ELEVATION
EP	EDGE OF PAVEMENT
EX	EXISTING
FND	FOUND
FT	FOOT
G.L.O.	GOVERNMENT LAND OFFICE
NAOS	NATURAL AREA OPEN SPACE
NMPAE	NON-MOTORIZED PUBLIC ACCESS EASEMENT
NVAE	NON-VEHICULAR ACCESS EASEMENT
PUE	PUBLIC UTILITY EASEMENT
P/L	PROPERTY LINE
R/W	RIGHT-OF-WAY
S	SOUTH
SCE	SCENIC CORRIDOR EASEMENT
SE	SOUTHEAST
SEC	SECTION
S.F.	SQUARE FEET
SHLDR	SHOULDER
SS	SANITARY SEWER
SQ	SQUARE
SW	SIDEWALK
TYP	TYPICAL
WT	WATER

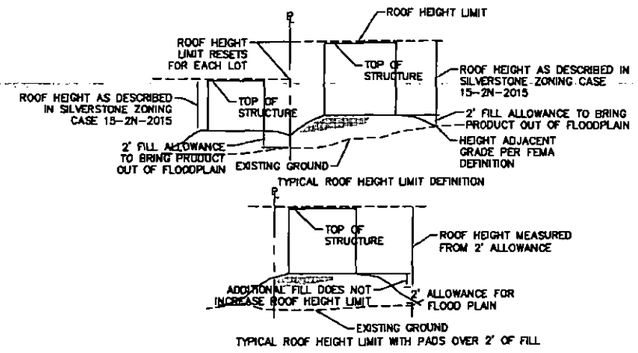
NOTES

1. ALL STREETS WILL BE PRIVATE. ALL STREETS AND ANY STREET LIGHTS TO BE LOCATED WITHIN THIS PRIVATE TRACT ARE TO BE MAINTAINED BY THE PROPERTY OWNERS ASSOCIATION.
2. FOR DISCHARGES AND RETENTION VOLUME CALCULATIONS, REFER TO "PRELIMINARY DRAINAGE REPORT FOR SILVERSTONE PARCEL F" PREPARED BY KIMLEY-HORN AND ASSOCIATES, INC.
3. ALL AREA SET ASIDE FOR DETENTION WILL BE WITHIN A DEDICATED DRAINAGE EASEMENT. THESE DRAINAGE EASEMENTS WILL BE CONTIGUOUS TO THE SUBDIVISION'S CIRCULATION TRACTS. THE MAINTENANCE OF THESE DEDICATED DRAINAGE EASEMENTS WILL BE THE RESPONSIBILITY OF THE HOMEOWNER'S ASSOCIATION. THE CITY OF SCOTTSDALE RETAINS THE RIGHT TO ACCESS THE DETENTION BASINS FOR INSPECTION OR MAINTENANCE PURPOSES FROM SAID CIRCULATION TRACTS.
4. ALL SITE CONSTRUCTION WILL OCCUR IN ONE PHASE.
5. ALL ROOF HEIGHTS SHALL CONFORM TO "HEIGHT ANALYSIS" (ATTACHMENT B) FOR STRUCTURE HEIGHT MEASUREMENT (15-ZN-2005) AND ROOF HEIGHT DETAIL ON THIS SHEET.

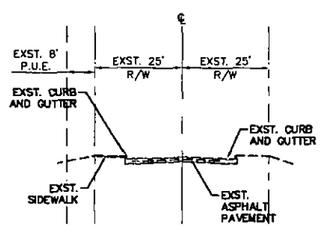
FLOOD INFORMATION

COMMUNITY NUMBER	PANEL NUMBER	SUFFIX	DATE OF FIRM	FIRM ZONE	BASE FLOOD ELEVATION
045012	1310	L	10/16/2013	"AO"	1'

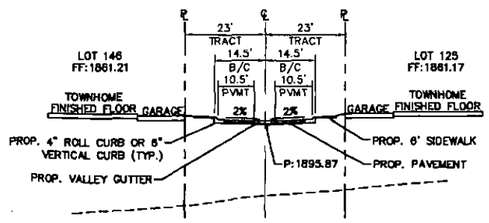
THE LOWEST FLOOR ELEVATIONS AND/OR FLOOD PROOFING ELEVATIONS ON THIS PLAN ARE SUFFICIENTLY HIGH TO PROVIDE PROTECTION FROM FLOODING CAUSED BY A 100-YEAR STORM, AND ARE IN ACCORDANCE WITH SCOTTSDALE REVISED CODE, CHAPTER 37 - FLOODPLAIN AND STORMWATER REGULATIONS.



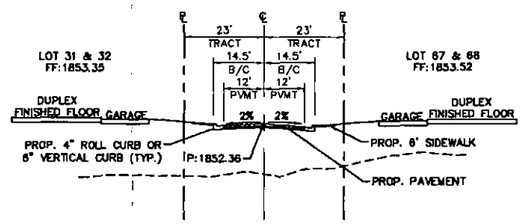
ROOF HEIGHT DETAIL
N.T.S.



74TH STREET
N.T.S.



NORTH PRIVATE DRIVE
N.T.S.



SOUTH PRIVATE DRIVE
N.T.S.

NO.	REVISION	BY	DATE	APPR.

Kimley»Horn
© 2016 KIMLEY-HORN AND ASSOCIATES, INC.
7740 North 16th Street, Suite 300
Phoenix, Arizona 85020 (602) 944-5500

SCALE (H): 1"=40'
SCALE (V): N/A
DESIGNED BY: KAC
DRAWN BY: CEK
CHECKED BY: AMJ
DATE: 04/19/2016

SILVERSTONE PARCEL F
GRADING AND DRAINAGE
COVER SHEET
SCOTTSDALE, ARIZONA

FIGURE 2

Registered Professional Engineer
CERTIFICATE NO.
49272
ANDREW M. JUPP
Registered Engineer
ARIZONA, U.S.A.
Exp. Date 03/31/18

PROJECT NO.
94800GD00

DRAWING NAME
94800GD00

CONSTRUCTION NOTES

1. PROPOSED RETAINING WALL
2. PROPOSED TIERED RETAINING WALL
3. PROPOSED HDPE STORM DRAIN
4. PROPOSED MAG 501 HEADWALL
5. PROPOSED MAG 545 FLARED END SECTION
6. PROPOSED MAG 535 DROP INLET
7. PROPOSED CONTROL STRUCTURE
8. PROPOSED MAG 520 STORM DRAIN MAN HOLE
9. ADA PARKING STALL MAX 2% IN ANY DIRECTION

PPOP LLC
APN:212-05-571

PINNACLE PEAK ROAD

SILVERSTONE PARCEL 'G'
APN:212-03-559

74TH STREET

EX. 3'X10' BOX CULVERT

EX. DRAINAGE CHANNEL
Q100
300 CFS

EX. 3'X10' BOX CULVERT AND HEADWALL TO REMAIN

10' DIAMETER UNDERGROUND STORAGE
INV=47.75
350 LF

BASIN 1A
HW= 1857.75
BTM= 1847.75
Vprov= 0.63 AF

PROP GATED ENTRY WITH KEY SWITCH AND PREEMPTION

EX. PINNACLE PEAK BRIDGE 182' SPAN

EXST. RAWHIDE CHANNEL
APN:212-03-600
Q100
10,600 CFS

RAWHIDE CHANNEL
EX. GABBION BANK PROTECTION

RAWHIDE CHANNEL
EX. SOIL CEMENT BANK PROTECTION

RAWHIDE CHANNEL
100 YEAR HW

BASIN 1B
HW= 1849.5
BTM= 1846.5
Vprov= 0.20 AF

RAWHIDE CHANNEL
LOW FLOW CHANNEL

MAX 5% SLOPE
MAX 2% CROSS SLOPE

NOTES:
1. REFER TO TABLE ON SHEET 6 FOR GARAGE FLOOR ELEVATIONS

NORTH

GRAPHIC SCALE IN FEET
0 20 40 80

NO.	REVISION	BY	DATE	APPR.

Kimley»Horn

7740 North 16th Street, Suite 300
Phoenix, Arizona 85020 (602) 944-5500

SCALE (H): 1"=40'
SCALE (V): N/A
DESIGNED BY: KAC
DRAWN BY: CDK
CHECKED BY: AMJ
DATE: 04/19/2016

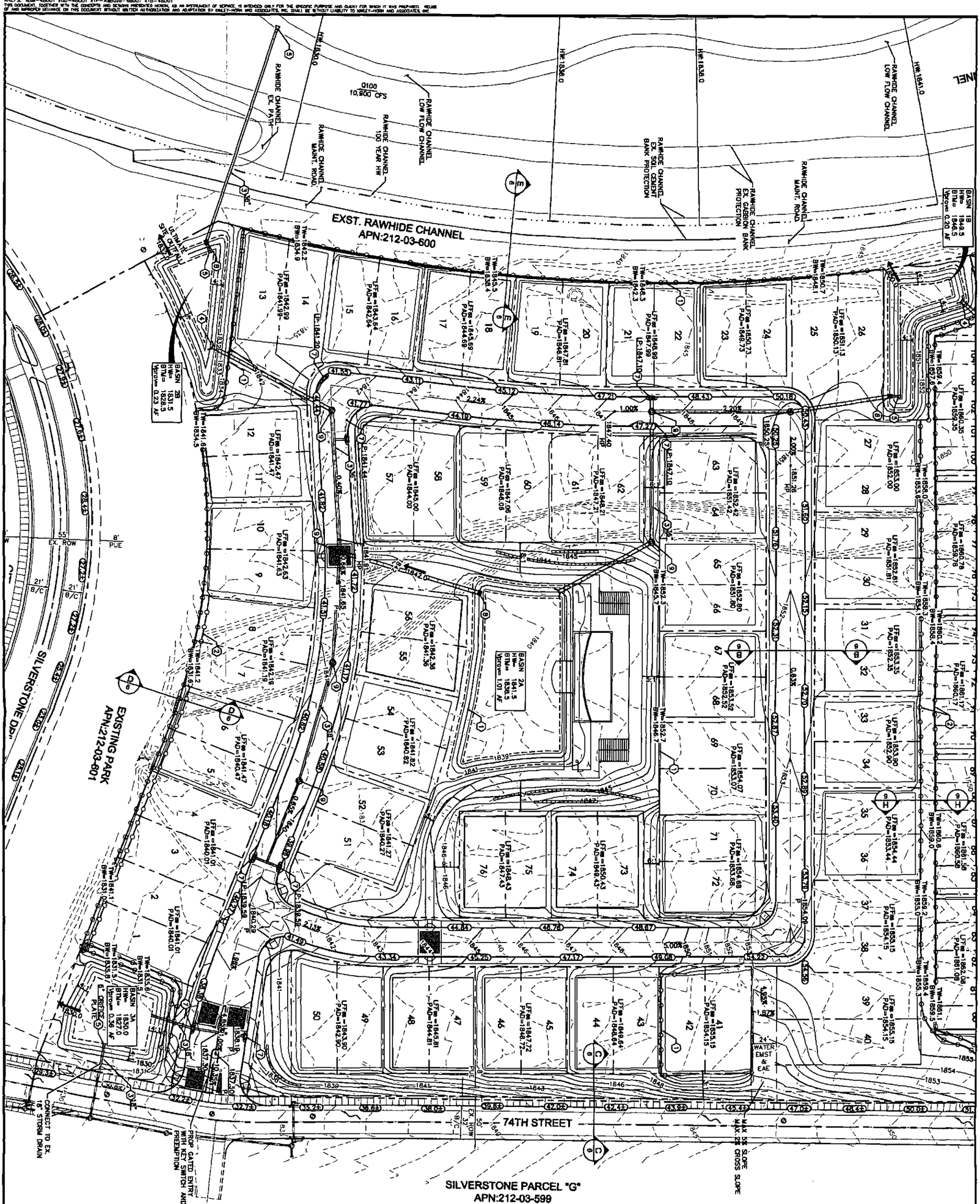
SILVERSTONE PARCEL F
GRADING AND DRAINAGE
SCOTTSDALE, ARIZONA

FIGURE 2

REGISTERED PROFESSIONAL ENGINEER
CERTIFICATE NO. 49272
ANDREW M. JURP
ARIZONA, U.S.A.
Exp. Date 03/31/18

PROJECT NO.
94800GD01

DRAWING NAME
94800GD01



CONSTRUCTION NOTES

1. PROPOSED RETAINING WALL
2. PROPOSED TIERED RETAINING WALL
3. PROPOSED HDPE STORM DRAIN
4. PROPOSED MAG 501 HEADWALL
5. PROPOSED MAG 545 FLARED END SECTION
7. PROPOSED MAG 534 CATCH BASIN
8. PROPOSED CONTROL STRUCTURE
9. PROPOSED MAG 520 STORM DRAIN MANHOLE

GRAPHIC SCALE IN FEET
0 20 40 80

NORTH

FIGURE 2

SILVERSTONE PARCEL F

GRADING AND DRAINAGE

SCOTTSDALE, ARIZONA

SCALE (H): 1"=40'	
SCALE (V): N/A	
DESIGNED BY: KAC	
DRAWN BY: CEK	
CHECKED BY: AMJ	
DATE: 04/19/2016	

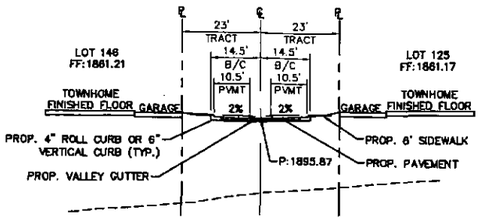
Kimley»Horn

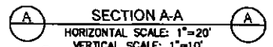
7740 North 16th Street, Suite 300
Phoenix, Arizona 85020 (602) 944-5500

NO.	REVISION	BY	DATE	APPR.

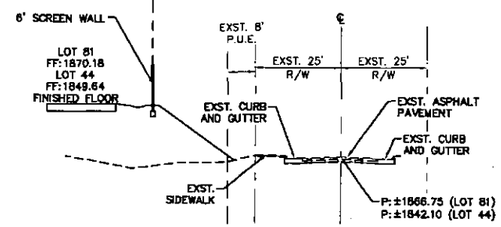
PROJECT NO. 94800GD01
DRAWING NAME 94800GD01

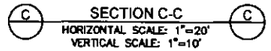
3 OF 4

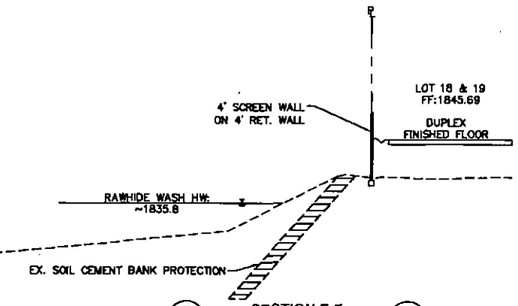


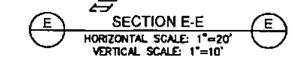


74TH STREET

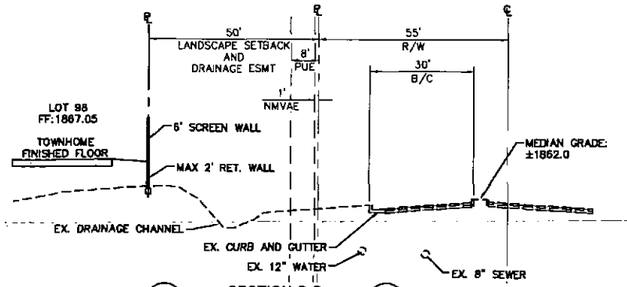


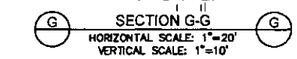


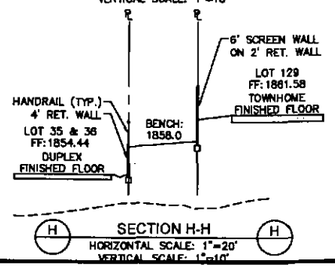


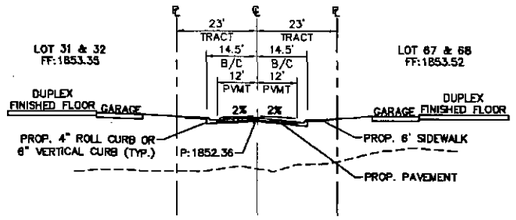


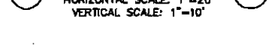
PINNACLE PEAK ROAD

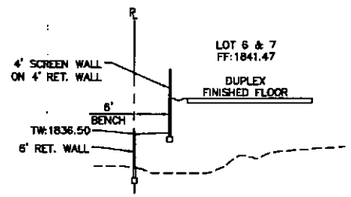


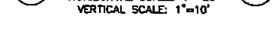


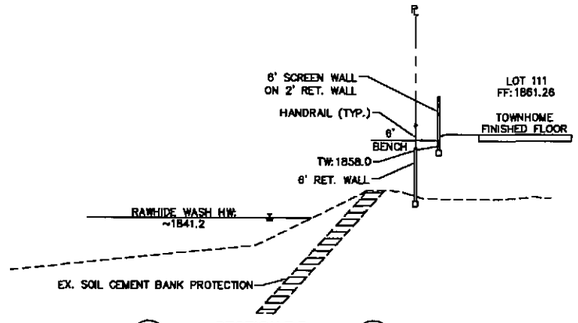


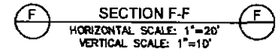












NO.	REVISION	BY	DATE	APPR.

Kimley»Horn

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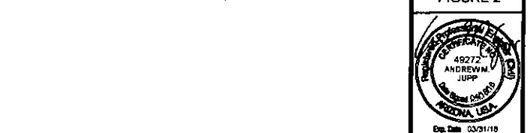
DRAWN BY: CEK
CHECKED BY: AMJ
DATE: 04/18/2016

SILVERSTONE PARCEL F

GRADING AND DRAINAGE DETAILS AND SECTIONS

SCOTTSDALE, ARIZONA

FIGURE 2



PROJECT NO.
94800GD02

DRAWING NAME
94800GD02

4 OF 4

Appendix F

Request for Stormwater Storage Waiver

Request for Stormwater Storage Waiver

City of Scottsdale Case Numbers:

___ - PA - ____ ____ - ZN - ____ ____ - UP - ____ ____ - DR - ___ ____ - PP - ____ PC#_____

The applicant/developer must complete and submit this form to the city for processing and obtain approval of waiver request ***before submitting improvement plans***. Denial of the waiver may require the developer to submit a revised site plan to the Development Review Board.

Date _____ **Project Name** _____

Project Location _____

Applicant Contact_____ **Company Name**_____

Phone _____ Fax _____ E-mail_____

Address _____

Waiver Criteria

A project must meet at least one of three criteria listed below for the city to consider waiving some or all required stormwater storage. **However, regardless of the criteria, a waiver will only be granted if the applicant can demonstrate that the effect of a waiver will not increase the potential for flooding on any property.** Check the applicable box and provide a signed engineering report and supporting engineering analysis that demonstrate the project meets the criteria and that the effect of a waiver will not increase the potential for flooding on any property.

If the runoff for the project has been included in a storage facility at another location, the applicant must demonstrate that the stormwater storage facility was specifically designed to accommodate runoff from the subject property and that the runoff will be conveyed to this location through an adequately designed conveyance facility.

☐ 1. The development is adjacent to a conveyance facility that an engineering analysis shows is designed and constructed to handle the additional runoff from the site as a result of development.

☐ 2. The development is on a parcel less than one-half acre in size.

☐ 3. Stormwater storage requirements conflict with requirements of the Environmentally Sensitive Lands Ordinance (ESLO).

For a full storage waiver, a conflict with ESLO is limited to:

- Property located in the hillside landform as defined in the city Zoning Ordinance
- Property in the upper desert landform that has a land slope steeper than 5% as defined in the city Zoning Ordinance
- Property within the ESL zoning overlay district where the only viable location for a stormwater storage basin requires blasting

This full waiver only applies to those portions of property meeting one of these three requirements.

Partial waivers are available for projects or portions of properties within the Environmentally Sensitive Lands Zoning Overlay District, not meeting any of the three full waiver criteria above, if post-development peak discharge rates do not exceed pre-development conditions, based on the 10- and 100-year storm events.

By signing below, I certify that the stated project meets the waiver criteria selected above as demonstrated by the attached documentation.

_____ _____

Engineer Date

Planning, Neighborhood & Transportation Division

7447 E Indian School Road, Suite 105, Scottsdale, AZ 85251 • Phone: 480-312-2500 • Fax: 480-312-7781

Request for Stormwater Storage Waiver

City of Scottsdale Case Numbers:

___ - PA - ___ ___ - ZN - ___ ___ - UP - ___ ___ - DR - ___ ___ - PP - ___ PC#_____

CITY STAFF TO COMPLETE THIS PAGE

Project Name _____

Check Appropriate Boxes:

☐ Meets waiver criteria (specify): ☐ 1 ☐ 2 ☐ 3

☐ Recommend approve waiver.

☐ Recommend deny waiver:
- ☐ None of waiver criteria met.
- ☐ Downstream conditions prohibit waiver of any storage.
- ☐ Other:

Explain: _____

_____

☐ Return waiver request:
- ☐ Insufficient data provided.
- ☐ Other: _____

Explain: _____

_____

Recommended Conditions of Waiver:
- ☐ All storage requirements waived.
- ☐ Post-development peak discharge rates do not exceed pre-development conditions.
- ☐ Other:

Explain: _____

_____

☐ **Waiver approved per above conditions.**

☐ **Waiver denied.**

_____ _____

Floodplain Administrator or Designee Date

Planning, Neighborhood & Transportation Division

7447 E Indian School Road, Suite 105, Scottsdale, AZ 85251 • Phone: 480-312-2500 • Fax: 480-312-7781

Request for Stormwater Storage Waiver

City of Scottsdale Case Numbers:

___ - PA - ____ ____ - ZN - ____ ____ - UP - ____ ____ - DR - ___ ____ - PP - ____ PC#_____

In-Lieu Fee and In-Kind Contributions

In-lieu fees are only applicable to projects where post-development peak discharge rates exceed pre-development levels, based on the 10- and 100-year storm events. If the city grants a waiver, the developer is required to calculate and contribute an in-lieu fee based on what it would cost the city to provide a storage basin, sized as described below, including costs such as land acquisition, construction, landscaping, design, construction management, and maintenance over a 75-year design life. The fee for this cost is $1.87 per cubic foot of stormwater storage for a virtual storage basin designed to mitigate the increase in runoff associated with the 100-year/2-hour storm event. The applicant may submit site-specific in-lieu fee calculations subject to the Floodplain Administrator's approval.

The Floodplain Administrator considers in-kind contributions on a case-by-case basis. An in-kind contribution can serve as part of or instead of the calculated in-lieu fee. In-kind contributions must be stormwater related and must constitute a public benefit. In-lieu fees and in-kind contributions are subject to the approval of the Floodplain Administrator or designee.

Project Name _____

The waived stormwater storage volume is calculated using a simplified approach as follows:

$V = \Delta CRA$; where
V = stormwater storage volume required, in cubic feet,
ΔC = increase in weighted average runoff coefficient over disturbed area ($C_{post} - C_{pre}$),
R = 100-year/2-hour precipitation depth, in feet (DSPM, Appendix 4-1D, page 11), and
A = area of disturbed ground, in square feet

Furthermore,

$V_w = V - V_p$; where
V_w = volume waived,
V = volume required, and
V_p = volume provided

R = _____
ΔC= _____
A = _____
V = _____
V_p= _____
V_w= _____

☐ An in-lieu fee will be paid, based on the following calculations and supporting documentation:
In-lieu fee ($) = V_w (cu. ft.) x $1.87 per cubic foot = _____

☐ An in-kind contribution will be made, as follows:

_____
_____
_____

☐ No in-lieu fee is required. Reason:

_____
_____

Approved by:

_____ _____
Floodplain Administrator or Designee Date

Planning, Neighborhood & Transportation Division
7447 E Indian School Road, Suite 105, Scottsdale, AZ 85251 • Phone: 480-312-2500 • Fax: 480-312-7781