HYDROLOGIC AND HYDRAULICS DESIGN DETAILS MEMORANDUM WHITE TANKS FLOOD RETARDING STRUCTURE NO. 3 REMEDIATION PROJECT VOLUME 3

Prepared for
FLOOD CONTROL DISTRICT OF MARICOPA COUNTY

URS Job No. 23443748
AUGUST 20, 2004

Property of
Flood Control District of MC Library
Please Return to
2801 W. Durango
Phoenix, AZ 85009

APPENDIX C
CALCULATION PACKAGES
HYDROLOGY & HYDRAULICS
(NRCS CRITERIA)

INDEX OF HYDROLOGY AND HYDRAULICS CALCULATION PACKAGES

(WHITE TANK FLOOD RETARDING STRUCTURE NO. 3 REMEDIATION DESIGN STUDY)

Index Number	Classification of Calculation Packages	Title
1	GENERAL	REVIEW OF TR-20 MODELS
2	GENERAL	ESTIMATION OF CURVE NUMBERS FOR DIFFERENT BASIN AREAS OF WHITE TANK FRS NO. 3 WATERSHED WITH AN ANTICIPATION OF FUTURE URBAN GROWTH
3	GENERAL	ESTABLISHMENT OF ELEVATION-SPILLWAY DISCHARGE RATING CURVE FOR A BROAD-CRESTED WEIR
4	GENERAL	DEVELOPMENT OF ELEVATION-STORAGE CURVE AT THE WHITE TANK FLOOD RETARDING STRUCTURE (FRS) NO. 3
5	GENERAL	INFILTRATION RATE ESTIMATION FOR WHITE TANK FRS NO. 3 RESERVOIR
6	GENERAL	ESTIMATION OF 200- AND 500-YEAR RAINFALL DEPTHS FOR DIFFERENT DURATIONS FOR THE WHITE TANK FRS NO. 3 WATERSHED
7	GENERAL	RESERVOIR ROUTING OF A 100-YEAR, 200-YEAR & 500-YEAR 24-HOUR HYDROGRAPHS FOR INTERIM CONDITION
8	GENERAL	RESERVOIR ROUTING OF A 100-YEAR, 200-YEAR & 500-YEAR 24-HOUR HYDROGRAPHS FOR FUTURE CONDITION (PRINCIPAL SPILLWAY CLOSED)
9	GENERAL	RESERVOIR ROUTING OF A 100-YEAR, 200-YEAR & 500-YEAR 24-HOUR HYDROGRAPHS FOR FUTURE CONDITION (PRINCIPAL SPILLWAY OPEN)
10	NRCS CRITERIA	DERIVATION OF 100-YEAR 10-DAY PRINCIPAL SPILLWAY RUNOFF HYETOGRAPH WITH AN ANTICIPATION OF FUTURE URBAN GROWTH
11	NRCS CRITERIA	RESERVOIR ROUTING OF TWO 100-YEAR 10-DAY BACK-BACK STORMS FOR FUTURE CONDITION WITH A CLOSED PRINCIPAL SPILLWAY USING TR-20 MODEL
12	NRCS CRITERIA	RESERVOIR ROUTING OF A 100-YEAR 10-DAY STORM FOR INTERIM CONDITON USING TR-20 MODEL
13	NRCS CRITERIA	RESERVOIR ROUTING OF A 100-YEAR 10-DAY STORM FOR FUTURE CONDITION WITH A CLOSED PRINCIPAL SPILLWAY USING TR-20 MODEL
14	NRCS CRITERIA	RESERVOIR ROUTING OF A 100-YEAR 10-DAY STORM FOR FUTURE CONDITION WITH AN OPEN PRINCIPAL SPILLWAY USING TR-20 MODEL

INDEX OF HYDROLOGY AND HYDRAULICS CALCULATION PACKAGES

(WHITE TANK FLOOD RETARDING STRUCTURE NO. 3 REMEDIATION DESIGN STUDY)

Index Number	Classification of Calculation Packages	Title
15	NRCS CRITERIA	RESERVOIR ROUTING OF ALL PMF HYDROGRAPHS FOR INTERIM PRINCIPAL SPILLWAY CONDITION USING TR-20 MODEL (NRCS CRITERIA)
16	NRCS CRITERIA	RESERVOIR ROUTING OFALL PMF HYDROGRAPHS FOR FUTURE CONDITION WITH A CLOSED PRINCIPAL SPILLWAY USING TR-20 MODEL (NRCS CRITERIA)
17	NRCS CRITERIA	RESERVOIR ROUTING OFALL PMF HYDROGRAPHS FOR FUTURE CONDITION WITH AN OPEN PRINCIPAL SPILLWAY USING TR-20 MODEL (NRCS CRITERIA)
18	ADWR CRITERIA	DETERMINATION OF ANTECEDENT RESERVOIR CONDITION (ARC) FOR RESERVOIR ROUTING BASED ON ADWR CRITERIA
19	ADWR CRITERIA	RESERVOIR ROUTING OF 6-HR LOCAL AND 72-HR GENERAL PMF HYDROGRAPHS FOR INTERIM PRINCIPAL SPILLWAY CONDITION USING TR-20 MODEL (ADWR CRITERIA)
20	ADWR CRITERIA	RESERVOIR ROUTING OF 6-HR LOCAL AND 72-HR GENERAL PMF HYDROGRAPHS FOR FUTURE CONDITION WITH A CLOSED PRINCIPAL SPILLWAY USING TR-20 MODEL (ADWR CRITERIA)
21	ADWR CRITERIA	RESERVOIR ROUTING OF 6-HR LOCAL AND 72-HR GENERAL PMF HYDROGRAPHS FOR FUTURE CONDITION WITH AN OPEN PRINCIPAL SPILLWAY USING TR-20 MODEL (ADWR CRITERIA)
22	GENERAL	RESERVOIR ROUTING OF AN EMERGENCY SPILLWAY HYDROGRAPH (ESH) FOR FUTURE CONDITIONS USING TR-20 MODEL
23	GENERAL	ESTIMATION OF THE PRINCIPAL SPILLWAY CAPACITY AT WHITE TANK FRS NO. 3 REMEDIATION PROJECT
24	GENERAL	ESTIMATION OF THE GATED OUTLET CAPACITY AT WHITE TANK FRS NO. 3 REMEDIATION PROJECT
25	GENERAL	LEVEL POOL RESERVOIR CALCULATIONS AT WHITE TANK FRS NO.3 RESERVOIR
26	GENERAL	SUBMERGENCE EFFECTS AT WHITE TANK FRS NO.3 SPILLWAY
27	GENERAL	ESTIMATION OF UNIFORM FLOW DEPTH D/S OF WHITE TANK FRS NO. 3 EMERGENCY SPILLWAY
28	GENERAL	WAVE RUNUP AND FREEBOARD ESTIMATION AT WHITE TANK FLOOD RETARDING STRUCTURE (FRS) NO. 3
29	GENERAL	EVALUATION OF REDUCED STORAGE IMPACTS AT WHITE TANK FLOOD RETARDING STRUCTURE (FRS) NO. 3

URS

CALCULATION PACKAGE NO. 10

EXHIBIT 4.7-2

CALCULATION COVER SHEET

Client: Flood Control District of Maricopa County (FCDMC)

Project Name: White Tank FRS No. 3 Design

Project/Calculation Number: 23443748

Title: **DERIVATION OF 100-YEAR 10-DAY PRINCIPAL SPILLWAY RUNOFF HYETOGRAPH WITH AN ANTICIPATION OF FUTURE URBAN GROWTH**

Total Number of Pages (including cover sheet): _____

Total Number of Computer Runs: _____

Prepared by: Hammad Hussain Date: 06/03/04

Checked by: Jeff Irwin Date: 7/5/04

Description and Purpose:

See Page 2

Design Basis /Assumptions

See Page 2

Remarks/Conclusions/Results: well done + presented

See Page 3.

Calculation Approved by: Jeff Irwin 7/4/04

Project Manager/Date

Revision No.:	Description of Revision:	Approved by:

Project Manager/Date

DERIVATION OF 100-YEAR 10-DAY PRINCIPAL SPILLWAY MASS RUNOFF HYETOGRAPH WITH AN ANTICIPATION OF FUTURE URBAN GROWTH
(WHITE TANK FLOOD RETARDING STRUCTURE (FRS) NO. 3)
FLOOD CONTROL DISTRICT OF MARICOPA COUNTY (FCDMC)
23443748

PROBLEM STATEMENT

The purpose of this calculation package is to derive a 100-year 10-day principal spillway mass runoff hyetograph in anticipation of future urban growth in the White Tank watershed.

DESIGN BASIS/ASSUMPTIONS/REFERENCES

NRCS Derivation of 100-year 10-day Principal Spillway Runoff Hyetograph

Natural Resources Conservation Services (NRCS) determined the Principal Spillway Runoff Hyetograph for a 100-year 10-day storm in its 1998 report "*Hydrologic Analysis of the White Tank Mountains On Flood Retarding Structure No. 3*". The runoff curve was determined based on procedures described in Chapter 21 of NEH-4. A mass runoff curve was determined using the following relationship:

$$Q_D = Q_{10} * (D/10)^a$$

Where

Q_D = total runoff at time D in days

Q_{10} = total runoff at the end of 10 days

D = time in days

a = log (Q_{10}/Q_1), in which Q_1 is the total runoff at the end of 1 day

Developing New 100-year 10-day Principal Spillway Runoff Hyetograph in Anticipation of Future Urban Growth in White Tank Watershed

URS developed a new 100-year 10-day Principal Spillway Runoff Hyetograph to accommodate the runoff that may be generated because of the future urban growth in the White Tank FRS No.3 watershed. In order to derive the 100-year 10-day hyetograph, a stepwise procedure was followed as provided in Example 21.1 of Chapter 21 of NEH-4 (Please See Pages 17-18). The Chapter 21 was copied and attached at end of this calculation package for the reference purposes (Please See Pages 6-53). The steps involved in the procedure are summarized as follows:

Step 1: Determine the 100-Year 1-Day & 10-day Aerially Reduced Rainfall Amount

URS used the same rainfall amounts for a 100-year 1-day and 10-day storms as developed by NRCS its 1998 report "*Hydrologic Analysis of the White Tank Mountains On Flood Retarding Structure No. 3*". The 100-year 1-day and 10-day aerially reduced rainfall amounts were 3.85 inches and 6.4 inches respectively.

Step 2: Determine the Curve Number (CN) for the 10-day Rainfall

Based on the average CN for the whole watershed for a 1-day rainfall, the CN for the 10-day rainfall can be determined using Table 21.2 of NEH-4 (Please See Page 9).

In anticipation of future urban growth in White Tank watershed, the curve numbers were updated for some of the sub-basins. The detailed procedure involved in updating the curve numbers for different sub-basins of White Tank watershed in anticipation of the future urban growth is provided in a separate calculation package prepared during the 30 percent design. The average curve number for the whole watershed with an anticipation of future urban growth was estimated to be equal to **82.50** (Please See Page 62). The average curve number for 10-day rainfall was obtained from Table 21.2 of NEH-4 and found to be equal to **68.5**.

(It should be noted that if the 10-day rain is less than 6 inches, the CN for 10-day rain is same as that for 1-day rain.)

Step 3: Determine the Direct Runoff for 1 and 10 days

The direct surface runoff for 1-day and 10-day storms was determined using the SCS Runoff Curve Number relationship:

$$Q = (P-0.2S)^2 / [(P+0.8S]$$

Where

Q = Direct Surface runoff (inch)

P = Rainfall (inch)

S = Potential maximum retention after runoff begins (inch)

Based on the curve numbers determined for 1- and 10-day storms in step-2, the S values for 1- and 10-day storms were determined using the following relationship:

$$S = (1000/ CN) - 10$$

The S values for 1- and 10-day storms were found to be equal to 2.12 and 4.60 respectively. The rainfall amount (P) for 1- and 10-day storms were equal to 3.85 inch and 6.4 inch respectively. The direct runoff (Q) for 1- and 10-day storms was estimated to be equal to 2.10 inch and 2.98 inches respectively.

Step 4: Estimate the Climatic Index

The climatic index was estimated using the relationship provided in Chapter 21 of NEH-4 (Please See Page 8) described as following:

$$C_i = 100\ Pa / (Ta)^2$$

Where

C_i = Climatic Index

Pa = Average Annual Precipitation (inches)

Ta = Average Annual Temperature (F)

The average annual precipitation and temperature in phoenix area was found to be equal to 7.66 inch and 72.6 F (Please See Pages 54-56). The climatic index was found to be equal to 0.15.

Step 5: Estimate the Channel Loss Factor

Because the climate index is less than 1, the channel loss factor was determined to reduce the direct runoff using the Table 21.3 of NEH-4 (See Page 11). For a drainage area of approximately 20 square mile with climatic index value less than 0.4, the channel loss factor was found to be equal to 0.55.

Step 6: Estimate the Net Runoff For 1-day and 10-day storms

The net runoff is the direct runoff estimated in step 3 multiplied by the channel loss factor of 0.55.

Q_1 = 2.12 * 0.55 = 1.16 inches

Q_{10} = 2.98 * 0.55 = 1.64 inches

Step 7: Compute the Ratio Q_1/Q_{10} & Average Time of Concentration For Whole Watershed

$$Q_1 / Q_{10} = 1.16 / 1.64$$

$$= 0.70$$

The average time of concentration for the whole White Tank FRS No.3 watershed was taken from the NRCS 1998 hydrologic report (Please See Pages 57-58). It was equal to 1.85 hour.

Step: 8 Compute the Principal Spillway Runoff Hyetograph

Based on the average time of concentration (1.85 hr) for the whole watershed and Q_1/Q_{10} ratio (0.7), find the closest principal spillway mass curve (PSMC) tabulation in Table 21.10. The PSMC corresponding to the Serial No. 6 was found to be the closest one and therefore chosen to develop the Principal Spillway Runoff Hyetograph for a 10-day storm. (Please See Page 26).

Table 1 provides all the calculations involved in estimating the 100-year 10-day principal spillway runoff hyetograph (Please See Pages 59-61). It should be noted that all the bold values for Q/Q10 in Column 3 were taken from Table 21.10 of NEH-4. The rest of Q/Q10 values in Column 3 were estimated based on linear interpolation between the bold values as suggested on Page 21.10 of Chapter 21 of NEH-4 (Please See Page 15).

NATIONAL ENGINEERING HANDBOOK

SECTION 4

HYDROLOGY

CHAPTER 21. DESIGN HYDROGRAPHS

Introduction

This chapter contains a systematic approach to the development of design hydrographs for use in proportioning earth dams and their spillways according to SCS criteria. Included are data or sources of data for design rainfall amount, duration, and distribution; methods of modifying design runoff to include effects of channel losses, quick return flow, or upstream releases; and methods for rapid construction of hydrographs.

The methodology presented in this chapter is suitable for the design of many types of water control structures, including channel works, but the emphasis is on hydrology for design of earth dams that provide temporary storage for flood prevention in addition to permanent storage for other uses. Its chief purpose is to contribute to safe design. Although the methods are based on data of actual storms and floods, they are not intended for reproducing hydrographs of actual floods; more suitable methods for actual floods are found in earlier chapters.

The remainder of this chapter is divided into two major parts. The first is concerned with hydrologic design for principal spillways, the second for emergency spillways. The examples in each part go only as far as the completion of hydrographs. Methods of routing hydrographs through spillways are given in chapter 17. Uses of hydrographs are illustrated in other SCS publications.

Principal Spillways

The SCS criteria require principal spillway capacity and the associated floodwater retarding storage to be such that project objectives are met and that the frequency of emergency spillway operation is within specified limits. The criteria are met by use of a Principal Spillway Hydrograph (PSH) or its mass curve (PSMC), which are developed as shown in this part of the chapter. Details of SCS hydrologic criteria are given first, then details of the PSH and PSMC development are given in examples.

(7)

Any one of four methods of runoff determination is suitable for the design of principal spillway capacity and retarding storage. They are (1) the runoff curve number procedure using rainfall data and the watershed's characteristics, (2) the use of runoff volume maps covering specific areas of the United States, (3) the regionalization and transposition of volume-duration-probability analyses made by the SCS Central Technical Unit, and (4) the use of local streamflow data with provision of sufficient documentation on the method and results. The latter two methods are not discussed in this chapter because they vary in procedure from case to case, due to conditions of local data, and standard procedures have not yet been established.

Runoff Curve Number Procedure

The runoff curve number procedure uses certain climatic data and the characteristics of a watershed to convert rainfall data to runoff volume. This procedure should be used for those areas of the country not covered by runoff volume and rate maps. (Exhibit 21.1 through 21.5.)

SOURCES OF RAINFALL DATA. Rainfall data for the determination of direct runoff may be obtained from maps in U.S. Weather Bureau technical papers:

For durations to 1 day.--

TP-40. 48 contiguous States.
TP-42. Puerto Rico and Virgin Islands.
TP-43. Hawaii.
TP-47. Alaska.

For durations from 2 to 10 days.--

TP-49. 48 contiguous States
TP-51. Hawaii.
TP-52. Alaska.
TP-53. Puerto Rico and Virgin Islands.

AREAL ADJUSTMENT OF RAINFALL AMOUNT. If the drainage area above a structure is not over 10 square miles, no adjustment in rainfall amount is made. If it is over 10 square miles, the area-point ratios of table 21.1 may be used to reduce the rainfall amount. The table applies to all geographical locations serviced by SCS. The ratios are based on the 1- and 10-day depth-area curves of figure 10, U.S. Weather Bureau TP-49, but are modified to give a ratio of 1 at 10 square miles.

RUNOFF CURVE NUMBERS. The runoff curve number (CN) for the drainage area above a structure is determined and runoff is estimated as described in chapters 7 through 10. The CN is for antecedent moisture condition II and it applies to the 1-day storm used in development of the PSH or PSMC. If the 100-year frequency 10-day duration point

Table 21.1.--Ratios for areal adjustment of rainfall amount

Area	Area/point ratio for 1 day	Area/point ratio for 10 days	Area	Area/point ratio for 1 day	Area/point ratio for 10 days
sq. mi.			sq. mi.		
10 or less	1.000	1.000	80	937	0.968
15	.978	.991	100	932	.966
20	.969	.986		28	.964
25	.964	.983		.925	.962
30	.960	.981		.922	.961
35	.957		180	.920	.960
40	.95[illegible]		200	.918	.959
50	[illegible]	[illegible]	250	.914	.957
60	[illegible]	.972	300	.911	.956
70	.9[illegible]	.970	400	.910	.955

Use Revised Table in TR-60

rainfall for the structure site is 6 or more inches, the CN for the 10-day storm is taken from table 21.2. If it is less than 6 inches, the CN for the 10-day storm is the same as that for the 1-day storm. The 10-day CN is used only with the total 10-day rainfall.

CLIMATIC INDEX. The climatic index used in this part of the chapter is:

$$Ci = \frac{100\ Pa}{(Ta)^2} \qquad (21.1)$$

where Ci = climatic index
Pa = average annual precipitation in inches
Ta = average annual temperature in degrees Fahrenheit

Precipitation and temperature data for U.S. Weather Bureau stations can be obtained from the following Weather Bureau publications:

Climatological Data. Issued annually and monthly for each State or a combination of States and for Puerto Rico and Virgin Islands. The annual issues contain annual and monthly data and averages or departures; monthly issues contain similar information for individual months.

Climatic Summary of the United States - Supplement for 1931-1952. Issued once for each State or a combination of States.

Climates of the States. Issued once for each State and for Puerto Rico and Virgin Islands.

Monthly Normals of Temperature, Precipitation, and Heating Degree Days. Issued once for each State or a combination of States. Also contains annual averages.

Table 21.2.--Ten-day runoff curve numbers*

Runoff curve numbers for:					
1 day	10 days	1 day	10 days	1 day	10 days
100	100	80	65	60	41
99	98	79	64	59	40
98	96	78	62	58	39
97	94	77	61	57	38
96	92	76	60	56	37
95	90	75	58		36
94	88	74	57		35
93	86	73		[illegible]	34
92	84	72		52	33
91	82			51	32
90	[illegible]		52	50	32
89		69	51	49	31
88		68	50	48	30
87	76	67	48	47	29
86	74	66	47	46	28
85	72	65	46	45	27
84	71	64	45	44	27
83	69	63	44	43	26
82	68	62	43	42	25
81	66	61	42	41	24

Use Revised Table in TR-60

Note: ✓ TR-60 Table is exactly the same.

* This table is used only if the 100-year frequency 10-day point rainfall is 6 or more inches. If it is less, the 10-day CN is the same as that for 1 day.

Climatic Maps for the National Atlas. Maps with a scale of one in ten million. A map for average annual precipitation is available but there is no map for average annual temperature.

SCS personnel may obtain these publications through their Regional Technical Service Center.

CHANNEL LOSSES. If the drainage area above a structure has a climatic index less than 1, then the direct runoff from rainfall may be decreased to account for channel losses of influent streams. Channel losses can be determined from local data but the losses must not be more than determined by use of table 21.3. When adequate local data are not available, table 21.3 is to be used. Example 21.1 gives the procedure for making the channel loss reduction of direct runoff.

Channel losses in areas where the climatic index is 1 or more will require special study; results must be approved by the Director, Engineering Division, before being used in final design hydrology.

QUICK RETURN FLOW. Quick return flow (QRF) is the rate of discharge that persists for some period beyond that for which the 10-day PSH is derived. It includes base flow and other flows that become a part of the flood hydrograph such as (1) rainfall that has infiltrated and reappeared soon afterwards as surface flow; (2) drainage from marshes and potholes; and (3) delayed drainage from snow banks. If the drainage area above a structure has a climatic index greater than 1, then QRF must be added to the hydrograph or mass curve of direct runoff from rainfall. QRF can be determined from local data but it must not be less than the steady rate determined by use of table 21.4. When adequate local data are not available, table 21.4 is to be used. Example 21.2 gives the procedure for adding QRF to the hydrograph or mass curve of direct runoff derived from rainfall.

UPSTREAM RELEASES. Releases from upstream structures must be added to the hydrograph or mass curve of runoff. This addition must be made regardless of other additions or subtractions of flow. Upstream release rates are determined from routings of applicable hydrographs or mass curves through the upstream structures and the reaches downstream from them.

COMBINATIONS OF CHANNEL LOSS, QUICK RETURN FLOW AND UPSTREAM RELEASE. In the introduction it was stated that the chief purpose of the methodology in this chapter is to contribute to safe design and that these methods are not intended for reproducing actual floods. Equation 21.1 and tables 21.1 through 21.4 must be considered in that light.

For large watersheds the topography may be such that two climatic indexes are needed, for example where a semiarid plain is surrounded by mountains. In such cases the design storm is determined for the watershed as a whole, the direct runoff is estimated separately for the two

TABLE 21.3--CHANNEL-LOSS FACTORS FOR REDUCTION OF DIRECT RUNOFF

DRAINAGE AREA	CLIMATIC INDEX CI						
	1.0	0.9	0.8	0.7	0.6	0.5	0.4 OR LESS
SQ. MI.							
1. OR LESS	1.00	1.00	1.00	1.00	1.00	1.00	1.00
2.	1.00	.98	.97	.95	.93	.90	.87
3.	1.00	.98	.95	.92	.89	.85	.80
4.	1.00	.97	.94	.90	.86	.81	.76
5.	1.00	.96	.92	.88	.84	.78	.73
6.	1.00	.96	.92	.87	.82	.76	.70
7.	1.00	.96	.91	.86	.81	.75	.68
8.	1.00	.95	.90	.85	.79	.73	.66
9.	1.00	.95	.90	.84	.78	.72	.65
10.	1.00	.95	.89	.84	.77	.71	.63
20.	1.00	.93	.86	.79	.72	.64	.55
30.	1.00	.93	.85	.77	.69	.60	.51
40.	1.00	.92	.84	.75	.66	.57	.48
50.	1.00	.91	.83	.74	.65	.55	.46
60.	1.00	.91	.82	.73	.63	.54	.44
70.	1.00	.91	.81	.72	.62	.53	.43
80.	1.00	.90	.81	.71	.62	.52	.42
90.	1.00	.90	.80	.71	.61	.51	.41
100.	1.00	.90	.80	.70	.60	.50	.40
150.	1.00	.89	.78	.68	.57	.47	.37
200.	1.00	.89	.77	.66	.56	.45	.35
250.	1.00	.88	.77	.65	.54	.44	.33
300.	1.00	.88	.76	.64	.53	.42	.32
350.	1.00	.87	.75	.64	.52	.41	.31
400.	1.00	.87	.75	.63	.51	.41	.30

channel Loss Factor

*U.S. GOVERNMENT PRINTING OFFICE: 1981— 340-031:201

Table 21.4. Minimum quick return flow for PSH derived from rainfall.

Ci	QRF in./day	QRF csm	Ci	QRF in./day	QRF csm
1.00	0	0	1.50	0.234	6.29
1.02	.011	.30	1.52	.239	6.43
1.04	.022	.60	1.54	.244	6.56
1.06	.033	.90	1.56	.249	6.70
1.08	.045	1.20	1.58	.254	6.83
1.10	.056	1.50	1.60*	.259	6.96
1.12	.067	1.80	1.65	.270	7.26
1.14	.078	2.10	1.70	[illegible]	7.53
1.16	.089	2.40	1.75		7.80
1.18	.100	2.70	[illegible]		8.04
1.20	.112	3.00		.308	8.28
1.22	.123	[illegible]	[illegible]	.318	8.55
1.24	.13[illegible]		1.95	.326	8.76
1.26			2.00	.335	9.00
1.28		.11	2.05	.343	9.22
1.30	.163	4.38	2.10*	.351	9.44
1.32	.171	4.60	2.20	.367	9.87
1.34	.180	4.84	2.30	.382	10.27
1.36	.188	5.06	2.40	.396	10.65
1.38	.195	5.24	2.50	.410	11.02
1.40	.202	5.43	2.60	.423	11.37
1.42	.209	5.62	2.70	.436	11.72
1.44	.216	5.81	2.80	.449	12.07
1.46	.222	5.97	2.90	.461	12.40
1.48	.228	6.13	3.00**	.473	12.72

Use Revised Table in TR-60

* Change in tabulation interval.

** For Ci greater than 3, use:

$$QRF = 9\,(Ci - 1)^{0.5} \text{ for QRF in csm}$$

or

$$QRF = 0.335\,(Ci - 1)^{0.5} \text{ for QRF in inches per day.}$$

parts by use of appropriate CN and then combined, the channel loss reduction is based on the area of the semiarid plain and its climatic index, the hydrograph or mass curve of direct runoff is constructed, and QRF from the mountain area is added.

If there are upstream structures, their releases are always added regardless of the downstream climatic index or other considerations.

Runoff Volume Maps Procedure

The runoff volume and rate maps, exhibits 21.1 through 21.5, are provided for areas of the United States where measured runoff volumes vary significantly from those obtained from the curve number procedure for converting rainfall to runoff. The mapped areas are of two general types: (1) the areas where runoff from either snowmelt, dormant season rainfall, or a combination of the two produce greater runoff volumes than growing season rainfall and (2) the deep snowpack areas of high mountain elevations.

AREAS OF MAPPED RUNOFF VOLUME. The 100-year 10-day runoff volume maps, exhibits 21.1 and 21.4, represent regionalized values derived from gaged streamflow data and supplemented with climatological data and local observations. These values should be used for estimating floodwater detention storage within the map area where local streamflow data are not adequate.

Areal reduction should not be made on the 10-day runoff volumes shown in the maps. Since these amounts were derived from stream gage data, base flow and channel loss will be automatically included in the map values and in Table 21.10.

Quick return flow in this procedure is used as the rate of discharge expected to persist beyond the flood period described under the 10-day PSH. The rates of discharge, exhibit 21.3, were derived by averaging the accumulated depths of runoff between the 15th and 30th day on volume-duration-probability (VDP) accumulation graphs. They were obtained from the same VDP station data from which the 100-year 10-day runoff volumes in exhibit 21.1 were obtained.

When using the Runoff Volume Maps Procedure, the quick return flow rate, exhibit 21.3, is made an extension to the PSH before routing it through the reservoir, figure 21.1a.

DEEP SNOWPACK AREAS. Flood volume estimates from the deep snowpack areas may be calculated from local streamflow data or by regionalization and transposition of streamflow data.

A standard procedure for making a regional analysis of volumes of runoff for varying durations and frequencies has not been developed at this time. Past experience has indicated that acceptable estimates can be made using multiple regression techniques. If watersheds can be selected that are reasonably homogeneous with regard to items

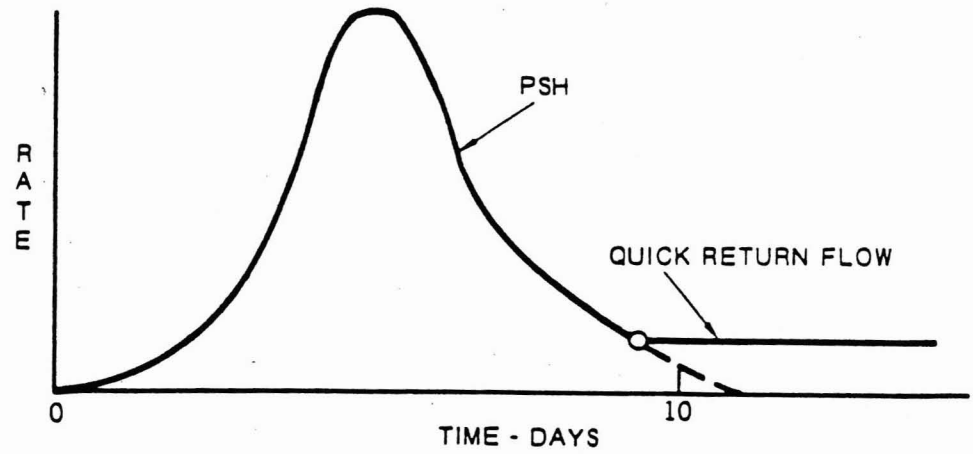


Figure 21.1a Quick Return Flow Combined with Principal Spillway Hydrograph for the Runoff Volume Maps Procedure.

such as seasonal precipitation, range of elevation, aspect, cover, geology, soils, etc., estimating equations can be developed with a minimum number of independent variables. Until techniques are developed to properly analyze the effects of a number of variables, the selection of homogeneous gaged watersheds with as much similarity to the ungaged watersheds as possible is recommended for estimating volume-duration-probability data. Statistics from volume-duration-probability studies of gaged watersheds can also be used to assist in developing estimating equations.

Construction of Principal Spillway Hydrographs and Mass Curves

The principal spillway capacity and retarding storage amount are proportioned using the Principal Spillway Hydrograph (PSH) or its mass curve (PSMC) developed from tabulations given in table 21.10. Examples in this section show how to select the appropriate set of tabulations and to construct the PSH or PSMC. One or more routings of the PSH or PSMC give the required storage and principal spillway capacity; the routings are discussed in chapter 17.

DEVELOPMENT OF TABLE 21.10. The principles of hydrograph development are discussed in chapter 16 but because the standard series of PSH and PSMC is not described there, the method of preparation will be briefly given here.

The PSH and PSMC in table 21.10 are developed from a continuous 10-day period of on-site direct runoff, all of a given frequency. Choice of the 10-day period is based on SCS experience with the use of both stream-flow records and an earlier system of standardized hydrographs. If the runoff in the 10-day period is arranged in order of decreasing

(15)

rate of flow and then accumulated to form a mass curve, it has the appearance of curve A in figure 21.1. Such a curve is a straight line on log paper and it has the equation:

$$Q_D = Q_{10}\ (D/10)^a \qquad (21.2)$$

where Q_D = total runoff at time D in days
Q_{10} = total runoff at the end of 10 days
D = time in days
a = log (Q_{10}/Q_1), in which Q_1 is the total runoff at the end of 1 day

Thus, knowing only the 1- and 10-day runoff amounts, a continuous mass curve can be developed for the entire 10-day period.

Examination of such mass curves of runoff from streamflow stations in many locations of the United States showed that the exponent a varied from 0.1 to 0.5. Extremes of 0.0458 and 0.699 were chosen for the standard curves; these extremes correspond to Q_1/Q_{10} ratios of 0.9 and 0.2 respectively. The ratio Q_1/Q_{10} is used hereafter in this chapter as a parameter in preference to a or Q_{10}/Q_1 because Q_{10} is more satisfactory as a divisor in preparing PSH and PSMC with dimensionless rates and amounts of flow. Q_1/Q_{10} ratios of 0.2, 0.3, 0.4, 0.5, 0.6, 0.7, 0.8, and 0.9 were selected to give representative degrees of curvature for the runoff curves.

The 10-day on-site runoff for each Q_1/Q_{10} ratio was rearranged as shown in table 21.5 to provide a moderately critical distribution of the 10-day runoff. This gave a distribution midway between extremes that are theoretically possible. On figure 21.1, curves A and B show the extremes and curve C shows the rearranged distribution for a Q_1/Q_{10} ratio of 0.4.

The effects of watershed lag were included by taking increments of runoff for each of the eight typical mass curves, making incremental hydrographs, and summing these to give total hydrographs for watersheds with times of concentration of 1.5, 3, 6, 12, 18, 24, 30, 36, 42, 48, 54, 60, 66, and 72 hours. This gave 112 hydrographs, each of which was reduced to unit rates of runoff and afterwards accumulated and reduced to unit mass curves. Curve D in figure 21.1 is the mass curve developed from curve C for a watershed with a time of concentration of 24 hours. Runoff for curve D went on for more than a day past the termination point E but because the rate was so small, the mass curve was terminated as shown. Other PSH and PSMC in table 21.10 are similarly terminated. (The time interval is varied to reduce the size of the table and at the same time give enough points for reproducing the PSH and PSMC accurately. Straight-line connection of points is accurate enough for graphical work and linear interpolation for tabular work.) → gmp

USE OF TABLE 21.10. The parameters for selecting a set of tabulations from table 21.10 are the Q_1/Q_{10} ratio and the time of concentration T_c in hours. The ratio and T_c of a watershed will seldom be values for

Table 21.5.--Arrangement of increments before construction of PSH and PSMC

Time	Increment
days	
0.0 to 0.5	19th largest 1/2 day
0.5 to 1.0	17th " " "
1.0 to 1.5	15th " " "
1.5 to 2.0	13th " " "
2.0 to 2.5	11th " " "
2.5 to 3.0	9th " " "
3.0 to 3.5	7th " " "
3.5 to 4.0	5th " " "
4.0 to 4.5	3rd " " "
4.5 to 4.6	9th largest 1/10 day
4.6 to 4.7	7th " " "
4.7 to 4.8	5th " " "
4.8 to 4.9	3rd " " "
4.9 to 5.0	Largest 1/10 day
5.0 to 5.1	2nd largest 1/10 day
5.1 to 5.2	4th " " "
5.2 to 5.3	6th " " "
5.3 to 5.4	8th " " "
5.4 to 5.5	10th " " "
5.5 to 6.0	4th largest 1/2 day
6.0 to 6.5	6th " " "
6.5 to 7.0	8th " " "
7.0 to 7.5	10th " " "
7.5 to 8.0	12th " " "
8.0 to 8.5	14th " " "
8.5 to 9.0	16th " " "
9.0 to 9.5	18th " " "
9.5 to 10.0	20th " " "

which the table is prepared, therefore choose that set having a Q_1/Q_{10} ratio and T_c nearest those of the watershed. It is easier to make the choice on table 21.9, which gives available PSH and PSMC and their serial numbers, and then to look up the serial number in table 21.10 for the tabulations.

Examples

The procedure by which a PSH or PSMC is developed will be illustrated by four examples. In example 21.1, channel losses are taken from direct runoff before development of a PSH and PSMC; in example 21.2, QRF is added to a PSH and PSMC; in example 21.3, runoff volume and rate maps (exhibit 21.1 through 21.5) are used to obtain runoff; and in example 21.4, upstream releases are added to a PSH.

Example 21.1.--Develop the 50-year frequency PSH and PSMC for a watershed located at latitude _____, longitude_____. The watershed has a drainage area of 15.0 square miles, time of concentration of 7.1 hours, average annual precipitation of 22.8 inches, average annual temperature of 61.5°F, and a runoff curve number (CN) of 80. There are no upstream structures.

1. Compile the 1- and 10-day point rainfall amounts from U.S. Weather Bureau maps. For this location TP-40 and TP-49 are used. The 50-year frequency 1- and 10-day amounts are 6.8 and 11.0 inches respectively.

2. Determine the areal rainfall. Get the adjustment factors from table 21.1. For the drainage area of 15.0 square miles they are 0.978 and 0.991 for the 1- and 10-day rains respectively. The areal rainfall is 0.978(6.8) = 6.65 inches for the 1-day rain and 0.991(11.0) = 10.9 inches for the 10-day rain.

3. Determine the CN for the 10-day rain. First check whether the 100-year frequency 10-day point rainfall amount is 6 or more inches. The appropriate map in TP-49 shows it is, therefore enter table 21.2 with the 1-day CN of 80 and find the 10-day CN is 65.

4. Estimate the direct runoff for 1 and 10 days. Enter figure 10.1 with the rainfall amounts from step 2 and the appropriate CN from step 3 and find Q_1 = 4.37 and Q_{10} = 6.34 inches.

5. Compute the climatic index. Using the given data and equation 21.1, the index Ci is $100(22.8)/61.5^2 = 0.603$. Because the Ci is less than 1 the channel loss may be used to reduce direct runoff.

6. Estimate the net runoff. The net runoff is the direct runoff minus the channel loss but when table 21.3 is used the net runoff is obtained by a multiplication not a subtraction. Enter

table 21.3 with the drainage area 15.0 square miles and the Ci of 0.603 and by interpolation find a reduction factor of 0.75. Multiply Q_1 and Q_{10} of step 4 by the factor to get net runoffs of 3.28 and 4.76 inches respectively. The net runoffs will be Q_1 and Q_{10} in the rest of this example.

7. Compute the Q_1/Q_{10} ratio. From step 6, Q_1/Q_{10} = 3.28/4.76 = 0.689.

8. Find the PSH and PSMC tabulations in table 21.10. Enter table 21.9 with the ratio 0.689 and T_c of 7.1 hours and find that the PSH with values nearest those is No. 22. Locate the appropriate tabulations in table 21.10 by looking up PSH No. 22. Columns 1, 2, and 4 of table 21.6 show the time, rate, and mass tabulations taken from table 21.10.

9. Compute PSH discharges in cfs. First find the product of drainage area and Q_{10}. This is 15.0(4.76) = 71.40 mile^2-inches. Multiply the entries in column 2, table 21.6 by 71.40, to get the discharges in cfs in column 3.

10. Compute PSMC amounts in inches. Multiply the entries in column 4, table 21.6, by Q_{10} (4.76) to get accumulated runoff in inches as shown in column 5. If amounts in acre-feet or another unit are desired, convert Q_{10} to the desired unit before making the series of multiplications.

The example is completed with step 10. The next step is that of routing the PSH or PSMC through the structure; see chapter 17 for routing methods.

In the second example the steps concerning channel loss are omitted and steps concerning QRF are included.

Example 21.2--Develop the 25-year frequency PSH and PSMC for a watershed at latitude _____, longitude _____. The watershed has a drainage area of 8.0 square miles, time of concentration of 2.0 hours, average annual precipitation of 30.5 inches, average annual temperature of 53.1°F, and a runoff curve number of 75. QRF during flood periods is estimated to be 5 cfs. There are no upstream structures in the watershed.

1. Compile the 1- and 10-day point rainfall amounts from U.S. Weather Bureau maps. For this location TP-40 and TP-49 are used. The 25-year frequency 1- and 10-day amounts are 5.6 and 12.5 inches respectively.

2. Determine the areal rainfall. Because the drainage area is not over 10 square miles the areal rainfall is the same as the point rainfall. The amounts in step 1 will be used.

(19)

Table 21.6.--PSH and PSMC for example 21.1

Time	$\frac{cfs}{A\ Q_{10}}$	PSH	$\frac{Acc.\ Q}{Q_{10}}$	PSMC
days	csm/inch	cfs		inches
0	0	0	0	0
.2	.231	16	.0007	.00
.5	.418	30	.0045	.02
1.0	.535	38	.0135	.06
2.0	.610	44	.0340	.16
3.0	.837	60	.0609	.29
3.6	1.123	80	.0827	.39
4.0	1.398	100	.1019	.48
4.3	1.932	138	.1196	.57
4.6	2.865	204	.1464	.70
4.8	3.973	284	.1709	.81
4.9	5.461	390	.1883	.90
5.0	27.118	1936	.2482	1.18
5.1	55.278	3947	.3998	1.90
5.2	41.011	2928	.5770	2.75
5.3	23.735	1695	.6961	3.31
5.4	13.975	998	.7655	3.64
5.5	8.668	619	.8072	3.84
5.6	5.638	402	.8335	3.97
5.8	2.818	201	.8634	4.11
6.0	1.859	133	.8798	4.19
6.5	1.360	97	.9078	4.32
7.0	1.002	72	.9290	4.42
7.5	.804	57	.9453	4.50
8.0	.687	59	.9588	4.56
9.0	.533	38	.9812	4.67
9.9	.416	30	.9966	4.74
10.1	.194	14	.9990	4.76
10.3	.044	3	.9998	4.76
10.8	0	0	1.0000	4.76

3. Determine the CN for the 10-day rain. The 10-day amount in step 1 is over 6 inches therefore the 100-year 10-day amount is too, and table 21.2 may be used. Enter the table with the CN of 75 for 1 day and find the CN is 58 at 10 days.

4. Estimate the direct runoff for 1 and 10 days. Enter figure 10.1 with the rainfall amounts from step 2 and the appropriate CN from step 3 and find Q_1 = 2.94 and Q_{10} = 6.68 inches. Because there are no channel losses, the direct runoff is the net runoff.

5. Compute the Q_1/Q_{10} ratio. From step 4, Q_1/Q_{10} = 2.94/6.68 = 0.440.

6. Find the PSH and PSMC tabulations in table 21.10. Enter table 21.9 with the ratio of 0.440 and T_c of 2.0 hours and find that the PSH and PSMC with values nearest those is No. 3. Locate the appropriate tabulations in table 21.10 by looking up PSH No. 3.

7. Compute PSH discharges in cfs. First find the product of drainage area and Q_{10}. This is 8.0(6.68) = 53.44 mile^2-inches. Multiply the entries in table 21.10 for PSH No. 3 by 53.44 to get discharges in cfs. These are shown in column 2, table 21.7, under the heading of "Preliminary PSH" because the final PSH must contain QRF.

8. Compute PSMC amounts in inches. Multiply the entries in table 21.10 for PSMC No. 3 by Q_{10} (6.68 inches) to get accumulated runoff in inches. The results are shown in column 5, table 21.7, under the heading "Preliminary PSMC" because the final PSMC must contain accumulated QRF. If the PSMC is to be in acre-feet or another unit, convert Q_{10} to the desired unit before making the series of multiplications.

9. Determine the minimum permissible quick return flow. First compute the climatic index: using the average annual precipitation and temperature and equation 21.1, the index Ci is 100(30.5)/53.1^2 = 1.08. Enter table 21.4 with the Ci of 1.08 and find that the minimum QRF is 0.045 inches per day or 1.20 csm, which converts to 8.0(1.20) = 9.6 cfs. The locally estimated QRF is 5 cfs. Therefore the minimum permissible QRF is 9.6 cfs because it is larger than the locally estimated flow. Round 9.6 to 10 cfs and tabulate in column 3, table 21.7.

10. Add QRF to the preliminary PSH. The QRF shown in column 3, table 21.7, is added to the preliminary PSH, column 2, to give the PSH discharges in column 4.

11. Add QRF to the preliminary PSMC. The accumulated QRF in inches, column 6, table 21.7, is added to the preliminary PSMC column 5, to give the PSMC amounts in column 7.

(21)

Table 21.7.--PSH and PSMC for example 21.2

Time	Preliminary PSH	QRF*	PSH	Preliminary PSMC	Acc. QRF**	PSMC
days	cfs	cfs	cfs	inches	inches	inches
0	0	10	10	0	0	0
.1	48	10	58	.01	.00	.01
.5	60	10	70	.11	.02	.13
1.0	69	10	79	.26	.04	.30
2.0	78	10	88	.60	.09	.69
3.0	100	10	110	1.00	.14	1.14
3.5	118	10	128	1.26	.16	1.42
4.0	146	10	156	1.58	.18	1.76
4.2	181	10	191	1.72	.19	1.91
4.4	230	10	240	1.91	.20	2.11
4.6	259	10	269	2.13	.21	2.34
4.7	298	10	308	2.25	.21	2.46
4.8	370	10	380	2.40	.22	2.62
4.9	512	10	522	2.60	.22	2.82
5.0	1992	10	2002	3.16	.22	3.38
5.1	1039	10	1049	3.84	.23	4.07
5.2	567	10	577	4.20	.23	4.43
5.3	383	10	393	4.42	.24	4.66
5.4	302	10	312	4.57	.24	4.81
5.5	257	10	267	4.69	.25	4.94
5.6	207	10	217	4.80	.25	5.05
5.8	174	10	184	4.97	.26	5.23
6.0	154	10	164	5.11	.27	5.38
6.5	128	10	138	5.41	.29	5.70
7.0	108	10	118	5.66	.32	5.98
8.0	84	10	94	6.07	.36	6.43
9.0	72	10	82	6.41	.40	6.81
10.0	57	10	67	6.66	.45	7.11
10.1	2	10	12	6.68	.45	7.13
10.3	0	10	10	6.68	.46	7.14
11.0	0	10	10	6.68	.50	7.18
12.0	0	10	10	6.68	.54	7.22
etc.	etc.	etc.	etc.	etc.	etc.	etc.

* 9.6 cfs rounded to 10 cfs.

** At a rate of 0.045 inches per day.

In the third example the use of the runoff volume maps is illustrated.

Example 21.3--Develop the 100-year frequency PSH for a watershed located at 43° latitude and 77° longitude. The watershed has a drainage area of 12 square miles, time of concentration of 3.5 hours.

1. Estimate 100-year 10-day runoff volumes from exhibit 21.1. The interpolated value is 8.8.

2. Select the Q_1/Q_{10} ratio from exhibit 21.2. For this area the value is 0.4.

3. Calculate 1-day volume of runoff. $Q_1/Q_{10} = 0.4$, $Q_1 = (0.4)(8.8) = 3.52$ inches.

4. Find the PSH tabulations in Table 21.10. Enter table 21.9 with the Q_1/Q_{10} ratio of 0.4 and Tc of 3.5 hours and find that the PSH with values nearest is No. 11. Locate appropriate tabulations in table 21.10 by looking up PSH No. 11.

5. Compute PSH discharges in cfs. Find the product of drainage area and Q_{10}. This is (12) (8.8) = 105.6 mile^2-inches. Entries for PSH No. 11 are multiplied by this value to obtain discharge in cfs. These are shown in column 2, table 21.8.

6. Determine the quick-return flow rate. From exhibit 21.3 the interpolated value is 5.3 csm.

7. Extension of quick-return flow rates beyond the PSH. The quick-return flow rate is (12) (5.3) = 63.6 cfs, round to 64 cfs. This constant rate of discharge is an extension to the PSH as shown in figure 21.1a, and column 4, table 21.8. No value less than 64 cfs should be used in the recession side of the PSH.

The procedure for adding releases from upstream structures is shown in the following descriptive example. If a lower structure has channel losses in its contributing area the deduction for channel loss is made in the preliminary PSH for that area. Deductions may also be required for PSH of the upper structures but once these PSH are routed through the structures no further deductions are made in the release rates.

Example 21.4--Adding releases from upstream structures when developing the PSH for a lower structure in a series is done as follows:

1. Develop the preliminary PSH for the lower structure. Use the method of example 21.1 or 21.2 or 21.3 whichever is applicable.

Table 21.8.--PSH for Example 21.3.

Time	Preliminary PSH	QRF	PSH
days	cfs	cfs	cfs
0	0		0
.1	61		61
.5	116		116
1.0	134		134
2.0	151		151
3.0	195		195
3.5	230		230
4.0	285		285
4.3	371		371
4.6	495		495
4.8	667		667
4.9	894		894
5.0	2885		2885
5.1	2455		2455
5.2	1478		1478
5.3	954		954
5.4	696		696
5.5	552		552
5.6	446		446
5.7	383		383
5.8	352		352
6.0	307		307
6.5	251		251
7.0	211		211
7.5	181		181
8.0	163		163
9.0	140		140
10.0	111		111
10.1	16	64	64
10.7	0	64	64
11.0	0	64	64
12.0	0	64	64
etc.	etc.	etc.	etc.

2. Flood-route the upstream structure releases or outflows to the lower structure. Chapter 17 discusses flood-routing procedures.

3. Add the routed flows to the preliminary PSH to get the PSH for the lower structure.

Note that if an upstream structure is itself a lower structure in a series then the procedure of example 21.4 must be followed for it first.

Table 21.9.--Serial numbers of PSH and PSMC

T_c	Q_1/Q_{10}							
	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9
hours	Serial numbers							
1.5*	1	2	3	4	5	6	7	8
3	9	10	11	12	13	14	15	16
6	17	18	19	20	21	22	23	24
12	25	26	27	28	29	30	31	32
18	33	34	35	36	37	38	39	40
24	41	42	43	44	45	46	47	48
30	49	50	51	52	53	54	55	56
36	57	58	59	60	61	62	63	64
42	65	66	67	68	69	70	71	72
48	73	74	75	76	77	78	79	80
54	81	82	83	84	85	86	87	88
60	89	90	91	92	93	94	95	96
66	97	98	99	100	101	102	103	104
72**	105	106	107	108	109	110	111	112

* Use this row for all T_c less than 1.5 hours.

** Use this row for all T_c over 72 hours.

Table 21.10.--Time, rate and mass tabulations for Principal Spillway Hydrographs (PSH) and Mass Curves (PSMC)

T_c = 1.5 hours

Serial No. :	1		2		3		4	
Q_1/Q_{10} :	0.2		0.3		0.4		0.5	
Time	PSH	PSMC	PSH	PSMC	PSH	PSMC	PSH	PSMC
days	cfs/AQ_{10}	Q/Q_{10}	cfs/AQ_{10}	Q/Q_{10}	cfs/AQ_{10}	Q/Q_{10}	cfs/AQ_{10}	Q/Q_{10}
0	0	0	0	0	0	0	0	0
.1	1.584	.0028	1.188	.0021	.890	.0016	.704	.0013
.5	2.014	.0308	1.510	.0230	1.119	.0170	.895	.0136
1.0	2.126	.0687	1.594	.0515	1.286	.0397	.951	.0305
2.0	2.237	.1480	1.846	.1156	1.454	.0894	1.203	.0705
3.0	2.517	.2358	2.209	.1904	1.873	.1505	1.510	.1208
3.5	2.741	.2845	2.489	.2342	2.208	.1890	1.846	.1530
4.0	3.210	.3385	2.992	.2866	2.741	.2365	2.405	.1946
4.2	3.470	.3624	3.618	.3094	3.394	.2583	3.222	.2144
4.4	3.760	.3885	4.237	.3374	4.313	.2854	3.928	.2396
4.6	4.060	.4172	4.732	.3701	4.851	.3186	4.655	.2706
4.7	4.342	.4323	5.257	.3881	5.570	.3373	5.485	.2888
4.8	4.868	.4489	6.209	.4087	6.916	.3597	6.966	.3111
4.9	5.708	.4679	8.068	.4343	9.587	.3893	10.303	.3421
5.0	10.027	.4962	21.540	.4876	37.270	.4734	57.224	.4632
5.1	7.689	.5281	13.395	.5504	19.442	.5752	25.499	.6115
5.2	5.825	.5524	8.470	.5897	10.603	.6291	12.108	.6790
5.3	4.916	.5718	6.320	.6162	7.162	.6610	7.460	.7141
5.4	4.444	.5886	5.270	.6371	5.642	.6840	5.520	.7373
5.5	4.065	.6040	4.652	.6549	4.812	.7027	4.584	.7555
5.6	3.546	.6176	3.976	.6704	3.875	.7183	3.605	.7701
5.8	3.300	.6430	3.230	.6971	3.261	.7435	2.847	.7927
6.0	3.193	.6659	3.124	.7196	2.882	.7653	2.553	.8121
6.5	2.797	.7183	2.713	.7696	2.405	.8100	2.070	.8505
7.0	2.629	.7661	2.321	.8126	2.020	.8476	1.678	.8816
8.0	2.293	.8526	1.846	.8848	1.566	.9082	1.230	.9305
9.0	2.126	.9306	1.594	.9458	1.342	.9590	.951	.9683
10.0	1.902	.9948	1.510	.9959	1.063	.9971	.839	.9977
10.1	.070	.9998	.056	.9999	.039	.9999	.031	.9999
10.3	0	1.0000	0	1.0000	0	1.0000	0	1.0000

PSMC selected

Table 21.10.--(Continued)

T_c = 1.5 hours

Serial No. :	5		6		7		8	
Q_1/Q_{10} :	0.6		0.7		0.8		0.9	
Time	PSH	PSMC	PSH	PSMC	PSH	PSMC	PSH	PSMC
days	cfs/AQ_{10}	Q/Q_{10}	cfs/AQ_{10}	Q/Q_{10}	cfs/AQ_{10}	Q/Q_{10}	cfs/AQ_{10}	Q/Q_{10}
0	0	0	0	0	0	0	0	0
.1	.528	.0009	.352	.0006	.198	.0004	.088	.0002
.5	.671	.0102	.470	.0068	.280	.0040	.140	.0019
1.0	.754	.0232	.559	.0164	.330	.0095	.168	.0047
2.0	.922	.0534	.642	.0373	.442	.0240	.218	.0113
3.0	1.225	.0929	.867	.0654	.587	.0428	.302	.0203
3.5	1.482	.1186	1.113	.0844	.671	.0546	.390	.0268
4.0	2.014	.1533	1.454	.1095	1.062	.0723	.531	.0359
4.2	2.808	.1702	2.034	.1222	1.650	.0826	.838	.0412
4.4	3.374	.1918	2.855	.1400	1.678	.0946	.974	.0479
4.6	4.154	.2191	3.405	.1621	2.442	.1096	1.270	.0555
4.7	4.960	.2354	4.162	.1757	3.055	.1194	1.660	.0607
4.8	6.567	.2561	5.627	.1932	4.179	.1324	2.317	.0678
4.9	10.131	.2860	9.071	.2195	6.888	.1522	3.956	.0790
5.0	81.384	.4500	109.748	.4323	142.265	.4191	179.016	.4063
5.1	31.367	.6520	36.714	.6945	41.728	.7483	45.898	.8086
5.2	12.872	.7312	13.042	.7836	12.441	.8452	11.085	.9105
5.3	7.150	.7671	6.332	.8183	5.140	.8767	3.430	.9364
5.4	5.069	.7890	4.242	.8372	3.117	.8915	1.704	.9456
5.5	4.112	.8054	3.366	.8508	2.426	.9014	1.298	.9510
5.6	2.998	.8182	2.554	.8614	1.696	.9088	.909	.9550
5.8	2.554	.8379	1.976	.8770	1.406	.9195	.805	.9605
6.0	2.028	.8543	1.622	.8897	1.088	.9286	.569	.9652
6.5	1.678	.8853	1.371	.9152	.929	.9459	.426	.9734
7.0	1.342	.9103	1.007	.9344	.671	.9586	.314	.9796
8.0	.924	.9481	.699	.9626	.420	.9765	.224	.9887
9.0	.727	.9769	.532	.9840	.308	.9897	.168	.9953
10.0	.587	.9984	.420	.9989	.258	.9993	.118	.9997
10.1	.022	1.0000	.016	1.0000	.009	1.0000	.004	1.0000
10.3	0	1.0000	0	1.0000	0	1.0000	0	1.0000

Table 21.10.--(Continued)

T_c = 3 hours

Serial No. :	9		10		11		12	
Q_1/Q_{10} :	0.2		0.3		0.4		0.5	
Time	PSH	PSMC	PSH	PSMC	PSH	PSMC	PSH	PSMC
days	cfs/AQ_{10}	Q/Q_{10}	cfs/AQ_{10}	Q/Q_{10}	cfs/AQ_{10}	Q/Q_{10}	cfs/AQ_{10}	Q/Q_{10}
0	0	0	0	0	0	0	0	0
.1	1.034	.0019	.775	.0014	.574	.0010	.460	.0008
.5	1.984	.0277	1.488	.0207	1.102	.0153	.882	.0122
1.0	2.097	.0654	1.572	.0490	1.269	.0377	.938	.0290
2.0	2.207	.1445	1.821	.1128	1.434	.0872	1.186	.0686
3.0	2.483	.2319	2.178	.1870	1.844	.1476	1.490	.1185
3.5	2.703	.2803	2.455	.2304	2.175	.1856	1.820	.1501
4.0	3.226	.3336	2.951	.2819	2.702	.2322	2.372	.1909
4.3	3.515	.3697	3.687	.3172	3.516	.2657	3.283	.2214
4.6	3.982	.4110	4.599	.3630	4.687	.3114	4.455	.2638
4.8	4.607	.4419	5.770	.4001	6.321	.3505	6.315	.3020
4.9	5.310	.4600	7.265	.4238	8.462	.3774	8.934	.3296
5.0	8.383	.4850	16.609	.4674	27.323	.4424	40.542	.4196
5.1	8.061	.5150	15.002	.5250	23.244	.5344	32.577	.5526
5.2	6.429	.5414	10.246	.5710	13.995	.6022	17.510	.6436
5.3	5.305	.5628	7.384	.6031	9.038	.6441	10.235	.6940
5.4	4.654	.5810	5.842	.6272	6.587	.6725	6.862	.7251
5.5	4.194	.5972	4.926	.6468	5.225	.6940	5.100	.7468
5.6	3.708	.6116	4.214	.6635	4.227	.7112	3.989	.7634
5.7	3.583	.6249	3.874	.6782	3.631	.7255	3.293	.7766
5.8	3.367	.6376	3.406	.6915	3.331	.7382	2.940	.7880
6.0	3.143	.6610	3.095	.7148	2.905	.7607	2.581	.8079
6.5	2.762	.7140	2.677	.7654	2.374	.8063	2.042	.8473
7.0	2.593	.7620	2.291	.8090	2.000	.8444	1.656	.8790
7.5	2.428	.8071	2.069	.8477	1.712	.8770	1.407	.9057
8.0	2.262	.8490	1.821	.8819	1.545	.9058	1.214	.9286
9.0	2.097	.9273	1.573	.9433	1.324	.9569	.938	.9669
10.0	1.877	.9919	1.490	.9936	1.050	.9955	.829	.9964
10.1	.280	.9991	.222	.9993	.156	.9995	.123	.9996
10.7	0	1.0000	0	1.0000	0	1.0000	0	1.0000

Table 21.10.--(Continued)

T_c = 3 hours

Serial No. :	13		14		15		16	
Q_1/Q_{10} :	0.6		0.7		0.8		0.9	
Time	PSH	PSMC	PSH	PSMC	PSH	PSMC	PSH	PSMC
days	cfs/AQ_{10}	Q/Q_{10}	cfs/AQ_{10}	Q/Q_{10}	cfs/AQ_{10}	Q/Q_{10}	cfs/AQ_{10}	Q/Q_{10}
0	0	0	0	0	0	0	0	0
.1	.345	.0006	.230	.0004	.129	.0002	.057	.0001
.5	.661	.0092	.455	.0061	.274	.0036	.137	.0017
1.0	.741	.0221	.550	.0156	.318	.0090	.165	.0045
2.0	.906	.0520	.630	.0363	.428	.0234	.208	.0110
3.0	1.200	.0910	.855	.0641	.579	.0420	.290	.0198
3.5	1.462	.1164	1.090	.0827	.662	.0536	.382	.0262
4.0	1.986	.1502	1.434	.1073	1.044	.0707	.524	.0351
4.3	2.802	.1762	2.305	.1270	1.626	.0860	.892	.0431
4.6	3.961	.2131	3.220	.1573	2.277	.1062	1.160	.0538
4.8	5.881	.2477	5.004	.1861	3.699	.1271	2.035	.0650
4.9	8.682	.2741	7.686	.2091	5.803	.1444	3.303	.0746
5.0	56.240	.3920	74.415	.3581	94.971	.3272	118.066	.2947
5.1	42.862	.5720	53.883	.5910	65.740	.6187	78.137	.6504
5.2	20.664	.6874	23.462	.7314	25.834	.7848	27.664	.8423
5.3	10.890	.7447	11.095	.7941	10.896	.8514	10.182	.9109
5.4	6.744	.7767	6.234	.8256	5.412	.8810	4.240	.9370
5.5	4.686	.7975	3.953	.8441	2.980	.8962	1.764	.9479
5.6	3.438	.8122	2.890	.8565	1.996	.9053	1.073	.9531
5.7	2.871	.8237	2.282	.8659	1.580	.9118	.793	.9564
5.8	2.618	.8337	2.033	.8737	1.436	.9172	.781	.9593
6.0	2.113	.8509	1.659	.8870	1.149	.9267	.587	.9642
6.5	1.656	.8827	1.356	.9130	.924	.9445	.427	.9728
7.0	1.325	.9082	.995	.9328	.662	.9576	.317	.9791
7.5	1.080	.9291	.802	.9484	.525	.9678	.250	.9841
8.0	.915	.9467	.690	.9615	.414	.9759	.221	.9883
9.0	.719	.9758	.528	.9832	.304	.9892	.166	.9951
10.0	.582	.9975	.415	.9982	.262	.9989	.123	.9995
10.1	.086	.9997	.062	.9998	.038	.9999	.018	.9999
10.7	0	1.0000	0	1.0000	0	1.0000	0	1.0000

Table 21.10.--(Continued)

T_c = 6 hours

Serial No. :	17		18		19		20	
Q_1/Q_{10} :	0.2		0.3		0.4		0.5	
Time	PSH	PSMC	PSH	PSMC	PSH	PSMC	PSH	PSMC
days	cfs/AQ_{10}	Q/Q_{10}	cfs/AQ_{10}	Q/Q_{10}	cfs/AQ_{10}	Q/Q_{10}	cfs/AQ_{10}	Q/Q_{10}
0	0	0	0	0	0	0	0	0
.2	1.038	.0031	.779	.0023	.577	.0017	.461	.0014
.5	1.862	.0205	1.397	.0154	1.035	.0114	.828	.0091
1.0	2.063	.0575	1.547	.0431	1.244	.0329	.923	.0255
2.0	2.174	.1361	1.792	.1059	1.410	.0818	1.164	.0641
3.0	2.444	.2225	2.136	.1787	1.800	.1407	1.462	.1128
3.6	2.714	.2800	2.489	.2302	2.215	.1854	1.876	.1500
4.0	3.006	.3220	2.886	.2709	2.636	.2222	2.314	.1820
4.3	3.284	.3571	3.349	.3044	3.178	.2536	2.944	.2102
4.6	3.801	.3964	4.282	.3466	4.310	.2950	4.029	.2485
4.8	4.196	.4258	5.046	.3807	5.340	.3300	5.225	.2820
4.9	4.653	.4421	5.951	.4010	6.616	.3521	6.721	.3040
5.0	5.991	.4618	9.630	.4298	13.534	.3892	17.748	.3491
5.1	7.547	.4868	14.087	.4736	22.175	.4551	31.771	.4404
5.2	7.180	.5141	12.665	.5230	18.923	.5309	25.805	.5464
5.3	6.166	.5388	9.785	.5645	13.444	.5906	17.306	.6254
5.4	5.330	.5601	7.628	.5967	9.677	.6332	11.430	.6778
5.5	4.723	.5786	6.186	.6222	7.310	.6645	8.067	.7138
5.6	4.212	.5952	5.169	.6432	5.727	.6886	5.954	.7396
5.8	3.587	.6237	3.923	.6764	3.881	.7233	3.641	.7741
6.0	3.188	.6486	3.214	.7023	3.109	.7487	2.784	.7972
6.5	2.757	.7034	2.662	.7552	2.372	.7971	2.040	.8394
7.0	2.566	.7522	2.282	.8002	2.000	.8367	1.652	.8727
7.5	2.403	.7978	2.052	.8398	1.706	.8704	1.400	.9003
8.0	2.240	.8404	1.808	.8750	1.532	.8999	1.207	.9239
9.0	2.071	.9193	1.559	.9373	1.312	.9519	.933	.9633
9.9	1.862	.9847	1.475	.9879	1.052	.9914	.828	.9932
10.1	.872	.9955	.692	.9965	.490	.9975	.386	.9980
10.3	.198	.9991	.158	.9992	.111	.9995	.040	.9998
10.8	0	1.0000	0	1.0000	0	1.0000	0	1.0000

Table 21.10.--(Continued)

T_c = 6 hours

Serial No. :	21		22		23		24	
Q_1/Q_{10} :	0.6		0.7		0.8		0.9	
Time	PSH	PSMC	PSH	PSMC	PSH	PSMC	PSH	PSMC
days	cfs/AQ_{10}	Q/Q_{10}	cfs/AQ_{10}	Q/Q_{10}	cfs/AQ_{10}	Q/Q_{10}	cfs/AQ_{10}	Q/Q_{10}
0	0	0	0	0	0	0	0	0
.2	.346	.0010	.231	.0007	.130	.0004	.058	.0002
.5	.621	.0068	.418	.0045	.254	.0026	.124	.0012
1.0	.719	.0193	.535	.0135	.302	.0079	.160	.0039
2.0	.881	.0486	.610	.0340	.412	.0218	.194	.0102
3.0	1.167	.0865	.837	.0609	.566	.0398	.274	.0188
3.6	1.518	.1163	1.123	.0827	.708	.0536	.395	.0262
4.0	1.934	.1428	1.398	.1019	1.004	.0668	.510	.0331
4.3	2.527	.1666	1.932	.1196	1.489	.0804	.784	.0401
4.6	3.539	.1997	2.865	.1464	1.961	.0987	.999	.0500
4.8	4.747	.2295	3.973	.1709	2.887	.1161	1.555	.0591
4.9	6.335	.2499	5.461	.1883	4.056	.1289	2.255	.0661
5.0	22.276	.3026	27.118	.2482	32.166	.1955	37.622	.1394
5.1	42.826	.4225	55.278	.3998	69.093	.3817	84.295	.3634
5.2	33.204	.5625	41.011	.5770	49.241	.5993	57.738	.6245
5.3	20.462	.6613	23.735	.6961	26.833	.7392	29.654	.7851
5.4	12.851	.7226	13.975	.7655	14.846	.8159	15.379	.8579
5.5	8.521	.7619	8.668	.8072	8.572	.8589	8.194	.9112
5.6	5.896	.7885	5.638	.8335	5.120	.8841	4.424	.9344
5.8	3.326	.8212	2.818	.8634	2.199	.9096	1.490	.9546
6.0	2.389	.8417	1.859	.8798	1.326	.9216	.680	.9616
6.5	1.655	.8764	1.360	.9078	.931	.9409	.438	.9711
7.0	1.322	.9031	1.002	.9290	.666	.9551	.327	.9779
7.5	1.085	.9249	.804	.9453	.525	.9658	.253	.9832
8.0	.918	.9431	.687	.9588	.415	.9743	.221	.9875
9.0	.718	.9730	.533	.9812	.305	.9880	.165	.9944
9.9	.586	.9952	.416	.9966	.271	.9978	.129	.9990
10.1	.272	.9986	.194	.9990	.122	.9988	.057	.9997
10.3	.062	.9997	.044	.9998	.028	.9999	.013	.9999
10.8	0	1.0000	0	1.0000	0	1.0000	0	1.0000

Table 21.10.--(Continued)

T_c = 12 hours

Serial No. :	25		26		27		28	
Q_1/Q_{10} :	0.2		0.3		0.4		0.5	
Time	PSH	PSMC	PSH	PSMC	PSH	PSMC	PSH	PSMC
days	cfs/AQ_{10}	Q/Q_{10}	cfs/AQ_{10}	Q/Q_{10}	cfs/AQ_{10}	Q/Q_{10}	cfs/AQ_{10}	Q/Q_{10}
0	0	0	0	0	0	0	0	0
.3	.678	.0026	.509	.0019	.377	.0014	.302	.0011
.6	1.577	.0158	1.183	.0118	.879	.0088	.701	.0070
1.0	1.967	.0426	1.475	.0319	1.165	.0242	.878	.0189
2.0	2.156	.1198	1.764	.0926	1.379	.0714	1.124	.0557
3.0	2.408	.2043	2.075	.1631	1.726	.1278	1.414	.1022
4.0	2.842	.3006	2.748	.2502	2.486	.2035	2.164	.1658
4.3	3.105	.3336	2.992	.2818	2.979	.2325	2.507	.1913
4.6	3.485	.3701	3.711	.3187	3.630	.2677	3.345	.2234
4.8	3.804	.3971	4.310	.3483	4.377	.2971	4.148	.2508
4.9	4.043	.4116	4.768	.3651	4.995	.3144	4.855	.2674
5.0	4.540	.4275	5.944	.3849	6.976	.3365	7.736	.2907
5.1	5.388	.4459	8.174	.4110	11.052	.3698	14.079	.3309
5.2	6.200	.4673	10.329	.4452	15.007	.4179	20.236	.3942
5.3	6.451	.4908	10.879	.4844	15.865	.4749	21.358	.4710
5.4	6.163	.5141	9.984	.5230	14.080	.5302	18.384	.5443
5.5	5.659	.5360	8.609	.5574	11.562	.5776	14.463	.6049
5.6	5.157	.5561	7.374	.5870	9.437	.6164	11.327	.6525
5.8	4.298	.5910	5.483	.6342	6.345	.6741	7.000	.7192
6.0	3.706	.6205	4.796	.6533	4.558	.7138	4.649	.7615
6.2	3.331	.6465	3.500	.6985	3.519	.7434	3.366	.7907
6.5	2.940	.6812	2.893	.7335	2.684	.7772	2.389	.8220
6.8	2.717	.7126	2.569	.7638	2.286	.8046	1.948	.8457
7.4	2.477	.7702	2.161	.8159	1.848	.8502	1.519	.8837
8.0	2.283	.8232	1.875	.8608	1.582	.8880	1.262	.9144
9.0	2.086	.9036	1.601	.9253	1.341	.9418	.977	.9559
10.0	1.826	.9772	1.439	.9820	1.053	.9870	.822	.9898
10.3	.844	.9926	.667	.9942	.480	.9958	.377	.9967
10.6	.239	.9981	.189	.9985	.136	.9989	.107	.9991
11.4	0	1.0000	0	1.0000	0	1.0000	0	1.0000

Table 21.10.--(Continued)

T_c = 12 hours

Serial No. :	29		30		31		32	
Q_1/Q_{10} :	0.6		0.7		0.8		0.9	
Time	PSH	PSMC	PSH	PSMC	PSH	PSMC	PSH	PSMC
days	cfs/AQ_{10}	Q/Q_{10}	cfs/AQ_{10}	Q/Q_{10}	cfs/AQ_{10}	Q/Q_{10}	cfs/AQ_{10}	Q/Q_{10}
0	0	0	0	0	0	0	0	0
.3	.226	.0008	.151	.0006	.086	.0003	.038	.0001
.6	.526	.0052	.356	.0035	.212	.0020	.102	.0010
1.0	.672	.0142	.490	.0098	.281	.0058	.145	.0028
2.0	.847	.0423	.585	.0296	.403	.0188	.186	.0089
3.0	1.120	.0781	.801	.0549	.539	.0358	.259	.0169
4.0	1.794	.1294	1.303	.0922	.902	.0601	.470	.0296
4.3	2.121	.1507	1.574	.1078	1.197	.0714	.622	.0354
4.6	2.882	.1780	2.315	.1290	1.594	.0868	.848	.0436
4.8	3.671	.2020	2.999	.1484	2.114	.1002	1.112	.0507
4.9	4.396	.2169	3.664	.1607	2.644	.1090	1.421	.0554
5.0	8.270	.2402	8.608	.1833	8.709	.1299	8.691	.0740
5.1	17.276	.2873	20.646	.2372	24.136	.1904	27.865	.1412
5.2	25.994	.3671	32.253	.3347	38.973	.3066	46.207	.2776
5.3	27.302	.4653	33.657	.4561	40.402	.4527	47.511	.4500
5.4	22.834	.5577	27.414	.5686	32.115	.5862	36.878	.6053
5.5	17.279	.6317	20.012	.6560	22.676	.6871	25.213	.7196
5.6	13.048	.6876	14.617	.7198	16.047	.7584	17.313	.7978
5.8	7.474	.7620	7.808	.8007	7.959	.8447	7.993	.8884
6.0	4.661	.8058	4.506	.8450	4.272	.8884	3.938	.9308
6.2	3.122	.8341	2.813	.8714	2.431	.9125	1.968	.9518
6.5	2.029	.8618	1.724	.8957	1.290	.9323	.795	.9664
6.8	1.582	.8814	1.271	.9119	.858	.9436	.413	.9723
7.4	1.203	.9119	.907	.9355	.598	.9594	.294	.9800
8.0	.972	.9358	.724	.9534	.450	.9709	.234	.9857
9.0	.752	.9674	.560	.9770	.330	.9855	.174	.9932
10.0	.591	.9928	.415	.9949	.269	.9967	.125	.9985
10.3	.268	.9977	.189	.9984	.121	.9990	.056	.9995
10.6	.076	.9994	.054	.9996	.034	.9997	.016	.9999
11.4	0	1.0000	0	1.0000	0	1.0000	0	1.0000

Table 21.10.--(Continued)

T_c = 18 hours

Serial No. :	33		34		35		36	
Q_1/Q_{10} :	0.2		0.3		0.4		0.5	
Time	PSH	PSMC	PSH	PSMC	PSH	PSMC	PSH	PSMC
days	cfs/AQ_{10}	Q/Q_{10}	cfs/AQ_{10}	Q/Q_{10}	cfs/AQ_{10}	Q/Q_{10}	cfs/AQ_{10}	Q/Q_{10}
0	0	0	0	0	0	0	0	0
.3	.277	.0010	.208	.0007	.154	.0005	.123	.0004
.6	1.095	.0086	.821	.0064	.609	.0047	.487	.0038
1.0	1.736	.0302	1.302	.0226	1.008	.0170	.774	.0134
2.0	2.124	.1039	1.716	.0798	1.334	.0614	1.070	.0478
3.0	2.359	.1867	2.004	.1482	1.641	.1156	1.350	.0922
4.0	2.736	.2802	2.576	.2311	2.298	.1866	1.973	.1514
4.5	3.134	.3343	3.092	.2828	2.905	.2337	2.615	.1927
4.9	3.693	.3845	4.116	.3354	4.156	.2848	3.928	.2397
5.0	3.970	.3987	4.720	.3518	5.096	.3019	5.209	.2566
5.1	4.410	.4142	5.777	.3712	6.896	.3241	7.862	.2807
5.2	4.978	.4316	7.206	.3952	9.422	.3542	11.690	.3168
5.3	5.502	.4510	8.529	.4243	11.765	.3933	15.235	.3665
5.4	5.792	.4719	9.213	.4571	12.920	.4389	16.904	.4258
5.5	5.789	.4934	9.122	.4910	12.668	.4862	16.399	.4872
5.6	5.571	.5144	8.512	.5237	11.530	.5309	14.598	.5444
5.7	5.242	.5345	7.676	.5536	10.043	.5707	12.343	.5941
5.8	4.892	.5532	6.849	.5805	8.640	.6052	10.299	.6359
5.9	4.566	.5708	6.122	.6045	7.463	.6350	8.651	.6709
6.0	4.266	.5871	5.472	.6259	6.451	.6607	7.259	.7003
6.2	3.773	.6168	4.430	.6624	4.898	.7023	5.185	.7458
6.4	3.413	.6434	3.726	.6924	3.888	.7346	3.907	.7791
6.7	3.022	.6790	3.078	.7299	2.972	.7721	2.779	.8155
7.0	2.777	.7112	2.671	.7617	2.456	.8020	2.176	.8427
7.4	2.570	.7507	2.306	.7983	2.016	.8348	1.681	.8708
8.0	2.352	.8054	1.978	.8458	1.672	.8753	1.352	.9041
9.0	2.117	.8876	1.662	.9127	1.388	.9313	1.040	.9480
10.0	1.907	.9627	1.491	.9707	1.134	.9784	.874	.9832
10.3	1.375	.9816	1.082	.9855	.797	.9894	.620	.9917
10.7	.464	.9944	.366	.9956	.268	.9968	.209	.9975
11.0	.190	.9979	.149	.9983	.109	.9988	.085	.9990
12.0	0	1.0000	0	1.0000	0	1.0000	0	1.0000

Table 21.10.--(Continued)

T_c = 18 hours

Serial No. :	37		38		39		40	
Q_1/Q_{10} :	0.6		0.7		0.8		0.9	
Time	PSH	PSMC	PSH	PSMC	PSH	PSMC	PSH	PSMC
days	cfs/AQ_{10}	Q/Q_{10}	cfs/AQ_{10}	Q/Q_{10}	cfs/AQ_{10}	Q/Q_{10}	cfs/AQ_{10}	Q/Q_{10}
0	0	0	0	0	0	0	0	0
.3	.092	.0003	.062	.0002	.035	.0001	.016	.0000
.6	.365	.0028	.245	.0019	.144	.0011	.068	.0005
1.0	.588	.0101	.418	.0069	.244	.0040	.122	.0019
2.0	.809	.0363	.561	.0254	.387	.0159	.177	.0076
3.0	1.059	.0703	.754	.0494	.506	.0320	.241	.0151
4.0	1.616	.1176	1.179	.0836	.789	.0544	.417	.0266
4.5	2.214	.1520	1.684	.1090	1.228	.0724	.647	.0360
4.9	3.472	.1925	2.830	.1410	2.004	.0951	1.065	.0480
5.0	5.102	.2084	4.811	.1551	4.331	.1068	3.740	.0568
5.1	8.709	.2338	9.462	.1814	10.106	.1334	10.725	.0835
5.2	14.028	.2757	16.442	.2292	18.910	.1868	21.507	.1428
5.3	18.934	.3365	22.854	.3016	26.967	.2713	31.324	.2400
5.4	21.138	.4104	25.608	.3909	30.294	.3767	35.205	.3625
5.5	20.281	.4868	24.302	.4828	28.455	.4849	32.720	.4875
5.6	17.690	.5568	20.808	.5659	23.951	.5814	27.092	.5976
5.7	14.565	.6162	16.726	.6351	18.819	.6602	20.835	.6858
5.8	11.834	.6649	13.268	.6904	14.589	.7217	15.811	.7533
5.9	9.716	.7046	10.671	.7345	11.506	.7698	12.251	.8049
6.0	7.960	.7372	8.536	.7699	9.005	.8075	9.384	.8447
6.2	5.384	.7860	5.469	.8210	5.475	.8602	5.391	.8984
6.4	3.847	.8197	3.751	.8545	3.565	.8930	3.308	.9299
6.7	2.526	.8542	2.311	.8872	1.978	.9227	1.586	.9558
7.0	1.873	.8781	1.609	.9084	1.260	.9401	.881	.9689
7.4	1.350	.9016	1.039	.9275	.694	.9540	.341	.9774
8.0	1.051	.9278	.788	.9474	.503	.9671	.254	.9838
9.0	.795	.9613	.592	.9725	.361	.9828	.184	.9918
10.0	.640	.9879	.446	.9915	.288	.9946	.131	.9975
10.3	.447	.9941	.314	.9958	.202	.9973	.094	.9988
10.7	.150	.9982	.106	.9987	.068	.9992	.031	.9996
11.0	.061	.9993	.043	.9995	.028	.9997	.013	.9998
12.0	0	1.0000	0	1.0000	0	1.0000	0	1.0000

Table 21.10.--(Continued)

T_c = 24 hours

Serial No. :	41		42		43		44	
Q_1/Q_{10} :	0.2		0.3		0.4		0.5	
Time	PSH	PSMC	PSH	PSMC	PSH	PSMC	PSH	PSMC
days	cfs/AQ_{10}	Q/Q_{10}	cfs/AQ_{10}	Q/Q_{10}	cfs/AQ_{10}	Q/Q_{10}	cfs/AQ_{10}	Q/Q_{10}
0	0	0	0	0	0	0	0	0
.3	.132	.0005	.099	.0003	.073	.0002	.058	.0002
.8	1.108	.0113	.831	.0085	.622	.0063	.493	.0050
1.3	1.745	.0452	1.317	.0289	1.029	.0220	.785	.0171
2.0	2.058	.0886	1.641	.0677	1.273	.0521	1.007	.0404
3.0	2.311	.1694	1.940	.1338	1.567	.1041	1.290	.0827
4.0	2.650	.2605	2.432	.2133	2.138	.1711	1.813	.1383
4.6	3.071	.3235	3.016	.2728	2.816	.2248	2.518	.1850
4.9	3.433	.3595	3.652	.3095	3.585	.2599	3.323	.2169
5.0	3.628	.3726	4.052	.3238	4.167	.2742	4.074	.2305
5.1	3.906	.3865	4.674	.3399	5.165	.2914	5.474	.2481
5.2	4.268	.4016	5.529	.3588	6.600	.3131	7.565	.2722
5.3	4.676	.4182	6.517	.3810	8.296	.3406	10.076	.3047
5.4	5.048	.4362	7.417	.4068	9.843	.3741	12.364	.3461
5.5	5.299	.4554	8.000	.4353	10.820	.4122	13.771	.3943
5.6	5.390	.4751	8.180	.4652	11.081	.4526	14.095	.4457
5.7	5.328	.4950	7.984	.4950	10.690	.4928	13.448	.4964
5.8	5.158	.5144	7.544	.5238	9.904	.5308	12.247	.5438
5.9	4.924	.5331	6.981	.5506	8.936	.5656	10.817	.5864
6.0	4.668	.5508	6.387	.5753	7.950	.5967	9.397	.6236
6.2	4.189	.5836	5.336	.6185	6.302	.6491	7.119	.6841
6.4	3.788	.6130	4.505	.6548	5.060	.6909	5.471	.7303
6.6	3.457	.6398	3.864	.6857	4.114	.7246	4.240	.7660
6.9	3.090	.6761	3.227	.7248	3.216	.7648	3.120	.8062
7.2	2.839	.7089	2.785	.7580	2.633	.7970	2.412	.8365
7.6	2.614	.7492	2.396	.7961	2.148	.8320	1.864	.8677
8.0	2.440	.7866	2.115	.8294	1.816	.8612	1.504	.8924
9.0	2.159	.8711	1.728	.8993	1.444	.9202	1.106	.9394
10.0	1.962	.9476	1.528	.9590	1.197	.9691	.913	.9762
10.3	1.660	.9681	1.301	.9750	.984	.9814	.759	.9856
10.8	.670	.9894	.527	.9917	.392	.9938	.304	.9952
11.2	.270	.9960	.212	.9968	.158	.9977	.122	.9982
11.6	.105	.9986	.083	.9989	.061	.9992	.048	.9994
12.5	0	1.0000	0	1.0000	0	1.0000	0	1.0000

Table 21.10.--(Continued)

T_c = 24 hours

Serial No. :	45		46		47		48	
Q_1/Q_{10} :	0.6		0.7		0.8		0.9	
Time	PSH	PSMC	PSH	PSMC	PSH	PSMC	PSH	PSMC
days	cfs/AQ_{10}	Q/Q_{10}	cfs/AQ_{10}	Q/Q_{10}	cfs/AQ_{10}	Q/Q_{10}	cfs/AQ_{10}	Q/Q_{10}
0	0	0	0	0	0	0	0	0
.3	.044	.0002	.029	.0001	.017	.0000	.008	.0000
.8	.370	.0038	.252	.0025	.149	.0015	.071	.0007
1.3	.600	.0130	.430	.0090	.254	.0053	.127	.0026
2.0	.764	.0307	.533	.0216	.362	.0133	.166	.0064
3.0	1.003	.0630	.712	.0442	.477	.0286	.225	.0134
4.0	1.469	.1070	1.072	.0759	.704	.0494	.372	.0240
4.6	2.124	.1457	1.611	.1044	1.155	.0692	.607	.0343
4.9	2.888	.1729	2.306	.1256	1.631	.0843	.864	.0423
5.0	3.800	.1852	3.376	.1361	2.831	.0925	2.199	.0479
5.1	5.632	.2026	5.666	.1527	5.592	.1080	5.458	.0620
5.2	8.450	.2286	9.274	.1802	10.041	.1367	10.806	.0919
5.3	11.874	.2660	13.697	.2225	15.541	.1838	17.458	.143
5.4	14.982	.3155	17.697	.2803	20.502	.2501	23.431	.2191
5.5	16.845	.3741	20.035	.3498	23.337	.3308	26.765	.3114
5.6	17.205	.4368	20.407	.4243	23.698	.4173	27.079	.4104
5.7	16.242	.4985	19.076	.4970	21.944	.5013	24.844	.5059
5.8	14.568	.5552	16.876	.5632	19.166	.5770	21.438	.5910
5.9	12.633	.6053	14.392	.6207	16.092	.6418	17.740	.6631
6.0	10.755	.6484	12.026	.6694	13.214	.6958	14.330	.7221
6.2	7.851	.7164	8.483	.7441	9.035	.7766	9.512	.8085
6.4	5.804	.7664	6.068	.7973	6.255	.8324	6.370	.8664
6.6	4.290	.8034	4.318	.8353	4.249	.8708	4.110	.9046
6.9	2.972	.8429	2.852	.8742	2.627	.9080	2.352	.9394
7.2	2.168	.8710	1.950	.9003	1.657	.9311	1.334	.9592
7.6	1.581	.8981	1.320	.9238	1.024	.9503	.722	.9736
8.0	1.199	.9185	.925	.9402	.628	.9623	.349	.9813
9.0	.844	.9548	.630	.9676	.392	.9797	.197	.9902
10.0	.678	.9826	.475	.9878	.303	.9922	.140	.9964
10.3	.554	.9895	.390	.9926	.249	.9953	.116	.9978
10.8	.220	.9966	.155	.9976	.099	.9984	.046	.9993
11.2	.088	.9986	.062	.9991	.040	.9994	.018	.9997
11.6	.034	.9995	.024	.9997	.015	.9998	.007	.9999
12.5	0	1.0000	0	1.0000	0	1.0000	0	1.0000

Table 21.10.--(Continued)

T_c = 30 hours

Serial No. :	49		50		51		52	
Q_1/Q_{10} :	0.2		0.3		0.4		0.5	
Time	PSH	PSMC	PSH	PSMC	PSH	PSMC	PSH	PSMC
days	cfs/AQ_{10}	Q/Q_{10}	cfs/AQ_{10}	Q/Q_{10}	cfs/AQ_{10}	Q/Q_{10}	cfs/AQ_{10}	Q/Q_{10}
0	0	0	0	0	0	0	0	0
.4	.150	.0007	.113	.0005	.083	.0004	.067	.0003
.9	.955	.0103	.716	.0077	.538	.0057	.425	.0046
1.5	1.686	.0407	1.281	.0306	.998	.0233	.764	.0181
2.0	1.955	.0747	1.541	.0568	1.195	.0437	.937	.0339
3.0	2.252	.1527	1.872	.1201	1.497	.0932	1.229	.0738
4.0	2.574	.2416	2.316	.1965	2.006	.1567	1.686	.1263
4.6	2.929	.3022	2.814	.2528	2.580	.2068	2.274	.1693
4.9	3.228	.3363	3.306	.2865	3.169	.2383	2.889	.1975
5.1	3.579	.3614	4.022	.3133	4.223	.2651	4.269	.2232
5.2	3.830	.3751	4.582	.3292	5.117	.2823	5.520	.2412
5.3	4.124	.3898	5.258	.3474	6.228	.3032	7.111	.2645
5.4	4.438	.4057	5.994	.3682	7.464	.3285	8.910	.2940
5.5	4.724	.4226	6.662	.3916	8.584	.3581	10.535	.3299
5.6	4.935	.4405	7.144	.4171	9.378	.3913	11.666	.3708
5.7	5.052	.4590	7.397	.4440	9.779	.4266	12.218	.4148
5.8	5.063	.4777	7.391	.4713	9.730	.4626	12.098	.4597
5.9	4.985	.4963	7.182	.4982	9.348	.4978	11.502	.5032
6.0	4.845	.5145	6.841	.5241	8.761	.5312	10.630	.5440
6.2	4.471	.5490	5.976	.5716	7.337	.5907	8.585	.6149
6.4	4.090	.5807	5.149	.6126	6.050	.6400	6.816	.6715
6.6	3.758	.6097	4.479	.6481	5.048	.6808	5.492	.7167
6.9	3.346	.6490	3.706	.6933	3.919	.7301	4.032	.7689
7.2	3.042	.6844	3.159	.7312	3.157	.7689	3.076	.8078
7.6	2.760	.7272	2.658	.7640	2.497	.8103	2.284	.8469
8.0	2.555	.7665	2.313	.8106	2.068	.8438	1.799	.8768
8.6	2.322	.8206	1.957	.8576	1.677	.8849	1.366	.9114
9.2	2.170	.8703	1.738	.8984	1.457	.9194	1.116	.9386
10.0	2.009	.9322	1.566	.9470	1.253	.9594	.951	.9688
10.5	1.530	.9661	1.200	.9734	.915	.9800	.705	.9845
11.0	.702	.9864	.551	.9893	.416	.9920	.321	.9938
11.5	.279	.9949	.219	.9960	.165	.9970	.127	.9977
12.0	.107	.9982	.084	.9986	.063	.9990	.048	.9992
13.0	0	1.0000	0	1.0000	0	1.0000	0	1.0000

Table 21.10.--(Continued)

T_c = 30 hours

Serial No. :	53		54		55		56	
Q_1/Q_{10} :	0.6		0.7		0.8		0.9	
Time	PSH	PSMC	PSH	PSMC	PSH	PSMC	PSH	PSMC
days	cfs/AQ_{10}	Q/Q_{10}	cfs/AQ_{10}	Q/Q_{10}	cfs/AQ_{10}	Q/Q_{10}	cfs/AQ_{10}	Q/Q_{10}
0	0	0	0	0	0	0	0	0
.4	.050	.0002	.033	.0001	.019	.0001	.009	.0000
.9	.320	.0034	.219	.0023	.129	.0013	.062	.0006
1.5	.584	.0137	.416	.0096	.251	.0056	.123	.0027
2.0	.713	.0257	.500	.0180	.332	.0110	.153	.0053
3.0	.949	.0562	.671	.0394	.450	.0253	.211	.0120
4.0	1.355	.0975	.986	.0690	.644	.0449	.336	.0216
4.6	1.898	.1327	1.418	.0948	1.004	.0625	.526	.0308
4.9	2.478	.1566	1.938	.1130	1.373	.0754	.725	.0376
5.1	4.179	.1800	3.972	.1334	3.699	.0923	3.365	.0504
5.2	5.812	.1984	6.010	.1518	6.148	.1104	6.250	.0681
5.3	7.926	.2237	8.685	.1788	9.411	.1390	10.134	.0982
5.4	10.343	.2574	11.774	.2165	13.212	.1806	14.692	.1439
5.5	12.519	.2995	14.539	.2649	16.603	.2355	18.735	.2054
5.6	14.006	.3483	16.397	.3218	18.845	.3007	21.365	.2791
5.7	14.707	.4012	17.246	.3838	19.840	.3718	22.496	.3597
5.8	14.489	.4550	16.905	.4466	19.348	.4439	21.822	.4412
5.9	13.647	.5068	15.784	.5068	17.918	.5125	20.050	.5182
6.0	12.461	.5549	14.256	.5621	16.020	.5749	17.758	.5877
6.2	9.759	.6368	10.855	.6546	11.884	.6777	12.853	.7003
6.4	7.505	.7001	8.116	.7241	8.654	.7527	9.125	.7806
6.6	5.866	.7491	6.195	.7765	6.444	.8080	6.630	.8382
6.9	4.085	.8036	4.141	.8329	4.101	.8654	4.005	.8959
7.2	2.958	.8419	2.860	.8708	2.677	.9019	2.455	.9305
7.6	2.060	.8784	1.856	.9050	1.603	.9328	1.331	.9576
8.0	1.532	.9045	1.292	.9278	1.022	.9517	.757	.9725
8.6	1.082	.9331	.846	.9511	.580	.9691	.349	.9846
9.2	.856	.9541	.639	.9670	.397	.9793	.201	.9900
10.0	.713	.9771	.506	.9838	.319	.9897	.151	.9952
10.5	.517	.9887	.365	.9920	.233	.9949	.109	.9976
11.0	.234	.9955	.165	.9968	.105	.9980	.049	.9991
11.5	.093	.9983	.065	.9988	.042	.9992	.019	.9996
12.0	.035	.9994	.025	.9996	.016	.9997	.007	.9999
13.0	0	1.0000	0	1.0000	0	1.0000	0	1.0000

Table 21.10.--(Continued)

T_c = 36 hours

Serial No. :	57		58		59		60	
Q_1/Q_{10} :	0.2		0.3		0.4		0.5	
Time	PSH	PSMC	PSH	PSMC	PSH	PSMC	PSH	PSMC
days	cfs/AQ_{10}	Q/Q_{10}	cfs/AQ_{10}	Q/Q_{10}	cfs/AQ_{10}	Q/Q_{10}	cfs/AQ_{10}	Q/Q_{10}
0	0	0	0	0	0	0	0	0
.5	.163	.0009	.122	.0007	.091	.0005	.072	.0004
1.2	1.130	.0170	.848	.0127	.648	.0095	.504	.0075
2.0	1.817	.0623	1.418	.0473	1.101	.0363	.857	.0281
3.0	2.177	.1368	1.794	.1072	1.424	.0830	1.165	.0656
4.0	2.498	.2231	2.211	.1805	1.889	.1433	1.576	.1152
4.8	2.964	.3032	2.884	.2544	2.666	.2088	2.366	.1714
5.0	3.176	.3259	3.250	.2770	3.133	.2301	2.892	.1906
5.1	3.331	.3380	3.565	.2896	3.598	.2425	3.506	.2024
5.2	3.521	.3506	3.965	.3036	4.212	.2569	4.339	.2169
5.3	3.742	.3641	4.451	.3192	4.982	.2739	5.411	.2349
5.4	3.987	.3784	5.002	.3366	5.874	.2940	6.673	.2572
5.5	4.238	.3937	5.574	.3562	6.814	.3174	8.017	.2843
5.6	4.467	.4098	6.095	.3778	7.670	.3442	9.240	.3162
5.7	4.644	.4267	6.492	.4011	8.311	.3737	10.141	.3519
5.8	4.760	.4441	6.741	.4256	8.704	.4051	10.682	.3904
5.9	4.806	.4618	6.826	.4507	8.824	.4375	10.825	.4301
6.0	4.784	.4796	6.757	.4758	8.686	.4698	10.598	.4696
6.1	4.708	.4972	6.567	.5005	8.354	.5013	10.099	.5078
6.2	4.593	.5144	6.293	.5243	7.898	.5314	9.435	.5439
6.4	4.296	.5474	5.623	.5684	6.815	.5858	7.902	.6080
6.6	3.984	.5781	4.960	.6076	5.787	.6323	6.494	.6610
6.8	3.704	.6066	4.403	.6422	4.956	.6719	5.399	.7048
7.1	3.348	.6457	3.736	.6872	3.989	.7212	4.151	.7573
7.5	2.989	.6925	3.078	.7373	3.072	.7729	2.997	.8095
8.0	2.680	.7449	2.536	.7890	2.366	.8227	2.159	.8565
8.6	2.414	.8014	2.108	.8402	1.861	.8690	1.583	.8973
9.2	2.230	.8529	1.837	.8838	1.568	.9068	1.248	.9285
10.0	2.052	.9163	1.610	.9344	1.308	.9490	.994	.9609
10.5	1.710	.9519	1.343	.9623	1.045	.9712	.803	.9778
11.0	.978	.9769	.768	.9819	.587	.9862	.453	.9894
11.6	.391	.9912	.307	.9932	.234	.9948	.180	.9960
12.5	.092	.9982	.072	.9986	.055	.9990	.042	9992
14.0	0	1.0000	0	1.0000	0	1.0000	0	1.0000

Table 21.10.--(Continued)

T_c = 36 hours

Serial No. :	61		62		63		64	
Q_1/Q_{10} :	0.6		0.7		0.8		0.9	
Time	PSH	PSMC	PSH	PSMC	PSH	PSMC	PSH	PSMC
days	cfs/AQ_{10}	Q/Q_{10}	cfs/AQ_{10}	Q/Q_{10}	cfs/AQ_{10}	Q/Q_{10}	cfs/AQ_{10}	Q/Q_{10}
0	0	0	0	0	0	0	0	0
.5	.054	.0003	.036	.0002	.021	.0001	.010	.0000
1.2	.382	.0056	.266	.0039	.156	.0023	.077	.0011
2.0	.653	.0214	.460	.0150	.298	.0091	.140	.0044
3.0	.895	.0498	.631	.0349	.422	.0224	.198	.0106
4.0	1.258	.0887	.911	.0627	.596	.0407	.306	.0195
4.8	1.986	.1347	1.504	.0965	1.059	.0638	.555	.0315
5.0	2.536	.1510	2.062	.1092	1.574	.0730	1.014	.0367
5.1	3.301	.1618	2.986	.1185	2.645	.0808	2.244	.0427
5.2	4.360	.1759	4.282	.1319	4.170	.0933	4.011	.0542
5.3	5.752	.1946	6.014	.1509	6.245	.1125	6.449	.0735
5.4	7.411	.2189	8.096	.1769	8.766	.1401	9.430	.1027
5.5	9.193	.2495	10.347	.2109	11.507	.1775	12.688	.1434
5.6	10.811	.2864	12.385	.2528	13.984	.2244	15.620	.1956
5.7	11.982	.3284	13.839	.3011	15.724	.2792	17.650	.2568
5.8	12.675	.3739	14.683	.3537	16.719	.3389	18.791	.3239
5.9	12.833	.4209	14.846	.4081	16.878	.4008	18.923	.3934
6.0	12.498	.4676	14.387	.4620	16.277	.4619	18.170	.4617
6.1	11.814	.5125	13.499	.5134	15.167	.5198	16.818	.5261
6.2	10.927	.5544	12.374	.5611	13.786	.5732	15.168	.5850
6.4	8.922	.6277	9.876	.6432	10.772	.6638	11.616	.6838
6.6	7.130	.6868	7.709	.7079	8.215	.7335	8.662	.7581
6.8	5.776	.7342	6.123	.7586	6.390	.7870	6.602	.8140
7.1	4.260	.7893	4.373	.8161	4.400	.8459	4.379	.8738
7.5	2.893	.8412	2.805	.8680	2.648	.8966	2.461	.9228
8.0	1.947	.8852	1.756	.9092	1.528	.9343	1.295	.9564
8.6	1.323	.9206	1.105	.9400	.855	.9596	.632	.9767
9.2	.991	.9460	.779	.9607	.540	.9749	.340	.9873
10.0	.752	.9711	.542	.9794	.340	.9870	.164	.9938
10.5	.594	.9837	.422	.9884	.268	.9927	.126	.9966
11.0	.332	.9922	.236	.9945	.150	.9965	.070	.9984
11.6	.132	.9971	.094	.9979	.059	.9987	.028	.9994
12.5	.031	.9994	.022	.9996	.014	.9997	.006	.9999
14.0	0	1.0000	0	1.0000	0	1.0000	0	1.0000

Table 21.10.--(Continued)

T_c = 42 hours

Serial No. :	65		66		67		68	
Q_1/Q_{10} :	0.2		0.3		0.4		0.5	
Time	PSH	PSMC	PSH	PSMC	PSH	PSMC	PSH	PSMC
days	cfs/AQ_{10}	Q/Q_{10}	cfs/AQ_{10}	Q/Q_{10}	cfs/AQ_{10}	Q/Q_{10}	cfs/AQ_{10}	Q/Q_{10}
0	0	0	0	0	0	0	0	0
.6	.174	.0011	.131	.0008	.097	.0006	.078	.0005
1.2	.892	.0123	.670	.0092	.509	.0069	.398	.0054
2.0	1.666	.0516	1.290	.0391	1.001	.0300	.777	.0232
3.0	2.097	.1220	1.714	.0952	1.354	.0737	1.101	.0580
4.0	2.428	.2056	2.120	.1655	1.789	.1309	1.484	.1050
4.8	2.846	.2829	2.711	.2358	2.466	.1922	2.162	.1572
5.0	3.026	.3046	3.007	.2568	2.834	.2117	2.570	.1744
5.2	3.301	.3280	3.550	.2809	3.630	.2353	3.610	.1969
5.4	3.669	.3537	4.330	.3099	4.841	.2664	5.268	.2294
5.5	3.875	.3677	4.784	.3268	5.564	.2856	6.278	.2507
5.6	4.082	.3824	5.245	.3453	6.306	.3075	7.325	.2757
5.7	4.272	.3979	5.667	.3654	6.989	.3320	8.287	.3045
5.8	4.425	.4139	6.004	.3870	7.524	.3588	9.031	.3364
5.9	4.536	.4305	6.241	.4096	7.898	.3872	9.546	.3707
6.0	4.597	.4474	6.366	.4329	8.086	.4167	9.795	.4063
6.1	4.606	.4644	6.370	.4564	8.075	.4465	9.756	.4423
6.2	4.569	.4814	6.272	.4798	7.899	.4759	9.484	.4778
6.3	4.497	.4982	6.098	.5026	7.608	.5045	9.058	.5119
6.4	4.399	.5146	5.872	.5247	7.239	.5319	8.531	.5444
6.6	4.155	.5463	5.338	.5662	6.391	.5822	7.346	.6029
6.8	3.895	.5761	4.795	.6036	5.554	.6262	6.206	.6528
7.0	3.653	.6040	4.317	.6372	4.840	.6645	5.262	.6949
7.3	3.343	.6428	3.734	.6818	4.001	.7133	4.182	.7469
7.6	3.088	.6784	3.266	.7205	3.348	.7538	3.359	.7884
8.0	2.820	.7220	2.784	.7650	2.700	.7981	2.568	.8317
8.5	2.565	.7718	2.355	.8122	2.165	.8427	1.943	.8729
9.2	2.310	.8346	1.961	.8676	1.713	.8922	1.420	.9156
10.0	2.110	.9000	1.683	.9212	1.397	.9379	1.084	.9522
10.5	1.840	.9370	1.451	.9504	1.151	.9616	.884	.9704
11.2	.967	.9737	.762	.9794	.588	.9842	.454	.9878
12.0	.334	.9915	.263	.9933	.202	.9949	.156	.9961
12.8	.110	.9975	.086	.9980	.066	.9985	.051	.9988
14.5	0	1.0000	0	1.0000	0	1.0000	0	1.0000

Table 21.10.--(Continued)

T_c = 42 hours

Serial No. :	69		70		71		72	
Q_1/Q_{10} :	0.6		0.7		0.8		0.9	
Time	PSH	PSMC	PSH	PSMC	PSH	PSMC	PSH	PSMC
days	cfs/AQ_{10}	Q/Q_{10}	cfs/AQ_{10}	Q/Q_{10}	cfs/AQ_{10}	Q/Q_{10}	cfs/AQ_{10}	Q/Q_{10}
0	0	0	0	0	0	0	0	0
.6	.058	.0004	.039	.0002	.023	.0001	.010	.0001
1.2	.301	.0041	.209	.0028	.122	.0016	.060	.0008
2.0	.592	.0176	.418	.0123	.266	.0074	.126	.0036
3.0	.844	.0441	.593	.0309	.396	.0197	.186	.0093
4.0	1.178	.0807	.850	.0569	.558	.0370	.282	.0177
4.8	1.798	.1230	1.347	.0879	.939	.0579	.490	.0285
5.0	2.216	.1376	1.759	.0990	1.313	.0658	.810	.0328
5.2	3.499	.1582	3.293	.1172	3.079	.0814	2.818	.0455
5.4	5.621	.1914	5.903	.1505	6.173	.1148	6.419	.0788
5.5	6.936	.2146	7.540	.1752	8.138	.1412	8.728	.1066
5.6	8.308	.2426	9.258	.2062	10.212	.1749	11.174	.1432
5.7	9.567	.2755	10.832	.2431	12.111	.2159	13.409	.1884
5.8	10.527	.3125	12.016	.2852	13.520	.2631	15.045	.2406
5.9	11.188	.3525	12.824	.3309	14.476	.3146	16.148	.2980
6.0	11.495	.3943	13.187	.3787	14.890	.3686	16.606	.3582
6.1	11.418	.4364	13.063	.4270	14.708	.4230	16.354	.4188
6.2	11.040	.4778	12.566	.4742	14.078	.4759	15.577	.4774
6.3	10.467	.5174	11.836	.5191	13.180	.5260	14.500	.5327
6.4	9.774	.5547	10.968	.5610	12.127	.5726	13.251	.5837
6.6	8.239	.6211	9.079	.6349	9.864	.6535	10.602	.6715
6.8	6.794	.6763	7.338	.6951	7.814	.7183	8.237	.7404
7.0	5.622	.7218	5.958	.7438	6.217	.7696	6.425	.7940
7.3	4.315	.7764	4.449	.8010	4.506	.8284	4.519	.8540
7.6	3.340	.8185	3.331	.8437	3.257	.8710	3.151	.8960
8.0	2.424	.8604	2.296	.8844	2.123	.9097	1.937	.9324
8.5	1.726	.8982	1.540	.9192	1.320	.9409	1.114	.9599
9.2	1.174	.9348	.973	.9507	.742	.9665	.545	.9802
10.0	.844	.9642	.637	.9742	.428	.9835	.250	.9919
10.5	.662	.9782	.475	.9844	.301	.9901	.144	.9953
11.2	.335	.9910	.239	.9936	.152	.9960	.072	.9981
12.0	.115	.9971	.082	.9980	.052	.9987	.024	.9994
12.8	.037	.9992	.026	.9994	.017	.9996	.008	.9998
14.5	0	1.0000	0	1.0000	0	1.0000	0	1.0000

(43)

Table 21.10.--(Continued)

T_c = 48 hours

Serial No. :	73		74		75		76	
Q_1/Q_{10} :	0.2		0.3		0.4		0.5	
Time	PSH	PSMC	PSH	PSMC	PSH	PSMC	PSH	PSMC
days	cfs/AQ_{10}	Q/Q_{10}	cfs/AQ_{10}	Q/Q_{10}	cfs/AQ_{10}	Q/Q_{10}	cfs/AQ_{10}	Q/Q_{10}
0	0	0	0	0	0	0	0	0
.6	.120	.0008	.090	.0006	.067	.0004	.054	.0003
1.3	.811	.0118	.610	.0088	.464	.0066	.362	.0052
2.0	1.500	.0425	1.155	.0321	.895	.0246	.694	.0191
3.0	2.001	.1083	1.624	.0842	1.278	.0651	1.033	.0512
4.0	2.350	.1888	2.027	.1514	1.692	.1193	1.398	.0955
4.8	2.733	.2635	2.557	.2182	2.291	.1770	1.988	.1442
5.0	2.888	.2843	2.803	.2380	2.595	.1949	2.320	.1599
5.2	3.116	.3065	3.230	.2602	3.203	.2162	3.099	.1797
5.4	3.413	.3306	3.831	.2862	4.107	.2430	4.305	.2068
5.5	3.585	.3436	4.194	.3010	4.670	.2592	5.077	.2241
5.6	3.763	.3572	4.576	.3172	5.272	.2775	5.909	.2443
5.7	3.939	.3714	4.958	.3348	5.877	.2981	6.752	.2677
5.8	4.100	.3863	5.310	.3538	6.437	.3208	7.532	.2940
5.9	4.235	.4017	5.600	.3740	6.892	.3454	8.160	.3229
6.0	4.335	.4176	5.812	.3951	7.221	.3714	8.606	.3538
6.1	4.400	.4338	5.943	.4168	7.419	.3985	8.868	.3860
6.2	4.428	.4501	5.992	.4388	7.486	.4260	8.946	.4189
6.3	4.420	.4665	5.962	.4610	7.427	.4535	8.848	.4517
6.4	4.379	.4828	5.863	.4828	7.257	.4806	8.596	.4839
6.6	4.228	.5146	5.521	.5249	6.702	.5322	7.805	.5444
6.8	4.025	.5452	5.084	.5642	6.017	.5791	6.860	.5986
7.0	3.804	.5742	4.630	.6000	5.322	.6209	5.917	.6456
7.3	3.499	.6147	4.037	.6480	4.446	.6748	4.766	.7044
7.6	3.240	.6521	3.556	.6900	3.765	.7202	3.899	.7521
8.0	2.956	.6979	3.037	.7386	3.053	.7702	3.014	.8028
8.5	2.677	.7499	2.552	.7900	2.425	.8203	2.259	.8508
9.2	2.393	.8153	2.097	.8497	1.881	.8753	1.621	.9002
10.0	2.171	.8827	1.775	.9065	1.512	.9250	1.213	.9413
10.5	1.944	.9212	1.558	.9376	1.273	.9508	1.003	.9618
11.2	1.189	.9625	.942	.9704	.737	.9770	.570	.9823
12.0	.478	.9858	.377	.9889	.293	.9914	.226	.9934
13.0	.142	.9962	.112	.9970	.086	.9977	.066	.9982
15.0	0	1.0000	0	1.0000	0	1.0000	0	1.0000

Table 21.10.--(Continued)

T_c = 48 hours

Serial No. :	77		78		79		80	
Q_1/Q_{10} :	0.6		0.7		0.8		0.9	
Time	PSH	PSMC	PSH	PSMC	PSH	PSMC	PSH	PSMC
days	cfs/AQ_{10}	Q/Q_{10}	cfs/AQ_{10}	Q/Q_{10}	cfs/AQ_{10}	Q/Q_{10}	cfs/AQ_{10}	Q/Q_{10}
0	0	0	0	0	0	0	0	0
.6	.040	.0002	.027	.0002	.016	.0001	.007	.0000
1.3	.274	.0039	.190	.0027	.112	.0016	.055	.0008
2.0	.528	.0145	.373	.0101	.234	.0061	.112	.0029
3.0	.790	.0389	.555	.0272	.370	.1727	.173	.0082
4.0	1.104	.0732	.793	.0516	.522	.0334	.261	.0160
4.8	1.639	.1125	1.218	.0802	.840	.0526	.437	.0258
5.0	1.977	.1256	1.545	.0901	1.138	.0596	.689	.0296
5.2	2.918	.1434	2.651	.1052	2.395	.0722	2.098	.0394
5.4	4.429	.1702	4.476	.1311	4.524	.0972	4.538	.0632
5.5	5.419	.1882	5.696	.1498	5.972	.1166	6.226	.0830
5.6	6.493	.2102	7.024	.1732	7.558	.1414	8.080	.1093
5.7	7.586	.2362	8.382	.2016	9.183	.1722	9.984	.1426
5.8	8.600	.2660	9.640	.2348	10.691	.2088	11.750	.1825
5.9	9.405	.2991	10.630	.2721	11.865	.2503	13.110	.2282
6.0	9.970	.3348	11.315	.3125	12.668	.2954	14.028	.2781
6.1	10.296	.3722	11.702	.3549	13.112	.3429	14.526	.3306
6.2	10.381	.4102	11.791	.3981	13.198	.3913	14.603	.3842
6.3	10.238	.4482	11.598	.4412	12.948	.4394	14.287	.4373
6.4	9.898	.4853	11.163	.4831	12.407	.4860	13.633	.4887
6.6	8.858	.5545	9.866	.5606	10.836	.5717	11.770	.5823
6.8	7.644	.6154	8.386	.6279	9.075	.6450	9.720	.6613
7.0	6.452	.6671	6.954	.6841	7.390	.7053	7.779	.7253
7.3	5.034	.7302	5.290	.7512	5.473	.7757	5.612	.7984
7.6	3.995	.7799	4.095	.8029	4.128	.8284	4.125	.8519
8.0	2.954	.8308	2.908	.8540	2.810	.8789	2.693	.9014
8.5	2.092	.8764	1.951	.8977	1.772	.9200	1.599	.9396
9.2	1.397	.9206	1.213	.9376	.998	.9546	.812	.9695
10.0	.985	.9550	.791	.9663	.587	.9770	.416	.9866
10.5	.784	.9713	.599	.9791	.422	.9863	.265	.9928
11.2	.425	.9869	.305	.9906	.194	.9941	.093	.9972
12.0	.168	.9951	.120	.9965	.076	.9978	.036	.9990
13.0	.049	.9987	.035	.9991	.022	.9994	.010	.9997
15.0	0	1.0000	0	1.0000	0	1.0000	0	1.0000

(45)

Table 21.10.--(Continued)

T_c = 54 hours

Serial No. :	81		82		83		84	
Q_1/Q_{10} :	0.2		0.3		0.4		0.5	
Time	PSH	PSMC	PSH	PSMC	PSH	PSMC	PSH	PSMC
days	cfs/AQ_{10}	Q/Q_{10}	cfs/AQ_{10}	Q/Q_{10}	cfs/AQ_{10}	Q/Q_{10}	cfs/AQ_{10}	Q/Q_{10}
0	0	0	0	0	0	0	0	0
.6	.087	.0005	.065	.0004	.048	.0003	.039	.0002
1.3	.640	.0089	.481	.0067	.366	.0050	.286	.0039
2.0	1.331	.0349	1.020	.0263	.790	.0201	.612	.0156
3.0	1.897	.0957	1.529	.0742	1.199	.0573	.965	.0450
4.0	2.269	.1730	1.937	.1381	1.601	.1085	1.319	.0867
4.8	2.631	.2451	2.422	.2018	2.141	.1629	1.841	.1323
5.0	2.768	.2650	2.633	.2204	2.398	.1795	2.118	.1468
5.2	2.961	.2862	2.977	.2411	2.876	.1989	2.717	.1644
5.4	3.210	.3090	3.462	.2648	3.589	.2226	3.652	.1877
5.6	3.504	.3338	4.063	.2926	4.502	.2524	4.883	.2191
5.8	3.811	.3609	4.713	.3250	5.516	.2894	6.275	.2602
6.0	4.070	.3901	5.261	.3620	6.370	.3334	7.446	.3110
6.1	4.164	.4054	5.454	.3181	6.666	.3574	7.844	.3392
6.2	4.231	.4209	5.591	.4022	6.873	.3824	8.121	.3686
6.3	4.271	.4366	5.667	.4230	6.986	.4080	8.269	.3989
6.4	4.273	.4524	5.672	.4439	6.982	.4337	8.246	.4293
6.5	4.260	.4682	5.621	.4648	6.891	.4593	8.108	.4594
6.6	4.219	.4839	5.524	.4854	6.732	.4845	7.876	.4889
6.8	4.085	.5147	5.230	.5252	6.262	.5325	7.216	.5446
7.0	3.912	.5443	4.866	.5625	5.697	.5766	6.443	.5950
7.3	3.630	.5862	4.298	.6132	4.840	.6348	5.294	.6597
7.6	3.373	.6250	3.808	.6581	4.130	.6843	4.372	.7129
8.0	3.085	.6727	3.278	.7104	3.392	.7396	3.445	.7703
8.5	2.790	.7270	2.754	.7659	2.695	.7955	2.591	.8256
9.0	2.560	.7764	2.371	.8131	2.218	.8405	2.025	.8678
9.5	2.381	.8220	2.086	.8541	1.880	.8782	1.627	.9013
10.0	2.237	.8647	1.874	.8906	1.632	.9105	1.349	.9286
10.6	1.969	.9119	1.603	.9294	1.335	.9435	1.075	.9554
11.2	1.389	.9496	1.119	.9600	.902	.9684	.718	.9754
12.0	.635	.9787	.504	.9832	.397	.9869	.308	.9899
13.0	.218	.9932	.172	.9946	.134	.9958	.104	.9968
14.0	.071	.9980	.056	.9985	.043	.9988	.033	.9991
16.0	0	1.0000	0	1.0000	0	1.0000	0	1.0000

Table 21.10.--(Continued)

T_c = 54 hours

Serial No. :	85		86		87		88	
Q_1/Q_{10} :	0.6		0.7		0.8		0.9	
Time	PSH	PSMC	PSH	PSMC	PSH	PSMC	PSH	PSMC
days	cfs/AQ_{10}	Q/Q_{10}	cfs/AQ_{10}	Q/Q_{10}	cfs/AQ_{10}	Q/Q_{10}	cfs/AQ_{10}	Q/Q_{10}
0	0	0	0	0	0	0	0	0
.6	.029	.0002	.019	.0001	.011	.0001	.005	.0000
1.3	.216	.0030	.150	.0020	.088	.0012	.043	.0006
2.0	.466	.0118	.328	.0082	.204	.0049	.098	.0024
3.0	.736	.0342	.517	.0239	.343	.0151	.160	.0072
4.0	1.036	.0664	.742	.0468	.490	.0302	.242	.0144
4.8	1.506	.1029	1.112	.0732	.760	.0479	.394	.0234
5.0	1.786	.1149	1.378	.0822	1.003	.0542	.597	.0268
5.2	2.494	.1304	2.194	.0951	1.916	.0646	1.604	.0345
5.4	3.650	.1528	3.575	.1160	3.512	.0842	3.419	.0525
5.6	5.204	.1853	5.464	.1491	5.730	.1180	5.975	.0868
5.8	6.992	.2302	7.667	.1974	8.350	.1698	9.207	.1419
6.0	8.492	.2876	9.507	.2611	10.530	.2398	11.554	.2182
6.1	8.993	.3198	10.113	.2972	11.237	.2798	12.360	.2622
6.2	9.340	.3535	10.531	.3352	11.722	.3220	12.912	.3087
6.3	9.523	.3883	10.748	.3744	11.972	.3656	13.191	.3567
6.4	9.476	.4233	10.674	.4138	11.860	.4094	13.035	.4049
6.5	9.286	.4578	10.427	.4526	11.551	.4525	12.656	.4521
6.6	8.978	.4914	10.041	.4903	11.079	.4941	12.092	.4976
6.8	8.120	.5545	8.982	.5604	9.805	.5711	10.593	.5812
7.0	7.135	.6107	7.792	.6222	8.398	.6381	8.962	.6531
7.3	5.694	.6813	6.072	.6984	6.386	.7192	6.657	.7386
7.6	4.572	.7377	4.765	.7578	4.894	.7809	4.985	.8022
8.0	3.472	.7967	3.505	.8183	3.484	.8421	3.439	.8637
8.5	2.478	.8511	2.385	.8721	2.250	.8944	2.113	.9142
9.0	1.847	.8904	1.701	.9091	1.521	.9284	1.358	.9453
9.5	1.417	.9203	1.245	.9360	1.044	.9518	.871	.9656
10.0	1.129	.9436	.944	.9560	.744	.9680	.575	.9787
10.6	.866	.9656	.689	.9739	.517	.9818	.366	.9888
11.2	.561	.9814	.432	.9863	.310	.9909	.201	.9951
12.0	.230	.9925	.166	.9946	.105	.9966	.050	.9984
13.0	.077	.9976	.055	.9983	.035	.9989	.017	.9995
14.0	.025	.9993	.018	.9995	.011	.9997	.005	.9999
16.0	0	1.0000	0	1.0000	0	1.0000	0	1.0000

(47)

Table 21.10.--(Continued)

T_c = 60 hours

Serial No. :	89		90		91		92	
Q_1/Q_{10} :	0.2		0.3		0.4		0.5	
Time	PSH	PSMC	PSH	PSMC	PSH	PSMC	PSH	PSMC
days	cfs/AQ_{10}	Q/Q_{10}	cfs/AQ_{10}	Q/Q_{10}	cfs/AQ_{10}	Q/Q_{10}	cfs/AQ_{10}	Q/Q_{10}
0	0	0	0	0	0	0	0	0
.6	.065	.0004	.048	.0003	.036	.0002	.029	.0002
1.3	.506	.0068	.380	.0051	.288	.0038	.226	.0030
2.0	1.164	.0286	.890	.0216	.687	.0164	.533	.0128
3.0	1.785	.0844	1.430	.0652	1.119	.0503	.896	.0394
4.0	2.184	.1580	1.848	.1258	1.515	.0986	1.244	.0786
4.8	2.534	.2276	2.298	.1864	2.008	.1498	1.713	.1214
5.0	2.658	.2468	2.483	.2041	2.229	.1654	1.949	.1348
5.2	2.824	.2670	2.769	.2234	2.617	.1832	2.423	.1508
5.4	3.038	.2887	3.168	.2453	3.189	.2045	3.160	.1712
5.6	3.290	.3121	3.665	.2705	3.929	.2307	4.142	.1980
5.8	3.562	.3374	4.221	.2996	4.777	.2628	5.287	.2327
6.0	3.819	.3648	4.757	.3329	5.606	.3012	6.420	.2760
6.2	4.012	.3938	5.150	.3695	6.204	.3449	7.221	.3264
6.3	4.080	.4088	5.286	.3888	6.411	.3681	7.499	.3535
6.4	4.122	.4239	5.366	.4085	6.526	.3920	7.645	.3815
6.5	4.142	.4392	5.399	.4284	6.570	.4162	7.694	.4097
6.6	4.140	.4546	5.388	.4483	6.544	.4404	7.650	.4380
6.8	4.077	.4850	5.237	.4877	6.293	.4878	7.284	.4932
7.0	3.959	.5148	4.981	.5254	5.890	.5328	6.723	.5449
7.2	3.809	.5435	4.671	.5611	5.415	.5745	6.078	.5921
7.4	3.645	.5711	4.339	.5944	4.912	.6126	5.402	.6344
7.7	3.408	.6102	3.881	.6400	4.242	.6632	4.525	.6892
8.0	3.199	.6469	3.493	.6808	3.698	.7071	3.838	.7353
8.5	2.901	.7032	2.958	.7402	2.976	.7684	2.946	.7974
9.0	2.656	.7546	2.535	.7908	2.430	.8180	2.283	.8453
9.5	2.463	.8019	2.224	.8346	2.055	.8591	1.839	.8830
10.0	2.306	.8460	1.985	.8734	1.769	.8943	1.510	.9138
10.6	2.059	.8948	1.708	.9145	1.456	.9301	1.199	.9437
11.2	1.561	.9354	1.277	.9479	1.055	.9581	.859	.9666
12.0	.806	.9699	.653	.9760	.529	.9810	.424	.9852
13.0	.308	.9891	.245	.9914	.193	.9933	.150	.9948
14.0	.114	.9963	.090	.9971	.070	.9978	.054	.9983
16.0	0	1.0000	0	1.0000	0	1.0000	0	1.0000

Table 21.10.--(Continued)

T_c = 60 hours

Serial No. :	93		94		95		96	
Q_1/Q_{10} :	0.6		0.7		0.8		0.9	
Time	PSH	PSMC	PSH	PSMC	PSH	PSMC	PSH	PSMC
days	cfs/AQ_{10}	Q/Q_{10}	cfs/AQ_{10}	Q/Q_{10}	cfs/AQ_{10}	Q/Q_{10}	cfs/AQ_{10}	Q/Q_{10}
0	0	0	0	0	0	0	0	0
.6	.022	.0001	.014	.0001	.008	.0000	.004	.0000
1.3	.170	.0023	.118	.0016	.069	.0009	.034	.0004
2.0	.405	.0097	.285	.0067	.176	.0040	.084	.0019
3.0	.683	.0299	.480	.0210	.317	.0132	.148	.0063
4.0	.973	.0602	.695	.0423	.459	.0273	.224	.0130
4.8	1.392	.0942	1.022	.0669	.694	.0437	.357	.0212
5.0	1.627	.1052	1.244	.0751	.895	.0494	.525	.0243
5.2	2.178	.1190	1.865	.0863	1.580	.0582	1.268	.0306
5.4	3.074	.1382	2.921	.1038	2.786	.0741	2.626	.0447
5.6	4.299	.1652	4.394	.1305	4.503	.1007	4.590	.0709
5.8	5.750	.2022	6.161	.1692	6.582	.1413	6.989	.1133
6.0	7.197	.2499	7.936	.2212	8.687	.1976	9.432	.1738
6.2	8.204	.3069	9.151	.2844	10.102	.2670	11.047	.2494
6.3	8.555	.3377	9.578	.3188	10.602	.3050	11.622	.2911
6.4	8.729	.3696	9.779	.3545	10.824	.3445	11.860	.3342
6.5	8.782	.4018	9.835	.3906	10.878	.3844	11.908	.3780
6.6	8.718	.4340	9.750	.4266	10.768	.4242	11.770	.4215
6.8	8.230	.4966	9.138	.4963	10.016	.5008	10.868	.5049
7.0	7.507	.5546	8.255	.5604	8.961	.5707	9.633	.5804
7.2	6.690	.6069	7.272	.6176	7.804	.6324	8.298	.6463
7.4	5.840	.6531	6.254	.6673	6.610	.6854	6.924	.7022
7.7	4.765	.7116	4.994	.7293	5.162	.7502	5.294	.7694
8.0	3.946	.7595	4.055	.7791	4.109	.8012	4.136	.8212
8.5	2.903	.8220	2.874	.8422	2.803	.8640	2.723	.8834
9.0	2.142	.8681	2.027	.8868	1.876	.9065	1.735	.9237
9.5	1.657	.9028	1.510	.9190	1.332	.9356	1.178	.9501
10.0	1.306	.9299	1.136	.9432	.945	.9564	.784	.9680
10.6	.994	.9552	.821	.9647	.647	.9738	.495	.9819
11.2	.693	.9739	.558	.9798	.428	.9855	.312	.9906
12.0	.334	.9887	.261	.9917	.191	.9945	.128	.9970
13.0	.112	.9962	.081	.9972	.051	.9982	.025	.9992
14.0	.040	.9987	.029	.9991	.018	.9994	.009	.9997
16.0	0	1.0000	0	1.0000	0	1.0000	0	1.0000

Table 21.10.--(Continued)

T_c = 66 hours

Serial No. :	97		98		99		100	
Q_1/Q_{10} :	0.2		0.3		0.4		0.5	
Time	PSH	PSMC	PSH	PSMC	PSH	PSMC	PSH	PSMC
days	cfs/AQ_{10}	Q/Q_{10}	cfs/AQ_{10}	Q/Q_{10}	cfs/AQ_{10}	Q/Q_{10}	cfs/AQ_{10}	Q/Q_{10}
0	0	0	0	0	0	0	0	0
.6	.050	.0003	.037	.0002	.028	.0002	.022	.0001
1.3	.401	.0053	.302	.0040	.229	.0030	.179	.0023
2.0	1.008	.0234	.769	.0177	.593	.0135	.460	.0105
3.0	1.670	.0741	1.330	.0572	1.039	.0441	.828	.0345
4.0	2.095	.1441	1.758	.1143	1.431	.0894	1.171	.0712
4.8	2.438	.2110	2.184	.1720	1.887	.1378	1.599	.1113
5.0	2.553	.2294	2.349	.1888	2.082	.1524	1.803	.1238
5.2	2.701	.2488	2.593	.2070	2.406	.1688	2.193	.1384
5.4	2.887	.2695	2.926	.2273	2.872	.1882	2.781	.1567
5.6	3.106	.2917	3.342	.2505	3.478	.2116	3.572	.1800
5.8	3.348	.3156	3.819	.2769	4.191	.2399	4.520	.2098
6.0	3.589	.3412	4.308	.3070	4.934	.2736	5.521	.2468
6.2	3.796	.3686	4.726	.3404	5.570	.3124	6.377	.2909
6.4	3.942	.3972	5.015	.3765	6.003	.3552	6.952	.3401
6.5	3.987	.4119	5.102	.3952	6.129	.3776	7.114	.3661
6.6	4.015	.4267	5.154	.4141	6.205	.4004	7.211	.3925
6.7	4.023	.4416	5.160	.4332	6.204	.4233	7.197	.4190
6.8	4.014	.4565	5.133	.4522	6.157	.4461	7.125	.4454
7.0	3.951	.4860	4.988	.4897	5.921	.4907	6.787	.4968
7.2	3.846	.5148	4.764	.5257	5.571	.5332	6.305	.5451
7.4	3.716	.5428	4.497	.5600	5.165	.5728	5.756	.5896
7.7	3.502	.5829	4.070	.6074	4.528	.6264	4.910	.6485
8.0	3.297	.6206	3.679	.6504	3.964	.6733	4.181	.6987
8.5	3.001	.6788	3.142	.7132	3.230	.7394	3.266	.7669
9.0	2.752	.7320	2.707	.7671	2.661	.7935	2.570	.8204
9.5	2.545	.7809	2.362	.8138	2.228	.8384	2.048	.8627
10.0	2.379	.8264	2.103	.8549	1.917	.8765	1.688	.8970
10.6	2.143	.8769	1.816	.8985	1.585	.9153	1.339	.9304
11.2	1.708	.9200	1.418	.9346	1.196	.9462	.992	.9562
12.0	.978	.9596	.806	.9672	.669	.9734	.552	.9787
13.0	.410	.9839	.332	.9872	.269	.9898	.215	.9921
14.0	.166	.9939	.132	.9952	.104	.9962	.081	.9971
17.0	0	1.0000	0	1.0000	0	1.0000	0	1.0000

Table 21.10.--(Continued)

T_c = 66 hours

Serial No. :	101		102		103		104	
Q_1/Q_{10} :	0.6		0.7		0.8		0.9	
Time	PSH	PSMC	PSH	PSMC	PSH	PSMC	PSH	PSMC
days	cfs/AQ_{10}	Q/Q_{10}	cfs/AQ_{10}	Q/Q_{10}	cfs/AQ_{10}	Q/Q_{10}	cfs/AQ_{10}	Q/Q_{10}
0	0	0	0	0	0	0	0	0
.6	.016	.0001	.011	.0001	.006	.0000	.003	.0000
1.3	.135	.0018	.094	.0012	.055	.0007	.027	.0003
2.0	.350	.0079	.246	.0055	.150	.0033	.072	.0016
3.0	.631	.0262	.443	.0183	.291	.0115	.136	.0055
4.0	.913	.0544	.650	.0382	.430	.0246	.209	.0117
4.8	1.292	.0862	.945	.0612	.638	.0399	.326	.0193
5.0	1.493	.0964	1.132	.0687	.806	.0451	.466	.0221
5.2	1.939	.1089	1.627	.0786	1.347	.0527	1.047	.0273
5.4	2.642	.1256	2.441	.0935	2.264	.0659	2.065	.0386
5.6	3.615	.1486	3.597	.1156	3.598	.0873	3.577	.0593
5.8	4.801	.1795	5.028	.1473	5.268	.1198	5.492	.0925
6.0	6.067	.2196	6.568	.1900	7.079	.1653	7.581	.1406
6.2	7.146	.2685	7.876	.2434	8.612	.2234	9.340	.2033
6.4	7.864	.3239	8.740	.3048	9.617	.2907	10.484	.2764
6.5	8.061	.3533	8.972	.3374	9.878	.3266	10.772	.3155
6.6	8.181	.3832	9.116	.3707	10.044	.3632	10.959	.3555
6.7	8.151	.4133	9.068	.4042	9.970	.4000	10.854	.3956
6.8	8.052	.4431	8.942	.4373	9.814	.4364	10.664	.4351
7.0	7.608	.5009	8.392	.5012	9.146	.5063	9.871	.5108
7.2	6.991	.5547	7.645	.5604	8.257	.5704	8.836	.5797
7.4	6.301	.6037	6.818	.6136	7.288	.6276	7.722	.6406
7.7	5.246	.6674	5.567	.6818	5.833	.6998	6.063	.7163
8.0	4.361	.7203	4.535	.7375	4.654	.7575	4.744	.7757
8.5	3.282	.7902	3.309	.8090	3.291	.8298	3.259	.8484
9.0	2.480	.8429	2.412	.8612	2.306	.8808	2.204	.8981
9.5	1.893	.8828	1.768	.8993	1.610	.9164	1.472	.9313
10.0	1.506	.9139	1.356	.9278	1.183	.9418	1.037	.9541
10.6	1.143	.9431	.980	.9535	.809	.9636	.662	.9726
11.2	.821	.9648	.680	.9717	.543	.9784	.420	.9844
12.0	.452	.9832	.371	.9869	.293	.9904	.224	.9936
13.0	.168	.9940	.130	.9956	.093	.9971	.059	.9985
14.0	.060	.9978	.044	.9984	.028	.9990	.013	.9995
17.0	0	1.0000	0	1.0000	0	1.0000	0	1.0000

(51)

Table 21.10.--(Continued)

T_c = 72 hours

Serial No. :	105		106		107		108	
Q_1/Q_{10} :	0.2		0.3		0.4		0.5	
Time	PSH	PSMC	PSH	PSMC	PSH	PSMC	PSH	PSMC
days	cfs/AQ_{10}	Q/Q_{10}	cfs/AQ_{10}	Q/Q_{10}	cfs/AQ_{10}	Q/Q_{10}	cfs/AQ_{10}	Q/Q_{10}
0	0	0	0	0	0	0	0	0
.6	.039	.0002	.029	.0002	.022	.0001	.017	.0001
1.3	.321	.0042	.241	.0031	.183	.0023	.143	.0018
2.0	.867	.0193	.660	.0146	.508	.0111	.395	.0086
3.0	1.552	.0650	1.230	.0500	.959	.0385	.762	.0302
4.0	2.001	.1311	1.668	.1037	1.349	.0810	1.101	.0644
4.8	2.345	.1953	2.076	.1586	1.777	.1266	1.497	.1021
5.0	2.452	.2130	2.226	.1745	1.950	.1403	1.676	.1137
5.2	2.587	.2317	2.438	.1917	2.226	.1556	2.001	.1272
5.4	2.753	.2514	2.725	.2107	2.620	.1735	2.492	.1437
5.6	2.946	.2725	3.078	.2322	3.123	.1946	3.136	.1643
5.8	3.161	.2951	3.487	.2564	3.721	.2198	3.919	.1903
6.0	3.383	.3193	3.923	.2838	4.372	.2497	4.785	.2224
6.2	3.591	.3451	4.338	.3143	5.000	.2843	5.629	.2608
6.4	3.755	.3723	4.658	.3476	5.477	.3230	6.257	.3047
6.6	3.863	.4006	4.866	.3829	5.782	.3646	6.655	.3524
6.7	3.895	.4149	4.923	.4010	5.862	.3861	6.755	.3771
6.8	3.911	.4294	4.948	.4192	5.894	.4078	6.790	.4021
6.9	3.912	.4438	4.943	.4375	5.879	.4295	6.762	.4271
7.0	3.899	.4583	4.908	.4557	5.819	.4511	6.672	.4518
7.2	3.838	.4869	4.772	.4915	5.601	.4933	6.364	.5000
7.5	3.689	.5288	4.460	.5428	5.121	.5528	5.712	.5669
8.0	3.378	.5942	3.844	.6195	4.210	.6388	4.508	.6610
8.5	3.088	.6540	3.303	.6853	3.454	.7091	3.550	.7347
9.0	2.840	.7088	2.866	.7422	2.874	.7673	2.836	.7934
9.5	2.628	.7593	2.507	.7918	2.418	.8160	2.284	.8404
10.0	2.450	.8062	2.220	.8353	2.064	.8572	1.863	.8783
10.6	2.222	.8583	1.925	.8813	1.719	.8990	1.491	.9153
11.2	1.836	.9037	1.551	.9200	1.337	.9330	1.131	.9444
12.0	1.142	.9478	.954	.9570	.804	.9644	.673	.9708
13.0	.523	.9774	.435	.9816	.365	.9851	.305	.9880
14.0	.229	.9906	.185	.9925	.150	.9941	.119	.9954
15.0	.098	.9963	.078	.9971	.062	.9977	.048	.9983
17.0	0	1.0000	0	1.0000	0	1.0000	0	1.0000

Table 21.10.--(Continued)

T_c = 72 hours

Serial No.	109		110		111		112	
Q_1/Q_{10}	0.6		0.7		0.8		0.9	
Time	PSH	PSMC	PSH	PSMC	PSH	PSMC	PSH	PSMC
days	cfs/AQ_{10}	Q/Q_{10}	cfs/AQ_{10}	Q/Q_{10}	cfs/AQ_{10}	Q/Q_{10}	cfs/AQ_{10}	Q/Q_{10}
0	0	0	0	0	0	0	0	0
.6	.013	.0001	.009	.0000	.005	.0000	.002	.0000
1.3	.108	.0014	.075	.0010	.044	.0006	.021	.0003
2.0	.300	.0065	.210	.0045	.128	.0027	.062	.0013
3.0	.581	.0229	.408	.0160	.266	.0100	.125	.0043
4.0	.856	.0492	.608	.0345	.402	.0222	.194	.0135
4.8	1.202	.0789	.876	.0559	.590	.0364	.299	.0176
5.0	1.378	.0884	1.037	.0629	.755	.0412	.419	.0201
5.2	1.744	.0997	1.437	.0717	1.164	.0476	.577	.0245
5.4	2.324	.1146	2.103	.0847	1.910	.0590	1.701	.0338
5.6	3.106	.1345	3.019	.1034	2.956	.0768	2.874	.0505
5.8	4.072	.1609	4.171	.1298	4.288	.1033	4.388	.0779
6.0	5.156	.1948	5.478	.1653	5.814	.1405	6.136	.115
6.2	6.221	.2368	6.771	.2104	7.334	.1889	7.888	.1673
6.4	7.001	.2856	7.705	.2638	8.413	.2469	9.111	.2299
6.6	7.491	.3391	8.290	.3228	9.085	.3114	9.867	.2999
6.7	7.610	.3669	8.427	.3536	9.237	.3451	10.032	.3365
6.8	7.647	.3950	8.467	.3847	9.275	.3792	10.065	.3734
6.9	7.604	.4231	8.411	.4157	9.200	.4132	9.969	.4102
7.0	7.483	.4508	8.258	.4464	9.010	.4467	9.739	.4465
7.2	7.083	.5046	7.767	.5055	8.420	.5109	9.044	.5157
7.5	6.257	.5724	6.775	.5860	7.251	.5976	7.693	.6082
8.0	4.767	.6797	5.015	.6942	5.213	.7118	5.380	.7278
8.5	3.622	.7563	3.698	.7735	3.728	.7930	3.742	.8104
9.0	2.792	.8151	2.765	.8327	2.699	.8518	2.632	.8686
9.5	2.166	.8606	2.075	.8770	1.950	.8943	1.839	.9095
10.0	1.700	.8958	1.568	.9101	1.411	.9247	1.275	.9376
10.6	1.311	.9290	1.161	.9401	1.001	.9511	.863	.9609
11.2	.962	.9540	.822	.9619	.683	.9695	.559	.9764
12.0	.561	.9762	.470	.9806	.381	.9849	.301	.9887
13.0	.253	.9906	.212	.9927	.172	.9947	.136	.9965
14.0	.092	.9966	.069	.9975	.047	.9984	.027	.9992
15.0	.036	.9987	.026	.9991	.016	.9994	.008	.9997
17.0	0	1.0000	0	1.0000	0	1.0000	0	1.0000

21.48

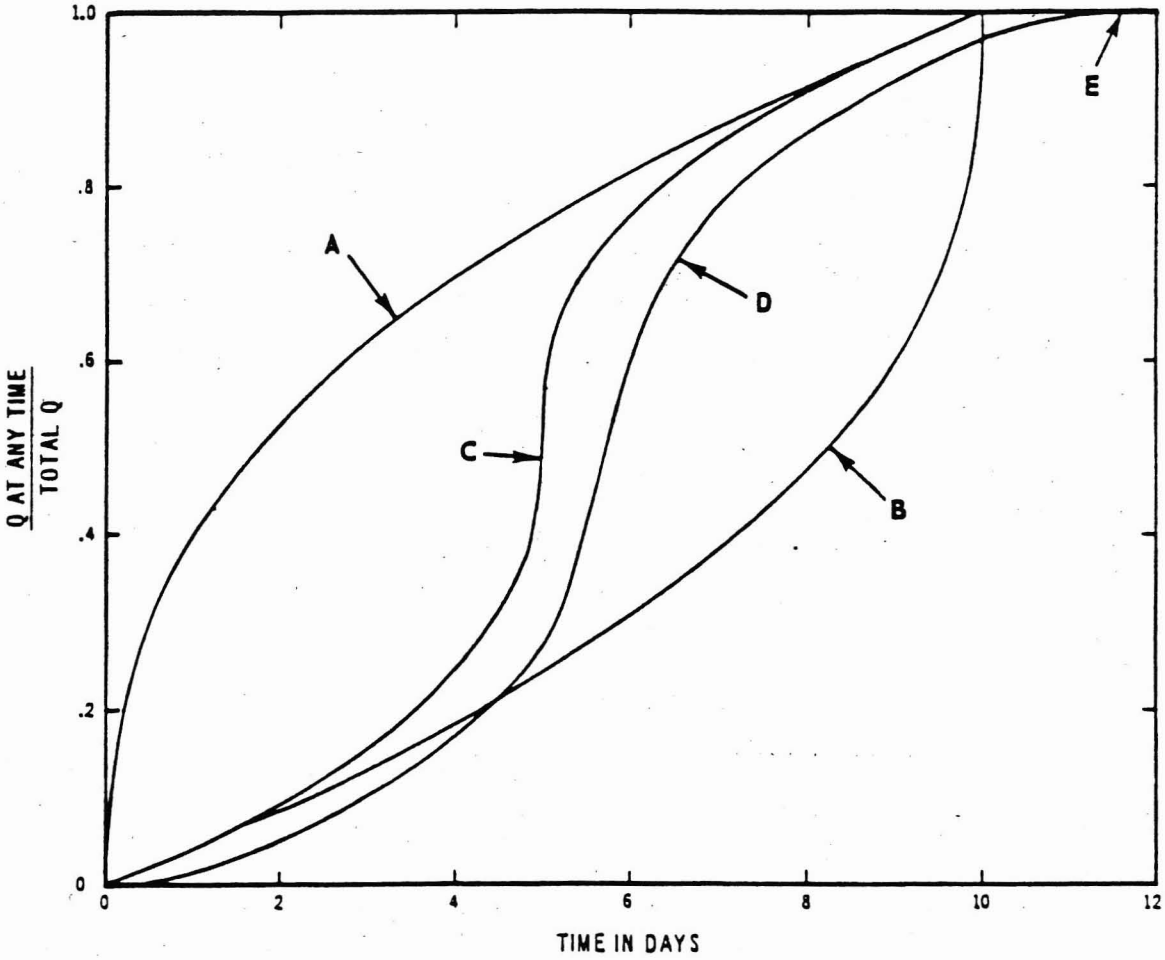


FIGURE 21.1 – Mass curves of runoff in various arrangements.

(54)

CityRating.com
FIND THE BEST PLACES TO LIVE IN THE USA

Weather History

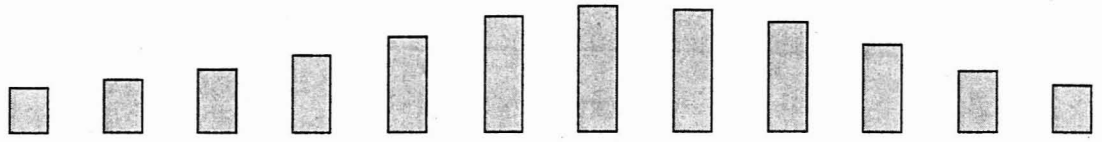
Absolutely the BEST Places to BE!

Phoenix Weather History

Summary

	Temp. (°F)	Relative Humidity (Percentage)		Extreme Temp. (Days Per Month)		Rain (Inches)	Cloudiness (Days Per Month)		
	Average	A.M.	P.M.	Below 32°	Above 90°	Average	Clear	Partly Cloudy	Cloudy
January	53.6	65%	32%	3	0	0.7	14	7	10
February	57.7	60%	27%	1	N/A	0.7	13	7	9
March	62.2	56%	25%	N/A	2	0.9	14	8	8
April	69.9	42%	17%	0	10	0.2	17	7	6
May	78.8	35%	14%	0	23	0.1	21	7	3
June	88.2	30%	12%	0	29	0.1	23	5	2
July	93.5	43%	20%	0	31	0.8	17	10	4
August	91.5	50%	24%	0	31	1.0	18	10	4
September	85.6	48%	23%	0	28	0.9	22	5	3
October	74.5	49%	22%	0	15	0.7	20	6	4
November	61.9	57%	27%	N/A	N/A	0.7	18	6	6
December	54.1	65%	33%	2	0	1.0	15	6	9
Annual	**72.6**	**50%**	**23%**	**5**	**168**	**7.7**	**211**	**85**	**70**

Average Temperature (°F)



Jan.	Feb.	Mar.	Apr.	May.	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.
53.6	57.7	62.2	69.9	78.8	88.2	93.5	91.5	85.6	74.5	61.9	54.1

Relative Humidity (Percentage)

Morning

Jan.	Feb.	Mar.	Apr.	May.	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.
65%	60%	56%	42%	35%	30%	43%	50%	48%	49%	57%	65%

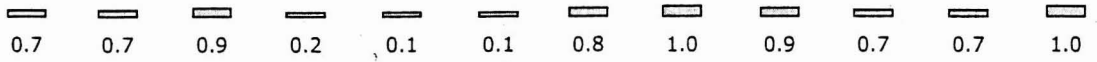
Afternoon

Buy Other R
Get the follo resources and off the l
How's The
Find Your
List Pric
Sale Pric
You Save: $
Buy a from
50 Fabulou
Raise Yo
List Pric
Sale Pric
You Save: $
Buy a from
Places Rat
List Pric
Sale Pric
You Save: $
Buy a from
City Profile
Price: $

(55)

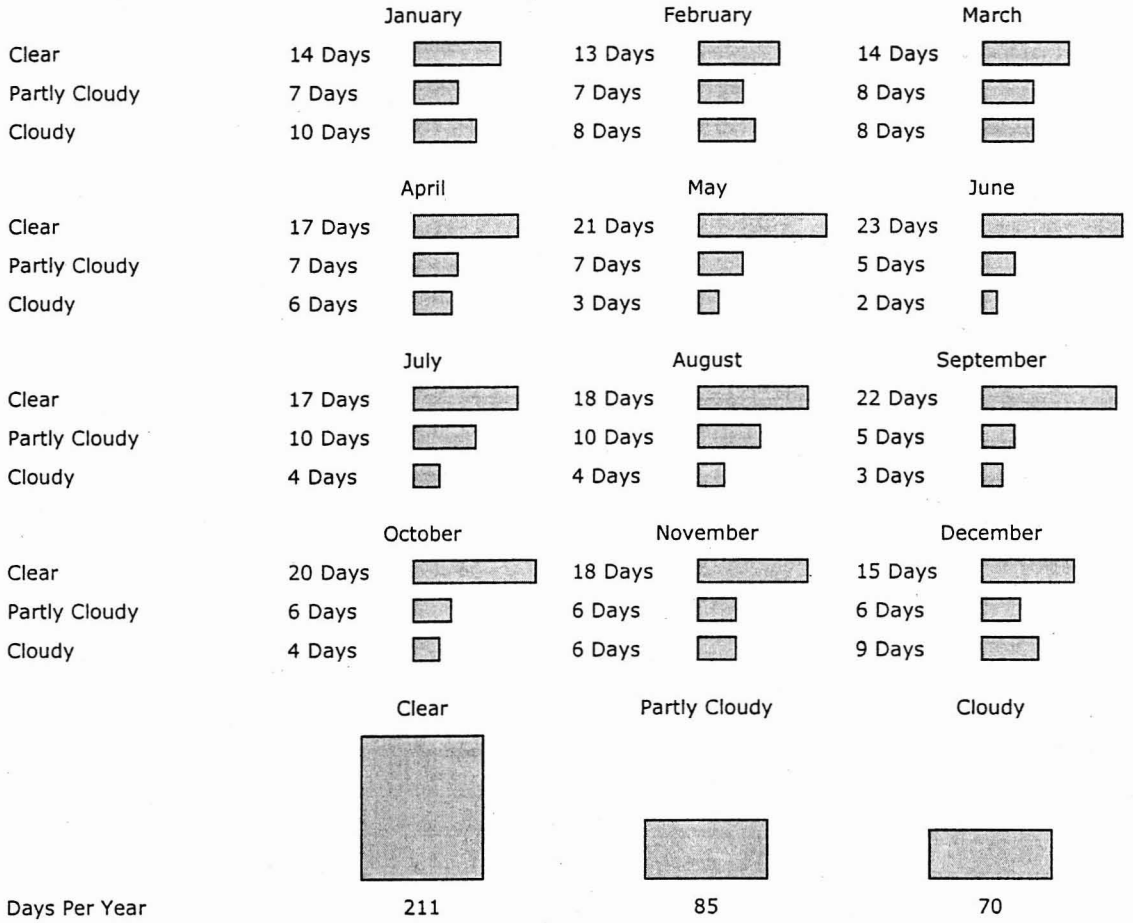
Jan.	Feb.	Mar.	Apr.	May.	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.
32%	27%	25%	17%	14%	12%	20%	24%	23%	22%	27%	33%

Rain (Inches)



Jan.	Feb.	Mar.	Apr.	May.	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.
0.7	0.7	0.9	0.2	0.1	0.1	0.8	1.0	0.9	0.7	0.7	1.0

Cloudiness (Days Per Month)



	January	February	March
Clear	14 Days	13 Days	14 Days
Partly Cloudy	7 Days	7 Days	8 Days
Cloudy	10 Days	8 Days	8 Days

	April	May	June
Clear	17 Days	21 Days	23 Days
Partly Cloudy	7 Days	7 Days	5 Days
Cloudy	6 Days	3 Days	2 Days

	July	August	September
Clear	17 Days	18 Days	22 Days
Partly Cloudy	10 Days	10 Days	5 Days
Cloudy	4 Days	4 Days	3 Days

	October	November	December
Clear	20 Days	18 Days	15 Days
Partly Cloudy	6 Days	6 Days	6 Days
Cloudy	4 Days	6 Days	9 Days

	Clear	Partly Cloudy	Cloudy
Days Per Year	211	85	70

View City Statistics **View Average Temperatures for all Cities** **More Cities**

Questions? Comments?
E-mail: info@cityrating.com

Copyright © 2002 CityRating.com. All rights reserved.
Privacy Statement | Disclaimer | Home

(56)

Table of Average Annual Precipitation and Temperature

AL - AK - AZ - AR - CA - CO - CT - DE - DC - FL - GA - HI - ID - IL - IN - IA - KS - KY - LA - ME - MD - MA - MI - MN - MS - MO - MT - NE - NV - NH - NJ - NM - NY - NC - ND - OH - OK - OR - PA - RI - SC - SD - TN - TX - UT - VT - VA - WA - WV - WI - WY

City	State	Precipitation	Temperature
BIRMINGHAM AP	AL	54.58	61.8
HUNTSVILLE	AL	57.18	60.3
MOBILE	AL	63.96	67.5
MONTGOMERY	AL	53.43	64.9
ANCHORAGE	AK	15.91	35.9
ANNETTE	AK	103.28	45.9
BARROW	AK	4.49	9.4
BETHEL	AK	14.99	29.0
BETTLES	AK	13.74	21.9
BIG DELTA	AK	11.96	27.8
COLD BAY	AK	36.00	38.3
FAIRBANKS	AK	10.87	26.9
GULKANA	AK	10.87	27.1
HOMER	AK	25.39	37.4
JUNEAU	AK	54.31	40.6
KING SALMON	AK	19.82	33.5
KODIAK	AK	67.58	40.8
KOTZEBUE	AK	8.98	21.6
MCGRATH	AK	15.96	25.5
NOME	AK	14.88	26.2
ST. PAUL ISLAND	AK	23.32	34.7
TALKEETNA	AK	29.21	33.1
UNALAKLEET	AK	15.59	27.1
VALDEZ	AK	64.04	37.7
YAKUTAT	AK	151.25	39.0
FLAGSTAFF	AZ	22.80	45.8
PHOENIX	AZ	7.66	72.6
TUCSON	AZ	12.00	68.4
WINSLOW	AZ	8.04	55.0
YUMA	AZ	3.17	74.2
FORT SMITH	AR	40.90	60.6
LITTLE ROCK	AR	50.86	61.8
NORTH LITTLE ROCK	AR	49.25	61.3
BAKERSFIELD	CA	5.72	65.4
BISHOP	CA	5.37	56.0
EUREKA	CA	37.53	52.7
FRESNO	CA	10.60	63.3
LONG BEACH	CA	11.80	64.3
LOS ANGELES C.O.	CA	14.77	66.0
REDDING	CA	33.30	62.0
SACRAMENTO	CA	17.52	60.8

15448-005-058

3.0

(57)

HYDROLOGIC ANALYSIS

OF THE WHITE TANK MOUNTAINS

ON FLOOD RETARDING STRUCTURE #3

Prepared By

Water Resources Planning,
Arizona State Office

NATURAL RESOURCES CONSERVATION SERVICE

UNITED STATES DEPARTMENT OF AGRICULTURE

Revised August, 1998

TABLE I
HYDROLOGIC PARAMETERS
For White Tank FRS #3 Watershed

(58

UBBASIN	DRAINAGE AREA sq. miles	CURVE NUMBER ARC I	CURVE NUMBER ARC II	T_C hours.	Vavg fps	WATERSHED LENGTH miles
1	2.45	73.4	87.2	0.85	8.6	4.97
2	2.34	60.2	78.2	0.73	7.4	3.71
3	3.96	73.4	87.2	0.88	7.8	4.67
4	2.02	57.4	75.5	0.79	7.3	3.94
5	4.76	58.6	76.5	0.78	8.6	4.56
6	1.50	73.3	87.2	0.47	7.7	2.5
7	3.46	61.8	78.9	1.01	5.1	3.48
Composite for Watershed	**20.49**	**64.9**	**81.1**	**1.85**	**8.1**	**10.21**

Average T_c

NOTE: The division between Antecedent Runoff Condition (ARC) I and ARC II is based on the proceeding 5 day precipitation total and the time of year. During the growing season, if the land receives less than 1.4" precipitation in the past 5 days, then the soil is in ARC I, if the land receives more than 1.4" but less than 2.1", then the soil is in ARC II, if the land receives greater than 2.1" precipitation in the previous 5 days then the soil is in ARC III. During the dormant season, the range of precipitation limits are 0.9 inches lower between ARC I and II, and 1.0 inches lower between ARC II and III [Ref. 13].

PHYSIOGRAPHY

White Tank FRS #3 watershed is approximately 20.49 square miles with elevations ranging from 1210 to 4083 feet above sea level. Mean annual precipitation is approximately 10 inches and mean annual lake evaporation is 72 inches [Ref. 14]. Above 1600 feet, the land is steep and the soils are predominately Quilotosa - Vaiva Rock Outcrop complex - D Hydrologic Soil Group (HSG) with 20 percent rock outcrop or Cherioni-Rock Outcrop - D HSG with 15 percent rock outcrop. From 1200 feet up to 1600 feet AMSL, on the alluvial fans, stream terraces, and floodplains, Ebon-Pinamt, Pinamt-Tremant, and Gilman associations are predominate. These are gravelly loam to gravelly sandy loam soils, B HSG. The channel bottoms are predominately Carrizo series - sands and gravels and are A HSG [Ref. 4&5]. Vegetation throughout is desert shrubs - Creosote Bush, Blackbrush, Bursage, Palo Verde, Mesquite, and various cactus [Ref. 15]. The cover density is poor, estimated to be 20 percent for curve number computations. Cover density may have been under-estimated as indicated by the calibration results discussed in Section 3.5.

TABLE 1

Derivation of 100-Year 10-day Principal Spillway Runoff Hyetograph

(Based On Updated Curve Numbers For Anticipated Future Urban Growth)

Q_{10} 1.64 inches

Days	Hours	Principal Spillway Mass Curve (Q/Q_{10} [1,2])	Principal Spillway Runoff Hyetograph
0	**0**	**0**	0.0000
0.1	2.4	0.0006	0.0010
0.2	4.8	0.00215	0.0035
0.3	7.2	0.0037	0.0061
0.4	9.6	0.00525	0.0086
0.5	**12**	**0.0068**	0.0112
0.6	14.4	0.00872	0.0143
0.7	16.8	0.01064	0.0174
0.8	19.2	0.01256	0.0206
0.9	21.6	0.01448	0.0237
1	**24**	**0.0164**	0.0269
1.1	26.4	0.01849	0.0303
1.2	28.8	0.02058	0.0338
1.3	31.2	0.02267	0.0372
1.4	33.6	0.02476	0.0406
1.5	36	0.02685	0.0440
1.6	38.4	0.02894	0.0475
1.7	40.8	0.03103	0.0509
1.8	43.2	0.03312	0.0543
1.9	45.6	0.03521	0.0577
2	**48**	**0.0373**	0.0612
2.1	50.4	0.04011	0.0658
2.2	52.8	0.04292	0.0704
2.3	55.2	0.04573	0.0750
2.4	57.6	0.04854	0.0796
2.5	60	0.05135	0.0842
2.6	62.4	0.05416	0.0888
2.7	64.8	0.05697	0.0934
2.8	67.2	0.05978	0.0980
2.9	69.6	0.06259	0.1026
3	**72**	**0.0654**	0.1073
3.1	74.4	0.0692	0.1135
3.2	76.8	0.073	0.1197
3.3	79.2	0.0768	0.1260
3.4	81.6	0.0806	0.1322
3.5	**84**	**0.0844**	0.1384
3.6	86.4	0.08942	0.1466
3.7	88.8	0.09444	0.1549
3.8	91.2	0.09946	0.1631
3.9	93.6	0.10448	0.1713
4	**96**	**0.1095**	0.1796

TABLE 1

Derivation of 100-Year 10-day Principal Spillway Runoff Hyetograph

(Based On Updated Curve Numbers For Anticipated Future Urban Growth)

Q_{10} 1.64 inches

Days	Hours	Principal Spillway Mass Curve (Q/Q_{10} [1,2])	Principal Spillway Runoff Hyetograph
4.1	98.4	0.11452	0.1878
4.2	**100.8**	**0.1222**	0.2004
4.3	103.2	0.1311	0.2150
4.4	**105.6**	**0.14**	0.2296
4.5	108	0.15105	0.2477
4.6	**110.4**	**0.1621**	0.2658
4.7	**112.8**	**0.1757**	0.2881
4.8	**115.2**	**0.1932**	0.3168
4.9	**117.6**	**0.2195**	0.3600
5	**120**	**0.4323**	0.7090
5.1	**122.4**	**0.6945**	1.1390
5.2	**124.8**	**0.7836**	1.2851
5.3	**127.2**	**0.8183**	1.3420
5.4	**129.6**	**0.8372**	1.3730
5.5	**132**	**0.8508**	1.3953
5.6	**134.4**	**0.8614**	1.4127
5.7	136.8	0.8692	1.4255
5.8	**139.2**	**0.877**	1.4383
5.9	141.6	0.88335	1.4487
6	**144**	**0.8897**	1.4591
6.1	146.4	0.8948	1.4675
6.2	148.8	0.8999	1.4758
6.3	151.2	0.905	1.4842
6.4	153.6	0.9101	1.4926
6.5	**156**	**0.9152**	1.5009
6.6	158.4	0.91904	1.5072
6.7	160.8	0.92288	1.5135
6.8	163.2	0.92672	1.5198
6.9	165.6	0.93056	1.5261
7	**168**	**0.9344**	1.5324
7.1	170.4	0.93722	1.5370
7.2	172.8	0.94004	1.5417
7.3	175.2	0.94286	1.5463
7.4	177.6	0.94568	1.5509
7.5	180	0.9485	1.5555
7.6	182.4	0.95132	1.5602
7.7	184.8	0.95414	1.5648
7.8	187.2	0.95696	1.5694
7.9	189.6	0.95978	1.5740
8	**192**	**0.9626**	1.5787
8.1	194.4	0.96474	1.5822

TABLE 1

Derivation of 100-Year 10-day Principal Spillway Runoff Hyetograph

(Based On Updated Curve Numbers For Anticipated Future Urban Growth)

Q_{10} 1.64 inches

Days	Hours	Principal Spillway Mass Curve (Q/Q_{10} [1,2])	Principal Spillway Runoff Hyetograph
8.2	196.8	0.96688	1.5857
8.3	199.2	0.96902	1.5892
8.4	201.6	0.97116	1.5927
8.5	204	0.9733	1.5962
8.6	206.4	0.97544	1.5997
8.7	208.8	0.97758	1.6032
8.8	211.2	0.97972	1.6067
8.9	213.6	0.98186	1.6103
9	**216**	**0.984**	1.6138
9.1	218.4	0.98549	1.6162
9.2	220.8	0.98698	1.6186
9.3	223.2	0.98847	1.6211
9.4	225.6	0.98996	1.6235
9.5	228	0.99145	1.6260
9.6	230.4	0.99294	1.6284
9.7	232.8	0.99443	1.6309
9.8	235.2	0.99592	1.6333
9.9	237.6	0.99741	1.6358
10	**240**	**0.9989**	1.6382
10.1	**242.4**	**1**	1.6400
10.2	**244.8**	**1**	1.6400

Notes:

1) All the bold values for Q/Q_{10} in Column 3 were taken from Table 21.10 of NEH-4 ($Q_1/Q_{10} = 0.7$ & $T_c = 1.5$ hours).
2) The rest of Q/Q_{10} values in Column 3 were estimated based on linear interpolation between the bold values as suggested on Page 21.10 of Chapter 21 of NEH-4.

	A	B	C	D	E	F	G	H
1	TABLE 2							
2	ESTIMATION OF CURVE NUMBERS (CN) FOR WHITE TANK MOUNTAIN FRS NO. 3 WATERSHED							
3								
4	Basin No.	Land Ownership Category	Urban Growth Status (Year 2030)	Drainage Area	Area Per Home	NRCS Curve Numbers (Existing)	URS Curve Numbers (Future)	Average Curve Numbers (Future)
5				(Sq. Miles)	(Acres)	(CN)	(CN)	(CN)
6	1	Regional Park Area	Undevelopable Area (Mountains)	2.460	-	87.2	87.2	87.20
7	2A	Regional Park Area	Undevelopable Area (Mountains)	1.020	-	78.2	87.2	79.93
8	2B	Regional Park Area	Undevelopable Area (Alluvial Fans)*1	0.070	-		71.45	
9	2C	State Trust Land	Developable Area (Alluvial Fans-Low Density Population)	1.291	2		74.6	
10	3	Regional Park Area+ Private Land + State Trust Land	Undevelopable Area (Mountains)	3.940	-	87.2	87.2	87.20
11	4A	Regional Park Area	Undevelopable Area (Mountains)	0.430	-	75.5	87.2	77.27
12	4B	Regional Park Area	Undevelopable Area (Alluvial Fans)*1	0.440	-		72.41	
13	4C	State Trust Land+Private Land	Developable Area (Alluvial Fans-Low Density Population)	1.190	2		75.5	
14	5A	Regional Park Area	Undevelopable Area (Mountains)	1.000	-	76.5	87.2	78.83
15	5B	Regional Park Area	Undevelopable Area (Alluvial Fans)*1	0.879	-		73.67	
16	5C	State Trust Land+Private Land	Developable Area (Alluvial Fans-Low Density Population)	0.978	2		76.6	
17	5D	State Trust Land	Developable Area (Alluvial Fans-High Density Population)	1.700	1		78.5	
18	5E	FCDMC Area	Undevelopable Area (Alluvial Fans)*1	0.222	-		73.67	
19	6A	State Trust Land	Developable Area (Alluvial Fans-High Density Population)	0.310	1	87.2	89.4	87.66
20	6B	Regional Park Area+ Private Land + State Trust Land	Undevelopable Area (Mountains)	1.160	-		87.2	
21	7A	State Trust Land+Private Land	Undevelopable Area (Mountains)	1.098	-	78.9	87.2	81.67
22	7B	FCDMC Area	Undevelopable Area (Alluvial Fans)*1	0.278	-		75.07	
23	7C	State Trust Land+Private Land	Developable Area (Alluvial Fans-High Density Population)	2.104	1		79.7	
24							Avg CN:	82.5
25	* 1= Even though these areas are located on alluvial fans but they are considered to be undevelopable because they fall outside the developable jurisdiction limits.							

(1)

URS

CALCULATION PACKAGE NO. 11

EXHIBIT 4.7-2

CALCULATION COVER SHEET

Client: Flood Control District of Maricopa County (FCDMC)

Project Name: White Tank FRS No. 3 Design

Project/Calculation Number: 23443748

Title:

REVISION 1- RESERVOIR ROUTING OF TWO 100-YEAR 10-DAY BACK-BACK STORMS

Total Number of Pages (including cover sheet): _____

Total Number of Computer Runs: 1

Prepared by: Hammad Hussain

Date: 06/02/04

Checked by: Jeff Irwin

Date: 7/4/04

Description and Purpose:

See Page 2

Design Basis /Assumptions

See Page 2

(Please note that the back-to-back reservoir routing of two 100-year 10-day storms is based on a 100-year 10-day storm, which has been updated to account for urbanization effects in near future. All the calculations related to the update of 100-year 10-day storm are provided in a separate calculation package.)

Remarks/Conclusions/Results: Assuming infiltration rate is per earlier calc, this is OK.

Need to number pages

See Page 3.

Calculation Approved by: Jeff 7/4/04

Project Manager/Date

Revision No.:	Description of Revision:	Approved by:

Project Manager/Date

RESERVOIR ROUTING OF TWO 100-YEAR 10-DAY BACK-BACK STORMS

(WHITE TANK FLOOD RETARDING STRUCTURE (FRS) NO. 3)
FLOOD CONTROL DISTRICT OF MARICOPA COUNTY (FCDMC)
23443748

PROBLEM STATEMENT

The aim of this calculation package is to perform the reservoir routing of two 100-year 10-day back-back storms based on 100-year sediment pool level of 500 ac-ft and to determine the peak outflow and the corresponding water surface elevation at the end of second 100-year 10-day storm.

DESIGN BASIS/ASSUMPTIONS/REFERENCES

The starting routing elevation or antecedent reservoir condition (ARC) to be able to route the second 100-year 10-day storm was obtained as follows:

Step1: First, route the 100-year 10-day storm with ARC set at 100-year sediment pool level at an elevation of 1199.2 ft (NAVD 88) and determinate the water surface elevation associated with the pool elevation after 10 days of drawdown;

Step 2: Second, the water surface elevation at the end of 10th day determined in step 1 was used as ARC to route the second 100-year 10-day storm.

Based on the above criteria, first, the 100-year 10-day storm was routed through the White Tank Reservoir starting at 100-year sediment pool level (1199.2 ft) using the TR-20 model. The 100-year sediment pool level was based on 500 ac-ft of sediment storage. The infiltration rates were also estimated based on 500 ac-ft of sediment storage. The calculations related to the estimation of infiltration rates for a full sediment pool (referred as Future condition) are provided in a separate calculation package. It should be noted that the 100-year 10-day storm used for the routing purposes was updated in anticipation of the future urban growth based on a procedure described in National Engineering Handbook (NEH-4). The procedure and detailed calculations involved in updating the 100-year 10-day storm are provided in a separate calculation package. The reservoir routing of the first 100-year 10-day storm resulted in the reservoir elevation of 1206.92 ft at the end of 10th day.

The second 100-year 10-day storm was routed starting at 1206.92 ft using TR-20 model.

RESULTS

The reservoir routing results indicated that the Whit Tank FRS No.3 reservoir could hold two 100-year 10-day back-to-back storms below spillway. Reservoir routing results i.e. peak inflow, peak outflow, inflow volume and maximum reservoir stage resulting from the reservoir routing of two 100-year 10-day back-back storms are provided in Table 1 (See Page 4). The input file and the detailed output results of TR-20 modeling of 100-year 10-day storms are attached with this calculation package.

(It should be noted that the peak out flow tabulated in Table 1 on Page 4 reflects the infiltration amount only.)

TABLE 1

RESERVOIR ROUTING RESULTS OF TWO BACK TO BACK 100-YEAR 10-DAY STORMS

Storm Duration	Inflow to White Tanks FRS No. 3				Outflow From White Tanks FRS No. 3	
	Precipitation	Peak Inflow	Inflow Volume	Antecedent Reservoir Condition (ARC)	Peak Outflow[1]	Maximum Reservoir Elevation (NAVD 88)
	(inches)	(cfs)	(acre-ft)	(ft)	(cfs)	(ft)
Results of Ist 100-Year 10-Day Storm	Based on updated runoff hyetograph (Calculation Package 10)	2180	1828	1199.2	48	1207.6
Results At End of Second 100-Year 10-Day Storm	Based on updated runoff hyetograph (Calculation Package 10)	2180	1828	1206.92 [2]	67.5	1210.8

Notes:

1) It should be noted that given the maximum reservoir elevation is less than the spillway crest level (1212 ft), the peak out flow reflects the infiltration amount.

2) The ARC for the second 100-yr 10-day storm was based on the reservoir elevation of the first 100-year 10-day strom after 10-days.

Reservoir Routing of First 100-yr 10-day storm

```
*****************80-80 LIST OF INPUT DATA FOR TR-20 HYDROLOGY*****************

JOB TR-20 WHTANK3                        PASS=001  SUMMARY
TITLE     WHITE TANK FRS #3, WATERSHED DIVIDED INTO 7 SUB-BASINS
TITLE     100-YR 10-DAY RUNOFF & DIST IN TABLE 1, 100-YR SED IN RESVOIR
 5 RAINFL 1     1       2.4                                          10-DAY
 8          .0000       .0010       .0035       .0061       .0086
 8          .0112       .0143       .0174       .0206       .0237
 8          .0269       .0303       .0338       .0372       .0406
 8          .0440       .0475       .0509       .0543       .0577
 8          .0612       .0658       .0704       .0750       .0796
 8          .0842       .0888       .0934       .0980       .1026
 8          .1073       .1135       .1197       .1260       .1322
 8          .1384       .1466       .1549       .1631       .1713
 8          .1796       .1878       .2004       .2150       .2296
 8          .2477       .2658       .2881       .3168       .3600
 8          .7090       1.139       1.285       1.342       1.373
 8          1.395       1.412       1.425       1.438       1.448
 8          1.459       1.467       1.475       1.484       1.492
 8          1.500       1.507       1.513       1.519       1.526
 8          1.532       1.537       1.541       1.546       1.550
 8          1.555       1.560       1.564       1.569       1.574
 8          1.578       1.582       1.585       1.589       1.592
 8          1.596       1.599       1.603       1.606       1.610
 8          1.613       1.616       1.618       1.621       1.623
 8          1.626       1.628       1.630       1.633       1.635
 8          1.638        1.64        1.64        1.64        1.64
 9 ENDTBL
 4 DIMHYD               .0556                                          WT3
 8          0.0         .03         .10         .19         .31
 8          .47         .66         .82         .93         .99
 8          1.0         .99         .93         .82         .66
 8          .47         .31         .03         .00         .00
 9 ENDTBL
 2 XSECTN   005         1.0         8.77                               BOSSCS#5
 8                      0.          0.0         0.0
 8                      0.35        5.          5.56
 8                      1.03        50.         30.95
 8                      1.39        100.        52.16
 8                      1.94        200.        88.72
 8                      2.63        400.        148.61
 8                      3.51        800.        260.63
 8                      4.62        1600.       459.66
 8                      6.04        3200.       929.36
 8                      7.38        6400.       1811.51
 8                      8.77        12800.      3374.20
 8                      10.17       25600.      6398.87
 8                      11.89       51200.      10982.51
 9 ENDTBL
 2 XSECTN   010         1.0         10.41                              BOSSCS#4
 8                      0.          0.0         0.0
 8                      0.86        5.          4.39
 8                      2.01        50.         24.22
 8                      2.58        100.        40.12
 8                      3.46        200.        80.99
 8                      4.14        400.        129.44
 8                      5.16        800.        214.74
 8                      6.39        1600.       441.84
```

1) The 100-yr 10-day storm was routed with the ARC set at 100-yr sediment pool level, 1199.2 ft, and the WSE was determined after 10 days of drawdown

2) WSE determined at the end of 10th day in step 1 was then used as ARC for routing of second 100-yr 10-day storm.

```
8                       7.80        3200.       980.75
8                       9.16        6400.       1891.44
8                       10.41       12800.      3516.14
8                       11.75       25600.      6548.98
8                       13.26       51200.      11081.19
9 ENDTBL
2 XSECTN    020         1.0         7.3                                 REACHC
8                       0.          0.0         0.0
8                       1.01        100.        57.78
8                       1.49        200.        86.81
8                       1.88        300.        110.25
8                       2.49        500.        149.47
8                       3.68        1000.       226.31
8                       5.40        2000.       346.26
8                       7.85        4000.       533.39
8                       9.64        6000.       688.07
8                       11.16       8000.       838.10
8                       12.46       10000.      985.31
8                       13.61       12000.      1122.03
8                       14.56       14000.      1236.94
8                       15.43       16000.      1345.18
8                       16.31       18000.      1456.68
9 ENDTBL
2 XSECTN    025         1.0         7.3                                 REACHB
8                       0.          0.0         0.0
8                       0.63        100.        80.89
8                       0.93        200.        120.32
8                       1.17        300.        151.77
8                       1.56        500.        203.28
8                       2.30        1000.       302.00
8                       3.38        2000.       449.24
8                       4.97        4000.       673.73
8                       6.23        6000.       855.96
8                       7.31        8000.       1016.35
8                       8.24        10000.      1158.51
8                       9.09        12000.      1293.31
8                       9.90        14000.      1425.57
8                       10.64       16000.      1549.17
8                       11.36       18000.      1673.11
9 ENDTBL
2 XSECTN    030         1.0         9.45                                BOSSCS#6
8                       0.          0.0         0.0
8                       0.77        5.          4.67
8                       1.54        50.         32.06
8                       1.78        100.        56.64
8                       2.10        200.        100.59
8                       2.50        400.        179.97
8                       3.01        800.        320.25
8                       3.63        1600.       589.66
8                       4.35        3200.       1110.72
8                       5.21        6400.       2084.48
8                       6.03        12800.      4119.83
8                       6.99        25600.      6856.75
8                       8.28        51200.      11085.87
9 ENDTBL
2 XSECTN    045         1.0         4.87                                REACHA
```

```
8                       0.          0.0         0.0
8                       0.60        100.        85.69
8                       0.90        200.        127.94
8                       1.13        300.        161.93
8                       1.52        500.        217.27
8                       2.25        1000.       324.03
8                       3.31        2000.       483.02
8                       4.87        4000.       722.17
8                       6.09        6000.       914.99
8                       7.15        8000.       1084.61
8                       8.05        10000.      1234.17
8                       8.87        12000.      1373.80
8                       9.64        14000.      1507.84
8                       10.34       16000.      1633.45
8                       11.00       18000.      1753.12
9 ENDTBL
2 XSECTN    060         1.0         4.7                                 2CP6CP7
8                       0.          0.0         0.0
8                       2.36        100.        45.12
8                       2.88        200.        83.75
8                       3.18        300.        114.33
8                       3.64        500.        172.72
8                       4.42        1000.       289.04
8                       5.40        2000.       470.72
8                       6.87        4000.       782.74
8                       7.91        6000.       1020.12
8                       8.79        8000.       1231.25
8                       9.60        10000.      1435.05
8                       10.26       12000.      1618.34
8                       10.94       14000.      1812.58
8                       11.47       16000.      1983.46
8                       11.96       18000.      2150.12
9 ENDTBL
2 XSECTN    067         1.0         8.77                                BOSSCS#5
8                       0.          0.0         0.0
8                       0.35        5.          5.56
8                       1.03        50.         30.95
8                       1.39        100.        52.16
8                       1.94        200.        88.72
8                       2.63        400.        148.61
8                       3.51        800.        260.63
8                       4.62        1600.       459.66
8                       6.04        3200.       929.36
8                       7.38        6400.       1811.51
8                       8.77        12800.      3374.20
8                       10.17       25600.      6398.87
8                       11.89       51200.      10982.51
9 ENDTBL
3 STRUCT      01                                                        95/11/6
8                       1178.0      0.0         0.
8                       1188.0      0.02        44.8
8                       1196.8      0.13        300.
8                       1199.2      0.21        500.
8                       1202.0      16.00       845.55
8                       1204.0      28.000      1176.28
8                       1206.0      39.00       1575.25
```

```
**********************80-80 LIST OF INPUT DATA (CONTINUED)**********************

 8                        1208.0      50.00       2044.97
 8                        1210.0      63.00       2593.40
 8                        1212.0      73.000      3218.00
 8                        1213.0      2672.00     3556.67
 8                        1214.0      8218.00     3916.02
 8                        1215.0      15533.0     4294.13
 8                        1216.0      24261.0     4692.68
 8                        1217.0      34202.0     5113.19
 8                        1218.0      45221.0     5556.01
 8                        1219.0      57222.0     6021.50
 8                        1220.0      70131.0     6509.75
 9 ENDTBL
 6 RUNOFF 1 001       1 2.46        87.2        0.85        1 1
 6 REACH  3 005   1   7 9100.                               1           BOSS#6
 6 REACH  3 010   7   2 9100.                               1           BOSS#4
 6 RUNOFF 1 002       3 2.38        79.9        0.73        1 1
 6 ADDHYD 4 012   2 3 1                                     1 1
 6 DIVERT 6 012   1 4 7 4100.       1.00        200.        1 1         OLIVE
 6 REACH  3 020   4   7 3332.                               1           REACH C
 6 REACH  3 025   7   5 1950.                               1           REACH B
 6 RUNOFF 1 003       6 3.94        87.2        0.88        1 1
 6 REACH  3 030   6   7 8865.                               1           BOSS#6
 6 REACH  3 005   7   1 8865.                               1           BOSS#5
 6 REACH  3 025   1   7 1950.                               1           REACH B
 6 RUNOFF 1 004       1 2.06        77.3        0.79        1 1
 6 ADDHYD 4 034   7 1 2                                     1 1
 6 ADDHYD 4 035   5 2 3                                     1 1
 6 DIVERT 6 035   3 4 7 11000.      1.00        199.        1 1         NORTHERN
 6 REACH  3 045   4   5 4200.                               1           REACH A
 6 RUNOFF 1 006       2 1.47        87.7        0.47        1 1
 6 REACH  3 060   2   3 7540.                               1           CP6CP7
 6 REACH  3 067   3   4 5140.                               1           BOSS#5
 6 ADDHYD 4 064   5 4 3                                     1 1
 6 RUNOFF 1 005       6 4.78        78.8        0.78        1 1
 6 RUNOFF 1 007       7 3.48        81.7        1.01        1 1
 6 ADDHYD 4 075   6 7 1                                     1 1
 6 ADDHYD 4 076   1 3 2                                     1 1     1
 6 RESVOR 2    01 2   1 1199.2                               1 1     1
ENDATA
 7 LIST                   1.0                     1.
 7 INCREM 6               1.05
 7 COMPUT 7 001      01 0.          1.0         1.0         1 2  01  01
   ENDCMP 1
 7 COMPUT 7 001      01 0.          1.0         1.0         1 2  02  01
   ENDCMP 1
   ENDJOB 2

*******************************END OF 80-80 LIST******************************
```

RUNOFF OPTION USED WITH RAINTABLE NO. 1, RUNOFF CURVE NO. = 100.

COMPUTED DIMHYD PEAK RATE FACTOR = 664.607

```
EXECUTIVE CONTROL  LIST          1.          0.          1.

          LISTING OF CURRENT DATA


                      COMPUTED TIME INCREMENT
DIMHYD                          .0556

                   .0000       .0300       .1000       .1900       .3100
                   .4700       .6600       .8200       .9300       .9900
                  1.0000       .9900       .9300       .8200       .6600
                   .4700       .3100       .0300       .0000       .0000
ENDTBL

   COMPUTED PEAK RATE FACTOR =  664.607
```

	TABLE NO.	TIME INCREMENT				
RAINFL	1	2.4000				
		.0000	.0010	.0035	.0061	.0086
		.0112	.0143	.0174	.0206	.0237
		.0269	.0303	.0338	.0372	.0406
		.0440	.0475	.0509	.0543	.0577
		.0612	.0658	.0704	.0750	.0796
		.0842	.0888	.0934	.0980	.1026
		.1073	.1135	.1197	.1260	.1322
		.1384	.1466	.1549	.1631	.1713
		.1796	.1878	.2004	.2150	.2296
		.2477	.2658	.2881	.3168	.3600
		.7090	1.1390	1.2850	1.3420	1.3730
		1.3950	1.4120	1.4250	1.4380	1.4480
		1.4590	1.4670	1.4750	1.4840	1.4920
		1.5000	1.5070	1.5130	1.5190	1.5260
		1.5320	1.5370	1.5410	1.5460	1.5500
		1.5550	1.5600	1.5640	1.5690	1.5740
		1.5780	1.5820	1.5850	1.5890	1.5920
		1.5960	1.5990	1.6030	1.6060	1.6100
		1.6130	1.6160	1.6180	1.6210	1.6230
		1.6260	1.6280	1.6300	1.6330	1.6350
		1.6380	1.6400	1.6400	1.6400	1.6400

ENDTBL

STANDARD CONTROL INSTRUCTIONS

RUNOFF	1			1	2.4600	87.2000	.85001	1	0	0	0	1
REACH	5	1		7	9100.0000	.0000	.00001	0	0	0	0	1
REACH	10	7		2	9100.0000	.0000	.00001	0	0	0	0	1
RUNOFF	2			3	2.3800	79.9000	.73001	1	0	0	0	1
ADDHYD	12	2	3	1			1	1	0	0	0	1
DIVERT	12	1	4	7	4100.0000	1.0000	200.00001	1	0	0	0	1
REACH	20	4		7	3332.0000	.0000	.00001	0	0	0	0	1
REACH	25	7		5	1950.0000	.0000	.00001	0	0	0	0	1
RUNOFF	3			6	3.9400	87.2000	.88001	1	0	0	0	1
REACH	30	6		7	8865.0000	.0000	.00001	0	0	0	0	1
REACH	5	7		1	8865.0000	.0000	.00001	0	0	0	0	1
REACH	25	1		7	1950.0000	.0000	.00001	0	0	0	0	1
RUNOFF	4			1	2.0600	77.3000	.79001	1	0	0	0	1
ADDHYD	34	7	1	2			1	1	0	0	0	1
ADDHYD	35	5	2	3			1	1	0	0	0	1
DIVERT	35	3	4	7	11000.0000	1.0000	199.00001	1	0	0	0	1
REACH	45	4		5	4200.0000	.0000	.00001	0	0	0	0	1
RUNOFF	6			2	1.4700	87.7000	.47001	1	0	0	0	1
REACH	60	2		3	7540.0000	.0000	.00001	0	0	0	0	1
REACH	67	3		4	5140.0000	.0000	.00001	0	0	0	0	1
ADDHYD	64	5	4	3			1	1	0	0	0	1
RUNOFF	5			6	4.7800	78.8000	.78001	1	0	0	0	1
RUNOFF	7			7	3.4800	81.7000	1.01001	1	0	0	0	1
ADDHYD	75	6	7	1			1	1	0	0	0	1
ADDHYD	76	1	3	2			1	1	0	0	1	1
RESVOR	1	2		1	1199.2000		1	1	0	0	1	1
ENDATA												

END OF LISTING

EXECUTIVE CONTROL INCREM MAIN TIME INCREMENT = 1.050 HOURS

EXECUTIVE CONTROL COMPUT FROM XSECTION 1 TO STRUCTURE 1
STARTING TIME = .00 RAIN DEPTH = 1.00 RAIN DURATION = 1.00
ANT. RUNOFF COND. = 2 MAIN TIME INCREMENT = 1.050 HOURS
ALTERNATE NO. = 1 STORM NO. = 1 RAIN TABLE NO. = 1

OPERATION RUNOFF XSECTION 1

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
121.40	290.4	(RUNOFF)
138.08	8.7	(RUNOFF)
143.29	7.3	(RUNOFF)
150.61	6.0	(RUNOFF)
164.99	4.6	(RUNOFF)
174.63	3.3	(RUNOFF)
179.55	3.3 *	(RUNOFF)
187.64	3.3	(RUNOFF)
192.22	2.6	(RUNOFF)
208.25	2.7	(RUNOFF)

* FIRST POINT OF FLAT PEAK

HYDROGRAPH POINTS FOR ALTERNATE = 1, STORM = 1
MAIN TIME INCREMENT = 1.050 hr, DRAINAGE AREA = 2.46 SQ.MI.

HRS									
.00	CFS	.00	.66	.66	1.45	1.65	1.68	1.72	1.71
8.40	CFS	1.65	1.65	1.71	1.72	1.92	2.05	2.05	2.05
16.80	CFS	2.05	2.11	2.11	2.06	2.05	2.08	2.11	2.13
25.20	CFS	2.25	2.25	2.31	2.31	2.27	2.25	2.25	2.25
33.60	CFS	2.25	2.25	2.25	2.30	2.31	2.29	2.25	2.25
42.00	CFS	2.25	2.25	2.25	2.25	2.29	2.31	2.48	3.04
50.40	CFS	3.04	3.04	3.04	3.04	3.04	3.04	3.04	3.04
58.80	CFS	3.04	3.04	3.04	3.04	3.04	3.04	3.04	3.04
67.20	CFS	3.04	3.04	3.04	3.09	3.11	3.51	4.10	4.10
75.60	CFS	4.10	4.10	4.16	4.16	4.12	4.10	4.10	4.10
84.00	CFS	4.11	5.40	5.42	5.47	5.48	5.46	5.42	5.42
92.40	CFS	5.42	5.42	5.48	5.48	5.44	5.42	6.18	8.33
100.80	CFS	8.41	9.58	9.65	9.65	9.65	10.62	11.96	11.96
109.20	CFS	11.96	12.01	14.43	14.74	17.28	18.96	21.33	28.55
117.60	CFS	33.56	229.35	230.66	273.71	284.13	207.45	96.47	89.78
126.00	CFS	38.02	37.66	22.09	20.48	16.69	14.54	13.75	11.23
134.40	CFS	11.10	8.71	8.59	8.59	8.59	7.72	6.61	6.68
142.80	CFS	7.27	7.25	5.50	5.29	5.29	5.29	5.46	5.95
151.20	CFS	5.91	5.31	5.29	5.29	5.29	5.02	4.63	4.55
159.60	CFS	3.96	3.96	3.96	3.96	4.38	4.63	4.48	3.96
168.00	CFS	3.95	3.32	3.30	2.79	2.64	2.93	3.30	3.22
176.40	CFS	2.65	2.64	3.25	3.30	3.30	3.30	3.13	2.64

184.80 CFS	2.68	3.27	3.30	3.30	3.30	3.03	2.64	2.64
193.20 CFS	2.64	2.63	2.05	1.98	2.38	2.64	2.49	1.98
201.60 CFS	1.99	2.64	2.64	2.11	1.98	2.26	2.64	2.56
210.00 CFS	1.99	1.98	2.58	2.64	2.22	1.98	1.98	1.98
218.40 CFS	1.95	1.35	1.32	1.83	1.98	1.70	1.32	1.39
226.80 CFS	1.98	1.97	1.39	1.32	1.32	1.32	1.49	1.98
235.20 CFS	1.95	1.34	1.32	1.85	1.98	1.72	1.32	1.17
243.60 CFS	.00							

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
1.68 WATERSHED INCHES; 2671 CFS-HRS; 220.7 ACRE-FEET.

*** WARNING - MAIN TIME INCREMENT (1.050) IS GREATER THAN 50% OF THE
TIME OF CONCENTRATION (.85) FOR SUBWATERSHED XSECTION 1.
THIS WILL REDUCE THE COMPUTED PEAK BY ABOUT -2.1%. ***

OPERATION REACH XSECTION 5

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
122.55	283.3	2.23
144.42	7.4	.39
151.83	5.9	.36
166.22	4.6	.32
175.87	3.3	.23
182.21	3.3	.23
189.54	3.3	.23
214.00	2.6	.18
240.45	1.9	.14

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
1.62 WATERSHED INCHES; 2576 CFS-HRS; 212.9 ACRE-FEET.

OPERATION REACH XSECTION 10

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
123.70	277.3	3.72
145.52	7.3	.92
153.01	5.9	.88
167.44	4.5	.78
177.05	3.2	.56
183.33	3.3	.57
190.64	3.3	.57
215.18	2.6	.44
241.65	1.9	.33

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
1.66 WATERSHED INCHES; 2642 CFS-HRS; 218.3 ACRE-FEET.

OPERATION RUNOFF XSECTION 2

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
78.23	4.0	(RUNOFF)
121.33	285.1	(RUNOFF)
137.49	8.3	(RUNOFF)
143.33	7.3	(RUNOFF)
154.35	5.1	(RUNOFF)
164.80	4.5	(RUNOFF)
174.61	3.2	(RUNOFF)
181.13	3.2	(RUNOFF)
188.48	3.2	(RUNOFF)
192.69	2.6	(RUNOFF)

HYDROGRAPH POINTS FOR ALTERNATE = 1, STORM = 1
MAIN TIME INCREMENT = 1.050 hr, DRAINAGE AREA = 2.38 SQ.MI.

HRS								
.00 CFS	.00	.64	.64	1.49	1.60	1.63	1.66	1.65
8.40 CFS	1.60	1.60	1.66	1.66	1.90	1.98	1.98	1.98
16.80 CFS	1.99	2.05	2.05	1.99	1.98	2.01	2.05	2.06
25.20 CFS	2.17	2.17	2.23	2.24	2.19	2.17	2.17	2.17
33.60 CFS	2.17	2.17	2.17	2.23	2.24	2.20	2.17	2.17
42.00 CFS	2.17	2.17	2.17	2.17	2.22	2.24	2.46	2.94
50.40 CFS	2.94	2.94	2.94	2.94	2.94	2.94	2.94	2.94
58.80 CFS	2.94	2.94	2.94	2.94	2.94	2.94	2.94	2.94
67.20 CFS	2.94	2.94	2.94	3.00	3.00	3.49	3.96	3.96
75.60 CFS	3.96	3.96	4.03	4.03	3.98	3.96	3.96	3.96
84.00 CFS	4.03	5.24	5.24	5.30	5.31	5.27	5.24	5.24
92.40 CFS	5.24	5.24	5.30	5.31	5.26	5.24	5.96	8.06
100.80 CFS	8.11	9.32	9.33	9.33	9.33	10.46	11.57	11.57
109.20 CFS	11.57	11.57	14.21	14.26	17.19	18.35	21.32	27.62
117.60 CFS	36.73	223.11	223.11	269.22	274.90	177.77	93.34	85.77
126.00 CFS	36.44	36.28	20.57	19.82	15.53	14.06	13.20	10.87
134.40 CFS	10.74	8.33	8.31	8.31	8.31	7.35	6.39	6.48
142.80 CFS	7.03	7.03	5.17	5.11	5.11	5.11	5.32	5.75
151.20 CFS	5.73	5.11	5.11	5.11	5.11	4.77	4.48	4.39
159.60 CFS	3.84	3.84	3.84	3.84	4.32	4.48	4.29	3.84
168.00 CFS	3.80	3.20	3.20	2.63	2.56	2.88	3.20	3.12
176.40 CFS	2.56	2.56	3.17	3.20	3.20	3.20	2.99	2.56
184.80 CFS	2.57	3.20	3.20	3.20	3.20	2.85	2.56	2.56
193.20 CFS	2.56	2.55	1.94	1.92	2.41	2.56	2.37	1.92
201.60 CFS	1.96	2.56	2.56	2.00	1.92	2.24	2.56	2.47
210.00 CFS	1.92	1.92	2.53	2.56	2.10	1.92	1.92	1.92
218.40 CFS	1.91	1.28	1.28	1.85	1.92	1.58	1.28	1.37
226.80 CFS	1.92	1.91	1.29	1.28	1.28	1.28	1.48	1.92
235.20 CFS	1.88	1.28	1.28	1.84	1.92	1.59	1.28	1.10
243.60 CFS	.00							

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
1.67 WATERSHED INCHES; 2561 CFS-HRS; 211.6 ACRE-FEET.

*** WARNING - MAIN TIME INCREMENT (1.050) IS GREATER THAN 50% OF THE
TIME OF CONCENTRATION (.73) FOR SUBWATERSHED XSECTION 2.
THIS WILL REDUCE THE COMPUTED PEAK BY ABOUT -3.7%. ***

OPERATION ADDHYD XSECTION 12

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
121.80	488.3	(NULL)
145.48	12.4	(NULL)
150.94	11.1	(NULL)
153.00	11.0	(NULL)
165.72	8.5	(NULL)
178.68	6.0	(NULL)
181.69	6.4	(NULL)
186.07	6.0	(NULL)
188.84	6.4	(NULL)
212.28	4.7	(NULL)

HYDROGRAPH POINTS FOR ALTERNATE = 1, STORM = 1
MAIN TIME INCREMENT = 1.050 hr, DRAINAGE AREA = 4.84 SQ.MI.

HRS								
.00 CFS	.00	.64	.64	1.93	2.20	2.81	3.18	3.29
8.40 CFS	3.29	3.30	3.33	3.32	3.59	3.69	3.84	3.97
16.80 CFS	4.02	4.09	4.09	4.08	4.09	4.09	4.10	4.13
25.20 CFS	4.27	4.29	4.44	4.47	4.47	4.48	4.46	4.43
33.60 CFS	4.42	4.42	4.42	4.48	4.48	4.49	4.48	4.47
42.00 CFS	4.43	4.42	4.42	4.42	4.47	4.48	4.74	5.24
50.40 CFS	5.36	5.78	5.93	5.97	5.98	5.98	5.98	5.98
58.80 CFS	5.98	5.98	5.98	5.98	5.98	5.98	5.98	5.98
67.20 CFS	5.98	5.98	5.98	6.04	6.04	6.56	7.06	7.33
75.60 CFS	7.83	8.00	8.11	8.12	8.12	8.12	8.10	8.07
84.00 CFS	8.13	9.34	9.35	10.28	10.61	10.70	10.71	10.70
92.40 CFS	10.67	10.66	10.72	10.72	10.72	10.72	11.42	13.48
100.80 CFS	14.04	16.88	17.51	18.48	18.85	20.07	21.21	21.87
109.20 CFS	23.01	23.40	26.14	26.24	30.83	32.77	37.69	45.80
117.60 CFS	57	249	254	434	488	433	369	316
126.00 CFS	175	139	79	63	44	37	32	27
134.40 CFS	25.04	20.52	19.70	17.87	17.16	16.00	15.00	14.49
142.80 CFS	14.08	13.80	12.26	12.32	11.17	10.62	10.66	11.05
151.20 CFS	11.13	10.89	10.99	10.61	10.46	10.07	9.76	9.50
159.60 CFS	8.61	8.45	8.01	7.85	8.30	8.44	8.54	8.34
168.00 CFS	8.30	7.34	7.19	6.17	5.92	5.85	5.93	5.98
176.40 CFS	5.72	5.77	6.01	5.89	6.26	6.43	6.28	5.86
184.80 CFS	5.76	6.01	5.91	6.28	6.44	6.14	5.86	5.68
193.20 CFS	5.35	5.23	4.59	4.55	4.66	4.61	4.63	4.44
201.60 CFS	4.46	4.71	4.59	4.43	4.51	4.51	4.62	4.66
210.00 CFS	4.42	4.47	4.70	4.59	4.50	4.49	4.26	4.01
218.40 CFS	3.92	3.27	3.24	3.40	3.30	3.25	3.17	3.13
226.80 CFS	3.38	3.32	3.08	3.20	2.85	2.67	2.81	3.24
235.20 CFS	3.32	3.09	3.20	3.37	3.29	3.28	3.18	2.88

243.60 CFS 1.47 1.26 .40

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
1.67 WATERSHED INCHES; 5202 CFS-HRS; 429.9 ACRE-FEET.

OPERATION DIVERT XSECTION 12
OUTPUT #1 HYDROGRAPH

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
121.80	488.3	(DIVERT)
145.48	12.4	(DIVERT)
150.94	11.1	(DIVERT)
153.00	11.0	(DIVERT)
165.72	8.5	(DIVERT)
178.68	6.0	(DIVERT)
181.69	6.4	(DIVERT)
186.07	6.0	(DIVERT)
188.84	6.4	(DIVERT)
212.28	4.7	(DIVERT)

HYDROGRAPH POINTS FOR ALTERNATE = 1, STORM = 1
MAIN TIME INCREMENT = 1.050 hr, DRAINAGE AREA = 4.84 SQ.MI.

HRS								
.00 CFS	.00	.64	.64	1.93	2.20	2.81	3.18	3.29
8.40 CFS	3.29	3.30	3.33	3.32	3.59	3.69	3.84	3.97
16.80 CFS	4.02	4.09	4.09	4.08	4.09	4.09	4.10	4.13
25.20 CFS	4.27	4.29	4.44	4.47	4.47	4.48	4.46	4.43
33.60 CFS	4.42	4.42	4.42	4.48	4.48	4.49	4.48	4.47
42.00 CFS	4.43	4.42	4.42	4.42	4.47	4.48	4.74	5.24
50.40 CFS	5.36	5.78	5.93	5.97	5.98	5.98	5.98	5.98
58.80 CFS	5.98	5.98	5.98	5.98	5.98	5.98	5.98	5.98
67.20 CFS	5.98	5.98	5.98	6.04	6.04	6.56	7.06	7.33
75.60 CFS	7.83	8.00	8.11	8.12	8.12	8.12	8.10	8.07
84.00 CFS	8.13	9.34	9.35	10.28	10.61	10.70	10.71	10.70
92.40 CFS	10.67	10.66	10.72	10.72	10.72	10.72	11.42	13.48
100.80 CFS	14.04	16.88	17.51	18.48	18.85	20.07	21.21	21.87
109.20 CFS	23.01	23.40	26.14	26.24	30.83	32.77	37.69	45.80
117.60 CFS	57	249	254	434	488	433	369	316
126.00 CFS	175	139	79	63	44	37	32	27
134.40 CFS	25.04	20.52	19.70	17.87	17.16	16.00	15.00	14.49
142.80 CFS	14.08	13.80	12.26	12.32	11.17	10.62	10.66	11.05
151.20 CFS	11.13	10.89	10.99	10.61	10.46	10.07	9.76	9.50
159.60 CFS	8.61	8.45	8.01	7.85	8.30	8.44	8.54	8.34
168.00 CFS	8.30	7.34	7.19	6.17	5.92	5.85	5.93	5.98
176.40 CFS	5.72	5.77	6.01	5.89	6.26	6.43	6.28	5.86
184.80 CFS	5.76	6.01	5.91	6.28	6.44	6.14	5.86	5.68
193.20 CFS	5.35	5.23	4.59	4.55	4.66	4.61	4.63	4.44
201.60 CFS	4.46	4.71	4.59	4.43	4.51	4.51	4.62	4.66
210.00 CFS	4.42	4.47	4.70	4.59	4.50	4.49	4.26	4.01
218.40 CFS	3.92	3.27	3.24	3.40	3.30	3.25	3.17	3.13
226.80 CFS	3.38	3.32	3.08	3.20	2.85	2.67	2.81	3.24

235.20 CFS	3.32	3.09	3.20	3.37	3.29	3.28	3.18	2.88
243.60 CFS	1.47	1.26	.40					

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
1.67 WATERSHED INCHES; 5202 CFS-HRS; 429.9 ACRE-FEET.

OUTPUT #2 DIVERTED HYDROGRAPH (XSECTION 200)

*** MESSAGE - HYDROGRAPH CONTAINS NO FLOW ***

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
237 CFS-HRS; 429.9 ACRE-FEET.

*** WARNING - ROUTING COEFFICIENT (C) EQUALS 1.0,
CONSIDER SMALLER MAIN TIME INCREMENT FOR XSECTION 20. ***

OPERATION REACH XSECTION 20

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
121.80	488.3	2.45
145.48	12.4	.13
150.94	11.1	.11
153.00	11.0	.11
165.72	8.5	.09
178.68	6.0	.06
181.69	6.4	.06
186.07	6.0	.06
188.84	6.4	.07
212.28	4.7	.05

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
1.67 WATERSHED INCHES; 5202 CFS-HRS; 429.9 ACRE-FEET.

*** WARNING - ROUTING COEFFICIENT (C) EQUALS 1.0,
CONSIDER SMALLER MAIN TIME INCREMENT FOR XSECTION 25. ***

OPERATION REACH XSECTION 25

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
121.80	488.3	1.54
145.48	12.4	.08
150.94	11.1	.07
153.00	11.0	.07
165.72	8.5	.05
178.68	6.0	.04
181.69	6.4	.04
186.07	6.0	.04
188.84	6.4	.04
212.28	4.7	.03

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
1.67 WATERSHED INCHES; 5202 CFS-HRS; 429.9 ACRE-FEET.

OPERATION RUNOFF XSECTION 3

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
121.39	461.9	(RUNOFF)
126.52	63.0	(RUNOFF)
138.08	13.8	(RUNOFF)
143.32	11.7	(RUNOFF)
150.67	9.6	(RUNOFF)
154.88	8.5	(RUNOFF)
165.01	7.4	(RUNOFF)
174.70	5.3	(RUNOFF)
181.12	5.2	(RUNOFF)
186.90	5.2 *	(RUNOFF)

* FIRST POINT OF FLAT PEAK

HYDROGRAPH POINTS FOR ALTERNATE = 1, STORM = 1
MAIN TIME INCREMENT = 1.050 hr, DRAINAGE AREA = 3.94 SQ.MI.

HRS								
.00 CFS	.00	1.05	1.05	2.37	2.62	2.67	2.73	2.72
8.40 CFS	2.62	2.62	2.72	2.73	3.06	3.25	3.25	3.25
16.80 CFS	3.26	3.36	3.36	3.27	3.25	3.30	3.36	3.38
25.20 CFS	3.57	3.57	3.67	3.67	3.61	3.57	3.57	3.57
33.60 CFS	3.57	3.57	3.57	3.66	3.67	3.63	3.57	3.57
42.00 CFS	3.57	3.57	3.57	3.57	3.64	3.67	3.91	4.83
50.40 CFS	4.83	4.83	4.83	4.83	4.83	4.83	4.83	4.83
58.80 CFS	4.83	4.83	4.83	4.83	4.83	4.83	4.83	4.83
67.20 CFS	4.83	4.83	4.83	4.92	4.93	5.55	6.51	6.51
75.60 CFS	6.51	6.51	6.61	6.61	6.55	6.51	6.51	6.51
84.00 CFS	6.54	8.59	8.61	8.70	8.71	8.67	8.61	8.61
92.40 CFS	8.61	8.61	8.71	8.71	8.65	8.61	9.50	13.23
100.80 CFS	13.26	15.31	15.33	15.33	15.33	16.76	19.00	19.00
109.20 CFS	19.00	19.00	23.26	23.41	27.69	30.13	33.19	45.35
117.60 CFS	49	364	366	437	451	331	153	147
126.00 CFS	59.84	59.84	34.19	32.54	26.67	23.10	22.09	17.85

134.40 CFS	17.77	13.69	13.65	13.65	13.65	12.40	10.50	10.57
142.80 CFS	11.55	11.54	8.50	8.40	8.40	8.40	8.60	9.45
151.20 CFS	9.44	8.40	8.40	8.40	8.40	7.98	7.35	7.29
159.60 CFS	6.30	6.30	6.30	6.30	6.95	7.35	7.14	6.30
168.00 CFS	6.28	5.26	5.25	4.39	4.20	4.62	5.25	5.17
176.40 CFS	4.20	4.20	5.22	5.25	5.25	5.25	5.05	4.20
184.80 CFS	4.20	5.25	5.25	5.25	5.25	4.83	4.20	4.20
193.20 CFS	4.20	4.20	3.21	3.15	3.81	4.20	3.99	3.15
201.60 CFS	3.17	4.19	4.20	3.33	3.15	3.57	4.20	4.12
210.00 CFS	3.15	3.15	4.16	4.20	3.54	3.15	3.15	3.15
218.40 CFS	3.14	2.10	2.10	2.98	3.15	2.74	2.10	2.16
226.80 CFS	3.15	3.15	2.16	2.10	2.10	2.10	2.31	3.15
235.20 CFS	3.13	2.11	2.10	2.98	3.15	2.73	2.10	1.94
243.60 CFS	.00							

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
1.67 WATERSHED INCHES; 4251 CFS-HRS; 351.3 ACRE-FEET.

*** WARNING - MAIN TIME INCREMENT (1.050) IS GREATER THAN 50% OF THE
TIME OF CONCENTRATION (.88) FOR SUBWATERSHED XSECTION 3.
THIS WILL REDUCE THE COMPUTED PEAK BY ABOUT -2.3%. ***

OPERATION REACH XSECTION 30

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
122.60	444.1	2.56
144.45	11.7	.88
151.93	9.4	.85
166.33	7.2	.81
175.98	5.2	.77
182.27	5.3	.77
189.57	5.3	.77
204.49	4.2	.64
209.58	4.1	.64
214.02	4.1	.64

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
1.61 WATERSHED INCHES; 4102 CFS-HRS; 339.0 ACRE-FEET.

OPERATION REACH XSECTION 5

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
123.73	437.4	2.71
145.53	11.6	.45
153.06	9.4	.42
167.50	7.2	.38
177.12	5.2	.35
183.39	5.2	.35
190.65	5.3	.35
205.63	4.1	.29
210.71	4.1	.29
215.18	4.1	.29

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
1.65 WATERSHED INCHES; 4198 CFS-HRS; 347.0 ACRE-FEET.

*** WARNING - ROUTING COEFFICIENT (C) EQUALS 1.0,
CONSIDER SMALLER MAIN TIME INCREMENT FOR XSECTION 25. ***

OPERATION REACH XSECTION 25

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
123.73	437.4	1.44
145.53	11.6	.07
153.06	9.4	.06
167.50	7.2	.05
177.12	5.2	.03
183.39	5.2	.03
190.65	5.3	.03
205.63	4.1	.03
210.71	4.1	.03
215.18	4.1	.03

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
1.65 WATERSHED INCHES; 4198 CFS-HRS; 347.0 ACRE-FEET.

OPERATION RUNOFF XSECTION 4

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
121.36	245.1	(RUNOFF)
138.08	7.3	(RUNOFF)
143.27	6.1	(RUNOFF)
154.88	4.5	(RUNOFF)
164.96	3.9	(RUNOFF)
193.72	2.2	(RUNOFF)
198.49	2.2	(RUNOFF)
203.17	2.3	(RUNOFF)
208.22	2.2	(RUNOFF)
212.72	2.2	(RUNOFF)

HYDROGRAPH POINTS FOR ALTERNATE = 1, STORM = 1
MAIN TIME INCREMENT = 1.050 hr, DRAINAGE AREA = 2.06 SQ.MI.

HRS								
.00 CFS	.00	.55	.55	1.25	1.38	1.41	1.44	1.43
8.40 CFS	1.38	1.38	1.43	1.44	1.63	1.72	1.72	1.72
16.80 CFS	1.72	1.77	1.77	1.72	1.72	1.74	1.77	1.78
25.20 CFS	1.88	1.88	1.93	1.94	1.90	1.88	1.88	1.88
33.60 CFS	1.88	1.88	1.88	1.93	1.94	1.91	1.88	1.88
42.00 CFS	1.88	1.88	1.88	1.88	1.92	1.94	2.09	2.55
50.40 CFS	2.55	2.55	2.55	2.55	2.55	2.55	2.55	2.55
58.80 CFS	2.55	2.55	2.55	2.55	2.55	2.55	2.55	2.55
67.20 CFS	2.55	2.55	2.55	2.59	2.60	2.97	3.43	3.43
75.60 CFS	3.43	3.43	3.48	3.49	3.45	3.43	3.43	3.43
84.00 CFS	3.47	4.54	4.54	4.58	4.59	4.57	4.54	4.54
92.40 CFS	4.54	4.54	4.59	4.59	4.56	4.54	5.24	6.97
100.80 CFS	6.98	8.08	8.08	8.08	8.08	9.01	10.02	10.02
109.20 CFS	10.02	10.02	12.18	12.34	14.81	15.88	18.22	23.90
117.60 CFS	29.21	189.88	193.12	230.82	237.94	161.93	80.79	74.74
126.00 CFS	31.54	31.45	18.30	17.15	13.66	12.17	11.39	9.41
134.40 CFS	9.29	7.25	7.19	7.19	7.19	6.41	5.53	5.60
142.80 CFS	6.09	6.06	4.55	4.43	4.43	4.43	4.57	4.98
151.20 CFS	4.95	4.44	4.43	4.43	4.43	4.18	3.87	3.80
159.60 CFS	3.32	3.32	3.32	3.32	3.68	3.87	3.75	3.32
168.00 CFS	3.29	2.77	2.77	2.31	2.21	2.46	2.77	2.70
176.40 CFS	2.21	2.21	2.75	2.77	2.77	2.77	2.62	2.21
184.80 CFS	2.23	2.77	2.77	2.77	2.77	2.51	2.21	2.21
193.20 CFS	2.21	2.21	1.68	1.66	2.03	2.21	2.06	1.66
201.60 CFS	1.66	2.21	2.21	1.75	1.66	1.92	2.21	2.14
210.00 CFS	1.66	1.66	2.18	2.21	1.83	1.66	1.66	1.66
218.40 CFS	1.64	1.12	1.11	1.57	1.66	1.39	1.11	1.17
226.80 CFS	1.66	1.66	1.15	1.11	1.11	1.11	1.26	1.66
235.20 CFS	1.63	1.12	1.11	1.57	1.66	1.40	1.11	.97
243.60 CFS	.00							

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
1.67 WATERSHED INCHES; 2219 CFS-HRS; 183.4 ACRE-FEET.

*** WARNING - MAIN TIME INCREMENT (1.050) IS GREATER THAN 50% OF THE
TIME OF CONCENTRATION (.79) FOR SUBWATERSHED XSECTION 4.
THIS WILL REDUCE THE COMPUTED PEAK BY ABOUT -3.0%. ***

OPERATION ADDHYD XSECTION 34

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
80.58	10.0	(NULL)
122.26	578.6	(NULL)
145.46	16.1	(NULL)
153.05	13.8	(NULL)
166.39	10.5	(NULL)
189.08	7.9	(NULL)
214.94	5.8	(NULL)
229.70	4.2	(NULL)
237.42	4.1	(NULL)
241.03	4.1	(NULL)

HYDROGRAPH POINTS FOR ALTERNATE = 1, STORM = 1
MAIN TIME INCREMENT = 1.050 hr, DRAINAGE AREA = 6.00 SQ.MI.

HRS								
.00 CFS	.00	.55	.55	1.92	2.32	3.27	3.82	4.01
8.40 CFS	4.07	4.09	4.09	4.07	4.32	4.43	4.65	4.86
16.80 CFS	4.94	5.01	5.02	5.04	5.06	5.04	5.04	5.07
25.20 CFS	5.21	5.24	5.43	5.48	5.53	5.54	5.51	5.47
33.60 CFS	5.46	5.45	5.45	5.50	5.51	5.53	5.54	5.52
42.00 CFS	5.48	5.46	5.45	5.45	5.49	5.51	5.70	6.20
50.40 CFS	6.37	7.02	7.27	7.34	7.37	7.37	7.37	7.37
58.80 CFS	7.37	7.37	7.37	7.37	7.37	7.37	7.37	7.37
67.20 CFS	7.37	7.37	7.37	7.42	7.43	7.86	8.35	8.75
75.60 CFS	9.53	9.82	9.96	9.99	10.02	10.03	10.00	9.96
84.00 CFS	9.98	11.05	11.07	12.43	12.97	13.17	13.22	13.21
92.40 CFS	13.17	13.15	13.20	13.20	13.23	13.24	13.90	15.60
100.80 CFS	16.16	19.87	20.90	22.53	23.14	24.26	25.32	26.26
109.20 CFS	28.06	28.73	31.10	31.32	36.53	38.78	44.23	52.66
117.60 CFS	61	230	239	481	569	564	517	445
126.00 CFS	260	203	116	88	60	49	41	35
134.40 CFS	32.39	26.91	25.52	22.51	21.34	20.20	19.22	18.46
142.80 CFS	17.40	16.85	15.81	15.88	13.99	13.18	13.07	13.40
151.20 CFS	13.48	13.56	13.77	13.18	12.93	12.60	12.28	11.93
159.60 CFS	10.94	10.71	10.00	9.73	10.01	10.18	10.46	10.46
168.00 CFS	10.44	9.37	9.14	7.96	7.58	7.19	7.13	7.21
176.40 CFS	7.20	7.33	7.28	7.07	7.64	7.90	7.84	7.45
184.80 CFS	7.35	7.29	7.06	7.66	7.91	7.73	7.45	7.19
193.20 CFS	6.68	6.49	5.91	5.86	5.60	5.49	5.66	5.66
201.60 CFS	5.66	5.67	5.47	5.59	5.75	5.54	5.51	5.60
210.00 CFS	5.60	5.73	5.66	5.46	5.66	5.74	5.41	5.01
218.40 CFS	4.85	4.28	4.25	4.05	3.87	4.09	4.11	4.02
226.80 CFS	4.02	3.87	3.96	4.15	3.59	3.32	3.40	3.77
235.20 CFS	3.87	3.95	4.15	4.02	3.86	4.09	4.11	3.80

243.60 CFS 2.36 2.07 .73 .22

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
1.66 WATERSHED INCHES; 6418 CFS-HRS; 530.4 ACRE-FEET.

OPERATION ADDHYD XSECTION 35

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
122.01	1061.9	(NULL)
145.47	28.5	(NULL)
153.03	24.8	(NULL)
166.06	19.0	(NULL)
175.15	13.2	(NULL)
178.35	13.3	(NULL)
181.83	14.3	(NULL)
185.71	13.3	(NULL)
188.96	14.4	(NULL)
214.86	10.3	(NULL)

HYDROGRAPH POINTS FOR ALTERNATE = 1, STORM = 1
MAIN TIME INCREMENT = 1.050 hr, DRAINAGE AREA = 10.84 SQ.MI.

HRS								
.00 CFS	.00	1.19	1.19	3.85	4.52	6.08	7.00	7.30
8.40 CFS	7.36	7.40	7.42	7.39	7.91	8.12	8.49	8.83
16.80 CFS	8.96	9.10	9.12	9.12	9.15	9.13	9.14	9.20
25.20 CFS	9.49	9.54	9.87	9.96	10.00	10.02	9.96	9.90
33.60 CFS	9.88	9.87	9.87	9.97	9.99	10.02	10.02	9.99
42.00 CFS	9.91	9.88	9.87	9.87	9.95	9.99	10.44	11.44
50.40 CFS	11.73	12.80	13.20	13.31	13.34	13.35	13.35	13.35
58.80 CFS	13.35	13.35	13.35	13.35	13.35	13.35	13.35	13.35
67.20 CFS	13.35	13.35	13.35	13.45	13.47	14.42	15.41	16.09
75.60 CFS	17.36	17.82	18.07	18.11	18.14	18.15	18.09	18.03
84.00 CFS	18.11	20.38	20.42	22.71	23.58	23.86	23.93	23.92
92.40 CFS	23.84	23.82	23.92	23.92	23.94	23.95	25.32	29.08
100.80 CFS	30.20	36.75	38.41	41.00	41.99	44.34	46.53	48.13
109.20 CFS	51.07	52.13	57.24	57.56	67.36	71.55	81.92	98.45
117.60 CFS	118	479	494	915	1058	997	886	761
126.00 CFS	436	342	195	151	104	86	73	61
134.40 CFS	57.42	47.43	45.22	40.37	38.49	36.20	34.21	32.95
142.80 CFS	31.48	30.65	28.08	28.21	25.17	23.80	23.72	24.46
151.20 CFS	24.62	24.45	24.77	23.79	23.39	22.67	22.04	21.43
159.60 CFS	19.55	19.16	18.01	17.58	18.31	18.62	19.00	18.80
168.00 CFS	18.74	16.71	16.34	14.13	13.50	13.04	13.07	13.19
176.40 CFS	12.92	13.10	13.29	12.96	13.90	14.33	14.12	13.31
184.80 CFS	13.11	13.30	12.97	13.95	14.35	13.87	13.31	12.87
193.20 CFS	12.03	11.72	10.49	10.42	10.25	10.10	10.30	10.10
201.60 CFS	10.13	10.38	10.06	10.03	10.26	10.05	10.13	10.26
210.00 CFS	10.01	10.20	10.36	10.05	10.15	10.24	9.67	9.02
218.40 CFS	8.77	7.55	7.49	7.44	7.17	7.34	7.28	7.15
226.80 CFS	7.40	7.19	7.04	7.36	6.44	5.99	6.21	7.01
235.20 CFS	7.19	7.03	7.34	7.39	7.16	7.37	7.28	6.69

243.60 CFS 3.83 3.33 1.14 .32

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
1.66 WATERSHED INCHES; 11620 CFS-HRS; 960.3 ACRE-FEET.

OPERATION DIVERT XSECTION 35
OUTPUT #1 HYDROGRAPH

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
122.01	1061.9	(DIVERT)
145.47	28.5	(DIVERT)
153.03	24.8	(DIVERT)
166.06	19.0	(DIVERT)
175.15	13.2	(DIVERT)
178.35	13.3	(DIVERT)
181.83	14.3	(DIVERT)
185.71	13.3	(DIVERT)
188.96	14.4	(DIVERT)
214.86	10.3	(DIVERT)

HYDROGRAPH POINTS FOR ALTERNATE = 1, STORM = 1
MAIN TIME INCREMENT = 1.050 hr, DRAINAGE AREA = 10.84 SQ.MI.

HRS								
.00 CFS	.00	1.19	1.19	3.85	4.52	6.08	7.00	7.30
8.40 CFS	7.36	7.40	7.42	7.39	7.91	8.12	8.49	8.83
16.80 CFS	8.96	9.10	9.12	9.12	9.15	9.13	9.14	9.20
25.20 CFS	9.49	9.54	9.87	9.96	10.00	10.02	9.96	9.90
33.60 CFS	9.88	9.87	9.87	9.97	9.99	10.02	10.02	9.99
42.00 CFS	9.91	9.88	9.87	9.87	9.95	9.99	10.44	11.44
50.40 CFS	11.73	12.80	13.20	13.31	13.34	13.35	13.35	13.35
58.80 CFS	13.35	13.35	13.35	13.35	13.35	13.35	13.35	13.35
67.20 CFS	13.35	13.35	13.35	13.45	13.47	14.42	15.41	16.09
75.60 CFS	17.36	17.82	18.07	18.11	18.14	18.15	18.09	18.03
84.00 CFS	18.11	20.38	20.42	22.71	23.58	23.86	23.93	23.92
92.40 CFS	23.84	23.82	23.92	23.92	23.94	23.95	25.32	29.08
100.80 CFS	30.20	36.75	38.41	41.00	41.99	44.34	46.53	48.13
109.20 CFS	51.07	52.13	57.24	57.56	67.36	71.55	81.92	98.45
117.60 CFS	118	479	494	915	1058	997	886	761
126.00 CFS	436	342	195	151	104	86	73	61
134.40 CFS	57.42	47.43	45.22	40.37	38.49	36.20	34.21	32.95
142.80 CFS	31.48	30.65	28.08	28.21	25.17	23.80	23.72	24.46
151.20 CFS	24.62	24.45	24.77	23.79	23.39	22.67	22.04	21.43
159.60 CFS	19.55	19.16	18.01	17.58	18.31	18.62	19.00	18.80
168.00 CFS	18.74	16.71	16.34	14.13	13.50	13.04	13.07	13.19
176.40 CFS	12.92	13.10	13.29	12.96	13.90	14.33	14.12	13.31
184.80 CFS	13.11	13.30	12.97	13.95	14.35	13.87	13.31	12.87
193.20 CFS	12.03	11.72	10.49	10.42	10.25	10.10	10.30	10.10
201.60 CFS	10.13	10.38	10.06	10.03	10.26	10.05	10.13	10.26
210.00 CFS	10.01	10.20	10.36	10.05	10.15	10.24	9.67	9.02
218.40 CFS	8.77	7.55	7.49	7.44	7.17	7.34	7.28	7.15
226.80 CFS	7.40	7.19	7.04	7.36	6.44	5.99	6.21	7.01

235.20 CFS	7.19	7.03	7.34	7.39	7.16	7.37	7.28	6.69
243.60 CFS	3.83	3.33	1.14	.32				

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
1.66 WATERSHED INCHES; 11620 CFS-HRS; 960.3 ACRE-FEET.

OUTPUT #2 DIVERTED HYDROGRAPH (XSECTION 199)

*** MESSAGE - HYDROGRAPH CONTAINS NO FLOW ***

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
238 CFS-HRS; 960.3 ACRE-FEET.

*** WARNING - ROUTING COEFFICIENT (C) EQUALS 1.0,
CONSIDER SMALLER MAIN TIME INCREMENT FOR XSECTION 45. ***

OPERATION REACH XSECTION 45

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
122.01	1061.9	2.32
145.47	28.5	.17
153.03	24.8	.15
166.06	19.0	.11
175.15	13.2	.08
178.35	13.3	.08
181.83	14.3	.09
185.71	13.3	.08
188.96	14.4	.09
214.86	10.3	.06

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
1.66 WATERSHED INCHES; 11620 CFS-HRS; 960.3 ACRE-FEET.

OPERATION RUNOFF XSECTION 6

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
121.27	178.9	(RUNOFF)
143.18	4.5	(RUNOFF)
150.54	3.7	(RUNOFF)
169.58	2.1	(RUNOFF)
174.29	2.0	(RUNOFF)
181.13	2.1	(RUNOFF)
188.48	2.1	(RUNOFF)
212.62	1.7	(RUNOFF)
234.63	1.2	(RUNOFF)
239.03	1.2	(RUNOFF)

HYDROGRAPH POINTS FOR ALTERNATE = 1, STORM = 1
MAIN TIME INCREMENT = 1.050 hr, DRAINAGE AREA = 1.47 SQ.MI.

HRS								
2.10 CFS	.41	.95	1.02	1.04	1.06	1.05	1.02	1.02
10.50 CFS	1.06	1.06	1.22	1.26	1.26	1.26	1.27	1.30
18.90 CFS	1.30	1.26	1.26	1.29	1.30	1.33	1.38	1.39
27.30 CFS	1.42	1.42	1.39	1.38	1.38	1.38	1.38	1.38
35.70 CFS	1.39	1.42	1.42	1.39	1.38	1.38	1.38	1.38
44.10 CFS	1.38	1.38	1.42	1.42	1.68	1.87	1.87	1.87
52.50 CFS	1.87	1.87	1.87	1.87	1.87	1.87	1.87	1.87
60.90 CFS	1.87	1.87	1.87	1.87	1.87	1.87	1.87	1.87
69.30 CFS	1.87	1.91	1.91	2.31	2.52	2.52	2.52	2.52
77.70 CFS	2.56	2.56	2.53	2.52	2.52	2.52	2.57	3.34
86.10 CFS	3.34	3.37	3.38	3.35	3.34	3.34	3.34	3.34
94.50 CFS	3.38	3.38	3.34	3.34	4.29	5.13	5.29	5.94
102.90 CFS	5.94	5.94	5.94	7.05	7.37	7.37	7.37	7.58
111.30 CFS	9	9	12	12	15	18	49	142
119.70 CFS	144	175	175	82	59	45	23	22
128.10 CFS	12.62	12.62	9.38	8.96	7.83	6.92	6.58	5.29
136.50 CFS	5.29	5.29	5.29	4.46	4.07	4.20	4.48	4.43
144.90 CFS	3.29	3.26	3.26	3.26	3.45	3.66	3.63	3.26
153.30 CFS	3.26	3.26	3.26	3.00	2.85	2.75	2.44	2.44
161.70 CFS	2.44	2.44	2.76	2.85	2.66	2.44	2.40	2.04
170.10 CFS	2.04	1.66	1.63	1.91	2.04	1.90	1.63	1.66
178.50 CFS	2.04	2.04	2.04	2.04	1.81	1.63	1.72	2.04
186.90 CFS	2.04	2.04	2.04	1.71	1.63	1.63	1.63	1.57
195.30 CFS	1.22	1.22	1.63	1.63	1.39	1.22	1.32	1.63
203.70 CFS	1.61	1.22	1.22	1.53	1.63	1.47	1.22	1.26
212.10 CFS	1.63	1.63	1.28	1.22	1.22	1.22	1.15	.81
220.50 CFS	.81	1.19	1.22	.95	.81	.92	1.22	1.22
228.90 CFS	.83	.81	.81	.81	1.00	1.22	1.21	.82
237.30 CFS	.81	1.18	1.22	.96	.81	.61	.00	

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
1.68 WATERSHED INCHES; 1598 CFS-HRS; 132.0 ACRE-FEET.

*** WARNING - MAIN TIME INCREMENT (1.050) IS GREATER THAN 50% OF THE
TIME OF CONCENTRATION (.47) FOR SUBWATERSHED XSECTION 6.
THIS WILL REDUCE THE COMPUTED PEAK BY ABOUT -2.3%. ***

OPERATION REACH XSECTION 60

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
122.40	180.7	2.78
144.39	4.5	.11
151.78	3.7	.09
165.88	2.8	.07
182.19	2.1	.05
189.53	2.1	.05
213.87	1.6	.04
223.45	1.2	.03
228.53	1.2	.03
235.83	1.2	.03

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
1.67 WATERSHED INCHES; 1587 CFS-HRS; 131.1 ACRE-FEET.

*** WARNING - ROUTING COEFFICIENT (C) EQUALS 1.0,
CONSIDER SMALLER MAIN TIME INCREMENT FOR XSECTION 67. ***

OPERATION REACH XSECTION 67

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
122.40	180.7	1.83
144.39	4.5	.32
151.78	3.7	.26
165.88	2.8	.20
182.19	2.1	.14
189.53	2.1	.14
213.87	1.6	.11
223.45	1.2	.08
228.53	1.2	.09
235.83	1.2	.09

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
1.67 WATERSHED INCHES; 1587 CFS-HRS; 131.1 ACRE-FEET.

OPERATION ADDHYD XSECTION 64

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
122.07	1233.0	(NULL)
152.80	28.2	(NULL)
166.01	21.8	(NULL)
175.28	15.2	(NULL)
181.83	16.4	(NULL)
186.13	15.0	(NULL)
188.96	16.4	(NULL)
214.17	11.8	(NULL)
229.44	8.4	(NULL)
240.47	8.6	(NULL)

HYDROGRAPH POINTS FOR ALTERNATE = 1, STORM = 1
MAIN TIME INCREMENT = 1.050 hr, DRAINAGE AREA = 12.31 SQ.MI.

HRS									
.00	CFS	.00	1.19	1.52	4.24	5.36	7.06	8.03	8.35
8.40	CFS	8.41	8.42	8.44	8.44	8.97	9.31	9.73	10.09
16.80	CFS	10.22	10.37	10.41	10.42	10.42	10.40	10.43	10.50
25.20	CFS	10.81	10.91	11.25	11.37	11.42	11.41	11.35	11.28
33.60	CFS	11.26	11.25	11.25	11.36	11.41	11.44	11.41	11.38
42.00	CFS	11.29	11.26	11.25	11.25	11.34	11.40	11.86	13.07
50.40	CFS	13.55	14.66	15.07	15.18	15.21	15.22	15.22	15.22
58.80	CFS	15.22	15.22	15.22	15.22	15.22	15.22	15.22	15.22
67.20	CFS	15.22	15.22	15.22	15.33	15.37	16.33	17.63	18.55
75.60	CFS	19.87	20.34	20.59	20.66	20.70	20.69	20.62	20.55
84.00	CFS	20.64	22.95	23.60	26.01	26.94	27.24	27.28	27.26
92.40	CFS	27.18	27.15	27.26	27.29	27.32	27.30	28.66	33.18
100.80	CFS	35.12	41.97	44.21	46.92	47.93	50.28	53.35	55.39
109.20	CFS	58	59	65	66	76	83	93	113
117.60	CFS	135	522	616	1054	1226	1171	987	829
126.00	CFS	485	371	218	166	117	96	82	69
134.40	CFS	64.59	54.13	50.80	45.72	43.80	41.49	38.84	37.13
142.80	CFS	35.67	35.07	32.51	31.73	28.48	27.06	26.98	27.86
151.20	CFS	28.23	28.08	28.10	27.06	26.65	25.93	25.09	24.32
159.60	CFS	22.33	21.67	20.46	20.03	20.75	21.32	21.82	21.49
168.00	CFS	21.23	19.13	18.45	16.18	15.24	14.69	14.92	15.19
176.40	CFS	14.84	14.79	14.95	14.91	15.92	16.36	16.15	15.16
184.80	CFS	14.78	15.01	14.94	15.97	16.38	15.91	15.08	14.52
193.20	CFS	13.67	13.35	12.08	11.71	11.49	11.65	11.91	11.54
201.60	CFS	11.39	11.69	11.62	11.62	11.56	11.28	11.61	11.86
210.00	CFS	11.51	11.47	11.63	11.61	11.77	11.59	10.91	10.25
218.40	CFS	9.99	8.71	8.38	8.27	8.28	8.53	8.28	8.00
226.80	CFS	8.31	8.34	8.25	8.26	7.27	6.81	7.02	7.97
235.20	CFS	8.35	8.24	8.24	8.22	8.27	8.57	8.29	7.54
243.60	CFS	4.48	3.46	1.16	.32				

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
1.66 WATERSHED INCHES; 13207 CFS-HRS; 1091.4 ACRE-FEET.

OPERATION RUNOFF XSECTION 5

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
78.28	8.1	(RUNOFF)
121.36	569.3	(RUNOFF)
138.08	16.9	(RUNOFF)
143.30	14.3	(RUNOFF)
150.60	11.7	(RUNOFF)
164.86	9.0	(RUNOFF)
174.64	6.5	(RUNOFF)
180.43	6.4	(RUNOFF)
188.48	6.5	(RUNOFF)
208.22	5.2	(RUNOFF)

HYDROGRAPH POINTS FOR ALTERNATE = 1, STORM = 1
MAIN TIME INCREMENT = 1.050 hr, DRAINAGE AREA = 4.78 SQ.MI.

HRS								
.00 CFS	.00	1.28	1.28	2.92	3.21	3.27	3.34	3.32
8.40 CFS	3.21	3.21	3.33	3.34	3.76	3.98	3.98	3.98
16.80 CFS	3.98	4.11	4.11	4.00	3.98	4.04	4.11	4.14
25.20 CFS	4.37	4.37	4.48	4.49	4.41	4.37	4.37	4.37
33.60 CFS	4.37	4.37	4.37	4.47	4.49	4.43	4.37	4.37
42.00 CFS	4.37	4.37	4.37	4.37	4.46	4.49	4.87	5.91
50.40 CFS	5.91	5.91	5.91	5.91	5.91	5.91	5.91	5.91
58.80 CFS	5.91	5.91	5.91	5.91	5.91	5.91	5.91	5.91
67.20 CFS	5.91	5.91	5.91	6.01	6.03	6.91	7.96	7.96
75.60 CFS	7.96	7.96	8.08	8.09	8.00	7.96	7.96	7.96
84.00 CFS	8.07	10.47	10.53	10.64	10.66	10.60	10.53	10.53
92.40 CFS	10.53	10.53	10.65	10.66	10.57	10.53	12.17	16.18
100.80 CFS	16.22	18.72	18.75	18.75	18.75	20.91	23.24	23.24
109.20 CFS	23.24	23.31	28.33	28.63	34.05	36.85	41.93	55.47
117.60 CFS	62	448	448	537	552	373	187	174
126.00 CFS	73.19	72.66	42.18	39.80	32.11	28.25	26.69	21.83
134.40 CFS	21.61	16.69	16.69	16.69	16.69	14.82	12.84	13.01
142.80 CFS	14.12	14.10	10.56	10.27	10.27	10.27	10.59	11.56
151.20 CFS	11.48	10.28	10.27	10.27	10.27	9.67	8.99	8.82
159.60 CFS	7.70	7.70	7.70	7.70	8.62	8.99	8.63	7.70
168.00 CFS	7.63	6.44	6.42	5.35	5.14	5.72	6.42	6.27
176.40 CFS	5.14	5.14	6.36	6.42	6.42	6.42	6.04	5.14
184.80 CFS	5.20	6.39	6.42	6.42	6.42	5.83	5.14	5.14
193.20 CFS	5.14	5.14	3.89	3.85	4.72	5.14	4.76	3.85
201.60 CFS	3.89	5.11	5.14	4.05	3.85	4.46	5.14	4.97
210.00 CFS	3.85	3.86	5.08	5.14	4.29	3.85	3.85	3.85
218.40 CFS	3.85	2.57	2.57	3.66	3.85	3.23	2.57	2.73
226.80 CFS	3.85	3.83	2.65	2.57	2.57	2.57	2.90	3.85
235.20 CFS	3.81	2.57	2.57	3.65	3.85	3.22	2.57	2.25
243.60 CFS	.00							

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
1.67 WATERSHED INCHES; 5155 CFS-HRS; 426.0 ACRE-FEET.

*** WARNING - MAIN TIME INCREMENT (1.050) IS GREATER THAN 50% OF THE
TIME OF CONCENTRATION (.78) FOR SUBWATERSHED XSECTION 5.
THIS WILL REDUCE THE COMPUTED PEAK BY ABOUT -3.1%. ***

OPERATION RUNOFF XSECTION 7

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
121.49	403.1	(RUNOFF)
143.33	10.5	(RUNOFF)
150.66	8.4	(RUNOFF)
165.11	6.5	(RUNOFF)
174.73	4.7	(RUNOFF)
180.93	4.6	(RUNOFF)
188.48	4.7	(RUNOFF)
192.68	3.7	(RUNOFF)
208.35	3.8	(RUNOFF)
212.82	3.7	(RUNOFF)

HYDROGRAPH POINTS FOR ALTERNATE = 1, STORM = 1
MAIN TIME INCREMENT = 1.050 hr, DRAINAGE AREA = 3.48 SQ.MI.

HRS									
.00	CFS	.00	.90	.93	1.92	2.32	2.35	2.41	2.40
8.40	CFS	2.32	2.32	2.40	2.41	2.65	2.87	2.87	2.87
16.80	CFS	2.88	2.96	2.97	2.90	2.87	2.90	2.97	2.98
25.20	CFS	3.15	3.15	3.23	3.25	3.20	3.15	3.15	3.15
33.60	CFS	3.15	3.15	3.15	3.22	3.25	3.22	3.15	3.15
42.00	CFS	3.15	3.15	3.15	3.15	3.20	3.25	3.39	4.27
50.40	CFS	4.27	4.27	4.27	4.27	4.27	4.27	4.27	4.27
58.80	CFS	4.27	4.27	4.27	4.27	4.27	4.27	4.27	4.27
67.20	CFS	4.27	4.27	4.27	4.33	4.36	4.79	5.75	5.75
75.60	CFS	5.75	5.75	5.83	5.84	5.79	5.75	5.75	5.75
84.00	CFS	5.79	7.52	7.60	7.67	7.70	7.67	7.60	7.60
92.40	CFS	7.60	7.60	7.69	7.70	7.65	7.60	8.19	11.68
100.80	CFS	11.70	13.48	13.54	13.54	13.54	14.58	16.78	16.78
109.20	CFS	16.78	16.78	20.14	20.68	23.74	26.61	28.86	40.03
117.60	CFS	43	311	324	377	399	317	135	130
126.00	CFS	53.45	52.79	32.22	28.75	24.51	20.40	19.64	15.76
134.40	CFS	15.69	12.24	12.05	12.05	12.05	11.18	9.27	9.32
142.80	CFS	10.19	10.20	7.75	7.42	7.42	7.42	7.55	8.35
151.20	CFS	8.33	7.45	7.42	7.42	7.42	7.12	6.49	6.44
159.60	CFS	5.57	5.56	5.56	5.56	6.04	6.49	6.34	5.57
168.00	CFS	5.56	4.67	4.64	3.97	3.71	4.00	4.64	4.57
176.40	CFS	3.72	3.71	4.50	4.64	4.64	4.64	4.48	3.71
184.80	CFS	3.73	4.59	4.64	4.64	4.64	4.35	3.71	3.71
193.20	CFS	3.71	3.71	2.89	2.78	3.25	3.71	3.58	2.78
201.60	CFS	2.80	3.68	3.71	3.06	2.78	3.08	3.71	3.66
210.00	CFS	2.79	2.78	3.60	3.71	3.23	2.78	2.78	2.78
218.40	CFS	2.78	1.88	1.85	2.52	2.78	2.49	1.85	1.92
226.80	CFS	2.77	2.78	1.99	1.85	1.85	1.85	2.01	2.78
235.20	CFS	2.77	1.90	1.85	2.51	2.78	2.50	1.85	1.76

243.60 CFS .00

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
1.68 WATERSHED INCHES; 3762 CFS-HRS; 310.9 ACRE-FEET.

*** WARNING - MAIN TIME INCREMENT (1.050) IS GREATER THAN 50% OF THE
TIME OF CONCENTRATION (1.01) FOR SUBWATERSHED XSECTION 7.
THIS WILL REDUCE THE COMPUTED PEAK BY ABOUT -1.1%. ***

OPERATION ADDHYD XSECTION 75

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
121.40	971.9	(NULL)
138.08	29.1	(NULL)
143.32	24.6	(NULL)
150.63	20.1	(NULL)
164.97	15.5	(NULL)
174.68	11.2	(NULL)
180.84	11.1	(NULL)
188.48	11.2	(NULL)
208.28	8.9	(NULL)
212.74	9.0	(NULL)

HYDROGRAPH POINTS FOR ALTERNATE = 1, STORM = 1
MAIN TIME INCREMENT = 1.050 hr, DRAINAGE AREA = 8.26 SQ.MI.

HRS								
.00 CFS	.00	2.18	2.21	4.84	5.53	5.62	5.75	5.73
8.40 CFS	5.53	5.53	5.73	5.75	6.41	6.85	6.85	6.85
16.80 CFS	6.86	7.07	7.08	6.90	6.85	6.95	7.08	7.12
25.20 CFS	7.52	7.52	7.72	7.74	7.61	7.52	7.52	7.52
33.60 CFS	7.52	7.52	7.52	7.69	7.74	7.65	7.52	7.52
42.00 CFS	7.52	7.52	7.52	7.52	7.66	7.74	8.26	10.17
50.40 CFS	10.17	10.17	10.17	10.17	10.17	10.17	10.17	10.17
58.80 CFS	10.17	10.17	10.17	10.17	10.17	10.17	10.17	10.17
67.20 CFS	10.17	10.17	10.17	10.35	10.39	11.70	13.71	13.71
75.60 CFS	13.71	13.71	13.91	13.93	13.80	13.71	13.71	13.71
84.00 CFS	13.86	17.99	18.13	18.31	18.35	18.26	18.13	18.13
92.40 CFS	18.13	18.13	18.34	18.35	18.22	18.13	20.36	27.86
100.80 CFS	27.93	32.20	32.28	32.28	32.28	35.49	40.02	40.02
109.20 CFS	40.02	40.10	48.47	49.31	57.79	63.46	70.79	95.50
117.60 CFS	105	759	772	914	951	690	323	304
126.00 CFS	127	125	74	69	57	49	46	38
134.40 CFS	37.30	28.93	28.75	28.75	28.75	26.00	22.11	22.33
142.80 CFS	24.32	24.30	18.31	17.69	17.69	17.69	18.15	19.90
151.20 CFS	19.81	17.72	17.69	17.69	17.69	16.79	15.48	15.26
159.60 CFS	13.28	13.27	13.27	13.27	14.67	15.48	14.97	13.27
168.00 CFS	13.19	11.12	11.06	9.32	8.84	9.72	11.06	10.84
176.40 CFS	8.85	8.85	10.86	11.06	11.06	11.06	10.52	8.85
184.80 CFS	8.93	10.98	11.06	11.06	11.06	10.18	8.84	8.84
193.20 CFS	8.84	8.84	6.78	6.63	7.97	8.84	8.33	6.63
201.60 CFS	6.69	8.79	8.84	7.11	6.63	7.54	8.85	8.63

210.00 CFS	6.64	6.64	8.68	8.84	7.52	6.63	6.63	6.63
218.40 CFS	6.63	4.45	4.42	6.18	6.63	5.71	4.42	4.64
226.80 CFS	6.62	6.61	4.64	4.42	4.42	4.42	4.91	6.63
235.20 CFS	6.58	4.47	4.42	6.16	6.63	5.72	4.42	4.01
243.60 CFS	.00							

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
1.67 WATERSHED INCHES; 8917 CFS-HRS; 736.9 ACRE-FEET.

OPERATION ADDHYD XSECTION 76 → Inflow

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
121.69	2179.1	(NULL)
142.76	60.0	(NULL)
150.79	48.2	(NULL)
165.37	37.0	(NULL)
174.85	26.3	(NULL)
181.52	27.4	(NULL)
188.72	27.5	(NULL)
198.77	20.6	(NULL)
203.17	20.8	(NULL)
208.44	20.8	(NULL)

HYDROGRAPH POINTS FOR ALTERNATE = 1, STORM = 1
MAIN TIME INCREMENT = 1.050 hr, DRAINAGE AREA = 20.57 SQ.MI.

HRS								
.00 CFS	.00	3.38	3.73	9.09	10.89	12.68	13.78	14.08
8.40 CFS	13.94	13.95	14.17	14.19	15.38	16.17	16.59	16.95
16.80 CFS	17.08	17.44	17.49	17.33	17.28	17.34	17.50	17.62
25.20 CFS	18.33	18.43	18.97	19.11	19.03	18.93	18.87	18.80
33.60 CFS	18.78	18.77	18.77	19.05	19.14	19.09	18.93	18.89
42.00 CFS	18.81	18.78	18.77	18.77	18.99	19.14	20.12	23.24
50.40 CFS	23.72	24.83	25.24	25.35	25.38	25.39	25.39	25.39
58.80 CFS	25.39	25.39	25.39	25.39	25.39	25.39	25.39	25.39
67.20 CFS	25.39	25.39	25.39	25.67	25.76	28.03	31.34	32.26
75.60 CFS	33.58	34.05	34.50	34.59	34.49	34.39	34.33	34.26
84.00 CFS	34.49	40.94	41.73	44.32	45.29	45.50	45.41	45.39
92.40 CFS	45.31	45.29	45.60	45.65	45.54	45.44	49.02	61.04
100.80 CFS	63.04	74.17	76.49	79.20	80.21	85.77	93.38	95.41
109.20 CFS	98	100	113	116	134	146	164	208
117.60 CFS	240	1281	1387	1968	2176	1861	1310	1133
126.00 CFS	612	496	293	234	174	144	129	107
134.40 CFS	102	83	80	74	73	67	61	59
142.80 CFS	59.99	59.37	50.82	49.42	46.17	44.75	45.13	47.77
151.20 CFS	48.04	45.80	45.79	44.75	44.34	42.72	40.57	39.58
159.60 CFS	35.61	34.94	33.73	33.30	35.42	36.80	36.79	34.76
168.00 CFS	34.42	30.24	29.51	25.50	24.08	24.42	25.98	26.03
176.40 CFS	23.70	23.63	25.80	25.97	26.98	27.42	26.68	24.01
184.80 CFS	23.71	25.99	26.00	27.02	27.44	26.09	23.93	23.37
193.20 CFS	22.51	22.19	18.86	18.35	19.46	20.50	20.24	18.17
201.60 CFS	18.08	20.48	20.46	18.73	18.19	18.82	20.45	20.49

210.00 CFS	18.16	18.12	20.31	20.45	19.28	18.22	17.55	16.88
218.40 CFS	16.62	13.16	12.80	14.45	14.92	14.25	12.70	12.65
226.80 CFS	14.93	14.96	12.89	12.68	11.69	11.23	11.94	14.61
235.20 CFS	14.93	12.71	12.66	14.39	14.90	14.29	12.71	11.55
243.60 CFS	4.48	3.46	1.16	.32				

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
1.67 WATERSHED INCHES; 22124 CFS-HRS; 1828.3 ACRE-FEET.

--- XSECTION 76, ALTERNATE 1, STORM 1, HYDROGRAPH ADDED TO READHD FILE ---

*** MESSAGE - STRUCTURE 1, USER ENTERED STARTING ELEVATION (1199.2 FEET) CAN ADD .456 INCHES OF RUNOFF TO THE OUTFLOW HYDROGRAPH VOLUME.***

*** MESSAGE - RESERVOIR ROUTING, STRUCTURE 1, TRUNCATED AT 400 POINTS WITH 1247.26 AC-FT (.09 WATERSHED INCHES) FLOOD STORAGE REMAINING IN RESERVOIR AT ELEV. 1204.37. ***

OPERATION RESVOR STRUCTURE 1 outflow -

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
146.38	48.0	1207.64

*** WARNING - STRUCTURE 1, HYDROGRAPH VOLUME TRUNCATED AT 30 CFS
RESVOR (63. % OF MAX. HYDROGRAPH COORDINATE)
MAIN TIME INCREMENT TOO SMALL. ***

HYDROGRAPH POINTS FOR ALTERNATE = 1, STORM = 1
MAIN TIME INCREMENT = 1.050 hr, DRAINAGE AREA = 20.57 SQ.MI.

HRS								
.00 CFS	.21	.22	.23	.25	.29	.34	.39	.44
8.40 CFS	.50	.55	.60	.66	.71	.77	.83	.90
16.80 CFS	.96	1.02	1.09	1.15	1.22	1.28	1.35	1.41
25.20 CFS	1.48	1.54	1.61	1.68	1.75	1.82	1.88	1.95
33.60 CFS	2.02	2.08	2.15	2.22	2.28	2.35	2.42	2.48
42.00 CFS	2.55	2.61	2.67	2.74	2.80	2.87	2.93	3.01
50.40 CFS	3.09	3.17	3.26	3.35	3.43	3.52	3.61	3.69
58.80 CFS	3.78	3.86	3.95	4.03	4.12	4.20	4.29	4.37
67.20 CFS	4.45	4.54	4.62	4.70	4.78	4.87	4.97	5.08
75.60 CFS	5.19	5.30	5.41	5.53	5.64	5.76	5.87	5.98
84.00 CFS	6.10	6.22	6.36	6.51	6.66	6.81	6.96	7.12
92.40 CFS	7.27	7.42	7.57	7.72	7.87	8.02	8.17	8.36
100.80 CFS	8.57	8.81	9.07	9.34	9.62	9.91	10.23	10.56
109.20 CFS	10.90	11.25	11.63	12.03	12.48	12.99	13.55	14.23
117.60 CFS	15.06	17.60	21.74	26.94	32.08	36.83	40.30	42.70
126.00 CFS	44.38	45.42	46.13	46.57	46.89	47.12	47.30	47.44
134.40 CFS	47.56	47.65	47.72	47.78	47.83	47.87	47.91	47.93
142.80 CFS	47.96	47.98	47.99	48.00	48.00	47.99	47.99	47.98
151.20 CFS	47.98	47.98	47.98	47.97	47.96	47.95	47.94	47.93
159.60 CFS	47.91	47.88	47.85	47.82	47.80	47.77	47.75	47.73
168.00 CFS	47.70	47.67	47.63	47.59	47.54	47.50	47.45	47.41

176.40 CFS	47.36	47.31	47.27	47.22	47.18	47.14	47.10	47.06
184.80 CFS	47.01	46.97	46.92	46.88	46.84	46.80	46.76	46.71
193.20 CFS	46.66	46.61	46.56	46.50	46.45	46.39	46.34	46.28
201.60 CFS	46.23	46.17	46.12	46.07	46.01	45.95	45.90	45.85
210.00 CFS	45.80	45.74	45.69	45.63	45.58	45.53	45.47	45.41
218.40 CFS	45.36	45.29	45.23	45.16	45.10	45.04	44.98	44.91
226.80 CFS	44.85	44.79	44.72	44.66	44.59	44.53	44.46	44.40
235.20 CFS	44.34	44.27	44.21	44.15	44.09	44.03	43.97	43.90
243.60 CFS	43.83	43.75	43.66	43.58	43.49	43.40	43.31	43.22
252.00 CFS	43.14	43.05	42.96	42.87	42.79	42.70	42.61	42.53
260.40 CFS	42.44	42.35	42.27	42.18	42.10	42.01	41.93	41.84
268.80 CFS	41.76	41.67	41.59	41.50	41.42	41.33	41.25	41.17
277.20 CFS	41.08	41.00	40.92	40.83	40.75	40.67	40.58	40.50
285.60 CFS	40.42	40.34	40.26	40.17	40.09	40.01	39.93	39.85
294.00 CFS	39.77	39.69	39.61	39.53	39.45	39.37	39.29	39.21
302.40 CFS	39.13	39.05	38.96	38.87	38.78	38.68	38.59	38.50
310.80 CFS	38.41	38.32	38.22	38.13	38.04	37.95	37.86	37.77
319.20 CFS	37.68	37.59	37.50	37.41	37.32	37.23	37.14	37.05
327.60 CFS	36.97	36.88	36.79	36.70	36.61	36.53	36.44	36.35
336.00 CFS	36.26	36.18	36.09	36.00	35.92	35.83	35.75	35.66
344.40 CFS	35.58	35.49	35.41	35.32	35.24	35.15	35.07	34.99
352.80 CFS	34.90	34.82	34.74	34.65	34.57	34.49	34.40	34.32
361.20 CFS	34.24	34.16	34.08	34.00	33.91	33.83	33.75	33.67
369.60 CFS	33.59	33.51	33.43	33.35	33.27	33.19	33.11	33.03
378.00 CFS	32.95	32.88	32.80	32.72	32.64	32.56	32.48	32.41
386.40 CFS	32.33	32.25	32.18	32.10	32.02	31.95	31.87	31.79
394.80 CFS	31.72	31.64	31.57	31.49	31.41	31.34	31.26	31.19
403.20 CFS	31.12	31.04	30.97	30.89	30.82	30.75	30.67	30.60
411.60 CFS	30.53	30.45	30.38	30.31	30.24	30.16	30.09	30.02

Flow at end of 10th day

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
.96 WATERSHED INCHES; 12714 CFS-HRS; 1050.7 ACRE-FEET.

--- STRUCTURE 1, ALTERNATE 1, STORM 1, HYDROGRAPH ADDED TO READHD FILE ---

EXECUTIVE CONTROL ENDCMP COMPUTATIONS COMPLETED FOR PASS 1

EXECUTIVE CONTROL COMPUT FROM XSECTION 1 TO STRUCTURE 1
STARTING TIME = .00 RAIN DEPTH = 1.00 RAIN DURATION = 1.00
ANT. RUNOFF COND. = 2 MAIN TIME INCREMENT = 1.050 HOURS
ALTERNATE NO. = 2 STORM NO. = 1 RAIN TABLE NO. = 1

OPERATION RUNOFF XSECTION 1

WSE at end of 10th day

Q1 = 39 cfs, WSE = 1206.0

Q2 = 44.09 cfs, WSE = ?

Q3 = 50 cfs, WSE = 1208.0

$$WSE = 1206.0 + \frac{(44.09 - 39)}{(50 - 39)} * (1208 - 1206)$$

$$WSE = 1206 + \left(\frac{5.09}{11}\right)(2) = 1206.92 \text{ ft}$$

1206.92 would be ARC for 2nd 100 day storm scenario.

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
121.40	290.4	(RUNOFF)
138.08	8.7	(RUNOFF)
143.29	7.3	(RUNOFF)
150.61	6.0	(RUNOFF)
164.99	4.6	(RUNOFF)
174.63	3.3	(RUNOFF)
179.55	3.3 *	(RUNOFF)
187.64	3.3	(RUNOFF)
192.22	2.6	(RUNOFF)
208.25	2.7	(RUNOFF)

* FIRST POINT OF FLAT PEAK

HYDROGRAPH POINTS FOR ALTERNATE = 2, STORM = 1
MAIN TIME INCREMENT = 1.050 hr, DRAINAGE AREA = 2.46 SQ.MI.

HRS									
.00	CFS	.00	.66	.66	1.45	1.65	1.68	1.72	1.71
8.40	CFS	1.65	1.65	1.71	1.72	1.92	2.05	2.05	2.05
16.80	CFS	2.05	2.11	2.11	2.06	2.05	2.08	2.11	2.13
25.20	CFS	2.25	2.25	2.31	2.31	2.27	2.25	2.25	2.25
33.60	CFS	2.25	2.25	2.25	2.30	2.31	2.29	2.25	2.25
42.00	CFS	2.25	2.25	2.25	2.25	2.29	2.31	2.48	3.04
50.40	CFS	3.04	3.04	3.04	3.04	3.04	3.04	3.04	3.04
58.80	CFS	3.04	3.04	3.04	3.04	3.04	3.04	3.04	3.04
67.20	CFS	3.04	3.04	3.04	3.09	3.11	3.51	4.10	4.10
75.60	CFS	4.10	4.10	4.16	4.16	4.12	4.10	4.10	4.10
84.00	CFS	4.11	5.40	5.42	5.47	5.48	5.46	5.42	5.42
92.40	CFS	5.42	5.42	5.48	5.48	5.44	5.42	6.18	8.33
100.80	CFS	8.41	9.58	9.65	9.65	9.65	10.62	11.96	11.96
109.20	CFS	11.96	12.01	14.43	14.74	17.28	18.96	21.33	28.55
117.60	CFS	33.56	229.35	230.66	273.71	284.13	207.45	96.47	89.78
126.00	CFS	38.02	37.66	22.09	20.48	16.69	14.54	13.75	11.23
134.40	CFS	11.10	8.71	8.59	8.59	8.59	7.72	6.61	6.68
142.80	CFS	7.27	7.25	5.50	5.29	5.29	5.29	5.46	5.95
151.20	CFS	5.91	5.31	5.29	5.29	5.29	5.02	4.63	4.55
159.60	CFS	3.96	3.96	3.96	3.96	4.38	4.63	4.48	3.96
168.00	CFS	3.95	3.32	3.30	2.79	2.64	2.93	3.30	3.22
176.40	CFS	2.65	2.64	3.25	3.30	3.30	3.30	3.13	2.64
184.80	CFS	2.68	3.27	3.30	3.30	3.30	3.03	2.64	2.64
193.20	CFS	2.64	2.63	2.05	1.98	2.38	2.64	2.49	1.98
201.60	CFS	1.99	2.64	2.64	2.11	1.98	2.26	2.64	2.56
210.00	CFS	1.99	1.98	2.58	2.64	2.22	1.98	1.98	1.98
218.40	CFS	1.95	1.35	1.32	1.83	1.98	1.70	1.32	1.39
226.80	CFS	1.98	1.97	1.39	1.32	1.32	1.32	1.49	1.98
235.20	CFS	1.95	1.34	1.32	1.85	1.98	1.72	1.32	1.17
243.60	CFS	.00							

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
1.68 WATERSHED INCHES; 2671 CFS-HRS; 220.7 ACRE-FEET.

*** WARNING - MAIN TIME INCREMENT (1.050) IS GREATER THAN 50% OF THE
TIME OF CONCENTRATION (.85) FOR SUBWATERSHED XSECTION 1.
THIS WILL REDUCE THE COMPUTED PEAK BY ABOUT -2.1%. ***

OPERATION REACH XSECTION 5

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
122.55	283.3	2.23
144.42	7.4	.39
151.83	5.9	.36
166.22	4.6	.32
175.87	3.3	.23
182.21	3.3	.23
189.54	3.3	.23
214.00	2.6	.18
240.45	1.9	.14

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
1.62 WATERSHED INCHES; 2576 CFS-HRS; 212.9 ACRE-FEET.

OPERATION REACH XSECTION 10

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
123.70	277.3	3.72
145.52	7.3	.92
153.01	5.9	.88
167.44	4.5	.78
177.05	3.2	.56
183.33	3.3	.57
190.64	3.3	.57
215.18	2.6	.44
241.65	1.9	.33

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
1.66 WATERSHED INCHES; 2642 CFS-HRS; 218.3 ACRE-FEET.

OPERATION RUNOFF XSECTION 2

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
78.23	4.0	(RUNOFF)
121.33	285.1	(RUNOFF)
137.49	8.3	(RUNOFF)
143.33	7.3	(RUNOFF)
154.35	5.1	(RUNOFF)
164.80	4.5	(RUNOFF)
174.61	3.2	(RUNOFF)
181.13	3.2	(RUNOFF)
188.48	3.2	(RUNOFF)
192.69	2.6	(RUNOFF)

HYDROGRAPH POINTS FOR ALTERNATE = 2, STORM = 1
MAIN TIME INCREMENT = 1.050 hr, DRAINAGE AREA = 2.38 SQ.MI.

HRS								
.00 CFS	.00	.64	.64	1.49	1.60	1.63	1.66	1.65
8.40 CFS	1.60	1.60	1.66	1.66	1.90	1.98	1.98	1.98
16.80 CFS	1.99	2.05	2.05	1.99	1.98	2.01	2.05	2.06
25.20 CFS	2.17	2.17	2.23	2.24	2.19	2.17	2.17	2.17
33.60 CFS	2.17	2.17	2.17	2.23	2.24	2.20	2.17	2.17
42.00 CFS	2.17	2.17	2.17	2.17	2.22	2.24	2.46	2.94
50.40 CFS	2.94	2.94	2.94	2.94	2.94	2.94	2.94	2.94
58.80 CFS	2.94	2.94	2.94	2.94	2.94	2.94	2.94	2.94
67.20 CFS	2.94	2.94	2.94	3.00	3.00	3.49	3.96	3.96
75.60 CFS	3.96	3.96	4.03	4.03	3.98	3.96	3.96	3.96
84.00 CFS	4.03	5.24	5.24	5.30	5.31	5.27	5.24	5.24
92.40 CFS	5.24	5.24	5.30	5.31	5.26	5.24	5.96	8.06
100.80 CFS	8.11	9.32	9.33	9.33	9.33	10.46	11.57	11.57
109.20 CFS	11.57	11.57	14.21	14.26	17.19	18.35	21.32	27.62
117.60 CFS	36.73	223.11	223.11	269.22	274.90	177.77	93.34	85.77
126.00 CFS	36.44	36.28	20.57	19.82	15.53	14.06	13.20	10.87
134.40 CFS	10.74	8.33	8.31	8.31	8.31	7.35	6.39	6.48
142.80 CFS	7.03	7.03	5.17	5.11	5.11	5.11	5.32	5.75
151.20 CFS	5.73	5.11	5.11	5.11	5.11	4.77	4.48	4.39
159.60 CFS	3.84	3.84	3.84	3.84	4.32	4.48	4.29	3.84
168.00 CFS	3.80	3.20	3.20	2.63	2.56	2.88	3.20	3.12
176.40 CFS	2.56	2.56	3.17	3.20	3.20	3.20	2.99	2.56
184.80 CFS	2.57	3.20	3.20	3.20	3.20	2.85	2.56	2.56
193.20 CFS	2.56	2.55	1.94	1.92	2.41	2.56	2.37	1.92
201.60 CFS	1.96	2.56	2.56	2.00	1.92	2.24	2.56	2.47
210.00 CFS	1.92	1.92	2.53	2.56	2.10	1.92	1.92	1.92
218.40 CFS	1.91	1.28	1.28	1.85	1.92	1.58	1.28	1.37
226.80 CFS	1.92	1.91	1.29	1.28	1.28	1.28	1.48	1.92
235.20 CFS	1.88	1.28	1.28	1.84	1.92	1.59	1.28	1.10
243.60 CFS	.00							

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
1.67 WATERSHED INCHES; 2561 CFS-HRS; 211.6 ACRE-FEET.

*** WARNING - MAIN TIME INCREMENT (1.050) IS GREATER THAN 50% OF THE
TIME OF CONCENTRATION (.73) FOR SUBWATERSHED XSECTION 2.
THIS WILL REDUCE THE COMPUTED PEAK BY ABOUT -3.7%. ***

OPERATION ADDHYD XSECTION 12

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
121.80	488.3	(NULL)
145.48	12.4	(NULL)
150.94	11.1	(NULL)
153.00	11.0	(NULL)
165.72	8.5	(NULL)
178.68	6.0	(NULL)
181.69	6.4	(NULL)
186.07	6.0	(NULL)
188.84	6.4	(NULL)
212.28	4.7	(NULL)

HYDROGRAPH POINTS FOR ALTERNATE = 2, STORM = 1
MAIN TIME INCREMENT = 1.050 hr, DRAINAGE AREA = 4.84 SQ.MI.

HRS								
.00 CFS	.00	.64	.64	1.93	2.20	2.81	3.18	3.29
8.40 CFS	3.29	3.30	3.33	3.32	3.59	3.69	3.84	3.97
16.80 CFS	4.02	4.09	4.09	4.08	4.09	4.09	4.10	4.13
25.20 CFS	4.27	4.29	4.44	4.47	4.47	4.48	4.46	4.43
33.60 CFS	4.42	4.42	4.42	4.48	4.48	4.49	4.48	4.47
42.00 CFS	4.43	4.42	4.42	4.42	4.47	4.48	4.74	5.24
50.40 CFS	5.36	5.78	5.93	5.97	5.98	5.98	5.98	5.98
58.80 CFS	5.98	5.98	5.98	5.98	5.98	5.98	5.98	5.98
67.20 CFS	5.98	5.98	5.98	6.04	6.04	6.56	7.06	7.33
75.60 CFS	7.83	8.00	8.11	8.12	8.12	8.12	8.10	8.07
84.00 CFS	8.13	9.34	9.35	10.28	10.61	10.70	10.71	10.70
92.40 CFS	10.67	10.66	10.72	10.72	10.72	10.72	11.42	13.48
100.80 CFS	14.04	16.88	17.51	18.48	18.85	20.07	21.21	21.87
109.20 CFS	23.01	23.40	26.14	26.24	30.83	32.77	37.69	45.80
117.60 CFS	57	249	254	434	488	433	369	316
126.00 CFS	175	139	79	63	44	37	32	27
134.40 CFS	25.04	20.52	19.70	17.87	17.16	16.00	15.00	14.49
142.80 CFS	14.08	13.80	12.26	12.32	11.17	10.62	10.66	11.05
151.20 CFS	11.13	10.89	10.99	10.61	10.46	10.07	9.76	9.50
159.60 CFS	8.61	8.45	8.01	7.85	8.30	8.44	8.54	8.34
168.00 CFS	8.30	7.34	7.19	6.17	5.92	5.85	5.93	5.98
176.40 CFS	5.72	5.77	6.01	5.89	6.26	6.43	6.28	5.86
184.80 CFS	5.76	6.01	5.91	6.28	6.44	6.14	5.86	5.68
193.20 CFS	5.35	5.23	4.59	4.55	4.66	4.61	4.63	4.44
201.60 CFS	4.46	4.71	4.59	4.43	4.51	4.51	4.62	4.66
210.00 CFS	4.42	4.47	4.70	4.59	4.50	4.49	4.26	4.01
218.40 CFS	3.92	3.27	3.24	3.40	3.30	3.25	3.17	3.13
226.80 CFS	3.38	3.32	3.08	3.20	2.85	2.67	2.81	3.24
235.20 CFS	3.32	3.09	3.20	3.37	3.29	3.28	3.18	2.88

243.60 CFS 1.47 1.26 .40

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
1.67 WATERSHED INCHES; 5202 CFS-HRS; 429.9 ACRE-FEET.

OPERATION DIVERT XSECTION 12
OUTPUT #1 HYDROGRAPH

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
121.80	488.3	(DIVERT)
145.48	12.4	(DIVERT)
150.94	11.1	(DIVERT)
153.00	11.0	(DIVERT)
165.72	8.5	(DIVERT)
178.68	6.0	(DIVERT)
181.69	6.4	(DIVERT)
186.07	6.0	(DIVERT)
188.84	6.4	(DIVERT)
212.28	4.7	(DIVERT)

HYDROGRAPH POINTS FOR ALTERNATE = 2, STORM = 1
MAIN TIME INCREMENT = 1.050 hr, DRAINAGE AREA = 4.84 SQ.MI.

HRS								
.00 CFS	.00	.64	.64	1.93	2.20	2.81	3.18	3.29
8.40 CFS	3.29	3.30	3.33	3.32	3.59	3.69	3.84	3.97
16.80 CFS	4.02	4.09	4.09	4.08	4.09	4.09	4.10	4.13
25.20 CFS	4.27	4.29	4.44	4.47	4.47	4.48	4.46	4.43
33.60 CFS	4.42	4.42	4.42	4.48	4.48	4.49	4.48	4.47
42.00 CFS	4.43	4.42	4.42	4.42	4.47	4.48	4.74	5.24
50.40 CFS	5.36	5.78	5.93	5.97	5.98	5.98	5.98	5.98
58.80 CFS	5.98	5.98	5.98	5.98	5.98	5.98	5.98	5.98
67.20 CFS	5.98	5.98	5.98	6.04	6.04	6.56	7.06	7.33
75.60 CFS	7.83	8.00	8.11	8.12	8.12	8.12	8.10	8.07
84.00 CFS	8.13	9.34	9.35	10.28	10.61	10.70	10.71	10.70
92.40 CFS	10.67	10.66	10.72	10.72	10.72	10.72	11.42	13.48
100.80 CFS	14.04	16.88	17.51	18.48	18.85	20.07	21.21	21.87
109.20 CFS	23.01	23.40	26.14	26.24	30.83	32.77	37.69	45.80
117.60 CFS	57	249	254	434	488	433	369	316
126.00 CFS	175	139	79	63	44	37	32	27
134.40 CFS	25.04	20.52	19.70	17.87	17.16	16.00	15.00	14.49
142.80 CFS	14.08	13.80	12.26	12.32	11.17	10.62	10.66	11.05
151.20 CFS	11.13	10.89	10.99	10.61	10.46	10.07	9.76	9.50
159.60 CFS	8.61	8.45	8.01	7.85	8.30	8.44	8.54	8.34
168.00 CFS	8.30	7.34	7.19	6.17	5.92	5.85	5.93	5.98
176.40 CFS	5.72	5.77	6.01	5.89	6.26	6.43	6.28	5.86
184.80 CFS	5.76	6.01	5.91	6.28	6.44	6.14	5.86	5.68
193.20 CFS	5.35	5.23	4.59	4.55	4.66	4.61	4.63	4.44
201.60 CFS	4.46	4.71	4.59	4.43	4.51	4.51	4.62	4.66
210.00 CFS	4.42	4.47	4.70	4.59	4.50	4.49	4.26	4.01
218.40 CFS	3.92	3.27	3.24	3.40	3.30	3.25	3.17	3.13
226.80 CFS	3.38	3.32	3.08	3.20	2.85	2.67	2.81	3.24

235.20 CFS	3.32	3.09	3.20	3.37	3.29	3.28	3.18	2.88
243.60 CFS	1.47	1.26	.40					

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
1.67 WATERSHED INCHES; 5202 CFS-HRS; 429.9 ACRE-FEET.

OUTPUT #2 DIVERTED HYDROGRAPH (XSECTION 200)

*** MESSAGE - HYDROGRAPH CONTAINS NO FLOW ***

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
237 CFS-HRS; 429.9 ACRE-FEET.

*** WARNING - ROUTING COEFFICIENT (C) EQUALS 1.0,
CONSIDER SMALLER MAIN TIME INCREMENT FOR XSECTION 20. ***

OPERATION REACH XSECTION 20

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
121.80	488.3	2.45
145.48	12.4	.13
150.94	11.1	.11
153.00	11.0	.11
165.72	8.5	.09
178.68	6.0	.06
181.69	6.4	.06
186.07	6.0	.06
188.84	6.4	.07
212.28	4.7	.05

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
1.67 WATERSHED INCHES; 5202 CFS-HRS; 429.9 ACRE-FEET.

*** WARNING - ROUTING COEFFICIENT (C) EQUALS 1.0,
CONSIDER SMALLER MAIN TIME INCREMENT FOR XSECTION 25. ***

OPERATION REACH XSECTION 25

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
121.80	488.3	1.54
145.48	12.4	.08
150.94	11.1	.07
153.00	11.0	.07
165.72	8.5	.05
178.68	6.0	.04
181.69	6.4	.04
186.07	6.0	.04
188.84	6.4	.04
212.28	4.7	.03

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
1.67 WATERSHED INCHES; 5202 CFS-HRS; 429.9 ACRE-FEET.

OPERATION RUNOFF XSECTION 3

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
121.39	461.9	(RUNOFF)
126.52	63.0	(RUNOFF)
138.08	13.8	(RUNOFF)
143.32	11.7	(RUNOFF)
150.67	9.6	(RUNOFF)
154.88	8.5	(RUNOFF)
165.01	7.4	(RUNOFF)
174.70	5.3	(RUNOFF)
181.12	5.2	(RUNOFF)
186.90	5.2 *	(RUNOFF)

* FIRST POINT OF FLAT PEAK

HYDROGRAPH POINTS FOR ALTERNATE = 2, STORM = 1
MAIN TIME INCREMENT = 1.050 hr, DRAINAGE AREA = 3.94 SQ.MI.

HRS								
.00 CFS	.00	1.05	1.05	2.37	2.62	2.67	2.73	2.72
8.40 CFS	2.62	2.62	2.72	2.73	3.06	3.25	3.25	3.25
16.80 CFS	3.26	3.36	3.36	3.27	3.25	3.30	3.36	3.38
25.20 CFS	3.57	3.57	3.67	3.67	3.61	3.57	3.57	3.57
33.60 CFS	3.57	3.57	3.57	3.66	3.67	3.63	3.57	3.57
42.00 CFS	3.57	3.57	3.57	3.57	3.64	3.67	3.91	4.83
50.40 CFS	4.83	4.83	4.83	4.83	4.83	4.83	4.83	4.83
58.80 CFS	4.83	4.83	4.83	4.83	4.83	4.83	4.83	4.83
67.20 CFS	4.83	4.83	4.83	4.92	4.93	5.55	6.51	6.51
75.60 CFS	6.51	6.51	6.61	6.61	6.55	6.51	6.51	6.51
84.00 CFS	6.54	8.59	8.61	8.70	8.71	8.67	8.61	8.61
92.40 CFS	8.61	8.61	8.71	8.71	8.65	8.61	9.50	13.23
100.80 CFS	13.26	15.31	15.33	15.33	15.33	16.76	19.00	19.00
109.20 CFS	19.00	19.00	23.26	23.41	27.69	30.13	33.19	45.35
117.60 CFS	49	364	366	437	451	331	153	147
126.00 CFS	59.84	59.84	34.19	32.54	26.67	23.10	22.09	17.85

134.40 CFS	17.77	13.69	13.65	13.65	13.65	12.40	10.50	10.57
142.80 CFS	11.55	11.54	8.50	8.40	8.40	8.40	8.60	9.45
151.20 CFS	9.44	8.40	8.40	8.40	8.40	7.98	7.35	7.29
159.60 CFS	6.30	6.30	6.30	6.30	6.95	7.35	7.14	6.30
168.00 CFS	6.28	5.26	5.25	4.39	4.20	4.62	5.25	5.17
176.40 CFS	4.20	4.20	5.22	5.25	5.25	5.25	5.05	4.20
184.80 CFS	4.20	5.25	5.25	5.25	5.25	4.83	4.20	4.20
193.20 CFS	4.20	4.20	3.21	3.15	3.81	4.20	3.99	3.15
201.60 CFS	3.17	4.19	4.20	3.33	3.15	3.57	4.20	4.12
210.00 CFS	3.15	3.15	4.16	4.20	3.54	3.15	3.15	3.15
218.40 CFS	3.14	2.10	2.10	2.98	3.15	2.74	2.10	2.16
226.80 CFS	3.15	3.15	2.16	2.10	2.10	2.10	2.31	3.15
235.20 CFS	3.13	2.11	2.10	2.98	3.15	2.73	2.10	1.94
243.60 CFS	.00							

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
1.67 WATERSHED INCHES; 4251 CFS-HRS; 351.3 ACRE-FEET.

*** WARNING - MAIN TIME INCREMENT (1.050) IS GREATER THAN 50% OF THE
TIME OF CONCENTRATION (.88) FOR SUBWATERSHED XSECTION 3.
THIS WILL REDUCE THE COMPUTED PEAK BY ABOUT -2.3%. ***

OPERATION REACH XSECTION 30

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
122.60	444.1	2.56
144.45	11.7	.88
151.93	9.4	.85
166.33	7.2	.81
175.98	5.2	.77
182.27	5.3	.77
189.57	5.3	.77
204.49	4.2	.64
209.58	4.1	.64
214.02	4.1	.64

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
1.61 WATERSHED INCHES; 4102 CFS-HRS; 339.0 ACRE-FEET.

OPERATION REACH XSECTION 5

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
123.73	437.4	2.71
145.53	11.6	.45
153.06	9.4	.42
167.50	7.2	.38
177.12	5.2	.35
183.39	5.2	.35
190.65	5.3	.35
205.63	4.1	.29
210.71	4.1	.29
215.18	4.1	.29

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
1.65 WATERSHED INCHES; 4198 CFS-HRS; 347.0 ACRE-FEET.

*** WARNING - ROUTING COEFFICIENT (C) EQUALS 1.0,
CONSIDER SMALLER MAIN TIME INCREMENT FOR XSECTION 25. ***

OPERATION REACH XSECTION 25

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
123.73	437.4	1.44
145.53	11.6	.07
153.06	9.4	.06
167.50	7.2	.05
177.12	5.2	.03
183.39	5.2	.03
190.65	5.3	.03
205.63	4.1	.03
210.71	4.1	.03
215.18	4.1	.03

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
1.65 WATERSHED INCHES; 4198 CFS-HRS; 347.0 ACRE-FEET.

OPERATION RUNOFF XSECTION 4

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
121.36	245.1	(RUNOFF)
138.08	7.3	(RUNOFF)
143.27	6.1	(RUNOFF)
154.88	4.5	(RUNOFF)
164.96	3.9	(RUNOFF)
193.72	2.2	(RUNOFF)
198.49	2.2	(RUNOFF)
203.17	2.3	(RUNOFF)
208.22	2.2	(RUNOFF)
212.72	2.2	(RUNOFF)

HYDROGRAPH POINTS FOR ALTERNATE = 2, STORM = 1
MAIN TIME INCREMENT = 1.050 hr, DRAINAGE AREA = 2.06 SQ.MI.

HRS									
.00	CFS	.00	.55	.55	1.25	1.38	1.41	1.44	1.43
8.40	CFS	1.38	1.38	1.43	1.44	1.63	1.72	1.72	1.72
16.80	CFS	1.72	1.77	1.77	1.72	1.72	1.74	1.77	1.78
25.20	CFS	1.88	1.88	1.93	1.94	1.90	1.88	1.88	1.88
33.60	CFS	1.88	1.88	1.88	1.93	1.94	1.91	1.88	1.88
42.00	CFS	1.88	1.88	1.88	1.88	1.92	1.94	2.09	2.55
50.40	CFS	2.55	2.55	2.55	2.55	2.55	2.55	2.55	2.55
58.80	CFS	2.55	2.55	2.55	2.55	2.55	2.55	2.55	2.55
67.20	CFS	2.55	2.55	2.55	2.59	2.60	2.97	3.43	3.43
75.60	CFS	3.43	3.43	3.48	3.49	3.45	3.43	3.43	3.43
84.00	CFS	3.47	4.54	4.54	4.58	4.59	4.57	4.54	4.54
92.40	CFS	4.54	4.54	4.59	4.59	4.56	4.54	5.24	6.97
100.80	CFS	6.98	8.08	8.08	8.08	8.08	9.01	10.02	10.02
109.20	CFS	10.02	10.02	12.18	12.34	14.81	15.88	18.22	23.90
117.60	CFS	29.21	189.88	193.12	230.82	237.94	161.93	80.79	74.74
126.00	CFS	31.54	31.45	18.30	17.15	13.66	12.17	11.39	9.41
134.40	CFS	9.29	7.25	7.19	7.19	7.19	6.41	5.53	5.60
142.80	CFS	6.09	6.06	4.55	4.43	4.43	4.43	4.57	4.98
151.20	CFS	4.95	4.44	4.43	4.43	4.43	4.18	3.87	3.80
159.60	CFS	3.32	3.32	3.32	3.32	3.68	3.87	3.75	3.32
168.00	CFS	3.29	2.77	2.77	2.31	2.21	2.46	2.77	2.70
176.40	CFS	2.21	2.21	2.75	2.77	2.77	2.77	2.62	2.21
184.80	CFS	2.23	2.77	2.77	2.77	2.77	2.51	2.21	2.21
193.20	CFS	2.21	2.21	1.68	1.66	2.03	2.21	2.06	1.66
201.60	CFS	1.66	2.21	2.21	1.75	1.66	1.92	2.21	2.14
210.00	CFS	1.66	1.66	2.18	2.21	1.83	1.66	1.66	1.66
218.40	CFS	1.64	1.12	1.11	1.57	1.66	1.39	1.11	1.17
226.80	CFS	1.66	1.66	1.15	1.11	1.11	1.11	1.26	1.66
235.20	CFS	1.63	1.12	1.11	1.57	1.66	1.40	1.11	.97
243.60	CFS	.00							

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
1.67 WATERSHED INCHES; 2219 CFS-HRS; 183.4 ACRE-FEET.

*** WARNING - MAIN TIME INCREMENT (1.050) IS GREATER THAN 50% OF THE
TIME OF CONCENTRATION (.79) FOR SUBWATERSHED XSECTION 4.
THIS WILL REDUCE THE COMPUTED PEAK BY ABOUT -3.0%. ***

OPERATION ADDHYD XSECTION 34

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
80.58	10.0	(NULL)
122.26	578.6	(NULL)
145.46	16.1	(NULL)
153.05	13.8	(NULL)
166.39	10.5	(NULL)
189.08	7.9	(NULL)
214.94	5.8	(NULL)
229.70	4.2	(NULL)
237.42	4.1	(NULL)
241.03	4.1	(NULL)

HYDROGRAPH POINTS FOR ALTERNATE = 2, STORM = 1
MAIN TIME INCREMENT = 1.050 hr, DRAINAGE AREA = 6.00 SQ.MI.

HRS								
.00 CFS	.00	.55	.55	1.92	2.32	3.27	3.82	4.01
8.40 CFS	4.07	4.09	4.09	4.07	4.32	4.43	4.65	4.86
16.80 CFS	4.94	5.01	5.02	5.04	5.06	5.04	5.04	5.07
25.20 CFS	5.21	5.24	5.43	5.48	5.53	5.54	5.51	5.47
33.60 CFS	5.46	5.45	5.45	5.50	5.51	5.53	5.54	5.52
42.00 CFS	5.48	5.46	5.45	5.45	5.49	5.51	5.70	6.20
50.40 CFS	6.37	7.02	7.27	7.34	7.37	7.37	7.37	7.37
58.80 CFS	7.37	7.37	7.37	7.37	7.37	7.37	7.37	7.37
67.20 CFS	7.37	7.37	7.37	7.42	7.43	7.86	8.35	8.75
75.60 CFS	9.53	9.82	9.96	9.99	10.02	10.03	10.00	9.96
84.00 CFS	9.98	11.05	11.07	12.43	12.97	13.17	13.22	13.21
92.40 CFS	13.17	13.15	13.20	13.20	13.23	13.24	13.90	15.60
100.80 CFS	16.16	19.87	20.90	22.53	23.14	24.26	25.32	26.26
109.20 CFS	28.06	28.73	31.10	31.32	36.53	38.78	44.23	52.66
117.60 CFS	61	230	239	481	569	564	517	445
126.00 CFS	260	203	116	88	60	49	41	35
134.40 CFS	32.39	26.91	25.52	22.51	21.34	20.20	19.22	18.46
142.80 CFS	17.40	16.85	15.81	15.88	13.99	13.18	13.07	13.40
151.20 CFS	13.48	13.56	13.77	13.18	12.93	12.60	12.28	11.93
159.60 CFS	10.94	10.71	10.00	9.73	10.01	10.18	10.46	10.46
168.00 CFS	10.44	9.37	9.14	7.96	7.58	7.19	7.13	7.21
176.40 CFS	7.20	7.33	7.28	7.07	7.64	7.90	7.84	7.45
184.80 CFS	7.35	7.29	7.06	7.66	7.91	7.73	7.45	7.19
193.20 CFS	6.68	6.49	5.91	5.86	5.60	5.49	5.66	5.66
201.60 CFS	5.66	5.67	5.47	5.59	5.75	5.54	5.51	5.60
210.00 CFS	5.60	5.73	5.66	5.46	5.66	5.74	5.41	5.01
218.40 CFS	4.85	4.28	4.25	4.05	3.87	4.09	4.11	4.02
226.80 CFS	4.02	3.87	3.96	4.15	3.59	3.32	3.40	3.77
235.20 CFS	3.87	3.95	4.15	4.02	3.86	4.09	4.11	3.80

243.60 CFS 2.36 2.07 .73 .22

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
1.66 WATERSHED INCHES; 6418 CFS-HRS; 530.4 ACRE-FEET.

OPERATION ADDHYD XSECTION 35

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
122.01	1061.9	(NULL)
145.47	28.5	(NULL)
153.03	24.8	(NULL)
166.06	19.0	(NULL)
175.15	13.2	(NULL)
178.35	13.3	(NULL)
181.83	14.3	(NULL)
185.71	13.3	(NULL)
188.96	14.4	(NULL)
214.86	10.3	(NULL)

HYDROGRAPH POINTS FOR ALTERNATE = 2, STORM = 1
MAIN TIME INCREMENT = 1.050 hr, DRAINAGE AREA = 10.84 SQ.MI.

HRS								
.00 CFS	.00	1.19	1.19	3.85	4.52	6.08	7.00	7.30
8.40 CFS	7.36	7.40	7.42	7.39	7.91	8.12	8.49	8.83
16.80 CFS	8.96	9.10	9.12	9.12	9.15	9.13	9.14	9.20
25.20 CFS	9.49	9.54	9.87	9.96	10.00	10.02	9.96	9.90
33.60 CFS	9.88	9.87	9.87	9.97	9.99	10.02	10.02	9.99
42.00 CFS	9.91	9.88	9.87	9.87	9.95	9.99	10.44	11.44
50.40 CFS	11.73	12.80	13.20	13.31	13.34	13.35	13.35	13.35
58.80 CFS	13.35	13.35	13.35	13.35	13.35	13.35	13.35	13.35
67.20 CFS	13.35	13.35	13.35	13.45	13.47	14.42	15.41	16.09
75.60 CFS	17.36	17.82	18.07	18.11	18.14	18.15	18.09	18.03
84.00 CFS	18.11	20.38	20.42	22.71	23.58	23.86	23.93	23.92
92.40 CFS	23.84	23.82	23.92	23.92	23.94	23.95	25.32	29.08
100.80 CFS	30.20	36.75	38.41	41.00	41.99	44.34	46.53	48.13
109.20 CFS	51.07	52.13	57.24	57.56	67.36	71.55	81.92	98.45
117.60 CFS	118	479	494	915	1058	997	886	761
126.00 CFS	436	342	195	151	104	86	73	61
134.40 CFS	57.42	47.43	45.22	40.37	38.49	36.20	34.21	32.95
142.80 CFS	31.48	30.65	28.08	28.21	25.17	23.80	23.72	24.46
151.20 CFS	24.62	24.45	24.77	23.79	23.39	22.67	22.04	21.43
159.60 CFS	19.55	19.16	18.01	17.58	18.31	18.62	19.00	18.80
168.00 CFS	18.74	16.71	16.34	14.13	13.50	13.04	13.07	13.19
176.40 CFS	12.92	13.10	13.29	12.96	13.90	14.33	14.12	13.31
184.80 CFS	13.11	13.30	12.97	13.95	14.35	13.87	13.31	12.87
193.20 CFS	12.03	11.72	10.49	10.42	10.25	10.10	10.30	10.10
201.60 CFS	10.13	10.38	10.06	10.03	10.26	10.05	10.13	10.26
210.00 CFS	10.01	10.20	10.36	10.05	10.15	10.24	9.67	9.02
218.40 CFS	8.77	7.55	7.49	7.44	7.17	7.34	7.28	7.15
226.80 CFS	7.40	7.19	7.04	7.36	6.44	5.99	6.21	7.01
235.20 CFS	7.19	7.03	7.34	7.39	7.16	7.37	7.28	6.69

243.60 CFS 3.83 3.33 1.14 .32

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
1.66 WATERSHED INCHES; 11620 CFS-HRS; 960.3 ACRE-FEET.

OPERATION DIVERT XSECTION 35
OUTPUT #1 HYDROGRAPH

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
122.01	1061.9	(DIVERT)
145.47	28.5	(DIVERT)
153.03	24.8	(DIVERT)
166.06	19.0	(DIVERT)
175.15	13.2	(DIVERT)
178.35	13.3	(DIVERT)
181.83	14.3	(DIVERT)
185.71	13.3	(DIVERT)
188.96	14.4	(DIVERT)
214.86	10.3	(DIVERT)

HYDROGRAPH POINTS FOR ALTERNATE = 2, STORM = 1
MAIN TIME INCREMENT = 1.050 hr, DRAINAGE AREA = 10.84 SQ.MI.

HRS								
.00 CFS	.00	1.19	1.19	3.85	4.52	6.08	7.00	7.30
8.40 CFS	7.36	7.40	7.42	7.39	7.91	8.12	8.49	8.83
16.80 CFS	8.96	9.10	9.12	9.12	9.15	9.13	9.14	9.20
25.20 CFS	9.49	9.54	9.87	9.96	10.00	10.02	9.96	9.90
33.60 CFS	9.88	9.87	9.87	9.97	9.99	10.02	10.02	9.99
42.00 CFS	9.91	9.88	9.87	9.87	9.95	9.99	10.44	11.44
50.40 CFS	11.73	12.80	13.20	13.31	13.34	13.35	13.35	13.35
58.80 CFS	13.35	13.35	13.35	13.35	13.35	13.35	13.35	13.35
67.20 CFS	13.35	13.35	13.35	13.45	13.47	14.42	15.41	16.09
75.60 CFS	17.36	17.82	18.07	18.11	18.14	18.15	18.09	18.03
84.00 CFS	18.11	20.38	20.42	22.71	23.58	23.86	23.93	23.92
92.40 CFS	23.84	23.82	23.92	23.92	23.94	23.95	25.32	29.08
100.80 CFS	30.20	36.75	38.41	41.00	41.99	44.34	46.53	48.13
109.20 CFS	51.07	52.13	57.24	57.56	67.36	71.55	81.92	98.45
117.60 CFS	118	479	494	915	1058	997	886	761
126.00 CFS	436	342	195	151	104	86	73	61
134.40 CFS	57.42	47.43	45.22	40.37	38.49	36.20	34.21	32.95
142.80 CFS	31.48	30.65	28.08	28.21	25.17	23.80	23.72	24.46
151.20 CFS	24.62	24.45	24.77	23.79	23.39	22.67	22.04	21.43
159.60 CFS	19.55	19.16	18.01	17.58	18.31	18.62	19.00	18.80
168.00 CFS	18.74	16.71	16.34	14.13	13.50	13.04	13.07	13.19
176.40 CFS	12.92	13.10	13.29	12.96	13.90	14.33	14.12	13.31
184.80 CFS	13.11	13.30	12.97	13.95	14.35	13.87	13.31	12.87
193.20 CFS	12.03	11.72	10.49	10.42	10.25	10.10	10.30	10.10
201.60 CFS	10.13	10.38	10.06	10.03	10.26	10.05	10.13	10.26
210.00 CFS	10.01	10.20	10.36	10.05	10.15	10.24	9.67	9.02
218.40 CFS	8.77	7.55	7.49	7.44	7.17	7.34	7.28	7.15
226.80 CFS	7.40	7.19	7.04	7.36	6.44	5.99	6.21	7.01

235.20 CFS	7.19	7.03	7.34	7.39	7.16	7.37	7.28	6.69
243.60 CFS	3.83	3.33	1.14	.32				

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
1.66 WATERSHED INCHES; 11620 CFS-HRS; 960.3 ACRE-FEET.

OUTPUT #2 DIVERTED HYDROGRAPH (XSECTION 199)

*** MESSAGE - HYDROGRAPH CONTAINS NO FLOW ***

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
238 CFS-HRS; 960.3 ACRE-FEET.

*** WARNING - ROUTING COEFFICIENT (C) EQUALS 1.0,
CONSIDER SMALLER MAIN TIME INCREMENT FOR XSECTION 45. ***

OPERATION REACH XSECTION 45

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
122.01	1061.9	2.32
145.47	28.5	.17
153.03	24.8	.15
166.06	19.0	.11
175.15	13.2	.08
178.35	13.3	.08
181.83	14.3	.09
185.71	13.3	.08
188.96	14.4	.09
214.86	10.3	.06

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
1.66 WATERSHED INCHES; 11620 CFS-HRS; 960.3 ACRE-FEET.

OPERATION RUNOFF XSECTION 6

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
121.27	178.9	(RUNOFF)
143.18	4.5	(RUNOFF)
150.54	3.7	(RUNOFF)
169.58	2.1	(RUNOFF)
174.29	2.0	(RUNOFF)
181.13	2.1	(RUNOFF)
188.48	2.1	(RUNOFF)
212.62	1.7	(RUNOFF)
234.63	1.2	(RUNOFF)
239.03	1.2	(RUNOFF)

HYDROGRAPH POINTS FOR ALTERNATE = 2, STORM = 1
MAIN TIME INCREMENT = 1.050 hr, DRAINAGE AREA = 1.47 SQ.MI.

HRS								
2.10	CFS	.41	.95	1.02	1.04	1.06	1.05	1.02	1.02
10.50	CFS	1.06	1.06	1.22	1.26	1.26	1.26	1.27	1.30
18.90	CFS	1.30	1.26	1.26	1.29	1.30	1.33	1.38	1.39
27.30	CFS	1.42	1.42	1.39	1.38	1.38	1.38	1.38	1.38
35.70	CFS	1.39	1.42	1.42	1.39	1.38	1.38	1.38	1.38
44.10	CFS	1.38	1.38	1.42	1.42	1.68	1.87	1.87	1.87
52.50	CFS	1.87	1.87	1.87	1.87	1.87	1.87	1.87	1.87
60.90	CFS	1.87	1.87	1.87	1.87	1.87	1.87	1.87	1.87
69.30	CFS	1.87	1.91	1.91	2.31	2.52	2.52	2.52	2.52
77.70	CFS	2.56	2.56	2.53	2.52	2.52	2.52	2.57	3.34
86.10	CFS	3.34	3.37	3.38	3.35	3.34	3.34	3.34	3.34
94.50	CFS	3.38	3.38	3.34	3.34	4.29	5.13	5.29	5.94
102.90	CFS	5.94	5.94	5.94	7.05	7.37	7.37	7.37	7.58
111.30	CFS	9	9	12	12	15	18	49	142
119.70	CFS	144	175	175	82	59	45	23	22
128.10	CFS	12.62	12.62	9.38	8.96	7.83	6.92	6.58	5.29
136.50	CFS	5.29	5.29	5.29	4.46	4.07	4.20	4.48	4.43
144.90	CFS	3.29	3.26	3.26	3.26	3.45	3.66	3.63	3.26
153.30	CFS	3.26	3.26	3.26	3.00	2.85	2.75	2.44	2.44
161.70	CFS	2.44	2.44	2.76	2.85	2.66	2.44	2.40	2.04
170.10	CFS	2.04	1.66	1.63	1.91	2.04	1.90	1.63	1.66
178.50	CFS	2.04	2.04	2.04	2.04	1.81	1.63	1.72	2.04
186.90	CFS	2.04	2.04	2.04	1.71	1.63	1.63	1.63	1.57
195.30	CFS	1.22	1.22	1.63	1.63	1.39	1.22	1.32	1.63
203.70	CFS	1.61	1.22	1.22	1.53	1.63	1.47	1.22	1.26
212.10	CFS	1.63	1.63	1.28	1.22	1.22	1.22	1.15	.81
220.50	CFS	.81	1.19	1.22	.95	.81	.92	1.22	1.22
228.90	CFS	.83	.81	.81	.81	1.00	1.22	1.21	.82
237.30	CFS	.81	1.18	1.22	.96	.81	.61	.00	

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
1.68 WATERSHED INCHES; 1598 CFS-HRS; 132.0 ACRE-FEET.

*** WARNING - MAIN TIME INCREMENT (1.050) IS GREATER THAN 50% OF THE
TIME OF CONCENTRATION (.47) FOR SUBWATERSHED XSECTION 6.
THIS WILL REDUCE THE COMPUTED PEAK BY ABOUT -2.3%. ***

OPERATION REACH XSECTION 60

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
122.40	180.7	2.78
144.39	4.5	.11
151.78	3.7	.09
165.88	2.8	.07
182.19	2.1	.05
189.53	2.1	.05
213.87	1.6	.04
223.45	1.2	.03
228.53	1.2	.03
235.83	1.2	.03

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
1.67 WATERSHED INCHES; 1587 CFS-HRS; 131.1 ACRE-FEET.

*** WARNING - ROUTING COEFFICIENT (C) EQUALS 1.0,
CONSIDER SMALLER MAIN TIME INCREMENT FOR XSECTION 67. ***

OPERATION REACH XSECTION 67

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
122.40	180.7	1.83
144.39	4.5	.32
151.78	3.7	.26
165.88	2.8	.20
182.19	2.1	.14
189.53	2.1	.14
213.87	1.6	.11
223.45	1.2	.08
228.53	1.2	.09
235.83	1.2	.09

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
1.67 WATERSHED INCHES; 1587 CFS-HRS; 131.1 ACRE-FEET.

OPERATION ADDHYD XSECTION 64

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
122.07	1233.0	(NULL)
152.80	28.2	(NULL)
166.01	21.8	(NULL)
175.28	15.2	(NULL)
181.83	16.4	(NULL)
186.13	15.0	(NULL)
188.96	16.4	(NULL)
214.17	11.8	(NULL)
229.44	8.4	(NULL)
240.47	8.6	(NULL)

HYDROGRAPH POINTS FOR ALTERNATE = 2, STORM = 1
MAIN TIME INCREMENT = 1.050 hr, DRAINAGE AREA = 12.31 SQ.MI.

HRS								
.00 CFS	.00	1.19	1.52	4.24	5.36	7.06	8.03	8.35
8.40 CFS	8.41	8.42	8.44	8.44	8.97	9.31	9.73	10.09
16.80 CFS	10.22	10.37	10.41	10.42	10.42	10.40	10.43	10.50
25.20 CFS	10.81	10.91	11.25	11.37	11.42	11.41	11.35	11.28
33.60 CFS	11.26	11.25	11.25	11.36	11.41	11.44	11.41	11.38
42.00 CFS	11.29	11.26	11.25	11.25	11.34	11.40	11.86	13.07
50.40 CFS	13.55	14.66	15.07	15.18	15.21	15.22	15.22	15.22
58.80 CFS	15.22	15.22	15.22	15.22	15.22	15.22	15.22	15.22
67.20 CFS	15.22	15.22	15.22	15.33	15.37	16.33	17.63	18.55
75.60 CFS	19.87	20.34	20.59	20.66	20.70	20.69	20.62	20.55
84.00 CFS	20.64	22.95	23.60	26.01	26.94	27.24	27.28	27.26
92.40 CFS	27.18	27.15	27.26	27.29	27.32	27.30	28.66	33.18
100.80 CFS	35.12	41.97	44.21	46.92	47.93	50.28	53.35	55.39
109.20 CFS	58	59	65	66	76	83	93	113
117.60 CFS	135	522	616	1054	1226	1171	987	829
126.00 CFS	485	371	218	166	117	96	82	69
134.40 CFS	64.59	54.13	50.80	45.72	43.80	41.49	38.84	37.13
142.80 CFS	35.67	35.07	32.51	31.73	28.48	27.06	26.98	27.86
151.20 CFS	28.23	28.08	28.10	27.06	26.65	25.93	25.09	24.32
159.60 CFS	22.33	21.67	20.46	20.03	20.75	21.32	21.82	21.49
168.00 CFS	21.23	19.13	18.45	16.18	15.24	14.69	14.92	15.19
176.40 CFS	14.84	14.79	14.95	14.91	15.92	16.36	16.15	15.16
184.80 CFS	14.78	15.01	14.94	15.97	16.38	15.91	15.08	14.52
193.20 CFS	13.67	13.35	12.08	11.71	11.49	11.65	11.91	11.54
201.60 CFS	11.39	11.69	11.62	11.62	11.56	11.28	11.61	11.86
210.00 CFS	11.51	11.47	11.63	11.61	11.77	11.59	10.91	10.25
218.40 CFS	9.99	8.71	8.38	8.27	8.28	8.53	8.28	8.00
226.80 CFS	8.31	8.34	8.25	8.26	7.27	6.81	7.02	7.97
235.20 CFS	8.35	8.24	8.24	8.22	8.27	8.57	8.29	7.54
243.60 CFS	4.48	3.46	1.16	.32				

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
1.66 WATERSHED INCHES; 13207 CFS-HRS; 1091.4 ACRE-FEET.

OPERATION RUNOFF XSECTION 5

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
78.28	8.1	(RUNOFF)
121.36	569.3	(RUNOFF)
138.08	16.9	(RUNOFF)
143.30	14.3	(RUNOFF)
150.60	11.7	(RUNOFF)
164.86	9.0	(RUNOFF)
174.64	6.5	(RUNOFF)
180.43	6.4	(RUNOFF)
188.48	6.5	(RUNOFF)
208.22	5.2	(RUNOFF)

HYDROGRAPH POINTS FOR ALTERNATE = 2, STORM = 1
MAIN TIME INCREMENT = 1.050 hr, DRAINAGE AREA = 4.78 SQ.MI.

HRS								
.00 CFS	.00	1.28	1.28	2.92	3.21	3.27	3.34	3.32
8.40 CFS	3.21	3.21	3.33	3.34	3.76	3.98	3.98	3.98
16.80 CFS	3.98	4.11	4.11	4.00	3.98	4.04	4.11	4.14
25.20 CFS	4.37	4.37	4.48	4.49	4.41	4.37	4.37	4.37
33.60 CFS	4.37	4.37	4.37	4.47	4.49	4.43	4.37	4.37
42.00 CFS	4.37	4.37	4.37	4.37	4.46	4.49	4.87	5.91
50.40 CFS	5.91	5.91	5.91	5.91	5.91	5.91	5.91	5.91
58.80 CFS	5.91	5.91	5.91	5.91	5.91	5.91	5.91	5.91
67.20 CFS	5.91	5.91	5.91	6.01	6.03	6.91	7.96	7.96
75.60 CFS	7.96	7.96	8.08	8.09	8.00	7.96	7.96	7.96
84.00 CFS	8.07	10.47	10.53	10.64	10.66	10.60	10.53	10.53
92.40 CFS	10.53	10.53	10.65	10.66	10.57	10.53	12.17	16.18
100.80 CFS	16.22	18.72	18.75	18.75	18.75	20.91	23.24	23.24
109.20 CFS	23.24	23.31	28.33	28.63	34.05	36.85	41.93	55.47
117.60 CFS	62	448	448	537	552	373	187	174
126.00 CFS	73.19	72.66	42.18	39.80	32.11	28.25	26.69	21.83
134.40 CFS	21.61	16.69	16.69	16.69	16.69	14.82	12.84	13.01
142.80 CFS	14.12	14.10	10.56	10.27	10.27	10.27	10.59	11.56
151.20 CFS	11.48	10.28	10.27	10.27	10.27	9.67	8.99	8.82
159.60 CFS	7.70	7.70	7.70	7.70	8.62	8.99	8.63	7.70
168.00 CFS	7.63	6.44	6.42	5.35	5.14	5.72	6.42	6.27
176.40 CFS	5.14	5.14	6.36	6.42	6.42	6.42	6.04	5.14
184.80 CFS	5.20	6.39	6.42	6.42	6.42	5.83	5.14	5.14
193.20 CFS	5.14	5.14	3.89	3.85	4.72	5.14	4.76	3.85
201.60 CFS	3.89	5.11	5.14	4.05	3.85	4.46	5.14	4.97
210.00 CFS	3.85	3.86	5.08	5.14	4.29	3.85	3.85	3.85
218.40 CFS	3.85	2.57	2.57	3.66	3.85	3.23	2.57	2.73
226.80 CFS	3.85	3.83	2.65	2.57	2.57	2.57	2.90	3.85
235.20 CFS	3.81	2.57	2.57	3.65	3.85	3.22	2.57	2.25
243.60 CFS	.00							

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
1.67 WATERSHED INCHES; 5155 CFS-HRS; 426.0 ACRE-FEET.

*** WARNING - MAIN TIME INCREMENT (1.050) IS GREATER THAN 50% OF THE
TIME OF CONCENTRATION (.78) FOR SUBWATERSHED XSECTION 5.
THIS WILL REDUCE THE COMPUTED PEAK BY ABOUT -3.1%. ***

OPERATION RUNOFF XSECTION 7

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
121.49	403.1	(RUNOFF)
143.33	10.5	(RUNOFF)
150.66	8.4	(RUNOFF)
165.11	6.5	(RUNOFF)
174.73	4.7	(RUNOFF)
180.93	4.6	(RUNOFF)
188.48	4.7	(RUNOFF)
192.68	3.7	(RUNOFF)
208.35	3.8	(RUNOFF)
212.82	3.7	(RUNOFF)

HYDROGRAPH POINTS FOR ALTERNATE = 2, STORM = 1
MAIN TIME INCREMENT = 1.050 hr, DRAINAGE AREA = 3.48 SQ.MI.

HRS								
.00 CFS	.00	.90	.93	1.92	2.32	2.35	2.41	2.40
8.40 CFS	2.32	2.32	2.40	2.41	2.65	2.87	2.87	2.87
16.80 CFS	2.88	2.96	2.97	2.90	2.87	2.90	2.97	2.98
25.20 CFS	3.15	3.15	3.23	3.25	3.20	3.15	3.15	3.15
33.60 CFS	3.15	3.15	3.15	3.22	3.25	3.22	3.15	3.15
42.00 CFS	3.15	3.15	3.15	3.15	3.20	3.25	3.39	4.27
50.40 CFS	4.27	4.27	4.27	4.27	4.27	4.27	4.27	4.27
58.80 CFS	4.27	4.27	4.27	4.27	4.27	4.27	4.27	4.27
67.20 CFS	4.27	4.27	4.27	4.33	4.36	4.79	5.75	5.75
75.60 CFS	5.75	5.75	5.83	5.84	5.79	5.75	5.75	5.75
84.00 CFS	5.79	7.52	7.60	7.67	7.70	7.67	7.60	7.60
92.40 CFS	7.60	7.60	7.69	7.70	7.65	7.60	8.19	11.68
100.80 CFS	11.70	13.48	13.54	13.54	13.54	14.58	16.78	16.78
109.20 CFS	16.78	16.78	20.14	20.68	23.74	26.61	28.86	40.03
117.60 CFS	43	311	324	377	399	317	135	130
126.00 CFS	53.45	52.79	32.22	28.75	24.51	20.40	19.64	15.76
134.40 CFS	15.69	12.24	12.05	12.05	12.05	11.18	9.27	9.32
142.80 CFS	10.19	10.20	7.75	7.42	7.42	7.42	7.55	8.35
151.20 CFS	8.33	7.45	7.42	7.42	7.42	7.12	6.49	6.44
159.60 CFS	5.57	5.56	5.56	5.56	6.04	6.49	6.34	5.57
168.00 CFS	5.56	4.67	4.64	3.97	3.71	4.00	4.64	4.57
176.40 CFS	3.72	3.71	4.50	4.64	4.64	4.64	4.48	3.71
184.80 CFS	3.73	4.59	4.64	4.64	4.64	4.35	3.71	3.71
193.20 CFS	3.71	3.71	2.89	2.78	3.25	3.71	3.58	2.78
201.60 CFS	2.80	3.68	3.71	3.06	2.78	3.08	3.71	3.66
210.00 CFS	2.79	2.78	3.60	3.71	3.23	2.78	2.78	2.78
218.40 CFS	2.78	1.88	1.85	2.52	2.78	2.49	1.85	1.92
226.80 CFS	2.77	2.78	1.99	1.85	1.85	1.85	2.01	2.78
235.20 CFS	2.77	1.90	1.85	2.51	2.78	2.50	1.85	1.76

243.60 CFS .00

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
1.68 WATERSHED INCHES; 3762 CFS-HRS; 310.9 ACRE-FEET.

*** WARNING - MAIN TIME INCREMENT (1.050) IS GREATER THAN 50% OF THE
TIME OF CONCENTRATION (1.01) FOR SUBWATERSHED XSECTION 7.
THIS WILL REDUCE THE COMPUTED PEAK BY ABOUT -1.1%. ***

OPERATION ADDHYD XSECTION 75

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
121.40	971.9	(NULL)
138.08	29.1	(NULL)
143.32	24.6	(NULL)
150.63	20.1	(NULL)
164.97	15.5	(NULL)
174.68	11.2	(NULL)
180.84	11.1	(NULL)
188.48	11.2	(NULL)
208.28	8.9	(NULL)
212.74	9.0	(NULL)

HYDROGRAPH POINTS FOR ALTERNATE = 2, STORM = 1
MAIN TIME INCREMENT = 1.050 hr, DRAINAGE AREA = 8.26 SQ.MI.

HRS								
.00 CFS	.00	2.18	2.21	4.84	5.53	5.62	5.75	5.73
8.40 CFS	5.53	5.53	5.73	5.75	6.41	6.85	6.85	6.85
16.80 CFS	6.86	7.07	7.08	6.90	6.85	6.95	7.08	7.12
25.20 CFS	7.52	7.52	7.72	7.74	7.61	7.52	7.52	7.52
33.60 CFS	7.52	7.52	7.52	7.69	7.74	7.65	7.52	7.52
42.00 CFS	7.52	7.52	7.52	7.52	7.66	7.74	8.26	10.17
50.40 CFS	10.17	10.17	10.17	10.17	10.17	10.17	10.17	10.17
58.80 CFS	10.17	10.17	10.17	10.17	10.17	10.17	10.17	10.17
67.20 CFS	10.17	10.17	10.17	10.35	10.39	11.70	13.71	13.71
75.60 CFS	13.71	13.71	13.91	13.93	13.80	13.71	13.71	13.71
84.00 CFS	13.86	17.99	18.13	18.31	18.35	18.26	18.13	18.13
92.40 CFS	18.13	18.13	18.34	18.35	18.22	18.13	20.36	27.86
100.80 CFS	27.93	32.20	32.28	32.28	32.28	35.49	40.02	40.02
109.20 CFS	40.02	40.10	48.47	49.31	57.79	63.46	70.79	95.50
117.60 CFS	105	759	772	914	951	690	323	304
126.00 CFS	127	125	74	69	57	49	46	38
134.40 CFS	37.30	28.93	28.75	28.75	28.75	26.00	22.11	22.33
142.80 CFS	24.32	24.30	18.31	17.69	17.69	17.69	18.15	19.90
151.20 CFS	19.81	17.72	17.69	17.69	17.69	16.79	15.48	15.26
159.60 CFS	13.28	13.27	13.27	13.27	14.67	15.48	14.97	13.27
168.00 CFS	13.19	11.12	11.06	9.32	8.84	9.72	11.06	10.84
176.40 CFS	8.85	8.85	10.86	11.06	11.06	11.06	10.52	8.85
184.80 CFS	8.93	10.98	11.06	11.06	11.06	10.18	8.84	8.84
193.20 CFS	8.84	8.84	6.78	6.63	7.97	8.84	8.33	6.63
201.60 CFS	6.69	8.79	8.84	7.11	6.63	7.54	8.85	8.63

210.00 CFS	6.64	6.64	8.68	8.84	7.52	6.63	6.63	6.63
218.40 CFS	6.63	4.45	4.42	6.18	6.63	5.71	4.42	4.64
226.80 CFS	6.62	6.61	4.64	4.42	4.42	4.42	4.91	6.63
235.20 CFS	6.58	4.47	4.42	6.16	6.63	5.72	4.42	4.01
243.60 CFS	.00							

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
1.67 WATERSHED INCHES; 8917 CFS-HRS; 736.9 ACRE-FEET.

OPERATION ADDHYD XSECTION 76 → inflow

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
121.69	2179.1 →	(NULL)
142.76	60.0	(NULL)
150.79	48.2	(NULL)
165.37	37.0	(NULL)
174.85	26.3	(NULL)
181.52	27.4	(NULL)
188.72	27.5	(NULL)
198.77	20.6	(NULL)
203.17	20.8	(NULL)
208.44	20.8	(NULL)

HYDROGRAPH POINTS FOR ALTERNATE = 2, STORM = 1
MAIN TIME INCREMENT = 1.050 hr, DRAINAGE AREA = 20.57 SQ.MI.

HRS								
.00 CFS	.00	3.38	3.73	9.09	10.89	12.68	13.78	14.08
8.40 CFS	13.94	13.95	14.17	14.19	15.38	16.17	16.59	16.95
16.80 CFS	17.08	17.44	17.49	17.33	17.28	17.34	17.50	17.62
25.20 CFS	18.33	18.43	18.97	19.11	19.03	18.93	18.87	18.80
33.60 CFS	18.78	18.77	18.77	19.05	19.14	19.09	18.93	18.89
42.00 CFS	18.81	18.78	18.77	18.77	18.99	19.14	20.12	23.24
50.40 CFS	23.72	24.83	25.24	25.35	25.38	25.39	25.39	25.39
58.80 CFS	25.39	25.39	25.39	25.39	25.39	25.39	25.39	25.39
67.20 CFS	25.39	25.39	25.39	25.67	25.76	28.03	31.34	32.26
75.60 CFS	33.58	34.05	34.50	34.59	34.49	34.39	34.33	34.26
84.00 CFS	34.49	40.94	41.73	44.32	45.29	45.50	45.41	45.39
92.40 CFS	45.31	45.29	45.60	45.65	45.54	45.44	49.02	61.04
100.80 CFS	63.04	74.17	76.49	79.20	80.21	85.77	93.38	95.41
109.20 CFS	98	100	113	116	134	146	164	208
117.60 CFS	240	1281	1387	1968	2176	1861	1310	1133
126.00 CFS	612	496	293	234	174	144	129	107
134.40 CFS	102	83	80	74	73	67	61	59
142.80 CFS	59.99	59.37	50.82	49.42	46.17	44.75	45.13	47.77
151.20 CFS	48.04	45.80	45.79	44.75	44.34	42.72	40.57	39.58
159.60 CFS	35.61	34.94	33.73	33.30	35.42	36.80	36.79	34.76
168.00 CFS	34.42	30.24	29.51	25.50	24.08	24.42	25.98	26.03
176.40 CFS	23.70	23.63	25.80	25.97	26.98	27.42	26.68	24.01
184.80 CFS	23.71	25.99	26.00	27.02	27.44	26.09	23.93	23.37
193.20 CFS	22.51	22.19	18.86	18.35	19.46	20.50	20.24	18.17
201.60 CFS	18.08	20.48	20.46	18.73	18.19	18.82	20.45	20.49

210.00 CFS	18.16	18.12	20.31	20.45	19.28	18.22	17.55	16.88
218.40 CFS	16.62	13.16	12.80	14.45	14.92	14.25	12.70	12.65
226.80 CFS	14.93	14.96	12.89	12.68	11.69	11.23	11.94	14.61
235.20 CFS	14.93	12.71	12.66	14.39	14.90	14.29	12.71	11.55
243.60 CFS	4.48	3.46	1.16	.32				

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
1.67 WATERSHED INCHES; 22124 CFS-HRS; 1828.3 ACRE-FEET.

--- XSECTION 76, ALTERNATE 2, STORM 1, HYDROGRAPH ADDED TO READHD FILE ---

*** MESSAGE - STRUCTURE 1, USER ENTERED STARTING ELEVATION (1199.2 FEET) CAN ADD .456 INCHES OF RUNOFF TO THE OUTFLOW HYDROGRAPH VOLUME.***

*** MESSAGE - RESERVOIR ROUTING, STRUCTURE 1, TRUNCATED AT 400 POINTS WITH 1247.26 AC-FT (.09 WATERSHED INCHES) FLOOD STORAGE REMAINING IN RESERVOIR AT ELEV. 1204.37. ***

OPERATION RESVOR STRUCTURE 1

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
146.38	48.0	1207.64

*** WARNING - STRUCTURE 1, HYDROGRAPH VOLUME TRUNCATED AT 30 CFS
RESVOR (63. % OF MAX. HYDROGRAPH COORDINATE)
MAIN TIME INCREMENT TOO SMALL. ***

HYDROGRAPH POINTS FOR ALTERNATE = 2, STORM = 1
MAIN TIME INCREMENT = 1.050 hr, DRAINAGE AREA = 20.57 SQ.MI.

HRS								
.00 CFS	.21	.22	.23	.25	.29	.34	.39	.44
8.40 CFS	.50	.55	.60	.66	.71	.77	.83	.90
16.80 CFS	.96	1.02	1.09	1.15	1.22	1.28	1.35	1.41
25.20 CFS	1.48	1.54	1.61	1.68	1.75	1.82	1.88	1.95
33.60 CFS	2.02	2.08	2.15	2.22	2.28	2.35	2.42	2.48
42.00 CFS	2.55	2.61	2.67	2.74	2.80	2.87	2.93	3.01
50.40 CFS	3.09	3.17	3.26	3.35	3.43	3.52	3.61	3.69
58.80 CFS	3.78	3.86	3.95	4.03	4.12	4.20	4.29	4.37
67.20 CFS	4.45	4.54	4.62	4.70	4.78	4.87	4.97	5.08
75.60 CFS	5.19	5.30	5.41	5.53	5.64	5.76	5.87	5.98
84.00 CFS	6.10	6.22	6.36	6.51	6.66	6.81	6.96	7.12
92.40 CFS	7.27	7.42	7.57	7.72	7.87	8.02	8.17	8.36
100.80 CFS	8.57	8.81	9.07	9.34	9.62	9.91	10.23	10.56
109.20 CFS	10.90	11.25	11.63	12.03	12.48	12.99	13.55	14.23
117.60 CFS	15.06	17.60	21.74	26.94	32.08	36.83	40.30	42.70
126.00 CFS	44.38	45.42	46.13	46.57	46.89	47.12	47.30	47.44
134.40 CFS	47.56	47.65	47.72	47.78	47.83	47.87	47.91	47.93
142.80 CFS	47.96	47.98	47.99	48.00	48.00	47.99	47.99	47.98
151.20 CFS	47.98	47.98	47.98	47.97	47.96	47.95	47.94	47.93
159.60 CFS	47.91	47.88	47.85	47.82	47.80	47.77	47.75	47.73
168.00 CFS	47.70	47.67	47.63	47.59	47.54	47.50	47.45	47.41

176.40 CFS	47.36	47.31	47.27	47.22	47.18	47.14	47.10	47.06
184.80 CFS	47.01	46.97	46.92	46.88	46.84	46.80	46.76	46.71
193.20 CFS	46.66	46.61	46.56	46.50	46.45	46.39	46.34	46.28
201.60 CFS	46.23	46.17	46.12	46.07	46.01	45.95	45.90	45.85
210.00 CFS	45.80	45.74	45.69	45.63	45.58	45.53	45.47	45.41
218.40 CFS	45.36	45.29	45.23	45.16	45.10	45.04	44.98	44.91
226.80 CFS	44.85	44.79	44.72	44.66	44.59	44.53	44.46	44.40
235.20 CFS	44.34	44.27	44.21	44.15	44.09	44.03	43.97	43.90
243.60 CFS	43.83	43.75	43.66	43.58	43.49	43.40	43.31	43.22
252.00 CFS	43.14	43.05	42.96	42.87	42.79	42.70	42.61	42.53
260.40 CFS	42.44	42.35	42.27	42.18	42.10	42.01	41.93	41.84
268.80 CFS	41.76	41.67	41.59	41.50	41.42	41.33	41.25	41.17
277.20 CFS	41.08	41.00	40.92	40.83	40.75	40.67	40.58	40.50
285.60 CFS	40.42	40.34	40.26	40.17	40.09	40.01	39.93	39.85
294.00 CFS	39.77	39.69	39.61	39.53	39.45	39.37	39.29	39.21
302.40 CFS	39.13	39.05	38.96	38.87	38.78	38.68	38.59	38.50
310.80 CFS	38.41	38.32	38.22	38.13	38.04	37.95	37.86	37.77
319.20 CFS	37.68	37.59	37.50	37.41	37.32	37.23	37.14	37.05
327.60 CFS	36.97	36.88	36.79	36.70	36.61	36.53	36.44	36.35
336.00 CFS	36.26	36.18	36.09	36.00	35.92	35.83	35.75	35.66
344.40 CFS	35.58	35.49	35.41	35.32	35.24	35.15	35.07	34.99
352.80 CFS	34.90	34.82	34.74	34.65	34.57	34.49	34.40	34.32
361.20 CFS	34.24	34.16	34.08	34.00	33.91	33.83	33.75	33.67
369.60 CFS	33.59	33.51	33.43	33.35	33.27	33.19	33.11	33.03
378.00 CFS	32.95	32.88	32.80	32.72	32.64	32.56	32.48	32.41
386.40 CFS	32.33	32.25	32.18	32.10	32.02	31.95	31.87	31.79
394.80 CFS	31.72	31.64	31.57	31.49	31.41	31.34	31.26	31.19
403.20 CFS	31.12	31.04	30.97	30.89	30.82	30.75	30.67	30.60
411.60 CFS	30.53	30.45	30.38	30.31	30.24	30.16	30.09	30.02

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
.96 WATERSHED INCHES; 12714 CFS-HRS; 1050.7 ACRE-FEET.

--- STRUCTURE 1, ALTERNATE 2, STORM 1, HYDROGRAPH ADDED TO READHD FILE ---

EXECUTIVE CONTROL ENDCMP COMPUTATIONS COMPLETED FOR PASS 2

SUMMARY TABLE 1

SELECTED RESULTS OF STANDARD AND EXECUTIVE CONTROL IN ORDER PERFORMED.
A CHARACTER FOLLOWING THE PEAK DISCHARGE TIME AND RATE (CFS) INDICATES:
F-FLAT TOP HYDROGRAPH T-TRUNCATED HYDROGRAPH R-RISING TRUNCATED HYDROGRAPH

RAINFALL OF 1.64 inches AND 242.40 hr DURATION, BEGINS AT .0 hrs.
RAINTABLE NUMBER 1, ARC 2
MAIN TIME INCREMENT 1.050 HOURS

ALTERNATE 1 STORM 1

XSECTION/ STRUCTURE ID	STANDARD CONTROL OPERATION	DRAINAGE AREA (SQ MI)	RUNOFF AMOUNT (IN)	PEAK DISCHARGE ELEVATION (FT)	TIME (HR)	RATE (CFS)	RATE (CSM)
XSECTION 1	RUNOFF	2.46	1.68	---	121.40	290	117.9
XSECTION 5	REACH	2.46	1.62	2.23	122.55	283	115.0
XSECTION 10	REACH	2.46	1.66	3.72	123.70	277	112.6
XSECTION 2	RUNOFF	2.38	1.67	---	121.33	285	119.7
XSECTION 12	ADDHYD	4.84	1.67	---	121.80	488	100.8
XSECTION 12	DIVERT	4.84	1.67	---	121.80	488	100.8
XSECTION 200	DIVERT	.00	1.67	---	.00	0	********
XSECTION 20	REACH	4.84	1.67	2.45	121.80	488	100.8
XSECTION 25	REACH	4.84	1.67	1.54	121.80	488	100.8
XSECTION 3	RUNOFF	3.94	1.67	---	121.39	462	117.3
XSECTION 30	REACH	3.94	1.61	2.56	122.60	444	112.7
XSECTION 5	REACH	3.94	1.65	2.71	123.73	437	110.9
XSECTION 25	REACH	3.94	1.65	1.44	123.73	437	110.9
XSECTION 4	RUNOFF	2.06	1.67	---	121.36	245	118.9
XSECTION 34	ADDHYD	6.00	1.66	---	122.26	579	96.5
XSECTION 35	ADDHYD	10.84	1.66	---	122.01	1062	98.0
XSECTION 35	DIVERT	10.84	1.66	---	122.01	1062	98.0
XSECTION 199	DIVERT	.00	1.66	---	.00	0	********
XSECTION 45	REACH	10.84	1.66	2.32	122.01	1062	98.0
XSECTION 6	RUNOFF	1.47	1.68	---	121.27	179	121.8
XSECTION 60	REACH	1.47	1.67	2.78	122.40	181	123.1
XSECTION 67	REACH	1.47	1.67	1.83	122.40	181	123.1
XSECTION 64	ADDHYD	12.31	1.66	---	122.07	1233	100.2
XSECTION 5	RUNOFF	4.78	1.67	---	121.36	569	119.0
XSECTION 7	RUNOFF	3.48	1.68	---	121.49	403	115.8
XSECTION 75	ADDHYD	8.26	1.67	---	121.40	972	117.7
XSECTION 76	ADDHYD	20.57	1.67	---	121.69	2179	105.9
STRUCTURE 1	RESVOR	20.57	.96	1207.64	146.38T	48T	2.3

SUMMARY TABLE 1

SELECTED RESULTS OF STANDARD AND EXECUTIVE CONTROL IN ORDER PERFORMED.
A CHARACTER FOLLOWING THE PEAK DISCHARGE TIME AND RATE (CFS) INDICATES:
F-FLAT TOP HYDROGRAPH T-TRUNCATED HYDROGRAPH R-RISING TRUNCATED HYDROGRAPH

XSECTION/ STRUCTURE ID	STANDARD CONTROL OPERATION	DRAINAGE AREA (SQ MI)	RUNOFF AMOUNT (IN)	PEAK DISCHARGE ELEVATION (FT)	TIME (HR)	RATE (CFS)	RATE (CSM)
ALTERNATE 2 STORM 1							
XSECTION 1	RUNOFF	2.46	1.68	---	121.40	290	117.9
XSECTION 5	REACH	2.46	1.62	2.23	122.55	283	115.0
XSECTION 10	REACH	2.46	1.66	3.72	123.70	277	112.6
XSECTION 2	RUNOFF	2.38	1.67	---	121.33	285	119.7
XSECTION 12	ADDHYD	4.84	1.67	---	121.80	488	100.8
XSECTION 12	DIVERT	4.84	1.67	---	121.80	488	100.8
XSECTION 200	DIVERT	.00	1.67	---	.00	0	********
XSECTION 20	REACH	4.84	1.67	2.45	121.80	488	100.8
XSECTION 25	REACH	4.84	1.67	1.54	121.80	488	100.8
XSECTION 3	RUNOFF	3.94	1.67	---	121.39	462	117.3
XSECTION 30	REACH	3.94	1.61	2.56	122.60	444	112.7
XSECTION 5	REACH	3.94	1.65	2.71	123.73	437	110.9
XSECTION 25	REACH	3.94	1.65	1.44	123.73	437	110.9
XSECTION 4	RUNOFF	2.06	1.67	---	121.36	245	118.9
XSECTION 34	ADDHYD	6.00	1.66	---	122.26	579	96.5
XSECTION 35	ADDHYD	10.84	1.66	---	122.01	1062	98.0
XSECTION 35	DIVERT	10.84	1.66	---	122.01	1062	98.0
XSECTION 199	DIVERT	.00	1.66	---	.00	0	********
XSECTION 45	REACH	10.84	1.66	2.32	122.01	1062	98.0
XSECTION 6	RUNOFF	1.47	1.68	---	121.27	179	121.8
XSECTION 60	REACH	1.47	1.67	2.78	122.40	181	123.1
XSECTION 67	REACH	1.47	1.67	1.83	122.40	181	123.1
XSECTION 64	ADDHYD	12.31	1.66	---	122.07	1233	100.2
XSECTION 5	RUNOFF	4.78	1.67	---	121.36	569	119.0
XSECTION 7	RUNOFF	3.48	1.68	---	121.49	403	115.8
XSECTION 75	ADDHYD	8.26	1.67	---	121.40	972	117.7
XSECTION 76	ADDHYD	20.57	1.67	---	121.69	2179	105.9

SUMMARY TABLE 1

SELECTED RESULTS OF STANDARD AND EXECUTIVE CONTROL IN ORDER PERFORMED.
A CHARACTER FOLLOWING THE PEAK DISCHARGE TIME AND RATE (CFS) INDICATES:
F-FLAT TOP HYDROGRAPH T-TRUNCATED HYDROGRAPH R-RISING TRUNCATED HYDROGRAPH

XSECTION/ STRUCTURE ID	STANDARD CONTROL OPERATION	DRAINAGE AREA (SQ MI)	RUNOFF AMOUNT (IN)	PEAK DISCHARGE ELEVATION (FT)	TIME (HR)	RATE (CFS)	RATE (CSM)
ALTERNATE 2 STORM 1							
STRUCTURE 1	RESVOR	20.57	.96	1207.64	146.38T	48T	2.3

SUMMARY TABLE 2

MODIFIED ATT-KIN REACH ROUTING IN ORDER PERFORMED.
QUESTION MARK (?) AFTER: OUTFLOW PEAK - MAX. NUMBER ROUTING ITERATIONS USED;
LENGTH FACTOR - VALUE k* GREATER THAN 1.0;
ATT-KIN COEFF - VALUE C GREATER THAN 0.667.

			HYDROGRAPH INFORMATION				ROUTING PARAMETERS				
		FLOOD	INFLOW		OUTFLOW		Q-A EQ.			PEAK	ATT-
XSEC ID	REACH LENGTH (FT)	PLAIN LENGTH (FT)	PEAK (CFS)	TIME (HR)	PEAK (CFS)	TIME (HR)	COEFF (X)	POWER (M)	LENGTH FACTOR (k*)	RATIO Q/I (Q*)	KIN COEFF (C)
BASEFLOW IS .0 CFS											
ALTERNATE 1 STORM 1											
5	9100		284	121.8	280	122.8	.52	1.33	.053	.986	.81?
10	9100		280	122.8	276	123.9	.88	1.25	.057	.985	.83?
20	3332		488	121.8	488	121.8	.10	1.69	.002	1.000	1.00?
25	1950		488	121.8	488	121.8	.046	1.75	.001	1.000	1.00?
30	8865		451	121.8	441	122.8	.79	1.20	.075	.977	.73?
5	8865		441	122.8	436	123.9	.53	1.32	.045	.989	.87?
25	1950		436	123.9	436	123.9	.047	1.75	.002	1.000	1.00?
45	4200		1058	121.8	1058	121.8	.045	1.73	.003	1.000	1.00?
60	7540		175	120.8	174	122.8	1.40	1.12	.074	.992	.80?
67	5140		174	122.8	174	122.8	.53	1.32	.031	1.000	1.00?
ALTERNATE 2 STORM 1											
5	9100		284	121.8	280	122.8	.52	1.33	.053	.986	.81?
10	9100		280	122.8	276	123.9	.88	1.25	.057	.985	.83?
20	3332		488	121.8	488	121.8	.10	1.69	.002	1.000	1.00?
25	1950		488	121.8	488	121.8	.046	1.75	.001	1.000	1.00?
30	8865		451	121.8	441	122.8	.79	1.20	.075	.977	.73?
5	8865		441	122.8	436	123.9	.53	1.32	.045	.989	.87?
25	1950		436	123.9	436	123.9	.047	1.75	.002	1.000	1.00?
45	4200		1058	121.8	1058	121.8	.045	1.73	.003	1.000	1.00?
60	7540		175	120.8	174	122.8	1.40	1.12	.074	.992	.80?
67	5140		174	122.8	174	122.8	.53	1.32	.031	1.000	1.00?

SUMMARY TABLE 3

STORM DISCHARGES (CFS) AT XSECTIONS AND STRUCTURES FOR ALL ALTERNATES
QUESTION MARK (?) AFTER: OUTFLOW PEAK - RISING TRUNCATED HYDROGRAPH.

XSECTION/ STRUCTURE ID	DRAINAGE AREA (SQ MI)	STORM NUMBERS..... 1
STRUCTURE 1	20.57	
ALTERNATE 1		48
ALTERNATE 2		48
XSECTION 1	2.46	
ALTERNATE 1		290
ALTERNATE 2		290
XSECTION 2	2.38	
ALTERNATE 1		285
ALTERNATE 2		285
XSECTION 3	3.94	
ALTERNATE 1		462
ALTERNATE 2		462
XSECTION 4	2.06	
ALTERNATE 1		245
ALTERNATE 2		245
XSECTION 5	4.78	
ALTERNATE 1		569
ALTERNATE 2		569
XSECTION 6	1.47	
ALTERNATE 1		179
ALTERNATE 2		179
XSECTION 7	3.48	
ALTERNATE 1		403
ALTERNATE 2		403
XSECTION 10	2.46	
ALTERNATE 1		277
ALTERNATE 2		277
XSECTION 12	4.84	
ALTERNATE 1		488
ALTERNATE 2		488

SUMMARY TABLE 3

STORM DISCHARGES (CFS) AT XSECTIONS AND STRUCTURES FOR ALL ALTERNATES
QUESTION MARK (?) AFTER: OUTFLOW PEAK - RISING TRUNCATED HYDROGRAPH.

XSECTION/ STRUCTURE ID	DRAINAGE AREA (SQ MI)	STORM NUMBERS..... 1
XSECTION 20	4.84	
ALTERNATE 1		488
ALTERNATE 2		488
XSECTION 25	3.94	
ALTERNATE 1		437
ALTERNATE 2		437
XSECTION 30	3.94	
ALTERNATE 1		444
ALTERNATE 2		444
XSECTION 34	6.00	
ALTERNATE 1		579
ALTERNATE 2		579
XSECTION 35	10.84	
ALTERNATE 1		1062
ALTERNATE 2		1062
XSECTION 45	10.84	
ALTERNATE 1		1062
ALTERNATE 2		1062
XSECTION 60	1.47	
ALTERNATE 1		181
ALTERNATE 2		181
XSECTION 64	12.31	
ALTERNATE 1		1233
ALTERNATE 2		1233
XSECTION 67	1.47	
ALTERNATE 1		181
ALTERNATE 2		181
XSECTION 75	8.26	
ALTERNATE 1		972
ALTERNATE 2		972

SUMMARY TABLE 3

STORM DISCHARGES (CFS) AT XSECTIONS AND STRUCTURES FOR ALL ALTERNATES
QUESTION MARK (?) AFTER: OUTFLOW PEAK - RISING TRUNCATED HYDROGRAPH.

XSECTION/ STRUCTURE ID	DRAINAGE AREA (SQ MI)	STORM NUMBERS..... 1
XSECTION 76	20.57	
ALTERNATE 1		2179
ALTERNATE 2		2179
XSECTION 199	.00	
ALTERNATE 1		0
ALTERNATE 2		0
XSECTION 200	.00	
ALTERNATE 1		0
ALTERNATE 2		0

```
TR20 ------------------------------------------------------------------ SCS -
WHTANK3      WHITE TANK FRS #3, WATERSHED DIVIDED INTO 7 SUB-BASINS      VERSION
07/30/**  100-YR 10-DAY RUNOFF & DIST IN TABLE 1, 100-YR SED IN RESVOIR 2.04TEST


END OF  1 JOBS IN THIS RUN


                    SCS  TR-20,  VERSION 2.04TEST
                          WHTANK3   FILES

     INPUT  = 10DAY.DAT                                , GIVEN DATA FILE
     OUTPUT = 10DOUT.OUT                               , DATED 07/30/**,11:53:22

              FILES GENERATED - DATED 07/30/**,11:53:22

   FILE 111.TRD CONTAINS READHD INFORMATION


         TOTAL NUMBER OF WARNINGS =  26,  MESSAGES =   8

                     JOB ENDED AT 11:53:22
                 *** TR-20 RUN COMPLETED ***
```

Reservoir Routing of 2nd 100-yr 10-day storm.

```
*****************80-80 LIST OF INPUT DATA FOR TR-20 HYDROLOGY*****************

JOB TR-20 WHTANK3                          PASS=001  SUMMARY
TITLE     WHITE TANK FRS #3, WATERSHED DIVIDED INTO 7 SUB-BASINS
TITLE     100-YR 10-DAY RUNOFF & DIST IN TABLE 1, 100-YR SED IN RESVOIR
 5 RAINFL 1     1       2.4                                                10-DAY
 8          .0000       .0010       .0035       .0061       .0086
 8          .0112       .0143       .0174       .0206       .0237
 8          .0269       .0303       .0338       .0372       .0406
 8          .0440       .0475       .0509       .0543       .0577
 8          .0612       .0658       .0704       .0750       .0796
 8          .0842       .0888       .0934       .0980       .1026
 8          .1073       .1135       .1197       .1260       .1322
 8          .1384       .1466       .1549       .1631       .1713
 8          .1796       .1878       .2004       .2150       .2296
 8          .2477       .2658       .2881       .3168       .3600
 8          .7090       1.139       1.285       1.342       1.373
 8          1.395       1.412       1.425       1.438       1.448
 8          1.459       1.467       1.475       1.484       1.492
 8          1.500       1.507       1.513       1.519       1.526
 8          1.532       1.537       1.541       1.546       1.550
 8          1.555       1.560       1.564       1.569       1.574
 8          1.578       1.582       1.585       1.589       1.592
 8          1.596       1.599       1.603       1.606       1.610
 8          1.613       1.616       1.618       1.621       1.623
 8          1.626       1.628       1.630       1.633       1.635
 8          1.638        1.64        1.64        1.64        1.64
 9 ENDTBL
 4 DIMHYD               .0556                                              WT3
 8          0.0         .03         .10         .19         .31
 8          .47         .66         .82         .93         .99
 8          1.0         .99         .93         .82         .66
 8          .47         .31         .03         .00         .00
 9 ENDTBL
 2 XSECTN   005         1.0         8.77                                   BOSSCS#5
 8                      0.          0.0         0.0
 8                      0.35        5.          5.56
 8                      1.03        50.         30.95
 8                      1.39        100.        52.16
 8                      1.94        200.        88.72
 8                      2.63        400.        148.61
 8                      3.51        800.        260.63
 8                      4.62        1600.       459.66
 8                      6.04        3200.       929.36
 8                      7.38        6400.       1811.51
 8                      8.77        12800.      3374.20
 8                      10.17       25600.      6398.87
 8                      11.89       51200.      10982.51
 9 ENDTBL
 2 XSECTN   010         1.0         10.41                                  BOSSCS#4
 8                      0.          0.0         0.0
 8                      0.86        5.          4.39
 8                      2.01        50.         24.22
 8                      2.58        100.        40.12
 8                      3.46        200.        80.99
 8                      4.14        400.        129.44
 8                      5.16        800.        214.74
 8                      6.39        1600.       441.84
```

```
8                       7.80        3200.       980.75
8                       9.16        6400.       1891.44
8                       10.41       12800.      3516.14
8                       11.75       25600.      6548.98
8                       13.26       51200.      11081.19
9 ENDTBL
2 XSECTN    020         1.0         7.3                                 REACHC
8                       0.          0.0         0.0
8                       1.01        100.        57.78
8                       1.49        200.        86.81
8                       1.88        300.        110.25
8                       2.49        500.        149.47
8                       3.68        1000.       226.31
8                       5.40        2000.       346.26
8                       7.85        4000.       533.39
8                       9.64        6000.       688.07
8                       11.16       8000.       838.10
8                       12.46       10000.      985.31
8                       13.61       12000.      1122.03
8                       14.56       14000.      1236.94
8                       15.43       16000.      1345.18
8                       16.31       18000.      1456.68
9 ENDTBL
2 XSECTN    025         1.0         7.3                                 REACHB
8                       0.          0.0         0.0
8                       0.63        100.        80.89
8                       0.93        200.        120.32
8                       1.17        300.        151.77
8                       1.56        500.        203.28
8                       2.30        1000.       302.00
8                       3.38        2000.       449.24
8                       4.97        4000.       673.73
8                       6.23        6000.       855.96
8                       7.31        8000.       1016.35
8                       8.24        10000.      1158.51
8                       9.09        12000.      1293.31
8                       9.90        14000.      1425.57
8                       10.64       16000.      1549.17
8                       11.36       18000.      1673.11
9 ENDTBL
2 XSECTN    030         1.0         9.45                                BOSSCS#6
8                       0.          0.0         0.0
8                       0.77        5.          4.67
8                       1.54        50.         32.06
8                       1.78        100.        56.64
8                       2.10        200.        100.59
8                       2.50        400.        179.97
8                       3.01        800.        320.25
8                       3.63        1600.       589.66
8                       4.35        3200.       1110.72
8                       5.21        6400.       2084.48
8                       6.03        12800.      4119.83
8                       6.99        25600.      6856.75
8                       8.28        51200.      11085.87
9 ENDTBL
2 XSECTN    045         1.0         4.87                                REACHA
```

```
8                       0.          0.0         0.0
8                       0.60        100.        85.69
8                       0.90        200.        127.94
8                       1.13        300.        161.93
8                       1.52        500.        217.27
8                       2.25        1000.       324.03
8                       3.31        2000.       483.02
8                       4.87        4000.       722.17
8                       6.09        6000.       914.99
8                       7.15        8000.       1084.61
8                       8.05        10000.      1234.17
8                       8.87        12000.      1373.80
8                       9.64        14000.      1507.84
8                       10.34       16000.      1633.45
8                       11.00       18000.      1753.12
9 ENDTBL
2 XSECTN    060         1.0         4.7                                 2CP6CP7
8                       0.          0.0         0.0
8                       2.36        100.        45.12
8                       2.88        200.        83.75
8                       3.18        300.        114.33
8                       3.64        500.        172.72
8                       4.42        1000.       289.04
8                       5.40        2000.       470.72
8                       6.87        4000.       782.74
8                       7.91        6000.       1020.12
8                       8.79        8000.       1231.25
8                       9.60        10000.      1435.05
8                       10.26       12000.      1618.34
8                       10.94       14000.      1812.58
8                       11.47       16000.      1983.46
8                       11.96       18000.      2150.12
9 ENDTBL
2 XSECTN    067         1.0         8.77                                BOSSCS#5
8                       0.          0.0         0.0
8                       0.35        5.          5.56
8                       1.03        50.         30.95
8                       1.39        100.        52.16
8                       1.94        200.        88.72
8                       2.63        400.        148.61
8                       3.51        800.        260.63
8                       4.62        1600.       459.66
8                       6.04        3200.       929.36
8                       7.38        6400.       1811.51
8                       8.77        12800.      3374.20
8                       10.17       25600.      6398.87
8                       11.89       51200.      10982.51
9 ENDTBL
3 STRUCT      01                                                        95/11/6
8                       1178.0      0.0         0.
8                       1188.0      0.02        44.8
8                       1196.8      0.13        300.
8                       1199.2      0.21        500.
8                       1202.0      16.00       845.55
8                       1204.0      28.000      1176.28
8                       1206.0      39.00       1575.25
```

```
**********************80-80 LIST OF INPUT DATA (CONTINUED)**********************

 8                        1208.0       50.00        2044.97
 8                        1210.0       63.00        2593.40
 8                        1212.0       73.000       3218.00
 8                        1213.0       2672.00      3556.67
 8                        1214.0       8218.00      3916.02
 8                        1215.0       15533.0      4294.13
 8                        1216.0       24261.0      4692.68
 8                        1217.0       34202.0      5113.19
 8                        1218.0       45221.0      5556.01
 8                        1219.0       57222.0      6021.50
 8                        1220.0       70131.0      6509.75
 9 ENDTBL
 6 RUNOFF 1 001       1 2.46         87.2         0.85         1 1
 6 REACH  3 005   1   7 9100.                                  1            BOSS#6
 6 REACH  3 010   7   2 9100.                                  1            BOSS#4
 6 RUNOFF 1 002       3 2.38         79.9         0.73         1 1
 6 ADDHYD 4 012   2 3 1                                        1 1
 6 DIVERT 6 012   1 4 7 4100.        1.00         200.         1 1          OLIVE
 6 REACH  3 020   4   7 3332.                                  1            REACH C
 6 REACH  3 025   7   5 1950.                                  1            REACH B
 6 RUNOFF 1 003       6 3.94         87.2         0.88         1 1
 6 REACH  3 030   6   7 8865.                                  1            BOSS#6
 6 REACH  3 005   7   1 8865.                                  1            BOSS#5
 6 REACH  3 025   1   7 1950.                                  1            REACH B
 6 RUNOFF 1 004       1 2.06         77.3         0.79         1 1
 6 ADDHYD 4 034   7 1 2                                        1 1
 6 ADDHYD 4 035   5 2 3                                        1 1
 6 DIVERT 6 035   3 4 7 11000.       1.00         199.         1 1          NORTHERN
 6 REACH  3 045   4   5 4200.                                  1            REACH A
 6 RUNOFF 1 006       2 1.47         87.7         0.47         1 1
 6 REACH  3 060   2   3 7540.                                  1            CP6CP7
 6 REACH  3 067   3   4 5140.                                  1            BOSS#5
 6 ADDHYD 4 064   5 4 3                                        1 1
 6 RUNOFF 1 005       6 4.78         78.8         0.78         1 1
 6 RUNOFF 1 007       7 3.48         81.7         1.01         1 1
 6 ADDHYD 4 075   6 7 1                                        1 1
 6 ADDHYD 4 076   1 3 2                                        1 1     1
 6 RESVOR 2    01 2   1 1206.92                                1 1     1
ENDATA
 7 LIST                   1.0                       1.
 7 INCREM 6               1.05
 7 COMPUT 7 001      01 0.           1.0          1.0          1 2  01  01
   ENDCMP 1
 7 COMPUT 7 001      01 0.           1.0          1.0          1 2  02  01
   ENDCMP 1
   ENDJOB 2

*******************************END OF 80-80 LIST*******************************
```

RUNOFF OPTION USED WITH RAINTABLE NO. 1, RUNOFF CURVE NO. = 100.

COMPUTED DIMHYD PEAK RATE FACTOR = 664.607

```
EXECUTIVE CONTROL  LIST                1.          0.          1.

          LISTING OF CURRENT DATA


                      COMPUTED TIME INCREMENT
DIMHYD                          .0556

                   .0000       .0300       .1000       .1900       .3100
                   .4700       .6600       .8200       .9300       .9900
                  1.0000       .9900       .9300       .8200       .6600
                   .4700       .3100       .0300       .0000       .0000
ENDTBL

   COMPUTED PEAK RATE FACTOR =  664.607
```

	TABLE NO.	TIME INCREMENT
RAINFL	1	2.4000

.0000	.0010	.0035	.0061	.0086
.0112	.0143	.0174	.0206	.0237
.0269	.0303	.0338	.0372	.0406
.0440	.0475	.0509	.0543	.0577
.0612	.0658	.0704	.0750	.0796
.0842	.0888	.0934	.0980	.1026
.1073	.1135	.1197	.1260	.1322
.1384	.1466	.1549	.1631	.1713
.1796	.1878	.2004	.2150	.2296
.2477	.2658	.2881	.3168	.3600
.7090	1.1390	1.2850	1.3420	1.3730
1.3950	1.4120	1.4250	1.4380	1.4480
1.4590	1.4670	1.4750	1.4840	1.4920
1.5000	1.5070	1.5130	1.5190	1.5260
1.5320	1.5370	1.5410	1.5460	1.5500
1.5550	1.5600	1.5640	1.5690	1.5740
1.5780	1.5820	1.5850	1.5890	1.5920
1.5960	1.5990	1.6030	1.6060	1.6100
1.6130	1.6160	1.6180	1.6210	1.6230
1.6260	1.6280	1.6300	1.6330	1.6350
1.6380	1.6400	1.6400	1.6400	1.6400

ENDTBL

STANDARD CONTROL INSTRUCTIONS

```
RUNOFF        1       1      2.4600     87.2000      .85001 1 0 0 0 1
REACH         5   1   7   9100.0000       .0000      .00001 0 0 0 0 1
REACH        10   7   2   9100.0000       .0000      .00001 0 0 0 0 1
RUNOFF        2       3      2.3800     79.9000      .73001 1 0 0 0 1
ADDHYD       12   2 3 1                                   1 1 0 0 0 1
DIVERT       12   1 4 7   4100.0000      1.0000   200.00001 1 0 0 0 1
REACH        20   4   7   3332.0000       .0000      .00001 0 0 0 0 1
REACH        25   7   5   1950.0000       .0000      .00001 0 0 0 0 1
RUNOFF        3       6      3.9400     87.2000      .88001 1 0 0 0 1
REACH        30   6   7   8865.0000       .0000      .00001 0 0 0 0 1
REACH         5   7   1   8865.0000       .0000      .00001 0 0 0 0 1
REACH        25   1   7   1950.0000       .0000      .00001 0 0 0 0 1
RUNOFF        4       1      2.0600     77.3000      .79001 1 0 0 0 1
ADDHYD       34   7 1 2                                   1 1 0 0 0 1
ADDHYD       35   5 2 3                                   1 1 0 0 0 1
DIVERT       35   3 4 7  11000.0000      1.0000   199.00001 1 0 0 0 1
REACH        45   4   5   4200.0000       .0000      .00001 0 0 0 0 1
RUNOFF        6       2      1.4700     87.7000      .47001 1 0 0 0 1
REACH        60   2   3   7540.0000       .0000      .00001 0 0 0 0 1
REACH        67   3   4   5140.0000       .0000      .00001 0 0 0 0 1
ADDHYD       64   5 4 3                                   1 1 0 0 0 1
RUNOFF        5       6      4.7800     78.8000      .78001 1 0 0 0 1
RUNOFF        7       7      3.4800     81.7000     1.01001 1 0 0 0 1
ADDHYD       75   6 7 1                                   1 1 0 0 0 1
ADDHYD       76   1 3 2                                   1 1 0 0 1 1
RESVOR          1 2   1   1206.9200                       1 1 0 0 1 1
ENDATA
```

END OF LISTING

EXECUTIVE CONTROL INCREM MAIN TIME INCREMENT = 1.050 HOURS

EXECUTIVE CONTROL COMPUT FROM XSECTION 1 TO STRUCTURE 1
STARTING TIME = .00 RAIN DEPTH = 1.00 RAIN DURATION = 1.00
ANT. RUNOFF COND. = 2 MAIN TIME INCREMENT = 1.050 HOURS
ALTERNATE NO. = 1 STORM NO. = 1 RAIN TABLE NO. = 1

OPERATION RUNOFF XSECTION 1

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
121.40	290.4	(RUNOFF)
138.08	8.7	(RUNOFF)
143.29	7.3	(RUNOFF)
150.61	6.0	(RUNOFF)
164.99	4.6	(RUNOFF)
174.63	3.3	(RUNOFF)
179.55	3.3 *	(RUNOFF)
187.64	3.3	(RUNOFF)
192.22	2.6	(RUNOFF)
208.25	2.7	(RUNOFF)

* FIRST POINT OF FLAT PEAK

HYDROGRAPH POINTS FOR ALTERNATE = 1, STORM = 1
MAIN TIME INCREMENT = 1.050 hr, DRAINAGE AREA = 2.46 SQ.MI.

HRS									
.00	CFS	.00	.66	.66	1.45	1.65	1.68	1.72	1.71
8.40	CFS	1.65	1.65	1.71	1.72	1.92	2.05	2.05	2.05
16.80	CFS	2.05	2.11	2.11	2.06	2.05	2.08	2.11	2.13
25.20	CFS	2.25	2.25	2.31	2.31	2.27	2.25	2.25	2.25
33.60	CFS	2.25	2.25	2.25	2.30	2.31	2.29	2.25	2.25
42.00	CFS	2.25	2.25	2.25	2.25	2.29	2.31	2.48	3.04
50.40	CFS	3.04	3.04	3.04	3.04	3.04	3.04	3.04	3.04
58.80	CFS	3.04	3.04	3.04	3.04	3.04	3.04	3.04	3.04
67.20	CFS	3.04	3.04	3.04	3.09	3.11	3.51	4.10	4.10
75.60	CFS	4.10	4.10	4.16	4.16	4.12	4.10	4.10	4.10
84.00	CFS	4.11	5.40	5.42	5.47	5.48	5.46	5.42	5.42
92.40	CFS	5.42	5.42	5.48	5.48	5.44	5.42	6.18	8.33
100.80	CFS	8.41	9.58	9.65	9.65	9.65	10.62	11.96	11.96
109.20	CFS	11.96	12.01	14.43	14.74	17.28	18.96	21.33	28.55
117.60	CFS	33.56	229.35	230.66	273.71	284.13	207.45	96.47	89.78
126.00	CFS	38.02	37.66	22.09	20.48	16.69	14.54	13.75	11.23
134.40	CFS	11.10	8.71	8.59	8.59	8.59	7.72	6.61	6.68
142.80	CFS	7.27	7.25	5.50	5.29	5.29	5.29	5.46	5.95
151.20	CFS	5.91	5.31	5.29	5.29	5.29	5.02	4.63	4.55
159.60	CFS	3.96	3.96	3.96	3.96	4.38	4.63	4.48	3.96
168.00	CFS	3.95	3.32	3.30	2.79	2.64	2.93	3.30	3.22
176.40	CFS	2.65	2.64	3.25	3.30	3.30	3.30	3.13	2.64

184.80 CFS	2.68	3.27	3.30	3.30	3.30	3.03	2.64	2.64
193.20 CFS	2.64	2.63	2.05	1.98	2.38	2.64	2.49	1.98
201.60 CFS	1.99	2.64	2.64	2.11	1.98	2.26	2.64	2.56
210.00 CFS	1.99	1.98	2.58	2.64	2.22	1.98	1.98	1.98
218.40 CFS	1.95	1.35	1.32	1.83	1.98	1.70	1.32	1.39
226.80 CFS	1.98	1.97	1.39	1.32	1.32	1.32	1.49	1.98
235.20 CFS	1.95	1.34	1.32	1.85	1.98	1.72	1.32	1.17
243.60 CFS	.00							

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
1.68 WATERSHED INCHES; 2671 CFS-HRS; 220.7 ACRE-FEET.

*** WARNING - MAIN TIME INCREMENT (1.050) IS GREATER THAN 50% OF THE
TIME OF CONCENTRATION (.85) FOR SUBWATERSHED XSECTION 1.
THIS WILL REDUCE THE COMPUTED PEAK BY ABOUT -2.1%. ***

OPERATION REACH XSECTION 5

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
122.55	283.3	2.23
144.42	7.4	.39
151.83	5.9	.36
166.22	4.6	.32
175.87	3.3	.23
182.21	3.3	.23
189.54	3.3	.23
214.00	2.6	.18
240.45	1.9	.14

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
1.62 WATERSHED INCHES; 2576 CFS-HRS; 212.9 ACRE-FEET.

OPERATION REACH XSECTION 10

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
123.70	277.3	3.72
145.52	7.3	.92
153.01	5.9	.88
167.44	4.5	.78
177.05	3.2	.56
183.33	3.3	.57
190.64	3.3	.57
215.18	2.6	.44
241.65	1.9	.33

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
1.66 WATERSHED INCHES; 2642 CFS-HRS; 218.3 ACRE-FEET.

OPERATION RUNOFF XSECTION 2

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
78.23	4.0	(RUNOFF)
121.33	285.1	(RUNOFF)
137.49	8.3	(RUNOFF)
143.33	7.3	(RUNOFF)
154.35	5.1	(RUNOFF)
164.80	4.5	(RUNOFF)
174.61	3.2	(RUNOFF)
181.13	3.2	(RUNOFF)
188.48	3.2	(RUNOFF)
192.69	2.6	(RUNOFF)

HYDROGRAPH POINTS FOR ALTERNATE = 1, STORM = 1
MAIN TIME INCREMENT = 1.050 hr, DRAINAGE AREA = 2.38 SQ.MI.

HRS									
.00	CFS	.00	.64	.64	1.49	1.60	1.63	1.66	1.65
8.40	CFS	1.60	1.60	1.66	1.66	1.90	1.98	1.98	1.98
16.80	CFS	1.99	2.05	2.05	1.99	1.98	2.01	2.05	2.06
25.20	CFS	2.17	2.17	2.23	2.24	2.19	2.17	2.17	2.17
33.60	CFS	2.17	2.17	2.17	2.23	2.24	2.20	2.17	2.17
42.00	CFS	2.17	2.17	2.17	2.17	2.22	2.24	2.46	2.94
50.40	CFS	2.94	2.94	2.94	2.94	2.94	2.94	2.94	2.94
58.80	CFS	2.94	2.94	2.94	2.94	2.94	2.94	2.94	2.94
67.20	CFS	2.94	2.94	2.94	3.00	3.00	3.49	3.96	3.96
75.60	CFS	3.96	3.96	4.03	4.03	3.98	3.96	3.96	3.96
84.00	CFS	4.03	5.24	5.24	5.30	5.31	5.27	5.24	5.24
92.40	CFS	5.24	5.24	5.30	5.31	5.26	5.24	5.96	8.06
100.80	CFS	8.11	9.32	9.33	9.33	9.33	10.46	11.57	11.57
109.20	CFS	11.57	11.57	14.21	14.26	17.19	18.35	21.32	27.62
117.60	CFS	36.73	223.11	223.11	269.22	274.90	177.77	93.34	85.77
126.00	CFS	36.44	36.28	20.57	19.82	15.53	14.06	13.20	10.87
134.40	CFS	10.74	8.33	8.31	8.31	8.31	7.35	6.39	6.48
142.80	CFS	7.03	7.03	5.17	5.11	5.11	5.11	5.32	5.75
151.20	CFS	5.73	5.11	5.11	5.11	5.11	4.77	4.48	4.39
159.60	CFS	3.84	3.84	3.84	3.84	4.32	4.48	4.29	3.84
168.00	CFS	3.80	3.20	3.20	2.63	2.56	2.88	3.20	3.12
176.40	CFS	2.56	2.56	3.17	3.20	3.20	3.20	2.99	2.56
184.80	CFS	2.57	3.20	3.20	3.20	3.20	2.85	2.56	2.56
193.20	CFS	2.56	2.55	1.94	1.92	2.41	2.56	2.37	1.92
201.60	CFS	1.96	2.56	2.56	2.00	1.92	2.24	2.56	2.47
210.00	CFS	1.92	1.92	2.53	2.56	2.10	1.92	1.92	1.92
218.40	CFS	1.91	1.28	1.28	1.85	1.92	1.58	1.28	1.37
226.80	CFS	1.92	1.91	1.29	1.28	1.28	1.28	1.48	1.92
235.20	CFS	1.88	1.28	1.28	1.84	1.92	1.59	1.28	1.10
243.60	CFS	.00							

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
1.67 WATERSHED INCHES; 2561 CFS-HRS; 211.6 ACRE-FEET.

*** WARNING - MAIN TIME INCREMENT (1.050) IS GREATER THAN 50% OF THE
TIME OF CONCENTRATION (.73) FOR SUBWATERSHED XSECTION 2.
THIS WILL REDUCE THE COMPUTED PEAK BY ABOUT -3.7%. ***

OPERATION ADDHYD XSECTION 12

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
121.80	488.3	(NULL)
145.48	12.4	(NULL)
150.94	11.1	(NULL)
153.00	11.0	(NULL)
165.72	8.5	(NULL)
178.68	6.0	(NULL)
181.69	6.4	(NULL)
186.07	6.0	(NULL)
188.84	6.4	(NULL)
212.28	4.7	(NULL)

HYDROGRAPH POINTS FOR ALTERNATE = 1, STORM = 1
MAIN TIME INCREMENT = 1.050 hr, DRAINAGE AREA = 4.84 SQ.MI.

HRS								
.00 CFS	.00	.64	.64	1.93	2.20	2.81	3.18	3.29
8.40 CFS	3.29	3.30	3.33	3.32	3.59	3.69	3.84	3.97
16.80 CFS	4.02	4.09	4.09	4.08	4.09	4.09	4.10	4.13
25.20 CFS	4.27	4.29	4.44	4.47	4.47	4.48	4.46	4.43
33.60 CFS	4.42	4.42	4.42	4.48	4.48	4.49	4.48	4.47
42.00 CFS	4.43	4.42	4.42	4.42	4.47	4.48	4.74	5.24
50.40 CFS	5.36	5.78	5.93	5.97	5.98	5.98	5.98	5.98
58.80 CFS	5.98	5.98	5.98	5.98	5.98	5.98	5.98	5.98
67.20 CFS	5.98	5.98	5.98	6.04	6.04	6.56	7.06	7.33
75.60 CFS	7.83	8.00	8.11	8.12	8.12	8.12	8.10	8.07
84.00 CFS	8.13	9.34	9.35	10.28	10.61	10.70	10.71	10.70
92.40 CFS	10.67	10.66	10.72	10.72	10.72	10.72	11.42	13.48
100.80 CFS	14.04	16.88	17.51	18.48	18.85	20.07	21.21	21.87
109.20 CFS	23.01	23.40	26.14	26.24	30.83	32.77	37.69	45.80
117.60 CFS	57	249	254	434	488	433	369	316
126.00 CFS	175	139	79	63	44	37	32	27
134.40 CFS	25.04	20.52	19.70	17.87	17.16	16.00	15.00	14.49
142.80 CFS	14.08	13.80	12.26	12.32	11.17	10.62	10.66	11.05
151.20 CFS	11.13	10.89	10.99	10.61	10.46	10.07	9.76	9.50
159.60 CFS	8.61	8.45	8.01	7.85	8.30	8.44	8.54	8.34
168.00 CFS	8.30	7.34	7.19	6.17	5.92	5.85	5.93	5.98
176.40 CFS	5.72	5.77	6.01	5.89	6.26	6.43	6.28	5.86
184.80 CFS	5.76	6.01	5.91	6.28	6.44	6.14	5.86	5.68
193.20 CFS	5.35	5.23	4.59	4.55	4.66	4.61	4.63	4.44
201.60 CFS	4.46	4.71	4.59	4.43	4.51	4.51	4.62	4.66
210.00 CFS	4.42	4.47	4.70	4.59	4.50	4.49	4.26	4.01
218.40 CFS	3.92	3.27	3.24	3.40	3.30	3.25	3.17	3.13
226.80 CFS	3.38	3.32	3.08	3.20	2.85	2.67	2.81	3.24
235.20 CFS	3.32	3.09	3.20	3.37	3.29	3.28	3.18	2.88

243.60 CFS 1.47 1.26 .40

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
1.67 WATERSHED INCHES; 5202 CFS-HRS; 429.9 ACRE-FEET.

OPERATION DIVERT XSECTION 12
OUTPUT #1 HYDROGRAPH

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
121.80	488.3	(DIVERT)
145.48	12.4	(DIVERT)
150.94	11.1	(DIVERT)
153.00	11.0	(DIVERT)
165.72	8.5	(DIVERT)
178.68	6.0	(DIVERT)
181.69	6.4	(DIVERT)
186.07	6.0	(DIVERT)
188.84	6.4	(DIVERT)
212.28	4.7	(DIVERT)

HYDROGRAPH POINTS FOR ALTERNATE = 1, STORM = 1
MAIN TIME INCREMENT = 1.050 hr, DRAINAGE AREA = 4.84 SQ.MI.

HRS								
.00 CFS	.00	.64	.64	1.93	2.20	2.81	3.18	3.29
8.40 CFS	3.29	3.30	3.33	3.32	3.59	3.69	3.84	3.97
16.80 CFS	4.02	4.09	4.09	4.08	4.09	4.09	4.10	4.13
25.20 CFS	4.27	4.29	4.44	4.47	4.47	4.48	4.46	4.43
33.60 CFS	4.42	4.42	4.42	4.48	4.48	4.49	4.48	4.47
42.00 CFS	4.43	4.42	4.42	4.42	4.47	4.48	4.74	5.24
50.40 CFS	5.36	5.78	5.93	5.97	5.98	5.98	5.98	5.98
58.80 CFS	5.98	5.98	5.98	5.98	5.98	5.98	5.98	5.98
67.20 CFS	5.98	5.98	5.98	6.04	6.04	6.56	7.06	7.33
75.60 CFS	7.83	8.00	8.11	8.12	8.12	8.12	8.10	8.07
84.00 CFS	8.13	9.34	9.35	10.28	10.61	10.70	10.71	10.70
92.40 CFS	10.67	10.66	10.72	10.72	10.72	10.72	11.42	13.48
100.80 CFS	14.04	16.88	17.51	18.48	18.85	20.07	21.21	21.87
109.20 CFS	23.01	23.40	26.14	26.24	30.83	32.77	37.69	45.80
117.60 CFS	57	249	254	434	488	433	369	316
126.00 CFS	175	139	79	63	44	37	32	27
134.40 CFS	25.04	20.52	19.70	17.87	17.16	16.00	15.00	14.49
142.80 CFS	14.08	13.80	12.26	12.32	11.17	10.62	10.66	11.05
151.20 CFS	11.13	10.89	10.99	10.61	10.46	10.07	9.76	9.50
159.60 CFS	8.61	8.45	8.01	7.85	8.30	8.44	8.54	8.34
168.00 CFS	8.30	7.34	7.19	6.17	5.92	5.85	5.93	5.98
176.40 CFS	5.72	5.77	6.01	5.89	6.26	6.43	6.28	5.86
184.80 CFS	5.76	6.01	5.91	6.28	6.44	6.14	5.86	5.68
193.20 CFS	5.35	5.23	4.59	4.55	4.66	4.61	4.63	4.44
201.60 CFS	4.46	4.71	4.59	4.43	4.51	4.51	4.62	4.66
210.00 CFS	4.42	4.47	4.70	4.59	4.50	4.49	4.26	4.01
218.40 CFS	3.92	3.27	3.24	3.40	3.30	3.25	3.17	3.13
226.80 CFS	3.38	3.32	3.08	3.20	2.85	2.67	2.81	3.24

235.20 CFS	3.32	3.09	3.20	3.37	3.29	3.28	3.18	2.88
243.60 CFS	1.47	1.26	.40					

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
1.67 WATERSHED INCHES; 5202 CFS-HRS; 429.9 ACRE-FEET.

OUTPUT #2 DIVERTED HYDROGRAPH (XSECTION 200)

*** MESSAGE - HYDROGRAPH CONTAINS NO FLOW ***

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
237 CFS-HRS; 429.9 ACRE-FEET.

*** WARNING - ROUTING COEFFICIENT (C) EQUALS 1.0,
CONSIDER SMALLER MAIN TIME INCREMENT FOR XSECTION 20. ***

OPERATION REACH XSECTION 20

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
121.80	488.3	2.45
145.48	12.4	.13
150.94	11.1	.11
153.00	11.0	.11
165.72	8.5	.09
178.68	6.0	.06
181.69	6.4	.06
186.07	6.0	.06
188.84	6.4	.07
212.28	4.7	.05

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
1.67 WATERSHED INCHES; 5202 CFS-HRS; 429.9 ACRE-FEET.

*** WARNING - ROUTING COEFFICIENT (C) EQUALS 1.0,
CONSIDER SMALLER MAIN TIME INCREMENT FOR XSECTION 25. ***

OPERATION REACH XSECTION 25

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
121.80	488.3	1.54
145.48	12.4	.08
150.94	11.1	.07
153.00	11.0	.07
165.72	8.5	.05
178.68	6.0	.04
181.69	6.4	.04
186.07	6.0	.04
188.84	6.4	.04
212.28	4.7	.03

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
1.67 WATERSHED INCHES; 5202 CFS-HRS; 429.9 ACRE-FEET.

OPERATION RUNOFF XSECTION 3

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
121.39	461.9	(RUNOFF)
126.52	63.0	(RUNOFF)
138.08	13.8	(RUNOFF)
143.32	11.7	(RUNOFF)
150.67	9.6	(RUNOFF)
154.88	8.5	(RUNOFF)
165.01	7.4	(RUNOFF)
174.70	5.3	(RUNOFF)
181.12	5.2	(RUNOFF)
186.90	5.2 *	(RUNOFF)

* FIRST POINT OF FLAT PEAK

HYDROGRAPH POINTS FOR ALTERNATE = 1, STORM = 1
MAIN TIME INCREMENT = 1.050 hr, DRAINAGE AREA = 3.94 SQ.MI.

HRS									
.00	CFS	.00	1.05	1.05	2.37	2.62	2.67	2.73	2.72
8.40	CFS	2.62	2.62	2.72	2.73	3.06	3.25	3.25	3.25
16.80	CFS	3.26	3.36	3.36	3.27	3.25	3.30	3.36	3.38
25.20	CFS	3.57	3.57	3.67	3.67	3.61	3.57	3.57	3.57
33.60	CFS	3.57	3.57	3.57	3.66	3.67	3.63	3.57	3.57
42.00	CFS	3.57	3.57	3.57	3.57	3.64	3.67	3.91	4.83
50.40	CFS	4.83	4.83	4.83	4.83	4.83	4.83	4.83	4.83
58.80	CFS	4.83	4.83	4.83	4.83	4.83	4.83	4.83	4.83
67.20	CFS	4.83	4.83	4.83	4.92	4.93	5.55	6.51	6.51
75.60	CFS	6.51	6.51	6.61	6.61	6.55	6.51	6.51	6.51
84.00	CFS	6.54	8.59	8.61	8.70	8.71	8.67	8.61	8.61
92.40	CFS	8.61	8.61	8.71	8.71	8.65	8.61	9.50	13.23
100.80	CFS	13.26	15.31	15.33	15.33	15.33	16.76	19.00	19.00
109.20	CFS	19.00	19.00	23.26	23.41	27.69	30.13	33.19	45.35
117.60	CFS	49	364	366	437	451	331	153	147
126.00	CFS	59.84	59.84	34.19	32.54	26.67	23.10	22.09	17.85

134.40 CFS	17.77	13.69	13.65	13.65	13.65	12.40	10.50	10.57
142.80 CFS	11.55	11.54	8.50	8.40	8.40	8.40	8.60	9.45
151.20 CFS	9.44	8.40	8.40	8.40	8.40	7.98	7.35	7.29
159.60 CFS	6.30	6.30	6.30	6.30	6.95	7.35	7.14	6.30
168.00 CFS	6.28	5.26	5.25	4.39	4.20	4.62	5.25	5.17
176.40 CFS	4.20	4.20	5.22	5.25	5.25	5.25	5.05	4.20
184.80 CFS	4.20	5.25	5.25	5.25	5.25	4.83	4.20	4.20
193.20 CFS	4.20	4.20	3.21	3.15	3.81	4.20	3.99	3.15
201.60 CFS	3.17	4.19	4.20	3.33	3.15	3.57	4.20	4.12
210.00 CFS	3.15	3.15	4.16	4.20	3.54	3.15	3.15	3.15
218.40 CFS	3.14	2.10	2.10	2.98	3.15	2.74	2.10	2.16
226.80 CFS	3.15	3.15	2.16	2.10	2.10	2.10	2.31	3.15
235.20 CFS	3.13	2.11	2.10	2.98	3.15	2.73	2.10	1.94
243.60 CFS	.00							

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
1.67 WATERSHED INCHES; 4251 CFS-HRS; 351.3 ACRE-FEET.

*** WARNING - MAIN TIME INCREMENT (1.050) IS GREATER THAN 50% OF THE
TIME OF CONCENTRATION (.88) FOR SUBWATERSHED XSECTION 3.
THIS WILL REDUCE THE COMPUTED PEAK BY ABOUT -2.3%. ***

OPERATION REACH XSECTION 30

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
122.60	444.1	2.56
144.45	11.7	.88
151.93	9.4	.85
166.33	7.2	.81
175.98	5.2	.77
182.27	5.3	.77
189.57	5.3	.77
204.49	4.2	.64
209.58	4.1	.64
214.02	4.1	.64

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
1.61 WATERSHED INCHES; 4102 CFS-HRS; 339.0 ACRE-FEET.

OPERATION REACH XSECTION 5

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
123.73	437.4	2.71
145.53	11.6	.45
153.06	9.4	.42
167.50	7.2	.38
177.12	5.2	.35
183.39	5.2	.35
190.65	5.3	.35
205.63	4.1	.29
210.71	4.1	.29
215.18	4.1	.29

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
1.65 WATERSHED INCHES; 4198 CFS-HRS; 347.0 ACRE-FEET.

*** WARNING - ROUTING COEFFICIENT (C) EQUALS 1.0,
CONSIDER SMALLER MAIN TIME INCREMENT FOR XSECTION 25. ***

OPERATION REACH XSECTION 25

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
123.73	437.4	1.44
145.53	11.6	.07
153.06	9.4	.06
167.50	7.2	.05
177.12	5.2	.03
183.39	5.2	.03
190.65	5.3	.03
205.63	4.1	.03
210.71	4.1	.03
215.18	4.1	.03

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
1.65 WATERSHED INCHES; 4198 CFS-HRS; 347.0 ACRE-FEET.

OPERATION RUNOFF XSECTION 4

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
121.36	245.1	(RUNOFF)
138.08	7.3	(RUNOFF)
143.27	6.1	(RUNOFF)
154.88	4.5	(RUNOFF)
164.96	3.9	(RUNOFF)
193.72	2.2	(RUNOFF)
198.49	2.2	(RUNOFF)
203.17	2.3	(RUNOFF)
208.22	2.2	(RUNOFF)
212.72	2.2	(RUNOFF)

HYDROGRAPH POINTS FOR ALTERNATE = 1, STORM = 1
MAIN TIME INCREMENT = 1.050 hr, DRAINAGE AREA = 2.06 SQ.MI.

HRS									
.00	CFS	.00	.55	.55	1.25	1.38	1.41	1.44	1.43
8.40	CFS	1.38	1.38	1.43	1.44	1.63	1.72	1.72	1.72
16.80	CFS	1.72	1.77	1.77	1.72	1.72	1.74	1.77	1.78
25.20	CFS	1.88	1.88	1.93	1.94	1.90	1.88	1.88	1.88
33.60	CFS	1.88	1.88	1.88	1.93	1.94	1.91	1.88	1.88
42.00	CFS	1.88	1.88	1.88	1.88	1.92	1.94	2.09	2.55
50.40	CFS	2.55	2.55	2.55	2.55	2.55	2.55	2.55	2.55
58.80	CFS	2.55	2.55	2.55	2.55	2.55	2.55	2.55	2.55
67.20	CFS	2.55	2.55	2.55	2.59	2.60	2.97	3.43	3.43
75.60	CFS	3.43	3.43	3.48	3.49	3.45	3.43	3.43	3.43
84.00	CFS	3.47	4.54	4.54	4.58	4.59	4.57	4.54	4.54
92.40	CFS	4.54	4.54	4.59	4.59	4.56	4.54	5.24	6.97
100.80	CFS	6.98	8.08	8.08	8.08	8.08	9.01	10.02	10.02
109.20	CFS	10.02	10.02	12.18	12.34	14.81	15.88	18.22	23.90
117.60	CFS	29.21	189.88	193.12	230.82	237.94	161.93	80.79	74.74
126.00	CFS	31.54	31.45	18.30	17.15	13.66	12.17	11.39	9.41
134.40	CFS	9.29	7.25	7.19	7.19	7.19	6.41	5.53	5.60
142.80	CFS	6.09	6.06	4.55	4.43	4.43	4.43	4.57	4.98
151.20	CFS	4.95	4.44	4.43	4.43	4.43	4.18	3.87	3.80
159.60	CFS	3.32	3.32	3.32	3.32	3.68	3.87	3.75	3.32
168.00	CFS	3.29	2.77	2.77	2.31	2.21	2.46	2.77	2.70
176.40	CFS	2.21	2.21	2.75	2.77	2.77	2.77	2.62	2.21
184.80	CFS	2.23	2.77	2.77	2.77	2.77	2.51	2.21	2.21
193.20	CFS	2.21	2.21	1.68	1.66	2.03	2.21	2.06	1.66
201.60	CFS	1.66	2.21	2.21	1.75	1.66	1.92	2.21	2.14
210.00	CFS	1.66	1.66	2.18	2.21	1.83	1.66	1.66	1.66
218.40	CFS	1.64	1.12	1.11	1.57	1.66	1.39	1.11	1.17
226.80	CFS	1.66	1.66	1.15	1.11	1.11	1.11	1.26	1.66
235.20	CFS	1.63	1.12	1.11	1.57	1.66	1.40	1.11	.97
243.60	CFS	.00							

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
1.67 WATERSHED INCHES; 2219 CFS-HRS; 183.4 ACRE-FEET.

*** WARNING - MAIN TIME INCREMENT (1.050) IS GREATER THAN 50% OF THE
TIME OF CONCENTRATION (.79) FOR SUBWATERSHED XSECTION 4.
THIS WILL REDUCE THE COMPUTED PEAK BY ABOUT -3.0%. ***

OPERATION ADDHYD XSECTION 34

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
80.58	10.0	(NULL)
122.26	578.6	(NULL)
145.46	16.1	(NULL)
153.05	13.8	(NULL)
166.39	10.5	(NULL)
189.08	7.9	(NULL)
214.94	5.8	(NULL)
229.70	4.2	(NULL)
237.42	4.1	(NULL)
241.03	4.1	(NULL)

HYDROGRAPH POINTS FOR ALTERNATE = 1, STORM = 1
MAIN TIME INCREMENT = 1.050 hr, DRAINAGE AREA = 6.00 SQ.MI.

HRS									
.00	CFS	.00	.55	.55	1.92	2.32	3.27	3.82	4.01
8.40	CFS	4.07	4.09	4.09	4.07	4.32	4.43	4.65	4.86
16.80	CFS	4.94	5.01	5.02	5.04	5.06	5.04	5.04	5.07
25.20	CFS	5.21	5.24	5.43	5.48	5.53	5.54	5.51	5.47
33.60	CFS	5.46	5.45	5.45	5.50	5.51	5.53	5.54	5.52
42.00	CFS	5.48	5.46	5.45	5.45	5.49	5.51	5.70	6.20
50.40	CFS	6.37	7.02	7.27	7.34	7.37	7.37	7.37	7.37
58.80	CFS	7.37	7.37	7.37	7.37	7.37	7.37	7.37	7.37
67.20	CFS	7.37	7.37	7.37	7.42	7.43	7.86	8.35	8.75
75.60	CFS	9.53	9.82	9.96	9.99	10.02	10.03	10.00	9.96
84.00	CFS	9.98	11.05	11.07	12.43	12.97	13.17	13.22	13.21
92.40	CFS	13.17	13.15	13.20	13.20	13.23	13.24	13.90	15.60
100.80	CFS	16.16	19.87	20.90	22.53	23.14	24.26	25.32	26.26
109.20	CFS	28.06	28.73	31.10	31.32	36.53	38.78	44.23	52.66
117.60	CFS	61	230	239	481	569	564	517	445
126.00	CFS	260	203	116	88	60	49	41	35
134.40	CFS	32.39	26.91	25.52	22.51	21.34	20.20	19.22	18.46
142.80	CFS	17.40	16.85	15.81	15.88	13.99	13.18	13.07	13.40
151.20	CFS	13.48	13.56	13.77	13.18	12.93	12.60	12.28	11.93
159.60	CFS	10.94	10.71	10.00	9.73	10.01	10.18	10.46	10.46
168.00	CFS	10.44	9.37	9.14	7.96	7.58	7.19	7.13	7.21
176.40	CFS	7.20	7.33	7.28	7.07	7.64	7.90	7.84	7.45
184.80	CFS	7.35	7.29	7.06	7.66	7.91	7.73	7.45	7.19
193.20	CFS	6.68	6.49	5.91	5.86	5.60	5.49	5.66	5.66
201.60	CFS	5.66	5.67	5.47	5.59	5.75	5.54	5.51	5.60
210.00	CFS	5.60	5.73	5.66	5.46	5.66	5.74	5.41	5.01
218.40	CFS	4.85	4.28	4.25	4.05	3.87	4.09	4.11	4.02
226.80	CFS	4.02	3.87	3.96	4.15	3.59	3.32	3.40	3.77
235.20	CFS	3.87	3.95	4.15	4.02	3.86	4.09	4.11	3.80

243.60 CFS 2.36 2.07 .73 .22

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
1.66 WATERSHED INCHES; 6418 CFS-HRS; 530.4 ACRE-FEET.

OPERATION ADDHYD XSECTION 35

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
122.01	1061.9	(NULL)
145.47	28.5	(NULL)
153.03	24.8	(NULL)
166.06	19.0	(NULL)
175.15	13.2	(NULL)
178.35	13.3	(NULL)
181.83	14.3	(NULL)
185.71	13.3	(NULL)
188.96	14.4	(NULL)
214.86	10.3	(NULL)

HYDROGRAPH POINTS FOR ALTERNATE = 1, STORM = 1
MAIN TIME INCREMENT = 1.050 hr, DRAINAGE AREA = 10.84 SQ.MI.

HRS								
.00 CFS	.00	1.19	1.19	3.85	4.52	6.08	7.00	7.30
8.40 CFS	7.36	7.40	7.42	7.39	7.91	8.12	8.49	8.83
16.80 CFS	8.96	9.10	9.12	9.12	9.15	9.13	9.14	9.20
25.20 CFS	9.49	9.54	9.87	9.96	10.00	10.02	9.96	9.90
33.60 CFS	9.88	9.87	9.87	9.97	9.99	10.02	10.02	9.99
42.00 CFS	9.91	9.88	9.87	9.87	9.95	9.99	10.44	11.44
50.40 CFS	11.73	12.80	13.20	13.31	13.34	13.35	13.35	13.35
58.80 CFS	13.35	13.35	13.35	13.35	13.35	13.35	13.35	13.35
67.20 CFS	13.35	13.35	13.35	13.45	13.47	14.42	15.41	16.09
75.60 CFS	17.36	17.82	18.07	18.11	18.14	18.15	18.09	18.03
84.00 CFS	18.11	20.38	20.42	22.71	23.58	23.86	23.93	23.92
92.40 CFS	23.84	23.82	23.92	23.92	23.94	23.95	25.32	29.08
100.80 CFS	30.20	36.75	38.41	41.00	41.99	44.34	46.53	48.13
109.20 CFS	51.07	52.13	57.24	57.56	67.36	71.55	81.92	98.45
117.60 CFS	118	479	494	915	1058	997	886	761
126.00 CFS	436	342	195	151	104	86	73	61
134.40 CFS	57.42	47.43	45.22	40.37	38.49	36.20	34.21	32.95
142.80 CFS	31.48	30.65	28.08	28.21	25.17	23.80	23.72	24.46
151.20 CFS	24.62	24.45	24.77	23.79	23.39	22.67	22.04	21.43
159.60 CFS	19.55	19.16	18.01	17.58	18.31	18.62	19.00	18.80
168.00 CFS	18.74	16.71	16.34	14.13	13.50	13.04	13.07	13.19
176.40 CFS	12.92	13.10	13.29	12.96	13.90	14.33	14.12	13.31
184.80 CFS	13.11	13.30	12.97	13.95	14.35	13.87	13.31	12.87
193.20 CFS	12.03	11.72	10.49	10.42	10.25	10.10	10.30	10.10
201.60 CFS	10.13	10.38	10.06	10.03	10.26	10.05	10.13	10.26
210.00 CFS	10.01	10.20	10.36	10.05	10.15	10.24	9.67	9.02
218.40 CFS	8.77	7.55	7.49	7.44	7.17	7.34	7.28	7.15
226.80 CFS	7.40	7.19	7.04	7.36	6.44	5.99	6.21	7.01
235.20 CFS	7.19	7.03	7.34	7.39	7.16	7.37	7.28	6.69

243.60 CFS 3.83 3.33 1.14 .32

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
1.66 WATERSHED INCHES; 11620 CFS-HRS; 960.3 ACRE-FEET.

OPERATION DIVERT XSECTION 35
OUTPUT #1 HYDROGRAPH

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
122.01	1061.9	(DIVERT)
145.47	28.5	(DIVERT)
153.03	24.8	(DIVERT)
166.06	19.0	(DIVERT)
175.15	13.2	(DIVERT)
178.35	13.3	(DIVERT)
181.83	14.3	(DIVERT)
185.71	13.3	(DIVERT)
188.96	14.4	(DIVERT)
214.86	10.3	(DIVERT)

HYDROGRAPH POINTS FOR ALTERNATE = 1, STORM = 1
MAIN TIME INCREMENT = 1.050 hr, DRAINAGE AREA = 10.84 SQ.MI.

HRS								
.00 CFS	.00	1.19	1.19	3.85	4.52	6.08	7.00	7.30
8.40 CFS	7.36	7.40	7.42	7.39	7.91	8.12	8.49	8.83
16.80 CFS	8.96	9.10	9.12	9.12	9.15	9.13	9.14	9.20
25.20 CFS	9.49	9.54	9.87	9.96	10.00	10.02	9.96	9.90
33.60 CFS	9.88	9.87	9.87	9.97	9.99	10.02	10.02	9.99
42.00 CFS	9.91	9.88	9.87	9.87	9.95	9.99	10.44	11.44
50.40 CFS	11.73	12.80	13.20	13.31	13.34	13.35	13.35	13.35
58.80 CFS	13.35	13.35	13.35	13.35	13.35	13.35	13.35	13.35
67.20 CFS	13.35	13.35	13.35	13.45	13.47	14.42	15.41	16.09
75.60 CFS	17.36	17.82	18.07	18.11	18.14	18.15	18.09	18.03
84.00 CFS	18.11	20.38	20.42	22.71	23.58	23.86	23.93	23.92
92.40 CFS	23.84	23.82	23.92	23.92	23.94	23.95	25.32	29.08
100.80 CFS	30.20	36.75	38.41	41.00	41.99	44.34	46.53	48.13
109.20 CFS	51.07	52.13	57.24	57.56	67.36	71.55	81.92	98.45
117.60 CFS	118	479	494	915	1058	997	886	761
126.00 CFS	436	342	195	151	104	86	73	61
134.40 CFS	57.42	47.43	45.22	40.37	38.49	36.20	34.21	32.95
142.80 CFS	31.48	30.65	28.08	28.21	25.17	23.80	23.72	24.46
151.20 CFS	24.62	24.45	24.77	23.79	23.39	22.67	22.04	21.43
159.60 CFS	19.55	19.16	18.01	17.58	18.31	18.62	19.00	18.80
168.00 CFS	18.74	16.71	16.34	14.13	13.50	13.04	13.07	13.19
176.40 CFS	12.92	13.10	13.29	12.96	13.90	14.33	14.12	13.31
184.80 CFS	13.11	13.30	12.97	13.95	14.35	13.87	13.31	12.87
193.20 CFS	12.03	11.72	10.49	10.42	10.25	10.10	10.30	10.10
201.60 CFS	10.13	10.38	10.06	10.03	10.26	10.05	10.13	10.26
210.00 CFS	10.01	10.20	10.36	10.05	10.15	10.24	9.67	9.02
218.40 CFS	8.77	7.55	7.49	7.44	7.17	7.34	7.28	7.15
226.80 CFS	7.40	7.19	7.04	7.36	6.44	5.99	6.21	7.01

235.20 CFS	7.19	7.03	7.34	7.39	7.16	7.37	7.28	6.69
243.60 CFS	3.83	3.33	1.14	.32				

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
1.66 WATERSHED INCHES; 11620 CFS-HRS; 960.3 ACRE-FEET.

OUTPUT #2 DIVERTED HYDROGRAPH (XSECTION 199)

*** MESSAGE - HYDROGRAPH CONTAINS NO FLOW ***

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
238 CFS-HRS; 960.3 ACRE-FEET.

*** WARNING - ROUTING COEFFICIENT (C) EQUALS 1.0,
CONSIDER SMALLER MAIN TIME INCREMENT FOR XSECTION 45. ***

OPERATION REACH XSECTION 45

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
122.01	1061.9	2.32
145.47	28.5	.17
153.03	24.8	.15
166.06	19.0	.11
175.15	13.2	.08
178.35	13.3	.08
181.83	14.3	.09
185.71	13.3	.08
188.96	14.4	.09
214.86	10.3	.06

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
1.66 WATERSHED INCHES; 11620 CFS-HRS; 960.3 ACRE-FEET.

OPERATION RUNOFF XSECTION 6

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
121.27	178.9	(RUNOFF)
143.18	4.5	(RUNOFF)
150.54	3.7	(RUNOFF)
169.58	2.1	(RUNOFF)
174.29	2.0	(RUNOFF)
181.13	2.1	(RUNOFF)
188.48	2.1	(RUNOFF)
212.62	1.7	(RUNOFF)
234.63	1.2	(RUNOFF)
239.03	1.2	(RUNOFF)

HYDROGRAPH POINTS FOR ALTERNATE = 1, STORM = 1
MAIN TIME INCREMENT = 1.050 hr, DRAINAGE AREA = 1.47 SQ.MI.

HRS								
2.10	CFS	.41	.95	1.02	1.04	1.06	1.05	1.02	1.02
10.50	CFS	1.06	1.06	1.22	1.26	1.26	1.26	1.27	1.30
18.90	CFS	1.30	1.26	1.26	1.29	1.30	1.33	1.38	1.39
27.30	CFS	1.42	1.42	1.39	1.38	1.38	1.38	1.38	1.38
35.70	CFS	1.39	1.42	1.42	1.39	1.38	1.38	1.38	1.38
44.10	CFS	1.38	1.38	1.42	1.42	1.68	1.87	1.87	1.87
52.50	CFS	1.87	1.87	1.87	1.87	1.87	1.87	1.87	1.87
60.90	CFS	1.87	1.87	1.87	1.87	1.87	1.87	1.87	1.87
69.30	CFS	1.87	1.91	1.91	2.31	2.52	2.52	2.52	2.52
77.70	CFS	2.56	2.56	2.53	2.52	2.52	2.52	2.57	3.34
86.10	CFS	3.34	3.37	3.38	3.35	3.34	3.34	3.34	3.34
94.50	CFS	3.38	3.38	3.34	3.34	4.29	5.13	5.29	5.94
102.90	CFS	5.94	5.94	5.94	7.05	7.37	7.37	7.37	7.58
111.30	CFS	9	9	12	12	15	18	49	142
119.70	CFS	144	175	175	82	59	45	23	22
128.10	CFS	12.62	12.62	9.38	8.96	7.83	6.92	6.58	5.29
136.50	CFS	5.29	5.29	5.29	4.46	4.07	4.20	4.48	4.43
144.90	CFS	3.29	3.26	3.26	3.26	3.45	3.66	3.63	3.26
153.30	CFS	3.26	3.26	3.26	3.00	2.85	2.75	2.44	2.44
161.70	CFS	2.44	2.44	2.76	2.85	2.66	2.44	2.40	2.04
170.10	CFS	2.04	1.66	1.63	1.91	2.04	1.90	1.63	1.66
178.50	CFS	2.04	2.04	2.04	2.04	1.81	1.63	1.72	2.04
186.90	CFS	2.04	2.04	2.04	1.71	1.63	1.63	1.63	1.57
195.30	CFS	1.22	1.22	1.63	1.63	1.39	1.22	1.32	1.63
203.70	CFS	1.61	1.22	1.22	1.53	1.63	1.47	1.22	1.26
212.10	CFS	1.63	1.63	1.28	1.22	1.22	1.22	1.15	.81
220.50	CFS	.81	1.19	1.22	.95	.81	.92	1.22	1.22
228.90	CFS	.83	.81	.81	.81	1.00	1.22	1.21	.82
237.30	CFS	.81	1.18	1.22	.96	.81	.61	.00	

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
1.68 WATERSHED INCHES; 1598 CFS-HRS; 132.0 ACRE-FEET.

*** WARNING - MAIN TIME INCREMENT (1.050) IS GREATER THAN 50% OF THE
TIME OF CONCENTRATION (.47) FOR SUBWATERSHED XSECTION 6.
THIS WILL REDUCE THE COMPUTED PEAK BY ABOUT -2.3%. ***

OPERATION REACH XSECTION 60

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
122.40	180.7	2.78
144.39	4.5	.11
151.78	3.7	.09
165.88	2.8	.07
182.19	2.1	.05
189.53	2.1	.05
213.87	1.6	.04
223.45	1.2	.03
228.53	1.2	.03
235.83	1.2	.03

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
1.67 WATERSHED INCHES; 1587 CFS-HRS; 131.1 ACRE-FEET.

*** WARNING - ROUTING COEFFICIENT (C) EQUALS 1.0,
CONSIDER SMALLER MAIN TIME INCREMENT FOR XSECTION 67. ***

OPERATION REACH XSECTION 67

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
122.40	180.7	1.83
144.39	4.5	.32
151.78	3.7	.26
165.88	2.8	.20
182.19	2.1	.14
189.53	2.1	.14
213.87	1.6	.11
223.45	1.2	.08
228.53	1.2	.09
235.83	1.2	.09

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
1.67 WATERSHED INCHES; 1587 CFS-HRS; 131.1 ACRE-FEET.

OPERATION ADDHYD XSECTION 64

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
122.07	1233.0	(NULL)
152.80	28.2	(NULL)
166.01	21.8	(NULL)
175.28	15.2	(NULL)
181.83	16.4	(NULL)
186.13	15.0	(NULL)
188.96	16.4	(NULL)
214.17	11.8	(NULL)
229.44	8.4	(NULL)
240.47	8.6	(NULL)

HYDROGRAPH POINTS FOR ALTERNATE = 1, STORM = 1
MAIN TIME INCREMENT = 1.050 hr, DRAINAGE AREA = 12.31 SQ.MI.

HRS								
.00	CFS	.00	1.19	1.52	4.24	5.36	7.06	8.03	8.35
8.40	CFS	8.41	8.42	8.44	8.44	8.97	9.31	9.73	10.09
16.80	CFS	10.22	10.37	10.41	10.42	10.42	10.40	10.43	10.50
25.20	CFS	10.81	10.91	11.25	11.37	11.42	11.41	11.35	11.28
33.60	CFS	11.26	11.25	11.25	11.36	11.41	11.44	11.41	11.38
42.00	CFS	11.29	11.26	11.25	11.25	11.34	11.40	11.86	13.07
50.40	CFS	13.55	14.66	15.07	15.18	15.21	15.22	15.22	15.22
58.80	CFS	15.22	15.22	15.22	15.22	15.22	15.22	15.22	15.22
67.20	CFS	15.22	15.22	15.22	15.33	15.37	16.33	17.63	18.55
75.60	CFS	19.87	20.34	20.59	20.66	20.70	20.69	20.62	20.55
84.00	CFS	20.64	22.95	23.60	26.01	26.94	27.24	27.28	27.26
92.40	CFS	27.18	27.15	27.26	27.29	27.32	27.30	28.66	33.18
100.80	CFS	35.12	41.97	44.21	46.92	47.93	50.28	53.35	55.39
109.20	CFS	58	59	65	66	76	83	93	113
117.60	CFS	135	522	616	1054	1226	1171	987	829
126.00	CFS	485	371	218	166	117	96	82	69
134.40	CFS	64.59	54.13	50.80	45.72	43.80	41.49	38.84	37.13
142.80	CFS	35.67	35.07	32.51	31.73	28.48	27.06	26.98	27.86
151.20	CFS	28.23	28.08	28.10	27.06	26.65	25.93	25.09	24.32
159.60	CFS	22.33	21.67	20.46	20.03	20.75	21.32	21.82	21.49
168.00	CFS	21.23	19.13	18.45	16.18	15.24	14.69	14.92	15.19
176.40	CFS	14.84	14.79	14.95	14.91	15.92	16.36	16.15	15.16
184.80	CFS	14.78	15.01	14.94	15.97	16.38	15.91	15.08	14.52
193.20	CFS	13.67	13.35	12.08	11.71	11.49	11.65	11.91	11.54
201.60	CFS	11.39	11.69	11.62	11.62	11.56	11.28	11.61	11.86
210.00	CFS	11.51	11.47	11.63	11.61	11.77	11.59	10.91	10.25
218.40	CFS	9.99	8.71	8.38	8.27	8.28	8.53	8.28	8.00
226.80	CFS	8.31	8.34	8.25	8.26	7.27	6.81	7.02	7.97
235.20	CFS	8.35	8.24	8.24	8.22	8.27	8.57	8.29	7.54
243.60	CFS	4.48	3.46	1.16	.32				

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
1.66 WATERSHED INCHES; 13207 CFS-HRS; 1091.4 ACRE-FEET.

OPERATION RUNOFF XSECTION 5

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
78.28	8.1	(RUNOFF)
121.36	569.3	(RUNOFF)
138.08	16.9	(RUNOFF)
143.30	14.3	(RUNOFF)
150.60	11.7	(RUNOFF)
164.86	9.0	(RUNOFF)
174.64	6.5	(RUNOFF)
180.43	6.4	(RUNOFF)
188.48	6.5	(RUNOFF)
208.22	5.2	(RUNOFF)

HYDROGRAPH POINTS FOR ALTERNATE = 1, STORM = 1
MAIN TIME INCREMENT = 1.050 hr, DRAINAGE AREA = 4.78 SQ.MI.

HRS								
.00 CFS	.00	1.28	1.28	2.92	3.21	3.27	3.34	3.32
8.40 CFS	3.21	3.21	3.33	3.34	3.76	3.98	3.98	3.98
16.80 CFS	3.98	4.11	4.11	4.00	3.98	4.04	4.11	4.14
25.20 CFS	4.37	4.37	4.48	4.49	4.41	4.37	4.37	4.37
33.60 CFS	4.37	4.37	4.37	4.47	4.49	4.43	4.37	4.37
42.00 CFS	4.37	4.37	4.37	4.37	4.46	4.49	4.87	5.91
50.40 CFS	5.91	5.91	5.91	5.91	5.91	5.91	5.91	5.91
58.80 CFS	5.91	5.91	5.91	5.91	5.91	5.91	5.91	5.91
67.20 CFS	5.91	5.91	5.91	6.01	6.03	6.91	7.96	7.96
75.60 CFS	7.96	7.96	8.08	8.09	8.00	7.96	7.96	7.96
84.00 CFS	8.07	10.47	10.53	10.64	10.66	10.60	10.53	10.53
92.40 CFS	10.53	10.53	10.65	10.66	10.57	10.53	12.17	16.18
100.80 CFS	16.22	18.72	18.75	18.75	18.75	20.91	23.24	23.24
109.20 CFS	23.24	23.31	28.33	28.63	34.05	36.85	41.93	55.47
117.60 CFS	62	448	448	537	552	373	187	174
126.00 CFS	73.19	72.66	42.18	39.80	32.11	28.25	26.69	21.83
134.40 CFS	21.61	16.69	16.69	16.69	16.69	14.82	12.84	13.01
142.80 CFS	14.12	14.10	10.56	10.27	10.27	10.27	10.59	11.56
151.20 CFS	11.48	10.28	10.27	10.27	10.27	9.67	8.99	8.82
159.60 CFS	7.70	7.70	7.70	7.70	8.62	8.99	8.63	7.70
168.00 CFS	7.63	6.44	6.42	5.35	5.14	5.72	6.42	6.27
176.40 CFS	5.14	5.14	6.36	6.42	6.42	6.42	6.04	5.14
184.80 CFS	5.20	6.39	6.42	6.42	6.42	5.83	5.14	5.14
193.20 CFS	5.14	5.14	3.89	3.85	4.72	5.14	4.76	3.85
201.60 CFS	3.89	5.11	5.14	4.05	3.85	4.46	5.14	4.97
210.00 CFS	3.85	3.86	5.08	5.14	4.29	3.85	3.85	3.85
218.40 CFS	3.85	2.57	2.57	3.66	3.85	3.23	2.57	2.73
226.80 CFS	3.85	3.83	2.65	2.57	2.57	2.57	2.90	3.85
235.20 CFS	3.81	2.57	2.57	3.65	3.85	3.22	2.57	2.25
243.60 CFS	.00							

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
1.67 WATERSHED INCHES; 5155 CFS-HRS; 426.0 ACRE-FEET.

*** WARNING - MAIN TIME INCREMENT (1.050) IS GREATER THAN 50% OF THE
TIME OF CONCENTRATION (.78) FOR SUBWATERSHED XSECTION 5.
THIS WILL REDUCE THE COMPUTED PEAK BY ABOUT -3.1%. ***

OPERATION RUNOFF XSECTION 7

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
121.49	403.1	(RUNOFF)
143.33	10.5	(RUNOFF)
150.66	8.4	(RUNOFF)
165.11	6.5	(RUNOFF)
174.73	4.7	(RUNOFF)
180.93	4.6	(RUNOFF)
188.48	4.7	(RUNOFF)
192.68	3.7	(RUNOFF)
208.35	3.8	(RUNOFF)
212.82	3.7	(RUNOFF)

HYDROGRAPH POINTS FOR ALTERNATE = 1, STORM = 1
MAIN TIME INCREMENT = 1.050 hr, DRAINAGE AREA = 3.48 SQ.MI.

HRS									
.00	CFS	.00	.90	.93	1.92	2.32	2.35	2.41	2.40
8.40	CFS	2.32	2.32	2.40	2.41	2.65	2.87	2.87	2.87
16.80	CFS	2.88	2.96	2.97	2.90	2.87	2.90	2.97	2.98
25.20	CFS	3.15	3.15	3.23	3.25	3.20	3.15	3.15	3.15
33.60	CFS	3.15	3.15	3.15	3.22	3.25	3.22	3.15	3.15
42.00	CFS	3.15	3.15	3.15	3.15	3.20	3.25	3.39	4.27
50.40	CFS	4.27	4.27	4.27	4.27	4.27	4.27	4.27	4.27
58.80	CFS	4.27	4.27	4.27	4.27	4.27	4.27	4.27	4.27
67.20	CFS	4.27	4.27	4.27	4.33	4.36	4.79	5.75	5.75
75.60	CFS	5.75	5.75	5.83	5.84	5.79	5.75	5.75	5.75
84.00	CFS	5.79	7.52	7.60	7.67	7.70	7.67	7.60	7.60
92.40	CFS	7.60	7.60	7.69	7.70	7.65	7.60	8.19	11.68
100.80	CFS	11.70	13.48	13.54	13.54	13.54	14.58	16.78	16.78
109.20	CFS	16.78	16.78	20.14	20.68	23.74	26.61	28.86	40.03
117.60	CFS	43	311	324	377	399	317	135	130
126.00	CFS	53.45	52.79	32.22	28.75	24.51	20.40	19.64	15.76
134.40	CFS	15.69	12.24	12.05	12.05	12.05	11.18	9.27	9.32
142.80	CFS	10.19	10.20	7.75	7.42	7.42	7.42	7.55	8.35
151.20	CFS	8.33	7.45	7.42	7.42	7.42	7.12	6.49	6.44
159.60	CFS	5.57	5.56	5.56	5.56	6.04	6.49	6.34	5.57
168.00	CFS	5.56	4.67	4.64	3.97	3.71	4.00	4.64	4.57
176.40	CFS	3.72	3.71	4.50	4.64	4.64	4.64	4.48	3.71
184.80	CFS	3.73	4.59	4.64	4.64	4.64	4.35	3.71	3.71
193.20	CFS	3.71	3.71	2.89	2.78	3.25	3.71	3.58	2.78
201.60	CFS	2.80	3.68	3.71	3.06	2.78	3.08	3.71	3.66
210.00	CFS	2.79	2.78	3.60	3.71	3.23	2.78	2.78	2.78
218.40	CFS	2.78	1.88	1.85	2.52	2.78	2.49	1.85	1.92
226.80	CFS	2.77	2.78	1.99	1.85	1.85	1.85	2.01	2.78
235.20	CFS	2.77	1.90	1.85	2.51	2.78	2.50	1.85	1.76

243.60 CFS .00

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
1.68 WATERSHED INCHES; 3762 CFS-HRS; 310.9 ACRE-FEET.

*** WARNING - MAIN TIME INCREMENT (1.050) IS GREATER THAN 50% OF THE
TIME OF CONCENTRATION (1.01) FOR SUBWATERSHED XSECTION 7.
THIS WILL REDUCE THE COMPUTED PEAK BY ABOUT -1.1%. ***

OPERATION ADDHYD XSECTION 75

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
121.40	971.9	(NULL)
138.08	29.1	(NULL)
143.32	24.6	(NULL)
150.63	20.1	(NULL)
164.97	15.5	(NULL)
174.68	11.2	(NULL)
180.84	11.1	(NULL)
188.48	11.2	(NULL)
208.28	8.9	(NULL)
212.74	9.0	(NULL)

HYDROGRAPH POINTS FOR ALTERNATE = 1, STORM = 1
MAIN TIME INCREMENT = 1.050 hr, DRAINAGE AREA = 8.26 SQ.MI.

HRS								
.00 CFS	.00	2.18	2.21	4.84	5.53	5.62	5.75	5.73
8.40 CFS	5.53	5.53	5.73	5.75	6.41	6.85	6.85	6.85
16.80 CFS	6.86	7.07	7.08	6.90	6.85	6.95	7.08	7.12
25.20 CFS	7.52	7.52	7.72	7.74	7.61	7.52	7.52	7.52
33.60 CFS	7.52	7.52	7.52	7.69	7.74	7.65	7.52	7.52
42.00 CFS	7.52	7.52	7.52	7.52	7.66	7.74	8.26	10.17
50.40 CFS	10.17	10.17	10.17	10.17	10.17	10.17	10.17	10.17
58.80 CFS	10.17	10.17	10.17	10.17	10.17	10.17	10.17	10.17
67.20 CFS	10.17	10.17	10.17	10.35	10.39	11.70	13.71	13.71
75.60 CFS	13.71	13.71	13.91	13.93	13.80	13.71	13.71	13.71
84.00 CFS	13.86	17.99	18.13	18.31	18.35	18.26	18.13	18.13
92.40 CFS	18.13	18.13	18.34	18.35	18.22	18.13	20.36	27.86
100.80 CFS	27.93	32.20	32.28	32.28	32.28	35.49	40.02	40.02
109.20 CFS	40.02	40.10	48.47	49.31	57.79	63.46	70.79	95.50
117.60 CFS	105	759	772	914	951	690	323	304
126.00 CFS	127	125	74	69	57	49	46	38
134.40 CFS	37.30	28.93	28.75	28.75	28.75	26.00	22.11	22.33
142.80 CFS	24.32	24.30	18.31	17.69	17.69	17.69	18.15	19.90
151.20 CFS	19.81	17.72	17.69	17.69	17.69	16.79	15.48	15.26
159.60 CFS	13.28	13.27	13.27	13.27	14.67	15.48	14.97	13.27
168.00 CFS	13.19	11.12	11.06	9.32	8.84	9.72	11.06	10.84
176.40 CFS	8.85	8.85	10.86	11.06	11.06	11.06	10.52	8.85
184.80 CFS	8.93	10.98	11.06	11.06	11.06	10.18	8.84	8.84
193.20 CFS	8.84	8.84	6.78	6.63	7.97	8.84	8.33	6.63
201.60 CFS	6.69	8.79	8.84	7.11	6.63	7.54	8.85	8.63

210.00 CFS	6.64	6.64	8.68	8.84	7.52	6.63	6.63	6.63
218.40 CFS	6.63	4.45	4.42	6.18	6.63	5.71	4.42	4.64
226.80 CFS	6.62	6.61	4.64	4.42	4.42	4.42	4.91	6.63
235.20 CFS	6.58	4.47	4.42	6.16	6.63	5.72	4.42	4.01
243.60 CFS	.00							

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
1.67 WATERSHED INCHES; 8917 CFS-HRS; 736.9 ACRE-FEET.

OPERATION ADDHYD XSECTION 76

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
121.69	2179.1	(NULL)
142.76	60.0	(NULL)
150.79	48.2	(NULL)
165.37	37.0	(NULL)
174.85	26.3	(NULL)
181.52	27.4	(NULL)
188.72	27.5	(NULL)
198.77	20.6	(NULL)
203.17	20.8	(NULL)
208.44	20.8	(NULL)

HYDROGRAPH POINTS FOR ALTERNATE = 1, STORM = 1
MAIN TIME INCREMENT = 1.050 hr, DRAINAGE AREA = 20.57 SQ.MI.

HRS								
.00 CFS	.00	3.38	3.73	9.09	10.89	12.68	13.78	14.08
8.40 CFS	13.94	13.95	14.17	14.19	15.38	16.17	16.59	16.95
16.80 CFS	17.08	17.44	17.49	17.33	17.28	17.34	17.50	17.62
25.20 CFS	18.33	18.43	18.97	19.11	19.03	18.93	18.87	18.80
33.60 CFS	18.78	18.77	18.77	19.05	19.14	19.09	18.93	18.89
42.00 CFS	18.81	18.78	18.77	18.77	18.99	19.14	20.12	23.24
50.40 CFS	23.72	24.83	25.24	25.35	25.38	25.39	25.39	25.39
58.80 CFS	25.39	25.39	25.39	25.39	25.39	25.39	25.39	25.39
67.20 CFS	25.39	25.39	25.39	25.67	25.76	28.03	31.34	32.26
75.60 CFS	33.58	34.05	34.50	34.59	34.49	34.39	34.33	34.26
84.00 CFS	34.49	40.94	41.73	44.32	45.29	45.50	45.41	45.39
92.40 CFS	45.31	45.29	45.60	45.65	45.54	45.44	49.02	61.04
100.80 CFS	63.04	74.17	76.49	79.20	80.21	85.77	93.38	95.41
109.20 CFS	98	100	113	116	134	146	164	208
117.60 CFS	240	1281	1387	1968	2176	1861	1310	1133
126.00 CFS	612	496	293	234	174	144	129	107
134.40 CFS	102	83	80	74	73	67	61	59
142.80 CFS	59.99	59.37	50.82	49.42	46.17	44.75	45.13	47.77
151.20 CFS	48.04	45.80	45.79	44.75	44.34	42.72	40.57	39.58
159.60 CFS	35.61	34.94	33.73	33.30	35.42	36.80	36.79	34.76
168.00 CFS	34.42	30.24	29.51	25.50	24.08	24.42	25.98	26.03
176.40 CFS	23.70	23.63	25.80	25.97	26.98	27.42	26.68	24.01
184.80 CFS	23.71	25.99	26.00	27.02	27.44	26.09	23.93	23.37
193.20 CFS	22.51	22.19	18.86	18.35	19.46	20.50	20.24	18.17
201.60 CFS	18.08	20.48	20.46	18.73	18.19	18.82	20.45	20.49

210.00 CFS	18.16	18.12	20.31	20.45	19.28	18.22	17.55	16.88
218.40 CFS	16.62	13.16	12.80	14.45	14.92	14.25	12.70	12.65
226.80 CFS	14.93	14.96	12.89	12.68	11.69	11.23	11.94	14.61
235.20 CFS	14.93	12.71	12.66	14.39	14.90	14.29	12.71	11.55
243.60 CFS	4.48	3.46	1.16	.32				

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
1.67 WATERSHED INCHES; 22124 CFS-HRS; 1828.3 ACRE-FEET.

--- XSECTION 76, ALTERNATE 1, STORM 1, HYDROGRAPH ADDED TO READHD FILE ---

*** MESSAGE - STRUCTURE 1, USER ENTERED STARTING ELEVATION (1206.9 FEET) CAN ADD 1.633 INCHES OF RUNOFF TO THE OUTFLOW HYDROGRAPH VOLUME.***

*** MESSAGE - RESERVOIR ROUTING, STRUCTURE 1, TRUNCATED AT 400 POINTS WITH 1763.49 AC-FT (.13 WATERSHED INCHES) FLOOD STORAGE REMAINING IN RESERVOIR AT ELEV. 1206.81. ***

OPERATION RESVOR STRUCTURE 1

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
.00	44.1	1206.92
139.67	67.0	1210.81

*** WARNING - STRUCTURE 1, HYDROGRAPH VOLUME TRUNCATED AT 43 CFS
RESVOR (65. % OF MAX. HYDROGRAPH COORDINATE)
MAIN TIME INCREMENT TOO SMALL. ***

HYDROGRAPH POINTS FOR ALTERNATE = 1, STORM = 1
MAIN TIME INCREMENT = 1.050 hr, DRAINAGE AREA = 20.57 SQ.MI.

HRS								
.00 CFS	44.06	43.97	43.89	43.82	43.75	43.68	43.62	43.56
8.40 CFS	43.50	43.44	43.38	43.32	43.26	43.21	43.15	43.10
16.80 CFS	43.05	42.99	42.94	42.89	42.84	42.79	42.74	42.68
25.20 CFS	42.63	42.58	42.54	42.49	42.44	42.39	42.35	42.30
33.60 CFS	42.25	42.20	42.16	42.11	42.06	42.01	41.97	41.92
42.00 CFS	41.87	41.83	41.78	41.73	41.69	41.64	41.60	41.56
50.40 CFS	41.52	41.48	41.45	41.42	41.39	41.35	41.32	41.29
58.80 CFS	41.26	41.22	41.19	41.16	41.13	41.10	41.06	41.03
67.20 CFS	41.00	40.97	40.94	40.91	40.88	40.85	40.82	40.81
75.60 CFS	40.79	40.78	40.76	40.75	40.74	40.72	40.71	40.70
84.00 CFS	40.69	40.68	40.68	40.69	40.69	40.70	40.71	40.72
92.40 CFS	40.73	40.74	40.75	40.76	40.77	40.78	40.79	40.82
100.80 CFS	40.87	40.92	40.99	41.07	41.15	41.23	41.33	41.44
109.20 CFS	41.55	41.67	41.80	41.94	42.11	42.31	42.54	42.83
117.60 CFS	43.20	44.66	47.27	50.59	54.75	58.78	61.92	63.88
126.00 CFS	65.00	65.68	66.14	66.41	66.60	66.73	66.83	66.90
134.40 CFS	66.95	66.99	67.01	67.02	67.03	67.03	67.03	67.02
142.80 CFS	67.01	67.00	66.98	66.96	66.93	66.90	66.87	66.84
151.20 CFS	66.82	66.79	66.76	66.73	66.70	66.67	66.63	66.60
159.60 CFS	66.56	66.51	66.47	66.42	66.38	66.34	66.29	66.25

168.00 CFS	66.21	66.16	66.11	66.06	66.00	65.94	65.89	65.83
176.40 CFS	65.77	65.72	65.66	65.60	65.55	65.50	65.44	65.39
184.80 CFS	65.33	65.27	65.22	65.16	65.11	65.06	65.00	64.95
193.20 CFS	64.89	64.83	64.77	64.70	64.64	64.58	64.52	64.45
201.60 CFS	64.39	64.33	64.26	64.20	64.14	64.08	64.01	63.95
210.00 CFS	63.89	63.83	63.77	63.71	63.65	63.58	63.52	63.46
218.40 CFS	63.39	63.32	63.25	63.18	63.12	63.05	62.97	62.87
226.80 CFS	62.77	62.67	62.57	62.47	62.36	62.26	62.15	62.05
235.20 CFS	61.96	61.86	61.76	61.66	61.56	61.46	61.37	61.26
243.60 CFS	61.16	61.04	60.92	60.79	60.67	60.54	60.42	60.30
252.00 CFS	60.17	60.05	59.92	59.80	59.68	59.56	59.43	59.31
260.40 CFS	59.19	59.07	58.95	58.83	58.70	58.58	58.46	58.34
268.80 CFS	58.22	58.10	57.98	57.87	57.75	57.63	57.51	57.39
277.20 CFS	57.27	57.16	57.04	56.92	56.80	56.69	56.57	56.45
285.60 CFS	56.34	56.22	56.11	55.99	55.88	55.76	55.65	55.53
294.00 CFS	55.42	55.31	55.19	55.08	54.97	54.85	54.74	54.63
302.40 CFS	54.51	54.40	54.29	54.18	54.07	53.96	53.85	53.74
310.80 CFS	53.63	53.51	53.40	53.30	53.19	53.08	52.97	52.86
319.20 CFS	52.75	52.64	52.53	52.43	52.32	52.21	52.10	52.00
327.60 CFS	51.89	51.78	51.68	51.57	51.46	51.36	51.25	51.15
336.00 CFS	51.04	50.94	50.83	50.73	50.62	50.52	50.42	50.31
344.40 CFS	50.21	50.11	50.00	49.90	49.80	49.70	49.60	49.50
352.80 CFS	49.40	49.30	49.20	49.10	49.00	48.90	48.80	48.70
361.20 CFS	48.60	48.50	48.40	48.30	48.21	48.11	48.01	47.91
369.60 CFS	47.82	47.72	47.62	47.53	47.43	47.33	47.24	47.14
378.00 CFS	47.05	46.95	46.85	46.76	46.66	46.57	46.48	46.38
386.40 CFS	46.29	46.19	46.10	46.01	45.91	45.82	45.73	45.63
394.80 CFS	45.54	45.45	45.36	45.26	45.17	45.08	44.99	44.90
403.20 CFS	44.81	44.72	44.62	44.53	44.44	44.35	44.26	44.17
411.60 CFS	44.08	43.99	43.90	43.82	43.73	43.64	43.55	43.46

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
1.66 WATERSHED INCHES; 22093 CFS-HRS; 1825.7 ACRE-FEET.

--- STRUCTURE 1, ALTERNATE 1, STORM 1, HYDROGRAPH ADDED TO READHD FILE ---

EXECUTIVE CONTROL ENDCMP COMPUTATIONS COMPLETED FOR PASS 1

EXECUTIVE CONTROL COMPUT FROM XSECTION 1 TO STRUCTURE 1
STARTING TIME = .00 RAIN DEPTH = 1.00 RAIN DURATION = 1.00
ANT. RUNOFF COND. = 2 MAIN TIME INCREMENT = 1.050 HOURS
ALTERNATE NO. = 2 STORM NO. = 1 RAIN TABLE NO. = 1

OPERATION RUNOFF XSECTION 1

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
121.40	290.4	(RUNOFF)
138.08	8.7	(RUNOFF)
143.29	7.3	(RUNOFF)
150.61	6.0	(RUNOFF)
164.99	4.6	(RUNOFF)
174.63	3.3	(RUNOFF)
179.55	3.3 *	(RUNOFF)
187.64	3.3	(RUNOFF)
192.22	2.6	(RUNOFF)
208.25	2.7	(RUNOFF)

* FIRST POINT OF FLAT PEAK

HYDROGRAPH POINTS FOR ALTERNATE = 2, STORM = 1
MAIN TIME INCREMENT = 1.050 hr, DRAINAGE AREA = 2.46 SQ.MI.

HRS								
.00 CFS	.00	.66	.66	1.45	1.65	1.68	1.72	1.71
8.40 CFS	1.65	1.65	1.71	1.72	1.92	2.05	2.05	2.05
16.80 CFS	2.05	2.11	2.11	2.06	2.05	2.08	2.11	2.13
25.20 CFS	2.25	2.25	2.31	2.31	2.27	2.25	2.25	2.25
33.60 CFS	2.25	2.25	2.25	2.30	2.31	2.29	2.25	2.25
42.00 CFS	2.25	2.25	2.25	2.25	2.29	2.31	2.48	3.04
50.40 CFS	3.04	3.04	3.04	3.04	3.04	3.04	3.04	3.04
58.80 CFS	3.04	3.04	3.04	3.04	3.04	3.04	3.04	3.04
67.20 CFS	3.04	3.04	3.04	3.09	3.11	3.51	4.10	4.10
75.60 CFS	4.10	4.10	4.16	4.16	4.12	4.10	4.10	4.10
84.00 CFS	4.11	5.40	5.42	5.47	5.48	5.46	5.42	5.42
92.40 CFS	5.42	5.42	5.48	5.48	5.44	5.42	6.18	8.33
100.80 CFS	8.41	9.58	9.65	9.65	9.65	10.62	11.96	11.96
109.20 CFS	11.96	12.01	14.43	14.74	17.28	18.96	21.33	28.55
117.60 CFS	33.56	229.35	230.66	273.71	284.13	207.45	96.47	89.78
126.00 CFS	38.02	37.66	22.09	20.48	16.69	14.54	13.75	11.23
134.40 CFS	11.10	8.71	8.59	8.59	8.59	7.72	6.61	6.68
142.80 CFS	7.27	7.25	5.50	5.29	5.29	5.29	5.46	5.95
151.20 CFS	5.91	5.31	5.29	5.29	5.29	5.02	4.63	4.55
159.60 CFS	3.96	3.96	3.96	3.96	4.38	4.63	4.48	3.96
168.00 CFS	3.95	3.32	3.30	2.79	2.64	2.93	3.30	3.22
176.40 CFS	2.65	2.64	3.25	3.30	3.30	3.30	3.13	2.64
184.80 CFS	2.68	3.27	3.30	3.30	3.30	3.03	2.64	2.64
193.20 CFS	2.64	2.63	2.05	1.98	2.38	2.64	2.49	1.98
201.60 CFS	1.99	2.64	2.64	2.11	1.98	2.26	2.64	2.56
210.00 CFS	1.99	1.98	2.58	2.64	2.22	1.98	1.98	1.98
218.40 CFS	1.95	1.35	1.32	1.83	1.98	1.70	1.32	1.39
226.80 CFS	1.98	1.97	1.39	1.32	1.32	1.32	1.49	1.98
235.20 CFS	1.95	1.34	1.32	1.85	1.98	1.72	1.32	1.17
243.60 CFS	.00							

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
1.68 WATERSHED INCHES; 2671 CFS-HRS; 220.7 ACRE-FEET.

*** WARNING - MAIN TIME INCREMENT (1.050) IS GREATER THAN 50% OF THE
TIME OF CONCENTRATION (.85) FOR SUBWATERSHED XSECTION 1.
THIS WILL REDUCE THE COMPUTED PEAK BY ABOUT -2.1%. ***

OPERATION REACH XSECTION 5

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
122.55	283.3	2.23
144.42	7.4	.39
151.83	5.9	.36
166.22	4.6	.32
175.87	3.3	.23
182.21	3.3	.23
189.54	3.3	.23
214.00	2.6	.18
240.45	1.9	.14

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
1.62 WATERSHED INCHES; 2576 CFS-HRS; 212.9 ACRE-FEET.

OPERATION REACH XSECTION 10

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
123.70	277.3	3.72
145.52	7.3	.92
153.01	5.9	.88
167.44	4.5	.78
177.05	3.2	.56
183.33	3.3	.57
190.64	3.3	.57
215.18	2.6	.44
241.65	1.9	.33

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
1.66 WATERSHED INCHES; 2642 CFS-HRS; 218.3 ACRE-FEET.

OPERATION RUNOFF XSECTION 2

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
78.23	4.0	(RUNOFF)
121.33	285.1	(RUNOFF)
137.49	8.3	(RUNOFF)
143.33	7.3	(RUNOFF)
154.35	5.1	(RUNOFF)
164.80	4.5	(RUNOFF)
174.61	3.2	(RUNOFF)
181.13	3.2	(RUNOFF)
188.48	3.2	(RUNOFF)
192.69	2.6	(RUNOFF)

HYDROGRAPH POINTS FOR ALTERNATE = 2, STORM = 1
MAIN TIME INCREMENT = 1.050 hr, DRAINAGE AREA = 2.38 SQ.MI.

HRS								
.00 CFS	.00	.64	.64	1.49	1.60	1.63	1.66	1.65
8.40 CFS	1.60	1.60	1.66	1.66	1.90	1.98	1.98	1.98
16.80 CFS	1.99	2.05	2.05	1.99	1.98	2.01	2.05	2.06
25.20 CFS	2.17	2.17	2.23	2.24	2.19	2.17	2.17	2.17
33.60 CFS	2.17	2.17	2.17	2.23	2.24	2.20	2.17	2.17
42.00 CFS	2.17	2.17	2.17	2.17	2.22	2.24	2.46	2.94
50.40 CFS	2.94	2.94	2.94	2.94	2.94	2.94	2.94	2.94
58.80 CFS	2.94	2.94	2.94	2.94	2.94	2.94	2.94	2.94
67.20 CFS	2.94	2.94	2.94	3.00	3.00	3.49	3.96	3.96
75.60 CFS	3.96	3.96	4.03	4.03	3.98	3.96	3.96	3.96
84.00 CFS	4.03	5.24	5.24	5.30	5.31	5.27	5.24	5.24
92.40 CFS	5.24	5.24	5.30	5.31	5.26	5.24	5.96	8.06
100.80 CFS	8.11	9.32	9.33	9.33	9.33	10.46	11.57	11.57
109.20 CFS	11.57	11.57	14.21	14.26	17.19	18.35	21.32	27.62
117.60 CFS	36.73	223.11	223.11	269.22	274.90	177.77	93.34	85.77
126.00 CFS	36.44	36.28	20.57	19.82	15.53	14.06	13.20	10.87
134.40 CFS	10.74	8.33	8.31	8.31	8.31	7.35	6.39	6.48
142.80 CFS	7.03	7.03	5.17	5.11	5.11	5.11	5.32	5.75
151.20 CFS	5.73	5.11	5.11	5.11	5.11	4.77	4.48	4.39
159.60 CFS	3.84	3.84	3.84	3.84	4.32	4.48	4.29	3.84
168.00 CFS	3.80	3.20	3.20	2.63	2.56	2.88	3.20	3.12
176.40 CFS	2.56	2.56	3.17	3.20	3.20	3.20	2.99	2.56
184.80 CFS	2.57	3.20	3.20	3.20	3.20	2.85	2.56	2.56
193.20 CFS	2.56	2.55	1.94	1.92	2.41	2.56	2.37	1.92
201.60 CFS	1.96	2.56	2.56	2.00	1.92	2.24	2.56	2.47
210.00 CFS	1.92	1.92	2.53	2.56	2.10	1.92	1.92	1.92
218.40 CFS	1.91	1.28	1.28	1.85	1.92	1.58	1.28	1.37
226.80 CFS	1.92	1.91	1.29	1.28	1.28	1.28	1.48	1.92
235.20 CFS	1.88	1.28	1.28	1.84	1.92	1.59	1.28	1.10
243.60 CFS	.00							

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
1.67 WATERSHED INCHES; 2561 CFS-HRS; 211.6 ACRE-FEET.

*** WARNING - MAIN TIME INCREMENT (1.050) IS GREATER THAN 50% OF THE
TIME OF CONCENTRATION (.73) FOR SUBWATERSHED XSECTION 2.
THIS WILL REDUCE THE COMPUTED PEAK BY ABOUT -3.7%. ***

OPERATION ADDHYD XSECTION 12

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
121.80	488.3	(NULL)
145.48	12.4	(NULL)
150.94	11.1	(NULL)
153.00	11.0	(NULL)
165.72	8.5	(NULL)
178.68	6.0	(NULL)
181.69	6.4	(NULL)
186.07	6.0	(NULL)
188.84	6.4	(NULL)
212.28	4.7	(NULL)

HYDROGRAPH POINTS FOR ALTERNATE = 2, STORM = 1
MAIN TIME INCREMENT = 1.050 hr, DRAINAGE AREA = 4.84 SQ.MI.

HRS								
.00 CFS	.00	.64	.64	1.93	2.20	2.81	3.18	3.29
8.40 CFS	3.29	3.30	3.33	3.32	3.59	3.69	3.84	3.97
16.80 CFS	4.02	4.09	4.09	4.08	4.09	4.09	4.10	4.13
25.20 CFS	4.27	4.29	4.44	4.47	4.47	4.48	4.46	4.43
33.60 CFS	4.42	4.42	4.42	4.48	4.48	4.49	4.48	4.47
42.00 CFS	4.43	4.42	4.42	4.42	4.47	4.48	4.74	5.24
50.40 CFS	5.36	5.78	5.93	5.97	5.98	5.98	5.98	5.98
58.80 CFS	5.98	5.98	5.98	5.98	5.98	5.98	5.98	5.98
67.20 CFS	5.98	5.98	5.98	6.04	6.04	6.56	7.06	7.33
75.60 CFS	7.83	8.00	8.11	8.12	8.12	8.12	8.10	8.07
84.00 CFS	8.13	9.34	9.35	10.28	10.61	10.70	10.71	10.70
92.40 CFS	10.67	10.66	10.72	10.72	10.72	10.72	11.42	13.48
100.80 CFS	14.04	16.88	17.51	18.48	18.85	20.07	21.21	21.87
109.20 CFS	23.01	23.40	26.14	26.24	30.83	32.77	37.69	45.80
117.60 CFS	57	249	254	434	488	433	369	316
126.00 CFS	175	139	79	63	44	37	32	27
134.40 CFS	25.04	20.52	19.70	17.87	17.16	16.00	15.00	14.49
142.80 CFS	14.08	13.80	12.26	12.32	11.17	10.62	10.66	11.05
151.20 CFS	11.13	10.89	10.99	10.61	10.46	10.07	9.76	9.50
159.60 CFS	8.61	8.45	8.01	7.85	8.30	8.44	8.54	8.34
168.00 CFS	8.30	7.34	7.19	6.17	5.92	5.85	5.93	5.98
176.40 CFS	5.72	5.77	6.01	5.89	6.26	6.43	6.28	5.86
184.80 CFS	5.76	6.01	5.91	6.28	6.44	6.14	5.86	5.68
193.20 CFS	5.35	5.23	4.59	4.55	4.66	4.61	4.63	4.44
201.60 CFS	4.46	4.71	4.59	4.43	4.51	4.51	4.62	4.66
210.00 CFS	4.42	4.47	4.70	4.59	4.50	4.49	4.26	4.01
218.40 CFS	3.92	3.27	3.24	3.40	3.30	3.25	3.17	3.13
226.80 CFS	3.38	3.32	3.08	3.20	2.85	2.67	2.81	3.24
235.20 CFS	3.32	3.09	3.20	3.37	3.29	3.28	3.18	2.88

243.60 CFS 1.47 1.26 .40

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
1.67 WATERSHED INCHES; 5202 CFS-HRS; 429.9 ACRE-FEET.

OPERATION DIVERT XSECTION 12
OUTPUT #1 HYDROGRAPH

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
121.80	488.3	(DIVERT)
145.48	12.4	(DIVERT)
150.94	11.1	(DIVERT)
153.00	11.0	(DIVERT)
165.72	8.5	(DIVERT)
178.68	6.0	(DIVERT)
181.69	6.4	(DIVERT)
186.07	6.0	(DIVERT)
188.84	6.4	(DIVERT)
212.28	4.7	(DIVERT)

HYDROGRAPH POINTS FOR ALTERNATE = 2, STORM = 1
MAIN TIME INCREMENT = 1.050 hr, DRAINAGE AREA = 4.84 SQ.MI.

HRS								
.00 CFS	.00	.64	.64	1.93	2.20	2.81	3.18	3.29
8.40 CFS	3.29	3.30	3.33	3.32	3.59	3.69	3.84	3.97
16.80 CFS	4.02	4.09	4.09	4.08	4.09	4.09	4.10	4.13
25.20 CFS	4.27	4.29	4.44	4.47	4.47	4.48	4.46	4.43
33.60 CFS	4.42	4.42	4.42	4.48	4.48	4.49	4.48	4.47
42.00 CFS	4.43	4.42	4.42	4.42	4.47	4.48	4.74	5.24
50.40 CFS	5.36	5.78	5.93	5.97	5.98	5.98	5.98	5.98
58.80 CFS	5.98	5.98	5.98	5.98	5.98	5.98	5.98	5.98
67.20 CFS	5.98	5.98	5.98	6.04	6.04	6.56	7.06	7.33
75.60 CFS	7.83	8.00	8.11	8.12	8.12	8.12	8.10	8.07
84.00 CFS	8.13	9.34	9.35	10.28	10.61	10.70	10.71	10.70
92.40 CFS	10.67	10.66	10.72	10.72	10.72	10.72	11.42	13.48
100.80 CFS	14.04	16.88	17.51	18.48	18.85	20.07	21.21	21.87
109.20 CFS	23.01	23.40	26.14	26.24	30.83	32.77	37.69	45.80
117.60 CFS	57	249	254	434	488	433	369	316
126.00 CFS	175	139	79	63	44	37	32	27
134.40 CFS	25.04	20.52	19.70	17.87	17.16	16.00	15.00	14.49
142.80 CFS	14.08	13.80	12.26	12.32	11.17	10.62	10.66	11.05
151.20 CFS	11.13	10.89	10.99	10.61	10.46	10.07	9.76	9.50
159.60 CFS	8.61	8.45	8.01	7.85	8.30	8.44	8.54	8.34
168.00 CFS	8.30	7.34	7.19	6.17	5.92	5.85	5.93	5.98
176.40 CFS	5.72	5.77	6.01	5.89	6.26	6.43	6.28	5.86
184.80 CFS	5.76	6.01	5.91	6.28	6.44	6.14	5.86	5.68
193.20 CFS	5.35	5.23	4.59	4.55	4.66	4.61	4.63	4.44
201.60 CFS	4.46	4.71	4.59	4.43	4.51	4.51	4.62	4.66
210.00 CFS	4.42	4.47	4.70	4.59	4.50	4.49	4.26	4.01
218.40 CFS	3.92	3.27	3.24	3.40	3.30	3.25	3.17	3.13
226.80 CFS	3.38	3.32	3.08	3.20	2.85	2.67	2.81	3.24

```
   235.20 CFS      3.32    3.09    3.20    3.37    3.29    3.28    3.18    2.88
   243.60 CFS      1.47    1.26     .40

    RUNOFF ABOVE BASEFLOW  (BASEFLOW =     .00 CFS)
                  1.67 WATERSHED INCHES;    5202 CFS-HRS;     429.9 ACRE-FEET.


           OUTPUT #2 DIVERTED HYDROGRAPH (XSECTION  200)

 *** MESSAGE - HYDROGRAPH CONTAINS NO FLOW                                  ***

    RUNOFF ABOVE BASEFLOW  (BASEFLOW =     .00 CFS)
                    237 CFS-HRS;     429.9 ACRE-FEET.

 *** WARNING - ROUTING COEFFICIENT (C) EQUALS 1.0,
               CONSIDER SMALLER MAIN TIME INCREMENT FOR XSECTION  20.       ***


OPERATION REACH     XSECTION  20

    PEAK TIME(HRS)             PEAK DISCHARGE(CFS)          PEAK ELEVATION(FEET)
      121.80                         488.3                          2.45
      145.48                          12.4                           .13
      150.94                          11.1                           .11
      153.00                          11.0                           .11
      165.72                           8.5                           .09
      178.68                           6.0                           .06
      181.69                           6.4                           .06
      186.07                           6.0                           .06
      188.84                           6.4                           .07
      212.28                           4.7                           .05

    RUNOFF ABOVE BASEFLOW  (BASEFLOW =     .00 CFS)
                  1.67 WATERSHED INCHES;    5202 CFS-HRS;     429.9 ACRE-FEET.

 *** WARNING - ROUTING COEFFICIENT (C) EQUALS 1.0,
               CONSIDER SMALLER MAIN TIME INCREMENT FOR XSECTION  25.       ***


OPERATION REACH     XSECTION  25
```

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
121.80	488.3	1.54
145.48	12.4	.08
150.94	11.1	.07
153.00	11.0	.07
165.72	8.5	.05
178.68	6.0	.04
181.69	6.4	.04
186.07	6.0	.04
188.84	6.4	.04
212.28	4.7	.03

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
1.67 WATERSHED INCHES; 5202 CFS-HRS; 429.9 ACRE-FEET.

OPERATION RUNOFF XSECTION 3

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
121.39	461.9	(RUNOFF)
126.52	63.0	(RUNOFF)
138.08	13.8	(RUNOFF)
143.32	11.7	(RUNOFF)
150.67	9.6	(RUNOFF)
154.88	8.5	(RUNOFF)
165.01	7.4	(RUNOFF)
174.70	5.3	(RUNOFF)
181.12	5.2	(RUNOFF)
186.90	5.2 *	(RUNOFF)

* FIRST POINT OF FLAT PEAK

HYDROGRAPH POINTS FOR ALTERNATE = 2, STORM = 1
MAIN TIME INCREMENT = 1.050 hr, DRAINAGE AREA = 3.94 SQ.MI.

HRS								
.00 CFS	.00	1.05	1.05	2.37	2.62	2.67	2.73	2.72
8.40 CFS	2.62	2.62	2.72	2.73	3.06	3.25	3.25	3.25
16.80 CFS	3.26	3.36	3.36	3.27	3.25	3.30	3.36	3.38
25.20 CFS	3.57	3.57	3.67	3.67	3.61	3.57	3.57	3.57
33.60 CFS	3.57	3.57	3.57	3.66	3.67	3.63	3.57	3.57
42.00 CFS	3.57	3.57	3.57	3.57	3.64	3.67	3.91	4.83
50.40 CFS	4.83	4.83	4.83	4.83	4.83	4.83	4.83	4.83
58.80 CFS	4.83	4.83	4.83	4.83	4.83	4.83	4.83	4.83
67.20 CFS	4.83	4.83	4.83	4.92	4.93	5.55	6.51	6.51
75.60 CFS	6.51	6.51	6.61	6.61	6.55	6.51	6.51	6.51
84.00 CFS	6.54	8.59	8.61	8.70	8.71	8.67	8.61	8.61
92.40 CFS	8.61	8.61	8.71	8.71	8.65	8.61	9.50	13.23
100.80 CFS	13.26	15.31	15.33	15.33	15.33	16.76	19.00	19.00
109.20 CFS	19.00	19.00	23.26	23.41	27.69	30.13	33.19	45.35
117.60 CFS	49	364	366	437	451	331	153	147
126.00 CFS	59.84	59.84	34.19	32.54	26.67	23.10	22.09	17.85

134.40 CFS	17.77	13.69	13.65	13.65	13.65	12.40	10.50	10.57
142.80 CFS	11.55	11.54	8.50	8.40	8.40	8.40	8.60	9.45
151.20 CFS	9.44	8.40	8.40	8.40	8.40	7.98	7.35	7.29
159.60 CFS	6.30	6.30	6.30	6.30	6.95	7.35	7.14	6.30
168.00 CFS	6.28	5.26	5.25	4.39	4.20	4.62	5.25	5.17
176.40 CFS	4.20	4.20	5.22	5.25	5.25	5.25	5.05	4.20
184.80 CFS	4.20	5.25	5.25	5.25	5.25	4.83	4.20	4.20
193.20 CFS	4.20	4.20	3.21	3.15	3.81	4.20	3.99	3.15
201.60 CFS	3.17	4.19	4.20	3.33	3.15	3.57	4.20	4.12
210.00 CFS	3.15	3.15	4.16	4.20	3.54	3.15	3.15	3.15
218.40 CFS	3.14	2.10	2.10	2.98	3.15	2.74	2.10	2.16
226.80 CFS	3.15	3.15	2.16	2.10	2.10	2.10	2.31	3.15
235.20 CFS	3.13	2.11	2.10	2.98	3.15	2.73	2.10	1.94
243.60 CFS	.00							

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
1.67 WATERSHED INCHES; 4251 CFS-HRS; 351.3 ACRE-FEET.

*** WARNING - MAIN TIME INCREMENT (1.050) IS GREATER THAN 50% OF THE
TIME OF CONCENTRATION (.88) FOR SUBWATERSHED XSECTION 3.
THIS WILL REDUCE THE COMPUTED PEAK BY ABOUT -2.3%. ***

OPERATION REACH XSECTION 30

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
122.60	444.1	2.56
144.45	11.7	.88
151.93	9.4	.85
166.33	7.2	.81
175.98	5.2	.77
182.27	5.3	.77
189.57	5.3	.77
204.49	4.2	.64
209.58	4.1	.64
214.02	4.1	.64

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
1.61 WATERSHED INCHES; 4102 CFS-HRS; 339.0 ACRE-FEET.

OPERATION REACH XSECTION 5

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
123.73	437.4	2.71
145.53	11.6	.45
153.06	9.4	.42
167.50	7.2	.38
177.12	5.2	.35
183.39	5.2	.35
190.65	5.3	.35
205.63	4.1	.29
210.71	4.1	.29
215.18	4.1	.29

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
1.65 WATERSHED INCHES; 4198 CFS-HRS; 347.0 ACRE-FEET.

*** WARNING - ROUTING COEFFICIENT (C) EQUALS 1.0,
CONSIDER SMALLER MAIN TIME INCREMENT FOR XSECTION 25. ***

OPERATION REACH XSECTION 25

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
123.73	437.4	1.44
145.53	11.6	.07
153.06	9.4	.06
167.50	7.2	.05
177.12	5.2	.03
183.39	5.2	.03
190.65	5.3	.03
205.63	4.1	.03
210.71	4.1	.03
215.18	4.1	.03

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
1.65 WATERSHED INCHES; 4198 CFS-HRS; 347.0 ACRE-FEET.

OPERATION RUNOFF XSECTION 4

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
121.36	245.1	(RUNOFF)
138.08	7.3	(RUNOFF)
143.27	6.1	(RUNOFF)
154.88	4.5	(RUNOFF)
164.96	3.9	(RUNOFF)
193.72	2.2	(RUNOFF)
198.49	2.2	(RUNOFF)
203.17	2.3	(RUNOFF)
208.22	2.2	(RUNOFF)
212.72	2.2	(RUNOFF)

HYDROGRAPH POINTS FOR ALTERNATE = 2, STORM = 1
MAIN TIME INCREMENT = 1.050 hr, DRAINAGE AREA = 2.06 SQ.MI.

HRS								
.00 CFS	.00	.55	.55	1.25	1.38	1.41	1.44	1.43
8.40 CFS	1.38	1.38	1.43	1.44	1.63	1.72	1.72	1.72
16.80 CFS	1.72	1.77	1.77	1.72	1.72	1.74	1.77	1.78
25.20 CFS	1.88	1.88	1.93	1.94	1.90	1.88	1.88	1.88
33.60 CFS	1.88	1.88	1.88	1.93	1.94	1.91	1.88	1.88
42.00 CFS	1.88	1.88	1.88	1.88	1.92	1.94	2.09	2.55
50.40 CFS	2.55	2.55	2.55	2.55	2.55	2.55	2.55	2.55
58.80 CFS	2.55	2.55	2.55	2.55	2.55	2.55	2.55	2.55
67.20 CFS	2.55	2.55	2.55	2.59	2.60	2.97	3.43	3.43
75.60 CFS	3.43	3.43	3.48	3.49	3.45	3.43	3.43	3.43
84.00 CFS	3.47	4.54	4.54	4.58	4.59	4.57	4.54	4.54
92.40 CFS	4.54	4.54	4.59	4.59	4.56	4.54	5.24	6.97
100.80 CFS	6.98	8.08	8.08	8.08	8.08	9.01	10.02	10.02
109.20 CFS	10.02	10.02	12.18	12.34	14.81	15.88	18.22	23.90
117.60 CFS	29.21	189.88	193.12	230.82	237.94	161.93	80.79	74.74
126.00 CFS	31.54	31.45	18.30	17.15	13.66	12.17	11.39	9.41
134.40 CFS	9.29	7.25	7.19	7.19	7.19	6.41	5.53	5.60
142.80 CFS	6.09	6.06	4.55	4.43	4.43	4.43	4.57	4.98
151.20 CFS	4.95	4.44	4.43	4.43	4.43	4.18	3.87	3.80
159.60 CFS	3.32	3.32	3.32	3.32	3.68	3.87	3.75	3.32
168.00 CFS	3.29	2.77	2.77	2.31	2.21	2.46	2.77	2.70
176.40 CFS	2.21	2.21	2.75	2.77	2.77	2.77	2.62	2.21
184.80 CFS	2.23	2.77	2.77	2.77	2.77	2.51	2.21	2.21
193.20 CFS	2.21	2.21	1.68	1.66	2.03	2.21	2.06	1.66
201.60 CFS	1.66	2.21	2.21	1.75	1.66	1.92	2.21	2.14
210.00 CFS	1.66	1.66	2.18	2.21	1.83	1.66	1.66	1.66
218.40 CFS	1.64	1.12	1.11	1.57	1.66	1.39	1.11	1.17
226.80 CFS	1.66	1.66	1.15	1.11	1.11	1.11	1.26	1.66
235.20 CFS	1.63	1.12	1.11	1.57	1.66	1.40	1.11	.97
243.60 CFS	.00							

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
1.67 WATERSHED INCHES; 2219 CFS-HRS; 183.4 ACRE-FEET.

*** WARNING - MAIN TIME INCREMENT (1.050) IS GREATER THAN 50% OF THE
TIME OF CONCENTRATION (.79) FOR SUBWATERSHED XSECTION 4.
THIS WILL REDUCE THE COMPUTED PEAK BY ABOUT -3.0%. ***

OPERATION ADDHYD XSECTION 34

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
80.58	10.0	(NULL)
122.26	578.6	(NULL)
145.46	16.1	(NULL)
153.05	13.8	(NULL)
166.39	10.5	(NULL)
189.08	7.9	(NULL)
214.94	5.8	(NULL)
229.70	4.2	(NULL)
237.42	4.1	(NULL)
241.03	4.1	(NULL)

HYDROGRAPH POINTS FOR ALTERNATE = 2, STORM = 1
MAIN TIME INCREMENT = 1.050 hr, DRAINAGE AREA = 6.00 SQ.MI.

HRS								
.00 CFS	.00	.55	.55	1.92	2.32	3.27	3.82	4.01
8.40 CFS	4.07	4.09	4.09	4.07	4.32	4.43	4.65	4.86
16.80 CFS	4.94	5.01	5.02	5.04	5.06	5.04	5.04	5.07
25.20 CFS	5.21	5.24	5.43	5.48	5.53	5.54	5.51	5.47
33.60 CFS	5.46	5.45	5.45	5.50	5.51	5.53	5.54	5.52
42.00 CFS	5.48	5.46	5.45	5.45	5.49	5.51	5.70	6.20
50.40 CFS	6.37	7.02	7.27	7.34	7.37	7.37	7.37	7.37
58.80 CFS	7.37	7.37	7.37	7.37	7.37	7.37	7.37	7.37
67.20 CFS	7.37	7.37	7.37	7.42	7.43	7.86	8.35	8.75
75.60 CFS	9.53	9.82	9.96	9.99	10.02	10.03	10.00	9.96
84.00 CFS	9.98	11.05	11.07	12.43	12.97	13.17	13.22	13.21
92.40 CFS	13.17	13.15	13.20	13.20	13.23	13.24	13.90	15.60
100.80 CFS	16.16	19.87	20.90	22.53	23.14	24.26	25.32	26.26
109.20 CFS	28.06	28.73	31.10	31.32	36.53	38.78	44.23	52.66
117.60 CFS	61	230	239	481	569	564	517	445
126.00 CFS	260	203	116	88	60	49	41	35
134.40 CFS	32.39	26.91	25.52	22.51	21.34	20.20	19.22	18.46
142.80 CFS	17.40	16.85	15.81	15.88	13.99	13.18	13.07	13.40
151.20 CFS	13.48	13.56	13.77	13.18	12.93	12.60	12.28	11.93
159.60 CFS	10.94	10.71	10.00	9.73	10.01	10.18	10.46	10.46
168.00 CFS	10.44	9.37	9.14	7.96	7.58	7.19	7.13	7.21
176.40 CFS	7.20	7.33	7.28	7.07	7.64	7.90	7.84	7.45
184.80 CFS	7.35	7.29	7.06	7.66	7.91	7.73	7.45	7.19
193.20 CFS	6.68	6.49	5.91	5.86	5.60	5.49	5.66	5.66
201.60 CFS	5.66	5.67	5.47	5.59	5.75	5.54	5.51	5.60
210.00 CFS	5.60	5.73	5.66	5.46	5.66	5.74	5.41	5.01
218.40 CFS	4.85	4.28	4.25	4.05	3.87	4.09	4.11	4.02
226.80 CFS	4.02	3.87	3.96	4.15	3.59	3.32	3.40	3.77
235.20 CFS	3.87	3.95	4.15	4.02	3.86	4.09	4.11	3.80

243.60 CFS 2.36 2.07 .73 .22

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
1.66 WATERSHED INCHES; 6418 CFS-HRS; 530.4 ACRE-FEET.

OPERATION ADDHYD XSECTION 35

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
122.01	1061.9	(NULL)
145.47	28.5	(NULL)
153.03	24.8	(NULL)
166.06	19.0	(NULL)
175.15	13.2	(NULL)
178.35	13.3	(NULL)
181.83	14.3	(NULL)
185.71	13.3	(NULL)
188.96	14.4	(NULL)
214.86	10.3	(NULL)

HYDROGRAPH POINTS FOR ALTERNATE = 2, STORM = 1
MAIN TIME INCREMENT = 1.050 hr, DRAINAGE AREA = 10.84 SQ.MI.

HRS								
.00 CFS	.00	1.19	1.19	3.85	4.52	6.08	7.00	7.30
8.40 CFS	7.36	7.40	7.42	7.39	7.91	8.12	8.49	8.83
16.80 CFS	8.96	9.10	9.12	9.12	9.15	9.13	9.14	9.20
25.20 CFS	9.49	9.54	9.87	9.96	10.00	10.02	9.96	9.90
33.60 CFS	9.88	9.87	9.87	9.97	9.99	10.02	10.02	9.99
42.00 CFS	9.91	9.88	9.87	9.87	9.95	9.99	10.44	11.44
50.40 CFS	11.73	12.80	13.20	13.31	13.34	13.35	13.35	13.35
58.80 CFS	13.35	13.35	13.35	13.35	13.35	13.35	13.35	13.35
67.20 CFS	13.35	13.35	13.35	13.45	13.47	14.42	15.41	16.09
75.60 CFS	17.36	17.82	18.07	18.11	18.14	18.15	18.09	18.03
84.00 CFS	18.11	20.38	20.42	22.71	23.58	23.86	23.93	23.92
92.40 CFS	23.84	23.82	23.92	23.92	23.94	23.95	25.32	29.08
100.80 CFS	30.20	36.75	38.41	41.00	41.99	44.34	46.53	48.13
109.20 CFS	51.07	52.13	57.24	57.56	67.36	71.55	81.92	98.45
117.60 CFS	118	479	494	915	1058	997	886	761
126.00 CFS	436	342	195	151	104	86	73	61
134.40 CFS	57.42	47.43	45.22	40.37	38.49	36.20	34.21	32.95
142.80 CFS	31.48	30.65	28.08	28.21	25.17	23.80	23.72	24.46
151.20 CFS	24.62	24.45	24.77	23.79	23.39	22.67	22.04	21.43
159.60 CFS	19.55	19.16	18.01	17.58	18.31	18.62	19.00	18.80
168.00 CFS	18.74	16.71	16.34	14.13	13.50	13.04	13.07	13.19
176.40 CFS	12.92	13.10	13.29	12.96	13.90	14.33	14.12	13.31
184.80 CFS	13.11	13.30	12.97	13.95	14.35	13.87	13.31	12.87
193.20 CFS	12.03	11.72	10.49	10.42	10.25	10.10	10.30	10.10
201.60 CFS	10.13	10.38	10.06	10.03	10.26	10.05	10.13	10.26
210.00 CFS	10.01	10.20	10.36	10.05	10.15	10.24	9.67	9.02
218.40 CFS	8.77	7.55	7.49	7.44	7.17	7.34	7.28	7.15
226.80 CFS	7.40	7.19	7.04	7.36	6.44	5.99	6.21	7.01
235.20 CFS	7.19	7.03	7.34	7.39	7.16	7.37	7.28	6.69

243.60 CFS 3.83 3.33 1.14 .32

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
1.66 WATERSHED INCHES; 11620 CFS-HRS; 960.3 ACRE-FEET.

OPERATION DIVERT XSECTION 35
OUTPUT #1 HYDROGRAPH

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
122.01	1061.9	(DIVERT)
145.47	28.5	(DIVERT)
153.03	24.8	(DIVERT)
166.06	19.0	(DIVERT)
175.15	13.2	(DIVERT)
178.35	13.3	(DIVERT)
181.83	14.3	(DIVERT)
185.71	13.3	(DIVERT)
188.96	14.4	(DIVERT)
214.86	10.3	(DIVERT)

HYDROGRAPH POINTS FOR ALTERNATE = 2, STORM = 1
MAIN TIME INCREMENT = 1.050 hr, DRAINAGE AREA = 10.84 SQ.MI.

HRS								
.00 CFS	.00	1.19	1.19	3.85	4.52	6.08	7.00	7.30
8.40 CFS	7.36	7.40	7.42	7.39	7.91	8.12	8.49	8.83
16.80 CFS	8.96	9.10	9.12	9.12	9.15	9.13	9.14	9.20
25.20 CFS	9.49	9.54	9.87	9.96	10.00	10.02	9.96	9.90
33.60 CFS	9.88	9.87	9.87	9.97	9.99	10.02	10.02	9.99
42.00 CFS	9.91	9.88	9.87	9.87	9.95	9.99	10.44	11.44
50.40 CFS	11.73	12.80	13.20	13.31	13.34	13.35	13.35	13.35
58.80 CFS	13.35	13.35	13.35	13.35	13.35	13.35	13.35	13.35
67.20 CFS	13.35	13.35	13.35	13.45	13.47	14.42	15.41	16.09
75.60 CFS	17.36	17.82	18.07	18.11	18.14	18.15	18.09	18.03
84.00 CFS	18.11	20.38	20.42	22.71	23.58	23.86	23.93	23.92
92.40 CFS	23.84	23.82	23.92	23.92	23.94	23.95	25.32	29.08
100.80 CFS	30.20	36.75	38.41	41.00	41.99	44.34	46.53	48.13
109.20 CFS	51.07	52.13	57.24	57.56	67.36	71.55	81.92	98.45
117.60 CFS	118	479	494	915	1058	997	886	761
126.00 CFS	436	342	195	151	104	86	73	61
134.40 CFS	57.42	47.43	45.22	40.37	38.49	36.20	34.21	32.95
142.80 CFS	31.48	30.65	28.08	28.21	25.17	23.80	23.72	24.46
151.20 CFS	24.62	24.45	24.77	23.79	23.39	22.67	22.04	21.43
159.60 CFS	19.55	19.16	18.01	17.58	18.31	18.62	19.00	18.80
168.00 CFS	18.74	16.71	16.34	14.13	13.50	13.04	13.07	13.19
176.40 CFS	12.92	13.10	13.29	12.96	13.90	14.33	14.12	13.31
184.80 CFS	13.11	13.30	12.97	13.95	14.35	13.87	13.31	12.87
193.20 CFS	12.03	11.72	10.49	10.42	10.25	10.10	10.30	10.10
201.60 CFS	10.13	10.38	10.06	10.03	10.26	10.05	10.13	10.26
210.00 CFS	10.01	10.20	10.36	10.05	10.15	10.24	9.67	9.02
218.40 CFS	8.77	7.55	7.49	7.44	7.17	7.34	7.28	7.15
226.80 CFS	7.40	7.19	7.04	7.36	6.44	5.99	6.21	7.01

235.20 CFS	7.19	7.03	7.34	7.39	7.16	7.37	7.28	6.69
243.60 CFS	3.83	3.33	1.14	.32				

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
1.66 WATERSHED INCHES; 11620 CFS-HRS; 960.3 ACRE-FEET.

OUTPUT #2 DIVERTED HYDROGRAPH (XSECTION 199)

*** MESSAGE - HYDROGRAPH CONTAINS NO FLOW ***

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
238 CFS-HRS; 960.3 ACRE-FEET.

*** WARNING - ROUTING COEFFICIENT (C) EQUALS 1.0,
CONSIDER SMALLER MAIN TIME INCREMENT FOR XSECTION 45. ***

OPERATION REACH XSECTION 45

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
122.01	1061.9	2.32
145.47	28.5	.17
153.03	24.8	.15
166.06	19.0	.11
175.15	13.2	.08
178.35	13.3	.08
181.83	14.3	.09
185.71	13.3	.08
188.96	14.4	.09
214.86	10.3	.06

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
1.66 WATERSHED INCHES; 11620 CFS-HRS; 960.3 ACRE-FEET.

OPERATION RUNOFF XSECTION 6

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
121.27	178.9	(RUNOFF)
143.18	4.5	(RUNOFF)
150.54	3.7	(RUNOFF)
169.58	2.1	(RUNOFF)
174.29	2.0	(RUNOFF)
181.13	2.1	(RUNOFF)
188.48	2.1	(RUNOFF)
212.62	1.7	(RUNOFF)
234.63	1.2	(RUNOFF)
239.03	1.2	(RUNOFF)

HYDROGRAPH POINTS FOR ALTERNATE = 2, STORM = 1
MAIN TIME INCREMENT = 1.050 hr, DRAINAGE AREA = 1.47 SQ.MI.

HRS									
2.10	CFS	.41	.95	1.02	1.04	1.06	1.05	1.02	1.02
10.50	CFS	1.06	1.06	1.22	1.26	1.26	1.26	1.27	1.30
18.90	CFS	1.30	1.26	1.26	1.29	1.30	1.33	1.38	1.39
27.30	CFS	1.42	1.42	1.39	1.38	1.38	1.38	1.38	1.38
35.70	CFS	1.39	1.42	1.42	1.39	1.38	1.38	1.38	1.38
44.10	CFS	1.38	1.38	1.42	1.42	1.68	1.87	1.87	1.87
52.50	CFS	1.87	1.87	1.87	1.87	1.87	1.87	1.87	1.87
60.90	CFS	1.87	1.87	1.87	1.87	1.87	1.87	1.87	1.87
69.30	CFS	1.87	1.91	1.91	2.31	2.52	2.52	2.52	2.52
77.70	CFS	2.56	2.56	2.53	2.52	2.52	2.52	2.57	3.34
86.10	CFS	3.34	3.37	3.38	3.35	3.34	3.34	3.34	3.34
94.50	CFS	3.38	3.38	3.34	3.34	4.29	5.13	5.29	5.94
102.90	CFS	5.94	5.94	5.94	7.05	7.37	7.37	7.37	7.58
111.30	CFS	9	9	12	12	15	18	49	142
119.70	CFS	144	175	175	82	59	45	23	22
128.10	CFS	12.62	12.62	9.38	8.96	7.83	6.92	6.58	5.29
136.50	CFS	5.29	5.29	5.29	4.46	4.07	4.20	4.48	4.43
144.90	CFS	3.29	3.26	3.26	3.26	3.45	3.66	3.63	3.26
153.30	CFS	3.26	3.26	3.26	3.00	2.85	2.75	2.44	2.44
161.70	CFS	2.44	2.44	2.76	2.85	2.66	2.44	2.40	2.04
170.10	CFS	2.04	1.66	1.63	1.91	2.04	1.90	1.63	1.66
178.50	CFS	2.04	2.04	2.04	2.04	1.81	1.63	1.72	2.04
186.90	CFS	2.04	2.04	2.04	1.71	1.63	1.63	1.63	1.57
195.30	CFS	1.22	1.22	1.63	1.63	1.39	1.22	1.32	1.63
203.70	CFS	1.61	1.22	1.22	1.53	1.63	1.47	1.22	1.26
212.10	CFS	1.63	1.63	1.28	1.22	1.22	1.22	1.15	.81
220.50	CFS	.81	1.19	1.22	.95	.81	.92	1.22	1.22
228.90	CFS	.83	.81	.81	.81	1.00	1.22	1.21	.82
237.30	CFS	.81	1.18	1.22	.96	.81	.61	.00	

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
1.68 WATERSHED INCHES; 1598 CFS-HRS; 132.0 ACRE-FEET.

*** WARNING - MAIN TIME INCREMENT (1.050) IS GREATER THAN 50% OF THE
TIME OF CONCENTRATION (.47) FOR SUBWATERSHED XSECTION 6.
THIS WILL REDUCE THE COMPUTED PEAK BY ABOUT -2.3%. ***

OPERATION REACH XSECTION 60

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
122.40	180.7	2.78
144.39	4.5	.11
151.78	3.7	.09
165.88	2.8	.07
182.19	2.1	.05
189.53	2.1	.05
213.87	1.6	.04
223.45	1.2	.03
228.53	1.2	.03
235.83	1.2	.03

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
1.67 WATERSHED INCHES; 1587 CFS-HRS; 131.1 ACRE-FEET.

*** WARNING - ROUTING COEFFICIENT (C) EQUALS 1.0,
CONSIDER SMALLER MAIN TIME INCREMENT FOR XSECTION 67. ***

OPERATION REACH XSECTION 67

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
122.40	180.7	1.83
144.39	4.5	.32
151.78	3.7	.26
165.88	2.8	.20
182.19	2.1	.14
189.53	2.1	.14
213.87	1.6	.11
223.45	1.2	.08
228.53	1.2	.09
235.83	1.2	.09

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
1.67 WATERSHED INCHES; 1587 CFS-HRS; 131.1 ACRE-FEET.

OPERATION ADDHYD XSECTION 64

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
122.07	1233.0	(NULL)
152.80	28.2	(NULL)
166.01	21.8	(NULL)
175.28	15.2	(NULL)
181.83	16.4	(NULL)
186.13	15.0	(NULL)
188.96	16.4	(NULL)
214.17	11.8	(NULL)
229.44	8.4	(NULL)
240.47	8.6	(NULL)

HYDROGRAPH POINTS FOR ALTERNATE = 2, STORM = 1
MAIN TIME INCREMENT = 1.050 hr, DRAINAGE AREA = 12.31 SQ.MI.

HRS								
.00 CFS	.00	1.19	1.52	4.24	5.36	7.06	8.03	8.35
8.40 CFS	8.41	8.42	8.44	8.44	8.97	9.31	9.73	10.09
16.80 CFS	10.22	10.37	10.41	10.42	10.42	10.40	10.43	10.50
25.20 CFS	10.81	10.91	11.25	11.37	11.42	11.41	11.35	11.28
33.60 CFS	11.26	11.25	11.25	11.36	11.41	11.44	11.41	11.38
42.00 CFS	11.29	11.26	11.25	11.25	11.34	11.40	11.86	13.07
50.40 CFS	13.55	14.66	15.07	15.18	15.21	15.22	15.22	15.22
58.80 CFS	15.22	15.22	15.22	15.22	15.22	15.22	15.22	15.22
67.20 CFS	15.22	15.22	15.22	15.33	15.37	16.33	17.63	18.55
75.60 CFS	19.87	20.34	20.59	20.66	20.70	20.69	20.62	20.55
84.00 CFS	20.64	22.95	23.60	26.01	26.94	27.24	27.28	27.26
92.40 CFS	27.18	27.15	27.26	27.29	27.32	27.30	28.66	33.18
100.80 CFS	35.12	41.97	44.21	46.92	47.93	50.28	53.35	55.39
109.20 CFS	58	59	65	66	76	83	93	113
117.60 CFS	135	522	616	1054	1226	1171	987	829
126.00 CFS	485	371	218	166	117	96	82	69
134.40 CFS	64.59	54.13	50.80	45.72	43.80	41.49	38.84	37.13
142.80 CFS	35.67	35.07	32.51	31.73	28.48	27.06	26.98	27.86
151.20 CFS	28.23	28.08	28.10	27.06	26.65	25.93	25.09	24.32
159.60 CFS	22.33	21.67	20.46	20.03	20.75	21.32	21.82	21.49
168.00 CFS	21.23	19.13	18.45	16.18	15.24	14.69	14.92	15.19
176.40 CFS	14.84	14.79	14.95	14.91	15.92	16.36	16.15	15.16
184.80 CFS	14.78	15.01	14.94	15.97	16.38	15.91	15.08	14.52
193.20 CFS	13.67	13.35	12.08	11.71	11.49	11.65	11.91	11.54
201.60 CFS	11.39	11.69	11.62	11.62	11.56	11.28	11.61	11.86
210.00 CFS	11.51	11.47	11.63	11.61	11.77	11.59	10.91	10.25
218.40 CFS	9.99	8.71	8.38	8.27	8.28	8.53	8.28	8.00
226.80 CFS	8.31	8.34	8.25	8.26	7.27	6.81	7.02	7.97
235.20 CFS	8.35	8.24	8.24	8.22	8.27	8.57	8.29	7.54
243.60 CFS	4.48	3.46	1.16	.32				

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
1.66 WATERSHED INCHES; 13207 CFS-HRS; 1091.4 ACRE-FEET.

OPERATION RUNOFF XSECTION 5

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
78.28	8.1	(RUNOFF)
121.36	569.3	(RUNOFF)
138.08	16.9	(RUNOFF)
143.30	14.3	(RUNOFF)
150.60	11.7	(RUNOFF)
164.86	9.0	(RUNOFF)
174.64	6.5	(RUNOFF)
180.43	6.4	(RUNOFF)
188.48	6.5	(RUNOFF)
208.22	5.2	(RUNOFF)

HYDROGRAPH POINTS FOR ALTERNATE = 2, STORM = 1
MAIN TIME INCREMENT = 1.050 hr, DRAINAGE AREA = 4.78 SQ.MI.

HRS									
.00	CFS	.00	1.28	1.28	2.92	3.21	3.27	3.34	3.32
8.40	CFS	3.21	3.21	3.33	3.34	3.76	3.98	3.98	3.98
16.80	CFS	3.98	4.11	4.11	4.00	3.98	4.04	4.11	4.14
25.20	CFS	4.37	4.37	4.48	4.49	4.41	4.37	4.37	4.37
33.60	CFS	4.37	4.37	4.37	4.47	4.49	4.43	4.37	4.37
42.00	CFS	4.37	4.37	4.37	4.37	4.46	4.49	4.87	5.91
50.40	CFS	5.91	5.91	5.91	5.91	5.91	5.91	5.91	5.91
58.80	CFS	5.91	5.91	5.91	5.91	5.91	5.91	5.91	5.91
67.20	CFS	5.91	5.91	5.91	6.01	6.03	6.91	7.96	7.96
75.60	CFS	7.96	7.96	8.08	8.09	8.00	7.96	7.96	7.96
84.00	CFS	8.07	10.47	10.53	10.64	10.66	10.60	10.53	10.53
92.40	CFS	10.53	10.53	10.65	10.66	10.57	10.53	12.17	16.18
100.80	CFS	16.22	18.72	18.75	18.75	18.75	20.91	23.24	23.24
109.20	CFS	23.24	23.31	28.33	28.63	34.05	36.85	41.93	55.47
117.60	CFS	62	448	448	537	552	373	187	174
126.00	CFS	73.19	72.66	42.18	39.80	32.11	28.25	26.69	21.83
134.40	CFS	21.61	16.69	16.69	16.69	16.69	14.82	12.84	13.01
142.80	CFS	14.12	14.10	10.56	10.27	10.27	10.27	10.59	11.56
151.20	CFS	11.48	10.28	10.27	10.27	10.27	9.67	8.99	8.82
159.60	CFS	7.70	7.70	7.70	7.70	8.62	8.99	8.63	7.70
168.00	CFS	7.63	6.44	6.42	5.35	5.14	5.72	6.42	6.27
176.40	CFS	5.14	5.14	6.36	6.42	6.42	6.42	6.04	5.14
184.80	CFS	5.20	6.39	6.42	6.42	6.42	5.83	5.14	5.14
193.20	CFS	5.14	5.14	3.89	3.85	4.72	5.14	4.76	3.85
201.60	CFS	3.89	5.11	5.14	4.05	3.85	4.46	5.14	4.97
210.00	CFS	3.85	3.86	5.08	5.14	4.29	3.85	3.85	3.85
218.40	CFS	3.85	2.57	2.57	3.66	3.85	3.23	2.57	2.73
226.80	CFS	3.85	3.83	2.65	2.57	2.57	2.57	2.90	3.85
235.20	CFS	3.81	2.57	2.57	3.65	3.85	3.22	2.57	2.25
243.60	CFS	.00							

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
1.67 WATERSHED INCHES; 5155 CFS-HRS; 426.0 ACRE-FEET.

*** WARNING - MAIN TIME INCREMENT (1.050) IS GREATER THAN 50% OF THE
TIME OF CONCENTRATION (.78) FOR SUBWATERSHED XSECTION 5.
THIS WILL REDUCE THE COMPUTED PEAK BY ABOUT -3.1%. ***

OPERATION RUNOFF XSECTION 7

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
121.49	403.1	(RUNOFF)
143.33	10.5	(RUNOFF)
150.66	8.4	(RUNOFF)
165.11	6.5	(RUNOFF)
174.73	4.7	(RUNOFF)
180.93	4.6	(RUNOFF)
188.48	4.7	(RUNOFF)
192.68	3.7	(RUNOFF)
208.35	3.8	(RUNOFF)
212.82	3.7	(RUNOFF)

HYDROGRAPH POINTS FOR ALTERNATE = 2, STORM = 1
MAIN TIME INCREMENT = 1.050 hr, DRAINAGE AREA = 3.48 SQ.MI.

HRS								
.00 CFS	.00	.90	.93	1.92	2.32	2.35	2.41	2.40
8.40 CFS	2.32	2.32	2.40	2.41	2.65	2.87	2.87	2.87
16.80 CFS	2.88	2.96	2.97	2.90	2.87	2.90	2.97	2.98
25.20 CFS	3.15	3.15	3.23	3.25	3.20	3.15	3.15	3.15
33.60 CFS	3.15	3.15	3.15	3.22	3.25	3.22	3.15	3.15
42.00 CFS	3.15	3.15	3.15	3.15	3.20	3.25	3.39	4.27
50.40 CFS	4.27	4.27	4.27	4.27	4.27	4.27	4.27	4.27
58.80 CFS	4.27	4.27	4.27	4.27	4.27	4.27	4.27	4.27
67.20 CFS	4.27	4.27	4.27	4.33	4.36	4.79	5.75	5.75
75.60 CFS	5.75	5.75	5.83	5.84	5.79	5.75	5.75	5.75
84.00 CFS	5.79	7.52	7.60	7.67	7.70	7.67	7.60	7.60
92.40 CFS	7.60	7.60	7.69	7.70	7.65	7.60	8.19	11.68
100.80 CFS	11.70	13.48	13.54	13.54	13.54	14.58	16.78	16.78
109.20 CFS	16.78	16.78	20.14	20.68	23.74	26.61	28.86	40.03
117.60 CFS	43	311	324	377	399	317	135	130
126.00 CFS	53.45	52.79	32.22	28.75	24.51	20.40	19.64	15.76
134.40 CFS	15.69	12.24	12.05	12.05	12.05	11.18	9.27	9.32
142.80 CFS	10.19	10.20	7.75	7.42	7.42	7.42	7.55	8.35
151.20 CFS	8.33	7.45	7.42	7.42	7.42	7.12	6.49	6.44
159.60 CFS	5.57	5.56	5.56	5.56	6.04	6.49	6.34	5.57
168.00 CFS	5.56	4.67	4.64	3.97	3.71	4.00	4.64	4.57
176.40 CFS	3.72	3.71	4.50	4.64	4.64	4.64	4.48	3.71
184.80 CFS	3.73	4.59	4.64	4.64	4.64	4.35	3.71	3.71
193.20 CFS	3.71	3.71	2.89	2.78	3.25	3.71	3.58	2.78
201.60 CFS	2.80	3.68	3.71	3.06	2.78	3.08	3.71	3.66
210.00 CFS	2.79	2.78	3.60	3.71	3.23	2.78	2.78	2.78
218.40 CFS	2.78	1.88	1.85	2.52	2.78	2.49	1.85	1.92
226.80 CFS	2.77	2.78	1.99	1.85	1.85	1.85	2.01	2.78
235.20 CFS	2.77	1.90	1.85	2.51	2.78	2.50	1.85	1.76

243.60 CFS .00

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
1.68 WATERSHED INCHES; 3762 CFS-HRS; 310.9 ACRE-FEET.

*** WARNING - MAIN TIME INCREMENT (1.050) IS GREATER THAN 50% OF THE
TIME OF CONCENTRATION (1.01) FOR SUBWATERSHED XSECTION 7.
THIS WILL REDUCE THE COMPUTED PEAK BY ABOUT -1.1%. ***

OPERATION ADDHYD XSECTION 75

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
121.40	971.9	(NULL)
138.08	29.1	(NULL)
143.32	24.6	(NULL)
150.63	20.1	(NULL)
164.97	15.5	(NULL)
174.68	11.2	(NULL)
180.84	11.1	(NULL)
188.48	11.2	(NULL)
208.28	8.9	(NULL)
212.74	9.0	(NULL)

HYDROGRAPH POINTS FOR ALTERNATE = 2, STORM = 1
MAIN TIME INCREMENT = 1.050 hr, DRAINAGE AREA = 8.26 SQ.MI.

HRS								
.00 CFS	.00	2.18	2.21	4.84	5.53	5.62	5.75	5.73
8.40 CFS	5.53	5.53	5.73	5.75	6.41	6.85	6.85	6.85
16.80 CFS	6.86	7.07	7.08	6.90	6.85	6.95	7.08	7.12
25.20 CFS	7.52	7.52	7.72	7.74	7.61	7.52	7.52	7.52
33.60 CFS	7.52	7.52	7.52	7.69	7.74	7.65	7.52	7.52
42.00 CFS	7.52	7.52	7.52	7.52	7.66	7.74	8.26	10.17
50.40 CFS	10.17	10.17	10.17	10.17	10.17	10.17	10.17	10.17
58.80 CFS	10.17	10.17	10.17	10.17	10.17	10.17	10.17	10.17
67.20 CFS	10.17	10.17	10.17	10.35	10.39	11.70	13.71	13.71
75.60 CFS	13.71	13.71	13.91	13.93	13.80	13.71	13.71	13.71
84.00 CFS	13.86	17.99	18.13	18.31	18.35	18.26	18.13	18.13
92.40 CFS	18.13	18.13	18.34	18.35	18.22	18.13	20.36	27.86
100.80 CFS	27.93	32.20	32.28	32.28	32.28	35.49	40.02	40.02
109.20 CFS	40.02	40.10	48.47	49.31	57.79	63.46	70.79	95.50
117.60 CFS	105	759	772	914	951	690	323	304
126.00 CFS	127	125	74	69	57	49	46	38
134.40 CFS	37.30	28.93	28.75	28.75	28.75	26.00	22.11	22.33
142.80 CFS	24.32	24.30	18.31	17.69	17.69	17.69	18.15	19.90
151.20 CFS	19.81	17.72	17.69	17.69	17.69	16.79	15.48	15.26
159.60 CFS	13.28	13.27	13.27	13.27	14.67	15.48	14.97	13.27
168.00 CFS	13.19	11.12	11.06	9.32	8.84	9.72	11.06	10.84
176.40 CFS	8.85	8.85	10.86	11.06	11.06	11.06	10.52	8.85
184.80 CFS	8.93	10.98	11.06	11.06	11.06	10.18	8.84	8.84
193.20 CFS	8.84	8.84	6.78	6.63	7.97	8.84	8.33	6.63
201.60 CFS	6.69	8.79	8.84	7.11	6.63	7.54	8.85	8.63

210.00 CFS	6.64	6.64	8.68	8.84	7.52	6.63	6.63	6.63
218.40 CFS	6.63	4.45	4.42	6.18	6.63	5.71	4.42	4.64
226.80 CFS	6.62	6.61	4.64	4.42	4.42	4.42	4.91	6.63
235.20 CFS	6.58	4.47	4.42	6.16	6.63	5.72	4.42	4.01
243.60 CFS	.00							

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
1.67 WATERSHED INCHES; 8917 CFS-HRS; 736.9 ACRE-FEET.

OPERATION ADDHYD XSECTION 76 → Inflow

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
121.69	2179.1	(NULL)
142.76	60.0	(NULL)
150.79	48.2	(NULL)
165.37	37.0	(NULL)
174.85	26.3	(NULL)
181.52	27.4	(NULL)
188.72	27.5	(NULL)
198.77	20.6	(NULL)
203.17	20.8	(NULL)
208.44	20.8	(NULL)

HYDROGRAPH POINTS FOR ALTERNATE = 2, STORM = 1
MAIN TIME INCREMENT = 1.050 hr, DRAINAGE AREA = 20.57 SQ.MI.

HRS								
.00 CFS	.00	3.38	3.73	9.09	10.89	12.68	13.78	14.08
8.40 CFS	13.94	13.95	14.17	14.19	15.38	16.17	16.59	16.95
16.80 CFS	17.08	17.44	17.49	17.33	17.28	17.34	17.50	17.62
25.20 CFS	18.33	18.43	18.97	19.11	19.03	18.93	18.87	18.80
33.60 CFS	18.78	18.77	18.77	19.05	19.14	19.09	18.93	18.89
42.00 CFS	18.81	18.78	18.77	18.77	18.99	19.14	20.12	23.24
50.40 CFS	23.72	24.83	25.24	25.35	25.38	25.39	25.39	25.39
58.80 CFS	25.39	25.39	25.39	25.39	25.39	25.39	25.39	25.39
67.20 CFS	25.39	25.39	25.39	25.67	25.76	28.03	31.34	32.26
75.60 CFS	33.58	34.05	34.50	34.59	34.49	34.39	34.33	34.26
84.00 CFS	34.49	40.94	41.73	44.32	45.29	45.50	45.41	45.39
92.40 CFS	45.31	45.29	45.60	45.65	45.54	45.44	49.02	61.04
100.80 CFS	63.04	74.17	76.49	79.20	80.21	85.77	93.38	95.41
109.20 CFS	98	100	113	116	134	146	164	208
117.60 CFS	240	1281	1387	1968	2176	1861	1310	1133
126.00 CFS	612	496	293	234	174	144	129	107
134.40 CFS	102	83	80	74	73	67	61	59
142.80 CFS	59.99	59.37	50.82	49.42	46.17	44.75	45.13	47.77
151.20 CFS	48.04	45.80	45.79	44.75	44.34	42.72	40.57	39.58
159.60 CFS	35.61	34.94	33.73	33.30	35.42	36.80	36.79	34.76
168.00 CFS	34.42	30.24	29.51	25.50	24.08	24.42	25.98	26.03
176.40 CFS	23.70	23.63	25.80	25.97	26.98	27.42	26.68	24.01
184.80 CFS	23.71	25.99	26.00	27.02	27.44	26.09	23.93	23.37
193.20 CFS	22.51	22.19	18.86	18.35	19.46	20.50	20.24	18.17
201.60 CFS	18.08	20.48	20.46	18.73	18.19	18.82	20.45	20.49

210.00 CFS	18.16	18.12	20.31	20.45	19.28	18.22	17.55	16.88
218.40 CFS	16.62	13.16	12.80	14.45	14.92	14.25	12.70	12.65
226.80 CFS	14.93	14.96	12.89	12.68	11.69	11.23	11.94	14.61
235.20 CFS	14.93	12.71	12.66	14.39	14.90	14.29	12.71	11.55
243.60 CFS	4.48	3.46	1.16	.32				

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
1.67 WATERSHED INCHES; 22124 CFS-HRS; 1828.3 ACRE-FEET.

--- XSECTION 76, ALTERNATE 2, STORM 1, HYDROGRAPH ADDED TO READHD FILE ---

*** MESSAGE - STRUCTURE 1, USER ENTERED STARTING ELEVATION (1206.9 FEET) CAN ADD 1.633 INCHES OF RUNOFF TO THE OUTFLOW HYDROGRAPH VOLUME.***

*** MESSAGE - RESERVOIR ROUTING, STRUCTURE 1, TRUNCATED AT 400 POINTS WITH 1763.49 AC-FT (.13 WATERSHED INCHES) FLOOD STORAGE REMAINING IN RESERVOIR AT ELEV. 1206.81. ***

OPERATION RESVOR STRUCTURE 1 → outflow Hydrograph

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
.00	44.1	1206.92
139.67	67.0 ←	1210.81 ←

*** WARNING - STRUCTURE 1, HYDROGRAPH VOLUME TRUNCATED AT 43 CFS
RESVOR (65. % OF MAX. HYDROGRAPH COORDINATE)
MAIN TIME INCREMENT TOO SMALL. ***

HYDROGRAPH POINTS FOR ALTERNATE = 2, STORM = 1
MAIN TIME INCREMENT = 1.050 hr, DRAINAGE AREA = 20.57 SQ.MI.

HRS								
.00 CFS	44.06	43.97	43.89	43.82	43.75	43.68	43.62	43.56
8.40 CFS	43.50	43.44	43.38	43.32	43.26	43.21	43.15	43.10
16.80 CFS	43.05	42.99	42.94	42.89	42.84	42.79	42.74	42.68
25.20 CFS	42.63	42.58	42.54	42.49	42.44	42.39	42.35	42.30
33.60 CFS	42.25	42.20	42.16	42.11	42.06	42.01	41.97	41.92
42.00 CFS	41.87	41.83	41.78	41.73	41.69	41.64	41.60	41.56
50.40 CFS	41.52	41.48	41.45	41.42	41.39	41.35	41.32	41.29
58.80 CFS	41.26	41.22	41.19	41.16	41.13	41.10	41.06	41.03
67.20 CFS	41.00	40.97	40.94	40.91	40.88	40.85	40.82	40.81
75.60 CFS	40.79	40.78	40.76	40.75	40.74	40.72	40.71	40.70
84.00 CFS	40.69	40.68	40.68	40.69	40.69	40.70	40.71	40.72
92.40 CFS	40.73	40.74	40.75	40.76	40.77	40.78	40.79	40.82
100.80 CFS	40.87	40.92	40.99	41.07	41.15	41.23	41.33	41.44
109.20 CFS	41.55	41.67	41.80	41.94	42.11	42.31	42.54	42.83
117.60 CFS	43.20	44.66	47.27	50.59	54.75	58.78	61.92	63.88
126.00 CFS	65.00	65.68	66.14	66.41	66.60	66.73	66.83	66.90
134.40 CFS	66.95	66.99	67.01	67.02	67.03	67.03	67.03	67.02
142.80 CFS	67.01	67.00	66.98	66.96	66.93	66.90	66.87	66.84
151.20 CFS	66.82	66.79	66.76	66.73	66.70	66.67	66.63	66.60
159.60 CFS	66.56	66.51	66.47	66.42	66.38	66.34	66.29	66.25

168.00 CFS	66.21	66.16	66.11	66.06	66.00	65.94	65.89	65.83
176.40 CFS	65.77	65.72	65.66	65.60	65.55	65.50	65.44	65.39
184.80 CFS	65.33	65.27	65.22	65.16	65.11	65.06	65.00	64.95
193.20 CFS	64.89	64.83	64.77	64.70	64.64	64.58	64.52	64.45
201.60 CFS	64.39	64.33	64.26	64.20	64.14	64.08	64.01	63.95
210.00 CFS	63.89	63.83	63.77	63.71	63.65	63.58	63.52	63.46
218.40 CFS	63.39	63.32	63.25	63.18	63.12	63.05	62.97	62.87
226.80 CFS	62.77	62.67	62.57	62.47	62.36	62.26	62.15	62.05
235.20 CFS	61.96	61.86	61.76	61.66	61.56	61.46	61.37	61.26
243.60 CFS	61.16	61.04	60.92	60.79	60.67	60.54	60.42	60.30
252.00 CFS	60.17	60.05	59.92	59.80	59.68	59.56	59.43	59.31
260.40 CFS	59.19	59.07	58.95	58.83	58.70	58.58	58.46	58.34
268.80 CFS	58.22	58.10	57.98	57.87	57.75	57.63	57.51	57.39
277.20 CFS	57.27	57.16	57.04	56.92	56.80	56.69	56.57	56.45
285.60 CFS	56.34	56.22	56.11	55.99	55.88	55.76	55.65	55.53
294.00 CFS	55.42	55.31	55.19	55.08	54.97	54.85	54.74	54.63
302.40 CFS	54.51	54.40	54.29	54.18	54.07	53.96	53.85	53.74
310.80 CFS	53.63	53.51	53.40	53.30	53.19	53.08	52.97	52.86
319.20 CFS	52.75	52.64	52.53	52.43	52.32	52.21	52.10	52.00
327.60 CFS	51.89	51.78	51.68	51.57	51.46	51.36	51.25	51.15
336.00 CFS	51.04	50.94	50.83	50.73	50.62	50.52	50.42	50.31
344.40 CFS	50.21	50.11	50.00	49.90	49.80	49.70	49.60	49.50
352.80 CFS	49.40	49.30	49.20	49.10	49.00	48.90	48.80	48.70
361.20 CFS	48.60	48.50	48.40	48.30	48.21	48.11	48.01	47.91
369.60 CFS	47.82	47.72	47.62	47.53	47.43	47.33	47.24	47.14
378.00 CFS	47.05	46.95	46.85	46.76	46.66	46.57	46.48	46.38
386.40 CFS	46.29	46.19	46.10	46.01	45.91	45.82	45.73	45.63
394.80 CFS	45.54	45.45	45.36	45.26	45.17	45.08	44.99	44.90
403.20 CFS	44.81	44.72	44.62	44.53	44.44	44.35	44.26	44.17
411.60 CFS	44.08	43.99	43.90	43.82	43.73	43.64	43.55	43.46

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
1.66 WATERSHED INCHES; 22093 CFS-HRS; 1825.7 ACRE-FEET.

--- STRUCTURE 1, ALTERNATE 2, STORM 1, HYDROGRAPH ADDED TO READHD FILE ---

EXECUTIVE CONTROL ENDCMP COMPUTATIONS COMPLETED FOR PASS 2

SUMMARY TABLE 1

SELECTED RESULTS OF STANDARD AND EXECUTIVE CONTROL IN ORDER PERFORMED.
A CHARACTER FOLLOWING THE PEAK DISCHARGE TIME AND RATE (CFS) INDICATES:
F-FLAT TOP HYDROGRAPH T-TRUNCATED HYDROGRAPH R-RISING TRUNCATED HYDROGRAPH

RAINFALL OF 1.64 inches AND 242.40 hr DURATION, BEGINS AT .0 hrs.
RAINTABLE NUMBER 1, ARC 2
MAIN TIME INCREMENT 1.050 HOURS

ALTERNATE 1 STORM 1

XSECTION/ STRUCTURE ID	STANDARD CONTROL OPERATION	DRAINAGE AREA (SQ MI)	RUNOFF AMOUNT (IN)	PEAK DISCHARGE ELEVATION (FT)	TIME (HR)	RATE (CFS)	RATE (CSM)
XSECTION 1	RUNOFF	2.46	1.68	---	121.40	290	117.9
XSECTION 5	REACH	2.46	1.62	2.23	122.55	283	115.0
XSECTION 10	REACH	2.46	1.66	3.72	123.70	277	112.6
XSECTION 2	RUNOFF	2.38	1.67	---	121.33	285	119.7
XSECTION 12	ADDHYD	4.84	1.67	---	121.80	488	100.8
XSECTION 12	DIVERT	4.84	1.67	---	121.80	488	100.8
XSECTION 200	DIVERT	.00	1.67	---	.00	0	********
XSECTION 20	REACH	4.84	1.67	2.45	121.80	488	100.8
XSECTION 25	REACH	4.84	1.67	1.54	121.80	488	100.8
XSECTION 3	RUNOFF	3.94	1.67	---	121.39	462	117.3
XSECTION 30	REACH	3.94	1.61	2.56	122.60	444	112.7
XSECTION 5	REACH	3.94	1.65	2.71	123.73	437	110.9
XSECTION 25	REACH	3.94	1.65	1.44	123.73	437	110.9
XSECTION 4	RUNOFF	2.06	1.67	---	121.36	245	118.9
XSECTION 34	ADDHYD	6.00	1.66	---	122.26	579	96.5
XSECTION 35	ADDHYD	10.84	1.66	---	122.01	1062	98.0
XSECTION 35	DIVERT	10.84	1.66	---	122.01	1062	98.0
XSECTION 199	DIVERT	.00	1.66	---	.00	0	********
XSECTION 45	REACH	10.84	1.66	2.32	122.01	1062	98.0
XSECTION 6	RUNOFF	1.47	1.68	---	121.27	179	121.8
XSECTION 60	REACH	1.47	1.67	2.78	122.40	181	123.1
XSECTION 67	REACH	1.47	1.67	1.83	122.40	181	123.1
XSECTION 64	ADDHYD	12.31	1.66	---	122.07	1233	100.2
XSECTION 5	RUNOFF	4.78	1.67	---	121.36	569	119.0
XSECTION 7	RUNOFF	3.48	1.68	---	121.49	403	115.8
XSECTION 75	ADDHYD	8.26	1.67	---	121.40	972	117.7
XSECTION 76	ADDHYD	20.57	1.67	---	121.69	2179	105.9
STRUCTURE 1	RESVOR	20.57	1.66	1210.81	139.67T	67T	3.3

SUMMARY TABLE 1

SELECTED RESULTS OF STANDARD AND EXECUTIVE CONTROL IN ORDER PERFORMED.
A CHARACTER FOLLOWING THE PEAK DISCHARGE TIME AND RATE (CFS) INDICATES:
F-FLAT TOP HYDROGRAPH T-TRUNCATED HYDROGRAPH R-RISING TRUNCATED HYDROGRAPH

XSECTION/ STRUCTURE ID	STANDARD CONTROL OPERATION	DRAINAGE AREA (SQ MI)	RUNOFF AMOUNT (IN)	PEAK DISCHARGE ELEVATION (FT)	TIME (HR)	RATE (CFS)	RATE (CSM)
ALTERNATE 2 STORM 1							
XSECTION 1	RUNOFF	2.46	1.68	---	121.40	290	117.9
XSECTION 5	REACH	2.46	1.62	2.23	122.55	283	115.0
XSECTION 10	REACH	2.46	1.66	3.72	123.70	277	112.6
XSECTION 2	RUNOFF	2.38	1.67	---	121.33	285	119.7
XSECTION 12	ADDHYD	4.84	1.67	---	121.80	488	100.8
XSECTION 12	DIVERT	4.84	1.67	---	121.80	488	100.8
XSECTION 200	DIVERT	.00	1.67	---	.00	0	********
XSECTION 20	REACH	4.84	1.67	2.45	121.80	488	100.8
XSECTION 25	REACH	4.84	1.67	1.54	121.80	488	100.8
XSECTION 3	RUNOFF	3.94	1.67	---	121.39	462	117.3
XSECTION 30	REACH	3.94	1.61	2.56	122.60	444	112.7
XSECTION 5	REACH	3.94	1.65	2.71	123.73	437	110.9
XSECTION 25	REACH	3.94	1.65	1.44	123.73	437	110.9
XSECTION 4	RUNOFF	2.06	1.67	---	121.36	245	118.9
XSECTION 34	ADDHYD	6.00	1.66	---	122.26	579	96.5
XSECTION 35	ADDHYD	10.84	1.66	---	122.01	1062	98.0
XSECTION 35	DIVERT	10.84	1.66	---	122.01	1062	98.0
XSECTION 199	DIVERT	.00	1.66	---	.00	0	********
XSECTION 45	REACH	10.84	1.66	2.32	122.01	1062	98.0
XSECTION 6	RUNOFF	1.47	1.68	---	121.27	179	121.8
XSECTION 60	REACH	1.47	1.67	2.78	122.40	181	123.1
XSECTION 67	REACH	1.47	1.67	1.83	122.40	181	123.1
XSECTION 64	ADDHYD	12.31	1.66	---	122.07	1233	100.2
XSECTION 5	RUNOFF	4.78	1.67	---	121.36	569	119.0
XSECTION 7	RUNOFF	3.48	1.68	---	121.49	403	115.8
XSECTION 75	ADDHYD	8.26	1.67	---	121.40	972	117.7
XSECTION 76	ADDHYD	20.57	1.67	---	121.69	2179	105.9

SUMMARY TABLE 1

SELECTED RESULTS OF STANDARD AND EXECUTIVE CONTROL IN ORDER PERFORMED.
A CHARACTER FOLLOWING THE PEAK DISCHARGE TIME AND RATE (CFS) INDICATES:
F-FLAT TOP HYDROGRAPH T-TRUNCATED HYDROGRAPH R-RISING TRUNCATED HYDROGRAPH

XSECTION/ STRUCTURE ID	STANDARD CONTROL OPERATION	DRAINAGE AREA (SQ MI)	RUNOFF AMOUNT (IN)	PEAK DISCHARGE ELEVATION (FT)	TIME (HR)	RATE (CFS)	RATE (CSM)
ALTERNATE 2 STORM 1							
STRUCTURE 1	RESVOR	20.57	1.66	1210.81	139.67T	67T	3.3

SUMMARY TABLE 2

MODIFIED ATT-KIN REACH ROUTING IN ORDER PERFORMED.
QUESTION MARK (?) AFTER: OUTFLOW PEAK - MAX. NUMBER ROUTING ITERATIONS USED;
LENGTH FACTOR - VALUE k* GREATER THAN 1.0;
ATT-KIN COEFF - VALUE C GREATER THAN 0.667.

BASEFLOW IS .0 CFS

XSEC ID	REACH LENGTH (FT)	FLOOD PLAIN LENGTH (FT)	HYDROGRAPH INFORMATION INFLOW PEAK (CFS)	INFLOW TIME (HR)	OUTFLOW PEAK (CFS)	OUTFLOW TIME (HR)	ROUTING PARAMETERS Q-A EQ. COEFF (X)	Q-A EQ. POWER (M)	LENGTH FACTOR (k*)	PEAK RATIO Q/I (Q*)	ATT-KIN COEFF (C)
ALTERNATE 1 STORM 1											
5	9100		284	121.8	280	122.8	.52	1.33	.053	.986	.81?
10	9100		280	122.8	276	123.9	.88	1.25	.057	.985	.83?
20	3332		488	121.8	488	121.8	.10	1.69	.002	1.000	1.00?
25	1950		488	121.8	488	121.8	.046	1.75	.001	1.000	1.00?
30	8865		451	121.8	441	122.8	.79	1.20	.075	.977	.73?
5	8865		441	122.8	436	123.9	.53	1.32	.045	.989	.87?
25	1950		436	123.9	436	123.9	.047	1.75	.002	1.000	1.00?
45	4200		1058	121.8	1058	121.8	.045	1.73	.003	1.000	1.00?
60	7540		175	120.8	174	122.8	1.40	1.12	.074	.992	.80?
67	5140		174	122.8	174	122.8	.53	1.32	.031	1.000	1.00?
ALTERNATE 2 STORM 1											
5	9100		284	121.8	280	122.8	.52	1.33	.053	.986	.81?
10	9100		280	122.8	276	123.9	.88	1.25	.057	.985	.83?
20	3332		488	121.8	488	121.8	.10	1.69	.002	1.000	1.00?
25	1950		488	121.8	488	121.8	.046	1.75	.001	1.000	1.00?
30	8865		451	121.8	441	122.8	.79	1.20	.075	.977	.73?
5	8865		441	122.8	436	123.9	.53	1.32	.045	.989	.87?
25	1950		436	123.9	436	123.9	.047	1.75	.002	1.000	1.00?
45	4200		1058	121.8	1058	121.8	.045	1.73	.003	1.000	1.00?
60	7540		175	120.8	174	122.8	1.40	1.12	.074	.992	.80?
67	5140		174	122.8	174	122.8	.53	1.32	.031	1.000	1.00?

SUMMARY TABLE 3

STORM DISCHARGES (CFS) AT XSECTIONS AND STRUCTURES FOR ALL ALTERNATES
QUESTION MARK (?) AFTER: OUTFLOW PEAK - RISING TRUNCATED HYDROGRAPH.

XSECTION/ STRUCTURE ID		DRAINAGE AREA (SQ MI)	STORM NUMBERS..... 1
STRUCTURE 1		20.57	
ALTERNATE	1		67
ALTERNATE	2		67
XSECTION 1		2.46	
ALTERNATE	1		290
ALTERNATE	2		290
XSECTION 2		2.38	
ALTERNATE	1		285
ALTERNATE	2		285
XSECTION 3		3.94	
ALTERNATE	1		462
ALTERNATE	2		462
XSECTION 4		2.06	
ALTERNATE	1		245
ALTERNATE	2		245
XSECTION 5		4.78	
ALTERNATE	1		569
ALTERNATE	2		569
XSECTION 6		1.47	
ALTERNATE	1		179
ALTERNATE	2		179
XSECTION 7		3.48	
ALTERNATE	1		403
ALTERNATE	2		403
XSECTION 10		2.46	
ALTERNATE	1		277
ALTERNATE	2		277
XSECTION 12		4.84	
ALTERNATE	1		488
ALTERNATE	2		488

SUMMARY TABLE 3

STORM DISCHARGES (CFS) AT XSECTIONS AND STRUCTURES FOR ALL ALTERNATES
QUESTION MARK (?) AFTER: OUTFLOW PEAK - RISING TRUNCATED HYDROGRAPH.

XSECTION/ STRUCTURE ID	DRAINAGE AREA (SQ MI)	STORM NUMBERS..... 1
XSECTION 20	4.84	
ALTERNATE 1		488
ALTERNATE 2		488
XSECTION 25	3.94	
ALTERNATE 1		437
ALTERNATE 2		437
XSECTION 30	3.94	
ALTERNATE 1		444
ALTERNATE 2		444
XSECTION 34	6.00	
ALTERNATE 1		579
ALTERNATE 2		579
XSECTION 35	10.84	
ALTERNATE 1		1062
ALTERNATE 2		1062
XSECTION 45	10.84	
ALTERNATE 1		1062
ALTERNATE 2		1062
XSECTION 60	1.47	
ALTERNATE 1		181
ALTERNATE 2		181
XSECTION 64	12.31	
ALTERNATE 1		1233
ALTERNATE 2		1233
XSECTION 67	1.47	
ALTERNATE 1		181
ALTERNATE 2		181
XSECTION 75	8.26	
ALTERNATE 1		972
ALTERNATE 2		972

SUMMARY TABLE 3

STORM DISCHARGES (CFS) AT XSECTIONS AND STRUCTURES FOR ALL ALTERNATES
QUESTION MARK (?) AFTER: OUTFLOW PEAK - RISING TRUNCATED HYDROGRAPH.

XSECTION/ STRUCTURE ID		DRAINAGE AREA (SQ MI)	STORM NUMBERS..... 1
XSECTION 76		20.57	
ALTERNATE	1		2179
ALTERNATE	2		2179
XSECTION 199		.00	
ALTERNATE	1		0
ALTERNATE	2		0
XSECTION 200		.00	
ALTERNATE	1		0
ALTERNATE	2		0

```
TR20 ------------------------------------------------------------------ SCS -
WHTANK3      WHITE TANK FRS #3, WATERSHED DIVIDED INTO 7 SUB-BASINS      VERSION
07/30/**  100-YR 10-DAY RUNOFF & DIST IN TABLE 1, 100-YR SED IN RESVOIR 2.04TEST


END OF  1 JOBS IN THIS RUN


                    SCS  TR-20,  VERSION 2.04TEST
                          WHTANK3   FILES

     INPUT  = 2ND10D.DAT                              , GIVEN DATA FILE
     OUTPUT = 2ND10OUT.OUT                            , DATED 07/30/**,13:41:07

              FILES GENERATED - DATED 07/30/**,13:41:07

    FILE 111.TRD CONTAINS READHD INFORMATION


          TOTAL NUMBER OF WARNINGS =  26,  MESSAGES =   8

                       JOB ENDED AT 13:41:07
                   *** TR-20 RUN COMPLETED ***
```

(1)

URS

CALCULATION PACKAGE NO. 12

EXHIBIT 4.7-2

CALCULATION COVER SHEET

Client: Flood Control District of Maricopa County (FCDMC)

Project Name: White Tank FRS No. 3 Design

Project/Calculation Number: 23443748

Title: **RESERVOIR ROUTING OF A 100-YEAR 10-DAY STORM FOR INTERIM CONDITION**

Total Number of Pages (including cover sheet): _____

Total Number of Computer Runs: _____

Prepared by: Hammad Hussain Date: 07/23/04

Checked by: _____ Date: _____

Description and Purpose:

See Page 2

Design Basis /Assumptions

See Page 2

Remarks/Conclusions/Results:

See Page 3.

Calculation Approved by: _____ 8/2/04
Project Manager/Date

Revision No.:	Description of Revision:	Approved by:

Project Manager/Date

RESERVOIR ROUTING OF A 100-YEAR 10-DAY STORM FOR INTERIM CONDITION

(WHITE TANK FLOOD RETARDING STRUCTURE (FRS) NO. 3)
FLOOD CONTROL DISTRICT OF MARICOPA COUNTY (FCDMC)
23443748

PROBLEM STATEMENT

The aim of this calculation package is to perform the reservoir routing of a 100-year 10-day storm for an interim condition and to determine the water surface elevation after 10 days following the peak of the 100-year 10-day outflow hydrograph.

DESIGN BASIS/ASSUMPTIONS/REFERENCES

Interim Condition

The Interim Condition represents the time period following construction of the facilities included in the Remediation Project and the installation of the downstream conveyance channel. Since this period is anticipated to be short (less than 10 years), it is assumed that no additional sediment has accumulated in the reservoir. The principal spillway is closed and does not convey flow out of the reservoir during the interim period. Therefore, under interim condition, the only outflow from the reservoir occurs through infiltration and flow through the emergency spillway. The detailed calculations involved in estimating the infiltration rates for the Interim condition are provided in a separate calculation package.

100-year 10-day Reservoir Routing

Given that the Interim Condition was assumed a short period following construction of the dam and prior to construction of a dedicated downstream conveyance, the routing of the 100-year 10-day storm for the Interim Condition was performed based on the current topographic condition in the reservoir (i.e., no additional sediment). Therefore, the Antecedent Reservoir Condition (ARC) for the reservoir routing of the 100-year 10-day strom for the interim condition was set at the invert elevation of the proposed gated outlet or at elevation 1193.0 ft (NAVD 88).

It should be noted that the 100-year 10-day storm used for the routing purposes was updated in anticipation of the future urban growth based on a procedure described in National Engineering Handbook (NEH-4). The procedure and detailed calculations involved in updating the 100-year 10-day storm for the future growth are provided in a separate calculation package. The rating curve used for the

reservoir routing is based on broad-crested weir and detailed calculations regarding the development of the rating curve are provided in a separate calculation package.

RESULTS

The reservoir routing of the 100-year 10-day storm resulted in the reservoir elevation of 1201.40 ft at the end of 10th day following the peak of 100-year 10-day hydrograph. The reservoir routing results i.e. ARC, peak inflows, peak outflows, and the maximum reservoir elevation are provided in Table 1 (Please See Page 4). It should be noted that the peak out flow tabulated in Table 1 on Page 4 reflects the infiltration amount only.

(It should be noted that the elevation 1201.40 ft would be used as Antecedent Reservoir Condition (ARC) for the reservoir routing of all PMF hydrographs based on NRCS criterion under interim condition.)

TABLE 1
RESERVOIR ROUTING RESULTS FOR 100-YEAR 10-DAY STORM

(INTERIM CONDITON)

Storm Event	Inflow to White Tank FRS No.3		Outflow from White Tank FRS No.3		
	Precipitation (inches)	Peak Inflow (cfs)	Antecedent Reservoir Condition (ARC)	Peak Outflow (cfs)	Maximum Reservoir Elevation (NAVD 88) (ft)
100-yr 10-day	Based on updated runoff hyetograph (calculation package 10)	2,179	1193.0	55.4	1205.68

Note: The reservoir routing of the 100-year 10-day storm for interim condition resulted in the reservoir elevation of 1201.42 ft at the end of 10th day following the peak of 100-year 10-day hydrograph. The elevation of 1201.42 ft was used as antecedent reservoir condition (ARC) for routing purposes for all PMF hydrographs under NRCS criteria.

100-yr 10-day Reservoir Routing Results -

```
******************80-80 LIST OF INPUT DATA FOR TR-20 HYDROLOGY*****************

JOB TR-20 WHTANK3                          PASS=001  SUMMARY
TITLE     WHITE TANK FRS #3, WATERSHED DIVIDED INTO 7 SUB-BASINS
TITLE     100-YR 10-DAY RUNOFF & DIST IN TABLE 1, 100-YR SED IN RESVOIR
 5 RAINFL 1     1       2.4                                                10-DAY
 8          .0000       .0010       .0035       .0061       .0086
 8          .0112       .0143       .0174       .0206       .0237
 8          .0269       .0303       .0338       .0372       .0406
 8          .0440       .0475       .0509       .0543       .0577
 8          .0612       .0658       .0704       .0750       .0796
 8          .0842       .0888       .0934       .0980       .1026
 8          .1073       .1135       .1197       .1260       .1322
 8          .1384       .1466       .1549       .1631       .1713
 8          .1796       .1878       .2004       .2150       .2296
 8          .2477       .2658       .2881       .3168       .3600
 8          .7090       1.139       1.285       1.342       1.373
 8          1.395       1.412       1.425       1.438       1.448
 8          1.459       1.467       1.475       1.484       1.492
 8          1.500       1.507       1.513       1.519       1.526
 8          1.532       1.537       1.541       1.546       1.550
 8          1.555       1.560       1.564       1.569       1.574
 8          1.578       1.582       1.585       1.589       1.592
 8          1.596       1.599       1.603       1.606       1.610
 8          1.613       1.616       1.618       1.621       1.623
 8          1.626       1.628       1.630       1.633       1.635
 8          1.638        1.64        1.64        1.64        1.64
 9 ENDTBL
 4 DIMHYD               .0556                                              WT3
 8          0.0         .03         .10         .19         .31
 8          .47         .66         .82         .93         .99
 8          1.0         .99         .93         .82         .66
 8          .47         .31         .03         .00         .00
 9 ENDTBL
 2 XSECTN   005         1.0         8.77                                   BOSSCS#5
 8                      0.          0.0         0.0
 8                      0.35        5.          5.56
 8                      1.03        50.         30.95
 8                      1.39        100.        52.16
 8                      1.94        200.        88.72
 8                      2.63        400.        148.61
 8                      3.51        800.        260.63
 8                      4.62        1600.       459.66
 8                      6.04        3200.       929.36
 8                      7.38        6400.       1811.51
 8                      8.77        12800.      3374.20
 8                      10.17       25600.      6398.87
 8                      11.89       51200.      10982.51
 9 ENDTBL
 2 XSECTN   010         1.0         10.41                                  BOSSCS#4
 8                      0.          0.0         0.0
 8                      0.86        5.          4.39
 8                      2.01        50.         24.22
 8                      2.58        100.        40.12
 8                      3.46        200.        80.99
 8                      4.14        400.        129.44
 8                      5.16        800.        214.74
 8                      6.39        1600.       441.84
```

(Input and output File)

```
8                       7.80        3200.       980.75
8                       9.16        6400.       1891.44
8                       10.41       12800.      3516.14
8                       11.75       25600.      6548.98
8                       13.26       51200.      11081.19
9 ENDTBL
2 XSECTN    020         1.0         7.3                                 REACHC
8                       0.          0.0         0.0
8                       1.01        100.        57.78
8                       1.49        200.        86.81
8                       1.88        300.        110.25
8                       2.49        500.        149.47
8                       3.68        1000.       226.31
8                       5.40        2000.       346.26
8                       7.85        4000.       533.39
8                       9.64        6000.       688.07
8                       11.16       8000.       838.10
8                       12.46       10000.      985.31
8                       13.61       12000.      1122.03
8                       14.56       14000.      1236.94
8                       15.43       16000.      1345.18
8                       16.31       18000.      1456.68
9 ENDTBL
2 XSECTN    025         1.0         7.3                                 REACHB
8                       0.          0.0         0.0
8                       0.63        100.        80.89
8                       0.93        200.        120.32
8                       1.17        300.        151.77
8                       1.56        500.        203.28
8                       2.30        1000.       302.00
8                       3.38        2000.       449.24
8                       4.97        4000.       673.73
8                       6.23        6000.       855.96
8                       7.31        8000.       1016.35
8                       8.24        10000.      1158.51
8                       9.09        12000.      1293.31
8                       9.90        14000.      1425.57
8                       10.64       16000.      1549.17
8                       11.36       18000.      1673.11
9 ENDTBL
2 XSECTN    030         1.0         9.45                                BOSSCS#6
8                       0.          0.0         0.0
8                       0.77        5.          4.67
8                       1.54        50.         32.06
8                       1.78        100.        56.64
8                       2.10        200.        100.59
8                       2.50        400.        179.97
8                       3.01        800.        320.25
8                       3.63        1600.       589.66
8                       4.35        3200.       1110.72
8                       5.21        6400.       2084.48
8                       6.03        12800.      4119.83
8                       6.99        25600.      6856.75
8                       8.28        51200.      11085.87
9 ENDTBL
2 XSECTN    045         1.0         4.87                                REACHA
```

```
8                       0.          0.0         0.0
8                       0.60        100.        85.69
8                       0.90        200.        127.94
8                       1.13        300.        161.93
8                       1.52        500.        217.27
8                       2.25        1000.       324.03
8                       3.31        2000.       483.02
8                       4.87        4000.       722.17
8                       6.09        6000.       914.99
8                       7.15        8000.       1084.61
8                       8.05        10000.      1234.17
8                       8.87        12000.      1373.80
8                       9.64        14000.      1507.84
8                       10.34       16000.      1633.45
8                       11.00       18000.      1753.12
9 ENDTBL
2 XSECTN    060         1.0         4.7                                 2CP6CP7
8                       0.          0.0         0.0
8                       2.36        100.        45.12
8                       2.88        200.        83.75
8                       3.18        300.        114.33
8                       3.64        500.        172.72
8                       4.42        1000.       289.04
8                       5.40        2000.       470.72
8                       6.87        4000.       782.74
8                       7.91        6000.       1020.12
8                       8.79        8000.       1231.25
8                       9.60        10000.      1435.05
8                       10.26       12000.      1618.34
8                       10.94       14000.      1812.58
8                       11.47       16000.      1983.46
8                       11.96       18000.      2150.12
9 ENDTBL
2 XSECTN    067         1.0         8.77                                BOSSCS#5
8                       0.          0.0         0.0
8                       0.35        5.          5.56
8                       1.03        50.         30.95
8                       1.39        100.        52.16
8                       1.94        200.        88.72
8                       2.63        400.        148.61
8                       3.51        800.        260.63
8                       4.62        1600.       459.66
8                       6.04        3200.       929.36
8                       7.38        6400.       1811.51
8                       8.77        12800.      3374.20
8                       10.17       25600.      6398.87
8                       11.89       51200.      10982.51
9 ENDTBL
3 STRUCT      01                                                        95/11/6
8                       1178.0      0.00        0.0
8                       1188.0      2.71        44.8
8                       1193.0      7.29        129.0
8                       1199.2      26.75       500.0
8                       1202.0      38.68       845.55
8                       1204.0      48.00       1176.28
8                       1206.0      56.80       1575.25
```

```
**********************80-80 LIST OF INPUT DATA (CONTINUED)**********************

 8                        1208.0      66.40       2044.97
 8                        1210.0      77.10       2593.40
 8                        1212.0      85.95       3218.00
 8                        1213.0      2685.00     3556.67
 8                        1214.0      8231.00     3916.02
 8                        1215.0      15545.0     4294.13
 8                        1216.0      24272.0     4692.68
 8                        1217.0      34212.0     5113.19
 8                        1218.0      45232.0     5556.01
 8                        1219.0      57233.0     6021.50
 8                        1220.0      70142.0     6509.75
 9 ENDTBL
 6 RUNOFF 1 001       1 2.46        87.2        0.85        1 1
 6 REACH  3 005   1   7 9100.                               1           BOSS#6
 6 REACH  3 010   7   2 9100.                               1           BOSS#4
 6 RUNOFF 1 002       3 2.38        79.9        0.73        1 1
 6 ADDHYD 4 012   2 3 1                                     1 1
 6 DIVERT 6 012   1 4 7 4100.       1.00        200.        1 1         OLIVE
 6 REACH  3 020   4   7 3332.                               1           REACH C
 6 REACH  3 025   7   5 1950.                               1           REACH B
 6 RUNOFF 1 003       6 3.94        87.2        0.88        1 1
 6 REACH  3 030   6   7 8865.                               1           BOSS#6
 6 REACH  3 005   7   1 8865.                               1           BOSS#5
 6 REACH  3 025   1   7 1950.                               1           REACH B
 6 RUNOFF 1 004       1 2.06        77.3        0.79        1 1
 6 ADDHYD 4 034   7 1 2                                     1 1
 6 ADDHYD 4 035   5 2 3                                     1 1
 6 DIVERT 6 035   3 4 7 11000.      1.00        199.        1 1         NORTHERN
 6 REACH  3 045   4   5 4200.                               1           REACH A
 6 RUNOFF 1 006       2 1.47        87.7        0.47        1 1
 6 REACH  3 060   2   3 7540.                               1           CP6CP7
 6 REACH  3 067   3   4 5140.                               1           BOSS#5
 6 ADDHYD 4 064   5 4 3                                     1 1
 6 RUNOFF 1 005       6 4.78        78.8        0.78        1 1
 6 RUNOFF 1 007       7 3.48        81.7        1.01        1 1
 6 ADDHYD 4 075   6 7 1                                     1 1
 6 ADDHYD 4 076   1 3 2                                     1 1     1
 6 RESVOR 2    01 2   1 1193.0                              1 1     1
   ENDATA
 7 LIST                 1.0                     1.
 7 INCREM 6             1.05
 7 COMPUT 7 001      01 0.          1.0         1.0         1 2  01  01
   ENDCMP 1
 7 COMPUT 7 001      01 0.          1.0         1.0         1 2  02  01
   ENDCMP 1
   ENDJOB 2

*******************************END OF 80-80 LIST*******************************
```

ARC

no difference

✓ rm table

✓ AMC

OK, needed ~~because~~ to model peak in reservoir, given # time steps in model has to be < 400 — hence warnings are not fixable

RUNOFF OPTION USED WITH RAINTABLE NO. 1, RUNOFF CURVE NO. = 100.

COMPUTED DIMHYD PEAK RATE FACTOR = 664.607

```
EXECUTIVE CONTROL  LIST                1.          0.          1.

          LISTING OF CURRENT DATA


                     COMPUTED TIME INCREMENT
DIMHYD                        .0556

                  .0000       .0300       .1000       .1900       .3100
                  .4700       .6600       .8200       .9300       .9900
                 1.0000       .9900       .9300       .8200       .6600
                  .4700       .3100       .0300       .0000       .0000
ENDTBL

   COMPUTED PEAK RATE FACTOR =  664.607
```

	TABLE NO.	TIME INCREMENT
RAINFL	1	2.4000

.0000	.0010	.0035	.0061	.0086
.0112	.0143	.0174	.0206	.0237
.0269	.0303	.0338	.0372	.0406
.0440	.0475	.0509	.0543	.0577
.0612	.0658	.0704	.0750	.0796
.0842	.0888	.0934	.0980	.1026
.1073	.1135	.1197	.1260	.1322
.1384	.1466	.1549	.1631	.1713
.1796	.1878	.2004	.2150	.2296
.2477	.2658	.2881	.3168	.3600
.7090	1.1390	1.2850	1.3420	1.3730
1.3950	1.4120	1.4250	1.4380	1.4480
1.4590	1.4670	1.4750	1.4840	1.4920
1.5000	1.5070	1.5130	1.5190	1.5260
1.5320	1.5370	1.5410	1.5460	1.5500
1.5550	1.5600	1.5640	1.5690	1.5740
1.5780	1.5820	1.5850	1.5890	1.5920
1.5960	1.5990	1.6030	1.6060	1.6100
1.6130	1.6160	1.6180	1.6210	1.6230
1.6260	1.6280	1.6300	1.6330	1.6350
1.6380	1.6400	1.6400	1.6400	1.6400

ENDTBL

STANDARD CONTROL INSTRUCTIONS

```
RUNOFF      1       1      2.4600     87.2000      .85001 1 0 0 0 1
REACH       5   1   7   9100.0000       .0000      .00001 0 0 0 0 1
REACH      10   7   2   9100.0000       .0000      .00001 0 0 0 0 1
RUNOFF      2       3      2.3800     79.9000      .73001 1 0 0 0 1
ADDHYD     12   2 3 1                                   1 1 0 0 0 1
DIVERT     12   1 4 7   4100.0000      1.0000   200.00001 1 0 0 0 1
REACH      20   4   7   3332.0000       .0000      .00001 0 0 0 0 1
REACH      25   7   5   1950.0000       .0000      .00001 0 0 0 0 1
RUNOFF      3       6      3.9400     87.2000      .88001 1 0 0 0 1
REACH      30   6   7   8865.0000       .0000      .00001 0 0 0 0 1
REACH       5   7   1   8865.0000       .0000      .00001 0 0 0 0 1
REACH      25   1   7   1950.0000       .0000      .00001 0 0 0 0 1
RUNOFF      4       1      2.0600     77.3000      .79001 1 0 0 0 1
ADDHYD     34   7 1 2                                   1 1 0 0 0 1
ADDHYD     35   5 2 3                                   1 1 0 0 0 1
DIVERT     35   3 4 7  11000.0000      1.0000   199.00001 1 0 0 0 1
REACH      45   4   5   4200.0000       .0000      .00001 0 0 0 0 1
RUNOFF      6       2      1.4700     87.7000      .47001 1 0 0 0 1
REACH      60   2   3   7540.0000       .0000      .00001 0 0 0 0 1
REACH      67   3   4   5140.0000       .0000      .00001 0 0 0 0 1
ADDHYD     64   5 4 3                                   1 1 0 0 0 1
RUNOFF      5       6      4.7800     78.8000      .78001 1 0 0 0 1
RUNOFF      7       7      3.4800     81.7000     1.01001 1 0 0 0 1
ADDHYD     75   6 7 1                                   1 1 0 0 0 1
ADDHYD     76   1 3 2                                   1 1 0 0 1 1
RESVOR        1 2   1   1193.0000                       1 1 0 0 1 1
ENDATA
```

END OF LISTING

EXECUTIVE CONTROL INCREM MAIN TIME INCREMENT = 1.050 HOURS

EXECUTIVE CONTROL COMPUT FROM XSECTION 1 TO STRUCTURE 1
STARTING TIME = .00 RAIN DEPTH = 1.00 RAIN DURATION = 1.00
ANT. RUNOFF COND. = 2 MAIN TIME INCREMENT = 1.050 HOURS
ALTERNATE NO. = 1 STORM NO. = 1 RAIN TABLE NO. = 1

OPERATION RUNOFF XSECTION 1

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
121.40	290.4	(RUNOFF)
138.08	8.7	(RUNOFF)
143.29	7.3	(RUNOFF)
150.61	6.0	(RUNOFF)
164.99	4.6	(RUNOFF)
174.63	3.3	(RUNOFF)
179.55	3.3 *	(RUNOFF)
187.64	3.3	(RUNOFF)
192.22	2.6	(RUNOFF)
208.25	2.7	(RUNOFF)

* FIRST POINT OF FLAT PEAK

HYDROGRAPH POINTS FOR ALTERNATE = 1, STORM = 1
MAIN TIME INCREMENT = 1.050 hr, DRAINAGE AREA = 2.46 SQ.MI.

HRS									
.00	CFS	.00	.66	.66	1.45	1.65	1.68	1.72	1.71
8.40	CFS	1.65	1.65	1.71	1.72	1.92	2.05	2.05	2.05
16.80	CFS	2.05	2.11	2.11	2.06	2.05	2.08	2.11	2.13
25.20	CFS	2.25	2.25	2.31	2.31	2.27	2.25	2.25	2.25
33.60	CFS	2.25	2.25	2.25	2.30	2.31	2.29	2.25	2.25
42.00	CFS	2.25	2.25	2.25	2.25	2.29	2.31	2.48	3.04
50.40	CFS	3.04	3.04	3.04	3.04	3.04	3.04	3.04	3.04
58.80	CFS	3.04	3.04	3.04	3.04	3.04	3.04	3.04	3.04
67.20	CFS	3.04	3.04	3.04	3.09	3.11	3.51	4.10	4.10
75.60	CFS	4.10	4.10	4.16	4.16	4.12	4.10	4.10	4.10
84.00	CFS	4.11	5.40	5.42	5.47	5.48	5.46	5.42	5.42
92.40	CFS	5.42	5.42	5.48	5.48	5.44	5.42	6.18	8.33
100.80	CFS	8.41	9.58	9.65	9.65	9.65	10.62	11.96	11.96
109.20	CFS	11.96	12.01	14.43	14.74	17.28	18.96	21.33	28.55
117.60	CFS	33.56	229.35	230.66	273.71	284.13	207.45	96.47	89.78
126.00	CFS	38.02	37.66	22.09	20.48	16.69	14.54	13.75	11.23
134.40	CFS	11.10	8.71	8.59	8.59	8.59	7.72	6.61	6.68
142.80	CFS	7.27	7.25	5.50	5.29	5.29	5.29	5.46	5.95
151.20	CFS	5.91	5.31	5.29	5.29	5.29	5.02	4.63	4.55
159.60	CFS	3.96	3.96	3.96	3.96	4.38	4.63	4.48	3.96
168.00	CFS	3.95	3.32	3.30	2.79	2.64	2.93	3.30	3.22
176.40	CFS	2.65	2.64	3.25	3.30	3.30	3.30	3.13	2.64

184.80 CFS	2.68	3.27	3.30	3.30	3.30	3.03	2.64	2.64
193.20 CFS	2.64	2.63	2.05	1.98	2.38	2.64	2.49	1.98
201.60 CFS	1.99	2.64	2.64	2.11	1.98	2.26	2.64	2.56
210.00 CFS	1.99	1.98	2.58	2.64	2.22	1.98	1.98	1.98
218.40 CFS	1.95	1.35	1.32	1.83	1.98	1.70	1.32	1.39
226.80 CFS	1.98	1.97	1.39	1.32	1.32	1.32	1.49	1.98
235.20 CFS	1.95	1.34	1.32	1.85	1.98	1.72	1.32	1.17
243.60 CFS	.00							

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
1.68 WATERSHED INCHES; 2671 CFS-HRS; 220.7 ACRE-FEET.

*** WARNING - MAIN TIME INCREMENT (1.050) IS GREATER THAN 50% OF THE
TIME OF CONCENTRATION (.85) FOR SUBWATERSHED XSECTION 1.
THIS WILL REDUCE THE COMPUTED PEAK BY ABOUT -2.1%. ***

OPERATION REACH XSECTION 5

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
122.55	283.3	2.23
144.42	7.4	.39
151.83	5.9	.36
166.22	4.6	.32
175.87	3.3	.23
182.21	3.3	.23
189.54	3.3	.23
214.00	2.6	.18
240.45	1.9	.14

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
1.62 WATERSHED INCHES; 2576 CFS-HRS; 212.9 ACRE-FEET.

OPERATION REACH XSECTION 10

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
123.70	277.3	3.72
145.52	7.3	.92
153.01	5.9	.88
167.44	4.5	.78
177.05	3.2	.56
183.33	3.3	.57
190.64	3.3	.57
215.18	2.6	.44
241.65	1.9	.33

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
1.66 WATERSHED INCHES; 2642 CFS-HRS; 218.3 ACRE-FEET.

OPERATION RUNOFF XSECTION 2

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
78.23	4.0	(RUNOFF)
121.33	285.1	(RUNOFF)
137.49	8.3	(RUNOFF)
143.33	7.3	(RUNOFF)
154.35	5.1	(RUNOFF)
164.80	4.5	(RUNOFF)
174.61	3.2	(RUNOFF)
181.13	3.2	(RUNOFF)
188.48	3.2	(RUNOFF)
192.69	2.6	(RUNOFF)

HYDROGRAPH POINTS FOR ALTERNATE = 1, STORM = 1
MAIN TIME INCREMENT = 1.050 hr, DRAINAGE AREA = 2.38 SQ.MI.

HRS									
.00	CFS	.00	.64	.64	1.49	1.60	1.63	1.66	1.65
8.40	CFS	1.60	1.60	1.66	1.66	1.90	1.98	1.98	1.98
16.80	CFS	1.99	2.05	2.05	1.99	1.98	2.01	2.05	2.06
25.20	CFS	2.17	2.17	2.23	2.24	2.19	2.17	2.17	2.17
33.60	CFS	2.17	2.17	2.17	2.23	2.24	2.20	2.17	2.17
42.00	CFS	2.17	2.17	2.17	2.17	2.22	2.24	2.46	2.94
50.40	CFS	2.94	2.94	2.94	2.94	2.94	2.94	2.94	2.94
58.80	CFS	2.94	2.94	2.94	2.94	2.94	2.94	2.94	2.94
67.20	CFS	2.94	2.94	2.94	3.00	3.00	3.49	3.96	3.96
75.60	CFS	3.96	3.96	4.03	4.03	3.98	3.96	3.96	3.96
84.00	CFS	4.03	5.24	5.24	5.30	5.31	5.27	5.24	5.24
92.40	CFS	5.24	5.24	5.30	5.31	5.26	5.24	5.96	8.06
100.80	CFS	8.11	9.32	9.33	9.33	9.33	10.46	11.57	11.57
109.20	CFS	11.57	11.57	14.21	14.26	17.19	18.35	21.32	27.62
117.60	CFS	36.73	223.11	223.11	269.22	274.90	177.77	93.34	85.77
126.00	CFS	36.44	36.28	20.57	19.82	15.53	14.06	13.20	10.87
134.40	CFS	10.74	8.33	8.31	8.31	8.31	7.35	6.39	6.48
142.80	CFS	7.03	7.03	5.17	5.11	5.11	5.11	5.32	5.75
151.20	CFS	5.73	5.11	5.11	5.11	5.11	4.77	4.48	4.39
159.60	CFS	3.84	3.84	3.84	3.84	4.32	4.48	4.29	3.84
168.00	CFS	3.80	3.20	3.20	2.63	2.56	2.88	3.20	3.12
176.40	CFS	2.56	2.56	3.17	3.20	3.20	3.20	2.99	2.56
184.80	CFS	2.57	3.20	3.20	3.20	3.20	2.85	2.56	2.56
193.20	CFS	2.56	2.55	1.94	1.92	2.41	2.56	2.37	1.92
201.60	CFS	1.96	2.56	2.56	2.00	1.92	2.24	2.56	2.47
210.00	CFS	1.92	1.92	2.53	2.56	2.10	1.92	1.92	1.92
218.40	CFS	1.91	1.28	1.28	1.85	1.92	1.58	1.28	1.37
226.80	CFS	1.92	1.91	1.29	1.28	1.28	1.28	1.48	1.92
235.20	CFS	1.88	1.28	1.28	1.84	1.92	1.59	1.28	1.10
243.60	CFS	.00							

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
1.67 WATERSHED INCHES; 2561 CFS-HRS; 211.6 ACRE-FEET.

*** WARNING - MAIN TIME INCREMENT (1.050) IS GREATER THAN 50% OF THE
TIME OF CONCENTRATION (.73) FOR SUBWATERSHED XSECTION 2.
THIS WILL REDUCE THE COMPUTED PEAK BY ABOUT -3.7%. ***

OPERATION ADDHYD XSECTION 12

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
121.80	488.3	(NULL)
145.48	12.4	(NULL)
150.94	11.1	(NULL)
153.00	11.0	(NULL)
165.72	8.5	(NULL)
178.68	6.0	(NULL)
181.69	6.4	(NULL)
186.07	6.0	(NULL)
188.84	6.4	(NULL)
212.28	4.7	(NULL)

HYDROGRAPH POINTS FOR ALTERNATE = 1, STORM = 1
MAIN TIME INCREMENT = 1.050 hr, DRAINAGE AREA = 4.84 SQ.MI.

HRS								
.00 CFS	.00	.64	.64	1.93	2.20	2.81	3.18	3.29
8.40 CFS	3.29	3.30	3.33	3.32	3.59	3.69	3.84	3.97
16.80 CFS	4.02	4.09	4.09	4.08	4.09	4.09	4.10	4.13
25.20 CFS	4.27	4.29	4.44	4.47	4.47	4.48	4.46	4.43
33.60 CFS	4.42	4.42	4.42	4.48	4.48	4.49	4.48	4.47
42.00 CFS	4.43	4.42	4.42	4.42	4.47	4.48	4.74	5.24
50.40 CFS	5.36	5.78	5.93	5.97	5.98	5.98	5.98	5.98
58.80 CFS	5.98	5.98	5.98	5.98	5.98	5.98	5.98	5.98
67.20 CFS	5.98	5.98	5.98	6.04	6.04	6.56	7.06	7.33
75.60 CFS	7.83	8.00	8.11	8.12	8.12	8.12	8.10	8.07
84.00 CFS	8.13	9.34	9.35	10.28	10.61	10.70	10.71	10.70
92.40 CFS	10.67	10.66	10.72	10.72	10.72	10.72	11.42	13.48
100.80 CFS	14.04	16.88	17.51	18.48	18.85	20.07	21.21	21.87
109.20 CFS	23.01	23.40	26.14	26.24	30.83	32.77	37.69	45.80
117.60 CFS	57	249	254	434	488	433	369	316
126.00 CFS	175	139	79	63	44	37	32	27
134.40 CFS	25.04	20.52	19.70	17.87	17.16	16.00	15.00	14.49
142.80 CFS	14.08	13.80	12.26	12.32	11.17	10.62	10.66	11.05
151.20 CFS	11.13	10.89	10.99	10.61	10.46	10.07	9.76	9.50
159.60 CFS	8.61	8.45	8.01	7.85	8.30	8.44	8.54	8.34
168.00 CFS	8.30	7.34	7.19	6.17	5.92	5.85	5.93	5.98
176.40 CFS	5.72	5.77	6.01	5.89	6.26	6.43	6.28	5.86
184.80 CFS	5.76	6.01	5.91	6.28	6.44	6.14	5.86	5.68
193.20 CFS	5.35	5.23	4.59	4.55	4.66	4.61	4.63	4.44
201.60 CFS	4.46	4.71	4.59	4.43	4.51	4.51	4.62	4.66
210.00 CFS	4.42	4.47	4.70	4.59	4.50	4.49	4.26	4.01
218.40 CFS	3.92	3.27	3.24	3.40	3.30	3.25	3.17	3.13
226.80 CFS	3.38	3.32	3.08	3.20	2.85	2.67	2.81	3.24
235.20 CFS	3.32	3.09	3.20	3.37	3.29	3.28	3.18	2.88

243.60 CFS 1.47 1.26 .40

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
1.67 WATERSHED INCHES; 5202 CFS-HRS; 429.9 ACRE-FEET.

OPERATION DIVERT XSECTION 12
OUTPUT #1 HYDROGRAPH

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
121.80	488.3	(DIVERT)
145.48	12.4	(DIVERT)
150.94	11.1	(DIVERT)
153.00	11.0	(DIVERT)
165.72	8.5	(DIVERT)
178.68	6.0	(DIVERT)
181.69	6.4	(DIVERT)
186.07	6.0	(DIVERT)
188.84	6.4	(DIVERT)
212.28	4.7	(DIVERT)

HYDROGRAPH POINTS FOR ALTERNATE = 1, STORM = 1
MAIN TIME INCREMENT = 1.050 hr, DRAINAGE AREA = 4.84 SQ.MI.

HRS								
.00 CFS	.00	.64	.64	1.93	2.20	2.81	3.18	3.29
8.40 CFS	3.29	3.30	3.33	3.32	3.59	3.69	3.84	3.97
16.80 CFS	4.02	4.09	4.09	4.08	4.09	4.09	4.10	4.13
25.20 CFS	4.27	4.29	4.44	4.47	4.47	4.48	4.46	4.43
33.60 CFS	4.42	4.42	4.42	4.48	4.48	4.49	4.48	4.47
42.00 CFS	4.43	4.42	4.42	4.42	4.47	4.48	4.74	5.24
50.40 CFS	5.36	5.78	5.93	5.97	5.98	5.98	5.98	5.98
58.80 CFS	5.98	5.98	5.98	5.98	5.98	5.98	5.98	5.98
67.20 CFS	5.98	5.98	5.98	6.04	6.04	6.56	7.06	7.33
75.60 CFS	7.83	8.00	8.11	8.12	8.12	8.12	8.10	8.07
84.00 CFS	8.13	9.34	9.35	10.28	10.61	10.70	10.71	10.70
92.40 CFS	10.67	10.66	10.72	10.72	10.72	10.72	11.42	13.48
100.80 CFS	14.04	16.88	17.51	18.48	18.85	20.07	21.21	21.87
109.20 CFS	23.01	23.40	26.14	26.24	30.83	32.77	37.69	45.80
117.60 CFS	57	249	254	434	488	433	369	316
126.00 CFS	175	139	79	63	44	37	32	27
134.40 CFS	25.04	20.52	19.70	17.87	17.16	16.00	15.00	14.49
142.80 CFS	14.08	13.80	12.26	12.32	11.17	10.62	10.66	11.05
151.20 CFS	11.13	10.89	10.99	10.61	10.46	10.07	9.76	9.50
159.60 CFS	8.61	8.45	8.01	7.85	8.30	8.44	8.54	8.34
168.00 CFS	8.30	7.34	7.19	6.17	5.92	5.85	5.93	5.98
176.40 CFS	5.72	5.77	6.01	5.89	6.26	6.43	6.28	5.86
184.80 CFS	5.76	6.01	5.91	6.28	6.44	6.14	5.86	5.68
193.20 CFS	5.35	5.23	4.59	4.55	4.66	4.61	4.63	4.44
201.60 CFS	4.46	4.71	4.59	4.43	4.51	4.51	4.62	4.66
210.00 CFS	4.42	4.47	4.70	4.59	4.50	4.49	4.26	4.01
218.40 CFS	3.92	3.27	3.24	3.40	3.30	3.25	3.17	3.13
226.80 CFS	3.38	3.32	3.08	3.20	2.85	2.67	2.81	3.24

235.20 CFS	3.32	3.09	3.20	3.37	3.29	3.28	3.18	2.88
243.60 CFS	1.47	1.26	.40					

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
1.67 WATERSHED INCHES; 5202 CFS-HRS; 429.9 ACRE-FEET.

OUTPUT #2 DIVERTED HYDROGRAPH (XSECTION 200)

*** MESSAGE - HYDROGRAPH CONTAINS NO FLOW ***

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
237 CFS-HRS; 429.9 ACRE-FEET.

*** WARNING - ROUTING COEFFICIENT (C) EQUALS 1.0,
CONSIDER SMALLER MAIN TIME INCREMENT FOR XSECTION 20. ***

OPERATION REACH XSECTION 20

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
121.80	488.3	2.45
145.48	12.4	.13
150.94	11.1	.11
153.00	11.0	.11
165.72	8.5	.09
178.68	6.0	.06
181.69	6.4	.06
186.07	6.0	.06
188.84	6.4	.07
212.28	4.7	.05

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
1.67 WATERSHED INCHES; 5202 CFS-HRS; 429.9 ACRE-FEET.

*** WARNING - ROUTING COEFFICIENT (C) EQUALS 1.0,
CONSIDER SMALLER MAIN TIME INCREMENT FOR XSECTION 25. ***

OPERATION REACH XSECTION 25

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
121.80	488.3	1.54
145.48	12.4	.08
150.94	11.1	.07
153.00	11.0	.07
165.72	8.5	.05
178.68	6.0	.04
181.69	6.4	.04
186.07	6.0	.04
188.84	6.4	.04
212.28	4.7	.03

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
1.67 WATERSHED INCHES; 5202 CFS-HRS; 429.9 ACRE-FEET.

OPERATION RUNOFF XSECTION 3

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
121.39	461.9	(RUNOFF)
126.52	63.0	(RUNOFF)
138.08	13.8	(RUNOFF)
143.32	11.7	(RUNOFF)
150.67	9.6	(RUNOFF)
154.88	8.5	(RUNOFF)
165.01	7.4	(RUNOFF)
174.70	5.3	(RUNOFF)
181.12	5.2	(RUNOFF)
186.90	5.2 *	(RUNOFF)

* FIRST POINT OF FLAT PEAK

HYDROGRAPH POINTS FOR ALTERNATE = 1, STORM = 1
MAIN TIME INCREMENT = 1.050 hr, DRAINAGE AREA = 3.94 SQ.MI.

HRS								
.00 CFS	.00	1.05	1.05	2.37	2.62	2.67	2.73	2.72
8.40 CFS	2.62	2.62	2.72	2.73	3.06	3.25	3.25	3.25
16.80 CFS	3.26	3.36	3.36	3.27	3.25	3.30	3.36	3.38
25.20 CFS	3.57	3.57	3.67	3.67	3.61	3.57	3.57	3.57
33.60 CFS	3.57	3.57	3.57	3.66	3.67	3.63	3.57	3.57
42.00 CFS	3.57	3.57	3.57	3.57	3.64	3.67	3.91	4.83
50.40 CFS	4.83	4.83	4.83	4.83	4.83	4.83	4.83	4.83
58.80 CFS	4.83	4.83	4.83	4.83	4.83	4.83	4.83	4.83
67.20 CFS	4.83	4.83	4.83	4.92	4.93	5.55	6.51	6.51
75.60 CFS	6.51	6.51	6.61	6.61	6.55	6.51	6.51	6.51
84.00 CFS	6.54	8.59	8.61	8.70	8.71	8.67	8.61	8.61
92.40 CFS	8.61	8.61	8.71	8.71	8.65	8.61	9.50	13.23
100.80 CFS	13.26	15.31	15.33	15.33	15.33	16.76	19.00	19.00
109.20 CFS	19.00	19.00	23.26	23.41	27.69	30.13	33.19	45.35
117.60 CFS	49	364	366	437	451	331	153	147
126.00 CFS	59.84	59.84	34.19	32.54	26.67	23.10	22.09	17.85

134.40 CFS	17.77	13.69	13.65	13.65	13.65	12.40	10.50	10.57
142.80 CFS	11.55	11.54	8.50	8.40	8.40	8.40	8.60	9.45
151.20 CFS	9.44	8.40	8.40	8.40	8.40	7.98	7.35	7.29
159.60 CFS	6.30	6.30	6.30	6.30	6.95	7.35	7.14	6.30
168.00 CFS	6.28	5.26	5.25	4.39	4.20	4.62	5.25	5.17
176.40 CFS	4.20	4.20	5.22	5.25	5.25	5.25	5.05	4.20
184.80 CFS	4.20	5.25	5.25	5.25	5.25	4.83	4.20	4.20
193.20 CFS	4.20	4.20	3.21	3.15	3.81	4.20	3.99	3.15
201.60 CFS	3.17	4.19	4.20	3.33	3.15	3.57	4.20	4.12
210.00 CFS	3.15	3.15	4.16	4.20	3.54	3.15	3.15	3.15
218.40 CFS	3.14	2.10	2.10	2.98	3.15	2.74	2.10	2.16
226.80 CFS	3.15	3.15	2.16	2.10	2.10	2.10	2.31	3.15
235.20 CFS	3.13	2.11	2.10	2.98	3.15	2.73	2.10	1.94
243.60 CFS	.00							

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
1.67 WATERSHED INCHES; 4251 CFS-HRS; 351.3 ACRE-FEET.

*** WARNING - MAIN TIME INCREMENT (1.050) IS GREATER THAN 50% OF THE
TIME OF CONCENTRATION (.88) FOR SUBWATERSHED XSECTION 3.
THIS WILL REDUCE THE COMPUTED PEAK BY ABOUT -2.3%. ***

OPERATION REACH XSECTION 30

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
122.60	444.1	2.56
144.45	11.7	.88
151.93	9.4	.85
166.33	7.2	.81
175.98	5.2	.77
182.27	5.3	.77
189.57	5.3	.77
204.49	4.2	.64
209.58	4.1	.64
214.02	4.1	.64

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
1.61 WATERSHED INCHES; 4102 CFS-HRS; 339.0 ACRE-FEET.

OPERATION REACH XSECTION 5

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
123.73	437.4	2.71
145.53	11.6	.45
153.06	9.4	.42
167.50	7.2	.38
177.12	5.2	.35
183.39	5.2	.35
190.65	5.3	.35
205.63	4.1	.29
210.71	4.1	.29
215.18	4.1	.29

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
1.65 WATERSHED INCHES; 4198 CFS-HRS; 347.0 ACRE-FEET.

*** WARNING - ROUTING COEFFICIENT (C) EQUALS 1.0,
CONSIDER SMALLER MAIN TIME INCREMENT FOR XSECTION 25. ***

OPERATION REACH XSECTION 25

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
123.73	437.4	1.44
145.53	11.6	.07
153.06	9.4	.06
167.50	7.2	.05
177.12	5.2	.03
183.39	5.2	.03
190.65	5.3	.03
205.63	4.1	.03
210.71	4.1	.03
215.18	4.1	.03

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
1.65 WATERSHED INCHES; 4198 CFS-HRS; 347.0 ACRE-FEET.

OPERATION RUNOFF XSECTION 4

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
121.36	245.1	(RUNOFF)
138.08	7.3	(RUNOFF)
143.27	6.1	(RUNOFF)
154.88	4.5	(RUNOFF)
164.96	3.9	(RUNOFF)
193.72	2.2	(RUNOFF)
198.49	2.2	(RUNOFF)
203.17	2.3	(RUNOFF)
208.22	2.2	(RUNOFF)
212.72	2.2	(RUNOFF)

HYDROGRAPH POINTS FOR ALTERNATE = 1, STORM = 1
MAIN TIME INCREMENT = 1.050 hr, DRAINAGE AREA = 2.06 SQ.MI.

HRS								
.00 CFS	.00	.55	.55	1.25	1.38	1.41	1.44	1.43
8.40 CFS	1.38	1.38	1.43	1.44	1.63	1.72	1.72	1.72
16.80 CFS	1.72	1.77	1.77	1.72	1.72	1.74	1.77	1.78
25.20 CFS	1.88	1.88	1.93	1.94	1.90	1.88	1.88	1.88
33.60 CFS	1.88	1.88	1.88	1.93	1.94	1.91	1.88	1.88
42.00 CFS	1.88	1.88	1.88	1.88	1.92	1.94	2.09	2.55
50.40 CFS	2.55	2.55	2.55	2.55	2.55	2.55	2.55	2.55
58.80 CFS	2.55	2.55	2.55	2.55	2.55	2.55	2.55	2.55
67.20 CFS	2.55	2.55	2.55	2.59	2.60	2.97	3.43	3.43
75.60 CFS	3.43	3.43	3.48	3.49	3.45	3.43	3.43	3.43
84.00 CFS	3.47	4.54	4.54	4.58	4.59	4.57	4.54	4.54
92.40 CFS	4.54	4.54	4.59	4.59	4.56	4.54	5.24	6.97
100.80 CFS	6.98	8.08	8.08	8.08	8.08	9.01	10.02	10.02
109.20 CFS	10.02	10.02	12.18	12.34	14.81	15.88	18.22	23.90
117.60 CFS	29.21	189.88	193.12	230.82	237.94	161.93	80.79	74.74
126.00 CFS	31.54	31.45	18.30	17.15	13.66	12.17	11.39	9.41
134.40 CFS	9.29	7.25	7.19	7.19	7.19	6.41	5.53	5.60
142.80 CFS	6.09	6.06	4.55	4.43	4.43	4.43	4.57	4.98
151.20 CFS	4.95	4.44	4.43	4.43	4.43	4.18	3.87	3.80
159.60 CFS	3.32	3.32	3.32	3.32	3.68	3.87	3.75	3.32
168.00 CFS	3.29	2.77	2.77	2.31	2.21	2.46	2.77	2.70
176.40 CFS	2.21	2.21	2.75	2.77	2.77	2.77	2.62	2.21
184.80 CFS	2.23	2.77	2.77	2.77	2.77	2.51	2.21	2.21
193.20 CFS	2.21	2.21	1.68	1.66	2.03	2.21	2.06	1.66
201.60 CFS	1.66	2.21	2.21	1.75	1.66	1.92	2.21	2.14
210.00 CFS	1.66	1.66	2.18	2.21	1.83	1.66	1.66	1.66
218.40 CFS	1.64	1.12	1.11	1.57	1.66	1.39	1.11	1.17
226.80 CFS	1.66	1.66	1.15	1.11	1.11	1.11	1.26	1.66
235.20 CFS	1.63	1.12	1.11	1.57	1.66	1.40	1.11	.97
243.60 CFS	.00							

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
1.67 WATERSHED INCHES; 2219 CFS-HRS; 183.4 ACRE-FEET.

*** WARNING - MAIN TIME INCREMENT (1.050) IS GREATER THAN 50% OF THE
TIME OF CONCENTRATION (.79) FOR SUBWATERSHED XSECTION 4.
THIS WILL REDUCE THE COMPUTED PEAK BY ABOUT -3.0%. ***

OPERATION ADDHYD XSECTION 34

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
80.58	10.0	(NULL)
122.26	578.6	(NULL)
145.46	16.1	(NULL)
153.05	13.8	(NULL)
166.39	10.5	(NULL)
189.08	7.9	(NULL)
214.94	5.8	(NULL)
229.70	4.2	(NULL)
237.42	4.1	(NULL)
241.03	4.1	(NULL)

HYDROGRAPH POINTS FOR ALTERNATE = 1, STORM = 1
MAIN TIME INCREMENT = 1.050 hr, DRAINAGE AREA = 6.00 SQ.MI.

HRS								
.00 CFS	.00	.55	.55	1.92	2.32	3.27	3.82	4.01
8.40 CFS	4.07	4.09	4.09	4.07	4.32	4.43	4.65	4.86
16.80 CFS	4.94	5.01	5.02	5.04	5.06	5.04	5.04	5.07
25.20 CFS	5.21	5.24	5.43	5.48	5.53	5.54	5.51	5.47
33.60 CFS	5.46	5.45	5.45	5.50	5.51	5.53	5.54	5.52
42.00 CFS	5.48	5.46	5.45	5.45	5.49	5.51	5.70	6.20
50.40 CFS	6.37	7.02	7.27	7.34	7.37	7.37	7.37	7.37
58.80 CFS	7.37	7.37	7.37	7.37	7.37	7.37	7.37	7.37
67.20 CFS	7.37	7.37	7.37	7.42	7.43	7.86	8.35	8.75
75.60 CFS	9.53	9.82	9.96	9.99	10.02	10.03	10.00	9.96
84.00 CFS	9.98	11.05	11.07	12.43	12.97	13.17	13.22	13.21
92.40 CFS	13.17	13.15	13.20	13.20	13.23	13.24	13.90	15.60
100.80 CFS	16.16	19.87	20.90	22.53	23.14	24.26	25.32	26.26
109.20 CFS	28.06	28.73	31.10	31.32	36.53	38.78	44.23	52.66
117.60 CFS	61	230	239	481	569	564	517	445
126.00 CFS	260	203	116	88	60	49	41	35
134.40 CFS	32.39	26.91	25.52	22.51	21.34	20.20	19.22	18.46
142.80 CFS	17.40	16.85	15.81	15.88	13.99	13.18	13.07	13.40
151.20 CFS	13.48	13.56	13.77	13.18	12.93	12.60	12.28	11.93
159.60 CFS	10.94	10.71	10.00	9.73	10.01	10.18	10.46	10.46
168.00 CFS	10.44	9.37	9.14	7.96	7.58	7.19	7.13	7.21
176.40 CFS	7.20	7.33	7.28	7.07	7.64	7.90	7.84	7.45
184.80 CFS	7.35	7.29	7.06	7.66	7.91	7.73	7.45	7.19
193.20 CFS	6.68	6.49	5.91	5.86	5.60	5.49	5.66	5.66
201.60 CFS	5.66	5.67	5.47	5.59	5.75	5.54	5.51	5.60
210.00 CFS	5.60	5.73	5.66	5.46	5.66	5.74	5.41	5.01
218.40 CFS	4.85	4.28	4.25	4.05	3.87	4.09	4.11	4.02
226.80 CFS	4.02	3.87	3.96	4.15	3.59	3.32	3.40	3.77
235.20 CFS	3.87	3.95	4.15	4.02	3.86	4.09	4.11	3.80

243.60 CFS 2.36 2.07 .73 .22

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
1.66 WATERSHED INCHES; 6418 CFS-HRS; 530.4 ACRE-FEET.

OPERATION ADDHYD XSECTION 35

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
122.01	1061.9	(NULL)
145.47	28.5	(NULL)
153.03	24.8	(NULL)
166.06	19.0	(NULL)
175.15	13.2	(NULL)
178.35	13.3	(NULL)
181.83	14.3	(NULL)
185.71	13.3	(NULL)
188.96	14.4	(NULL)
214.86	10.3	(NULL)

HYDROGRAPH POINTS FOR ALTERNATE = 1, STORM = 1
MAIN TIME INCREMENT = 1.050 hr, DRAINAGE AREA = 10.84 SQ.MI.

HRS								
.00 CFS	.00	1.19	1.19	3.85	4.52	6.08	7.00	7.30
8.40 CFS	7.36	7.40	7.42	7.39	7.91	8.12	8.49	8.83
16.80 CFS	8.96	9.10	9.12	9.12	9.15	9.13	9.14	9.20
25.20 CFS	9.49	9.54	9.87	9.96	10.00	10.02	9.96	9.90
33.60 CFS	9.88	9.87	9.87	9.97	9.99	10.02	10.02	9.99
42.00 CFS	9.91	9.88	9.87	9.87	9.95	9.99	10.44	11.44
50.40 CFS	11.73	12.80	13.20	13.31	13.34	13.35	13.35	13.35
58.80 CFS	13.35	13.35	13.35	13.35	13.35	13.35	13.35	13.35
67.20 CFS	13.35	13.35	13.35	13.45	13.47	14.42	15.41	16.09
75.60 CFS	17.36	17.82	18.07	18.11	18.14	18.15	18.09	18.03
84.00 CFS	18.11	20.38	20.42	22.71	23.58	23.86	23.93	23.92
92.40 CFS	23.84	23.82	23.92	23.92	23.94	23.95	25.32	29.08
100.80 CFS	30.20	36.75	38.41	41.00	41.99	44.34	46.53	48.13
109.20 CFS	51.07	52.13	57.24	57.56	67.36	71.55	81.92	98.45
117.60 CFS	118	479	494	915	1058	997	886	761
126.00 CFS	436	342	195	151	104	86	73	61
134.40 CFS	57.42	47.43	45.22	40.37	38.49	36.20	34.21	32.95
142.80 CFS	31.48	30.65	28.08	28.21	25.17	23.80	23.72	24.46
151.20 CFS	24.62	24.45	24.77	23.79	23.39	22.67	22.04	21.43
159.60 CFS	19.55	19.16	18.01	17.58	18.31	18.62	19.00	18.80
168.00 CFS	18.74	16.71	16.34	14.13	13.50	13.04	13.07	13.19
176.40 CFS	12.92	13.10	13.29	12.96	13.90	14.33	14.12	13.31
184.80 CFS	13.11	13.30	12.97	13.95	14.35	13.87	13.31	12.87
193.20 CFS	12.03	11.72	10.49	10.42	10.25	10.10	10.30	10.10
201.60 CFS	10.13	10.38	10.06	10.03	10.26	10.05	10.13	10.26
210.00 CFS	10.01	10.20	10.36	10.05	10.15	10.24	9.67	9.02
218.40 CFS	8.77	7.55	7.49	7.44	7.17	7.34	7.28	7.15
226.80 CFS	7.40	7.19	7.04	7.36	6.44	5.99	6.21	7.01
235.20 CFS	7.19	7.03	7.34	7.39	7.16	7.37	7.28	6.69

243.60 CFS 3.83 3.33 1.14 .32

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
1.66 WATERSHED INCHES; 11620 CFS-HRS; 960.3 ACRE-FEET.

OPERATION DIVERT XSECTION 35
OUTPUT #1 HYDROGRAPH

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
122.01	1061.9	(DIVERT)
145.47	28.5	(DIVERT)
153.03	24.8	(DIVERT)
166.06	19.0	(DIVERT)
175.15	13.2	(DIVERT)
178.35	13.3	(DIVERT)
181.83	14.3	(DIVERT)
185.71	13.3	(DIVERT)
188.96	14.4	(DIVERT)
214.86	10.3	(DIVERT)

HYDROGRAPH POINTS FOR ALTERNATE = 1, STORM = 1
MAIN TIME INCREMENT = 1.050 hr, DRAINAGE AREA = 10.84 SQ.MI.

HRS								
.00 CFS	.00	1.19	1.19	3.85	4.52	6.08	7.00	7.30
8.40 CFS	7.36	7.40	7.42	7.39	7.91	8.12	8.49	8.83
16.80 CFS	8.96	9.10	9.12	9.12	9.15	9.13	9.14	9.20
25.20 CFS	9.49	9.54	9.87	9.96	10.00	10.02	9.96	9.90
33.60 CFS	9.88	9.87	9.87	9.97	9.99	10.02	10.02	9.99
42.00 CFS	9.91	9.88	9.87	9.87	9.95	9.99	10.44	11.44
50.40 CFS	11.73	12.80	13.20	13.31	13.34	13.35	13.35	13.35
58.80 CFS	13.35	13.35	13.35	13.35	13.35	13.35	13.35	13.35
67.20 CFS	13.35	13.35	13.35	13.45	13.47	14.42	15.41	16.09
75.60 CFS	17.36	17.82	18.07	18.11	18.14	18.15	18.09	18.03
84.00 CFS	18.11	20.38	20.42	22.71	23.58	23.86	23.93	23.92
92.40 CFS	23.84	23.82	23.92	23.92	23.94	23.95	25.32	29.08
100.80 CFS	30.20	36.75	38.41	41.00	41.99	44.34	46.53	48.13
109.20 CFS	51.07	52.13	57.24	57.56	67.36	71.55	81.92	98.45
117.60 CFS	118	479	494	915	1058	997	886	761
126.00 CFS	436	342	195	151	104	86	73	61
134.40 CFS	57.42	47.43	45.22	40.37	38.49	36.20	34.21	32.95
142.80 CFS	31.48	30.65	28.08	28.21	25.17	23.80	23.72	24.46
151.20 CFS	24.62	24.45	24.77	23.79	23.39	22.67	22.04	21.43
159.60 CFS	19.55	19.16	18.01	17.58	18.31	18.62	19.00	18.80
168.00 CFS	18.74	16.71	16.34	14.13	13.50	13.04	13.07	13.19
176.40 CFS	12.92	13.10	13.29	12.96	13.90	14.33	14.12	13.31
184.80 CFS	13.11	13.30	12.97	13.95	14.35	13.87	13.31	12.87
193.20 CFS	12.03	11.72	10.49	10.42	10.25	10.10	10.30	10.10
201.60 CFS	10.13	10.38	10.06	10.03	10.26	10.05	10.13	10.26
210.00 CFS	10.01	10.20	10.36	10.05	10.15	10.24	9.67	9.02
218.40 CFS	8.77	7.55	7.49	7.44	7.17	7.34	7.28	7.15
226.80 CFS	7.40	7.19	7.04	7.36	6.44	5.99	6.21	7.01

235.20 CFS	7.19	7.03	7.34	7.39	7.16	7.37	7.28	6.69
243.60 CFS	3.83	3.33	1.14	.32				

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
1.66 WATERSHED INCHES; 11620 CFS-HRS; 960.3 ACRE-FEET.

OUTPUT #2 DIVERTED HYDROGRAPH (XSECTION 199)

*** MESSAGE - HYDROGRAPH CONTAINS NO FLOW ***

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
238 CFS-HRS; 960.3 ACRE-FEET.

*** WARNING - ROUTING COEFFICIENT (C) EQUALS 1.0,
CONSIDER SMALLER MAIN TIME INCREMENT FOR XSECTION 45. ***

OPERATION REACH XSECTION 45

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
122.01	1061.9	2.32
145.47	28.5	.17
153.03	24.8	.15
166.06	19.0	.11
175.15	13.2	.08
178.35	13.3	.08
181.83	14.3	.09
185.71	13.3	.08
188.96	14.4	.09
214.86	10.3	.06

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
1.66 WATERSHED INCHES; 11620 CFS-HRS; 960.3 ACRE-FEET.

OPERATION RUNOFF XSECTION 6

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
121.27	178.9	(RUNOFF)
143.18	4.5	(RUNOFF)
150.54	3.7	(RUNOFF)
169.58	2.1	(RUNOFF)
174.29	2.0	(RUNOFF)
181.13	2.1	(RUNOFF)
188.48	2.1	(RUNOFF)
212.62	1.7	(RUNOFF)
234.63	1.2	(RUNOFF)
239.03	1.2	(RUNOFF)

HYDROGRAPH POINTS FOR ALTERNATE = 1, STORM = 1
MAIN TIME INCREMENT = 1.050 hr, DRAINAGE AREA = 1.47 SQ.MI.

HRS								
2.10	CFS	.41	.95	1.02	1.04	1.06	1.05	1.02	1.02
10.50	CFS	1.06	1.06	1.22	1.26	1.26	1.26	1.27	1.30
18.90	CFS	1.30	1.26	1.26	1.29	1.30	1.33	1.38	1.39
27.30	CFS	1.42	1.42	1.39	1.38	1.38	1.38	1.38	1.38
35.70	CFS	1.39	1.42	1.42	1.39	1.38	1.38	1.38	1.38
44.10	CFS	1.38	1.38	1.42	1.42	1.68	1.87	1.87	1.87
52.50	CFS	1.87	1.87	1.87	1.87	1.87	1.87	1.87	1.87
60.90	CFS	1.87	1.87	1.87	1.87	1.87	1.87	1.87	1.87
69.30	CFS	1.87	1.91	1.91	2.31	2.52	2.52	2.52	2.52
77.70	CFS	2.56	2.56	2.53	2.52	2.52	2.52	2.57	3.34
86.10	CFS	3.34	3.37	3.38	3.35	3.34	3.34	3.34	3.34
94.50	CFS	3.38	3.38	3.34	3.34	4.29	5.13	5.29	5.94
102.90	CFS	5.94	5.94	5.94	7.05	7.37	7.37	7.37	7.58
111.30	CFS	9	9	12	12	15	18	49	142
119.70	CFS	144	175	175	82	59	45	23	22
128.10	CFS	12.62	12.62	9.38	8.96	7.83	6.92	6.58	5.29
136.50	CFS	5.29	5.29	5.29	4.46	4.07	4.20	4.48	4.43
144.90	CFS	3.29	3.26	3.26	3.26	3.45	3.66	3.63	3.26
153.30	CFS	3.26	3.26	3.26	3.00	2.85	2.75	2.44	2.44
161.70	CFS	2.44	2.44	2.76	2.85	2.66	2.44	2.40	2.04
170.10	CFS	2.04	1.66	1.63	1.91	2.04	1.90	1.63	1.66
178.50	CFS	2.04	2.04	2.04	2.04	1.81	1.63	1.72	2.04
186.90	CFS	2.04	2.04	2.04	1.71	1.63	1.63	1.63	1.57
195.30	CFS	1.22	1.22	1.63	1.63	1.39	1.22	1.32	1.63
203.70	CFS	1.61	1.22	1.22	1.53	1.63	1.47	1.22	1.26
212.10	CFS	1.63	1.63	1.28	1.22	1.22	1.22	1.15	.81
220.50	CFS	.81	1.19	1.22	.95	.81	.92	1.22	1.22
228.90	CFS	.83	.81	.81	.81	1.00	1.22	1.21	.82
237.30	CFS	.81	1.18	1.22	.96	.81	.61	.00	

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
1.68 WATERSHED INCHES; 1598 CFS-HRS; 132.0 ACRE-FEET.

*** WARNING - MAIN TIME INCREMENT (1.050) IS GREATER THAN 50% OF THE
TIME OF CONCENTRATION (.47) FOR SUBWATERSHED XSECTION 6.
THIS WILL REDUCE THE COMPUTED PEAK BY ABOUT -2.3%. ***

OPERATION REACH XSECTION 60

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
122.40	180.7	2.78
144.39	4.5	.11
151.78	3.7	.09
165.88	2.8	.07
182.19	2.1	.05
189.53	2.1	.05
213.87	1.6	.04
223.45	1.2	.03
228.53	1.2	.03
235.83	1.2	.03

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
1.67 WATERSHED INCHES; 1587 CFS-HRS; 131.1 ACRE-FEET.

*** WARNING - ROUTING COEFFICIENT (C) EQUALS 1.0,
CONSIDER SMALLER MAIN TIME INCREMENT FOR XSECTION 67. ***

OPERATION REACH XSECTION 67

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
122.40	180.7	1.83
144.39	4.5	.32
151.78	3.7	.26
165.88	2.8	.20
182.19	2.1	.14
189.53	2.1	.14
213.87	1.6	.11
223.45	1.2	.08
228.53	1.2	.09
235.83	1.2	.09

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
1.67 WATERSHED INCHES; 1587 CFS-HRS; 131.1 ACRE-FEET.

OPERATION ADDHYD XSECTION 64

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
122.07	1233.0	(NULL)
152.80	28.2	(NULL)
166.01	21.8	(NULL)
175.28	15.2	(NULL)
181.83	16.4	(NULL)
186.13	15.0	(NULL)
188.96	16.4	(NULL)
214.17	11.8	(NULL)
229.44	8.4	(NULL)
240.47	8.6	(NULL)

HYDROGRAPH POINTS FOR ALTERNATE = 1, STORM = 1
MAIN TIME INCREMENT = 1.050 hr, DRAINAGE AREA = 12.31 SQ.MI.

HRS								
.00	CFS	.00	1.19	1.52	4.24	5.36	7.06	8.03	8.35
8.40	CFS	8.41	8.42	8.44	8.44	8.97	9.31	9.73	10.09
16.80	CFS	10.22	10.37	10.41	10.42	10.42	10.40	10.43	10.50
25.20	CFS	10.81	10.91	11.25	11.37	11.42	11.41	11.35	11.28
33.60	CFS	11.26	11.25	11.25	11.36	11.41	11.44	11.41	11.38
42.00	CFS	11.29	11.26	11.25	11.25	11.34	11.40	11.86	13.07
50.40	CFS	13.55	14.66	15.07	15.18	15.21	15.22	15.22	15.22
58.80	CFS	15.22	15.22	15.22	15.22	15.22	15.22	15.22	15.22
67.20	CFS	15.22	15.22	15.22	15.33	15.37	16.33	17.63	18.55
75.60	CFS	19.87	20.34	20.59	20.66	20.70	20.69	20.62	20.55
84.00	CFS	20.64	22.95	23.60	26.01	26.94	27.24	27.28	27.26
92.40	CFS	27.18	27.15	27.26	27.29	27.32	27.30	28.66	33.18
100.80	CFS	35.12	41.97	44.21	46.92	47.93	50.28	53.35	55.39
109.20	CFS	58	59	65	66	76	83	93	113
117.60	CFS	135	522	616	1054	1226	1171	987	829
126.00	CFS	485	371	218	166	117	96	82	69
134.40	CFS	64.59	54.13	50.80	45.72	43.80	41.49	38.84	37.13
142.80	CFS	35.67	35.07	32.51	31.73	28.48	27.06	26.98	27.86
151.20	CFS	28.23	28.08	28.10	27.06	26.65	25.93	25.09	24.32
159.60	CFS	22.33	21.67	20.46	20.03	20.75	21.32	21.82	21.49
168.00	CFS	21.23	19.13	18.45	16.18	15.24	14.69	14.92	15.19
176.40	CFS	14.84	14.79	14.95	14.91	15.92	16.36	16.15	15.16
184.80	CFS	14.78	15.01	14.94	15.97	16.38	15.91	15.08	14.52
193.20	CFS	13.67	13.35	12.08	11.71	11.49	11.65	11.91	11.54
201.60	CFS	11.39	11.69	11.62	11.62	11.56	11.28	11.61	11.86
210.00	CFS	11.51	11.47	11.63	11.61	11.77	11.59	10.91	10.25
218.40	CFS	9.99	8.71	8.38	8.27	8.28	8.53	8.28	8.00
226.80	CFS	8.31	8.34	8.25	8.26	7.27	6.81	7.02	7.97
235.20	CFS	8.35	8.24	8.24	8.22	8.27	8.57	8.29	7.54
243.60	CFS	4.48	3.46	1.16	.32				

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
1.66 WATERSHED INCHES; 13207 CFS-HRS; 1091.4 ACRE-FEET.

OPERATION RUNOFF XSECTION 5

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
78.28	8.1	(RUNOFF)
121.36	569.3	(RUNOFF)
138.08	16.9	(RUNOFF)
143.30	14.3	(RUNOFF)
150.60	11.7	(RUNOFF)
164.86	9.0	(RUNOFF)
174.64	6.5	(RUNOFF)
180.43	6.4	(RUNOFF)
188.48	6.5	(RUNOFF)
208.22	5.2	(RUNOFF)

HYDROGRAPH POINTS FOR ALTERNATE = 1, STORM = 1
MAIN TIME INCREMENT = 1.050 hr, DRAINAGE AREA = 4.78 SQ.MI.

HRS								
.00 CFS	.00	1.28	1.28	2.92	3.21	3.27	3.34	3.32
8.40 CFS	3.21	3.21	3.33	3.34	3.76	3.98	3.98	3.98
16.80 CFS	3.98	4.11	4.11	4.00	3.98	4.04	4.11	4.14
25.20 CFS	4.37	4.37	4.48	4.49	4.41	4.37	4.37	4.37
33.60 CFS	4.37	4.37	4.37	4.47	4.49	4.43	4.37	4.37
42.00 CFS	4.37	4.37	4.37	4.37	4.46	4.49	4.87	5.91
50.40 CFS	5.91	5.91	5.91	5.91	5.91	5.91	5.91	5.91
58.80 CFS	5.91	5.91	5.91	5.91	5.91	5.91	5.91	5.91
67.20 CFS	5.91	5.91	5.91	6.01	6.03	6.91	7.96	7.96
75.60 CFS	7.96	7.96	8.08	8.09	8.00	7.96	7.96	7.96
84.00 CFS	8.07	10.47	10.53	10.64	10.66	10.60	10.53	10.53
92.40 CFS	10.53	10.53	10.65	10.66	10.57	10.53	12.17	16.18
100.80 CFS	16.22	18.72	18.75	18.75	18.75	20.91	23.24	23.24
109.20 CFS	23.24	23.31	28.33	28.63	34.05	36.85	41.93	55.47
117.60 CFS	62	448	448	537	552	373	187	174
126.00 CFS	73.19	72.66	42.18	39.80	32.11	28.25	26.69	21.83
134.40 CFS	21.61	16.69	16.69	16.69	16.69	14.82	12.84	13.01
142.80 CFS	14.12	14.10	10.56	10.27	10.27	10.27	10.59	11.56
151.20 CFS	11.48	10.28	10.27	10.27	10.27	9.67	8.99	8.82
159.60 CFS	7.70	7.70	7.70	7.70	8.62	8.99	8.63	7.70
168.00 CFS	7.63	6.44	6.42	5.35	5.14	5.72	6.42	6.27
176.40 CFS	5.14	5.14	6.36	6.42	6.42	6.42	6.04	5.14
184.80 CFS	5.20	6.39	6.42	6.42	6.42	5.83	5.14	5.14
193.20 CFS	5.14	5.14	3.89	3.85	4.72	5.14	4.76	3.85
201.60 CFS	3.89	5.11	5.14	4.05	3.85	4.46	5.14	4.97
210.00 CFS	3.85	3.86	5.08	5.14	4.29	3.85	3.85	3.85
218.40 CFS	3.85	2.57	2.57	3.66	3.85	3.23	2.57	2.73
226.80 CFS	3.85	3.83	2.65	2.57	2.57	2.57	2.90	3.85
235.20 CFS	3.81	2.57	2.57	3.65	3.85	3.22	2.57	2.25
243.60 CFS	.00							

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
1.67 WATERSHED INCHES; 5155 CFS-HRS; 426.0 ACRE-FEET.

*** WARNING - MAIN TIME INCREMENT (1.050) IS GREATER THAN 50% OF THE
TIME OF CONCENTRATION (.78) FOR SUBWATERSHED XSECTION 5.
THIS WILL REDUCE THE COMPUTED PEAK BY ABOUT -3.1%. ***

OPERATION RUNOFF XSECTION 7

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
121.49	403.1	(RUNOFF)
143.33	10.5	(RUNOFF)
150.66	8.4	(RUNOFF)
165.11	6.5	(RUNOFF)
174.73	4.7	(RUNOFF)
180.93	4.6	(RUNOFF)
188.48	4.7	(RUNOFF)
192.68	3.7	(RUNOFF)
208.35	3.8	(RUNOFF)
212.82	3.7	(RUNOFF)

HYDROGRAPH POINTS FOR ALTERNATE = 1, STORM = 1
MAIN TIME INCREMENT = 1.050 hr, DRAINAGE AREA = 3.48 SQ.MI.

HRS								
.00 CFS	.00	.90	.93	1.92	2.32	2.35	2.41	2.40
8.40 CFS	2.32	2.32	2.40	2.41	2.65	2.87	2.87	2.87
16.80 CFS	2.88	2.96	2.97	2.90	2.87	2.90	2.97	2.98
25.20 CFS	3.15	3.15	3.23	3.25	3.20	3.15	3.15	3.15
33.60 CFS	3.15	3.15	3.15	3.22	3.25	3.22	3.15	3.15
42.00 CFS	3.15	3.15	3.15	3.15	3.20	3.25	3.39	4.27
50.40 CFS	4.27	4.27	4.27	4.27	4.27	4.27	4.27	4.27
58.80 CFS	4.27	4.27	4.27	4.27	4.27	4.27	4.27	4.27
67.20 CFS	4.27	4.27	4.27	4.33	4.36	4.79	5.75	5.75
75.60 CFS	5.75	5.75	5.83	5.84	5.79	5.75	5.75	5.75
84.00 CFS	5.79	7.52	7.60	7.67	7.70	7.67	7.60	7.60
92.40 CFS	7.60	7.60	7.69	7.70	7.65	7.60	8.19	11.68
100.80 CFS	11.70	13.48	13.54	13.54	13.54	14.58	16.78	16.78
109.20 CFS	16.78	16.78	20.14	20.68	23.74	26.61	28.86	40.03
117.60 CFS	43	311	324	377	399	317	135	130
126.00 CFS	53.45	52.79	32.22	28.75	24.51	20.40	19.64	15.76
134.40 CFS	15.69	12.24	12.05	12.05	12.05	11.18	9.27	9.32
142.80 CFS	10.19	10.20	7.75	7.42	7.42	7.42	7.55	8.35
151.20 CFS	8.33	7.45	7.42	7.42	7.42	7.12	6.49	6.44
159.60 CFS	5.57	5.56	5.56	5.56	6.04	6.49	6.34	5.57
168.00 CFS	5.56	4.67	4.64	3.97	3.71	4.00	4.64	4.57
176.40 CFS	3.72	3.71	4.50	4.64	4.64	4.64	4.48	3.71
184.80 CFS	3.73	4.59	4.64	4.64	4.64	4.35	3.71	3.71
193.20 CFS	3.71	3.71	2.89	2.78	3.25	3.71	3.58	2.78
201.60 CFS	2.80	3.68	3.71	3.06	2.78	3.08	3.71	3.66
210.00 CFS	2.79	2.78	3.60	3.71	3.23	2.78	2.78	2.78
218.40 CFS	2.78	1.88	1.85	2.52	2.78	2.49	1.85	1.92
226.80 CFS	2.77	2.78	1.99	1.85	1.85	1.85	2.01	2.78
235.20 CFS	2.77	1.90	1.85	2.51	2.78	2.50	1.85	1.76

243.60 CFS .00

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
1.68 WATERSHED INCHES; 3762 CFS-HRS; 310.9 ACRE-FEET.

*** WARNING - MAIN TIME INCREMENT (1.050) IS GREATER THAN 50% OF THE
TIME OF CONCENTRATION (1.01) FOR SUBWATERSHED XSECTION 7.
THIS WILL REDUCE THE COMPUTED PEAK BY ABOUT -1.1%. ***

OPERATION ADDHYD XSECTION 75

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
121.40	971.9	(NULL)
138.08	29.1	(NULL)
143.32	24.6	(NULL)
150.63	20.1	(NULL)
164.97	15.5	(NULL)
174.68	11.2	(NULL)
180.84	11.1	(NULL)
188.48	11.2	(NULL)
208.28	8.9	(NULL)
212.74	9.0	(NULL)

HYDROGRAPH POINTS FOR ALTERNATE = 1, STORM = 1
MAIN TIME INCREMENT = 1.050 hr, DRAINAGE AREA = 8.26 SQ.MI.

HRS								
.00 CFS	.00	2.18	2.21	4.84	5.53	5.62	5.75	5.73
8.40 CFS	5.53	5.53	5.73	5.75	6.41	6.85	6.85	6.85
16.80 CFS	6.86	7.07	7.08	6.90	6.85	6.95	7.08	7.12
25.20 CFS	7.52	7.52	7.72	7.74	7.61	7.52	7.52	7.52
33.60 CFS	7.52	7.52	7.52	7.69	7.74	7.65	7.52	7.52
42.00 CFS	7.52	7.52	7.52	7.52	7.66	7.74	8.26	10.17
50.40 CFS	10.17	10.17	10.17	10.17	10.17	10.17	10.17	10.17
58.80 CFS	10.17	10.17	10.17	10.17	10.17	10.17	10.17	10.17
67.20 CFS	10.17	10.17	10.17	10.35	10.39	11.70	13.71	13.71
75.60 CFS	13.71	13.71	13.91	13.93	13.80	13.71	13.71	13.71
84.00 CFS	13.86	17.99	18.13	18.31	18.35	18.26	18.13	18.13
92.40 CFS	18.13	18.13	18.34	18.35	18.22	18.13	20.36	27.86
100.80 CFS	27.93	32.20	32.28	32.28	32.28	35.49	40.02	40.02
109.20 CFS	40.02	40.10	48.47	49.31	57.79	63.46	70.79	95.50
117.60 CFS	105	759	772	914	951	690	323	304
126.00 CFS	127	125	74	69	57	49	46	38
134.40 CFS	37.30	28.93	28.75	28.75	28.75	26.00	22.11	22.33
142.80 CFS	24.32	24.30	18.31	17.69	17.69	17.69	18.15	19.90
151.20 CFS	19.81	17.72	17.69	17.69	17.69	16.79	15.48	15.26
159.60 CFS	13.28	13.27	13.27	13.27	14.67	15.48	14.97	13.27
168.00 CFS	13.19	11.12	11.06	9.32	8.84	9.72	11.06	10.84
176.40 CFS	8.85	8.85	10.86	11.06	11.06	11.06	10.52	8.85
184.80 CFS	8.93	10.98	11.06	11.06	11.06	10.18	8.84	8.84
193.20 CFS	8.84	8.84	6.78	6.63	7.97	8.84	8.33	6.63
201.60 CFS	6.69	8.79	8.84	7.11	6.63	7.54	8.85	8.63

210.00 CFS	6.64	6.64	8.68	8.84	7.52	6.63	6.63	6.63
218.40 CFS	6.63	4.45	4.42	6.18	6.63	5.71	4.42	4.64
226.80 CFS	6.62	6.61	4.64	4.42	4.42	4.42	4.91	6.63
235.20 CFS	6.58	4.47	4.42	6.16	6.63	5.72	4.42	4.01
243.60 CFS	.00							

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
1.67 WATERSHED INCHES; 8917 CFS-HRS; 736.9 ACRE-FEET.

OPERATION ADDHYD XSECTION 76

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
121.69	2179.1	(NULL)
142.76	60.0	(NULL)
150.79	48.2	(NULL)
165.37	37.0	(NULL)
174.85	26.3	(NULL)
181.52	27.4	(NULL)
188.72	27.5	(NULL)
198.77	20.6	(NULL)
203.17	20.8	(NULL)
208.44	20.8	(NULL)

HYDROGRAPH POINTS FOR ALTERNATE = 1, STORM = 1
MAIN TIME INCREMENT = 1.050 hr, DRAINAGE AREA = 20.57 SQ.MI.

HRS								
.00 CFS	.00	3.38	3.73	9.09	10.89	12.68	13.78	14.08
8.40 CFS	13.94	13.95	14.17	14.19	15.38	16.17	16.59	16.95
16.80 CFS	17.08	17.44	17.49	17.33	17.28	17.34	17.50	17.62
25.20 CFS	18.33	18.43	18.97	19.11	19.03	18.93	18.87	18.80
33.60 CFS	18.78	18.77	18.77	19.05	19.14	19.09	18.93	18.89
42.00 CFS	18.81	18.78	18.77	18.77	18.99	19.14	20.12	23.24
50.40 CFS	23.72	24.83	25.24	25.35	25.38	25.39	25.39	25.39
58.80 CFS	25.39	25.39	25.39	25.39	25.39	25.39	25.39	25.39
67.20 CFS	25.39	25.39	25.39	25.67	25.76	28.03	31.34	32.26
75.60 CFS	33.58	34.05	34.50	34.59	34.49	34.39	34.33	34.26
84.00 CFS	34.49	40.94	41.73	44.32	45.29	45.50	45.41	45.39
92.40 CFS	45.31	45.29	45.60	45.65	45.54	45.44	49.02	61.04
100.80 CFS	63.04	74.17	76.49	79.20	80.21	85.77	93.38	95.41
109.20 CFS	98	100	113	116	134	146	164	208
117.60 CFS	240	1281	1387	1968	2176	1861	1310	1133
126.00 CFS	612	496	293	234	174	144	129	107
134.40 CFS	102	83	80	74	73	67	61	59
142.80 CFS	59.99	59.37	50.82	49.42	46.17	44.75	45.13	47.77
151.20 CFS	48.04	45.80	45.79	44.75	44.34	42.72	40.57	39.58
159.60 CFS	35.61	34.94	33.73	33.30	35.42	36.80	36.79	34.76
168.00 CFS	34.42	30.24	29.51	25.50	24.08	24.42	25.98	26.03
176.40 CFS	23.70	23.63	25.80	25.97	26.98	27.42	26.68	24.01
184.80 CFS	23.71	25.99	26.00	27.02	27.44	26.09	23.93	23.37
193.20 CFS	22.51	22.19	18.86	18.35	19.46	20.50	20.24	18.17
201.60 CFS	18.08	20.48	20.46	18.73	18.19	18.82	20.45	20.49

210.00 CFS	18.16	18.12	20.31	20.45	19.28	18.22	17.55	16.88
218.40 CFS	16.62	13.16	12.80	14.45	14.92	14.25	12.70	12.65
226.80 CFS	14.93	14.96	12.89	12.68	11.69	11.23	11.94	14.61
235.20 CFS	14.93	12.71	12.66	14.39	14.90	14.29	12.71	11.55
243.60 CFS	4.48	3.46	1.16	.32				

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
1.67 WATERSHED INCHES; 22124 CFS-HRS; 1828.3 ACRE-FEET.

--- XSECTION 76, ALTERNATE 1, STORM 1, HYDROGRAPH ADDED TO READHD FILE ---

*** MESSAGE - STRUCTURE 1, USER ENTERED STARTING ELEVATION (1193.0 FEET) CAN ADD .118 INCHES OF RUNOFF TO THE OUTFLOW HYDROGRAPH VOLUME.***

*** MESSAGE - RESERVOIR ROUTING, STRUCTURE 1, TRUNCATED AT 400 POINTS WITH 676.12 AC-FT (.05 WATERSHED INCHES) FLOOD STORAGE REMAINING IN RESERVOIR AT ELEV. 1200.63. ***

OPERATION RESVOR STRUCTURE 1

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
144.30	55.4	1205.68

*** WARNING - STRUCTURE 1, HYDROGRAPH VOLUME TRUNCATED AT 33 CFS
RESVOR (59. % OF MAX. HYDROGRAPH COORDINATE)
MAIN TIME INCREMENT TOO SMALL. ***

HYDROGRAPH POINTS FOR ALTERNATE = 1, STORM = 1
MAIN TIME INCREMENT = 1.050 hr, DRAINAGE AREA = 20.57 SQ.MI.

HRS								
.00 CFS	7.29	7.26	7.25	7.24	7.26	7.28	7.30	7.33
8.40 CFS	7.36	7.39	7.42	7.46	7.49	7.53	7.57	7.61
16.80 CFS	7.65	7.69	7.74	7.78	7.83	7.87	7.91	7.96
25.20 CFS	8.00	8.05	8.10	8.15	8.20	8.25	8.29	8.34
33.60 CFS	8.39	8.44	8.48	8.53	8.58	8.63	8.67	8.72
42.00 CFS	8.77	8.81	8.86	8.90	8.95	8.99	9.04	9.10
50.40 CFS	9.16	9.23	9.30	9.38	9.45	9.52	9.59	9.67
58.80 CFS	9.74	9.81	9.88	9.95	10.02	10.09	10.16	10.23
67.20 CFS	10.30	10.37	10.43	10.50	10.57	10.65	10.73	10.83
75.60 CFS	10.93	11.03	11.14	11.24	11.35	11.46	11.56	11.66
84.00 CFS	11.77	11.88	12.02	12.16	12.31	12.46	12.61	12.76
92.40 CFS	12.90	13.05	13.20	13.34	13.49	13.64	13.79	13.98
100.80 CFS	14.19	14.44	14.72	15.00	15.30	15.61	15.94	16.30
109.20 CFS	16.66	17.04	17.44	17.88	18.37	18.92	19.54	20.30
117.60 CFS	21.23	24.58	29.24	34.17	39.98	44.81	48.45	50.69
126.00 CFS	52.26	53.22	53.88	54.28	54.56	54.76	54.92	55.04
134.40 CFS	55.13	55.20	55.25	55.30	55.33	55.36	55.38	55.38
142.80 CFS	55.39	55.40	55.40	55.39	55.38	55.36	55.34	55.32
151.20 CFS	55.31	55.29	55.27	55.25	55.23	55.21	55.18	55.16
159.60 CFS	55.12	55.08	55.04	55.00	54.96	54.93	54.89	54.86
168.00 CFS	54.82	54.77	54.73	54.67	54.62	54.56	54.50	54.45

176.40 CFS	54.39	54.33	54.28	54.22	54.17	54.12	54.07	54.01
184.80 CFS	53.95	53.90	53.84	53.79	53.74	53.69	53.64	53.58
193.20 CFS	53.52	53.46	53.40	53.33	53.26	53.20	53.14	53.07
201.60 CFS	53.01	52.94	52.88	52.82	52.75	52.68	52.62	52.56
210.00 CFS	52.50	52.43	52.37	52.31	52.24	52.18	52.11	52.05
218.40 CFS	51.98	51.91	51.83	51.76	51.69	51.62	51.55	51.47
226.80 CFS	51.40	51.33	51.26	51.19	51.11	51.04	50.96	50.89
235.20 CFS	50.82	50.75	50.68	50.60	50.54	50.47	50.40	50.32
243.60 CFS	50.24	50.15	50.06	49.97	49.87	49.78	49.68	49.59
252.00 CFS	49.49	49.40	49.30	49.21	49.11	49.02	48.93	48.83
260.40 CFS	48.74	48.65	48.55	48.46	48.37	48.28	48.18	48.09
268.80 CFS	48.00	47.88	47.77	47.65	47.53	47.42	47.30	47.18
277.20 CFS	47.07	46.95	46.84	46.73	46.61	46.50	46.38	46.27
285.60 CFS	46.16	46.04	45.93	45.82	45.71	45.60	45.49	45.37
294.00 CFS	45.26	45.15	45.04	44.93	44.82	44.71	44.60	44.50
302.40 CFS	44.39	44.28	44.17	44.06	43.95	43.85	43.74	43.63
310.80 CFS	43.53	43.42	43.31	43.21	43.10	43.00	42.89	42.79
319.20 CFS	42.68	42.58	42.48	42.37	42.27	42.16	42.06	41.96
327.60 CFS	41.86	41.75	41.65	41.55	41.45	41.35	41.25	41.15
336.00 CFS	41.05	40.95	40.85	40.75	40.65	40.55	40.45	40.35
344.40 CFS	40.25	40.15	40.05	39.96	39.86	39.76	39.66	39.57
352.80 CFS	39.47	39.37	39.28	39.18	39.09	38.99	38.90	38.80
361.20 CFS	38.71	38.60	38.48	38.37	38.25	38.14	38.02	37.91
369.60 CFS	37.80	37.68	37.57	37.46	37.34	37.23	37.12	37.01
378.00 CFS	36.90	36.79	36.68	36.57	36.46	36.35	36.24	36.13
386.40 CFS	36.03	35.92	35.81	35.70	35.60	35.49	35.38	35.28
394.80 CFS	35.17	35.07	34.96	34.86	34.75	34.65	34.55	34.44
403.20 CFS	34.34	34.24	34.13	34.03	33.93	33.83	33.73	33.63
411.60 CFS	33.53	33.43	33.33	33.23	33.13	33.03	32.93	32.83

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
1.14 WATERSHED INCHES; 15163 CFS-HRS; 1253.0 ACRE-FEET.

--- STRUCTURE 1, ALTERNATE 1, STORM 1, HYDROGRAPH ADDED TO READHD FILE ---

EXECUTIVE CONTROL ENDCMP COMPUTATIONS COMPLETED FOR PASS 1

EXECUTIVE CONTROL COMPUT FROM XSECTION 1 TO STRUCTURE 1
STARTING TIME = .00 RAIN DEPTH = 1.00 RAIN DURATION = 1.00
ANT. RUNOFF COND. = 2 MAIN TIME INCREMENT = 1.050 HOURS
ALTERNATE NO. = 2 STORM NO. = 1 RAIN TABLE NO. = 1

OPERATION RUNOFF XSECTION 1

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
121.40	290.4	(RUNOFF)
138.08	8.7	(RUNOFF)
143.29	7.3	(RUNOFF)
150.61	6.0	(RUNOFF)
164.99	4.6	(RUNOFF)
174.63	3.3	(RUNOFF)
179.55	3.3 *	(RUNOFF)
187.64	3.3	(RUNOFF)
192.22	2.6	(RUNOFF)
208.25	2.7	(RUNOFF)

* FIRST POINT OF FLAT PEAK

HYDROGRAPH POINTS FOR ALTERNATE = 2, STORM = 1
MAIN TIME INCREMENT = 1.050 hr, DRAINAGE AREA = 2.46 SQ.MI.

HRS									
.00	CFS	.00	.66	.66	1.45	1.65	1.68	1.72	1.71
8.40	CFS	1.65	1.65	1.71	1.72	1.92	2.05	2.05	2.05
16.80	CFS	2.05	2.11	2.11	2.06	2.05	2.08	2.11	2.13
25.20	CFS	2.25	2.25	2.31	2.31	2.27	2.25	2.25	2.25
33.60	CFS	2.25	2.25	2.25	2.30	2.31	2.29	2.25	2.25
42.00	CFS	2.25	2.25	2.25	2.25	2.29	2.31	2.48	3.04
50.40	CFS	3.04	3.04	3.04	3.04	3.04	3.04	3.04	3.04
58.80	CFS	3.04	3.04	3.04	3.04	3.04	3.04	3.04	3.04
67.20	CFS	3.04	3.04	3.04	3.09	3.11	3.51	4.10	4.10
75.60	CFS	4.10	4.10	4.16	4.16	4.12	4.10	4.10	4.10
84.00	CFS	4.11	5.40	5.42	5.47	5.48	5.46	5.42	5.42
92.40	CFS	5.42	5.42	5.48	5.48	5.44	5.42	6.18	8.33
100.80	CFS	8.41	9.58	9.65	9.65	9.65	10.62	11.96	11.96
109.20	CFS	11.96	12.01	14.43	14.74	17.28	18.96	21.33	28.55
117.60	CFS	33.56	229.35	230.66	273.71	284.13	207.45	96.47	89.78
126.00	CFS	38.02	37.66	22.09	20.48	16.69	14.54	13.75	11.23
134.40	CFS	11.10	8.71	8.59	8.59	8.59	7.72	6.61	6.68
142.80	CFS	7.27	7.25	5.50	5.29	5.29	5.29	5.46	5.95
151.20	CFS	5.91	5.31	5.29	5.29	5.29	5.02	4.63	4.55
159.60	CFS	3.96	3.96	3.96	3.96	4.38	4.63	4.48	3.96
168.00	CFS	3.95	3.32	3.30	2.79	2.64	2.93	3.30	3.22
176.40	CFS	2.65	2.64	3.25	3.30	3.30	3.30	3.13	2.64
184.80	CFS	2.68	3.27	3.30	3.30	3.30	3.03	2.64	2.64
193.20	CFS	2.64	2.63	2.05	1.98	2.38	2.64	2.49	1.98
201.60	CFS	1.99	2.64	2.64	2.11	1.98	2.26	2.64	2.56
210.00	CFS	1.99	1.98	2.58	2.64	2.22	1.98	1.98	1.98
218.40	CFS	1.95	1.35	1.32	1.83	1.98	1.70	1.32	1.39
226.80	CFS	1.98	1.97	1.39	1.32	1.32	1.32	1.49	1.98
235.20	CFS	1.95	1.34	1.32	1.85	1.98	1.72	1.32	1.17
243.60	CFS	.00							

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
1.68 WATERSHED INCHES; 2671 CFS-HRS; 220.7 ACRE-FEET.

*** WARNING - MAIN TIME INCREMENT (1.050) IS GREATER THAN 50% OF THE
TIME OF CONCENTRATION (.85) FOR SUBWATERSHED XSECTION 1.
THIS WILL REDUCE THE COMPUTED PEAK BY ABOUT -2.1%. ***

OPERATION REACH XSECTION 5

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
122.55	283.3	2.23
144.42	7.4	.39
151.83	5.9	.36
166.22	4.6	.32
175.87	3.3	.23
182.21	3.3	.23
189.54	3.3	.23
214.00	2.6	.18
240.45	1.9	.14

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
1.62 WATERSHED INCHES; 2576 CFS-HRS; 212.9 ACRE-FEET.

OPERATION REACH XSECTION 10

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
123.70	277.3	3.72
145.52	7.3	.92
153.01	5.9	.88
167.44	4.5	.78
177.05	3.2	.56
183.33	3.3	.57
190.64	3.3	.57
215.18	2.6	.44
241.65	1.9	.33

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
1.66 WATERSHED INCHES; 2642 CFS-HRS; 218.3 ACRE-FEET.

OPERATION RUNOFF XSECTION 2

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
78.23	4.0	(RUNOFF)
121.33	285.1	(RUNOFF)
137.49	8.3	(RUNOFF)
143.33	7.3	(RUNOFF)
154.35	5.1	(RUNOFF)
164.80	4.5	(RUNOFF)
174.61	3.2	(RUNOFF)
181.13	3.2	(RUNOFF)
188.48	3.2	(RUNOFF)
192.69	2.6	(RUNOFF)

HYDROGRAPH POINTS FOR ALTERNATE = 2, STORM = 1
MAIN TIME INCREMENT = 1.050 hr, DRAINAGE AREA = 2.38 SQ.MI.

HRS								
.00 CFS	.00	.64	.64	1.49	1.60	1.63	1.66	1.65
8.40 CFS	1.60	1.60	1.66	1.66	1.90	1.98	1.98	1.98
16.80 CFS	1.99	2.05	2.05	1.99	1.98	2.01	2.05	2.06
25.20 CFS	2.17	2.17	2.23	2.24	2.19	2.17	2.17	2.17
33.60 CFS	2.17	2.17	2.17	2.23	2.24	2.20	2.17	2.17
42.00 CFS	2.17	2.17	2.17	2.17	2.22	2.24	2.46	2.94
50.40 CFS	2.94	2.94	2.94	2.94	2.94	2.94	2.94	2.94
58.80 CFS	2.94	2.94	2.94	2.94	2.94	2.94	2.94	2.94
67.20 CFS	2.94	2.94	2.94	3.00	3.00	3.49	3.96	3.96
75.60 CFS	3.96	3.96	4.03	4.03	3.98	3.96	3.96	3.96
84.00 CFS	4.03	5.24	5.24	5.30	5.31	5.27	5.24	5.24
92.40 CFS	5.24	5.24	5.30	5.31	5.26	5.24	5.96	8.06
100.80 CFS	8.11	9.32	9.33	9.33	9.33	10.46	11.57	11.57
109.20 CFS	11.57	11.57	14.21	14.26	17.19	18.35	21.32	27.62
117.60 CFS	36.73	223.11	223.11	269.22	274.90	177.77	93.34	85.77
126.00 CFS	36.44	36.28	20.57	19.82	15.53	14.06	13.20	10.87
134.40 CFS	10.74	8.33	8.31	8.31	8.31	7.35	6.39	6.48
142.80 CFS	7.03	7.03	5.17	5.11	5.11	5.11	5.32	5.75
151.20 CFS	5.73	5.11	5.11	5.11	5.11	4.77	4.48	4.39
159.60 CFS	3.84	3.84	3.84	3.84	4.32	4.48	4.29	3.84
168.00 CFS	3.80	3.20	3.20	2.63	2.56	2.88	3.20	3.12
176.40 CFS	2.56	2.56	3.17	3.20	3.20	3.20	2.99	2.56
184.80 CFS	2.57	3.20	3.20	3.20	3.20	2.85	2.56	2.56
193.20 CFS	2.56	2.55	1.94	1.92	2.41	2.56	2.37	1.92
201.60 CFS	1.96	2.56	2.56	2.00	1.92	2.24	2.56	2.47
210.00 CFS	1.92	1.92	2.53	2.56	2.10	1.92	1.92	1.92
218.40 CFS	1.91	1.28	1.28	1.85	1.92	1.58	1.28	1.37
226.80 CFS	1.92	1.91	1.29	1.28	1.28	1.28	1.48	1.92
235.20 CFS	1.88	1.28	1.28	1.84	1.92	1.59	1.28	1.10
243.60 CFS	.00							

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
1.67 WATERSHED INCHES; 2561 CFS-HRS; 211.6 ACRE-FEET.

*** WARNING - MAIN TIME INCREMENT (1.050) IS GREATER THAN 50% OF THE
TIME OF CONCENTRATION (.73) FOR SUBWATERSHED XSECTION 2.
THIS WILL REDUCE THE COMPUTED PEAK BY ABOUT -3.7%. ***

OPERATION ADDHYD XSECTION 12

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
121.80	488.3	(NULL)
145.48	12.4	(NULL)
150.94	11.1	(NULL)
153.00	11.0	(NULL)
165.72	8.5	(NULL)
178.68	6.0	(NULL)
181.69	6.4	(NULL)
186.07	6.0	(NULL)
188.84	6.4	(NULL)
212.28	4.7	(NULL)

HYDROGRAPH POINTS FOR ALTERNATE = 2, STORM = 1
MAIN TIME INCREMENT = 1.050 hr, DRAINAGE AREA = 4.84 SQ.MI.

HRS								
.00 CFS	.00	.64	.64	1.93	2.20	2.81	3.18	3.29
8.40 CFS	3.29	3.30	3.33	3.32	3.59	3.69	3.84	3.97
16.80 CFS	4.02	4.09	4.09	4.08	4.09	4.09	4.10	4.13
25.20 CFS	4.27	4.29	4.44	4.47	4.47	4.48	4.46	4.43
33.60 CFS	4.42	4.42	4.42	4.48	4.48	4.49	4.48	4.47
42.00 CFS	4.43	4.42	4.42	4.42	4.47	4.48	4.74	5.24
50.40 CFS	5.36	5.78	5.93	5.97	5.98	5.98	5.98	5.98
58.80 CFS	5.98	5.98	5.98	5.98	5.98	5.98	5.98	5.98
67.20 CFS	5.98	5.98	5.98	6.04	6.04	6.56	7.06	7.33
75.60 CFS	7.83	8.00	8.11	8.12	8.12	8.12	8.10	8.07
84.00 CFS	8.13	9.34	9.35	10.28	10.61	10.70	10.71	10.70
92.40 CFS	10.67	10.66	10.72	10.72	10.72	10.72	11.42	13.48
100.80 CFS	14.04	16.88	17.51	18.48	18.85	20.07	21.21	21.87
109.20 CFS	23.01	23.40	26.14	26.24	30.83	32.77	37.69	45.80
117.60 CFS	57	249	254	434	488	433	369	316
126.00 CFS	175	139	79	63	44	37	32	27
134.40 CFS	25.04	20.52	19.70	17.87	17.16	16.00	15.00	14.49
142.80 CFS	14.08	13.80	12.26	12.32	11.17	10.62	10.66	11.05
151.20 CFS	11.13	10.89	10.99	10.61	10.46	10.07	9.76	9.50
159.60 CFS	8.61	8.45	8.01	7.85	8.30	8.44	8.54	8.34
168.00 CFS	8.30	7.34	7.19	6.17	5.92	5.85	5.93	5.98
176.40 CFS	5.72	5.77	6.01	5.89	6.26	6.43	6.28	5.86
184.80 CFS	5.76	6.01	5.91	6.28	6.44	6.14	5.86	5.68
193.20 CFS	5.35	5.23	4.59	4.55	4.66	4.61	4.63	4.44
201.60 CFS	4.46	4.71	4.59	4.43	4.51	4.51	4.62	4.66
210.00 CFS	4.42	4.47	4.70	4.59	4.50	4.49	4.26	4.01
218.40 CFS	3.92	3.27	3.24	3.40	3.30	3.25	3.17	3.13
226.80 CFS	3.38	3.32	3.08	3.20	2.85	2.67	2.81	3.24
235.20 CFS	3.32	3.09	3.20	3.37	3.29	3.28	3.18	2.88

243.60 CFS 1.47 1.26 .40

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
1.67 WATERSHED INCHES; 5202 CFS-HRS; 429.9 ACRE-FEET.

OPERATION DIVERT XSECTION 12
OUTPUT #1 HYDROGRAPH

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
121.80	488.3	(DIVERT)
145.48	12.4	(DIVERT)
150.94	11.1	(DIVERT)
153.00	11.0	(DIVERT)
165.72	8.5	(DIVERT)
178.68	6.0	(DIVERT)
181.69	6.4	(DIVERT)
186.07	6.0	(DIVERT)
188.84	6.4	(DIVERT)
212.28	4.7	(DIVERT)

HYDROGRAPH POINTS FOR ALTERNATE = 2, STORM = 1
MAIN TIME INCREMENT = 1.050 hr, DRAINAGE AREA = 4.84 SQ.MI.

HRS								
.00 CFS	.00	.64	.64	1.93	2.20	2.81	3.18	3.29
8.40 CFS	3.29	3.30	3.33	3.32	3.59	3.69	3.84	3.97
16.80 CFS	4.02	4.09	4.09	4.08	4.09	4.09	4.10	4.13
25.20 CFS	4.27	4.29	4.44	4.47	4.47	4.48	4.46	4.43
33.60 CFS	4.42	4.42	4.42	4.48	4.48	4.49	4.48	4.47
42.00 CFS	4.43	4.42	4.42	4.42	4.47	4.48	4.74	5.24
50.40 CFS	5.36	5.78	5.93	5.97	5.98	5.98	5.98	5.98
58.80 CFS	5.98	5.98	5.98	5.98	5.98	5.98	5.98	5.98
67.20 CFS	5.98	5.98	5.98	6.04	6.04	6.56	7.06	7.33
75.60 CFS	7.83	8.00	8.11	8.12	8.12	8.12	8.10	8.07
84.00 CFS	8.13	9.34	9.35	10.28	10.61	10.70	10.71	10.70
92.40 CFS	10.67	10.66	10.72	10.72	10.72	10.72	11.42	13.48
100.80 CFS	14.04	16.88	17.51	18.48	18.85	20.07	21.21	21.87
109.20 CFS	23.01	23.40	26.14	26.24	30.83	32.77	37.69	45.80
117.60 CFS	57	249	254	434	488	433	369	316
126.00 CFS	175	139	79	63	44	37	32	27
134.40 CFS	25.04	20.52	19.70	17.87	17.16	16.00	15.00	14.49
142.80 CFS	14.08	13.80	12.26	12.32	11.17	10.62	10.66	11.05
151.20 CFS	11.13	10.89	10.99	10.61	10.46	10.07	9.76	9.50
159.60 CFS	8.61	8.45	8.01	7.85	8.30	8.44	8.54	8.34
168.00 CFS	8.30	7.34	7.19	6.17	5.92	5.85	5.93	5.98
176.40 CFS	5.72	5.77	6.01	5.89	6.26	6.43	6.28	5.86
184.80 CFS	5.76	6.01	5.91	6.28	6.44	6.14	5.86	5.68
193.20 CFS	5.35	5.23	4.59	4.55	4.66	4.61	4.63	4.44
201.60 CFS	4.46	4.71	4.59	4.43	4.51	4.51	4.62	4.66
210.00 CFS	4.42	4.47	4.70	4.59	4.50	4.49	4.26	4.01
218.40 CFS	3.92	3.27	3.24	3.40	3.30	3.25	3.17	3.13
226.80 CFS	3.38	3.32	3.08	3.20	2.85	2.67	2.81	3.24

235.20 CFS	3.32	3.09	3.20	3.37	3.29	3.28	3.18	2.88
243.60 CFS	1.47	1.26	.40					

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
1.67 WATERSHED INCHES; 5202 CFS-HRS; 429.9 ACRE-FEET.

OUTPUT #2 DIVERTED HYDROGRAPH (XSECTION 200)

*** MESSAGE - HYDROGRAPH CONTAINS NO FLOW ***

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
237 CFS-HRS; 429.9 ACRE-FEET.

*** WARNING - ROUTING COEFFICIENT (C) EQUALS 1.0,
CONSIDER SMALLER MAIN TIME INCREMENT FOR XSECTION 20. ***

OPERATION REACH XSECTION 20

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
121.80	488.3	2.45
145.48	12.4	.13
150.94	11.1	.11
153.00	11.0	.11
165.72	8.5	.09
178.68	6.0	.06
181.69	6.4	.06
186.07	6.0	.06
188.84	6.4	.07
212.28	4.7	.05

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
1.67 WATERSHED INCHES; 5202 CFS-HRS; 429.9 ACRE-FEET.

*** WARNING - ROUTING COEFFICIENT (C) EQUALS 1.0,
CONSIDER SMALLER MAIN TIME INCREMENT FOR XSECTION 25. ***

OPERATION REACH XSECTION 25

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
121.80	488.3	1.54
145.48	12.4	.08
150.94	11.1	.07
153.00	11.0	.07
165.72	8.5	.05
178.68	6.0	.04
181.69	6.4	.04
186.07	6.0	.04
188.84	6.4	.04
212.28	4.7	.03

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
1.67 WATERSHED INCHES; 5202 CFS-HRS; 429.9 ACRE-FEET.

OPERATION RUNOFF XSECTION 3

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
121.39	461.9	(RUNOFF)
126.52	63.0	(RUNOFF)
138.08	13.8	(RUNOFF)
143.32	11.7	(RUNOFF)
150.67	9.6	(RUNOFF)
154.88	8.5	(RUNOFF)
165.01	7.4	(RUNOFF)
174.70	5.3	(RUNOFF)
181.12	5.2	(RUNOFF)
186.90	5.2 *	(RUNOFF)

* FIRST POINT OF FLAT PEAK

HYDROGRAPH POINTS FOR ALTERNATE = 2, STORM = 1
MAIN TIME INCREMENT = 1.050 hr, DRAINAGE AREA = 3.94 SQ.MI.

HRS								
.00 CFS	.00	1.05	1.05	2.37	2.62	2.67	2.73	2.72
8.40 CFS	2.62	2.62	2.72	2.73	3.06	3.25	3.25	3.25
16.80 CFS	3.26	3.36	3.36	3.27	3.25	3.30	3.36	3.38
25.20 CFS	3.57	3.57	3.67	3.67	3.61	3.57	3.57	3.57
33.60 CFS	3.57	3.57	3.57	3.66	3.67	3.63	3.57	3.57
42.00 CFS	3.57	3.57	3.57	3.57	3.64	3.67	3.91	4.83
50.40 CFS	4.83	4.83	4.83	4.83	4.83	4.83	4.83	4.83
58.80 CFS	4.83	4.83	4.83	4.83	4.83	4.83	4.83	4.83
67.20 CFS	4.83	4.83	4.83	4.92	4.93	5.55	6.51	6.51
75.60 CFS	6.51	6.51	6.61	6.61	6.55	6.51	6.51	6.51
84.00 CFS	6.54	8.59	8.61	8.70	8.71	8.67	8.61	8.61
92.40 CFS	8.61	8.61	8.71	8.71	8.65	8.61	9.50	13.23
100.80 CFS	13.26	15.31	15.33	15.33	15.33	16.76	19.00	19.00
109.20 CFS	19.00	19.00	23.26	23.41	27.69	30.13	33.19	45.35
117.60 CFS	49	364	366	437	451	331	153	147
126.00 CFS	59.84	59.84	34.19	32.54	26.67	23.10	22.09	17.85

134.40 CFS	17.77	13.69	13.65	13.65	13.65	12.40	10.50	10.57
142.80 CFS	11.55	11.54	8.50	8.40	8.40	8.40	8.60	9.45
151.20 CFS	9.44	8.40	8.40	8.40	8.40	7.98	7.35	7.29
159.60 CFS	6.30	6.30	6.30	6.30	6.95	7.35	7.14	6.30
168.00 CFS	6.28	5.26	5.25	4.39	4.20	4.62	5.25	5.17
176.40 CFS	4.20	4.20	5.22	5.25	5.25	5.25	5.05	4.20
184.80 CFS	4.20	5.25	5.25	5.25	5.25	4.83	4.20	4.20
193.20 CFS	4.20	4.20	3.21	3.15	3.81	4.20	3.99	3.15
201.60 CFS	3.17	4.19	4.20	3.33	3.15	3.57	4.20	4.12
210.00 CFS	3.15	3.15	4.16	4.20	3.54	3.15	3.15	3.15
218.40 CFS	3.14	2.10	2.10	2.98	3.15	2.74	2.10	2.16
226.80 CFS	3.15	3.15	2.16	2.10	2.10	2.10	2.31	3.15
235.20 CFS	3.13	2.11	2.10	2.98	3.15	2.73	2.10	1.94
243.60 CFS	.00							

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
1.67 WATERSHED INCHES; 4251 CFS-HRS; 351.3 ACRE-FEET.

*** WARNING - MAIN TIME INCREMENT (1.050) IS GREATER THAN 50% OF THE
TIME OF CONCENTRATION (.88) FOR SUBWATERSHED XSECTION 3.
THIS WILL REDUCE THE COMPUTED PEAK BY ABOUT -2.3%. ***

OPERATION REACH XSECTION 30

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
122.60	444.1	2.56
144.45	11.7	.88
151.93	9.4	.85
166.33	7.2	.81
175.98	5.2	.77
182.27	5.3	.77
189.57	5.3	.77
204.49	4.2	.64
209.58	4.1	.64
214.02	4.1	.64

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
1.61 WATERSHED INCHES; 4102 CFS-HRS; 339.0 ACRE-FEET.

OPERATION REACH XSECTION 5

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
123.73	437.4	2.71
145.53	11.6	.45
153.06	9.4	.42
167.50	7.2	.38
177.12	5.2	.35
183.39	5.2	.35
190.65	5.3	.35
205.63	4.1	.29
210.71	4.1	.29
215.18	4.1	.29

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
1.65 WATERSHED INCHES; 4198 CFS-HRS; 347.0 ACRE-FEET.

*** WARNING - ROUTING COEFFICIENT (C) EQUALS 1.0,
CONSIDER SMALLER MAIN TIME INCREMENT FOR XSECTION 25. ***

OPERATION REACH XSECTION 25

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
123.73	437.4	1.44
145.53	11.6	.07
153.06	9.4	.06
167.50	7.2	.05
177.12	5.2	.03
183.39	5.2	.03
190.65	5.3	.03
205.63	4.1	.03
210.71	4.1	.03
215.18	4.1	.03

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
1.65 WATERSHED INCHES; 4198 CFS-HRS; 347.0 ACRE-FEET.

OPERATION RUNOFF XSECTION 4

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
121.36	245.1	(RUNOFF)
138.08	7.3	(RUNOFF)
143.27	6.1	(RUNOFF)
154.88	4.5	(RUNOFF)
164.96	3.9	(RUNOFF)
193.72	2.2	(RUNOFF)
198.49	2.2	(RUNOFF)
203.17	2.3	(RUNOFF)
208.22	2.2	(RUNOFF)
212.72	2.2	(RUNOFF)

HYDROGRAPH POINTS FOR ALTERNATE = 2, STORM = 1
MAIN TIME INCREMENT = 1.050 hr, DRAINAGE AREA = 2.06 SQ.MI.

HRS								
.00 CFS	.00	.55	.55	1.25	1.38	1.41	1.44	1.43
8.40 CFS	1.38	1.38	1.43	1.44	1.63	1.72	1.72	1.72
16.80 CFS	1.72	1.77	1.77	1.72	1.72	1.74	1.77	1.78
25.20 CFS	1.88	1.88	1.93	1.94	1.90	1.88	1.88	1.88
33.60 CFS	1.88	1.88	1.88	1.93	1.94	1.91	1.88	1.88
42.00 CFS	1.88	1.88	1.88	1.88	1.92	1.94	2.09	2.55
50.40 CFS	2.55	2.55	2.55	2.55	2.55	2.55	2.55	2.55
58.80 CFS	2.55	2.55	2.55	2.55	2.55	2.55	2.55	2.55
67.20 CFS	2.55	2.55	2.55	2.59	2.60	2.97	3.43	3.43
75.60 CFS	3.43	3.43	3.48	3.49	3.45	3.43	3.43	3.43
84.00 CFS	3.47	4.54	4.54	4.58	4.59	4.57	4.54	4.54
92.40 CFS	4.54	4.54	4.59	4.59	4.56	4.54	5.24	6.97
100.80 CFS	6.98	8.08	8.08	8.08	8.08	9.01	10.02	10.02
109.20 CFS	10.02	10.02	12.18	12.34	14.81	15.88	18.22	23.90
117.60 CFS	29.21	189.88	193.12	230.82	237.94	161.93	80.79	74.74
126.00 CFS	31.54	31.45	18.30	17.15	13.66	12.17	11.39	9.41
134.40 CFS	9.29	7.25	7.19	7.19	7.19	6.41	5.53	5.60
142.80 CFS	6.09	6.06	4.55	4.43	4.43	4.43	4.57	4.98
151.20 CFS	4.95	4.44	4.43	4.43	4.43	4.18	3.87	3.80
159.60 CFS	3.32	3.32	3.32	3.32	3.68	3.87	3.75	3.32
168.00 CFS	3.29	2.77	2.77	2.31	2.21	2.46	2.77	2.70
176.40 CFS	2.21	2.21	2.75	2.77	2.77	2.77	2.62	2.21
184.80 CFS	2.23	2.77	2.77	2.77	2.77	2.51	2.21	2.21
193.20 CFS	2.21	2.21	1.68	1.66	2.03	2.21	2.06	1.66
201.60 CFS	1.66	2.21	2.21	1.75	1.66	1.92	2.21	2.14
210.00 CFS	1.66	1.66	2.18	2.21	1.83	1.66	1.66	1.66
218.40 CFS	1.64	1.12	1.11	1.57	1.66	1.39	1.11	1.17
226.80 CFS	1.66	1.66	1.15	1.11	1.11	1.11	1.26	1.66
235.20 CFS	1.63	1.12	1.11	1.57	1.66	1.40	1.11	.97
243.60 CFS	.00							

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
1.67 WATERSHED INCHES; 2219 CFS-HRS; 183.4 ACRE-FEET.

*** WARNING - MAIN TIME INCREMENT (1.050) IS GREATER THAN 50% OF THE
TIME OF CONCENTRATION (.79) FOR SUBWATERSHED XSECTION 4.
THIS WILL REDUCE THE COMPUTED PEAK BY ABOUT -3.0%. ***

OPERATION ADDHYD XSECTION 34

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
80.58	10.0	(NULL)
122.26	578.6	(NULL)
145.46	16.1	(NULL)
153.05	13.8	(NULL)
166.39	10.5	(NULL)
189.08	7.9	(NULL)
214.94	5.8	(NULL)
229.70	4.2	(NULL)
237.42	4.1	(NULL)
241.03	4.1	(NULL)

HYDROGRAPH POINTS FOR ALTERNATE = 2, STORM = 1
MAIN TIME INCREMENT = 1.050 hr, DRAINAGE AREA = 6.00 SQ.MI.

HRS								
.00 CFS	.00	.55	.55	1.92	2.32	3.27	3.82	4.01
8.40 CFS	4.07	4.09	4.09	4.07	4.32	4.43	4.65	4.86
16.80 CFS	4.94	5.01	5.02	5.04	5.06	5.04	5.04	5.07
25.20 CFS	5.21	5.24	5.43	5.48	5.53	5.54	5.51	5.47
33.60 CFS	5.46	5.45	5.45	5.50	5.51	5.53	5.54	5.52
42.00 CFS	5.48	5.46	5.45	5.45	5.49	5.51	5.70	6.20
50.40 CFS	6.37	7.02	7.27	7.34	7.37	7.37	7.37	7.37
58.80 CFS	7.37	7.37	7.37	7.37	7.37	7.37	7.37	7.37
67.20 CFS	7.37	7.37	7.37	7.42	7.43	7.86	8.35	8.75
75.60 CFS	9.53	9.82	9.96	9.99	10.02	10.03	10.00	9.96
84.00 CFS	9.98	11.05	11.07	12.43	12.97	13.17	13.22	13.21
92.40 CFS	13.17	13.15	13.20	13.20	13.23	13.24	13.90	15.60
100.80 CFS	16.16	19.87	20.90	22.53	23.14	24.26	25.32	26.26
109.20 CFS	28.06	28.73	31.10	31.32	36.53	38.78	44.23	52.66
117.60 CFS	61	230	239	481	569	564	517	445
126.00 CFS	260	203	116	88	60	49	41	35
134.40 CFS	32.39	26.91	25.52	22.51	21.34	20.20	19.22	18.46
142.80 CFS	17.40	16.85	15.81	15.88	13.99	13.18	13.07	13.40
151.20 CFS	13.48	13.56	13.77	13.18	12.93	12.60	12.28	11.93
159.60 CFS	10.94	10.71	10.00	9.73	10.01	10.18	10.46	10.46
168.00 CFS	10.44	9.37	9.14	7.96	7.58	7.19	7.13	7.21
176.40 CFS	7.20	7.33	7.28	7.07	7.64	7.90	7.84	7.45
184.80 CFS	7.35	7.29	7.06	7.66	7.91	7.73	7.45	7.19
193.20 CFS	6.68	6.49	5.91	5.86	5.60	5.49	5.66	5.66
201.60 CFS	5.66	5.67	5.47	5.59	5.75	5.54	5.51	5.60
210.00 CFS	5.60	5.73	5.66	5.46	5.66	5.74	5.41	5.01
218.40 CFS	4.85	4.28	4.25	4.05	3.87	4.09	4.11	4.02
226.80 CFS	4.02	3.87	3.96	4.15	3.59	3.32	3.40	3.77
235.20 CFS	3.87	3.95	4.15	4.02	3.86	4.09	4.11	3.80

243.60 CFS 2.36 2.07 .73 .22

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
1.66 WATERSHED INCHES; 6418 CFS-HRS; 530.4 ACRE-FEET.

OPERATION ADDHYD XSECTION 35

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
122.01	1061.9	(NULL)
145.47	28.5	(NULL)
153.03	24.8	(NULL)
166.06	19.0	(NULL)
175.15	13.2	(NULL)
178.35	13.3	(NULL)
181.83	14.3	(NULL)
185.71	13.3	(NULL)
188.96	14.4	(NULL)
214.86	10.3	(NULL)

HYDROGRAPH POINTS FOR ALTERNATE = 2, STORM = 1
MAIN TIME INCREMENT = 1.050 hr, DRAINAGE AREA = 10.84 SQ.MI.

HRS								
.00 CFS	.00	1.19	1.19	3.85	4.52	6.08	7.00	7.30
8.40 CFS	7.36	7.40	7.42	7.39	7.91	8.12	8.49	8.83
16.80 CFS	8.96	9.10	9.12	9.12	9.15	9.13	9.14	9.20
25.20 CFS	9.49	9.54	9.87	9.96	10.00	10.02	9.96	9.90
33.60 CFS	9.88	9.87	9.87	9.97	9.99	10.02	10.02	9.99
42.00 CFS	9.91	9.88	9.87	9.87	9.95	9.99	10.44	11.44
50.40 CFS	11.73	12.80	13.20	13.31	13.34	13.35	13.35	13.35
58.80 CFS	13.35	13.35	13.35	13.35	13.35	13.35	13.35	13.35
67.20 CFS	13.35	13.35	13.35	13.45	13.47	14.42	15.41	16.09
75.60 CFS	17.36	17.82	18.07	18.11	18.14	18.15	18.09	18.03
84.00 CFS	18.11	20.38	20.42	22.71	23.58	23.86	23.93	23.92
92.40 CFS	23.84	23.82	23.92	23.92	23.94	23.95	25.32	29.08
100.80 CFS	30.20	36.75	38.41	41.00	41.99	44.34	46.53	48.13
109.20 CFS	51.07	52.13	57.24	57.56	67.36	71.55	81.92	98.45
117.60 CFS	118	479	494	915	1058	997	886	761
126.00 CFS	436	342	195	151	104	86	73	61
134.40 CFS	57.42	47.43	45.22	40.37	38.49	36.20	34.21	32.95
142.80 CFS	31.48	30.65	28.08	28.21	25.17	23.80	23.72	24.46
151.20 CFS	24.62	24.45	24.77	23.79	23.39	22.67	22.04	21.43
159.60 CFS	19.55	19.16	18.01	17.58	18.31	18.62	19.00	18.80
168.00 CFS	18.74	16.71	16.34	14.13	13.50	13.04	13.07	13.19
176.40 CFS	12.92	13.10	13.29	12.96	13.90	14.33	14.12	13.31
184.80 CFS	13.11	13.30	12.97	13.95	14.35	13.87	13.31	12.87
193.20 CFS	12.03	11.72	10.49	10.42	10.25	10.10	10.30	10.10
201.60 CFS	10.13	10.38	10.06	10.03	10.26	10.05	10.13	10.26
210.00 CFS	10.01	10.20	10.36	10.05	10.15	10.24	9.67	9.02
218.40 CFS	8.77	7.55	7.49	7.44	7.17	7.34	7.28	7.15
226.80 CFS	7.40	7.19	7.04	7.36	6.44	5.99	6.21	7.01
235.20 CFS	7.19	7.03	7.34	7.39	7.16	7.37	7.28	6.69

243.60 CFS 3.83 3.33 1.14 .32

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
1.66 WATERSHED INCHES; 11620 CFS-HRS; 960.3 ACRE-FEET.

OPERATION DIVERT XSECTION 35
OUTPUT #1 HYDROGRAPH

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
122.01	1061.9	(DIVERT)
145.47	28.5	(DIVERT)
153.03	24.8	(DIVERT)
166.06	19.0	(DIVERT)
175.15	13.2	(DIVERT)
178.35	13.3	(DIVERT)
181.83	14.3	(DIVERT)
185.71	13.3	(DIVERT)
188.96	14.4	(DIVERT)
214.86	10.3	(DIVERT)

HYDROGRAPH POINTS FOR ALTERNATE = 2, STORM = 1
MAIN TIME INCREMENT = 1.050 hr, DRAINAGE AREA = 10.84 SQ.MI.

HRS								
.00 CFS	.00	1.19	1.19	3.85	4.52	6.08	7.00	7.30
8.40 CFS	7.36	7.40	7.42	7.39	7.91	8.12	8.49	8.83
16.80 CFS	8.96	9.10	9.12	9.12	9.15	9.13	9.14	9.20
25.20 CFS	9.49	9.54	9.87	9.96	10.00	10.02	9.96	9.90
33.60 CFS	9.88	9.87	9.87	9.97	9.99	10.02	10.02	9.99
42.00 CFS	9.91	9.88	9.87	9.87	9.95	9.99	10.44	11.44
50.40 CFS	11.73	12.80	13.20	13.31	13.34	13.35	13.35	13.35
58.80 CFS	13.35	13.35	13.35	13.35	13.35	13.35	13.35	13.35
67.20 CFS	13.35	13.35	13.35	13.45	13.47	14.42	15.41	16.09
75.60 CFS	17.36	17.82	18.07	18.11	18.14	18.15	18.09	18.03
84.00 CFS	18.11	20.38	20.42	22.71	23.58	23.86	23.93	23.92
92.40 CFS	23.84	23.82	23.92	23.92	23.94	23.95	25.32	29.08
100.80 CFS	30.20	36.75	38.41	41.00	41.99	44.34	46.53	48.13
109.20 CFS	51.07	52.13	57.24	57.56	67.36	71.55	81.92	98.45
117.60 CFS	118	479	494	915	1058	997	886	761
126.00 CFS	436	342	195	151	104	86	73	61
134.40 CFS	57.42	47.43	45.22	40.37	38.49	36.20	34.21	32.95
142.80 CFS	31.48	30.65	28.08	28.21	25.17	23.80	23.72	24.46
151.20 CFS	24.62	24.45	24.77	23.79	23.39	22.67	22.04	21.43
159.60 CFS	19.55	19.16	18.01	17.58	18.31	18.62	19.00	18.80
168.00 CFS	18.74	16.71	16.34	14.13	13.50	13.04	13.07	13.19
176.40 CFS	12.92	13.10	13.29	12.96	13.90	14.33	14.12	13.31
184.80 CFS	13.11	13.30	12.97	13.95	14.35	13.87	13.31	12.87
193.20 CFS	12.03	11.72	10.49	10.42	10.25	10.10	10.30	10.10
201.60 CFS	10.13	10.38	10.06	10.03	10.26	10.05	10.13	10.26
210.00 CFS	10.01	10.20	10.36	10.05	10.15	10.24	9.67	9.02
218.40 CFS	8.77	7.55	7.49	7.44	7.17	7.34	7.28	7.15
226.80 CFS	7.40	7.19	7.04	7.36	6.44	5.99	6.21	7.01

235.20 CFS	7.19	7.03	7.34	7.39	7.16	7.37	7.28	6.69
243.60 CFS	3.83	3.33	1.14	.32				

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
1.66 WATERSHED INCHES; 11620 CFS-HRS; 960.3 ACRE-FEET.

OUTPUT #2 DIVERTED HYDROGRAPH (XSECTION 199)

*** MESSAGE - HYDROGRAPH CONTAINS NO FLOW ***

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
238 CFS-HRS; 960.3 ACRE-FEET.

*** WARNING - ROUTING COEFFICIENT (C) EQUALS 1.0,
CONSIDER SMALLER MAIN TIME INCREMENT FOR XSECTION 45. ***

OPERATION REACH XSECTION 45

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
122.01	1061.9	2.32
145.47	28.5	.17
153.03	24.8	.15
166.06	19.0	.11
175.15	13.2	.08
178.35	13.3	.08
181.83	14.3	.09
185.71	13.3	.08
188.96	14.4	.09
214.86	10.3	.06

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
1.66 WATERSHED INCHES; 11620 CFS-HRS; 960.3 ACRE-FEET.

OPERATION RUNOFF XSECTION 6

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
121.27	178.9	(RUNOFF)
143.18	4.5	(RUNOFF)
150.54	3.7	(RUNOFF)
169.58	2.1	(RUNOFF)
174.29	2.0	(RUNOFF)
181.13	2.1	(RUNOFF)
188.48	2.1	(RUNOFF)
212.62	1.7	(RUNOFF)
234.63	1.2	(RUNOFF)
239.03	1.2	(RUNOFF)

HYDROGRAPH POINTS FOR ALTERNATE = 2, STORM = 1
MAIN TIME INCREMENT = 1.050 hr, DRAINAGE AREA = 1.47 SQ.MI.

HRS								
2.10 CFS	.41	.95	1.02	1.04	1.06	1.05	1.02	1.02
10.50 CFS	1.06	1.06	1.22	1.26	1.26	1.26	1.27	1.30
18.90 CFS	1.30	1.26	1.26	1.29	1.30	1.33	1.38	1.39
27.30 CFS	1.42	1.42	1.39	1.38	1.38	1.38	1.38	1.38
35.70 CFS	1.39	1.42	1.42	1.39	1.38	1.38	1.38	1.38
44.10 CFS	1.38	1.38	1.42	1.42	1.68	1.87	1.87	1.87
52.50 CFS	1.87	1.87	1.87	1.87	1.87	1.87	1.87	1.87
60.90 CFS	1.87	1.87	1.87	1.87	1.87	1.87	1.87	1.87
69.30 CFS	1.87	1.91	1.91	2.31	2.52	2.52	2.52	2.52
77.70 CFS	2.56	2.56	2.53	2.52	2.52	2.52	2.57	3.34
86.10 CFS	3.34	3.37	3.38	3.35	3.34	3.34	3.34	3.34
94.50 CFS	3.38	3.38	3.34	3.34	4.29	5.13	5.29	5.94
102.90 CFS	5.94	5.94	5.94	7.05	7.37	7.37	7.37	7.58
111.30 CFS	9	9	12	12	15	18	49	142
119.70 CFS	144	175	175	82	59	45	23	22
128.10 CFS	12.62	12.62	9.38	8.96	7.83	6.92	6.58	5.29
136.50 CFS	5.29	5.29	5.29	4.46	4.07	4.20	4.48	4.43
144.90 CFS	3.29	3.26	3.26	3.26	3.45	3.66	3.63	3.26
153.30 CFS	3.26	3.26	3.26	3.00	2.85	2.75	2.44	2.44
161.70 CFS	2.44	2.44	2.76	2.85	2.66	2.44	2.40	2.04
170.10 CFS	2.04	1.66	1.63	1.91	2.04	1.90	1.63	1.66
178.50 CFS	2.04	2.04	2.04	2.04	1.81	1.63	1.72	2.04
186.90 CFS	2.04	2.04	2.04	1.71	1.63	1.63	1.63	1.57
195.30 CFS	1.22	1.22	1.63	1.63	1.39	1.22	1.32	1.63
203.70 CFS	1.61	1.22	1.22	1.53	1.63	1.47	1.22	1.26
212.10 CFS	1.63	1.63	1.28	1.22	1.22	1.22	1.15	.81
220.50 CFS	.81	1.19	1.22	.95	.81	.92	1.22	1.22
228.90 CFS	.83	.81	.81	.81	1.00	1.22	1.21	.82
237.30 CFS	.81	1.18	1.22	.96	.81	.61	.00	

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
1.68 WATERSHED INCHES; 1598 CFS-HRS; 132.0 ACRE-FEET.

*** WARNING - MAIN TIME INCREMENT (1.050) IS GREATER THAN 50% OF THE
TIME OF CONCENTRATION (.47) FOR SUBWATERSHED XSECTION 6.
THIS WILL REDUCE THE COMPUTED PEAK BY ABOUT -2.3%. ***

OPERATION REACH XSECTION 60

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
122.40	180.7	2.78
144.39	4.5	.11
151.78	3.7	.09
165.88	2.8	.07
182.19	2.1	.05
189.53	2.1	.05
213.87	1.6	.04
223.45	1.2	.03
228.53	1.2	.03
235.83	1.2	.03

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
1.67 WATERSHED INCHES; 1587 CFS-HRS; 131.1 ACRE-FEET.

*** WARNING - ROUTING COEFFICIENT (C) EQUALS 1.0,
CONSIDER SMALLER MAIN TIME INCREMENT FOR XSECTION 67. ***

OPERATION REACH XSECTION 67

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
122.40	180.7	1.83
144.39	4.5	.32
151.78	3.7	.26
165.88	2.8	.20
182.19	2.1	.14
189.53	2.1	.14
213.87	1.6	.11
223.45	1.2	.08
228.53	1.2	.09
235.83	1.2	.09

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
1.67 WATERSHED INCHES; 1587 CFS-HRS; 131.1 ACRE-FEET.

OPERATION ADDHYD XSECTION 64

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
122.07	1233.0	(NULL)
152.80	28.2	(NULL)
166.01	21.8	(NULL)
175.28	15.2	(NULL)
181.83	16.4	(NULL)
186.13	15.0	(NULL)
188.96	16.4	(NULL)
214.17	11.8	(NULL)
229.44	8.4	(NULL)
240.47	8.6	(NULL)

HYDROGRAPH POINTS FOR ALTERNATE = 2, STORM = 1
MAIN TIME INCREMENT = 1.050 hr, DRAINAGE AREA = 12.31 SQ.MI.

HRS								
.00 CFS	.00	1.19	1.52	4.24	5.36	7.06	8.03	8.35
8.40 CFS	8.41	8.42	8.44	8.44	8.97	9.31	9.73	10.09
16.80 CFS	10.22	10.37	10.41	10.42	10.42	10.40	10.43	10.50
25.20 CFS	10.81	10.91	11.25	11.37	11.42	11.41	11.35	11.28
33.60 CFS	11.26	11.25	11.25	11.36	11.41	11.44	11.41	11.38
42.00 CFS	11.29	11.26	11.25	11.25	11.34	11.40	11.86	13.07
50.40 CFS	13.55	14.66	15.07	15.18	15.21	15.22	15.22	15.22
58.80 CFS	15.22	15.22	15.22	15.22	15.22	15.22	15.22	15.22
67.20 CFS	15.22	15.22	15.22	15.33	15.37	16.33	17.63	18.55
75.60 CFS	19.87	20.34	20.59	20.66	20.70	20.69	20.62	20.55
84.00 CFS	20.64	22.95	23.60	26.01	26.94	27.24	27.28	27.26
92.40 CFS	27.18	27.15	27.26	27.29	27.32	27.30	28.66	33.18
100.80 CFS	35.12	41.97	44.21	46.92	47.93	50.28	53.35	55.39
109.20 CFS	58	59	65	66	76	83	93	113
117.60 CFS	135	522	616	1054	1226	1171	987	829
126.00 CFS	485	371	218	166	117	96	82	69
134.40 CFS	64.59	54.13	50.80	45.72	43.80	41.49	38.84	37.13
142.80 CFS	35.67	35.07	32.51	31.73	28.48	27.06	26.98	27.86
151.20 CFS	28.23	28.08	28.10	27.06	26.65	25.93	25.09	24.32
159.60 CFS	22.33	21.67	20.46	20.03	20.75	21.32	21.82	21.49
168.00 CFS	21.23	19.13	18.45	16.18	15.24	14.69	14.92	15.19
176.40 CFS	14.84	14.79	14.95	14.91	15.92	16.36	16.15	15.16
184.80 CFS	14.78	15.01	14.94	15.97	16.38	15.91	15.08	14.52
193.20 CFS	13.67	13.35	12.08	11.71	11.49	11.65	11.91	11.54
201.60 CFS	11.39	11.69	11.62	11.62	11.56	11.28	11.61	11.86
210.00 CFS	11.51	11.47	11.63	11.61	11.77	11.59	10.91	10.25
218.40 CFS	9.99	8.71	8.38	8.27	8.28	8.53	8.28	8.00
226.80 CFS	8.31	8.34	8.25	8.26	7.27	6.81	7.02	7.97
235.20 CFS	8.35	8.24	8.24	8.22	8.27	8.57	8.29	7.54
243.60 CFS	4.48	3.46	1.16	.32				

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
1.66 WATERSHED INCHES; 13207 CFS-HRS; 1091.4 ACRE-FEET.

OPERATION RUNOFF XSECTION 5

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
78.28	8.1	(RUNOFF)
121.36	569.3	(RUNOFF)
138.08	16.9	(RUNOFF)
143.30	14.3	(RUNOFF)
150.60	11.7	(RUNOFF)
164.86	9.0	(RUNOFF)
174.64	6.5	(RUNOFF)
180.43	6.4	(RUNOFF)
188.48	6.5	(RUNOFF)
208.22	5.2	(RUNOFF)

HYDROGRAPH POINTS FOR ALTERNATE = 2, STORM = 1
MAIN TIME INCREMENT = 1.050 hr, DRAINAGE AREA = 4.78 SQ.MI.

HRS								
.00 CFS	.00	1.28	1.28	2.92	3.21	3.27	3.34	3.32
8.40 CFS	3.21	3.21	3.33	3.34	3.76	3.98	3.98	3.98
16.80 CFS	3.98	4.11	4.11	4.00	3.98	4.04	4.11	4.14
25.20 CFS	4.37	4.37	4.48	4.49	4.41	4.37	4.37	4.37
33.60 CFS	4.37	4.37	4.37	4.47	4.49	4.43	4.37	4.37
42.00 CFS	4.37	4.37	4.37	4.37	4.46	4.49	4.87	5.91
50.40 CFS	5.91	5.91	5.91	5.91	5.91	5.91	5.91	5.91
58.80 CFS	5.91	5.91	5.91	5.91	5.91	5.91	5.91	5.91
67.20 CFS	5.91	5.91	5.91	6.01	6.03	6.91	7.96	7.96
75.60 CFS	7.96	7.96	8.08	8.09	8.00	7.96	7.96	7.96
84.00 CFS	8.07	10.47	10.53	10.64	10.66	10.60	10.53	10.53
92.40 CFS	10.53	10.53	10.65	10.66	10.57	10.53	12.17	16.18
100.80 CFS	16.22	18.72	18.75	18.75	18.75	20.91	23.24	23.24
109.20 CFS	23.24	23.31	28.33	28.63	34.05	36.85	41.93	55.47
117.60 CFS	62	448	448	537	552	373	187	174
126.00 CFS	73.19	72.66	42.18	39.80	32.11	28.25	26.69	21.83
134.40 CFS	21.61	16.69	16.69	16.69	16.69	14.82	12.84	13.01
142.80 CFS	14.12	14.10	10.56	10.27	10.27	10.27	10.59	11.56
151.20 CFS	11.48	10.28	10.27	10.27	10.27	9.67	8.99	8.82
159.60 CFS	7.70	7.70	7.70	7.70	8.62	8.99	8.63	7.70
168.00 CFS	7.63	6.44	6.42	5.35	5.14	5.72	6.42	6.27
176.40 CFS	5.14	5.14	6.36	6.42	6.42	6.42	6.04	5.14
184.80 CFS	5.20	6.39	6.42	6.42	6.42	5.83	5.14	5.14
193.20 CFS	5.14	5.14	3.89	3.85	4.72	5.14	4.76	3.85
201.60 CFS	3.89	5.11	5.14	4.05	3.85	4.46	5.14	4.97
210.00 CFS	3.85	3.86	5.08	5.14	4.29	3.85	3.85	3.85
218.40 CFS	3.85	2.57	2.57	3.66	3.85	3.23	2.57	2.73
226.80 CFS	3.85	3.83	2.65	2.57	2.57	2.57	2.90	3.85
235.20 CFS	3.81	2.57	2.57	3.65	3.85	3.22	2.57	2.25
243.60 CFS	.00							

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
1.67 WATERSHED INCHES; 5155 CFS-HRS; 426.0 ACRE-FEET.

*** WARNING - MAIN TIME INCREMENT (1.050) IS GREATER THAN 50% OF THE
TIME OF CONCENTRATION (.78) FOR SUBWATERSHED XSECTION 5.
THIS WILL REDUCE THE COMPUTED PEAK BY ABOUT -3.1%. ***

OPERATION RUNOFF XSECTION 7

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
121.49	403.1	(RUNOFF)
143.33	10.5	(RUNOFF)
150.66	8.4	(RUNOFF)
165.11	6.5	(RUNOFF)
174.73	4.7	(RUNOFF)
180.93	4.6	(RUNOFF)
188.48	4.7	(RUNOFF)
192.68	3.7	(RUNOFF)
208.35	3.8	(RUNOFF)
212.82	3.7	(RUNOFF)

HYDROGRAPH POINTS FOR ALTERNATE = 2, STORM = 1
MAIN TIME INCREMENT = 1.050 hr, DRAINAGE AREA = 3.48 SQ.MI.

HRS								
.00 CFS	.00	.90	.93	1.92	2.32	2.35	2.41	2.40
8.40 CFS	2.32	2.32	2.40	2.41	2.65	2.87	2.87	2.87
16.80 CFS	2.88	2.96	2.97	2.90	2.87	2.90	2.97	2.98
25.20 CFS	3.15	3.15	3.23	3.25	3.20	3.15	3.15	3.15
33.60 CFS	3.15	3.15	3.15	3.22	3.25	3.22	3.15	3.15
42.00 CFS	3.15	3.15	3.15	3.15	3.20	3.25	3.39	4.27
50.40 CFS	4.27	4.27	4.27	4.27	4.27	4.27	4.27	4.27
58.80 CFS	4.27	4.27	4.27	4.27	4.27	4.27	4.27	4.27
67.20 CFS	4.27	4.27	4.27	4.33	4.36	4.79	5.75	5.75
75.60 CFS	5.75	5.75	5.83	5.84	5.79	5.75	5.75	5.75
84.00 CFS	5.79	7.52	7.60	7.67	7.70	7.67	7.60	7.60
92.40 CFS	7.60	7.60	7.69	7.70	7.65	7.60	8.19	11.68
100.80 CFS	11.70	13.48	13.54	13.54	13.54	14.58	16.78	16.78
109.20 CFS	16.78	16.78	20.14	20.68	23.74	26.61	28.86	40.03
117.60 CFS	43	311	324	377	399	317	135	130
126.00 CFS	53.45	52.79	32.22	28.75	24.51	20.40	19.64	15.76
134.40 CFS	15.69	12.24	12.05	12.05	12.05	11.18	9.27	9.32
142.80 CFS	10.19	10.20	7.75	7.42	7.42	7.42	7.55	8.35
151.20 CFS	8.33	7.45	7.42	7.42	7.42	7.12	6.49	6.44
159.60 CFS	5.57	5.56	5.56	5.56	6.04	6.49	6.34	5.57
168.00 CFS	5.56	4.67	4.64	3.97	3.71	4.00	4.64	4.57
176.40 CFS	3.72	3.71	4.50	4.64	4.64	4.64	4.48	3.71
184.80 CFS	3.73	4.59	4.64	4.64	4.64	4.35	3.71	3.71
193.20 CFS	3.71	3.71	2.89	2.78	3.25	3.71	3.58	2.78
201.60 CFS	2.80	3.68	3.71	3.06	2.78	3.08	3.71	3.66
210.00 CFS	2.79	2.78	3.60	3.71	3.23	2.78	2.78	2.78
218.40 CFS	2.78	1.88	1.85	2.52	2.78	2.49	1.85	1.92
226.80 CFS	2.77	2.78	1.99	1.85	1.85	1.85	2.01	2.78
235.20 CFS	2.77	1.90	1.85	2.51	2.78	2.50	1.85	1.76

243.60 CFS .00

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
1.68 WATERSHED INCHES; 3762 CFS-HRS; 310.9 ACRE-FEET.

*** WARNING - MAIN TIME INCREMENT (1.050) IS GREATER THAN 50% OF THE
TIME OF CONCENTRATION (1.01) FOR SUBWATERSHED XSECTION 7.
THIS WILL REDUCE THE COMPUTED PEAK BY ABOUT -1.1%. ***

OPERATION ADDHYD XSECTION 75

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
121.40	971.9	(NULL)
138.08	29.1	(NULL)
143.32	24.6	(NULL)
150.63	20.1	(NULL)
164.97	15.5	(NULL)
174.68	11.2	(NULL)
180.84	11.1	(NULL)
188.48	11.2	(NULL)
208.28	8.9	(NULL)
212.74	9.0	(NULL)

HYDROGRAPH POINTS FOR ALTERNATE = 2, STORM = 1
MAIN TIME INCREMENT = 1.050 hr, DRAINAGE AREA = 8.26 SQ.MI.

HRS								
.00 CFS	.00	2.18	2.21	4.84	5.53	5.62	5.75	5.73
8.40 CFS	5.53	5.53	5.73	5.75	6.41	6.85	6.85	6.85
16.80 CFS	6.86	7.07	7.08	6.90	6.85	6.95	7.08	7.12
25.20 CFS	7.52	7.52	7.72	7.74	7.61	7.52	7.52	7.52
33.60 CFS	7.52	7.52	7.52	7.69	7.74	7.65	7.52	7.52
42.00 CFS	7.52	7.52	7.52	7.52	7.66	7.74	8.26	10.17
50.40 CFS	10.17	10.17	10.17	10.17	10.17	10.17	10.17	10.17
58.80 CFS	10.17	10.17	10.17	10.17	10.17	10.17	10.17	10.17
67.20 CFS	10.17	10.17	10.17	10.35	10.39	11.70	13.71	13.71
75.60 CFS	13.71	13.71	13.91	13.93	13.80	13.71	13.71	13.71
84.00 CFS	13.86	17.99	18.13	18.31	18.35	18.26	18.13	18.13
92.40 CFS	18.13	18.13	18.34	18.35	18.22	18.13	20.36	27.86
100.80 CFS	27.93	32.20	32.28	32.28	32.28	35.49	40.02	40.02
109.20 CFS	40.02	40.10	48.47	49.31	57.79	63.46	70.79	95.50
117.60 CFS	105	759	772	914	951	690	323	304
126.00 CFS	127	125	74	69	57	49	46	38
134.40 CFS	37.30	28.93	28.75	28.75	28.75	26.00	22.11	22.33
142.80 CFS	24.32	24.30	18.31	17.69	17.69	17.69	18.15	19.90
151.20 CFS	19.81	17.72	17.69	17.69	17.69	16.79	15.48	15.26
159.60 CFS	13.28	13.27	13.27	13.27	14.67	15.48	14.97	13.27
168.00 CFS	13.19	11.12	11.06	9.32	8.84	9.72	11.06	10.84
176.40 CFS	8.85	8.85	10.86	11.06	11.06	11.06	10.52	8.85
184.80 CFS	8.93	10.98	11.06	11.06	11.06	10.18	8.84	8.84
193.20 CFS	8.84	8.84	6.78	6.63	7.97	8.84	8.33	6.63
201.60 CFS	6.69	8.79	8.84	7.11	6.63	7.54	8.85	8.63

210.00 CFS	6.64	6.64	8.68	8.84	7.52	6.63	6.63	6.63
218.40 CFS	6.63	4.45	4.42	6.18	6.63	5.71	4.42	4.64
226.80 CFS	6.62	6.61	4.64	4.42	4.42	4.42	4.91	6.63
235.20 CFS	6.58	4.47	4.42	6.16	6.63	5.72	4.42	4.01
243.60 CFS	.00							

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
1.67 WATERSHED INCHES; 8917 CFS-HRS; 736.9 ACRE-FEET.

OPERATION ADDHYD XSECTION 76

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
121.69	2179.1	(NULL)
142.76	60.0	(NULL)
150.79	48.2	(NULL)
165.37	37.0	(NULL)
174.85	26.3	(NULL)
181.52	27.4	(NULL)
188.72	27.5	(NULL)
198.77	20.6	(NULL)
203.17	20.8	(NULL)
208.44	20.8	(NULL)

HYDROGRAPH POINTS FOR ALTERNATE = 2, STORM = 1
MAIN TIME INCREMENT = 1.050 hr, DRAINAGE AREA = 20.57 SQ.MI.

HRS								
.00 CFS	.00	3.38	3.73	9.09	10.89	12.68	13.78	14.08
8.40 CFS	13.94	13.95	14.17	14.19	15.38	16.17	16.59	16.95
16.80 CFS	17.08	17.44	17.49	17.33	17.28	17.34	17.50	17.62
25.20 CFS	18.33	18.43	18.97	19.11	19.03	18.93	18.87	18.80
33.60 CFS	18.78	18.77	18.77	19.05	19.14	19.09	18.93	18.89
42.00 CFS	18.81	18.78	18.77	18.77	18.99	19.14	20.12	23.24
50.40 CFS	23.72	24.83	25.24	25.35	25.38	25.39	25.39	25.39
58.80 CFS	25.39	25.39	25.39	25.39	25.39	25.39	25.39	25.39
67.20 CFS	25.39	25.39	25.39	25.67	25.76	28.03	31.34	32.26
75.60 CFS	33.58	34.05	34.50	34.59	34.49	34.39	34.33	34.26
84.00 CFS	34.49	40.94	41.73	44.32	45.29	45.50	45.41	45.39
92.40 CFS	45.31	45.29	45.60	45.65	45.54	45.44	49.02	61.04
100.80 CFS	63.04	74.17	76.49	79.20	80.21	85.77	93.38	95.41
109.20 CFS	98	100	113	116	134	146	164	208
117.60 CFS	240	1281	1387	1968	2176	1861	1310	1133
126.00 CFS	612	496	293	234	174	144	129	107
134.40 CFS	102	83	80	74	73	67	61	59
142.80 CFS	59.99	59.37	50.82	49.42	46.17	44.75	45.13	47.77
151.20 CFS	48.04	45.80	45.79	44.75	44.34	42.72	40.57	39.58
159.60 CFS	35.61	34.94	33.73	33.30	35.42	36.80	36.79	34.76
168.00 CFS	34.42	30.24	29.51	25.50	24.08	24.42	25.98	26.03
176.40 CFS	23.70	23.63	25.80	25.97	26.98	27.42	26.68	24.01
184.80 CFS	23.71	25.99	26.00	27.02	27.44	26.09	23.93	23.37
193.20 CFS	22.51	22.19	18.86	18.35	19.46	20.50	20.24	18.17
201.60 CFS	18.08	20.48	20.46	18.73	18.19	18.82	20.45	20.49

210.00 CFS	18.16	18.12	20.31	20.45	19.28	18.22	17.55	16.88
218.40 CFS	16.62	13.16	12.80	14.45	14.92	14.25	12.70	12.65
226.80 CFS	14.93	14.96	12.89	12.68	11.69	11.23	11.94	14.61
235.20 CFS	14.93	12.71	12.66	14.39	14.90	14.29	12.71	11.55
243.60 CFS	4.48	3.46	1.16	.32				

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
1.67 WATERSHED INCHES; 22124 CFS-HRS; 1828.3 ACRE-FEET.

--- XSECTION 76, ALTERNATE 2, STORM 1, HYDROGRAPH ADDED TO READHD FILE ---

*** MESSAGE - STRUCTURE 1, USER ENTERED STARTING ELEVATION (1193.0 FEET) CAN ADD .118 INCHES OF RUNOFF TO THE OUTFLOW HYDROGRAPH VOLUME.***

*** MESSAGE - RESERVOIR ROUTING, STRUCTURE 1, TRUNCATED AT 400 POINTS WITH 676.12 AC-FT (.05 WATERSHED INCHES) FLOOD STORAGE REMAINING IN RESERVOIR AT ELEV. 1200.63. ***

outflow Hydrograph for 100-yr 10-day hydrograph (Interim Condition)

OPERATION RESVOR STRUCTURE 1

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
144.30	55.4	1205.68

*** WARNING - STRUCTURE 1, HYDROGRAPH VOLUME TRUNCATED AT 33 CFS
RESVOR (59. % OF MAX. HYDROGRAPH COORDINATE)
MAIN TIME INCREMENT TOO SMALL. ***

HYDROGRAPH POINTS FOR ALTERNATE = 2, STORM = 1
MAIN TIME INCREMENT = 1.050 hr, DRAINAGE AREA = 20.57 SQ.MI.

HRS								
.00 CFS	7.29	7.26	7.25	7.24	7.26	7.28	7.30	7.33
8.40 CFS	7.36	7.39	7.42	7.46	7.49	7.53	7.57	7.61
16.80 CFS	7.65	7.69	7.74	7.78	7.83	7.87	7.91	7.96
25.20 CFS	8.00	8.05	8.10	8.15	8.20	8.25	8.29	8.34
33.60 CFS	8.39	8.44	8.48	8.53	8.58	8.63	8.67	8.72
42.00 CFS	8.77	8.81	8.86	8.90	8.95	8.99	9.04	9.10
50.40 CFS	9.16	9.23	9.30	9.38	9.45	9.52	9.59	9.67
58.80 CFS	9.74	9.81	9.88	9.95	10.02	10.09	10.16	10.23
67.20 CFS	10.30	10.37	10.43	10.50	10.57	10.65	10.73	10.83
75.60 CFS	10.93	11.03	11.14	11.24	11.35	11.46	11.56	11.66
84.00 CFS	11.77	11.88	12.02	12.16	12.31	12.46	12.61	12.76
92.40 CFS	12.90	13.05	13.20	13.34	13.49	13.64	13.79	13.98
100.80 CFS	14.19	14.44	14.72	15.00	15.30	15.61	15.94	16.30
109.20 CFS	16.66	17.04	17.44	17.88	18.37	18.92	19.54	20.30
117.60 CFS	21.23	24.58	29.24	34.17	39.98	44.81	48.45	50.69
126.00 CFS	52.26	53.22	53.88	54.28	54.56	54.76	54.92	55.04
134.40 CFS	55.13	55.20	55.25	55.30	55.33	55.36	55.38	55.38
142.80 CFS	55.39	55.40	55.40	55.39	55.38	55.36	55.34	55.32
151.20 CFS	55.31	55.29	55.27	55.25	55.23	55.21	55.18	55.16
159.60 CFS	55.12	55.08	55.04	55.00	54.96	54.93	54.89	54.86
168.00 CFS	54.82	54.77	54.73	54.67	54.62	54.56	54.50	54.45

176.40 CFS	54.39	54.33	54.28	54.22	54.17	54.12	54.07	54.01
184.80 CFS	53.95	53.90	53.84	53.79	53.74	53.69	53.64	53.58
193.20 CFS	53.52	53.46	53.40	53.33	53.26	53.20	53.14	53.07
201.60 CFS	53.01	52.94	52.88	52.82	52.75	52.68	52.62	52.56
210.00 CFS	52.50	52.43	52.37	52.31	52.24	52.18	52.11	52.05
218.40 CFS	51.98	51.91	51.83	51.76	51.69	51.62	51.55	51.47
226.80 CFS	51.40	51.33	51.26	51.19	51.11	51.04	50.96	50.89
235.20 CFS	50.82	50.75	50.68	50.60	50.54	50.47	50.40	50.32
243.60 CFS	50.24	50.15	50.06	49.97	49.87	49.78	49.68	49.59
252.00 CFS	49.49	49.40	49.30	49.21	49.11	49.02	48.93	48.83
260.40 CFS	48.74	48.65	48.55	48.46	48.37	48.28	48.18	48.09
268.80 CFS	48.00	47.88	47.77	47.65	47.53	47.42	47.30	47.18
277.20 CFS	47.07	46.95	46.84	46.73	46.61	46.50	46.38	46.27
285.60 CFS	46.16	46.04	45.93	45.82	45.71	45.60	45.49	45.37
294.00 CFS	45.26	45.15	45.04	44.93	44.82	44.71	44.60	44.50
302.40 CFS	44.39	44.28	44.17	44.06	43.95	43.85	43.74	43.63
310.80 CFS	43.53	43.42	43.31	43.21	43.10	43.00	42.89	42.79
319.20 CFS	42.68	42.58	42.48	42.37	42.27	42.16	42.06	41.96
327.60 CFS	41.86	41.75	41.65	41.55	41.45	41.35	41.25	41.15
336.00 CFS	41.05	40.95	40.85	40.75	40.65	40.55	40.45	40.35
344.40 CFS	40.25	40.15	40.05	39.96	39.86	39.76	39.66	39.57
352.80 CFS	39.47	39.37	39.28	39.18	39.09	38.99	38.90	38.80
361.20 CFS	38.71	38.60	38.48	38.37	38.25	38.14	38.02	37.91
369.60 CFS	37.80	37.68	37.57	37.46	37.34	37.23	37.12	37.01
378.00 CFS	36.90	36.79	36.68	36.57	36.46	36.35	36.24	36.13
386.40 CFS	36.03	35.92	35.81	35.70	35.60	35.49	35.38	35.28
394.80 CFS	35.17	35.07	34.96	34.86	34.75	34.65	34.55	34.44
403.20 CFS	34.34	34.24	34.13	34.03	33.93	33.83	33.73	33.63
411.60 CFS	33.53	33.43	33.33	33.23	33.13	33.03	32.93	32.83

Flow at the end of 10th day following the peak of the hydrograph.

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
1.14 WATERSHED INCHES; 15163 CFS-HRS; 1253.0 ACRE-FEET.

--- STRUCTURE 1, ALTERNATE 2, STORM 1, HYDROGRAPH ADDED TO READHD FILE ---

EXECUTIVE CONTROL ENDCMP COMPUTATIONS COMPLETED FOR PASS 2

Elevation Corresponding to the 36.24 cfs.

$Q_1 = 26.75$ cfs $E1 = 1199.20$ ft

$Q_2 = 36.24$ cfs $E2 = ?$

Q_3 ~~38.68~~ $= 38.68$ cfs $E3 = 1202.0$

$$E2 = 1199.2 + \left(\frac{36.24 - 26.75}{38.68 - 26.75}\right)(2.8)$$

$$\boxed{E_2 = 1201.42'}$$

E2 would be ARC for all PMF routing under NRCS criteria for 9a design condition.

SUMMARY TABLE 1

SELECTED RESULTS OF STANDARD AND EXECUTIVE CONTROL IN ORDER PERFORMED.
A CHARACTER FOLLOWING THE PEAK DISCHARGE TIME AND RATE (CFS) INDICATES:
F-FLAT TOP HYDROGRAPH T-TRUNCATED HYDROGRAPH R-RISING TRUNCATED HYDROGRAPH

RAINFALL OF 1.64 inches AND 242.40 hr DURATION, BEGINS AT .0 hrs.
RAINTABLE NUMBER 1, ARC 2
MAIN TIME INCREMENT 1.050 HOURS

ALTERNATE 1 STORM 1

XSECTION/ STRUCTURE ID		STANDARD CONTROL OPERATION	DRAINAGE AREA (SQ MI)	RUNOFF AMOUNT (IN)	PEAK DISCHARGE ELEVATION (FT)	TIME (HR)	RATE (CFS)	RATE (CSM)
XSECTION	1	RUNOFF	2.46	1.68	---	121.40	290	117.9
XSECTION	5	REACH	2.46	1.62	2.23	122.55	283	115.0
XSECTION	10	REACH	2.46	1.66	3.72	123.70	277	112.6
XSECTION	2	RUNOFF	2.38	1.67	---	121.33	285	119.7
XSECTION	12	ADDHYD	4.84	1.67	---	121.80	488	100.8
XSECTION	12	DIVERT	4.84	1.67	---	121.80	488	100.8
XSECTION	200	DIVERT	.00	1.67	---	.00	0	********
XSECTION	20	REACH	4.84	1.67	2.45	121.80	488	100.8
XSECTION	25	REACH	4.84	1.67	1.54	121.80	488	100.8
XSECTION	3	RUNOFF	3.94	1.67	---	121.39	462	117.3
XSECTION	30	REACH	3.94	1.61	2.56	122.60	444	112.7
XSECTION	5	REACH	3.94	1.65	2.71	123.73	437	110.9
XSECTION	25	REACH	3.94	1.65	1.44	123.73	437	110.9
XSECTION	4	RUNOFF	2.06	1.67	---	121.36	245	118.9
XSECTION	34	ADDHYD	6.00	1.66	---	122.26	579	96.5
XSECTION	35	ADDHYD	10.84	1.66	---	122.01	1062	98.0
XSECTION	35	DIVERT	10.84	1.66	---	122.01	1062	98.0
XSECTION	199	DIVERT	.00	1.66	---	.00	0	********
XSECTION	45	REACH	10.84	1.66	2.32	122.01	1062	98.0
XSECTION	6	RUNOFF	1.47	1.68	---	121.27	179	121.8
XSECTION	60	REACH	1.47	1.67	2.78	122.40	181	123.1
XSECTION	67	REACH	1.47	1.67	1.83	122.40	181	123.1
XSECTION	64	ADDHYD	12.31	1.66	---	122.07	1233	100.2
XSECTION	5	RUNOFF	4.78	1.67	---	121.36	569	119.0
XSECTION	7	RUNOFF	3.48	1.68	---	121.49	403	115.8
XSECTION	75	ADDHYD	8.26	1.67	---	121.40	972	117.7
XSECTION	76	ADDHYD	20.57	1.67	---	121.69	2179	105.9
STRUCTURE	1	RESVOR	20.57	1.14	1205.68	144.30T	55T	2.7

SUMMARY TABLE 1

SELECTED RESULTS OF STANDARD AND EXECUTIVE CONTROL IN ORDER PERFORMED.
A CHARACTER FOLLOWING THE PEAK DISCHARGE TIME AND RATE (CFS) INDICATES:
F-FLAT TOP HYDROGRAPH T-TRUNCATED HYDROGRAPH R-RISING TRUNCATED HYDROGRAPH

XSECTION/ STRUCTURE ID	STANDARD CONTROL OPERATION	DRAINAGE AREA (SQ MI)	RUNOFF AMOUNT (IN)	PEAK DISCHARGE ELEVATION (FT)	TIME (HR)	RATE (CFS)	RATE (CSM)
ALTERNATE 2 STORM 1							
XSECTION 1	RUNOFF	2.46	1.68	---	121.40	290	117.9
XSECTION 5	REACH	2.46	1.62	2.23	122.55	283	115.0
XSECTION 10	REACH	2.46	1.66	3.72	123.70	277	112.6
XSECTION 2	RUNOFF	2.38	1.67	---	121.33	285	119.7
XSECTION 12	ADDHYD	4.84	1.67	---	121.80	488	100.8
XSECTION 12	DIVERT	4.84	1.67	---	121.80	488	100.8
XSECTION 200	DIVERT	.00	1.67	---	.00	0	********
XSECTION 20	REACH	4.84	1.67	2.45	121.80	488	100.8
XSECTION 25	REACH	4.84	1.67	1.54	121.80	488	100.8
XSECTION 3	RUNOFF	3.94	1.67	---	121.39	462	117.3
XSECTION 30	REACH	3.94	1.61	2.56	122.60	444	112.7
XSECTION 5	REACH	3.94	1.65	2.71	123.73	437	110.9
XSECTION 25	REACH	3.94	1.65	1.44	123.73	437	110.9
XSECTION 4	RUNOFF	2.06	1.67	---	121.36	245	118.9
XSECTION 34	ADDHYD	6.00	1.66	---	122.26	579	96.5
XSECTION 35	ADDHYD	10.84	1.66	---	122.01	1062	98.0
XSECTION 35	DIVERT	10.84	1.66	---	122.01	1062	98.0
XSECTION 199	DIVERT	.00	1.66	---	.00	0	********
XSECTION 45	REACH	10.84	1.66	2.32	122.01	1062	98.0
XSECTION 6	RUNOFF	1.47	1.68	---	121.27	179	121.8
XSECTION 60	REACH	1.47	1.67	2.78	122.40	181	123.1
XSECTION 67	REACH	1.47	1.67	1.83	122.40	181	123.1
XSECTION 64	ADDHYD	12.31	1.66	---	122.07	1233	100.2
XSECTION 5	RUNOFF	4.78	1.67	---	121.36	569	119.0
XSECTION 7	RUNOFF	3.48	1.68	---	121.49	403	115.8
XSECTION 75	ADDHYD	8.26	1.67	---	121.40	972	117.7
XSECTION 76	ADDHYD	20.57	1.67	---	121.69	2179	105.9

SUMMARY TABLE 1

SELECTED RESULTS OF STANDARD AND EXECUTIVE CONTROL IN ORDER PERFORMED.
A CHARACTER FOLLOWING THE PEAK DISCHARGE TIME AND RATE (CFS) INDICATES:
F-FLAT TOP HYDROGRAPH T-TRUNCATED HYDROGRAPH R-RISING TRUNCATED HYDROGRAPH

XSECTION/ STRUCTURE ID	STANDARD CONTROL OPERATION	DRAINAGE AREA (SQ MI)	RUNOFF AMOUNT (IN)	PEAK DISCHARGE ELEVATION (FT)	TIME (HR)	RATE (CFS)	RATE (CSM)
ALTERNATE 2 STORM 1							
STRUCTURE 1	RESVOR	20.57	1.14	1205.68	144.30T	55T	2.7

SUMMARY TABLE 2

MODIFIED ATT-KIN REACH ROUTING IN ORDER PERFORMED.
QUESTION MARK (?) AFTER: OUTFLOW PEAK - MAX. NUMBER ROUTING ITERATIONS USED;
LENGTH FACTOR - VALUE k* GREATER THAN 1.0;
ATT-KIN COEFF - VALUE C GREATER THAN 0.667.

			HYDROGRAPH INFORMATION				ROUTING PARAMETERS				
		FLOOD	INFLOW		OUTFLOW		Q-A EQ.			PEAK	ATT-
XSEC ID	REACH LENGTH (FT)	PLAIN LENGTH (FT)	PEAK (CFS)	TIME (HR)	PEAK (CFS)	TIME (HR)	COEFF (X)	POWER (M)	LENGTH FACTOR (k*)	RATIO Q/I (Q*)	KIN COEFF (C)
BASEFLOW IS .0 CFS											
ALTERNATE 1 STORM 1											
5	9100		284	121.8	280	122.8	.52	1.33	.053	.986	.81?
10	9100		280	122.8	276	123.9	.88	1.25	.057	.985	.83?
20	3332		488	121.8	488	121.8	.10	1.69	.002	1.000	1.00?
25	1950		488	121.8	488	121.8	.046	1.75	.001	1.000	1.00?
30	8865		451	121.8	441	122.8	.79	1.20	.075	.977	.73?
5	8865		441	122.8	436	123.9	.53	1.32	.045	.989	.87?
25	1950		436	123.9	436	123.9	.047	1.75	.002	1.000	1.00?
45	4200		1058	121.8	1058	121.8	.045	1.73	.003	1.000	1.00?
60	7540		175	120.8	174	122.8	1.40	1.12	.074	.992	.80?
67	5140		174	122.8	174	122.8	.53	1.32	.031	1.000	1.00?
ALTERNATE 2 STORM 1											
5	9100		284	121.8	280	122.8	.52	1.33	.053	.986	.81?
10	9100		280	122.8	276	123.9	.88	1.25	.057	.985	.83?
20	3332		488	121.8	488	121.8	.10	1.69	.002	1.000	1.00?
25	1950		488	121.8	488	121.8	.046	1.75	.001	1.000	1.00?
30	8865		451	121.8	441	122.8	.79	1.20	.075	.977	.73?
5	8865		441	122.8	436	123.9	.53	1.32	.045	.989	.87?
25	1950		436	123.9	436	123.9	.047	1.75	.002	1.000	1.00?
45	4200		1058	121.8	1058	121.8	.045	1.73	.003	1.000	1.00?
60	7540		175	120.8	174	122.8	1.40	1.12	.074	.992	.80?
67	5140		174	122.8	174	122.8	.53	1.32	.031	1.000	1.00?

SUMMARY TABLE 3

STORM DISCHARGES (CFS) AT XSECTIONS AND STRUCTURES FOR ALL ALTERNATES
QUESTION MARK (?) AFTER: OUTFLOW PEAK - RISING TRUNCATED HYDROGRAPH.

XSECTION/ STRUCTURE ID		DRAINAGE AREA (SQ MI)	STORM NUMBERS..... 1
STRUCTURE 1		20.57	
ALTERNATE	1		55
ALTERNATE	2		55
XSECTION 1		2.46	
ALTERNATE	1		290
ALTERNATE	2		290
XSECTION 2		2.38	
ALTERNATE	1		285
ALTERNATE	2		285
XSECTION 3		3.94	
ALTERNATE	1		462
ALTERNATE	2		462
XSECTION 4		2.06	
ALTERNATE	1		245
ALTERNATE	2		245
XSECTION 5		4.78	
ALTERNATE	1		569
ALTERNATE	2		569
XSECTION 6		1.47	
ALTERNATE	1		179
ALTERNATE	2		179
XSECTION 7		3.48	
ALTERNATE	1		403
ALTERNATE	2		403
XSECTION 10		2.46	
ALTERNATE	1		277
ALTERNATE	2		277
XSECTION 12		4.84	
ALTERNATE	1		488
ALTERNATE	2		488

SUMMARY TABLE 3

STORM DISCHARGES (CFS) AT XSECTIONS AND STRUCTURES FOR ALL ALTERNATES
QUESTION MARK (?) AFTER: OUTFLOW PEAK - RISING TRUNCATED HYDROGRAPH.

XSECTION/ STRUCTURE ID	DRAINAGE AREA (SQ MI)	STORM NUMBERS..... 1
XSECTION 20	4.84	
ALTERNATE 1		488
ALTERNATE 2		488
XSECTION 25	3.94	
ALTERNATE 1		437
ALTERNATE 2		437
XSECTION 30	3.94	
ALTERNATE 1		444
ALTERNATE 2		444
XSECTION 34	6.00	
ALTERNATE 1		579
ALTERNATE 2		579
XSECTION 35	10.84	
ALTERNATE 1		1062
ALTERNATE 2		1062
XSECTION 45	10.84	
ALTERNATE 1		1062
ALTERNATE 2		1062
XSECTION 60	1.47	
ALTERNATE 1		181
ALTERNATE 2		181
XSECTION 64	12.31	
ALTERNATE 1		1233
ALTERNATE 2		1233
XSECTION 67	1.47	
ALTERNATE 1		181
ALTERNATE 2		181
XSECTION 75	8.26	
ALTERNATE 1		972
ALTERNATE 2		972

SUMMARY TABLE 3

STORM DISCHARGES (CFS) AT XSECTIONS AND STRUCTURES FOR ALL ALTERNATES
QUESTION MARK (?) AFTER: OUTFLOW PEAK - RISING TRUNCATED HYDROGRAPH.

XSECTION/ STRUCTURE ID	DRAINAGE AREA (SQ MI)	STORM NUMBERS..... 1
XSECTION 76	20.57	
ALTERNATE 1		2179
ALTERNATE 2		2179
XSECTION 199	.00	
ALTERNATE 1		0
ALTERNATE 2		0
XSECTION 200	.00	
ALTERNATE 1		0
ALTERNATE 2		0

```
TR20 ------------------------------------------------------------------- SCS -
WHTANK3      WHITE TANK FRS #3, WATERSHED DIVIDED INTO 7 SUB-BASINS      VERSION
07/21/**  100-YR 10-DAY RUNOFF & DIST IN TABLE 1, 100-YR SED IN RESVOIR 2.04TEST


END OF  1 JOBS IN THIS RUN


                    SCS  TR-20,  VERSION 2.04TEST
                          WHTANK3   FILES

     INPUT  = 10DAYY.DAT                              , GIVEN DATA FILE
     OUTPUT = 10OUT.OUT                               , DATED 07/21/**,16:25:34

              FILES GENERATED - DATED 07/21/**,16:25:34

    FILE KKK.TRD CONTAINS READHD INFORMATION


          TOTAL NUMBER OF WARNINGS =  26,  MESSAGES =   8

                JOB ENDED AT 16:25:34
             *** TR-20 RUN COMPLETED ***
```

OK → forced to make time increment > 1 hr, because model only runs for 400 time steps, and have to model peak

URS

CALCULATION PACKAGE NO. 13

EXHIBIT 4.7-2

CALCULATION COVER SHEET

Client: Flood Control District of Maricopa County (FCDMC)

Project Name: White Tank FRS No. 3 Design

Project/Calculation Number: 23443748

Title: **RESERVOIR ROUTING OF A 100-YEAR 10-DAY STORM FOR A FUTURE CONDITON WITH A CLOSED PRICIPAL SPILLWAY**

Total Number of Pages (including cover sheet): _____

Total Number of Computer Runs: _____

Prepared by: Hammad Hussain Date: 07/23/04

Checked by: _____ Date: _____

Description and Purpose:

See Page 2

Design Basis /Assumptions

See Page 2

Remarks/Conclusions/Results:

See Page 3.

Note: Have to have time step > 1 hour, although this generates warnings, because model only allows for 400 time steps.

Calculation Approved by: [signature] 8/1/04

Project Manager/Date

Revision No.:	Description of Revision:	Approved by:

Project Manager/Date

RESERVOIR ROUTING OF A 100-YEAR 10-DAY STORM FOR A FUTURE CONDITON WITH A CLOSED PRICIPAL SPILLWAY

(WHITE TANK FLOOD RETARDING STRUCTURE (FRS) NO. 3)
FLOOD CONTROL DISTRICT OF MARICOPA COUNTY (FCDMC)
23443748

PROBLEM STATEMENT

The aim of this calculation package is to perform the reservoir routing of a 100-year 10-day storm for a future condition with a closed principal spillway and to determine the water surface elevation after 10 days following the peak of the 100-year 10-day outflow hydrograph.

DESIGN BASIS/ASSUMPTIONS/REFERENCES

FUTRE CONDITION (Principal Spillway Closed)

The Future Condition (Principal Spillway Closed) represents the condition where construction of the downstream conveyance channel does not occur and the principal spillway remains closed. It is assumed that the 100-year sediment volume (500 ac-ft) has accumulated in the reservoir. Under this condition outflow from the reservoir occurs through infiltration, and flow through the emergency spillway. The detailed calculations involved in estimating the infiltration rates for the future condition with a closed principal spillway are provided in a separate calculation package.

100-year Reservoir Routing

Given the assumption that the during the Future Condition (Principal Spillway Closed), the 100-year sediment volume (500 ac-ft) has accumulated in the reservoir, the Antecedent Reservoir Condition (ARC) for the reservoir routing of the 100-year 10-day strom was set at 100-year sediment pool level or at elevation 1199.2 ft (NAVD 88).

It should be noted that the 100-year 10-day storm used for the routing purposes was updated in anticipation of the future urban growth based on a procedure described in National Engineering Handbook (NEH-4). The procedure and detailed calculations involved in updating the 100-year 10-day storm for the future growth are provided in a separate calculation package. The rating curve used for the reservoir routing for a closed principal spillway condition is based on broad-crested weir and detailed calculations regarding the development of the rating curve are provided in a separate calculation package.

RESULTS

The reservoir routing of the 100-year 10-day storm for the future condition with a closed principal spillway resulted in the reservoir elevation of 1204.80 ft at the end of 10th day following the peak of 100-year 10-day hydrograph. The reservoir routing results i.e. ARC, peak inflows, peak outflows, and the maximum reservoir elevation are provided in Table 1 (Please See Page 4). It should be noted that the peak out flow tabulated in Table 1 on Page 4 reflects the infiltration amount only.

(It should be noted that the elevation 1204.80 ft would be used as Antecedent Reservoir Condition (ARC) for the reservoir routing of all PMF hydrographs based on NRCS criterion for a closed principal spillway condition.)

(4)

TABLE 1
RESERVOIR ROUTING RESULTS FOR A 100-YR 10-DAY STROM

(FUTURE CONDITION WITH A CLOSED PRINCIPAL SPILLWAY CONDITON)

Storm Event	Inflow to White Tank FRS No.3		Outflow from White Tank FRS No.3		
	Precipitation (inches)	Peak Inflow (cfs)	Antecedent Reservoir Condition (ARC)	Peak Outflow (cfs)	Maximum Reservoir Elevation (NAVD 88) (ft)
100-yr 10-day	Based on updated runoff hyetograph (calculation package 10)	2,180	1199.2	48.0	1207.64

Note: The reservoir routing of the 100-year 10-day storm for future condition with a close principal spillway resulted in the reservoir elevation of 1204.80 ft at the end of 10th day following the peak of 100-year 10-day hydrograph. (It should be noted that the elevation 1204.80 ft would be used as Antecedent Reservoir Condition (ARC) for the reservoir routing of all PMF hydrographs based on NRCS criterion for a closed principal spillway condition.)

100-yr 10-Day Reservoir Routing
(Future Condition - Closed principal spillway)

```
******************80-80 LIST OF INPUT DATA FOR TR-20 HYDROLOGY*****************

JOB TR-20 WHTANK3                          PASS=001  SUMMARY
TITLE     WHITE TANK FRS #3, WATERSHED DIVIDED INTO 7 SUB-BASINS
TITLE     100-YR 10-DAY RUNOFF & DIST IN TABLE 1, 100-YR SED IN RESVOIR
 5 RAINFL 1     1       2.4                                          10-DAY
 8          .0000       .0010       .0035       .0061       .0086
 8          .0112       .0143       .0174       .0206       .0237
 8          .0269       .0303       .0338       .0372       .0406
 8          .0440       .0475       .0509       .0543       .0577
 8          .0612       .0658       .0704       .0750       .0796
 8          .0842       .0888       .0934       .0980       .1026
 8          .1073       .1135       .1197       .1260       .1322
 8          .1384       .1466       .1549       .1631       .1713
 8          .1796       .1878       .2004       .2150       .2296
 8          .2477       .2658       .2881       .3168       .3600
 8          .7090       1.139       1.285       1.342       1.373
 8          1.395       1.412       1.425       1.438       1.448
 8          1.459       1.467       1.475       1.484       1.492
 8          1.500       1.507       1.513       1.519       1.526
 8          1.532       1.537       1.541       1.546       1.550
 8          1.555       1.560       1.564       1.569       1.574
 8          1.578       1.582       1.585       1.589       1.592
 8          1.596       1.599       1.603       1.606       1.610
 8          1.613       1.616       1.618       1.621       1.623
 8          1.626       1.628       1.630       1.633       1.635
 8          1.638        1.64        1.64        1.64        1.64
 9 ENDTBL
 4 DIMHYD               .0556                                          WT3
 8          0.0         .03         .10         .19         .31
 8          .47         .66         .82         .93         .99
 8          1.0         .99         .93         .82         .66
 8          .47         .31         .03         .00         .00
 9 ENDTBL
 2 XSECTN   005         1.0         8.77                               BOSSCS#5
 8                      0.          0.0         0.0
 8                      0.35        5.          5.56
 8                      1.03        50.         30.95
 8                      1.39        100.        52.16
 8                      1.94        200.        88.72
 8                      2.63        400.        148.61
 8                      3.51        800.        260.63
 8                      4.62        1600.       459.66
 8                      6.04        3200.       929.36
 8                      7.38        6400.       1811.51
 8                      8.77        12800.      3374.20
 8                      10.17       25600.      6398.87
 8                      11.89       51200.      10982.51
 9 ENDTBL
 2 XSECTN   010         1.0         10.41                              BOSSCS#4
 8                      0.          0.0         0.0
 8                      0.86        5.          4.39
 8                      2.01        50.         24.22
 8                      2.58        100.        40.12
 8                      3.46        200.        80.99
 8                      4.14        400.        129.44
 8                      5.16        800.        214.74
 8                      6.39        1600.       441.84
```

(Input & output Files)

```
 8                      7.80        3200.       980.75
 8                      9.16        6400.       1891.44
 8                      10.41       12800.      3516.14
 8                      11.75       25600.      6548.98
 8                      13.26       51200.      11081.19
 9 ENDTBL
 2 XSECTN    020        1.0         7.3                                 REACHC
 8                      0.          0.0         0.0
 8                      1.01        100.        57.78
 8                      1.49        200.        86.81
 8                      1.88        300.        110.25
 8                      2.49        500.        149.47
 8                      3.68        1000.       226.31
 8                      5.40        2000.       346.26
 8                      7.85        4000.       533.39
 8                      9.64        6000.       688.07
 8                      11.16       8000.       838.10
 8                      12.46       10000.      985.31
 8                      13.61       12000.      1122.03
 8                      14.56       14000.      1236.94
 8                      15.43       16000.      1345.18
 8                      16.31       18000.      1456.68
 9 ENDTBL
 2 XSECTN    025        1.0         7.3                                 REACHB
 8                      0.          0.0         0.0
 8                      0.63        100.        80.89
 8                      0.93        200.        120.32
 8                      1.17        300.        151.77
 8                      1.56        500.        203.28
 8                      2.30        1000.       302.00
 8                      3.38        2000.       449.24
 8                      4.97        4000.       673.73
 8                      6.23        6000.       855.96
 8                      7.31        8000.       1016.35
 8                      8.24        10000.      1158.51
 8                      9.09        12000.      1293.31
 8                      9.90        14000.      1425.57
 8                      10.64       16000.      1549.17
 8                      11.36       18000.      1673.11
 9 ENDTBL
 2 XSECTN    030        1.0         9.45                                BOSSCS#6
 8                      0.          0.0         0.0
 8                      0.77        5.          4.67
 8                      1.54        50.         32.06
 8                      1.78        100.        56.64
 8                      2.10        200.        100.59
 8                      2.50        400.        179.97
 8                      3.01        800.        320.25
 8                      3.63        1600.       589.66
 8                      4.35        3200.       1110.72
 8                      5.21        6400.       2084.48
 8                      6.03        12800.      4119.83
 8                      6.99        25600.      6856.75
 8                      8.28        51200.      11085.87
 9 ENDTBL
 2 XSECTN    045        1.0         4.87                                REACHA
```

**********80-80 LIST OF INPUT DATA (CONTINUED)**********

```
8                       0.          0.0         0.0
8                       0.60        100.        85.69
8                       0.90        200.        127.94
8                       1.13        300.        161.93
8                       1.52        500.        217.27
8                       2.25        1000.       324.03
8                       3.31        2000.       483.02
8                       4.87        4000.       722.17
8                       6.09        6000.       914.99
8                       7.15        8000.       1084.61
8                       8.05        10000.      1234.17
8                       8.87        12000.      1373.80
8                       9.64        14000.      1507.84
8                       10.34       16000.      1633.45
8                       11.00       18000.      1753.12
9 ENDTBL
2 XSECTN    060         1.0         4.7                                 2CP6CP7
8                       0.          0.0         0.0
8                       2.36        100.        45.12
8                       2.88        200.        83.75
8                       3.18        300.        114.33
8                       3.64        500.        172.72
8                       4.42        1000.       289.04
8                       5.40        2000.       470.72
8                       6.87        4000.       782.74
8                       7.91        6000.       1020.12
8                       8.79        8000.       1231.25
8                       9.60        10000.      1435.05
8                       10.26       12000.      1618.34
8                       10.94       14000.      1812.58
8                       11.47       16000.      1983.46
8                       11.96       18000.      2150.12
9 ENDTBL
2 XSECTN    067         1.0         8.77                                BOSSCS#5
8                       0.          0.0         0.0
8                       0.35        5.          5.56
8                       1.03        50.         30.95
8                       1.39        100.        52.16
8                       1.94        200.        88.72
8                       2.63        400.        148.61
8                       3.51        800.        260.63
8                       4.62        1600.       459.66
8                       6.04        3200.       929.36
8                       7.38        6400.       1811.51
8                       8.77        12800.      3374.20
8                       10.17       25600.      6398.87
8                       11.89       51200.      10982.51
9 ENDTBL
3 STRUCT      01                                                        95/11/6
8                       1178.0      0.0         0.
8                       1188.0      0.02        44.8
8                       1196.8      0.13        300.
8                       1199.2      0.21        500.
8                       1202.0      16.00       845.55
8                       1204.0      28.000      1176.28
8                       1206.0      39.00       1575.25
```

↑

DK

OK

```
**********************80-80 LIST OF INPUT DATA (CONTINUED)*********************

 8                        1208.0       50.00        2044.97
 8                        1210.0       63.00        2593.40
 8                        1212.0       73.000       3218.00
 8                        1213.0       2672.00      3556.67
 8                        1214.0       8218.00      3916.02
 8                        1215.0       15533.0      4294.13
 8                        1216.0       24261.0      4692.68
 8                        1217.0       34202.0      5113.19
 8                        1218.0       45221.0      5556.01
 8                        1219.0       57222.0      6021.50
 8                        1220.0       70131.0      6509.75
 9 ENDTBL
 6 RUNOFF 1 001       1 2.46         87.2         0.85         1 1
 6 REACH  3 005   1   7 9100.                                  1            BOSS#6
 6 REACH  3 010   7   2 9100.                                  1            BOSS#4
 6 RUNOFF 1 002       3 2.38         79.9         0.73         1 1
 6 ADDHYD 4 012   2 3 1                                        1 1
 6 DIVERT 6 012   1 4 7 4100.        1.00         200.         1 1          OLIVE
 6 REACH  3 020   4   7 3332.                                  1            REACH C
 6 REACH  3 025   7   5 1950.                                  1            REACH B
 6 RUNOFF 1 003       6 3.94         87.2         0.88         1 1
 6 REACH  3 030   6   7 8865.                                  1            BOSS#6
 6 REACH  3 005   7   1 8865.                                  1            BOSS#5
 6 REACH  3 025   1   7 1950.                                  1            REACH B
 6 RUNOFF 1 004       1 2.06         77.3         0.79         1 1
 6 ADDHYD 4 034   7 1 2                                        1 1
 6 ADDHYD 4 035   5 2 3                                        1 1
 6 DIVERT 6 035   3 4 7 11000.       1.00         199.         1 1          NORTHERN
 6 REACH  3 045   4   5 4200.                                  1            REACH A
 6 RUNOFF 1 006       2 1.47         87.7         0.47         1 1
 6 REACH  3 060   2   3 7540.                                  1            CP6CP7
 6 REACH  3 067   3   4 5140.                                  1            BOSS#5
 6 ADDHYD 4 064   5 4 3                                        1 1
 6 RUNOFF 1 005       6 4.78         78.8         0.78         1 1
 6 RUNOFF 1 007       7 3.48         81.7         1.01         1 1
 6 ADDHYD 4 075   6 7 1                                        1 1
 6 ADDHYD 4 076   1 3 2                                        1 1     1
 6 RESVOR 2    01 2   1 1199.2                                 1 1     1
   ENDATA
 7 LIST                 1.0                      1.
 7 INCREM 6             1.05
 7 COMPUT 7 001      01 0.          1.0          1.0          1 2  01  01
   ENDCMP 1                                                                  same ?
 7 COMPUT 7 001      01 0.          1.0          1.0          1 2  02  01
   ENDCMP 1
   ENDJOB 2

*********************************END OF 80-80 LIST*******************************
```

RUNOFF OPTION USED WITH RAINTABLE NO. 1, RUNOFF CURVE NO. = 100.

COMPUTED DIMHYD PEAK RATE FACTOR = 664.607

```
EXECUTIVE CONTROL  LIST          1.          0.          1.

          LISTING OF CURRENT DATA


                      COMPUTED TIME INCREMENT
DIMHYD                          .0556

                   .0000       .0300       .1000       .1900       .3100
                   .4700       .6600       .8200       .9300       .9900
                  1.0000       .9900       .9300       .8200       .6600
                   .4700       .3100       .0300       .0000       .0000
ENDTBL

   COMPUTED PEAK RATE FACTOR =  664.607
```

	TABLE NO.	TIME INCREMENT
RAINFL	1	2.4000

.0000	.0010	.0035	.0061	.0086
.0112	.0143	.0174	.0206	.0237
.0269	.0303	.0338	.0372	.0406
.0440	.0475	.0509	.0543	.0577
.0612	.0658	.0704	.0750	.0796
.0842	.0888	.0934	.0980	.1026
.1073	.1135	.1197	.1260	.1322
.1384	.1466	.1549	.1631	.1713
.1796	.1878	.2004	.2150	.2296
.2477	.2658	.2881	.3168	.3600
.7090	1.1390	1.2850	1.3420	1.3730
1.3950	1.4120	1.4250	1.4380	1.4480
1.4590	1.4670	1.4750	1.4840	1.4920
1.5000	1.5070	1.5130	1.5190	1.5260
1.5320	1.5370	1.5410	1.5460	1.5500
1.5550	1.5600	1.5640	1.5690	1.5740
1.5780	1.5820	1.5850	1.5890	1.5920
1.5960	1.5990	1.6030	1.6060	1.6100
1.6130	1.6160	1.6180	1.6210	1.6230
1.6260	1.6280	1.6300	1.6330	1.6350
1.6380	1.6400	1.6400	1.6400	1.6400

ENDTBL

STANDARD CONTROL INSTRUCTIONS

```
RUNOFF      1       1     2.4600    87.2000     .85001 1 0 0 0 1
REACH       5   1   7  9100.0000      .0000     .00001 0 0 0 0 1
REACH      10   7   2  9100.0000      .0000     .00001 0 0 0 0 1
RUNOFF      2       3     2.3800    79.9000     .73001 1 0 0 0 1
ADDHYD     12   2 3 1                                1 1 0 0 0 1
DIVERT     12   1 4 7  4100.0000     1.0000  200.00001 1 0 0 0 1
REACH      20   4   7  3332.0000      .0000     .00001 0 0 0 0 1
REACH      25   7   5  1950.0000      .0000     .00001 0 0 0 0 1
RUNOFF      3       6     3.9400    87.2000     .88001 1 0 0 0 1
REACH      30   6   7  8865.0000      .0000     .00001 0 0 0 0 1
REACH       5   7   1  8865.0000      .0000     .00001 0 0 0 0 1
REACH      25   1   7  1950.0000      .0000     .00001 0 0 0 0 1
RUNOFF      4       1     2.0600    77.3000     .79001 1 0 0 0 1
ADDHYD     34   7 1 2                                1 1 0 0 0 1
ADDHYD     35   5 2 3                                1 1 0 0 0 1
DIVERT     35   3 4 7 11000.0000     1.0000  199.00001 1 0 0 0 1
REACH      45   4   5  4200.0000      .0000     .00001 0 0 0 0 1
RUNOFF      6       2     1.4700    87.7000     .47001 1 0 0 0 1
REACH      60   2   3  7540.0000      .0000     .00001 0 0 0 0 1
REACH      67   3   4  5140.0000      .0000     .00001 0 0 0 0 1
ADDHYD     64   5 4 3                                1 1 0 0 0 1
RUNOFF      5       6     4.7800    78.8000     .78001 1 0 0 0 1
RUNOFF      7       7     3.4800    81.7000    1.01001 1 0 0 0 1
ADDHYD     75   6 7 1                                1 1 0 0 0 1
ADDHYD     76   1 3 2                                1 1 0 0 1 1
RESVOR        1 2   1  1199.2000                     1 1 0 0 1 1
ENDATA
```

END OF LISTING

EXECUTIVE CONTROL INCREM MAIN TIME INCREMENT = 1.050 HOURS

EXECUTIVE CONTROL COMPUT FROM XSECTION 1 TO STRUCTURE 1
STARTING TIME = .00 RAIN DEPTH = 1.00 RAIN DURATION = 1.00
ANT. RUNOFF COND. = 2 MAIN TIME INCREMENT = 1.050 HOURS
ALTERNATE NO. = 1 STORM NO. = 1 RAIN TABLE NO. = 1

OPERATION RUNOFF XSECTION 1

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
121.40	290.4	(RUNOFF)
138.08	8.7	(RUNOFF)
143.29	7.3	(RUNOFF)
150.61	6.0	(RUNOFF)
164.99	4.6	(RUNOFF)
174.63	3.3	(RUNOFF)
179.55	3.3 *	(RUNOFF)
187.64	3.3	(RUNOFF)
192.22	2.6	(RUNOFF)
208.25	2.7	(RUNOFF)

* FIRST POINT OF FLAT PEAK

HYDROGRAPH POINTS FOR ALTERNATE = 1, STORM = 1
MAIN TIME INCREMENT = 1.050 hr, DRAINAGE AREA = 2.46 SQ.MI.

HRS								
.00 CFS	.00	.66	.66	1.45	1.65	1.68	1.72	1.71
8.40 CFS	1.65	1.65	1.71	1.72	1.92	2.05	2.05	2.05
16.80 CFS	2.05	2.11	2.11	2.06	2.05	2.08	2.11	2.13
25.20 CFS	2.25	2.25	2.31	2.31	2.27	2.25	2.25	2.25
33.60 CFS	2.25	2.25	2.25	2.30	2.31	2.29	2.25	2.25
42.00 CFS	2.25	2.25	2.25	2.25	2.29	2.31	2.48	3.04
50.40 CFS	3.04	3.04	3.04	3.04	3.04	3.04	3.04	3.04
58.80 CFS	3.04	3.04	3.04	3.04	3.04	3.04	3.04	3.04
67.20 CFS	3.04	3.04	3.04	3.09	3.11	3.51	4.10	4.10
75.60 CFS	4.10	4.10	4.16	4.16	4.12	4.10	4.10	4.10
84.00 CFS	4.11	5.40	5.42	5.47	5.48	5.46	5.42	5.42
92.40 CFS	5.42	5.42	5.48	5.48	5.44	5.42	6.18	8.33
100.80 CFS	8.41	9.58	9.65	9.65	9.65	10.62	11.96	11.96
109.20 CFS	11.96	12.01	14.43	14.74	17.28	18.96	21.33	28.55
117.60 CFS	33.56	229.35	230.66	273.71	284.13	207.45	96.47	89.78
126.00 CFS	38.02	37.66	22.09	20.48	16.69	14.54	13.75	11.23
134.40 CFS	11.10	8.71	8.59	8.59	8.59	7.72	6.61	6.68
142.80 CFS	7.27	7.25	5.50	5.29	5.29	5.29	5.46	5.95
151.20 CFS	5.91	5.31	5.29	5.29	5.29	5.02	4.63	4.55
159.60 CFS	3.96	3.96	3.96	3.96	4.38	4.63	4.48	3.96
168.00 CFS	3.95	3.32	3.30	2.79	2.64	2.93	3.30	3.22
176.40 CFS	2.65	2.64	3.25	3.30	3.30	3.30	3.13	2.64

184.80 CFS	2.68	3.27	3.30	3.30	3.30	3.03	2.64	2.64
193.20 CFS	2.64	2.63	2.05	1.98	2.38	2.64	2.49	1.98
201.60 CFS	1.99	2.64	2.64	2.11	1.98	2.26	2.64	2.56
210.00 CFS	1.99	1.98	2.58	2.64	2.22	1.98	1.98	1.98
218.40 CFS	1.95	1.35	1.32	1.83	1.98	1.70	1.32	1.39
226.80 CFS	1.98	1.97	1.39	1.32	1.32	1.32	1.49	1.98
235.20 CFS	1.95	1.34	1.32	1.85	1.98	1.72	1.32	1.17
243.60 CFS	.00							

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
1.68 WATERSHED INCHES; 2671 CFS-HRS; 220.7 ACRE-FEET.

*** WARNING - MAIN TIME INCREMENT (1.050) IS GREATER THAN 50% OF THE
TIME OF CONCENTRATION (.85) FOR SUBWATERSHED XSECTION 1.
THIS WILL REDUCE THE COMPUTED PEAK BY ABOUT -2.1%. ***

OPERATION REACH XSECTION 5

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
122.55	283.3	2.23
144.42	7.4	.39
151.83	5.9	.36
166.22	4.6	.32
175.87	3.3	.23
182.21	3.3	.23
189.54	3.3	.23
214.00	2.6	.18
240.45	1.9	.14

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
1.62 WATERSHED INCHES; 2576 CFS-HRS; 212.9 ACRE-FEET.

OPERATION REACH XSECTION 10

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
123.70	277.3	3.72
145.52	7.3	.92
153.01	5.9	.88
167.44	4.5	.78
177.05	3.2	.56
183.33	3.3	.57
190.64	3.3	.57
215.18	2.6	.44
241.65	1.9	.33

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
1.66 WATERSHED INCHES; 2642 CFS-HRS; 218.3 ACRE-FEET.

OPERATION RUNOFF XSECTION 2

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
78.23	4.0	(RUNOFF)
121.33	285.1	(RUNOFF)
137.49	8.3	(RUNOFF)
143.33	7.3	(RUNOFF)
154.35	5.1	(RUNOFF)
164.80	4.5	(RUNOFF)
174.61	3.2	(RUNOFF)
181.13	3.2	(RUNOFF)
188.48	3.2	(RUNOFF)
192.69	2.6	(RUNOFF)

HYDROGRAPH POINTS FOR ALTERNATE = 1, STORM = 1
MAIN TIME INCREMENT = 1.050 hr, DRAINAGE AREA = 2.38 SQ.MI.

HRS								
.00 CFS	.00	.64	.64	1.49	1.60	1.63	1.66	1.65
8.40 CFS	1.60	1.60	1.66	1.66	1.90	1.98	1.98	1.98
16.80 CFS	1.99	2.05	2.05	1.99	1.98	2.01	2.05	2.06
25.20 CFS	2.17	2.17	2.23	2.24	2.19	2.17	2.17	2.17
33.60 CFS	2.17	2.17	2.17	2.23	2.24	2.20	2.17	2.17
42.00 CFS	2.17	2.17	2.17	2.17	2.22	2.24	2.46	2.94
50.40 CFS	2.94	2.94	2.94	2.94	2.94	2.94	2.94	2.94
58.80 CFS	2.94	2.94	2.94	2.94	2.94	2.94	2.94	2.94
67.20 CFS	2.94	2.94	2.94	3.00	3.00	3.49	3.96	3.96
75.60 CFS	3.96	3.96	4.03	4.03	3.98	3.96	3.96	3.96
84.00 CFS	4.03	5.24	5.24	5.30	5.31	5.27	5.24	5.24
92.40 CFS	5.24	5.24	5.30	5.31	5.26	5.24	5.96	8.06
100.80 CFS	8.11	9.32	9.33	9.33	9.33	10.46	11.57	11.57
109.20 CFS	11.57	11.57	14.21	14.26	17.19	18.35	21.32	27.62
117.60 CFS	36.73	223.11	223.11	269.22	274.90	177.77	93.34	85.77
126.00 CFS	36.44	36.28	20.57	19.82	15.53	14.06	13.20	10.87
134.40 CFS	10.74	8.33	8.31	8.31	8.31	7.35	6.39	6.48
142.80 CFS	7.03	7.03	5.17	5.11	5.11	5.11	5.32	5.75
151.20 CFS	5.73	5.11	5.11	5.11	5.11	4.77	4.48	4.39
159.60 CFS	3.84	3.84	3.84	3.84	4.32	4.48	4.29	3.84
168.00 CFS	3.80	3.20	3.20	2.63	2.56	2.88	3.20	3.12
176.40 CFS	2.56	2.56	3.17	3.20	3.20	3.20	2.99	2.56
184.80 CFS	2.57	3.20	3.20	3.20	3.20	2.85	2.56	2.56
193.20 CFS	2.56	2.55	1.94	1.92	2.41	2.56	2.37	1.92
201.60 CFS	1.96	2.56	2.56	2.00	1.92	2.24	2.56	2.47
210.00 CFS	1.92	1.92	2.53	2.56	2.10	1.92	1.92	1.92
218.40 CFS	1.91	1.28	1.28	1.85	1.92	1.58	1.28	1.37
226.80 CFS	1.92	1.91	1.29	1.28	1.28	1.28	1.48	1.92
235.20 CFS	1.88	1.28	1.28	1.84	1.92	1.59	1.28	1.10
243.60 CFS	.00							

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
1.67 WATERSHED INCHES; 2561 CFS-HRS; 211.6 ACRE-FEET.

*** WARNING - MAIN TIME INCREMENT (1.050) IS GREATER THAN 50% OF THE
TIME OF CONCENTRATION (.73) FOR SUBWATERSHED XSECTION 2.
THIS WILL REDUCE THE COMPUTED PEAK BY ABOUT -3.7%. ***

OPERATION ADDHYD XSECTION 12

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
121.80	488.3	(NULL)
145.48	12.4	(NULL)
150.94	11.1	(NULL)
153.00	11.0	(NULL)
165.72	8.5	(NULL)
178.68	6.0	(NULL)
181.69	6.4	(NULL)
186.07	6.0	(NULL)
188.84	6.4	(NULL)
212.28	4.7	(NULL)

HYDROGRAPH POINTS FOR ALTERNATE = 1, STORM = 1
MAIN TIME INCREMENT = 1.050 hr, DRAINAGE AREA = 4.84 SQ.MI.

HRS								
.00 CFS	.00	.64	.64	1.93	2.20	2.81	3.18	3.29
8.40 CFS	3.29	3.30	3.33	3.32	3.59	3.69	3.84	3.97
16.80 CFS	4.02	4.09	4.09	4.08	4.09	4.09	4.10	4.13
25.20 CFS	4.27	4.29	4.44	4.47	4.47	4.48	4.46	4.43
33.60 CFS	4.42	4.42	4.42	4.48	4.48	4.49	4.48	4.47
42.00 CFS	4.43	4.42	4.42	4.42	4.47	4.48	4.74	5.24
50.40 CFS	5.36	5.78	5.93	5.97	5.98	5.98	5.98	5.98
58.80 CFS	5.98	5.98	5.98	5.98	5.98	5.98	5.98	5.98
67.20 CFS	5.98	5.98	5.98	6.04	6.04	6.56	7.06	7.33
75.60 CFS	7.83	8.00	8.11	8.12	8.12	8.12	8.10	8.07
84.00 CFS	8.13	9.34	9.35	10.28	10.61	10.70	10.71	10.70
92.40 CFS	10.67	10.66	10.72	10.72	10.72	10.72	11.42	13.48
100.80 CFS	14.04	16.88	17.51	18.48	18.85	20.07	21.21	21.87
109.20 CFS	23.01	23.40	26.14	26.24	30.83	32.77	37.69	45.80
117.60 CFS	57	249	254	434	488	433	369	316
126.00 CFS	175	139	79	63	44	37	32	27
134.40 CFS	25.04	20.52	19.70	17.87	17.16	16.00	15.00	14.49
142.80 CFS	14.08	13.80	12.26	12.32	11.17	10.62	10.66	11.05
151.20 CFS	11.13	10.89	10.99	10.61	10.46	10.07	9.76	9.50
159.60 CFS	8.61	8.45	8.01	7.85	8.30	8.44	8.54	8.34
168.00 CFS	8.30	7.34	7.19	6.17	5.92	5.85	5.93	5.98
176.40 CFS	5.72	5.77	6.01	5.89	6.26	6.43	6.28	5.86
184.80 CFS	5.76	6.01	5.91	6.28	6.44	6.14	5.86	5.68
193.20 CFS	5.35	5.23	4.59	4.55	4.66	4.61	4.63	4.44
201.60 CFS	4.46	4.71	4.59	4.43	4.51	4.51	4.62	4.66
210.00 CFS	4.42	4.47	4.70	4.59	4.50	4.49	4.26	4.01
218.40 CFS	3.92	3.27	3.24	3.40	3.30	3.25	3.17	3.13
226.80 CFS	3.38	3.32	3.08	3.20	2.85	2.67	2.81	3.24
235.20 CFS	3.32	3.09	3.20	3.37	3.29	3.28	3.18	2.88

243.60 CFS 1.47 1.26 .40

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
1.67 WATERSHED INCHES; 5202 CFS-HRS; 429.9 ACRE-FEET.

OPERATION DIVERT XSECTION 12
OUTPUT #1 HYDROGRAPH

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
121.80	488.3	(DIVERT)
145.48	12.4	(DIVERT)
150.94	11.1	(DIVERT)
153.00	11.0	(DIVERT)
165.72	8.5	(DIVERT)
178.68	6.0	(DIVERT)
181.69	6.4	(DIVERT)
186.07	6.0	(DIVERT)
188.84	6.4	(DIVERT)
212.28	4.7	(DIVERT)

HYDROGRAPH POINTS FOR ALTERNATE = 1, STORM = 1
MAIN TIME INCREMENT = 1.050 hr, DRAINAGE AREA = 4.84 SQ.MI.

HRS								
.00 CFS	.00	.64	.64	1.93	2.20	2.81	3.18	3.29
8.40 CFS	3.29	3.30	3.33	3.32	3.59	3.69	3.84	3.97
16.80 CFS	4.02	4.09	4.09	4.08	4.09	4.09	4.10	4.13
25.20 CFS	4.27	4.29	4.44	4.47	4.47	4.48	4.46	4.43
33.60 CFS	4.42	4.42	4.42	4.48	4.48	4.49	4.48	4.47
42.00 CFS	4.43	4.42	4.42	4.42	4.47	4.48	4.74	5.24
50.40 CFS	5.36	5.78	5.93	5.97	5.98	5.98	5.98	5.98
58.80 CFS	5.98	5.98	5.98	5.98	5.98	5.98	5.98	5.98
67.20 CFS	5.98	5.98	5.98	6.04	6.04	6.56	7.06	7.33
75.60 CFS	7.83	8.00	8.11	8.12	8.12	8.12	8.10	8.07
84.00 CFS	8.13	9.34	9.35	10.28	10.61	10.70	10.71	10.70
92.40 CFS	10.67	10.66	10.72	10.72	10.72	10.72	11.42	13.48
100.80 CFS	14.04	16.88	17.51	18.48	18.85	20.07	21.21	21.87
109.20 CFS	23.01	23.40	26.14	26.24	30.83	32.77	37.69	45.80
117.60 CFS	57	249	254	434	488	433	369	316
126.00 CFS	175	139	79	63	44	37	32	27
134.40 CFS	25.04	20.52	19.70	17.87	17.16	16.00	15.00	14.49
142.80 CFS	14.08	13.80	12.26	12.32	11.17	10.62	10.66	11.05
151.20 CFS	11.13	10.89	10.99	10.61	10.46	10.07	9.76	9.50
159.60 CFS	8.61	8.45	8.01	7.85	8.30	8.44	8.54	8.34
168.00 CFS	8.30	7.34	7.19	6.17	5.92	5.85	5.93	5.98
176.40 CFS	5.72	5.77	6.01	5.89	6.26	6.43	6.28	5.86
184.80 CFS	5.76	6.01	5.91	6.28	6.44	6.14	5.86	5.68
193.20 CFS	5.35	5.23	4.59	4.55	4.66	4.61	4.63	4.44
201.60 CFS	4.46	4.71	4.59	4.43	4.51	4.51	4.62	4.66
210.00 CFS	4.42	4.47	4.70	4.59	4.50	4.49	4.26	4.01
218.40 CFS	3.92	3.27	3.24	3.40	3.30	3.25	3.17	3.13
226.80 CFS	3.38	3.32	3.08	3.20	2.85	2.67	2.81	3.24

235.20 CFS	3.32	3.09	3.20	3.37	3.29	3.28	3.18	2.88
243.60 CFS	1.47	1.26	.40					

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
1.67 WATERSHED INCHES; 5202 CFS-HRS; 429.9 ACRE-FEET.

OUTPUT #2 DIVERTED HYDROGRAPH (XSECTION 200)

*** MESSAGE - HYDROGRAPH CONTAINS NO FLOW ***

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
237 CFS-HRS; 429.9 ACRE-FEET.

*** WARNING - ROUTING COEFFICIENT (C) EQUALS 1.0,
CONSIDER SMALLER MAIN TIME INCREMENT FOR XSECTION 20. ***

OPERATION REACH XSECTION 20

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
121.80	488.3	2.45
145.48	12.4	.13
150.94	11.1	.11
153.00	11.0	.11
165.72	8.5	.09
178.68	6.0	.06
181.69	6.4	.06
186.07	6.0	.06
188.84	6.4	.07
212.28	4.7	.05

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
1.67 WATERSHED INCHES; 5202 CFS-HRS; 429.9 ACRE-FEET.

*** WARNING - ROUTING COEFFICIENT (C) EQUALS 1.0,
CONSIDER SMALLER MAIN TIME INCREMENT FOR XSECTION 25. ***

OPERATION REACH XSECTION 25

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
121.80	488.3	1.54
145.48	12.4	.08
150.94	11.1	.07
153.00	11.0	.07
165.72	8.5	.05
178.68	6.0	.04
181.69	6.4	.04
186.07	6.0	.04
188.84	6.4	.04
212.28	4.7	.03

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
1.67 WATERSHED INCHES; 5202 CFS-HRS; 429.9 ACRE-FEET.

OPERATION RUNOFF XSECTION 3

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
121.39	461.9	(RUNOFF)
126.52	63.0	(RUNOFF)
138.08	13.8	(RUNOFF)
143.32	11.7	(RUNOFF)
150.67	9.6	(RUNOFF)
154.88	8.5	(RUNOFF)
165.01	7.4	(RUNOFF)
174.70	5.3	(RUNOFF)
181.12	5.2	(RUNOFF)
186.90	5.2 *	(RUNOFF)

* FIRST POINT OF FLAT PEAK

HYDROGRAPH POINTS FOR ALTERNATE = 1, STORM = 1
MAIN TIME INCREMENT = 1.050 hr, DRAINAGE AREA = 3.94 SQ.MI.

HRS								
.00 CFS	.00	1.05	1.05	2.37	2.62	2.67	2.73	2.72
8.40 CFS	2.62	2.62	2.72	2.73	3.06	3.25	3.25	3.25
16.80 CFS	3.26	3.36	3.36	3.27	3.25	3.30	3.36	3.38
25.20 CFS	3.57	3.57	3.67	3.67	3.61	3.57	3.57	3.57
33.60 CFS	3.57	3.57	3.57	3.66	3.67	3.63	3.57	3.57
42.00 CFS	3.57	3.57	3.57	3.57	3.64	3.67	3.91	4.83
50.40 CFS	4.83	4.83	4.83	4.83	4.83	4.83	4.83	4.83
58.80 CFS	4.83	4.83	4.83	4.83	4.83	4.83	4.83	4.83
67.20 CFS	4.83	4.83	4.83	4.92	4.93	5.55	6.51	6.51
75.60 CFS	6.51	6.51	6.61	6.61	6.55	6.51	6.51	6.51
84.00 CFS	6.54	8.59	8.61	8.70	8.71	8.67	8.61	8.61
92.40 CFS	8.61	8.61	8.71	8.71	8.65	8.61	9.50	13.23
100.80 CFS	13.26	15.31	15.33	15.33	15.33	16.76	19.00	19.00
109.20 CFS	19.00	19.00	23.26	23.41	27.69	30.13	33.19	45.35
117.60 CFS	49	364	366	437	451	331	153	147
126.00 CFS	59.84	59.84	34.19	32.54	26.67	23.10	22.09	17.85

134.40 CFS	17.77	13.69	13.65	13.65	13.65	12.40	10.50	10.57
142.80 CFS	11.55	11.54	8.50	8.40	8.40	8.40	8.60	9.45
151.20 CFS	9.44	8.40	8.40	8.40	8.40	7.98	7.35	7.29
159.60 CFS	6.30	6.30	6.30	6.30	6.95	7.35	7.14	6.30
168.00 CFS	6.28	5.26	5.25	4.39	4.20	4.62	5.25	5.17
176.40 CFS	4.20	4.20	5.22	5.25	5.25	5.25	5.05	4.20
184.80 CFS	4.20	5.25	5.25	5.25	5.25	4.83	4.20	4.20
193.20 CFS	4.20	4.20	3.21	3.15	3.81	4.20	3.99	3.15
201.60 CFS	3.17	4.19	4.20	3.33	3.15	3.57	4.20	4.12
210.00 CFS	3.15	3.15	4.16	4.20	3.54	3.15	3.15	3.15
218.40 CFS	3.14	2.10	2.10	2.98	3.15	2.74	2.10	2.16
226.80 CFS	3.15	3.15	2.16	2.10	2.10	2.10	2.31	3.15
235.20 CFS	3.13	2.11	2.10	2.98	3.15	2.73	2.10	1.94
243.60 CFS	.00							

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
1.67 WATERSHED INCHES; 4251 CFS-HRS; 351.3 ACRE-FEET.

*** WARNING - MAIN TIME INCREMENT (1.050) IS GREATER THAN 50% OF THE
TIME OF CONCENTRATION (.88) FOR SUBWATERSHED XSECTION 3.
THIS WILL REDUCE THE COMPUTED PEAK BY ABOUT -2.3%. ***

OPERATION REACH XSECTION 30

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
122.60	444.1	2.56
144.45	11.7	.88
151.93	9.4	.85
166.33	7.2	.81
175.98	5.2	.77
182.27	5.3	.77
189.57	5.3	.77
204.49	4.2	.64
209.58	4.1	.64
214.02	4.1	.64

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
1.61 WATERSHED INCHES; 4102 CFS-HRS; 339.0 ACRE-FEET.

OPERATION REACH XSECTION 5

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
123.73	437.4	2.71
145.53	11.6	.45
153.06	9.4	.42
167.50	7.2	.38
177.12	5.2	.35
183.39	5.2	.35
190.65	5.3	.35
205.63	4.1	.29
210.71	4.1	.29
215.18	4.1	.29

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
1.65 WATERSHED INCHES; 4198 CFS-HRS; 347.0 ACRE-FEET.

*** WARNING - ROUTING COEFFICIENT (C) EQUALS 1.0,
CONSIDER SMALLER MAIN TIME INCREMENT FOR XSECTION 25. ***

OPERATION REACH XSECTION 25

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
123.73	437.4	1.44
145.53	11.6	.07
153.06	9.4	.06
167.50	7.2	.05
177.12	5.2	.03
183.39	5.2	.03
190.65	5.3	.03
205.63	4.1	.03
210.71	4.1	.03
215.18	4.1	.03

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
1.65 WATERSHED INCHES; 4198 CFS-HRS; 347.0 ACRE-FEET.

OPERATION RUNOFF XSECTION 4

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
121.36	245.1	(RUNOFF)
138.08	7.3	(RUNOFF)
143.27	6.1	(RUNOFF)
154.88	4.5	(RUNOFF)
164.96	3.9	(RUNOFF)
193.72	2.2	(RUNOFF)
198.49	2.2	(RUNOFF)
203.17	2.3	(RUNOFF)
208.22	2.2	(RUNOFF)
212.72	2.2	(RUNOFF)

HYDROGRAPH POINTS FOR ALTERNATE = 1, STORM = 1
MAIN TIME INCREMENT = 1.050 hr, DRAINAGE AREA = 2.06 SQ.MI.

HRS									
.00	CFS	.00	.55	.55	1.25	1.38	1.41	1.44	1.43
8.40	CFS	1.38	1.38	1.43	1.44	1.63	1.72	1.72	1.72
16.80	CFS	1.72	1.77	1.77	1.72	1.72	1.74	1.77	1.78
25.20	CFS	1.88	1.88	1.93	1.94	1.90	1.88	1.88	1.88
33.60	CFS	1.88	1.88	1.88	1.93	1.94	1.91	1.88	1.88
42.00	CFS	1.88	1.88	1.88	1.88	1.92	1.94	2.09	2.55
50.40	CFS	2.55	2.55	2.55	2.55	2.55	2.55	2.55	2.55
58.80	CFS	2.55	2.55	2.55	2.55	2.55	2.55	2.55	2.55
67.20	CFS	2.55	2.55	2.55	2.59	2.60	2.97	3.43	3.43
75.60	CFS	3.43	3.43	3.48	3.49	3.45	3.43	3.43	3.43
84.00	CFS	3.47	4.54	4.54	4.58	4.59	4.57	4.54	4.54
92.40	CFS	4.54	4.54	4.59	4.59	4.56	4.54	5.24	6.97
100.80	CFS	6.98	8.08	8.08	8.08	8.08	9.01	10.02	10.02
109.20	CFS	10.02	10.02	12.18	12.34	14.81	15.88	18.22	23.90
117.60	CFS	29.21	189.88	193.12	230.82	237.94	161.93	80.79	74.74
126.00	CFS	31.54	31.45	18.30	17.15	13.66	12.17	11.39	9.41
134.40	CFS	9.29	7.25	7.19	7.19	7.19	6.41	5.53	5.60
142.80	CFS	6.09	6.06	4.55	4.43	4.43	4.43	4.57	4.98
151.20	CFS	4.95	4.44	4.43	4.43	4.43	4.18	3.87	3.80
159.60	CFS	3.32	3.32	3.32	3.32	3.68	3.87	3.75	3.32
168.00	CFS	3.29	2.77	2.77	2.31	2.21	2.46	2.77	2.70
176.40	CFS	2.21	2.21	2.75	2.77	2.77	2.77	2.62	2.21
184.80	CFS	2.23	2.77	2.77	2.77	2.77	2.51	2.21	2.21
193.20	CFS	2.21	2.21	1.68	1.66	2.03	2.21	2.06	1.66
201.60	CFS	1.66	2.21	2.21	1.75	1.66	1.92	2.21	2.14
210.00	CFS	1.66	1.66	2.18	2.21	1.83	1.66	1.66	1.66
218.40	CFS	1.64	1.12	1.11	1.57	1.66	1.39	1.11	1.17
226.80	CFS	1.66	1.66	1.15	1.11	1.11	1.11	1.26	1.66
235.20	CFS	1.63	1.12	1.11	1.57	1.66	1.40	1.11	.97
243.60	CFS	.00							

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
1.67 WATERSHED INCHES; 2219 CFS-HRS; 183.4 ACRE-FEET.

*** WARNING - MAIN TIME INCREMENT (1.050) IS GREATER THAN 50% OF THE
TIME OF CONCENTRATION (.79) FOR SUBWATERSHED XSECTION 4.
THIS WILL REDUCE THE COMPUTED PEAK BY ABOUT -3.0%. ***

OPERATION ADDHYD XSECTION 34

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
80.58	10.0	(NULL)
122.26	578.6	(NULL)
145.46	16.1	(NULL)
153.05	13.8	(NULL)
166.39	10.5	(NULL)
189.08	7.9	(NULL)
214.94	5.8	(NULL)
229.70	4.2	(NULL)
237.42	4.1	(NULL)
241.03	4.1	(NULL)

HYDROGRAPH POINTS FOR ALTERNATE = 1, STORM = 1
MAIN TIME INCREMENT = 1.050 hr, DRAINAGE AREA = 6.00 SQ.MI.

HRS									
.00	CFS	.00	.55	.55	1.92	2.32	3.27	3.82	4.01
8.40	CFS	4.07	4.09	4.09	4.07	4.32	4.43	4.65	4.86
16.80	CFS	4.94	5.01	5.02	5.04	5.06	5.04	5.04	5.07
25.20	CFS	5.21	5.24	5.43	5.48	5.53	5.54	5.51	5.47
33.60	CFS	5.46	5.45	5.45	5.50	5.51	5.53	5.54	5.52
42.00	CFS	5.48	5.46	5.45	5.45	5.49	5.51	5.70	6.20
50.40	CFS	6.37	7.02	7.27	7.34	7.37	7.37	7.37	7.37
58.80	CFS	7.37	7.37	7.37	7.37	7.37	7.37	7.37	7.37
67.20	CFS	7.37	7.37	7.37	7.42	7.43	7.86	8.35	8.75
75.60	CFS	9.53	9.82	9.96	9.99	10.02	10.03	10.00	9.96
84.00	CFS	9.98	11.05	11.07	12.43	12.97	13.17	13.22	13.21
92.40	CFS	13.17	13.15	13.20	13.20	13.23	13.24	13.90	15.60
100.80	CFS	16.16	19.87	20.90	22.53	23.14	24.26	25.32	26.26
109.20	CFS	28.06	28.73	31.10	31.32	36.53	38.78	44.23	52.66
117.60	CFS	61	230	239	481	569	564	517	445
126.00	CFS	260	203	116	88	60	49	41	35
134.40	CFS	32.39	26.91	25.52	22.51	21.34	20.20	19.22	18.46
142.80	CFS	17.40	16.85	15.81	15.88	13.99	13.18	13.07	13.40
151.20	CFS	13.48	13.56	13.77	13.18	12.93	12.60	12.28	11.93
159.60	CFS	10.94	10.71	10.00	9.73	10.01	10.18	10.46	10.46
168.00	CFS	10.44	9.37	9.14	7.96	7.58	7.19	7.13	7.21
176.40	CFS	7.20	7.33	7.28	7.07	7.64	7.90	7.84	7.45
184.80	CFS	7.35	7.29	7.06	7.66	7.91	7.73	7.45	7.19
193.20	CFS	6.68	6.49	5.91	5.86	5.60	5.49	5.66	5.66
201.60	CFS	5.66	5.67	5.47	5.59	5.75	5.54	5.51	5.60
210.00	CFS	5.60	5.73	5.66	5.46	5.66	5.74	5.41	5.01
218.40	CFS	4.85	4.28	4.25	4.05	3.87	4.09	4.11	4.02
226.80	CFS	4.02	3.87	3.96	4.15	3.59	3.32	3.40	3.77
235.20	CFS	3.87	3.95	4.15	4.02	3.86	4.09	4.11	3.80

243.60 CFS 2.36 2.07 .73 .22

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
1.66 WATERSHED INCHES; 6418 CFS-HRS; 530.4 ACRE-FEET.

OPERATION ADDHYD XSECTION 35

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
122.01	1061.9	(NULL)
145.47	28.5	(NULL)
153.03	24.8	(NULL)
166.06	19.0	(NULL)
175.15	13.2	(NULL)
178.35	13.3	(NULL)
181.83	14.3	(NULL)
185.71	13.3	(NULL)
188.96	14.4	(NULL)
214.86	10.3	(NULL)

HYDROGRAPH POINTS FOR ALTERNATE = 1, STORM = 1
MAIN TIME INCREMENT = 1.050 hr, DRAINAGE AREA = 10.84 SQ.MI.

HRS								
.00 CFS	.00	1.19	1.19	3.85	4.52	6.08	7.00	7.30
8.40 CFS	7.36	7.40	7.42	7.39	7.91	8.12	8.49	8.83
16.80 CFS	8.96	9.10	9.12	9.12	9.15	9.13	9.14	9.20
25.20 CFS	9.49	9.54	9.87	9.96	10.00	10.02	9.96	9.90
33.60 CFS	9.88	9.87	9.87	9.97	9.99	10.02	10.02	9.99
42.00 CFS	9.91	9.88	9.87	9.87	9.95	9.99	10.44	11.44
50.40 CFS	11.73	12.80	13.20	13.31	13.34	13.35	13.35	13.35
58.80 CFS	13.35	13.35	13.35	13.35	13.35	13.35	13.35	13.35
67.20 CFS	13.35	13.35	13.35	13.45	13.47	14.42	15.41	16.09
75.60 CFS	17.36	17.82	18.07	18.11	18.14	18.15	18.09	18.03
84.00 CFS	18.11	20.38	20.42	22.71	23.58	23.86	23.93	23.92
92.40 CFS	23.84	23.82	23.92	23.92	23.94	23.95	25.32	29.08
100.80 CFS	30.20	36.75	38.41	41.00	41.99	44.34	46.53	48.13
109.20 CFS	51.07	52.13	57.24	57.56	67.36	71.55	81.92	98.45
117.60 CFS	118	479	494	915	1058	997	886	761
126.00 CFS	436	342	195	151	104	86	73	61
134.40 CFS	57.42	47.43	45.22	40.37	38.49	36.20	34.21	32.95
142.80 CFS	31.48	30.65	28.08	28.21	25.17	23.80	23.72	24.46
151.20 CFS	24.62	24.45	24.77	23.79	23.39	22.67	22.04	21.43
159.60 CFS	19.55	19.16	18.01	17.58	18.31	18.62	19.00	18.80
168.00 CFS	18.74	16.71	16.34	14.13	13.50	13.04	13.07	13.19
176.40 CFS	12.92	13.10	13.29	12.96	13.90	14.33	14.12	13.31
184.80 CFS	13.11	13.30	12.97	13.95	14.35	13.87	13.31	12.87
193.20 CFS	12.03	11.72	10.49	10.42	10.25	10.10	10.30	10.10
201.60 CFS	10.13	10.38	10.06	10.03	10.26	10.05	10.13	10.26
210.00 CFS	10.01	10.20	10.36	10.05	10.15	10.24	9.67	9.02
218.40 CFS	8.77	7.55	7.49	7.44	7.17	7.34	7.28	7.15
226.80 CFS	7.40	7.19	7.04	7.36	6.44	5.99	6.21	7.01
235.20 CFS	7.19	7.03	7.34	7.39	7.16	7.37	7.28	6.69

243.60 CFS 3.83 3.33 1.14 .32

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
1.66 WATERSHED INCHES; 11620 CFS-HRS; 960.3 ACRE-FEET.

OPERATION DIVERT XSECTION 35
OUTPUT #1 HYDROGRAPH

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
122.01	1061.9	(DIVERT)
145.47	28.5	(DIVERT)
153.03	24.8	(DIVERT)
166.06	19.0	(DIVERT)
175.15	13.2	(DIVERT)
178.35	13.3	(DIVERT)
181.83	14.3	(DIVERT)
185.71	13.3	(DIVERT)
188.96	14.4	(DIVERT)
214.86	10.3	(DIVERT)

HYDROGRAPH POINTS FOR ALTERNATE = 1, STORM = 1
MAIN TIME INCREMENT = 1.050 hr, DRAINAGE AREA = 10.84 SQ.MI.

HRS								
.00 CFS	.00	1.19	1.19	3.85	4.52	6.08	7.00	7.30
8.40 CFS	7.36	7.40	7.42	7.39	7.91	8.12	8.49	8.83
16.80 CFS	8.96	9.10	9.12	9.12	9.15	9.13	9.14	9.20
25.20 CFS	9.49	9.54	9.87	9.96	10.00	10.02	9.96	9.90
33.60 CFS	9.88	9.87	9.87	9.97	9.99	10.02	10.02	9.99
42.00 CFS	9.91	9.88	9.87	9.87	9.95	9.99	10.44	11.44
50.40 CFS	11.73	12.80	13.20	13.31	13.34	13.35	13.35	13.35
58.80 CFS	13.35	13.35	13.35	13.35	13.35	13.35	13.35	13.35
67.20 CFS	13.35	13.35	13.35	13.45	13.47	14.42	15.41	16.09
75.60 CFS	17.36	17.82	18.07	18.11	18.14	18.15	18.09	18.03
84.00 CFS	18.11	20.38	20.42	22.71	23.58	23.86	23.93	23.92
92.40 CFS	23.84	23.82	23.92	23.92	23.94	23.95	25.32	29.08
100.80 CFS	30.20	36.75	38.41	41.00	41.99	44.34	46.53	48.13
109.20 CFS	51.07	52.13	57.24	57.56	67.36	71.55	81.92	98.45
117.60 CFS	118	479	494	915	1058	997	886	761
126.00 CFS	436	342	195	151	104	86	73	61
134.40 CFS	57.42	47.43	45.22	40.37	38.49	36.20	34.21	32.95
142.80 CFS	31.48	30.65	28.08	28.21	25.17	23.80	23.72	24.46
151.20 CFS	24.62	24.45	24.77	23.79	23.39	22.67	22.04	21.43
159.60 CFS	19.55	19.16	18.01	17.58	18.31	18.62	19.00	18.80
168.00 CFS	18.74	16.71	16.34	14.13	13.50	13.04	13.07	13.19
176.40 CFS	12.92	13.10	13.29	12.96	13.90	14.33	14.12	13.31
184.80 CFS	13.11	13.30	12.97	13.95	14.35	13.87	13.31	12.87
193.20 CFS	12.03	11.72	10.49	10.42	10.25	10.10	10.30	10.10
201.60 CFS	10.13	10.38	10.06	10.03	10.26	10.05	10.13	10.26
210.00 CFS	10.01	10.20	10.36	10.05	10.15	10.24	9.67	9.02
218.40 CFS	8.77	7.55	7.49	7.44	7.17	7.34	7.28	7.15
226.80 CFS	7.40	7.19	7.04	7.36	6.44	5.99	6.21	7.01

235.20 CFS	7.19	7.03	7.34	7.39	7.16	7.37	7.28	6.69
243.60 CFS	3.83	3.33	1.14	.32				

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
1.66 WATERSHED INCHES; 11620 CFS-HRS; 960.3 ACRE-FEET.

OUTPUT #2 DIVERTED HYDROGRAPH (XSECTION 199)

*** MESSAGE - HYDROGRAPH CONTAINS NO FLOW ***

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
238 CFS-HRS; 960.3 ACRE-FEET.

*** WARNING - ROUTING COEFFICIENT (C) EQUALS 1.0,
CONSIDER SMALLER MAIN TIME INCREMENT FOR XSECTION 45. ***

OPERATION REACH XSECTION 45

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
122.01	1061.9	2.32
145.47	28.5	.17
153.03	24.8	.15
166.06	19.0	.11
175.15	13.2	.08
178.35	13.3	.08
181.83	14.3	.09
185.71	13.3	.08
188.96	14.4	.09
214.86	10.3	.06

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
1.66 WATERSHED INCHES; 11620 CFS-HRS; 960.3 ACRE-FEET.

OPERATION RUNOFF XSECTION 6

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
121.27	178.9	(RUNOFF)
143.18	4.5	(RUNOFF)
150.54	3.7	(RUNOFF)
169.58	2.1	(RUNOFF)
174.29	2.0	(RUNOFF)
181.13	2.1	(RUNOFF)
188.48	2.1	(RUNOFF)
212.62	1.7	(RUNOFF)
234.63	1.2	(RUNOFF)
239.03	1.2	(RUNOFF)

HYDROGRAPH POINTS FOR ALTERNATE = 1, STORM = 1
MAIN TIME INCREMENT = 1.050 hr, DRAINAGE AREA = 1.47 SQ.MI.

HRS								
2.10	CFS	.41	.95	1.02	1.04	1.06	1.05	1.02	1.02
10.50	CFS	1.06	1.06	1.22	1.26	1.26	1.26	1.27	1.30
18.90	CFS	1.30	1.26	1.26	1.29	1.30	1.33	1.38	1.39
27.30	CFS	1.42	1.42	1.39	1.38	1.38	1.38	1.38	1.38
35.70	CFS	1.39	1.42	1.42	1.39	1.38	1.38	1.38	1.38
44.10	CFS	1.38	1.38	1.42	1.42	1.68	1.87	1.87	1.87
52.50	CFS	1.87	1.87	1.87	1.87	1.87	1.87	1.87	1.87
60.90	CFS	1.87	1.87	1.87	1.87	1.87	1.87	1.87	1.87
69.30	CFS	1.87	1.91	1.91	2.31	2.52	2.52	2.52	2.52
77.70	CFS	2.56	2.56	2.53	2.52	2.52	2.52	2.57	3.34
86.10	CFS	3.34	3.37	3.38	3.35	3.34	3.34	3.34	3.34
94.50	CFS	3.38	3.38	3.34	3.34	4.29	5.13	5.29	5.94
102.90	CFS	5.94	5.94	5.94	7.05	7.37	7.37	7.37	7.58
111.30	CFS	9	9	12	12	15	18	49	142
119.70	CFS	144	175	175	82	59	45	23	22
128.10	CFS	12.62	12.62	9.38	8.96	7.83	6.92	6.58	5.29
136.50	CFS	5.29	5.29	5.29	4.46	4.07	4.20	4.48	4.43
144.90	CFS	3.29	3.26	3.26	3.26	3.45	3.66	3.63	3.26
153.30	CFS	3.26	3.26	3.26	3.00	2.85	2.75	2.44	2.44
161.70	CFS	2.44	2.44	2.76	2.85	2.66	2.44	2.40	2.04
170.10	CFS	2.04	1.66	1.63	1.91	2.04	1.90	1.63	1.66
178.50	CFS	2.04	2.04	2.04	2.04	1.81	1.63	1.72	2.04
186.90	CFS	2.04	2.04	2.04	1.71	1.63	1.63	1.63	1.57
195.30	CFS	1.22	1.22	1.63	1.63	1.39	1.22	1.32	1.63
203.70	CFS	1.61	1.22	1.22	1.53	1.63	1.47	1.22	1.26
212.10	CFS	1.63	1.63	1.28	1.22	1.22	1.22	1.15	.81
220.50	CFS	.81	1.19	1.22	.95	.81	.92	1.22	1.22
228.90	CFS	.83	.81	.81	.81	1.00	1.22	1.21	.82
237.30	CFS	.81	1.18	1.22	.96	.81	.61	.00	

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
1.68 WATERSHED INCHES; 1598 CFS-HRS; 132.0 ACRE-FEET.

*** WARNING - MAIN TIME INCREMENT (1.050) IS GREATER THAN 50% OF THE
TIME OF CONCENTRATION (.47) FOR SUBWATERSHED XSECTION 6.
THIS WILL REDUCE THE COMPUTED PEAK BY ABOUT -2.3%. ***

OPERATION REACH XSECTION 60

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
122.40	180.7	2.78
144.39	4.5	.11
151.78	3.7	.09
165.88	2.8	.07
182.19	2.1	.05
189.53	2.1	.05
213.87	1.6	.04
223.45	1.2	.03
228.53	1.2	.03
235.83	1.2	.03

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
1.67 WATERSHED INCHES; 1587 CFS-HRS; 131.1 ACRE-FEET.

*** WARNING - ROUTING COEFFICIENT (C) EQUALS 1.0,
CONSIDER SMALLER MAIN TIME INCREMENT FOR XSECTION 67. ***

OPERATION REACH XSECTION 67

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
122.40	180.7	1.83
144.39	4.5	.32
151.78	3.7	.26
165.88	2.8	.20
182.19	2.1	.14
189.53	2.1	.14
213.87	1.6	.11
223.45	1.2	.08
228.53	1.2	.09
235.83	1.2	.09

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
1.67 WATERSHED INCHES; 1587 CFS-HRS; 131.1 ACRE-FEET.

OPERATION ADDHYD XSECTION 64

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
122.07	1233.0	(NULL)
152.80	28.2	(NULL)
166.01	21.8	(NULL)
175.28	15.2	(NULL)
181.83	16.4	(NULL)
186.13	15.0	(NULL)
188.96	16.4	(NULL)
214.17	11.8	(NULL)
229.44	8.4	(NULL)
240.47	8.6	(NULL)

HYDROGRAPH POINTS FOR ALTERNATE = 1, STORM = 1
MAIN TIME INCREMENT = 1.050 hr, DRAINAGE AREA = 12.31 SQ.MI.

HRS								
.00 CFS	.00	1.19	1.52	4.24	5.36	7.06	8.03	8.35
8.40 CFS	8.41	8.42	8.44	8.44	8.97	9.31	9.73	10.09
16.80 CFS	10.22	10.37	10.41	10.42	10.42	10.40	10.43	10.50
25.20 CFS	10.81	10.91	11.25	11.37	11.42	11.41	11.35	11.28
33.60 CFS	11.26	11.25	11.25	11.36	11.41	11.44	11.41	11.38
42.00 CFS	11.29	11.26	11.25	11.25	11.34	11.40	11.86	13.07
50.40 CFS	13.55	14.66	15.07	15.18	15.21	15.22	15.22	15.22
58.80 CFS	15.22	15.22	15.22	15.22	15.22	15.22	15.22	15.22
67.20 CFS	15.22	15.22	15.22	15.33	15.37	16.33	17.63	18.55
75.60 CFS	19.87	20.34	20.59	20.66	20.70	20.69	20.62	20.55
84.00 CFS	20.64	22.95	23.60	26.01	26.94	27.24	27.28	27.26
92.40 CFS	27.18	27.15	27.26	27.29	27.32	27.30	28.66	33.18
100.80 CFS	35.12	41.97	44.21	46.92	47.93	50.28	53.35	55.39
109.20 CFS	58	59	65	66	76	83	93	113
117.60 CFS	135	522	616	1054	1226	1171	987	829
126.00 CFS	485	371	218	166	117	96	82	69
134.40 CFS	64.59	54.13	50.80	45.72	43.80	41.49	38.84	37.13
142.80 CFS	35.67	35.07	32.51	31.73	28.48	27.06	26.98	27.86
151.20 CFS	28.23	28.08	28.10	27.06	26.65	25.93	25.09	24.32
159.60 CFS	22.33	21.67	20.46	20.03	20.75	21.32	21.82	21.49
168.00 CFS	21.23	19.13	18.45	16.18	15.24	14.69	14.92	15.19
176.40 CFS	14.84	14.79	14.95	14.91	15.92	16.36	16.15	15.16
184.80 CFS	14.78	15.01	14.94	15.97	16.38	15.91	15.08	14.52
193.20 CFS	13.67	13.35	12.08	11.71	11.49	11.65	11.91	11.54
201.60 CFS	11.39	11.69	11.62	11.62	11.56	11.28	11.61	11.86
210.00 CFS	11.51	11.47	11.63	11.61	11.77	11.59	10.91	10.25
218.40 CFS	9.99	8.71	8.38	8.27	8.28	8.53	8.28	8.00
226.80 CFS	8.31	8.34	8.25	8.26	7.27	6.81	7.02	7.97
235.20 CFS	8.35	8.24	8.24	8.22	8.27	8.57	8.29	7.54
243.60 CFS	4.48	3.46	1.16	.32				

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
1.66 WATERSHED INCHES; 13207 CFS-HRS; 1091.4 ACRE-FEET.

OPERATION RUNOFF XSECTION 5

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
78.28	8.1	(RUNOFF)
121.36	569.3	(RUNOFF)
138.08	16.9	(RUNOFF)
143.30	14.3	(RUNOFF)
150.60	11.7	(RUNOFF)
164.86	9.0	(RUNOFF)
174.64	6.5	(RUNOFF)
180.43	6.4	(RUNOFF)
188.48	6.5	(RUNOFF)
208.22	5.2	(RUNOFF)

HYDROGRAPH POINTS FOR ALTERNATE = 1, STORM = 1
MAIN TIME INCREMENT = 1.050 hr, DRAINAGE AREA = 4.78 SQ.MI.

HRS								
.00 CFS	.00	1.28	1.28	2.92	3.21	3.27	3.34	3.32
8.40 CFS	3.21	3.21	3.33	3.34	3.76	3.98	3.98	3.98
16.80 CFS	3.98	4.11	4.11	4.00	3.98	4.04	4.11	4.14
25.20 CFS	4.37	4.37	4.48	4.49	4.41	4.37	4.37	4.37
33.60 CFS	4.37	4.37	4.37	4.47	4.49	4.43	4.37	4.37
42.00 CFS	4.37	4.37	4.37	4.37	4.46	4.49	4.87	5.91
50.40 CFS	5.91	5.91	5.91	5.91	5.91	5.91	5.91	5.91
58.80 CFS	5.91	5.91	5.91	5.91	5.91	5.91	5.91	5.91
67.20 CFS	5.91	5.91	5.91	6.01	6.03	6.91	7.96	7.96
75.60 CFS	7.96	7.96	8.08	8.09	8.00	7.96	7.96	7.96
84.00 CFS	8.07	10.47	10.53	10.64	10.66	10.60	10.53	10.53
92.40 CFS	10.53	10.53	10.65	10.66	10.57	10.53	12.17	16.18
100.80 CFS	16.22	18.72	18.75	18.75	18.75	20.91	23.24	23.24
109.20 CFS	23.24	23.31	28.33	28.63	34.05	36.85	41.93	55.47
117.60 CFS	62	448	448	537	552	373	187	174
126.00 CFS	73.19	72.66	42.18	39.80	32.11	28.25	26.69	21.83
134.40 CFS	21.61	16.69	16.69	16.69	16.69	14.82	12.84	13.01
142.80 CFS	14.12	14.10	10.56	10.27	10.27	10.27	10.59	11.56
151.20 CFS	11.48	10.28	10.27	10.27	10.27	9.67	8.99	8.82
159.60 CFS	7.70	7.70	7.70	7.70	8.62	8.99	8.63	7.70
168.00 CFS	7.63	6.44	6.42	5.35	5.14	5.72	6.42	6.27
176.40 CFS	5.14	5.14	6.36	6.42	6.42	6.42	6.04	5.14
184.80 CFS	5.20	6.39	6.42	6.42	6.42	5.83	5.14	5.14
193.20 CFS	5.14	5.14	3.89	3.85	4.72	5.14	4.76	3.85
201.60 CFS	3.89	5.11	5.14	4.05	3.85	4.46	5.14	4.97
210.00 CFS	3.85	3.86	5.08	5.14	4.29	3.85	3.85	3.85
218.40 CFS	3.85	2.57	2.57	3.66	3.85	3.23	2.57	2.73
226.80 CFS	3.85	3.83	2.65	2.57	2.57	2.57	2.90	3.85
235.20 CFS	3.81	2.57	2.57	3.65	3.85	3.22	2.57	2.25
243.60 CFS	.00							

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
1.67 WATERSHED INCHES; 5155 CFS-HRS; 426.0 ACRE-FEET.

*** WARNING - MAIN TIME INCREMENT (1.050) IS GREATER THAN 50% OF THE
TIME OF CONCENTRATION (.78) FOR SUBWATERSHED XSECTION 5.
THIS WILL REDUCE THE COMPUTED PEAK BY ABOUT -3.1%. ***

OPERATION RUNOFF XSECTION 7

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
121.49	403.1	(RUNOFF)
143.33	10.5	(RUNOFF)
150.66	8.4	(RUNOFF)
165.11	6.5	(RUNOFF)
174.73	4.7	(RUNOFF)
180.93	4.6	(RUNOFF)
188.48	4.7	(RUNOFF)
192.68	3.7	(RUNOFF)
208.35	3.8	(RUNOFF)
212.82	3.7	(RUNOFF)

HYDROGRAPH POINTS FOR ALTERNATE = 1, STORM = 1
MAIN TIME INCREMENT = 1.050 hr, DRAINAGE AREA = 3.48 SQ.MI.

HRS								
.00 CFS	.00	.90	.93	1.92	2.32	2.35	2.41	2.40
8.40 CFS	2.32	2.32	2.40	2.41	2.65	2.87	2.87	2.87
16.80 CFS	2.88	2.96	2.97	2.90	2.87	2.90	2.97	2.98
25.20 CFS	3.15	3.15	3.23	3.25	3.20	3.15	3.15	3.15
33.60 CFS	3.15	3.15	3.15	3.22	3.25	3.22	3.15	3.15
42.00 CFS	3.15	3.15	3.15	3.15	3.20	3.25	3.39	4.27
50.40 CFS	4.27	4.27	4.27	4.27	4.27	4.27	4.27	4.27
58.80 CFS	4.27	4.27	4.27	4.27	4.27	4.27	4.27	4.27
67.20 CFS	4.27	4.27	4.27	4.33	4.36	4.79	5.75	5.75
75.60 CFS	5.75	5.75	5.83	5.84	5.79	5.75	5.75	5.75
84.00 CFS	5.79	7.52	7.60	7.67	7.70	7.67	7.60	7.60
92.40 CFS	7.60	7.60	7.69	7.70	7.65	7.60	8.19	11.68
100.80 CFS	11.70	13.48	13.54	13.54	13.54	14.58	16.78	16.78
109.20 CFS	16.78	16.78	20.14	20.68	23.74	26.61	28.86	40.03
117.60 CFS	43	311	324	377	399	317	135	130
126.00 CFS	53.45	52.79	32.22	28.75	24.51	20.40	19.64	15.76
134.40 CFS	15.69	12.24	12.05	12.05	12.05	11.18	9.27	9.32
142.80 CFS	10.19	10.20	7.75	7.42	7.42	7.42	7.55	8.35
151.20 CFS	8.33	7.45	7.42	7.42	7.42	7.12	6.49	6.44
159.60 CFS	5.57	5.56	5.56	5.56	6.04	6.49	6.34	5.57
168.00 CFS	5.56	4.67	4.64	3.97	3.71	4.00	4.64	4.57
176.40 CFS	3.72	3.71	4.50	4.64	4.64	4.64	4.48	3.71
184.80 CFS	3.73	4.59	4.64	4.64	4.64	4.35	3.71	3.71
193.20 CFS	3.71	3.71	2.89	2.78	3.25	3.71	3.58	2.78
201.60 CFS	2.80	3.68	3.71	3.06	2.78	3.08	3.71	3.66
210.00 CFS	2.79	2.78	3.60	3.71	3.23	2.78	2.78	2.78
218.40 CFS	2.78	1.88	1.85	2.52	2.78	2.49	1.85	1.92
226.80 CFS	2.77	2.78	1.99	1.85	1.85	1.85	2.01	2.78
235.20 CFS	2.77	1.90	1.85	2.51	2.78	2.50	1.85	1.76

243.60 CFS .00

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
1.68 WATERSHED INCHES; 3762 CFS-HRS; 310.9 ACRE-FEET.

*** WARNING - MAIN TIME INCREMENT (1.050) IS GREATER THAN 50% OF THE
TIME OF CONCENTRATION (1.01) FOR SUBWATERSHED XSECTION 7.
THIS WILL REDUCE THE COMPUTED PEAK BY ABOUT -1.1%. ***

OPERATION ADDHYD XSECTION 75

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
121.40	971.9	(NULL)
138.08	29.1	(NULL)
143.32	24.6	(NULL)
150.63	20.1	(NULL)
164.97	15.5	(NULL)
174.68	11.2	(NULL)
180.84	11.1	(NULL)
188.48	11.2	(NULL)
208.28	8.9	(NULL)
212.74	9.0	(NULL)

HYDROGRAPH POINTS FOR ALTERNATE = 1, STORM = 1
MAIN TIME INCREMENT = 1.050 hr, DRAINAGE AREA = 8.26 SQ.MI.

HRS								
.00 CFS	.00	2.18	2.21	4.84	5.53	5.62	5.75	5.73
8.40 CFS	5.53	5.53	5.73	5.75	6.41	6.85	6.85	6.85
16.80 CFS	6.86	7.07	7.08	6.90	6.85	6.95	7.08	7.12
25.20 CFS	7.52	7.52	7.72	7.74	7.61	7.52	7.52	7.52
33.60 CFS	7.52	7.52	7.52	7.69	7.74	7.65	7.52	7.52
42.00 CFS	7.52	7.52	7.52	7.52	7.66	7.74	8.26	10.17
50.40 CFS	10.17	10.17	10.17	10.17	10.17	10.17	10.17	10.17
58.80 CFS	10.17	10.17	10.17	10.17	10.17	10.17	10.17	10.17
67.20 CFS	10.17	10.17	10.17	10.35	10.39	11.70	13.71	13.71
75.60 CFS	13.71	13.71	13.91	13.93	13.80	13.71	13.71	13.71
84.00 CFS	13.86	17.99	18.13	18.31	18.35	18.26	18.13	18.13
92.40 CFS	18.13	18.13	18.34	18.35	18.22	18.13	20.36	27.86
100.80 CFS	27.93	32.20	32.28	32.28	32.28	35.49	40.02	40.02
109.20 CFS	40.02	40.10	48.47	49.31	57.79	63.46	70.79	95.50
117.60 CFS	105	759	772	914	951	690	323	304
126.00 CFS	127	125	74	69	57	49	46	38
134.40 CFS	37.30	28.93	28.75	28.75	28.75	26.00	22.11	22.33
142.80 CFS	24.32	24.30	18.31	17.69	17.69	17.69	18.15	19.90
151.20 CFS	19.81	17.72	17.69	17.69	17.69	16.79	15.48	15.26
159.60 CFS	13.28	13.27	13.27	13.27	14.67	15.48	14.97	13.27
168.00 CFS	13.19	11.12	11.06	9.32	8.84	9.72	11.06	10.84
176.40 CFS	8.85	8.85	10.86	11.06	11.06	11.06	10.52	8.85
184.80 CFS	8.93	10.98	11.06	11.06	11.06	10.18	8.84	8.84
193.20 CFS	8.84	8.84	6.78	6.63	7.97	8.84	8.33	6.63
201.60 CFS	6.69	8.79	8.84	7.11	6.63	7.54	8.85	8.63

210.00 CFS	6.64	6.64	8.68	8.84	7.52	6.63	6.63	6.63
218.40 CFS	6.63	4.45	4.42	6.18	6.63	5.71	4.42	4.64
226.80 CFS	6.62	6.61	4.64	4.42	4.42	4.42	4.91	6.63
235.20 CFS	6.58	4.47	4.42	6.16	6.63	5.72	4.42	4.01
243.60 CFS	.00							

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
1.67 WATERSHED INCHES; 8917 CFS-HRS; 736.9 ACRE-FEET.

OPERATION ADDHYD XSECTION 76

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
121.69	2179.1	(NULL)
142.76	60.0	(NULL)
150.79	48.2	(NULL)
165.37	37.0	(NULL)
174.85	26.3	(NULL)
181.52	27.4	(NULL)
188.72	27.5	(NULL)
198.77	20.6	(NULL)
203.17	20.8	(NULL)
208.44	20.8	(NULL)

HYDROGRAPH POINTS FOR ALTERNATE = 1, STORM = 1
MAIN TIME INCREMENT = 1.050 hr, DRAINAGE AREA = 20.57 SQ.MI.

HRS								
.00 CFS	.00	3.38	3.73	9.09	10.89	12.68	13.78	14.08
8.40 CFS	13.94	13.95	14.17	14.19	15.38	16.17	16.59	16.95
16.80 CFS	17.08	17.44	17.49	17.33	17.28	17.34	17.50	17.62
25.20 CFS	18.33	18.43	18.97	19.11	19.03	18.93	18.87	18.80
33.60 CFS	18.78	18.77	18.77	19.05	19.14	19.09	18.93	18.89
42.00 CFS	18.81	18.78	18.77	18.77	18.99	19.14	20.12	23.24
50.40 CFS	23.72	24.83	25.24	25.35	25.38	25.39	25.39	25.39
58.80 CFS	25.39	25.39	25.39	25.39	25.39	25.39	25.39	25.39
67.20 CFS	25.39	25.39	25.39	25.67	25.76	28.03	31.34	32.26
75.60 CFS	33.58	34.05	34.50	34.59	34.49	34.39	34.33	34.26
84.00 CFS	34.49	40.94	41.73	44.32	45.29	45.50	45.41	45.39
92.40 CFS	45.31	45.29	45.60	45.65	45.54	45.44	49.02	61.04
100.80 CFS	63.04	74.17	76.49	79.20	80.21	85.77	93.38	95.41
109.20 CFS	98	100	113	116	134	146	164	208
117.60 CFS	240	1281	1387	1968	2176	1861	1310	1133
126.00 CFS	612	496	293	234	174	144	129	107
134.40 CFS	102	83	80	74	73	67	61	59
142.80 CFS	59.99	59.37	50.82	49.42	46.17	44.75	45.13	47.77
151.20 CFS	48.04	45.80	45.79	44.75	44.34	42.72	40.57	39.58
159.60 CFS	35.61	34.94	33.73	33.30	35.42	36.80	36.79	34.76
168.00 CFS	34.42	30.24	29.51	25.50	24.08	24.42	25.98	26.03
176.40 CFS	23.70	23.63	25.80	25.97	26.98	27.42	26.68	24.01
184.80 CFS	23.71	25.99	26.00	27.02	27.44	26.09	23.93	23.37
193.20 CFS	22.51	22.19	18.86	18.35	19.46	20.50	20.24	18.17
201.60 CFS	18.08	20.48	20.46	18.73	18.19	18.82	20.45	20.49

210.00 CFS	18.16	18.12	20.31	20.45	19.28	18.22	17.55	16.88
218.40 CFS	16.62	13.16	12.80	14.45	14.92	14.25	12.70	12.65
226.80 CFS	14.93	14.96	12.89	12.68	11.69	11.23	11.94	14.61
235.20 CFS	14.93	12.71	12.66	14.39	14.90	14.29	12.71	11.55
243.60 CFS	4.48	3.46	1.16	.32				

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
1.67 WATERSHED INCHES; 22124 CFS-HRS; 1828.3 ACRE-FEET.

--- XSECTION 76, ALTERNATE 1, STORM 1, HYDROGRAPH ADDED TO READHD FILE ---

*** MESSAGE - STRUCTURE 1, USER ENTERED STARTING ELEVATION (1199.2 FEET) CAN ADD .456 INCHES OF RUNOFF TO THE OUTFLOW HYDROGRAPH VOLUME.***

*** MESSAGE - RESERVOIR ROUTING, STRUCTURE 1, TRUNCATED AT 400 POINTS WITH 1247.26 AC-FT (.09 WATERSHED INCHES) FLOOD STORAGE REMAINING IN RESERVOIR AT ELEV. 1204.37. ***

OPERATION RESVOR STRUCTURE 1

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
146.38	48.0	1207.64

*** WARNING - STRUCTURE 1, HYDROGRAPH VOLUME TRUNCATED AT 30 CFS
RESVOR (63. % OF MAX. HYDROGRAPH COORDINATE)
MAIN TIME INCREMENT TOO SMALL. ***

HYDROGRAPH POINTS FOR ALTERNATE = 1, STORM = 1
MAIN TIME INCREMENT = 1.050 hr, DRAINAGE AREA = 20.57 SQ.MI.

HRS								
.00 CFS	.21	.22	.23	.25	.29	.34	.39	.44
8.40 CFS	.50	.55	.60	.66	.71	.77	.83	.90
16.80 CFS	.96	1.02	1.09	1.15	1.22	1.28	1.35	1.41
25.20 CFS	1.48	1.54	1.61	1.68	1.75	1.82	1.88	1.95
33.60 CFS	2.02	2.08	2.15	2.22	2.28	2.35	2.42	2.48
42.00 CFS	2.55	2.61	2.67	2.74	2.80	2.87	2.93	3.01
50.40 CFS	3.09	3.17	3.26	3.35	3.43	3.52	3.61	3.69
58.80 CFS	3.78	3.86	3.95	4.03	4.12	4.20	4.29	4.37
67.20 CFS	4.45	4.54	4.62	4.70	4.78	4.87	4.97	5.08
75.60 CFS	5.19	5.30	5.41	5.53	5.64	5.76	5.87	5.98
84.00 CFS	6.10	6.22	6.36	6.51	6.66	6.81	6.96	7.12
92.40 CFS	7.27	7.42	7.57	7.72	7.87	8.02	8.17	8.36
100.80 CFS	8.57	8.81	9.07	9.34	9.62	9.91	10.23	10.56
109.20 CFS	10.90	11.25	11.63	12.03	12.48	12.99	13.55	14.23
117.60 CFS	15.06	17.60	21.74	26.94	32.08	36.83	40.30	42.70
126.00 CFS	44.38	45.42	46.13	46.57	46.89	47.12	47.30	47.44
134.40 CFS	47.56	47.65	47.72	47.78	47.83	47.87	47.91	47.93
142.80 CFS	47.96	47.98	47.99	48.00	48.00	47.99	47.99	47.98
151.20 CFS	47.98	47.98	47.98	47.97	47.96	47.95	47.94	47.93
159.60 CFS	47.91	47.88	47.85	47.82	47.80	47.77	47.75	47.73
168.00 CFS	47.70	47.67	47.63	47.59	47.54	47.50	47.45	47.41

176.40 CFS	47.36	47.31	47.27	47.22	47.18	47.14	47.10	47.06
184.80 CFS	47.01	46.97	46.92	46.88	46.84	46.80	46.76	46.71
193.20 CFS	46.66	46.61	46.56	46.50	46.45	46.39	46.34	46.28
201.60 CFS	46.23	46.17	46.12	46.07	46.01	45.95	45.90	45.85
210.00 CFS	45.80	45.74	45.69	45.63	45.58	45.53	45.47	45.41
218.40 CFS	45.36	45.29	45.23	45.16	45.10	45.04	44.98	44.91
226.80 CFS	44.85	44.79	44.72	44.66	44.59	44.53	44.46	44.40
235.20 CFS	44.34	44.27	44.21	44.15	44.09	44.03	43.97	43.90
243.60 CFS	43.83	43.75	43.66	43.58	43.49	43.40	43.31	43.22
252.00 CFS	43.14	43.05	42.96	42.87	42.79	42.70	42.61	42.53
260.40 CFS	42.44	42.35	42.27	42.18	42.10	42.01	41.93	41.84
268.80 CFS	41.76	41.67	41.59	41.50	41.42	41.33	41.25	41.17
277.20 CFS	41.08	41.00	40.92	40.83	40.75	40.67	40.58	40.50
285.60 CFS	40.42	40.34	40.26	40.17	40.09	40.01	39.93	39.85
294.00 CFS	39.77	39.69	39.61	39.53	39.45	39.37	39.29	39.21
302.40 CFS	39.13	39.05	38.96	38.87	38.78	38.68	38.59	38.50
310.80 CFS	38.41	38.32	38.22	38.13	38.04	37.95	37.86	37.77
319.20 CFS	37.68	37.59	37.50	37.41	37.32	37.23	37.14	37.05
327.60 CFS	36.97	36.88	36.79	36.70	36.61	36.53	36.44	36.35
336.00 CFS	36.26	36.18	36.09	36.00	35.92	35.83	35.75	35.66
344.40 CFS	35.58	35.49	35.41	35.32	35.24	35.15	35.07	34.99
352.80 CFS	34.90	34.82	34.74	34.65	34.57	34.49	34.40	34.32
361.20 CFS	34.24	34.16	34.08	34.00	33.91	33.83	33.75	33.67
369.60 CFS	33.59	33.51	33.43	33.35	33.27	33.19	33.11	33.03
378.00 CFS	32.95	32.88	32.80	32.72	32.64	32.56	32.48	32.41
386.40 CFS	32.33	32.25	32.18	32.10	32.02	31.95	31.87	31.79
394.80 CFS	31.72	31.64	31.57	31.49	31.41	31.34	31.26	31.19
403.20 CFS	31.12	31.04	30.97	30.89	30.82	30.75	30.67	30.60
411.60 CFS	30.53	30.45	30.38	30.31	30.24	30.16	30.09	30.02

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
.96 WATERSHED INCHES; 12714 CFS-HRS; 1050.7 ACRE-FEET.

--- STRUCTURE 1, ALTERNATE 1, STORM 1, HYDROGRAPH ADDED TO READHD FILE ---

EXECUTIVE CONTROL ENDCMP COMPUTATIONS COMPLETED FOR PASS 1

EXECUTIVE CONTROL COMPUT FROM XSECTION 1 TO STRUCTURE 1
STARTING TIME = .00 RAIN DEPTH = 1.00 RAIN DURATION = 1.00
ANT. RUNOFF COND. = 2 MAIN TIME INCREMENT = 1.050 HOURS
ALTERNATE NO. = 2 STORM NO. = 1 RAIN TABLE NO. = 1

OPERATION RUNOFF XSECTION 1

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
121.40	290.4	(RUNOFF)
138.08	8.7	(RUNOFF)
143.29	7.3	(RUNOFF)
150.61	6.0	(RUNOFF)
164.99	4.6	(RUNOFF)
174.63	3.3	(RUNOFF)
179.55	3.3 *	(RUNOFF)
187.64	3.3	(RUNOFF)
192.22	2.6	(RUNOFF)
208.25	2.7	(RUNOFF)

* FIRST POINT OF FLAT PEAK

HYDROGRAPH POINTS FOR ALTERNATE = 2, STORM = 1
MAIN TIME INCREMENT = 1.050 hr, DRAINAGE AREA = 2.46 SQ.MI.

HRS									
.00	CFS	.00	.66	.66	1.45	1.65	1.68	1.72	1.71
8.40	CFS	1.65	1.65	1.71	1.72	1.92	2.05	2.05	2.05
16.80	CFS	2.05	2.11	2.11	2.06	2.05	2.08	2.11	2.13
25.20	CFS	2.25	2.25	2.31	2.31	2.27	2.25	2.25	2.25
33.60	CFS	2.25	2.25	2.25	2.30	2.31	2.29	2.25	2.25
42.00	CFS	2.25	2.25	2.25	2.25	2.29	2.31	2.48	3.04
50.40	CFS	3.04	3.04	3.04	3.04	3.04	3.04	3.04	3.04
58.80	CFS	3.04	3.04	3.04	3.04	3.04	3.04	3.04	3.04
67.20	CFS	3.04	3.04	3.04	3.09	3.11	3.51	4.10	4.10
75.60	CFS	4.10	4.10	4.16	4.16	4.12	4.10	4.10	4.10
84.00	CFS	4.11	5.40	5.42	5.47	5.48	5.46	5.42	5.42
92.40	CFS	5.42	5.42	5.48	5.48	5.44	5.42	6.18	8.33
100.80	CFS	8.41	9.58	9.65	9.65	9.65	10.62	11.96	11.96
109.20	CFS	11.96	12.01	14.43	14.74	17.28	18.96	21.33	28.55
117.60	CFS	33.56	229.35	230.66	273.71	284.13	207.45	96.47	89.78
126.00	CFS	38.02	37.66	22.09	20.48	16.69	14.54	13.75	11.23
134.40	CFS	11.10	8.71	8.59	8.59	8.59	7.72	6.61	6.68
142.80	CFS	7.27	7.25	5.50	5.29	5.29	5.29	5.46	5.95
151.20	CFS	5.91	5.31	5.29	5.29	5.29	5.02	4.63	4.55
159.60	CFS	3.96	3.96	3.96	3.96	4.38	4.63	4.48	3.96
168.00	CFS	3.95	3.32	3.30	2.79	2.64	2.93	3.30	3.22
176.40	CFS	2.65	2.64	3.25	3.30	3.30	3.30	3.13	2.64
184.80	CFS	2.68	3.27	3.30	3.30	3.30	3.03	2.64	2.64
193.20	CFS	2.64	2.63	2.05	1.98	2.38	2.64	2.49	1.98
201.60	CFS	1.99	2.64	2.64	2.11	1.98	2.26	2.64	2.56
210.00	CFS	1.99	1.98	2.58	2.64	2.22	1.98	1.98	1.98
218.40	CFS	1.95	1.35	1.32	1.83	1.98	1.70	1.32	1.39
226.80	CFS	1.98	1.97	1.39	1.32	1.32	1.32	1.49	1.98
235.20	CFS	1.95	1.34	1.32	1.85	1.98	1.72	1.32	1.17
243.60	CFS	.00							

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
1.68 WATERSHED INCHES; 2671 CFS-HRS; 220.7 ACRE-FEET.

*** WARNING - MAIN TIME INCREMENT (1.050) IS GREATER THAN 50% OF THE
TIME OF CONCENTRATION (.85) FOR SUBWATERSHED XSECTION 1.
THIS WILL REDUCE THE COMPUTED PEAK BY ABOUT -2.1%. ***

OPERATION REACH XSECTION 5

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
122.55	283.3	2.23
144.42	7.4	.39
151.83	5.9	.36
166.22	4.6	.32
175.87	3.3	.23
182.21	3.3	.23
189.54	3.3	.23
214.00	2.6	.18
240.45	1.9	.14

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
1.62 WATERSHED INCHES; 2576 CFS-HRS; 212.9 ACRE-FEET.

OPERATION REACH XSECTION 10

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
123.70	277.3	3.72
145.52	7.3	.92
153.01	5.9	.88
167.44	4.5	.78
177.05	3.2	.56
183.33	3.3	.57
190.64	3.3	.57
215.18	2.6	.44
241.65	1.9	.33

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
1.66 WATERSHED INCHES; 2642 CFS-HRS; 218.3 ACRE-FEET.

OPERATION RUNOFF XSECTION 2

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
78.23	4.0	(RUNOFF)
121.33	285.1	(RUNOFF)
137.49	8.3	(RUNOFF)
143.33	7.3	(RUNOFF)
154.35	5.1	(RUNOFF)
164.80	4.5	(RUNOFF)
174.61	3.2	(RUNOFF)
181.13	3.2	(RUNOFF)
188.48	3.2	(RUNOFF)
192.69	2.6	(RUNOFF)

HYDROGRAPH POINTS FOR ALTERNATE = 2, STORM = 1
MAIN TIME INCREMENT = 1.050 hr, DRAINAGE AREA = 2.38 SQ.MI.

HRS								
.00 CFS	.00	.64	.64	1.49	1.60	1.63	1.66	1.65
8.40 CFS	1.60	1.60	1.66	1.66	1.90	1.98	1.98	1.98
16.80 CFS	1.99	2.05	2.05	1.99	1.98	2.01	2.05	2.06
25.20 CFS	2.17	2.17	2.23	2.24	2.19	2.17	2.17	2.17
33.60 CFS	2.17	2.17	2.17	2.23	2.24	2.20	2.17	2.17
42.00 CFS	2.17	2.17	2.17	2.17	2.22	2.24	2.46	2.94
50.40 CFS	2.94	2.94	2.94	2.94	2.94	2.94	2.94	2.94
58.80 CFS	2.94	2.94	2.94	2.94	2.94	2.94	2.94	2.94
67.20 CFS	2.94	2.94	2.94	3.00	3.00	3.49	3.96	3.96
75.60 CFS	3.96	3.96	4.03	4.03	3.98	3.96	3.96	3.96
84.00 CFS	4.03	5.24	5.24	5.30	5.31	5.27	5.24	5.24
92.40 CFS	5.24	5.24	5.30	5.31	5.26	5.24	5.96	8.06
100.80 CFS	8.11	9.32	9.33	9.33	9.33	10.46	11.57	11.57
109.20 CFS	11.57	11.57	14.21	14.26	17.19	18.35	21.32	27.62
117.60 CFS	36.73	223.11	223.11	269.22	274.90	177.77	93.34	85.77
126.00 CFS	36.44	36.28	20.57	19.82	15.53	14.06	13.20	10.87
134.40 CFS	10.74	8.33	8.31	8.31	8.31	7.35	6.39	6.48
142.80 CFS	7.03	7.03	5.17	5.11	5.11	5.11	5.32	5.75
151.20 CFS	5.73	5.11	5.11	5.11	5.11	4.77	4.48	4.39
159.60 CFS	3.84	3.84	3.84	3.84	4.32	4.48	4.29	3.84
168.00 CFS	3.80	3.20	3.20	2.63	2.56	2.88	3.20	3.12
176.40 CFS	2.56	2.56	3.17	3.20	3.20	3.20	2.99	2.56
184.80 CFS	2.57	3.20	3.20	3.20	3.20	2.85	2.56	2.56
193.20 CFS	2.56	2.55	1.94	1.92	2.41	2.56	2.37	1.92
201.60 CFS	1.96	2.56	2.56	2.00	1.92	2.24	2.56	2.47
210.00 CFS	1.92	1.92	2.53	2.56	2.10	1.92	1.92	1.92
218.40 CFS	1.91	1.28	1.28	1.85	1.92	1.58	1.28	1.37
226.80 CFS	1.92	1.91	1.29	1.28	1.28	1.28	1.48	1.92
235.20 CFS	1.88	1.28	1.28	1.84	1.92	1.59	1.28	1.10
243.60 CFS	.00							

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
1.67 WATERSHED INCHES; 2561 CFS-HRS; 211.6 ACRE-FEET.

*** WARNING - MAIN TIME INCREMENT (1.050) IS GREATER THAN 50% OF THE
TIME OF CONCENTRATION (.73) FOR SUBWATERSHED XSECTION 2.
THIS WILL REDUCE THE COMPUTED PEAK BY ABOUT -3.7%. ***

OPERATION ADDHYD XSECTION 12

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
121.80	488.3	(NULL)
145.48	12.4	(NULL)
150.94	11.1	(NULL)
153.00	11.0	(NULL)
165.72	8.5	(NULL)
178.68	6.0	(NULL)
181.69	6.4	(NULL)
186.07	6.0	(NULL)
188.84	6.4	(NULL)
212.28	4.7	(NULL)

HYDROGRAPH POINTS FOR ALTERNATE = 2, STORM = 1
MAIN TIME INCREMENT = 1.050 hr, DRAINAGE AREA = 4.84 SQ.MI.

HRS								
.00 CFS	.00	.64	.64	1.93	2.20	2.81	3.18	3.29
8.40 CFS	3.29	3.30	3.33	3.32	3.59	3.69	3.84	3.97
16.80 CFS	4.02	4.09	4.09	4.08	4.09	4.09	4.10	4.13
25.20 CFS	4.27	4.29	4.44	4.47	4.47	4.48	4.46	4.43
33.60 CFS	4.42	4.42	4.42	4.48	4.48	4.49	4.48	4.47
42.00 CFS	4.43	4.42	4.42	4.42	4.47	4.48	4.74	5.24
50.40 CFS	5.36	5.78	5.93	5.97	5.98	5.98	5.98	5.98
58.80 CFS	5.98	5.98	5.98	5.98	5.98	5.98	5.98	5.98
67.20 CFS	5.98	5.98	5.98	6.04	6.04	6.56	7.06	7.33
75.60 CFS	7.83	8.00	8.11	8.12	8.12	8.12	8.10	8.07
84.00 CFS	8.13	9.34	9.35	10.28	10.61	10.70	10.71	10.70
92.40 CFS	10.67	10.66	10.72	10.72	10.72	10.72	11.42	13.48
100.80 CFS	14.04	16.88	17.51	18.48	18.85	20.07	21.21	21.87
109.20 CFS	23.01	23.40	26.14	26.24	30.83	32.77	37.69	45.80
117.60 CFS	57	249	254	434	488	433	369	316
126.00 CFS	175	139	79	63	44	37	32	27
134.40 CFS	25.04	20.52	19.70	17.87	17.16	16.00	15.00	14.49
142.80 CFS	14.08	13.80	12.26	12.32	11.17	10.62	10.66	11.05
151.20 CFS	11.13	10.89	10.99	10.61	10.46	10.07	9.76	9.50
159.60 CFS	8.61	8.45	8.01	7.85	8.30	8.44	8.54	8.34
168.00 CFS	8.30	7.34	7.19	6.17	5.92	5.85	5.93	5.98
176.40 CFS	5.72	5.77	6.01	5.89	6.26	6.43	6.28	5.86
184.80 CFS	5.76	6.01	5.91	6.28	6.44	6.14	5.86	5.68
193.20 CFS	5.35	5.23	4.59	4.55	4.66	4.61	4.63	4.44
201.60 CFS	4.46	4.71	4.59	4.43	4.51	4.51	4.62	4.66
210.00 CFS	4.42	4.47	4.70	4.59	4.50	4.49	4.26	4.01
218.40 CFS	3.92	3.27	3.24	3.40	3.30	3.25	3.17	3.13
226.80 CFS	3.38	3.32	3.08	3.20	2.85	2.67	2.81	3.24
235.20 CFS	3.32	3.09	3.20	3.37	3.29	3.28	3.18	2.88

243.60 CFS 1.47 1.26 .40

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
1.67 WATERSHED INCHES; 5202 CFS-HRS; 429.9 ACRE-FEET.

OPERATION DIVERT XSECTION 12
OUTPUT #1 HYDROGRAPH

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
121.80	488.3	(DIVERT)
145.48	12.4	(DIVERT)
150.94	11.1	(DIVERT)
153.00	11.0	(DIVERT)
165.72	8.5	(DIVERT)
178.68	6.0	(DIVERT)
181.69	6.4	(DIVERT)
186.07	6.0	(DIVERT)
188.84	6.4	(DIVERT)
212.28	4.7	(DIVERT)

HYDROGRAPH POINTS FOR ALTERNATE = 2, STORM = 1
MAIN TIME INCREMENT = 1.050 hr, DRAINAGE AREA = 4.84 SQ.MI.

HRS								
.00 CFS	.00	.64	.64	1.93	2.20	2.81	3.18	3.29
8.40 CFS	3.29	3.30	3.33	3.32	3.59	3.69	3.84	3.97
16.80 CFS	4.02	4.09	4.09	4.08	4.09	4.09	4.10	4.13
25.20 CFS	4.27	4.29	4.44	4.47	4.47	4.48	4.46	4.43
33.60 CFS	4.42	4.42	4.42	4.48	4.48	4.49	4.48	4.47
42.00 CFS	4.43	4.42	4.42	4.42	4.47	4.48	4.74	5.24
50.40 CFS	5.36	5.78	5.93	5.97	5.98	5.98	5.98	5.98
58.80 CFS	5.98	5.98	5.98	5.98	5.98	5.98	5.98	5.98
67.20 CFS	5.98	5.98	5.98	6.04	6.04	6.56	7.06	7.33
75.60 CFS	7.83	8.00	8.11	8.12	8.12	8.12	8.10	8.07
84.00 CFS	8.13	9.34	9.35	10.28	10.61	10.70	10.71	10.70
92.40 CFS	10.67	10.66	10.72	10.72	10.72	10.72	11.42	13.48
100.80 CFS	14.04	16.88	17.51	18.48	18.85	20.07	21.21	21.87
109.20 CFS	23.01	23.40	26.14	26.24	30.83	32.77	37.69	45.80
117.60 CFS	57	249	254	434	488	433	369	316
126.00 CFS	175	139	79	63	44	37	32	27
134.40 CFS	25.04	20.52	19.70	17.87	17.16	16.00	15.00	14.49
142.80 CFS	14.08	13.80	12.26	12.32	11.17	10.62	10.66	11.05
151.20 CFS	11.13	10.89	10.99	10.61	10.46	10.07	9.76	9.50
159.60 CFS	8.61	8.45	8.01	7.85	8.30	8.44	8.54	8.34
168.00 CFS	8.30	7.34	7.19	6.17	5.92	5.85	5.93	5.98
176.40 CFS	5.72	5.77	6.01	5.89	6.26	6.43	6.28	5.86
184.80 CFS	5.76	6.01	5.91	6.28	6.44	6.14	5.86	5.68
193.20 CFS	5.35	5.23	4.59	4.55	4.66	4.61	4.63	4.44
201.60 CFS	4.46	4.71	4.59	4.43	4.51	4.51	4.62	4.66
210.00 CFS	4.42	4.47	4.70	4.59	4.50	4.49	4.26	4.01
218.40 CFS	3.92	3.27	3.24	3.40	3.30	3.25	3.17	3.13
226.80 CFS	3.38	3.32	3.08	3.20	2.85	2.67	2.81	3.24

```
   235.20 CFS      3.32    3.09    3.20    3.37    3.29    3.28    3.18    2.88
   243.60 CFS      1.47    1.26     .40

    RUNOFF ABOVE BASEFLOW  (BASEFLOW =     .00 CFS)
                  1.67 WATERSHED INCHES;    5202 CFS-HRS;     429.9 ACRE-FEET.


           OUTPUT #2 DIVERTED HYDROGRAPH (XSECTION  200)

 *** MESSAGE - HYDROGRAPH CONTAINS NO FLOW                                  ***

    RUNOFF ABOVE BASEFLOW  (BASEFLOW =     .00 CFS)
                    237 CFS-HRS;     429.9 ACRE-FEET.

 *** WARNING - ROUTING COEFFICIENT (C) EQUALS 1.0,
               CONSIDER SMALLER MAIN TIME INCREMENT FOR XSECTION  20.       ***


OPERATION REACH     XSECTION  20

    PEAK TIME(HRS)             PEAK DISCHARGE(CFS)          PEAK ELEVATION(FEET)
      121.80                        488.3                          2.45
      145.48                         12.4                           .13
      150.94                         11.1                           .11
      153.00                         11.0                           .11
      165.72                          8.5                           .09
      178.68                          6.0                           .06
      181.69                          6.4                           .06
      186.07                          6.0                           .06
      188.84                          6.4                           .07
      212.28                          4.7                           .05

    RUNOFF ABOVE BASEFLOW  (BASEFLOW =     .00 CFS)
                  1.67 WATERSHED INCHES;    5202 CFS-HRS;     429.9 ACRE-FEET.

 *** WARNING - ROUTING COEFFICIENT (C) EQUALS 1.0,
               CONSIDER SMALLER MAIN TIME INCREMENT FOR XSECTION  25.       ***


OPERATION REACH     XSECTION  25
```

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
121.80	488.3	1.54
145.48	12.4	.08
150.94	11.1	.07
153.00	11.0	.07
165.72	8.5	.05
178.68	6.0	.04
181.69	6.4	.04
186.07	6.0	.04
188.84	6.4	.04
212.28	4.7	.03

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
1.67 WATERSHED INCHES; 5202 CFS-HRS; 429.9 ACRE-FEET.

OPERATION RUNOFF XSECTION 3

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
121.39	461.9	(RUNOFF)
126.52	63.0	(RUNOFF)
138.08	13.8	(RUNOFF)
143.32	11.7	(RUNOFF)
150.67	9.6	(RUNOFF)
154.88	8.5	(RUNOFF)
165.01	7.4	(RUNOFF)
174.70	5.3	(RUNOFF)
181.12	5.2	(RUNOFF)
186.90	5.2 *	(RUNOFF)

* FIRST POINT OF FLAT PEAK

HYDROGRAPH POINTS FOR ALTERNATE = 2, STORM = 1
MAIN TIME INCREMENT = 1.050 hr, DRAINAGE AREA = 3.94 SQ.MI.

HRS								
.00 CFS	.00	1.05	1.05	2.37	2.62	2.67	2.73	2.72
8.40 CFS	2.62	2.62	2.72	2.73	3.06	3.25	3.25	3.25
16.80 CFS	3.26	3.36	3.36	3.27	3.25	3.30	3.36	3.38
25.20 CFS	3.57	3.57	3.67	3.67	3.61	3.57	3.57	3.57
33.60 CFS	3.57	3.57	3.57	3.66	3.67	3.63	3.57	3.57
42.00 CFS	3.57	3.57	3.57	3.57	3.64	3.67	3.91	4.83
50.40 CFS	4.83	4.83	4.83	4.83	4.83	4.83	4.83	4.83
58.80 CFS	4.83	4.83	4.83	4.83	4.83	4.83	4.83	4.83
67.20 CFS	4.83	4.83	4.83	4.92	4.93	5.55	6.51	6.51
75.60 CFS	6.51	6.51	6.61	6.61	6.55	6.51	6.51	6.51
84.00 CFS	6.54	8.59	8.61	8.70	8.71	8.67	8.61	8.61
92.40 CFS	8.61	8.61	8.71	8.71	8.65	8.61	9.50	13.23
100.80 CFS	13.26	15.31	15.33	15.33	15.33	16.76	19.00	19.00
109.20 CFS	19.00	19.00	23.26	23.41	27.69	30.13	33.19	45.35
117.60 CFS	49	364	366	437	451	331	153	147
126.00 CFS	59.84	59.84	34.19	32.54	26.67	23.10	22.09	17.85

134.40 CFS	17.77	13.69	13.65	13.65	13.65	12.40	10.50	10.57
142.80 CFS	11.55	11.54	8.50	8.40	8.40	8.40	8.60	9.45
151.20 CFS	9.44	8.40	8.40	8.40	8.40	7.98	7.35	7.29
159.60 CFS	6.30	6.30	6.30	6.30	6.95	7.35	7.14	6.30
168.00 CFS	6.28	5.26	5.25	4.39	4.20	4.62	5.25	5.17
176.40 CFS	4.20	4.20	5.22	5.25	5.25	5.25	5.05	4.20
184.80 CFS	4.20	5.25	5.25	5.25	5.25	4.83	4.20	4.20
193.20 CFS	4.20	4.20	3.21	3.15	3.81	4.20	3.99	3.15
201.60 CFS	3.17	4.19	4.20	3.33	3.15	3.57	4.20	4.12
210.00 CFS	3.15	3.15	4.16	4.20	3.54	3.15	3.15	3.15
218.40 CFS	3.14	2.10	2.10	2.98	3.15	2.74	2.10	2.16
226.80 CFS	3.15	3.15	2.16	2.10	2.10	2.10	2.31	3.15
235.20 CFS	3.13	2.11	2.10	2.98	3.15	2.73	2.10	1.94
243.60 CFS	.00							

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
1.67 WATERSHED INCHES; 4251 CFS-HRS; 351.3 ACRE-FEET.

*** WARNING - MAIN TIME INCREMENT (1.050) IS GREATER THAN 50% OF THE
TIME OF CONCENTRATION (.88) FOR SUBWATERSHED XSECTION 3.
THIS WILL REDUCE THE COMPUTED PEAK BY ABOUT -2.3%. ***

OPERATION REACH XSECTION 30

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
122.60	444.1	2.56
144.45	11.7	.88
151.93	9.4	.85
166.33	7.2	.81
175.98	5.2	.77
182.27	5.3	.77
189.57	5.3	.77
204.49	4.2	.64
209.58	4.1	.64
214.02	4.1	.64

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
1.61 WATERSHED INCHES; 4102 CFS-HRS; 339.0 ACRE-FEET.

OPERATION REACH XSECTION 5

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
123.73	437.4	2.71
145.53	11.6	.45
153.06	9.4	.42
167.50	7.2	.38
177.12	5.2	.35
183.39	5.2	.35
190.65	5.3	.35
205.63	4.1	.29
210.71	4.1	.29
215.18	4.1	.29

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
1.65 WATERSHED INCHES; 4198 CFS-HRS; 347.0 ACRE-FEET.

*** WARNING - ROUTING COEFFICIENT (C) EQUALS 1.0,
CONSIDER SMALLER MAIN TIME INCREMENT FOR XSECTION 25. ***

OPERATION REACH XSECTION 25

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
123.73	437.4	1.44
145.53	11.6	.07
153.06	9.4	.06
167.50	7.2	.05
177.12	5.2	.03
183.39	5.2	.03
190.65	5.3	.03
205.63	4.1	.03
210.71	4.1	.03
215.18	4.1	.03

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
1.65 WATERSHED INCHES; 4198 CFS-HRS; 347.0 ACRE-FEET.

OPERATION RUNOFF XSECTION 4

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
121.36	245.1	(RUNOFF)
138.08	7.3	(RUNOFF)
143.27	6.1	(RUNOFF)
154.88	4.5	(RUNOFF)
164.96	3.9	(RUNOFF)
193.72	2.2	(RUNOFF)
198.49	2.2	(RUNOFF)
203.17	2.3	(RUNOFF)
208.22	2.2	(RUNOFF)
212.72	2.2	(RUNOFF)

HYDROGRAPH POINTS FOR ALTERNATE = 2, STORM = 1
MAIN TIME INCREMENT = 1.050 hr, DRAINAGE AREA = 2.06 SQ.MI.

HRS									
.00	CFS	.00	.55	.55	1.25	1.38	1.41	1.44	1.43
8.40	CFS	1.38	1.38	1.43	1.44	1.63	1.72	1.72	1.72
16.80	CFS	1.72	1.77	1.77	1.72	1.72	1.74	1.77	1.78
25.20	CFS	1.88	1.88	1.93	1.94	1.90	1.88	1.88	1.88
33.60	CFS	1.88	1.88	1.88	1.93	1.94	1.91	1.88	1.88
42.00	CFS	1.88	1.88	1.88	1.88	1.92	1.94	2.09	2.55
50.40	CFS	2.55	2.55	2.55	2.55	2.55	2.55	2.55	2.55
58.80	CFS	2.55	2.55	2.55	2.55	2.55	2.55	2.55	2.55
67.20	CFS	2.55	2.55	2.55	2.59	2.60	2.97	3.43	3.43
75.60	CFS	3.43	3.43	3.48	3.49	3.45	3.43	3.43	3.43
84.00	CFS	3.47	4.54	4.54	4.58	4.59	4.57	4.54	4.54
92.40	CFS	4.54	4.54	4.59	4.59	4.56	4.54	5.24	6.97
100.80	CFS	6.98	8.08	8.08	8.08	8.08	9.01	10.02	10.02
109.20	CFS	10.02	10.02	12.18	12.34	14.81	15.88	18.22	23.90
117.60	CFS	29.21	189.88	193.12	230.82	237.94	161.93	80.79	74.74
126.00	CFS	31.54	31.45	18.30	17.15	13.66	12.17	11.39	9.41
134.40	CFS	9.29	7.25	7.19	7.19	7.19	6.41	5.53	5.60
142.80	CFS	6.09	6.06	4.55	4.43	4.43	4.43	4.57	4.98
151.20	CFS	4.95	4.44	4.43	4.43	4.43	4.18	3.87	3.80
159.60	CFS	3.32	3.32	3.32	3.32	3.68	3.87	3.75	3.32
168.00	CFS	3.29	2.77	2.77	2.31	2.21	2.46	2.77	2.70
176.40	CFS	2.21	2.21	2.75	2.77	2.77	2.77	2.62	2.21
184.80	CFS	2.23	2.77	2.77	2.77	2.77	2.51	2.21	2.21
193.20	CFS	2.21	2.21	1.68	1.66	2.03	2.21	2.06	1.66
201.60	CFS	1.66	2.21	2.21	1.75	1.66	1.92	2.21	2.14
210.00	CFS	1.66	1.66	2.18	2.21	1.83	1.66	1.66	1.66
218.40	CFS	1.64	1.12	1.11	1.57	1.66	1.39	1.11	1.17
226.80	CFS	1.66	1.66	1.15	1.11	1.11	1.11	1.26	1.66
235.20	CFS	1.63	1.12	1.11	1.57	1.66	1.40	1.11	.97
243.60	CFS	.00							

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
1.67 WATERSHED INCHES; 2219 CFS-HRS; 183.4 ACRE-FEET.

*** WARNING - MAIN TIME INCREMENT (1.050) IS GREATER THAN 50% OF THE
TIME OF CONCENTRATION (.79) FOR SUBWATERSHED XSECTION 4.
THIS WILL REDUCE THE COMPUTED PEAK BY ABOUT -3.0%. ***

OPERATION ADDHYD XSECTION 34

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
80.58	10.0	(NULL)
122.26	578.6	(NULL)
145.46	16.1	(NULL)
153.05	13.8	(NULL)
166.39	10.5	(NULL)
189.08	7.9	(NULL)
214.94	5.8	(NULL)
229.70	4.2	(NULL)
237.42	4.1	(NULL)
241.03	4.1	(NULL)

HYDROGRAPH POINTS FOR ALTERNATE = 2, STORM = 1
MAIN TIME INCREMENT = 1.050 hr, DRAINAGE AREA = 6.00 SQ.MI.

HRS								
.00 CFS	.00	.55	.55	1.92	2.32	3.27	3.82	4.01
8.40 CFS	4.07	4.09	4.09	4.07	4.32	4.43	4.65	4.86
16.80 CFS	4.94	5.01	5.02	5.04	5.06	5.04	5.04	5.07
25.20 CFS	5.21	5.24	5.43	5.48	5.53	5.54	5.51	5.47
33.60 CFS	5.46	5.45	5.45	5.50	5.51	5.53	5.54	5.52
42.00 CFS	5.48	5.46	5.45	5.45	5.49	5.51	5.70	6.20
50.40 CFS	6.37	7.02	7.27	7.34	7.37	7.37	7.37	7.37
58.80 CFS	7.37	7.37	7.37	7.37	7.37	7.37	7.37	7.37
67.20 CFS	7.37	7.37	7.37	7.42	7.43	7.86	8.35	8.75
75.60 CFS	9.53	9.82	9.96	9.99	10.02	10.03	10.00	9.96
84.00 CFS	9.98	11.05	11.07	12.43	12.97	13.17	13.22	13.21
92.40 CFS	13.17	13.15	13.20	13.20	13.23	13.24	13.90	15.60
100.80 CFS	16.16	19.87	20.90	22.53	23.14	24.26	25.32	26.26
109.20 CFS	28.06	28.73	31.10	31.32	36.53	38.78	44.23	52.66
117.60 CFS	61	230	239	481	569	564	517	445
126.00 CFS	260	203	116	88	60	49	41	35
134.40 CFS	32.39	26.91	25.52	22.51	21.34	20.20	19.22	18.46
142.80 CFS	17.40	16.85	15.81	15.88	13.99	13.18	13.07	13.40
151.20 CFS	13.48	13.56	13.77	13.18	12.93	12.60	12.28	11.93
159.60 CFS	10.94	10.71	10.00	9.73	10.01	10.18	10.46	10.46
168.00 CFS	10.44	9.37	9.14	7.96	7.58	7.19	7.13	7.21
176.40 CFS	7.20	7.33	7.28	7.07	7.64	7.90	7.84	7.45
184.80 CFS	7.35	7.29	7.06	7.66	7.91	7.73	7.45	7.19
193.20 CFS	6.68	6.49	5.91	5.86	5.60	5.49	5.66	5.66
201.60 CFS	5.66	5.67	5.47	5.59	5.75	5.54	5.51	5.60
210.00 CFS	5.60	5.73	5.66	5.46	5.66	5.74	5.41	5.01
218.40 CFS	4.85	4.28	4.25	4.05	3.87	4.09	4.11	4.02
226.80 CFS	4.02	3.87	3.96	4.15	3.59	3.32	3.40	3.77
235.20 CFS	3.87	3.95	4.15	4.02	3.86	4.09	4.11	3.80

243.60 CFS 2.36 2.07 .73 .22

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
1.66 WATERSHED INCHES; 6418 CFS-HRS; 530.4 ACRE-FEET.

OPERATION ADDHYD XSECTION 35

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
122.01	1061.9	(NULL)
145.47	28.5	(NULL)
153.03	24.8	(NULL)
166.06	19.0	(NULL)
175.15	13.2	(NULL)
178.35	13.3	(NULL)
181.83	14.3	(NULL)
185.71	13.3	(NULL)
188.96	14.4	(NULL)
214.86	10.3	(NULL)

HYDROGRAPH POINTS FOR ALTERNATE = 2, STORM = 1
MAIN TIME INCREMENT = 1.050 hr, DRAINAGE AREA = 10.84 SQ.MI.

HRS								
.00 CFS	.00	1.19	1.19	3.85	4.52	6.08	7.00	7.30
8.40 CFS	7.36	7.40	7.42	7.39	7.91	8.12	8.49	8.83
16.80 CFS	8.96	9.10	9.12	9.12	9.15	9.13	9.14	9.20
25.20 CFS	9.49	9.54	9.87	9.96	10.00	10.02	9.96	9.90
33.60 CFS	9.88	9.87	9.87	9.97	9.99	10.02	10.02	9.99
42.00 CFS	9.91	9.88	9.87	9.87	9.95	9.99	10.44	11.44
50.40 CFS	11.73	12.80	13.20	13.31	13.34	13.35	13.35	13.35
58.80 CFS	13.35	13.35	13.35	13.35	13.35	13.35	13.35	13.35
67.20 CFS	13.35	13.35	13.35	13.45	13.47	14.42	15.41	16.09
75.60 CFS	17.36	17.82	18.07	18.11	18.14	18.15	18.09	18.03
84.00 CFS	18.11	20.38	20.42	22.71	23.58	23.86	23.93	23.92
92.40 CFS	23.84	23.82	23.92	23.92	23.94	23.95	25.32	29.08
100.80 CFS	30.20	36.75	38.41	41.00	41.99	44.34	46.53	48.13
109.20 CFS	51.07	52.13	57.24	57.56	67.36	71.55	81.92	98.45
117.60 CFS	118	479	494	915	1058	997	886	761
126.00 CFS	436	342	195	151	104	86	73	61
134.40 CFS	57.42	47.43	45.22	40.37	38.49	36.20	34.21	32.95
142.80 CFS	31.48	30.65	28.08	28.21	25.17	23.80	23.72	24.46
151.20 CFS	24.62	24.45	24.77	23.79	23.39	22.67	22.04	21.43
159.60 CFS	19.55	19.16	18.01	17.58	18.31	18.62	19.00	18.80
168.00 CFS	18.74	16.71	16.34	14.13	13.50	13.04	13.07	13.19
176.40 CFS	12.92	13.10	13.29	12.96	13.90	14.33	14.12	13.31
184.80 CFS	13.11	13.30	12.97	13.95	14.35	13.87	13.31	12.87
193.20 CFS	12.03	11.72	10.49	10.42	10.25	10.10	10.30	10.10
201.60 CFS	10.13	10.38	10.06	10.03	10.26	10.05	10.13	10.26
210.00 CFS	10.01	10.20	10.36	10.05	10.15	10.24	9.67	9.02
218.40 CFS	8.77	7.55	7.49	7.44	7.17	7.34	7.28	7.15
226.80 CFS	7.40	7.19	7.04	7.36	6.44	5.99	6.21	7.01
235.20 CFS	7.19	7.03	7.34	7.39	7.16	7.37	7.28	6.69

243.60 CFS 3.83 3.33 1.14 .32

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
1.66 WATERSHED INCHES; 11620 CFS-HRS; 960.3 ACRE-FEET.

OPERATION DIVERT XSECTION 35
OUTPUT #1 HYDROGRAPH

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
122.01	1061.9	(DIVERT)
145.47	28.5	(DIVERT)
153.03	24.8	(DIVERT)
166.06	19.0	(DIVERT)
175.15	13.2	(DIVERT)
178.35	13.3	(DIVERT)
181.83	14.3	(DIVERT)
185.71	13.3	(DIVERT)
188.96	14.4	(DIVERT)
214.86	10.3	(DIVERT)

HYDROGRAPH POINTS FOR ALTERNATE = 2, STORM = 1
MAIN TIME INCREMENT = 1.050 hr, DRAINAGE AREA = 10.84 SQ.MI.

HRS									
.00	CFS	.00	1.19	1.19	3.85	4.52	6.08	7.00	7.30
8.40	CFS	7.36	7.40	7.42	7.39	7.91	8.12	8.49	8.83
16.80	CFS	8.96	9.10	9.12	9.12	9.15	9.13	9.14	9.20
25.20	CFS	9.49	9.54	9.87	9.96	10.00	10.02	9.96	9.90
33.60	CFS	9.88	9.87	9.87	9.97	9.99	10.02	10.02	9.99
42.00	CFS	9.91	9.88	9.87	9.87	9.95	9.99	10.44	11.44
50.40	CFS	11.73	12.80	13.20	13.31	13.34	13.35	13.35	13.35
58.80	CFS	13.35	13.35	13.35	13.35	13.35	13.35	13.35	13.35
67.20	CFS	13.35	13.35	13.35	13.45	13.47	14.42	15.41	16.09
75.60	CFS	17.36	17.82	18.07	18.11	18.14	18.15	18.09	18.03
84.00	CFS	18.11	20.38	20.42	22.71	23.58	23.86	23.93	23.92
92.40	CFS	23.84	23.82	23.92	23.92	23.94	23.95	25.32	29.08
100.80	CFS	30.20	36.75	38.41	41.00	41.99	44.34	46.53	48.13
109.20	CFS	51.07	52.13	57.24	57.56	67.36	71.55	81.92	98.45
117.60	CFS	118	479	494	915	1058	997	886	761
126.00	CFS	436	342	195	151	104	86	73	61
134.40	CFS	57.42	47.43	45.22	40.37	38.49	36.20	34.21	32.95
142.80	CFS	31.48	30.65	28.08	28.21	25.17	23.80	23.72	24.46
151.20	CFS	24.62	24.45	24.77	23.79	23.39	22.67	22.04	21.43
159.60	CFS	19.55	19.16	18.01	17.58	18.31	18.62	19.00	18.80
168.00	CFS	18.74	16.71	16.34	14.13	13.50	13.04	13.07	13.19
176.40	CFS	12.92	13.10	13.29	12.96	13.90	14.33	14.12	13.31
184.80	CFS	13.11	13.30	12.97	13.95	14.35	13.87	13.31	12.87
193.20	CFS	12.03	11.72	10.49	10.42	10.25	10.10	10.30	10.10
201.60	CFS	10.13	10.38	10.06	10.03	10.26	10.05	10.13	10.26
210.00	CFS	10.01	10.20	10.36	10.05	10.15	10.24	9.67	9.02
218.40	CFS	8.77	7.55	7.49	7.44	7.17	7.34	7.28	7.15
226.80	CFS	7.40	7.19	7.04	7.36	6.44	5.99	6.21	7.01

235.20 CFS	7.19	7.03	7.34	7.39	7.16	7.37	7.28	6.69
243.60 CFS	3.83	3.33	1.14	.32				

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
1.66 WATERSHED INCHES; 11620 CFS-HRS; 960.3 ACRE-FEET.

OUTPUT #2 DIVERTED HYDROGRAPH (XSECTION 199)

*** MESSAGE - HYDROGRAPH CONTAINS NO FLOW ***

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
238 CFS-HRS; 960.3 ACRE-FEET.

*** WARNING - ROUTING COEFFICIENT (C) EQUALS 1.0,
CONSIDER SMALLER MAIN TIME INCREMENT FOR XSECTION 45. ***

OPERATION REACH XSECTION 45

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
122.01	1061.9	2.32
145.47	28.5	.17
153.03	24.8	.15
166.06	19.0	.11
175.15	13.2	.08
178.35	13.3	.08
181.83	14.3	.09
185.71	13.3	.08
188.96	14.4	.09
214.86	10.3	.06

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
1.66 WATERSHED INCHES; 11620 CFS-HRS; 960.3 ACRE-FEET.

OPERATION RUNOFF XSECTION 6

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
121.27	178.9	(RUNOFF)
143.18	4.5	(RUNOFF)
150.54	3.7	(RUNOFF)
169.58	2.1	(RUNOFF)
174.29	2.0	(RUNOFF)
181.13	2.1	(RUNOFF)
188.48	2.1	(RUNOFF)
212.62	1.7	(RUNOFF)
234.63	1.2	(RUNOFF)
239.03	1.2	(RUNOFF)

HYDROGRAPH POINTS FOR ALTERNATE = 2, STORM = 1
MAIN TIME INCREMENT = 1.050 hr, DRAINAGE AREA = 1.47 SQ.MI.

HRS								
2.10	CFS	.41	.95	1.02	1.04	1.06	1.05	1.02	1.02
10.50	CFS	1.06	1.06	1.22	1.26	1.26	1.26	1.27	1.30
18.90	CFS	1.30	1.26	1.26	1.29	1.30	1.33	1.38	1.39
27.30	CFS	1.42	1.42	1.39	1.38	1.38	1.38	1.38	1.38
35.70	CFS	1.39	1.42	1.42	1.39	1.38	1.38	1.38	1.38
44.10	CFS	1.38	1.38	1.42	1.42	1.68	1.87	1.87	1.87
52.50	CFS	1.87	1.87	1.87	1.87	1.87	1.87	1.87	1.87
60.90	CFS	1.87	1.87	1.87	1.87	1.87	1.87	1.87	1.87
69.30	CFS	1.87	1.91	1.91	2.31	2.52	2.52	2.52	2.52
77.70	CFS	2.56	2.56	2.53	2.52	2.52	2.52	2.57	3.34
86.10	CFS	3.34	3.37	3.38	3.35	3.34	3.34	3.34	3.34
94.50	CFS	3.38	3.38	3.34	3.34	4.29	5.13	5.29	5.94
102.90	CFS	5.94	5.94	5.94	7.05	7.37	7.37	7.37	7.58
111.30	CFS	9	9	12	12	15	18	49	142
119.70	CFS	144	175	175	82	59	45	23	22
128.10	CFS	12.62	12.62	9.38	8.96	7.83	6.92	6.58	5.29
136.50	CFS	5.29	5.29	5.29	4.46	4.07	4.20	4.48	4.43
144.90	CFS	3.29	3.26	3.26	3.26	3.45	3.66	3.63	3.26
153.30	CFS	3.26	3.26	3.26	3.00	2.85	2.75	2.44	2.44
161.70	CFS	2.44	2.44	2.76	2.85	2.66	2.44	2.40	2.04
170.10	CFS	2.04	1.66	1.63	1.91	2.04	1.90	1.63	1.66
178.50	CFS	2.04	2.04	2.04	2.04	1.81	1.63	1.72	2.04
186.90	CFS	2.04	2.04	2.04	1.71	1.63	1.63	1.63	1.57
195.30	CFS	1.22	1.22	1.63	1.63	1.39	1.22	1.32	1.63
203.70	CFS	1.61	1.22	1.22	1.53	1.63	1.47	1.22	1.26
212.10	CFS	1.63	1.63	1.28	1.22	1.22	1.22	1.15	.81
220.50	CFS	.81	1.19	1.22	.95	.81	.92	1.22	1.22
228.90	CFS	.83	.81	.81	.81	1.00	1.22	1.21	.82
237.30	CFS	.81	1.18	1.22	.96	.81	.61	.00	

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
1.68 WATERSHED INCHES; 1598 CFS-HRS; 132.0 ACRE-FEET.

*** WARNING - MAIN TIME INCREMENT (1.050) IS GREATER THAN 50% OF THE
TIME OF CONCENTRATION (.47) FOR SUBWATERSHED XSECTION 6.
THIS WILL REDUCE THE COMPUTED PEAK BY ABOUT -2.3%. ***

OPERATION REACH XSECTION 60

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
122.40	180.7	2.78
144.39	4.5	.11
151.78	3.7	.09
165.88	2.8	.07
182.19	2.1	.05
189.53	2.1	.05
213.87	1.6	.04
223.45	1.2	.03
228.53	1.2	.03
235.83	1.2	.03

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
1.67 WATERSHED INCHES; 1587 CFS-HRS; 131.1 ACRE-FEET.

*** WARNING - ROUTING COEFFICIENT (C) EQUALS 1.0,
CONSIDER SMALLER MAIN TIME INCREMENT FOR XSECTION 67. ***

OPERATION REACH XSECTION 67

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
122.40	180.7	1.83
144.39	4.5	.32
151.78	3.7	.26
165.88	2.8	.20
182.19	2.1	.14
189.53	2.1	.14
213.87	1.6	.11
223.45	1.2	.08
228.53	1.2	.09
235.83	1.2	.09

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
1.67 WATERSHED INCHES; 1587 CFS-HRS; 131.1 ACRE-FEET.

OPERATION ADDHYD XSECTION 64

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
122.07	1233.0	(NULL)
152.80	28.2	(NULL)
166.01	21.8	(NULL)
175.28	15.2	(NULL)
181.83	16.4	(NULL)
186.13	15.0	(NULL)
188.96	16.4	(NULL)
214.17	11.8	(NULL)
229.44	8.4	(NULL)
240.47	8.6	(NULL)

HYDROGRAPH POINTS FOR ALTERNATE = 2, STORM = 1
MAIN TIME INCREMENT = 1.050 hr, DRAINAGE AREA = 12.31 SQ.MI.

HRS								
.00 CFS	.00	1.19	1.52	4.24	5.36	7.06	8.03	8.35
8.40 CFS	8.41	8.42	8.44	8.44	8.97	9.31	9.73	10.09
16.80 CFS	10.22	10.37	10.41	10.42	10.42	10.40	10.43	10.50
25.20 CFS	10.81	10.91	11.25	11.37	11.42	11.41	11.35	11.28
33.60 CFS	11.26	11.25	11.25	11.36	11.41	11.44	11.41	11.38
42.00 CFS	11.29	11.26	11.25	11.25	11.34	11.40	11.86	13.07
50.40 CFS	13.55	14.66	15.07	15.18	15.21	15.22	15.22	15.22
58.80 CFS	15.22	15.22	15.22	15.22	15.22	15.22	15.22	15.22
67.20 CFS	15.22	15.22	15.22	15.33	15.37	16.33	17.63	18.55
75.60 CFS	19.87	20.34	20.59	20.66	20.70	20.69	20.62	20.55
84.00 CFS	20.64	22.95	23.60	26.01	26.94	27.24	27.28	27.26
92.40 CFS	27.18	27.15	27.26	27.29	27.32	27.30	28.66	33.18
100.80 CFS	35.12	41.97	44.21	46.92	47.93	50.28	53.35	55.39
109.20 CFS	58	59	65	66	76	83	93	113
117.60 CFS	135	522	616	1054	1226	1171	987	829
126.00 CFS	485	371	218	166	117	96	82	69
134.40 CFS	64.59	54.13	50.80	45.72	43.80	41.49	38.84	37.13
142.80 CFS	35.67	35.07	32.51	31.73	28.48	27.06	26.98	27.86
151.20 CFS	28.23	28.08	28.10	27.06	26.65	25.93	25.09	24.32
159.60 CFS	22.33	21.67	20.46	20.03	20.75	21.32	21.82	21.49
168.00 CFS	21.23	19.13	18.45	16.18	15.24	14.69	14.92	15.19
176.40 CFS	14.84	14.79	14.95	14.91	15.92	16.36	16.15	15.16
184.80 CFS	14.78	15.01	14.94	15.97	16.38	15.91	15.08	14.52
193.20 CFS	13.67	13.35	12.08	11.71	11.49	11.65	11.91	11.54
201.60 CFS	11.39	11.69	11.62	11.62	11.56	11.28	11.61	11.86
210.00 CFS	11.51	11.47	11.63	11.61	11.77	11.59	10.91	10.25
218.40 CFS	9.99	8.71	8.38	8.27	8.28	8.53	8.28	8.00
226.80 CFS	8.31	8.34	8.25	8.26	7.27	6.81	7.02	7.97
235.20 CFS	8.35	8.24	8.24	8.22	8.27	8.57	8.29	7.54
243.60 CFS	4.48	3.46	1.16	.32				

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
1.66 WATERSHED INCHES; 13207 CFS-HRS; 1091.4 ACRE-FEET.

OPERATION RUNOFF XSECTION 5

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
78.28	8.1	(RUNOFF)
121.36	569.3	(RUNOFF)
138.08	16.9	(RUNOFF)
143.30	14.3	(RUNOFF)
150.60	11.7	(RUNOFF)
164.86	9.0	(RUNOFF)
174.64	6.5	(RUNOFF)
180.43	6.4	(RUNOFF)
188.48	6.5	(RUNOFF)
208.22	5.2	(RUNOFF)

HYDROGRAPH POINTS FOR ALTERNATE = 2, STORM = 1
MAIN TIME INCREMENT = 1.050 hr, DRAINAGE AREA = 4.78 SQ.MI.

HRS									
.00	CFS	.00	1.28	1.28	2.92	3.21	3.27	3.34	3.32
8.40	CFS	3.21	3.21	3.33	3.34	3.76	3.98	3.98	3.98
16.80	CFS	3.98	4.11	4.11	4.00	3.98	4.04	4.11	4.14
25.20	CFS	4.37	4.37	4.48	4.49	4.41	4.37	4.37	4.37
33.60	CFS	4.37	4.37	4.37	4.47	4.49	4.43	4.37	4.37
42.00	CFS	4.37	4.37	4.37	4.37	4.46	4.49	4.87	5.91
50.40	CFS	5.91	5.91	5.91	5.91	5.91	5.91	5.91	5.91
58.80	CFS	5.91	5.91	5.91	5.91	5.91	5.91	5.91	5.91
67.20	CFS	5.91	5.91	5.91	6.01	6.03	6.91	7.96	7.96
75.60	CFS	7.96	7.96	8.08	8.09	8.00	7.96	7.96	7.96
84.00	CFS	8.07	10.47	10.53	10.64	10.66	10.60	10.53	10.53
92.40	CFS	10.53	10.53	10.65	10.66	10.57	10.53	12.17	16.18
100.80	CFS	16.22	18.72	18.75	18.75	18.75	20.91	23.24	23.24
109.20	CFS	23.24	23.31	28.33	28.63	34.05	36.85	41.93	55.47
117.60	CFS	62	448	448	537	552	373	187	174
126.00	CFS	73.19	72.66	42.18	39.80	32.11	28.25	26.69	21.83
134.40	CFS	21.61	16.69	16.69	16.69	16.69	14.82	12.84	13.01
142.80	CFS	14.12	14.10	10.56	10.27	10.27	10.27	10.59	11.56
151.20	CFS	11.48	10.28	10.27	10.27	10.27	9.67	8.99	8.82
159.60	CFS	7.70	7.70	7.70	7.70	8.62	8.99	8.63	7.70
168.00	CFS	7.63	6.44	6.42	5.35	5.14	5.72	6.42	6.27
176.40	CFS	5.14	5.14	6.36	6.42	6.42	6.42	6.04	5.14
184.80	CFS	5.20	6.39	6.42	6.42	6.42	5.83	5.14	5.14
193.20	CFS	5.14	5.14	3.89	3.85	4.72	5.14	4.76	3.85
201.60	CFS	3.89	5.11	5.14	4.05	3.85	4.46	5.14	4.97
210.00	CFS	3.85	3.86	5.08	5.14	4.29	3.85	3.85	3.85
218.40	CFS	3.85	2.57	2.57	3.66	3.85	3.23	2.57	2.73
226.80	CFS	3.85	3.83	2.65	2.57	2.57	2.57	2.90	3.85
235.20	CFS	3.81	2.57	2.57	3.65	3.85	3.22	2.57	2.25
243.60	CFS	.00							

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
1.67 WATERSHED INCHES; 5155 CFS-HRS; 426.0 ACRE-FEET.

*** WARNING - MAIN TIME INCREMENT (1.050) IS GREATER THAN 50% OF THE
TIME OF CONCENTRATION (.78) FOR SUBWATERSHED XSECTION 5.
THIS WILL REDUCE THE COMPUTED PEAK BY ABOUT -3.1%. ***

OPERATION RUNOFF XSECTION 7

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
121.49	403.1	(RUNOFF)
143.33	10.5	(RUNOFF)
150.66	8.4	(RUNOFF)
165.11	6.5	(RUNOFF)
174.73	4.7	(RUNOFF)
180.93	4.6	(RUNOFF)
188.48	4.7	(RUNOFF)
192.68	3.7	(RUNOFF)
208.35	3.8	(RUNOFF)
212.82	3.7	(RUNOFF)

HYDROGRAPH POINTS FOR ALTERNATE = 2, STORM = 1
MAIN TIME INCREMENT = 1.050 hr, DRAINAGE AREA = 3.48 SQ.MI.

HRS								
.00 CFS	.00	.90	.93	1.92	2.32	2.35	2.41	2.40
8.40 CFS	2.32	2.32	2.40	2.41	2.65	2.87	2.87	2.87
16.80 CFS	2.88	2.96	2.97	2.90	2.87	2.90	2.97	2.98
25.20 CFS	3.15	3.15	3.23	3.25	3.20	3.15	3.15	3.15
33.60 CFS	3.15	3.15	3.15	3.22	3.25	3.22	3.15	3.15
42.00 CFS	3.15	3.15	3.15	3.15	3.20	3.25	3.39	4.27
50.40 CFS	4.27	4.27	4.27	4.27	4.27	4.27	4.27	4.27
58.80 CFS	4.27	4.27	4.27	4.27	4.27	4.27	4.27	4.27
67.20 CFS	4.27	4.27	4.27	4.33	4.36	4.79	5.75	5.75
75.60 CFS	5.75	5.75	5.83	5.84	5.79	5.75	5.75	5.75
84.00 CFS	5.79	7.52	7.60	7.67	7.70	7.67	7.60	7.60
92.40 CFS	7.60	7.60	7.69	7.70	7.65	7.60	8.19	11.68
100.80 CFS	11.70	13.48	13.54	13.54	13.54	14.58	16.78	16.78
109.20 CFS	16.78	16.78	20.14	20.68	23.74	26.61	28.86	40.03
117.60 CFS	43	311	324	377	399	317	135	130
126.00 CFS	53.45	52.79	32.22	28.75	24.51	20.40	19.64	15.76
134.40 CFS	15.69	12.24	12.05	12.05	12.05	11.18	9.27	9.32
142.80 CFS	10.19	10.20	7.75	7.42	7.42	7.42	7.55	8.35
151.20 CFS	8.33	7.45	7.42	7.42	7.42	7.12	6.49	6.44
159.60 CFS	5.57	5.56	5.56	5.56	6.04	6.49	6.34	5.57
168.00 CFS	5.56	4.67	4.64	3.97	3.71	4.00	4.64	4.57
176.40 CFS	3.72	3.71	4.50	4.64	4.64	4.64	4.48	3.71
184.80 CFS	3.73	4.59	4.64	4.64	4.64	4.35	3.71	3.71
193.20 CFS	3.71	3.71	2.89	2.78	3.25	3.71	3.58	2.78
201.60 CFS	2.80	3.68	3.71	3.06	2.78	3.08	3.71	3.66
210.00 CFS	2.79	2.78	3.60	3.71	3.23	2.78	2.78	2.78
218.40 CFS	2.78	1.88	1.85	2.52	2.78	2.49	1.85	1.92
226.80 CFS	2.77	2.78	1.99	1.85	1.85	1.85	2.01	2.78
235.20 CFS	2.77	1.90	1.85	2.51	2.78	2.50	1.85	1.76

243.60 CFS .00

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
1.68 WATERSHED INCHES; 3762 CFS-HRS; 310.9 ACRE-FEET.

*** WARNING - MAIN TIME INCREMENT (1.050) IS GREATER THAN 50% OF THE
TIME OF CONCENTRATION (1.01) FOR SUBWATERSHED XSECTION 7.
THIS WILL REDUCE THE COMPUTED PEAK BY ABOUT -1.1%. ***

OPERATION ADDHYD XSECTION 75

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
121.40	971.9	(NULL)
138.08	29.1	(NULL)
143.32	24.6	(NULL)
150.63	20.1	(NULL)
164.97	15.5	(NULL)
174.68	11.2	(NULL)
180.84	11.1	(NULL)
188.48	11.2	(NULL)
208.28	8.9	(NULL)
212.74	9.0	(NULL)

HYDROGRAPH POINTS FOR ALTERNATE = 2, STORM = 1
MAIN TIME INCREMENT = 1.050 hr, DRAINAGE AREA = 8.26 SQ.MI.

HRS								
.00 CFS	.00	2.18	2.21	4.84	5.53	5.62	5.75	5.73
8.40 CFS	5.53	5.53	5.73	5.75	6.41	6.85	6.85	6.85
16.80 CFS	6.86	7.07	7.08	6.90	6.85	6.95	7.08	7.12
25.20 CFS	7.52	7.52	7.72	7.74	7.61	7.52	7.52	7.52
33.60 CFS	7.52	7.52	7.52	7.69	7.74	7.65	7.52	7.52
42.00 CFS	7.52	7.52	7.52	7.52	7.66	7.74	8.26	10.17
50.40 CFS	10.17	10.17	10.17	10.17	10.17	10.17	10.17	10.17
58.80 CFS	10.17	10.17	10.17	10.17	10.17	10.17	10.17	10.17
67.20 CFS	10.17	10.17	10.17	10.35	10.39	11.70	13.71	13.71
75.60 CFS	13.71	13.71	13.91	13.93	13.80	13.71	13.71	13.71
84.00 CFS	13.86	17.99	18.13	18.31	18.35	18.26	18.13	18.13
92.40 CFS	18.13	18.13	18.34	18.35	18.22	18.13	20.36	27.86
100.80 CFS	27.93	32.20	32.28	32.28	32.28	35.49	40.02	40.02
109.20 CFS	40.02	40.10	48.47	49.31	57.79	63.46	70.79	95.50
117.60 CFS	105	759	772	914	951	690	323	304
126.00 CFS	127	125	74	69	57	49	46	38
134.40 CFS	37.30	28.93	28.75	28.75	28.75	26.00	22.11	22.33
142.80 CFS	24.32	24.30	18.31	17.69	17.69	17.69	18.15	19.90
151.20 CFS	19.81	17.72	17.69	17.69	17.69	16.79	15.48	15.26
159.60 CFS	13.28	13.27	13.27	13.27	14.67	15.48	14.97	13.27
168.00 CFS	13.19	11.12	11.06	9.32	8.84	9.72	11.06	10.84
176.40 CFS	8.85	8.85	10.86	11.06	11.06	11.06	10.52	8.85
184.80 CFS	8.93	10.98	11.06	11.06	11.06	10.18	8.84	8.84
193.20 CFS	8.84	8.84	6.78	6.63	7.97	8.84	8.33	6.63
201.60 CFS	6.69	8.79	8.84	7.11	6.63	7.54	8.85	8.63

210.00 CFS	6.64	6.64	8.68	8.84	7.52	6.63	6.63	6.63
218.40 CFS	6.63	4.45	4.42	6.18	6.63	5.71	4.42	4.64
226.80 CFS	6.62	6.61	4.64	4.42	4.42	4.42	4.91	6.63
235.20 CFS	6.58	4.47	4.42	6.16	6.63	5.72	4.42	4.01
243.60 CFS	.00							

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
1.67 WATERSHED INCHES; 8917 CFS-HRS; 736.9 ACRE-FEET.

Inflow

OPERATION ADDHYD XSECTION 76

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
121.69	2179.1	(NULL)
142.76	60.0	(NULL)
150.79	48.2	(NULL)
165.37	37.0	(NULL)
174.85	26.3	(NULL)
181.52	27.4	(NULL)
188.72	27.5	(NULL)
198.77	20.6	(NULL)
203.17	20.8	(NULL)
208.44	20.8	(NULL)

HYDROGRAPH POINTS FOR ALTERNATE = 2, STORM = 1
MAIN TIME INCREMENT = 1.050 hr, DRAINAGE AREA = 20.57 SQ.MI.

HRS								
.00 CFS	.00	3.38	3.73	9.09	10.89	12.68	13.78	14.08
8.40 CFS	13.94	13.95	14.17	14.19	15.38	16.17	16.59	16.95
16.80 CFS	17.08	17.44	17.49	17.33	17.28	17.34	17.50	17.62
25.20 CFS	18.33	18.43	18.97	19.11	19.03	18.93	18.87	18.80
33.60 CFS	18.78	18.77	18.77	19.05	19.14	19.09	18.93	18.89
42.00 CFS	18.81	18.78	18.77	18.77	18.99	19.14	20.12	23.24
50.40 CFS	23.72	24.83	25.24	25.35	25.38	25.39	25.39	25.39
58.80 CFS	25.39	25.39	25.39	25.39	25.39	25.39	25.39	25.39
67.20 CFS	25.39	25.39	25.39	25.67	25.76	28.03	31.34	32.26
75.60 CFS	33.58	34.05	34.50	34.59	34.49	34.39	34.33	34.26
84.00 CFS	34.49	40.94	41.73	44.32	45.29	45.50	45.41	45.39
92.40 CFS	45.31	45.29	45.60	45.65	45.54	45.44	49.02	61.04
100.80 CFS	63.04	74.17	76.49	79.20	80.21	85.77	93.38	95.41
109.20 CFS	98	100	113	116	134	146	164	208
117.60 CFS	240	1281	1387	1968	2176	1861	1310	1133
126.00 CFS	612	496	293	234	174	144	129	107
134.40 CFS	102	83	80	74	73	67	61	59
142.80 CFS	59.99	59.37	50.82	49.42	46.17	44.75	45.13	47.77
151.20 CFS	48.04	45.80	45.79	44.75	44.34	42.72	40.57	39.58
159.60 CFS	35.61	34.94	33.73	33.30	35.42	36.80	36.79	34.76
168.00 CFS	34.42	30.24	29.51	25.50	24.08	24.42	25.98	26.03
176.40 CFS	23.70	23.63	25.80	25.97	26.98	27.42	26.68	24.01
184.80 CFS	23.71	25.99	26.00	27.02	27.44	26.09	23.93	23.37
193.20 CFS	22.51	22.19	18.86	18.35	19.46	20.50	20.24	18.17
201.60 CFS	18.08	20.48	20.46	18.73	18.19	18.82	20.45	20.49

210.00 CFS	18.16	18.12	20.31	20.45	19.28	18.22	17.55	16.88
218.40 CFS	16.62	13.16	12.80	14.45	14.92	14.25	12.70	12.65
226.80 CFS	14.93	14.96	12.89	12.68	11.69	11.23	11.94	14.61
235.20 CFS	14.93	12.71	12.66	14.39	14.90	14.29	12.71	11.55
243.60 CFS	4.48	3.46	1.16	.32				

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
1.67 WATERSHED INCHES; 22124 CFS-HRS; 1828.3 ACRE-FEET.

--- XSECTION 76, ALTERNATE 2, STORM 1, HYDROGRAPH ADDED TO READHD FILE ---

*** MESSAGE - STRUCTURE 1, USER ENTERED STARTING ELEVATION (1199.2 FEET) CAN ADD .456 INCHES OF RUNOFF TO THE OUTFLOW HYDROGRAPH VOLUME.***

*** MESSAGE - RESERVOIR ROUTING, STRUCTURE 1, TRUNCATED AT 400 POINTS WITH 1247.26 AC-FT (.09 WATERSHED INCHES) FLOOD STORAGE REMAINING IN RESERVOIR AT ELEV. 1204.37. ***

OPERATION RESVOR STRUCTURE 1 outflow Hydrograph

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
146.38	48.0	1207.64

*** WARNING - STRUCTURE 1, HYDROGRAPH VOLUME TRUNCATED AT 30 CFS
RESVOR (63. % OF MAX. HYDROGRAPH COORDINATE)
MAIN TIME INCREMENT TOO SMALL. ***

HYDROGRAPH POINTS FOR ALTERNATE = 2, STORM = 1
MAIN TIME INCREMENT = 1.050 hr, DRAINAGE AREA = 20.57 SQ.MI.

HRS								
.00 CFS	.21	.22	.23	.25	.29	.34	.39	.44
8.40 CFS	.50	.55	.60	.66	.71	.77	.83	.90
16.80 CFS	.96	1.02	1.09	1.15	1.22	1.28	1.35	1.41
25.20 CFS	1.48	1.54	1.61	1.68	1.75	1.82	1.88	1.95
33.60 CFS	2.02	2.08	2.15	2.22	2.28	2.35	2.42	2.48
42.00 CFS	2.55	2.61	2.67	2.74	2.80	2.87	2.93	3.01
50.40 CFS	3.09	3.17	3.26	3.35	3.43	3.52	3.61	3.69
58.80 CFS	3.78	3.86	3.95	4.03	4.12	4.20	4.29	4.37
67.20 CFS	4.45	4.54	4.62	4.70	4.78	4.87	4.97	5.08
75.60 CFS	5.19	5.30	5.41	5.53	5.64	5.76	5.87	5.98
84.00 CFS	6.10	6.22	6.36	6.51	6.66	6.81	6.96	7.12
92.40 CFS	7.27	7.42	7.57	7.72	7.87	8.02	8.17	8.36
100.80 CFS	8.57	8.81	9.07	9.34	9.62	9.91	10.23	10.56
109.20 CFS	10.90	11.25	11.63	12.03	12.48	12.99	13.55	14.23
117.60 CFS	15.06	17.60	21.74	26.94	32.08	36.83	40.30	42.70
126.00 CFS	44.38	45.42	46.13	46.57	46.89	47.12	47.30	47.44
134.40 CFS	47.56	47.65	47.72	47.78	47.83	47.87	47.91	47.93
142.80 CFS	47.96	47.98	47.99	48.00	48.00	47.99	47.99	47.98
151.20 CFS	47.98	47.98	47.98	47.97	47.96	47.95	47.94	47.93
159.60 CFS	47.91	47.88	47.85	47.82	47.80	47.77	47.75	47.73
168.00 CFS	47.70	47.67	47.63	47.59	47.54	47.50	47.45	47.41

24 27

peak in reservoir

$\frac{10 * 24}{1.05} = 228.6$ time step

$\div 8 = 28.6$ rows

```
TR20 ------------------------------------------------------------------ SCS -
WHTANK3      WHITE TANK FRS #3, WATERSHED DIVIDED INTO 7 SUB-BASINS      VERSION
07/23/**  100-YR 10-DAY RUNOFF & DIST IN TABLE 1, 100-YR SED IN RESVOIR 2.04TEST
16:21:28                    PASS   2   JOB NO.   1                      PAGE  50
```

176.40	CFS	47.36	47.31	47.27	47.22	47.18	47.14	47.10	47.06
184.80	CFS	47.01	46.97	46.92	46.88	46.84	46.80	46.76	46.71
193.20	CFS	46.66	46.61	46.56	46.50	46.45	46.39	46.34	46.28
201.60	CFS	46.23	46.17	46.12	46.07	46.01	45.95	45.90	45.85
210.00	CFS	45.80	45.74	45.69	45.63	45.58	45.53	45.47	45.41
218.40	CFS	45.36	45.29	45.23	45.16	45.10	45.04	44.98	44.91
226.80	CFS	44.85	44.79	44.72	44.66	44.59	44.53	44.46	44.40
235.20	CFS	44.34	44.27	44.21	44.15	44.09	44.03	43.97	43.90
243.60	CFS	43.83	43.75	43.66	43.58	43.49	43.40	43.31	43.22
252.00	CFS	43.14	43.05	42.96	42.87	42.79	42.70	42.61	42.53
260.40	CFS	42.44	42.35	42.27	42.18	42.10	42.01	41.93	41.84
268.80	CFS	41.76	41.67	41.59	41.50	41.42	41.33	41.25	41.17
277.20	CFS	41.08	41.00	40.92	40.83	40.75	40.67	40.58	40.50
285.60	CFS	40.42	40.34	40.26	40.17	40.09	40.01	39.93	39.85
294.00	CFS	39.77	39.69	39.61	39.53	39.45	39.37	39.29	39.21
302.40	CFS	39.13	39.05	38.96	38.87	38.78	38.68	38.59	38.50
310.80	CFS	38.41	38.32	38.22	38.13	38.04	37.95	37.86	37.77
319.20	CFS	37.68	37.59	37.50	37.41	37.32	37.23	37.14	37.05
327.60	CFS	36.97	36.88	36.79	36.70	36.61	36.53	36.44	36.35
336.00	CFS	36.26	36.18	36.09	36.00	35.92	35.83	35.75	35.66
344.40	CFS	35.58	35.49	35.41	35.32	35.24	35.15	35.07	34.99
352.80	CFS	34.90	34.82	34.74	34.65	34.57	34.49	34.40	34.32
361.20	CFS	34.24	34.16	34.08	34.00	33.91	33.83	33.75	33.67
369.60	CFS	33.59	33.51	33.43	33.35	33.27	33.19	33.11	33.03
378.00	CFS	32.95	32.88	32.80	32.72	32.64	32.56	32.48	32.41 ← 28th row
386.40	CFS	32.33	32.25	32.18	32.10	32.02	31.95	31.87	31.79
394.80	CFS	31.72	31.64	31.57	31.49	31.41	31.34	31.26	31.19
403.20	CFS	31.12	31.04	30.97	30.89	30.82	30.75	30.67	30.60
411.60	CFS	30.53	30.45	30.38	30.31	30.24	30.16	30.09	30.02

60

```
   RUNOFF ABOVE BASEFLOW  (BASEFLOW =     .00 CFS)
                  .96 WATERSHED INCHES;   12714 CFS-HRS;    1050.7 ACRE-FEET.

 --- STRUCTURE  1  ALTERNATE  2, STORM  1, HYDROGRAPH ADDED TO READHD FILE ---

EXECUTIVE CONTROL  ENDCMP    COMPUTATIONS COMPLETED FOR PASS   2
```

Flow at the end of 10th day following the peak.

Elevation Corresponding to 32.33 cfs:

$Q_1 = 28$ cfs ✓ $E1 = 1204.0$ ft

$Q_2 = 32.33$ cfs $E2 = ?$

$Q_3 = 39.0$ cfs ✓ $E3 = 1206.0$ ft ✓

$$E2 = 1204.0 + \left(\frac{32.33 - 28}{39 - 28}\right) * (1206 - 1204)$$

$$\boxed{E2 = 1204.79 \text{ ft}}$$

→ E2 would be ARC for all PMF under NRCS Principal

SUMMARY TABLE 1

SELECTED RESULTS OF STANDARD AND EXECUTIVE CONTROL IN ORDER PERFORMED.
A CHARACTER FOLLOWING THE PEAK DISCHARGE TIME AND RATE (CFS) INDICATES:
F-FLAT TOP HYDROGRAPH T-TRUNCATED HYDROGRAPH R-RISING TRUNCATED HYDROGRAPH

RAINFALL OF 1.64 inches AND 242.40 hr DURATION, BEGINS AT .0 hrs.
RAINTABLE NUMBER 1, ARC 2
MAIN TIME INCREMENT 1.050 HOURS

ALTERNATE 1 STORM 1

XSECTION/ STRUCTURE ID	STANDARD CONTROL OPERATION	DRAINAGE AREA (SQ MI)	RUNOFF AMOUNT (IN)	PEAK DISCHARGE ELEVATION (FT)	TIME (HR)	RATE (CFS)	RATE (CSM)
XSECTION 1	RUNOFF	2.46	1.68	---	121.40	290	117.9
XSECTION 5	REACH	2.46	1.62	2.23	122.55	283	115.0
XSECTION 10	REACH	2.46	1.66	3.72	123.70	277	112.6
XSECTION 2	RUNOFF	2.38	1.67	---	121.33	285	119.7
XSECTION 12	ADDHYD	4.84	1.67	---	121.80	488	100.8
XSECTION 12	DIVERT	4.84	1.67	---	121.80	488	100.8
XSECTION 200	DIVERT	.00	1.67	---	.00	0	********
XSECTION 20	REACH	4.84	1.67	2.45	121.80	488	100.8
XSECTION 25	REACH	4.84	1.67	1.54	121.80	488	100.8
XSECTION 3	RUNOFF	3.94	1.67	---	121.39	462	117.3
XSECTION 30	REACH	3.94	1.61	2.56	122.60	444	112.7
XSECTION 5	REACH	3.94	1.65	2.71	123.73	437	110.9
XSECTION 25	REACH	3.94	1.65	1.44	123.73	437	110.9
XSECTION 4	RUNOFF	2.06	1.67	---	121.36	245	118.9
XSECTION 34	ADDHYD	6.00	1.66	---	122.26	579	96.5
XSECTION 35	ADDHYD	10.84	1.66	---	122.01	1062	98.0
XSECTION 35	DIVERT	10.84	1.66	---	122.01	1062	98.0
XSECTION 199	DIVERT	.00	1.66	---	.00	0	********
XSECTION 45	REACH	10.84	1.66	2.32	122.01	1062	98.0
XSECTION 6	RUNOFF	1.47	1.68	---	121.27	179	121.8
XSECTION 60	REACH	1.47	1.67	2.78	122.40	181	123.1
XSECTION 67	REACH	1.47	1.67	1.83	122.40	181	123.1
XSECTION 64	ADDHYD	12.31	1.66	---	122.07	1233	100.2
XSECTION 5	RUNOFF	4.78	1.67	---	121.36	569	119.0
XSECTION 7	RUNOFF	3.48	1.68	---	121.49	403	115.8
XSECTION 75	ADDHYD	8.26	1.67	---	121.40	972	117.7
XSECTION 76	ADDHYD	20.57	1.67	---	121.69	2179	105.9
STRUCTURE 1	RESVOR	20.57	.96	1207.64	146.38T	48T	2.3

SUMMARY TABLE 1

SELECTED RESULTS OF STANDARD AND EXECUTIVE CONTROL IN ORDER PERFORMED.
A CHARACTER FOLLOWING THE PEAK DISCHARGE TIME AND RATE (CFS) INDICATES:
F-FLAT TOP HYDROGRAPH T-TRUNCATED HYDROGRAPH R-RISING TRUNCATED HYDROGRAPH

XSECTION/ STRUCTURE ID	STANDARD CONTROL OPERATION	DRAINAGE AREA (SQ MI)	RUNOFF AMOUNT (IN)	PEAK DISCHARGE ELEVATION (FT)	TIME (HR)	RATE (CFS)	RATE (CSM)
ALTERNATE 2 STORM 1							
XSECTION 1	RUNOFF	2.46	1.68	---	121.40	290	117.9
XSECTION 5	REACH	2.46	1.62	2.23	122.55	283	115.0
XSECTION 10	REACH	2.46	1.66	3.72	123.70	277	112.6
XSECTION 2	RUNOFF	2.38	1.67	---	121.33	285	119.7
XSECTION 12	ADDHYD	4.84	1.67	---	121.80	488	100.8
XSECTION 12	DIVERT	4.84	1.67	---	121.80	488	100.8
XSECTION 200	DIVERT	.00	1.67	---	.00	0	********
XSECTION 20	REACH	4.84	1.67	2.45	121.80	488	100.8
XSECTION 25	REACH	4.84	1.67	1.54	121.80	488	100.8
XSECTION 3	RUNOFF	3.94	1.67	---	121.39	462	117.3
XSECTION 30	REACH	3.94	1.61	2.56	122.60	444	112.7
XSECTION 5	REACH	3.94	1.65	2.71	123.73	437	110.9
XSECTION 25	REACH	3.94	1.65	1.44	123.73	437	110.9
XSECTION 4	RUNOFF	2.06	1.67	---	121.36	245	118.9
XSECTION 34	ADDHYD	6.00	1.66	---	122.26	579	96.5
XSECTION 35	ADDHYD	10.84	1.66	---	122.01	1062	98.0
XSECTION 35	DIVERT	10.84	1.66	---	122.01	1062	98.0
XSECTION 199	DIVERT	.00	1.66	---	.00	0	********
XSECTION 45	REACH	10.84	1.66	2.32	122.01	1062	98.0
XSECTION 6	RUNOFF	1.47	1.68	---	121.27	179	121.8
XSECTION 60	REACH	1.47	1.67	2.78	122.40	181	123.1
XSECTION 67	REACH	1.47	1.67	1.83	122.40	181	123.1
XSECTION 64	ADDHYD	12.31	1.66	---	122.07	1233	100.2
XSECTION 5	RUNOFF	4.78	1.67	---	121.36	569	119.0
XSECTION 7	RUNOFF	3.48	1.68	---	121.49	403	115.8
XSECTION 75	ADDHYD	8.26	1.67	---	121.40	972	117.7
XSECTION 76	ADDHYD	20.57	1.67	---	121.69	2179	105.9

SUMMARY TABLE 1

SELECTED RESULTS OF STANDARD AND EXECUTIVE CONTROL IN ORDER PERFORMED.
A CHARACTER FOLLOWING THE PEAK DISCHARGE TIME AND RATE (CFS) INDICATES:
F-FLAT TOP HYDROGRAPH T-TRUNCATED HYDROGRAPH R-RISING TRUNCATED HYDROGRAPH

XSECTION/ STRUCTURE ID	STANDARD CONTROL OPERATION	DRAINAGE AREA (SQ MI)	RUNOFF AMOUNT (IN)	PEAK DISCHARGE ELEVATION (FT)	TIME (HR)	RATE (CFS)	RATE (CSM)
ALTERNATE 2 STORM 1							
STRUCTURE 1	RESVOR	20.57	.96	1207.64	146.38T	48T	2.3

SUMMARY TABLE 2

MODIFIED ATT-KIN REACH ROUTING IN ORDER PERFORMED.
QUESTION MARK (?) AFTER: OUTFLOW PEAK - MAX. NUMBER ROUTING ITERATIONS USED;
LENGTH FACTOR - VALUE k* GREATER THAN 1.0;
ATT-KIN COEFF - VALUE C GREATER THAN 0.667.

			HYDROGRAPH INFORMATION				ROUTING PARAMETERS				
		FLOOD	INFLOW		OUTFLOW		Q-A EQ.			PEAK	ATT-
XSEC ID	REACH LENGTH (FT)	PLAIN LENGTH (FT)	PEAK (CFS)	TIME (HR)	PEAK (CFS)	TIME (HR)	COEFF (X)	POWER (M)	LENGTH FACTOR (k*)	RATIO Q/I (Q*)	KIN COEFF (C)
BASEFLOW IS .0 CFS											
ALTERNATE 1 STORM 1											
5	9100		284	121.8	280	122.8	.52	1.33	.053	.986	.81?
10	9100		280	122.8	276	123.9	.88	1.25	.057	.985	.83?
20	3332		488	121.8	488	121.8	.10	1.69	.002	1.000	1.00?
25	1950		488	121.8	488	121.8	.046	1.75	.001	1.000	1.00?
30	8865		451	121.8	441	122.8	.79	1.20	.075	.977	.73?
5	8865		441	122.8	436	123.9	.53	1.32	.045	.989	.87?
25	1950		436	123.9	436	123.9	.047	1.75	.002	1.000	1.00?
45	4200		1058	121.8	1058	121.8	.045	1.73	.003	1.000	1.00?
60	7540		175	120.8	174	122.8	1.40	1.12	.074	.992	.80?
67	5140		174	122.8	174	122.8	.53	1.32	.031	1.000	1.00?
ALTERNATE 2 STORM 1											
5	9100		284	121.8	280	122.8	.52	1.33	.053	.986	.81?
10	9100		280	122.8	276	123.9	.88	1.25	.057	.985	.83?
20	3332		488	121.8	488	121.8	.10	1.69	.002	1.000	1.00?
25	1950		488	121.8	488	121.8	.046	1.75	.001	1.000	1.00?
30	8865		451	121.8	441	122.8	.79	1.20	.075	.977	.73?
5	8865		441	122.8	436	123.9	.53	1.32	.045	.989	.87?
25	1950		436	123.9	436	123.9	.047	1.75	.002	1.000	1.00?
45	4200		1058	121.8	1058	121.8	.045	1.73	.003	1.000	1.00?
60	7540		175	120.8	174	122.8	1.40	1.12	.074	.992	.80?
67	5140		174	122.8	174	122.8	.53	1.32	.031	1.000	1.00?

SUMMARY TABLE 3

STORM DISCHARGES (CFS) AT XSECTIONS AND STRUCTURES FOR ALL ALTERNATES
QUESTION MARK (?) AFTER: OUTFLOW PEAK - RISING TRUNCATED HYDROGRAPH.

XSECTION/ STRUCTURE ID	DRAINAGE AREA (SQ MI)	STORM NUMBERS..... 1
STRUCTURE 1	20.57	
ALTERNATE 1		48
ALTERNATE 2		48
XSECTION 1	2.46	
ALTERNATE 1		290
ALTERNATE 2		290
XSECTION 2	2.38	
ALTERNATE 1		285
ALTERNATE 2		285
XSECTION 3	3.94	
ALTERNATE 1		462
ALTERNATE 2		462
XSECTION 4	2.06	
ALTERNATE 1		245
ALTERNATE 2		245
XSECTION 5	4.78	
ALTERNATE 1		569
ALTERNATE 2		569
XSECTION 6	1.47	
ALTERNATE 1		179
ALTERNATE 2		179
XSECTION 7	3.48	
ALTERNATE 1		403
ALTERNATE 2		403
XSECTION 10	2.46	
ALTERNATE 1		277
ALTERNATE 2		277
XSECTION 12	4.84	
ALTERNATE 1		488
ALTERNATE 2		488

SUMMARY TABLE 3

STORM DISCHARGES (CFS) AT XSECTIONS AND STRUCTURES FOR ALL ALTERNATES
QUESTION MARK (?) AFTER: OUTFLOW PEAK - RISING TRUNCATED HYDROGRAPH.

XSECTION/ STRUCTURE ID	DRAINAGE AREA (SQ MI)	STORM NUMBERS..... 1
XSECTION 20	4.84	
ALTERNATE 1		488
ALTERNATE 2		488
XSECTION 25	3.94	
ALTERNATE 1		437
ALTERNATE 2		437
XSECTION 30	3.94	
ALTERNATE 1		444
ALTERNATE 2		444
XSECTION 34	6.00	
ALTERNATE 1		579
ALTERNATE 2		579
XSECTION 35	10.84	
ALTERNATE 1		1062
ALTERNATE 2		1062
XSECTION 45	10.84	
ALTERNATE 1		1062
ALTERNATE 2		1062
XSECTION 60	1.47	
ALTERNATE 1		181
ALTERNATE 2		181
XSECTION 64	12.31	
ALTERNATE 1		1233
ALTERNATE 2		1233
XSECTION 67	1.47	
ALTERNATE 1		181
ALTERNATE 2		181
XSECTION 75	8.26	
ALTERNATE 1		972
ALTERNATE 2		972

SUMMARY TABLE 3

STORM DISCHARGES (CFS) AT XSECTIONS AND STRUCTURES FOR ALL ALTERNATES
QUESTION MARK (?) AFTER: OUTFLOW PEAK - RISING TRUNCATED HYDROGRAPH.

XSECTION/ STRUCTURE ID	DRAINAGE AREA (SQ MI)	STORM NUMBERS..... 1
XSECTION 76	20.57	
ALTERNATE 1		2179
ALTERNATE 2		2179
XSECTION 199	.00	
ALTERNATE 1		0
ALTERNATE 2		0
XSECTION 200	.00	
ALTERNATE 1		0
ALTERNATE 2		0

```
TR20 ------------------------------------------------------------------------ SCS -
WHTANK3      WHITE TANK FRS #3, WATERSHED DIVIDED INTO 7 SUB-BASINS      VERSION
07/23/**  100-YR 10-DAY RUNOFF & DIST IN TABLE 1, 100-YR SED IN RESVOIR 2.04TEST


END OF  1 JOBS IN THIS RUN


                    SCS  TR-20,  VERSION 2.04TEST
                          WHTANK3   FILES

     INPUT  = 10DAYY.DAT                              , GIVEN DATA FILE
     OUTPUT = 10OUTT.OUT                              , DATED 07/23/**,16:21:28

              FILES GENERATED - DATED 07/23/**,16:21:28

    FILE 111.TRD CONTAINS READHD INFORMATION


           TOTAL NUMBER OF WARNINGS =  26,  MESSAGES =   8

                        JOB ENDED AT 16:21:28
                    *** TR-20 RUN COMPLETED ***
```

ECON2 DATA FILE

```
ECON2
TITLE        WHITE TANK FRS #3, WATERSHED DIVIDED INTO 7 SUB-BASINS
TITLE         6HR LOCAL, INITIAL EMPTY RESERVOIR W/100-YR SEDIMENT
FLOW-FREQ    -1         25272.                                        ALT  1   1
FLOW-FREQ     1         17873.                                        ALT  1   2
FLOW-FREQ     2         16996.                                        ALT  1   3
FLOW-FREQ     3         28009.                                        ALT  1   4
FLOW-FREQ     4         13580.                                        ALT  1   5
FLOW-FREQ     5         32339.                                        ALT  1   6
FLOW-FREQ     6         14477.                                        ALT  1   7
FLOW-FREQ     7         21194.                                        ALT  1   8
FLOW-FREQ    10          7060.                                        ALT  1   9
FLOW-FREQ    12          4100.                                        ALT  1  10
FLOW-FREQ    20          4100.                                        ALT  1  11
FLOW-FREQ    25         11552.                                        ALT  1  12
FLOW-FREQ    30         16238.                                        ALT  1  13
FLOW-FREQ    34         13913.                                        ALT  1  14
FLOW-FREQ    35         11000.                                        ALT  1  15
FLOW-FREQ    45         11000.                                        ALT  1  16
FLOW-FREQ    60         11037.                                        ALT  1  17
FLOW-FREQ    64         18394.                                        ALT  1  18
FLOW-FREQ    67          7397.                                        ALT  1  19
FLOW-FREQ    75         51863.                                        ALT  1  20
FLOW-FREQ    76         68291.                                        ALT  1  21
FLOW-FREQ   199          6992.                                        ALT  1  22
FLOW-FREQ   200         13148.                                        ALT  1  23
```

```
TR20 ------------------------------------------------------------------ SCS -
WT3PMP6      WHITE TANK FRS #3, WATERSHED DIVIDED INTO 7 SUB-BASINS      VERSION
07/21/**      6HR LOCAL, INITIAL EMPTY RESERVOIR W/100-YR SEDIMENT      2.04TEST


END OF  1 JOBS IN THIS RUN


                    SCS  TR-20,  VERSION 2.04TEST
                          WT3PMP6   FILES

     INPUT  = 6LBR.DAT                                , GIVEN DATA FILE
     OUTPUT = 6LOUTT.OUT                              , DATED 07/21/**,16:44:20

              FILES GENERATED - DATED 07/21/**,16:44:20

    FILE 000.TEC CONTAINS ECON2 INFORMATION

    FILE 000.TRD CONTAINS READHD INFORMATION


          TOTAL NUMBER OF WARNINGS =   0,  MESSAGES =   2

                       JOB ENDED AT 16:44:20
                   *** TR-20 RUN COMPLETED ***
```

NRCS CRITERIA

(INTERIM CONDITION)

6-hr General PMF storm

TR-20 Results

URS

CALCULATION PACKAGE NO. 14

EXHIBIT 4.7-2

CALCULATION COVER SHEET

Client: Flood Control District of Maricopa County (FCDMC)

Project Name: White Tank FRS No. 3 Design

Project/Calculation Number: 23443748

Title: **RESERVOIR ROUTING OF A 100-YEAR 10-DAY STORM FOR A FUTURE CONDITON WITH AN OPEN PRINCIPAL SPILLWAY**

Total Number of Pages (including cover sheet): _____

Total Number of Computer Runs: _____

Prepared by: Hammad Hussain Date: 08/16/04

Checked by: Todd Ringsmuth Date: 8-17-04

Description and Purpose:

See Page 2

Design Basis /Assumptions

See Page 2

Remarks/Conclusions/Results:

See Pages 3-4.

Calculation Approved by: Todd Ringsmuth 8-17-04

Project Manager/Date

Revision No.:	Description of Revision:	Approved by:

Project Manager/Date

RESERVOIR ROUTING OF A 100-YEAR 10-DAY STORM FOR A FUTURE CONDITON WITH AN OPEN PRINCIPAL SPILLWAY

(WHITE TANK FLOOD RETARDING STRUCTURE (FRS) NO. 3)
FLOOD CONTROL DISTRICT OF MARICOPA COUNTY (FCDMC)
23443748

PROBLEM STATEMENT

The aim of this calculation package is to perform the reservoir routing of a 100-year 10-day storm with an open principal spillway in place and to determine weather or not the 100-year 10-day storm can be drawn down to the crest level of the principal spillway (1200.0 ft) after 10 days following the peak of 100-year 10-day hydrograph.

DESIGN BASIS/ASSUMPTIONS/REFERENCES

FUTRE CONDITION (Principal Spillway Open)

The Future Condition (Principal Spillway Open) represents the time period following construction of the downstream conveyance channel and the principal spillway is opened. The inlet to the principal spillway is set at elevation 1,200 feet (NAVD 88). It is assumed that the 100-year sediment volume (500 ac-ft) has accumulated in the reservoir. Under this condition outflow from the reservoir occurs through infiltration, flow through the principal spillway, and flow through the emergency spillway.

100-year 10-day Reservoir Routing

For the Future Condition (Principal Spillway Open), a 100-year 10-day storm was routed through the White Tank Reservoir starting at the crest level of the principal spillway (1200.0 ft) using the TR-20 model. The calculations related to the estimation of principal spillway capacity are provided in a separate calculation package. The 100-year sediment pool level was based on 500 ac-ft of sediment storage. The infiltration rates were also estimated based on 500 ac-ft of sediment storage. The calculations related to the estimation of infiltration rates for the future condition are provided in a separate calculation package. It should be noted that the 100-year 10-day storm used for the routing purposes was updated in anticipation of the future urban growth based on a procedure described in National Engineering Handbook (NEH-4). The procedure and detailed calculations involved in updating the 100-year 10-day storm for the future growth are provided in a separate calculation package.

RESULTS

The reservoir routing of the 100-year 10-day storm resulted in the reservoir elevation of 1199.2 ft at the end of 10th day following the peak of the hydrograph, which is below the crest elevation of the principal spillway (1200.0 ft). It indicates that with an open principal spillway in place, 100-year 10-day storm can be drawn down to the crest level of the principal spillway at the end of 10th day following the peak of the hydrograph. Reservoir routing results i.e. peak inflow, peak outflow, and maximum reservoir stage resulting from the routing of the 100-year 10-day storm are provided in Table 1 (See Page 4). The input file and the detailed output results of TR-20 modeling of 100-year 10-day storm for future condition (principal spillway open) are attached with this calculation package. It should be noted that the peak out flow tabulated in Table 1 on Page 4 reflects the infiltration amount only.

TABLE 1
RESERVOIR ROUTING RESULTS FOR A 100-YR 10-DAY STROM

(FUTURE CONDITION WITH AN OPEN PRINCIPAL SPILLWAY CONDITON)

Storm Event	Inflow to White Tank FRS No.3		Outflow from White Tank FRS No.3		
	Precipitation (inches)	Peak Inflow (cfs)	Antecedent Reservoir Condition (ARC)	Peak Outflow (cfs)	Maximum Reservoir Elevation (NAVD 88) (ft)
100-yr 10-day	Based on updated runoff hyetograph (calculation package 10)	2,180	1200.0	216.0	1206.1

Note: The reservoir routing of the 100-year 10-day storm for future co principal spillway resulted in the reservoir elevation of 1199.2 ft at the end of peak of 100-year 10-day hydrograph.

```
******************80-80 LIST OF INPUT DATA FOR TR-20 HYDROLOGY******************

JOB TR-20 WHTANK3                          PASS=001  SUMMARY
TITLE     WHITE TANK FRS #3, WATERSHED DIVIDED INTO 7 SUB-BASINS
TITLE     100-YR 10-DAY RUNOFF & DIST IN TABLE 1, 100-YR SED IN RESVOIR
 5 RAINFL 1     1       2.4                                                10-DAY
 8          .0000       .0010       .0035       .0061       .0086
 8          .0112       .0143       .0174       .0206       .0237
 8          .0269       .0303       .0338       .0372       .0406
 8          .0440       .0475       .0509       .0543       .0577
 8          .0612       .0658       .0704       .0750       .0796
 8          .0842       .0888       .0934       .0980       .1026
 8          .1073       .1135       .1197       .1260       .1322
 8          .1384       .1466       .1549       .1631       .1713
 8          .1796       .1878       .2004       .2150       .2296
 8          .2477       .2658       .2881       .3168       .3600
 8          .7090       1.139       1.285       1.342       1.373
 8          1.395       1.412       1.425       1.438       1.448
 8          1.459       1.467       1.475       1.484       1.492
 8          1.500       1.507       1.513       1.519       1.526
 8          1.532       1.537       1.541       1.546       1.550
 8          1.555       1.560       1.564       1.569       1.574
 8          1.578       1.582       1.585       1.589       1.592
 8          1.596       1.599       1.603       1.606       1.610
 8          1.613       1.616       1.618       1.621       1.623
 8          1.626       1.628       1.630       1.633       1.635
 8          1.638        1.64        1.64        1.64        1.64
 9 ENDTBL
 4 DIMHYD               .0556                                              WT3
 8          0.0         .03         .10         .19         .31
 8          .47         .66         .82         .93         .99
 8          1.0         .99         .93         .82         .66
 8          .47         .31         .03         .00         .00
 9 ENDTBL
 2 XSECTN   005         1.0         8.77                                   BOSSCS#5
 8                      0.          0.0         0.0
 8                      0.35        5.          5.56
 8                      1.03        50.         30.95
 8                      1.39        100.        52.16
 8                      1.94        200.        88.72
 8                      2.63        400.        148.61
 8                      3.51        800.        260.63
 8                      4.62        1600.       459.66
 8                      6.04        3200.       929.36
 8                      7.38        6400.       1811.51
 8                      8.77        12800.      3374.20
 8                      10.17       25600.      6398.87
 8                      11.89       51200.      10982.51
 9 ENDTBL
 2 XSECTN   010         1.0         10.41                                  BOSSCS#4
 8                      0.          0.0         0.0
 8                      0.86        5.          4.39
 8                      2.01        50.         24.22
 8                      2.58        100.        40.12
 8                      3.46        200.        80.99
 8                      4.14        400.        129.44
 8                      5.16        800.        214.74
 8                      6.39        1600.       441.84
```

```
 8                      7.80        3200.       980.75
 8                      9.16        6400.       1891.44
 8                      10.41       12800.      3516.14
 8                      11.75       25600.      6548.98
 8                      13.26       51200.      11081.19
 9 ENDTBL
 2 XSECTN    020        1.0         7.3                                 REACHC
 8                      0.          0.0         0.0
 8                      1.01        100.        57.78
 8                      1.49        200.        86.81
 8                      1.88        300.        110.25
 8                      2.49        500.        149.47
 8                      3.68        1000.       226.31
 8                      5.40        2000.       346.26
 8                      7.85        4000.       533.39
 8                      9.64        6000.       688.07
 8                      11.16       8000.       838.10
 8                      12.46       10000.      985.31
 8                      13.61       12000.      1122.03
 8                      14.56       14000.      1236.94
 8                      15.43       16000.      1345.18
 8                      16.31       18000.      1456.68
 9 ENDTBL
 2 XSECTN    025        1.0         7.3                                 REACHB
 8                      0.          0.0         0.0
 8                      0.63        100.        80.89
 8                      0.93        200.        120.32
 8                      1.17        300.        151.77
 8                      1.56        500.        203.28
 8                      2.30        1000.       302.00
 8                      3.38        2000.       449.24
 8                      4.97        4000.       673.73
 8                      6.23        6000.       855.96
 8                      7.31        8000.       1016.35
 8                      8.24        10000.      1158.51
 8                      9.09        12000.      1293.31
 8                      9.90        14000.      1425.57
 8                      10.64       16000.      1549.17
 8                      11.36       18000.      1673.11
 9 ENDTBL
 2 XSECTN    030        1.0         9.45                                BOSSCS#6
 8                      0.          0.0         0.0
 8                      0.77        5.          4.67
 8                      1.54        50.         32.06
 8                      1.78        100.        56.64
 8                      2.10        200.        100.59
 8                      2.50        400.        179.97
 8                      3.01        800.        320.25
 8                      3.63        1600.       589.66
 8                      4.35        3200.       1110.72
 8                      5.21        6400.       2084.48
 8                      6.03        12800.      4119.83
 8                      6.99        25600.      6856.75
 8                      8.28        51200.      11085.87
 9 ENDTBL
 2 XSECTN    045        1.0         4.87                                REACHA
```

**********80-80 LIST OF INPUT DATA (CONTINUED)**********

```
8                       0.          0.0         0.0
8                       0.60        100.        85.69
8                       0.90        200.        127.94
8                       1.13        300.        161.93
8                       1.52        500.        217.27
8                       2.25        1000.       324.03
8                       3.31        2000.       483.02
8                       4.87        4000.       722.17
8                       6.09        6000.       914.99
8                       7.15        8000.       1084.61
8                       8.05        10000.      1234.17
8                       8.87        12000.      1373.80
8                       9.64        14000.      1507.84
8                       10.34       16000.      1633.45
8                       11.00       18000.      1753.12
9 ENDTBL
2 XSECTN    060         1.0         4.7                                 2CP6CP7
8                       0.          0.0         0.0
8                       2.36        100.        45.12
8                       2.88        200.        83.75
8                       3.18        300.        114.33
8                       3.64        500.        172.72
8                       4.42        1000.       289.04
8                       5.40        2000.       470.72
8                       6.87        4000.       782.74
8                       7.91        6000.       1020.12
8                       8.79        8000.       1231.25
8                       9.60        10000.      1435.05
8                       10.26       12000.      1618.34
8                       10.94       14000.      1812.58
8                       11.47       16000.      1983.46
8                       11.96       18000.      2150.12
9 ENDTBL
2 XSECTN    067         1.0         8.77                                BOSSCS#5
8                       0.          0.0         0.0
8                       0.35        5.          5.56
8                       1.03        50.         30.95
8                       1.39        100.        52.16
8                       1.94        200.        88.72
8                       2.63        400.        148.61
8                       3.51        800.        260.63
8                       4.62        1600.       459.66
8                       6.04        3200.       929.36
8                       7.38        6400.       1811.51
8                       8.77        12800.      3374.20
8                       10.17       25600.      6398.87
8                       11.89       51200.      10982.51
9 ENDTBL
3 STRUCT      01                                                        95/11/6
8                       1178.0      0.0         0.
8                       1188.0      0.02        44.8
8                       1196.8      0.13        300.
8                       1199.2      0.21        500.
8                       1202.0      159.0       845.55
8                       1204.0      187.75      1176.28
8                       1206.0      214.9       1575.25
```

```
**********************80-80 LIST OF INPUT DATA (CONTINUED)**********************

 8                        1208.0      240.3       2044.97
 8                        1210.0      265.4       2593.40
 8                        1212.0      330.00      3218.00
 8                        1213.0      2936.00     3556.67
 8                        1214.0      8488.00     3916.02
 8                        1215.0      15810.0     4294.13
 8                        1216.0      24545.0     4692.68
 8                        1217.0      34492.0     5113.19
 8                        1218.0      45517.0     5556.01
 8                        1219.0      57524.0     6021.50
 8                        1220.0      70439.0     6509.75
 9 ENDTBL
 6 RUNOFF 1 001        1 2.46        87.2        0.85        1 1
 6 REACH  3 005   1    7 9100.                               1           BOSS#6
 6 REACH  3 010   7    2 9100.                               1           BOSS#4
 6 RUNOFF 1 002        3 2.38        79.9        0.73        1 1
 6 ADDHYD 4 012   2 3 1                                      1 1
 6 DIVERT 6 012   1 4 7 4100.        1.00        200.        1 1         OLIVE
 6 REACH  3 020   4    7 3332.                               1           REACH C
 6 REACH  3 025   7    5 1950.                               1           REACH B
 6 RUNOFF 1 003        6 3.94        87.2        0.88        1 1
 6 REACH  3 030   6    7 8865.                               1           BOSS#6
 6 REACH  3 005   7    1 8865.                               1           BOSS#5
 6 REACH  3 025   1    7 1950.                               1           REACH B
 6 RUNOFF 1 004        1 2.06        77.3        0.79        1 1
 6 ADDHYD 4 034   7 1 2                                      1 1
 6 ADDHYD 4 035   5 2 3                                      1 1
 6 DIVERT 6 035   3 4 7 11000.       1.00        199.        1 1         NORTHERN
 6 REACH  3 045   4    5 4200.                               1           REACH A
 6 RUNOFF 1 006        2 1.47        87.7        0.47        1 1
 6 REACH  3 060   2    3 7540.                               1           CP6CP7
 6 REACH  3 067   3    4 5140.                               1           BOSS#5
 6 ADDHYD 4 064   5 4 3                                      1 1
 6 RUNOFF 1 005        6 4.78        78.8        0.78        1 1
 6 RUNOFF 1 007        7 3.48        81.7        1.01        1 1
 6 ADDHYD 4 075   6 7 1                                      1 1
 6 ADDHYD 4 076   1 3 2                                      1 1     1
 6 RESVOR 2    01 2    1 1200.0                              1 1     1
 ENDATA
 7 LIST                  1.0                     1.
 7 INCREM 6              1.05
 7 COMPUT 7 001       01 0.          1.0         1.0         1 2  01  01
   ENDCMP 1
 7 COMPUT 7 001       01 0.          1.0         1.0         1 2  02  01
   ENDCMP 1
   ENDJOB 2

*******************************END OF 80-80 LIST******************************
```

RUNOFF OPTION USED WITH RAINTABLE NO. 1, RUNOFF CURVE NO. = 100.

COMPUTED DIMHYD PEAK RATE FACTOR = 664.607

EXECUTIVE CONTROL LIST 1. 0. 1.

LISTING OF CURRENT DATA

COMPUTED TIME INCREMENT
DIMHYD .0556

.0000	.0300	.1000	.1900	.3100
.4700	.6600	.8200	.9300	.9900
1.0000	.9900	.9300	.8200	.6600
.4700	.3100	.0300	.0000	.0000

ENDTBL

COMPUTED PEAK RATE FACTOR = 664.607

	TABLE NO.	TIME INCREMENT
RAINFL	1	2.4000

.0000	.0010	.0035	.0061	.0086
.0112	.0143	.0174	.0206	.0237
.0269	.0303	.0338	.0372	.0406
.0440	.0475	.0509	.0543	.0577
.0612	.0658	.0704	.0750	.0796
.0842	.0888	.0934	.0980	.1026
.1073	.1135	.1197	.1260	.1322
.1384	.1466	.1549	.1631	.1713
.1796	.1878	.2004	.2150	.2296
.2477	.2658	.2881	.3168	.3600
.7090	1.1390	1.2850	1.3420	1.3730
1.3950	1.4120	1.4250	1.4380	1.4480
1.4590	1.4670	1.4750	1.4840	1.4920
1.5000	1.5070	1.5130	1.5190	1.5260
1.5320	1.5370	1.5410	1.5460	1.5500
1.5550	1.5600	1.5640	1.5690	1.5740
1.5780	1.5820	1.5850	1.5890	1.5920
1.5960	1.5990	1.6030	1.6060	1.6100
1.6130	1.6160	1.6180	1.6210	1.6230
1.6260	1.6280	1.6300	1.6330	1.6350
1.6380	1.6400	1.6400	1.6400	1.6400

ENDTBL

STANDARD CONTROL INSTRUCTIONS

```
RUNOFF        1        1      2.4600     87.2000       .85001 1 0 0 0 1
REACH         5   1    7   9100.0000       .0000       .00001 0 0 0 0 1
REACH        10   7    2   9100.0000       .0000       .00001 0 0 0 0 1
RUNOFF        2        3      2.3800     79.9000       .73001 1 0 0 0 1
ADDHYD       12   2 3 1                                     1 1 0 0 0 1
DIVERT       12   1 4 7   4100.0000      1.0000    200.00001 1 0 0 0 1
REACH        20   4    7   3332.0000       .0000       .00001 0 0 0 0 1
REACH        25   7    5   1950.0000       .0000       .00001 0 0 0 0 1
RUNOFF        3        6      3.9400     87.2000       .88001 1 0 0 0 1
REACH        30   6    7   8865.0000       .0000       .00001 0 0 0 0 1
REACH         5   7    1   8865.0000       .0000       .00001 0 0 0 0 1
REACH        25   1    7   1950.0000       .0000       .00001 0 0 0 0 1
RUNOFF        4        1      2.0600     77.3000       .79001 1 0 0 0 1
ADDHYD       34   7 1 2                                     1 1 0 0 0 1
ADDHYD       35   5 2 3                                     1 1 0 0 0 1
DIVERT       35   3 4 7  11000.0000      1.0000    199.00001 1 0 0 0 1
REACH        45   4    5   4200.0000       .0000       .00001 0 0 0 0 1
RUNOFF        6        2      1.4700     87.7000       .47001 1 0 0 0 1
REACH        60   2    3   7540.0000       .0000       .00001 0 0 0 0 1
REACH        67   3    4   5140.0000       .0000       .00001 0 0 0 0 1
ADDHYD       64   5 4 3                                     1 1 0 0 0 1
RUNOFF        5        6      4.7800     78.8000       .78001 1 0 0 0 1
RUNOFF        7        7      3.4800     81.7000      1.01001 1 0 0 0 1
ADDHYD       75   6 7 1                                     1 1 0 0 0 1
ADDHYD       76   1 3 2                                     1 1 0 0 1 1
RESVOR          1 2    1   1200.0000                       1 1 0 0 1 1
ENDATA
```

END OF LISTING

EXECUTIVE CONTROL INCREM MAIN TIME INCREMENT = 1.050 HOURS

EXECUTIVE CONTROL COMPUT FROM XSECTION 1 TO STRUCTURE 1
STARTING TIME = .00 RAIN DEPTH = 1.00 RAIN DURATION = 1.00
ANT. RUNOFF COND. = 2 MAIN TIME INCREMENT = 1.050 HOURS
ALTERNATE NO. = 1 STORM NO. = 1 RAIN TABLE NO. = 1

OPERATION RUNOFF XSECTION 1

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
121.40	290.4	(RUNOFF)
138.08	8.7	(RUNOFF)
143.29	7.3	(RUNOFF)
150.61	6.0	(RUNOFF)
164.99	4.6	(RUNOFF)
174.63	3.3	(RUNOFF)
179.55	3.3 *	(RUNOFF)
187.64	3.3	(RUNOFF)
192.22	2.6	(RUNOFF)
208.25	2.7	(RUNOFF)

* FIRST POINT OF FLAT PEAK

HYDROGRAPH POINTS FOR ALTERNATE = 1, STORM = 1
MAIN TIME INCREMENT = 1.050 hr, DRAINAGE AREA = 2.46 SQ.MI.

HRS									
.00	CFS	.00	.66	.66	1.45	1.65	1.68	1.72	1.71
8.40	CFS	1.65	1.65	1.71	1.72	1.92	2.05	2.05	2.05
16.80	CFS	2.05	2.11	2.11	2.06	2.05	2.08	2.11	2.13
25.20	CFS	2.25	2.25	2.31	2.31	2.27	2.25	2.25	2.25
33.60	CFS	2.25	2.25	2.25	2.30	2.31	2.29	2.25	2.25
42.00	CFS	2.25	2.25	2.25	2.25	2.29	2.31	2.48	3.04
50.40	CFS	3.04	3.04	3.04	3.04	3.04	3.04	3.04	3.04
58.80	CFS	3.04	3.04	3.04	3.04	3.04	3.04	3.04	3.04
67.20	CFS	3.04	3.04	3.04	3.09	3.11	3.51	4.10	4.10
75.60	CFS	4.10	4.10	4.16	4.16	4.12	4.10	4.10	4.10
84.00	CFS	4.11	5.40	5.42	5.47	5.48	5.46	5.42	5.42
92.40	CFS	5.42	5.42	5.48	5.48	5.44	5.42	6.18	8.33
100.80	CFS	8.41	9.58	9.65	9.65	9.65	10.62	11.96	11.96
109.20	CFS	11.96	12.01	14.43	14.74	17.28	18.96	21.33	28.55
117.60	CFS	33.56	229.35	230.66	273.71	284.13	207.45	96.47	89.78
126.00	CFS	38.02	37.66	22.09	20.48	16.69	14.54	13.75	11.23
134.40	CFS	11.10	8.71	8.59	8.59	8.59	7.72	6.61	6.68
142.80	CFS	7.27	7.25	5.50	5.29	5.29	5.29	5.46	5.95
151.20	CFS	5.91	5.31	5.29	5.29	5.29	5.02	4.63	4.55
159.60	CFS	3.96	3.96	3.96	3.96	4.38	4.63	4.48	3.96
168.00	CFS	3.95	3.32	3.30	2.79	2.64	2.93	3.30	3.22
176.40	CFS	2.65	2.64	3.25	3.30	3.30	3.30	3.13	2.64

184.80 CFS	2.68	3.27	3.30	3.30	3.30	3.03	2.64	2.64
193.20 CFS	2.64	2.63	2.05	1.98	2.38	2.64	2.49	1.98
201.60 CFS	1.99	2.64	2.64	2.11	1.98	2.26	2.64	2.56
210.00 CFS	1.99	1.98	2.58	2.64	2.22	1.98	1.98	1.98
218.40 CFS	1.95	1.35	1.32	1.83	1.98	1.70	1.32	1.39
226.80 CFS	1.98	1.97	1.39	1.32	1.32	1.32	1.49	1.98
235.20 CFS	1.95	1.34	1.32	1.85	1.98	1.72	1.32	1.17
243.60 CFS	.00							

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
1.68 WATERSHED INCHES; 2671 CFS-HRS; 220.7 ACRE-FEET.

*** WARNING - MAIN TIME INCREMENT (1.050) IS GREATER THAN 50% OF THE
TIME OF CONCENTRATION (.85) FOR SUBWATERSHED XSECTION 1.
THIS WILL REDUCE THE COMPUTED PEAK BY ABOUT -2.1%. ***

OPERATION REACH XSECTION 5

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
122.55	283.3	2.23
144.42	7.4	.39
151.83	5.9	.36
166.22	4.6	.32
175.87	3.3	.23
182.21	3.3	.23
189.54	3.3	.23
214.00	2.6	.18
240.45	1.9	.14

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
1.62 WATERSHED INCHES; 2576 CFS-HRS; 212.9 ACRE-FEET.

OPERATION REACH XSECTION 10

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
123.70	277.3	3.72
145.52	7.3	.92
153.01	5.9	.88
167.44	4.5	.78
177.05	3.2	.56
183.33	3.3	.57
190.64	3.3	.57
215.18	2.6	.44
241.65	1.9	.33

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
1.66 WATERSHED INCHES; 2642 CFS-HRS; 218.3 ACRE-FEET.

OPERATION RUNOFF XSECTION 2

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
78.23	4.0	(RUNOFF)
121.33	285.1	(RUNOFF)
137.49	8.3	(RUNOFF)
143.33	7.3	(RUNOFF)
154.35	5.1	(RUNOFF)
164.80	4.5	(RUNOFF)
174.61	3.2	(RUNOFF)
181.13	3.2	(RUNOFF)
188.48	3.2	(RUNOFF)
192.69	2.6	(RUNOFF)

HYDROGRAPH POINTS FOR ALTERNATE = 1, STORM = 1
MAIN TIME INCREMENT = 1.050 hr, DRAINAGE AREA = 2.38 SQ.MI.

HRS									
.00	CFS	.00	.64	.64	1.49	1.60	1.63	1.66	1.65
8.40	CFS	1.60	1.60	1.66	1.66	1.90	1.98	1.98	1.98
16.80	CFS	1.99	2.05	2.05	1.99	1.98	2.01	2.05	2.06
25.20	CFS	2.17	2.17	2.23	2.24	2.19	2.17	2.17	2.17
33.60	CFS	2.17	2.17	2.17	2.23	2.24	2.20	2.17	2.17
42.00	CFS	2.17	2.17	2.17	2.17	2.22	2.24	2.46	2.94
50.40	CFS	2.94	2.94	2.94	2.94	2.94	2.94	2.94	2.94
58.80	CFS	2.94	2.94	2.94	2.94	2.94	2.94	2.94	2.94
67.20	CFS	2.94	2.94	2.94	3.00	3.00	3.49	3.96	3.96
75.60	CFS	3.96	3.96	4.03	4.03	3.98	3.96	3.96	3.96
84.00	CFS	4.03	5.24	5.24	5.30	5.31	5.27	5.24	5.24
92.40	CFS	5.24	5.24	5.30	5.31	5.26	5.24	5.96	8.06
100.80	CFS	8.11	9.32	9.33	9.33	9.33	10.46	11.57	11.57
109.20	CFS	11.57	11.57	14.21	14.26	17.19	18.35	21.32	27.62
117.60	CFS	36.73	223.11	223.11	269.22	274.90	177.77	93.34	85.77
126.00	CFS	36.44	36.28	20.57	19.82	15.53	14.06	13.20	10.87
134.40	CFS	10.74	8.33	8.31	8.31	8.31	7.35	6.39	6.48
142.80	CFS	7.03	7.03	5.17	5.11	5.11	5.11	5.32	5.75
151.20	CFS	5.73	5.11	5.11	5.11	5.11	4.77	4.48	4.39
159.60	CFS	3.84	3.84	3.84	3.84	4.32	4.48	4.29	3.84
168.00	CFS	3.80	3.20	3.20	2.63	2.56	2.88	3.20	3.12
176.40	CFS	2.56	2.56	3.17	3.20	3.20	3.20	2.99	2.56
184.80	CFS	2.57	3.20	3.20	3.20	3.20	2.85	2.56	2.56
193.20	CFS	2.56	2.55	1.94	1.92	2.41	2.56	2.37	1.92
201.60	CFS	1.96	2.56	2.56	2.00	1.92	2.24	2.56	2.47
210.00	CFS	1.92	1.92	2.53	2.56	2.10	1.92	1.92	1.92
218.40	CFS	1.91	1.28	1.28	1.85	1.92	1.58	1.28	1.37
226.80	CFS	1.92	1.91	1.29	1.28	1.28	1.28	1.48	1.92
235.20	CFS	1.88	1.28	1.28	1.84	1.92	1.59	1.28	1.10
243.60	CFS	.00							

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
1.67 WATERSHED INCHES; 2561 CFS-HRS; 211.6 ACRE-FEET.

*** WARNING - MAIN TIME INCREMENT (1.050) IS GREATER THAN 50% OF THE
TIME OF CONCENTRATION (.73) FOR SUBWATERSHED XSECTION 2.
THIS WILL REDUCE THE COMPUTED PEAK BY ABOUT -3.7%. ***

OPERATION ADDHYD XSECTION 12

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
121.80	488.3	(NULL)
145.48	12.4	(NULL)
150.94	11.1	(NULL)
153.00	11.0	(NULL)
165.72	8.5	(NULL)
178.68	6.0	(NULL)
181.69	6.4	(NULL)
186.07	6.0	(NULL)
188.84	6.4	(NULL)
212.28	4.7	(NULL)

HYDROGRAPH POINTS FOR ALTERNATE = 1, STORM = 1
MAIN TIME INCREMENT = 1.050 hr, DRAINAGE AREA = 4.84 SQ.MI.

HRS								
.00 CFS	.00	.64	.64	1.93	2.20	2.81	3.18	3.29
8.40 CFS	3.29	3.30	3.33	3.32	3.59	3.69	3.84	3.97
16.80 CFS	4.02	4.09	4.09	4.08	4.09	4.09	4.10	4.13
25.20 CFS	4.27	4.29	4.44	4.47	4.47	4.48	4.46	4.43
33.60 CFS	4.42	4.42	4.42	4.48	4.48	4.49	4.48	4.47
42.00 CFS	4.43	4.42	4.42	4.42	4.47	4.48	4.74	5.24
50.40 CFS	5.36	5.78	5.93	5.97	5.98	5.98	5.98	5.98
58.80 CFS	5.98	5.98	5.98	5.98	5.98	5.98	5.98	5.98
67.20 CFS	5.98	5.98	5.98	6.04	6.04	6.56	7.06	7.33
75.60 CFS	7.83	8.00	8.11	8.12	8.12	8.12	8.10	8.07
84.00 CFS	8.13	9.34	9.35	10.28	10.61	10.70	10.71	10.70
92.40 CFS	10.67	10.66	10.72	10.72	10.72	10.72	11.42	13.48
100.80 CFS	14.04	16.88	17.51	18.48	18.85	20.07	21.21	21.87
109.20 CFS	23.01	23.40	26.14	26.24	30.83	32.77	37.69	45.80
117.60 CFS	57	249	254	434	488	433	369	316
126.00 CFS	175	139	79	63	44	37	32	27
134.40 CFS	25.04	20.52	19.70	17.87	17.16	16.00	15.00	14.49
142.80 CFS	14.08	13.80	12.26	12.32	11.17	10.62	10.66	11.05
151.20 CFS	11.13	10.89	10.99	10.61	10.46	10.07	9.76	9.50
159.60 CFS	8.61	8.45	8.01	7.85	8.30	8.44	8.54	8.34
168.00 CFS	8.30	7.34	7.19	6.17	5.92	5.85	5.93	5.98
176.40 CFS	5.72	5.77	6.01	5.89	6.26	6.43	6.28	5.86
184.80 CFS	5.76	6.01	5.91	6.28	6.44	6.14	5.86	5.68
193.20 CFS	5.35	5.23	4.59	4.55	4.66	4.61	4.63	4.44
201.60 CFS	4.46	4.71	4.59	4.43	4.51	4.51	4.62	4.66
210.00 CFS	4.42	4.47	4.70	4.59	4.50	4.49	4.26	4.01
218.40 CFS	3.92	3.27	3.24	3.40	3.30	3.25	3.17	3.13
226.80 CFS	3.38	3.32	3.08	3.20	2.85	2.67	2.81	3.24
235.20 CFS	3.32	3.09	3.20	3.37	3.29	3.28	3.18	2.88

243.60 CFS 1.47 1.26 .40

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
1.67 WATERSHED INCHES; 5202 CFS-HRS; 429.9 ACRE-FEET.

OPERATION DIVERT XSECTION 12
OUTPUT #1 HYDROGRAPH

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
121.80	488.3	(DIVERT)
145.48	12.4	(DIVERT)
150.94	11.1	(DIVERT)
153.00	11.0	(DIVERT)
165.72	8.5	(DIVERT)
178.68	6.0	(DIVERT)
181.69	6.4	(DIVERT)
186.07	6.0	(DIVERT)
188.84	6.4	(DIVERT)
212.28	4.7	(DIVERT)

HYDROGRAPH POINTS FOR ALTERNATE = 1, STORM = 1
MAIN TIME INCREMENT = 1.050 hr, DRAINAGE AREA = 4.84 SQ.MI.

HRS								
.00 CFS	.00	.64	.64	1.93	2.20	2.81	3.18	3.29
8.40 CFS	3.29	3.30	3.33	3.32	3.59	3.69	3.84	3.97
16.80 CFS	4.02	4.09	4.09	4.08	4.09	4.09	4.10	4.13
25.20 CFS	4.27	4.29	4.44	4.47	4.47	4.48	4.46	4.43
33.60 CFS	4.42	4.42	4.42	4.48	4.48	4.49	4.48	4.47
42.00 CFS	4.43	4.42	4.42	4.42	4.47	4.48	4.74	5.24
50.40 CFS	5.36	5.78	5.93	5.97	5.98	5.98	5.98	5.98
58.80 CFS	5.98	5.98	5.98	5.98	5.98	5.98	5.98	5.98
67.20 CFS	5.98	5.98	5.98	6.04	6.04	6.56	7.06	7.33
75.60 CFS	7.83	8.00	8.11	8.12	8.12	8.12	8.10	8.07
84.00 CFS	8.13	9.34	9.35	10.28	10.61	10.70	10.71	10.70
92.40 CFS	10.67	10.66	10.72	10.72	10.72	10.72	11.42	13.48
100.80 CFS	14.04	16.88	17.51	18.48	18.85	20.07	21.21	21.87
109.20 CFS	23.01	23.40	26.14	26.24	30.83	32.77	37.69	45.80
117.60 CFS	57	249	254	434	488	433	369	316
126.00 CFS	175	139	79	63	44	37	32	27
134.40 CFS	25.04	20.52	19.70	17.87	17.16	16.00	15.00	14.49
142.80 CFS	14.08	13.80	12.26	12.32	11.17	10.62	10.66	11.05
151.20 CFS	11.13	10.89	10.99	10.61	10.46	10.07	9.76	9.50
159.60 CFS	8.61	8.45	8.01	7.85	8.30	8.44	8.54	8.34
168.00 CFS	8.30	7.34	7.19	6.17	5.92	5.85	5.93	5.98
176.40 CFS	5.72	5.77	6.01	5.89	6.26	6.43	6.28	5.86
184.80 CFS	5.76	6.01	5.91	6.28	6.44	6.14	5.86	5.68
193.20 CFS	5.35	5.23	4.59	4.55	4.66	4.61	4.63	4.44
201.60 CFS	4.46	4.71	4.59	4.43	4.51	4.51	4.62	4.66
210.00 CFS	4.42	4.47	4.70	4.59	4.50	4.49	4.26	4.01
218.40 CFS	3.92	3.27	3.24	3.40	3.30	3.25	3.17	3.13
226.80 CFS	3.38	3.32	3.08	3.20	2.85	2.67	2.81	3.24

235.20 CFS	3.32	3.09	3.20	3.37	3.29	3.28	3.18	2.88
243.60 CFS	1.47	1.26	.40					

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
1.67 WATERSHED INCHES; 5202 CFS-HRS; 429.9 ACRE-FEET.

OUTPUT #2 DIVERTED HYDROGRAPH (XSECTION 200)

*** MESSAGE - HYDROGRAPH CONTAINS NO FLOW ***

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
237 CFS-HRS; 429.9 ACRE-FEET.

*** WARNING - ROUTING COEFFICIENT (C) EQUALS 1.0,
CONSIDER SMALLER MAIN TIME INCREMENT FOR XSECTION 20. ***

OPERATION REACH XSECTION 20

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
121.80	488.3	2.45
145.48	12.4	.13
150.94	11.1	.11
153.00	11.0	.11
165.72	8.5	.09
178.68	6.0	.06
181.69	6.4	.06
186.07	6.0	.06
188.84	6.4	.07
212.28	4.7	.05

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
1.67 WATERSHED INCHES; 5202 CFS-HRS; 429.9 ACRE-FEET.

*** WARNING - ROUTING COEFFICIENT (C) EQUALS 1.0,
CONSIDER SMALLER MAIN TIME INCREMENT FOR XSECTION 25. ***

OPERATION REACH XSECTION 25

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
121.80	488.3	1.54
145.48	12.4	.08
150.94	11.1	.07
153.00	11.0	.07
165.72	8.5	.05
178.68	6.0	.04
181.69	6.4	.04
186.07	6.0	.04
188.84	6.4	.04
212.28	4.7	.03

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
1.67 WATERSHED INCHES; 5202 CFS-HRS; 429.9 ACRE-FEET.

OPERATION RUNOFF XSECTION 3

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
121.39	461.9	(RUNOFF)
126.52	63.0	(RUNOFF)
138.08	13.8	(RUNOFF)
143.32	11.7	(RUNOFF)
150.67	9.6	(RUNOFF)
154.88	8.5	(RUNOFF)
165.01	7.4	(RUNOFF)
174.70	5.3	(RUNOFF)
181.12	5.2	(RUNOFF)
186.90	5.2 *	(RUNOFF)

* FIRST POINT OF FLAT PEAK

HYDROGRAPH POINTS FOR ALTERNATE = 1, STORM = 1
MAIN TIME INCREMENT = 1.050 hr, DRAINAGE AREA = 3.94 SQ.MI.

HRS								
.00 CFS	.00	1.05	1.05	2.37	2.62	2.67	2.73	2.72
8.40 CFS	2.62	2.62	2.72	2.73	3.06	3.25	3.25	3.25
16.80 CFS	3.26	3.36	3.36	3.27	3.25	3.30	3.36	3.38
25.20 CFS	3.57	3.57	3.67	3.67	3.61	3.57	3.57	3.57
33.60 CFS	3.57	3.57	3.57	3.66	3.67	3.63	3.57	3.57
42.00 CFS	3.57	3.57	3.57	3.57	3.64	3.67	3.91	4.83
50.40 CFS	4.83	4.83	4.83	4.83	4.83	4.83	4.83	4.83
58.80 CFS	4.83	4.83	4.83	4.83	4.83	4.83	4.83	4.83
67.20 CFS	4.83	4.83	4.83	4.92	4.93	5.55	6.51	6.51
75.60 CFS	6.51	6.51	6.61	6.61	6.55	6.51	6.51	6.51
84.00 CFS	6.54	8.59	8.61	8.70	8.71	8.67	8.61	8.61
92.40 CFS	8.61	8.61	8.71	8.71	8.65	8.61	9.50	13.23
100.80 CFS	13.26	15.31	15.33	15.33	15.33	16.76	19.00	19.00
109.20 CFS	19.00	19.00	23.26	23.41	27.69	30.13	33.19	45.35
117.60 CFS	49	364	366	437	451	331	153	147
126.00 CFS	59.84	59.84	34.19	32.54	26.67	23.10	22.09	17.85

134.40 CFS	17.77	13.69	13.65	13.65	13.65	12.40	10.50	10.57
142.80 CFS	11.55	11.54	8.50	8.40	8.40	8.40	8.60	9.45
151.20 CFS	9.44	8.40	8.40	8.40	8.40	7.98	7.35	7.29
159.60 CFS	6.30	6.30	6.30	6.30	6.95	7.35	7.14	6.30
168.00 CFS	6.28	5.26	5.25	4.39	4.20	4.62	5.25	5.17
176.40 CFS	4.20	4.20	5.22	5.25	5.25	5.25	5.05	4.20
184.80 CFS	4.20	5.25	5.25	5.25	5.25	4.83	4.20	4.20
193.20 CFS	4.20	4.20	3.21	3.15	3.81	4.20	3.99	3.15
201.60 CFS	3.17	4.19	4.20	3.33	3.15	3.57	4.20	4.12
210.00 CFS	3.15	3.15	4.16	4.20	3.54	3.15	3.15	3.15
218.40 CFS	3.14	2.10	2.10	2.98	3.15	2.74	2.10	2.16
226.80 CFS	3.15	3.15	2.16	2.10	2.10	2.10	2.31	3.15
235.20 CFS	3.13	2.11	2.10	2.98	3.15	2.73	2.10	1.94
243.60 CFS	.00							

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
1.67 WATERSHED INCHES; 4251 CFS-HRS; 351.3 ACRE-FEET.

*** WARNING - MAIN TIME INCREMENT (1.050) IS GREATER THAN 50% OF THE
TIME OF CONCENTRATION (.88) FOR SUBWATERSHED XSECTION 3.
THIS WILL REDUCE THE COMPUTED PEAK BY ABOUT -2.3%. ***

OPERATION REACH XSECTION 30

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
122.60	444.1	2.56
144.45	11.7	.88
151.93	9.4	.85
166.33	7.2	.81
175.98	5.2	.77
182.27	5.3	.77
189.57	5.3	.77
204.49	4.2	.64
209.58	4.1	.64
214.02	4.1	.64

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
1.61 WATERSHED INCHES; 4102 CFS-HRS; 339.0 ACRE-FEET.

OPERATION REACH XSECTION 5

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
123.73	437.4	2.71
145.53	11.6	.45
153.06	9.4	.42
167.50	7.2	.38
177.12	5.2	.35
183.39	5.2	.35
190.65	5.3	.35
205.63	4.1	.29
210.71	4.1	.29
215.18	4.1	.29

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
1.65 WATERSHED INCHES; 4198 CFS-HRS; 347.0 ACRE-FEET.

*** WARNING - ROUTING COEFFICIENT (C) EQUALS 1.0,
CONSIDER SMALLER MAIN TIME INCREMENT FOR XSECTION 25. ***

OPERATION REACH XSECTION 25

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
123.73	437.4	1.44
145.53	11.6	.07
153.06	9.4	.06
167.50	7.2	.05
177.12	5.2	.03
183.39	5.2	.03
190.65	5.3	.03
205.63	4.1	.03
210.71	4.1	.03
215.18	4.1	.03

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
1.65 WATERSHED INCHES; 4198 CFS-HRS; 347.0 ACRE-FEET.

OPERATION RUNOFF XSECTION 4

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
121.36	245.1	(RUNOFF)
138.08	7.3	(RUNOFF)
143.27	6.1	(RUNOFF)
154.88	4.5	(RUNOFF)
164.96	3.9	(RUNOFF)
193.72	2.2	(RUNOFF)
198.49	2.2	(RUNOFF)
203.17	2.3	(RUNOFF)
208.22	2.2	(RUNOFF)
212.72	2.2	(RUNOFF)

HYDROGRAPH POINTS FOR ALTERNATE = 1, STORM = 1
MAIN TIME INCREMENT = 1.050 hr, DRAINAGE AREA = 2.06 SQ.MI.

HRS								
.00 CFS	.00	.55	.55	1.25	1.38	1.41	1.44	1.43
8.40 CFS	1.38	1.38	1.43	1.44	1.63	1.72	1.72	1.72
16.80 CFS	1.72	1.77	1.77	1.72	1.72	1.74	1.77	1.78
25.20 CFS	1.88	1.88	1.93	1.94	1.90	1.88	1.88	1.88
33.60 CFS	1.88	1.88	1.88	1.93	1.94	1.91	1.88	1.88
42.00 CFS	1.88	1.88	1.88	1.88	1.92	1.94	2.09	2.55
50.40 CFS	2.55	2.55	2.55	2.55	2.55	2.55	2.55	2.55
58.80 CFS	2.55	2.55	2.55	2.55	2.55	2.55	2.55	2.55
67.20 CFS	2.55	2.55	2.55	2.59	2.60	2.97	3.43	3.43
75.60 CFS	3.43	3.43	3.48	3.49	3.45	3.43	3.43	3.43
84.00 CFS	3.47	4.54	4.54	4.58	4.59	4.57	4.54	4.54
92.40 CFS	4.54	4.54	4.59	4.59	4.56	4.54	5.24	6.97
100.80 CFS	6.98	8.08	8.08	8.08	8.08	9.01	10.02	10.02
109.20 CFS	10.02	10.02	12.18	12.34	14.81	15.88	18.22	23.90
117.60 CFS	29.21	189.88	193.12	230.82	237.94	161.93	80.79	74.74
126.00 CFS	31.54	31.45	18.30	17.15	13.66	12.17	11.39	9.41
134.40 CFS	9.29	7.25	7.19	7.19	7.19	6.41	5.53	5.60
142.80 CFS	6.09	6.06	4.55	4.43	4.43	4.43	4.57	4.98
151.20 CFS	4.95	4.44	4.43	4.43	4.43	4.18	3.87	3.80
159.60 CFS	3.32	3.32	3.32	3.32	3.68	3.87	3.75	3.32
168.00 CFS	3.29	2.77	2.77	2.31	2.21	2.46	2.77	2.70
176.40 CFS	2.21	2.21	2.75	2.77	2.77	2.77	2.62	2.21
184.80 CFS	2.23	2.77	2.77	2.77	2.77	2.51	2.21	2.21
193.20 CFS	2.21	2.21	1.68	1.66	2.03	2.21	2.06	1.66
201.60 CFS	1.66	2.21	2.21	1.75	1.66	1.92	2.21	2.14
210.00 CFS	1.66	1.66	2.18	2.21	1.83	1.66	1.66	1.66
218.40 CFS	1.64	1.12	1.11	1.57	1.66	1.39	1.11	1.17
226.80 CFS	1.66	1.66	1.15	1.11	1.11	1.11	1.26	1.66
235.20 CFS	1.63	1.12	1.11	1.57	1.66	1.40	1.11	.97
243.60 CFS	.00							

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
1.67 WATERSHED INCHES; 2219 CFS-HRS; 183.4 ACRE-FEET.

*** WARNING - MAIN TIME INCREMENT (1.050) IS GREATER THAN 50% OF THE
TIME OF CONCENTRATION (.79) FOR SUBWATERSHED XSECTION 4.
THIS WILL REDUCE THE COMPUTED PEAK BY ABOUT -3.0%. ***

OPERATION ADDHYD XSECTION 34

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
80.58	10.0	(NULL)
122.26	578.6	(NULL)
145.46	16.1	(NULL)
153.05	13.8	(NULL)
166.39	10.5	(NULL)
189.08	7.9	(NULL)
214.94	5.8	(NULL)
229.70	4.2	(NULL)
237.42	4.1	(NULL)
241.03	4.1	(NULL)

HYDROGRAPH POINTS FOR ALTERNATE = 1, STORM = 1
MAIN TIME INCREMENT = 1.050 hr, DRAINAGE AREA = 6.00 SQ.MI.

HRS								
.00 CFS	.00	.55	.55	1.92	2.32	3.27	3.82	4.01
8.40 CFS	4.07	4.09	4.09	4.07	4.32	4.43	4.65	4.86
16.80 CFS	4.94	5.01	5.02	5.04	5.06	5.04	5.04	5.07
25.20 CFS	5.21	5.24	5.43	5.48	5.53	5.54	5.51	5.47
33.60 CFS	5.46	5.45	5.45	5.50	5.51	5.53	5.54	5.52
42.00 CFS	5.48	5.46	5.45	5.45	5.49	5.51	5.70	6.20
50.40 CFS	6.37	7.02	7.27	7.34	7.37	7.37	7.37	7.37
58.80 CFS	7.37	7.37	7.37	7.37	7.37	7.37	7.37	7.37
67.20 CFS	7.37	7.37	7.37	7.42	7.43	7.86	8.35	8.75
75.60 CFS	9.53	9.82	9.96	9.99	10.02	10.03	10.00	9.96
84.00 CFS	9.98	11.05	11.07	12.43	12.97	13.17	13.22	13.21
92.40 CFS	13.17	13.15	13.20	13.20	13.23	13.24	13.90	15.60
100.80 CFS	16.16	19.87	20.90	22.53	23.14	24.26	25.32	26.26
109.20 CFS	28.06	28.73	31.10	31.32	36.53	38.78	44.23	52.66
117.60 CFS	61	230	239	481	569	564	517	445
126.00 CFS	260	203	116	88	60	49	41	35
134.40 CFS	32.39	26.91	25.52	22.51	21.34	20.20	19.22	18.46
142.80 CFS	17.40	16.85	15.81	15.88	13.99	13.18	13.07	13.40
151.20 CFS	13.48	13.56	13.77	13.18	12.93	12.60	12.28	11.93
159.60 CFS	10.94	10.71	10.00	9.73	10.01	10.18	10.46	10.46
168.00 CFS	10.44	9.37	9.14	7.96	7.58	7.19	7.13	7.21
176.40 CFS	7.20	7.33	7.28	7.07	7.64	7.90	7.84	7.45
184.80 CFS	7.35	7.29	7.06	7.66	7.91	7.73	7.45	7.19
193.20 CFS	6.68	6.49	5.91	5.86	5.60	5.49	5.66	5.66
201.60 CFS	5.66	5.67	5.47	5.59	5.75	5.54	5.51	5.60
210.00 CFS	5.60	5.73	5.66	5.46	5.66	5.74	5.41	5.01
218.40 CFS	4.85	4.28	4.25	4.05	3.87	4.09	4.11	4.02
226.80 CFS	4.02	3.87	3.96	4.15	3.59	3.32	3.40	3.77
235.20 CFS	3.87	3.95	4.15	4.02	3.86	4.09	4.11	3.80

243.60 CFS 2.36 2.07 .73 .22

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
1.66 WATERSHED INCHES; 6418 CFS-HRS; 530.4 ACRE-FEET.

OPERATION ADDHYD XSECTION 35

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
122.01	1061.9	(NULL)
145.47	28.5	(NULL)
153.03	24.8	(NULL)
166.06	19.0	(NULL)
175.15	13.2	(NULL)
178.35	13.3	(NULL)
181.83	14.3	(NULL)
185.71	13.3	(NULL)
188.96	14.4	(NULL)
214.86	10.3	(NULL)

HYDROGRAPH POINTS FOR ALTERNATE = 1, STORM = 1
MAIN TIME INCREMENT = 1.050 hr, DRAINAGE AREA = 10.84 SQ.MI.

HRS								
.00 CFS	.00	1.19	1.19	3.85	4.52	6.08	7.00	7.30
8.40 CFS	7.36	7.40	7.42	7.39	7.91	8.12	8.49	8.83
16.80 CFS	8.96	9.10	9.12	9.12	9.15	9.13	9.14	9.20
25.20 CFS	9.49	9.54	9.87	9.96	10.00	10.02	9.96	9.90
33.60 CFS	9.88	9.87	9.87	9.97	9.99	10.02	10.02	9.99
42.00 CFS	9.91	9.88	9.87	9.87	9.95	9.99	10.44	11.44
50.40 CFS	11.73	12.80	13.20	13.31	13.34	13.35	13.35	13.35
58.80 CFS	13.35	13.35	13.35	13.35	13.35	13.35	13.35	13.35
67.20 CFS	13.35	13.35	13.35	13.45	13.47	14.42	15.41	16.09
75.60 CFS	17.36	17.82	18.07	18.11	18.14	18.15	18.09	18.03
84.00 CFS	18.11	20.38	20.42	22.71	23.58	23.86	23.93	23.92
92.40 CFS	23.84	23.82	23.92	23.92	23.94	23.95	25.32	29.08
100.80 CFS	30.20	36.75	38.41	41.00	41.99	44.34	46.53	48.13
109.20 CFS	51.07	52.13	57.24	57.56	67.36	71.55	81.92	98.45
117.60 CFS	118	479	494	915	1058	997	886	761
126.00 CFS	436	342	195	151	104	86	73	61
134.40 CFS	57.42	47.43	45.22	40.37	38.49	36.20	34.21	32.95
142.80 CFS	31.48	30.65	28.08	28.21	25.17	23.80	23.72	24.46
151.20 CFS	24.62	24.45	24.77	23.79	23.39	22.67	22.04	21.43
159.60 CFS	19.55	19.16	18.01	17.58	18.31	18.62	19.00	18.80
168.00 CFS	18.74	16.71	16.34	14.13	13.50	13.04	13.07	13.19
176.40 CFS	12.92	13.10	13.29	12.96	13.90	14.33	14.12	13.31
184.80 CFS	13.11	13.30	12.97	13.95	14.35	13.87	13.31	12.87
193.20 CFS	12.03	11.72	10.49	10.42	10.25	10.10	10.30	10.10
201.60 CFS	10.13	10.38	10.06	10.03	10.26	10.05	10.13	10.26
210.00 CFS	10.01	10.20	10.36	10.05	10.15	10.24	9.67	9.02
218.40 CFS	8.77	7.55	7.49	7.44	7.17	7.34	7.28	7.15
226.80 CFS	7.40	7.19	7.04	7.36	6.44	5.99	6.21	7.01
235.20 CFS	7.19	7.03	7.34	7.39	7.16	7.37	7.28	6.69

243.60 CFS 3.83 3.33 1.14 .32

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
1.66 WATERSHED INCHES; 11620 CFS-HRS; 960.3 ACRE-FEET.

OPERATION DIVERT XSECTION 35
OUTPUT #1 HYDROGRAPH

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
122.01	1061.9	(DIVERT)
145.47	28.5	(DIVERT)
153.03	24.8	(DIVERT)
166.06	19.0	(DIVERT)
175.15	13.2	(DIVERT)
178.35	13.3	(DIVERT)
181.83	14.3	(DIVERT)
185.71	13.3	(DIVERT)
188.96	14.4	(DIVERT)
214.86	10.3	(DIVERT)

HYDROGRAPH POINTS FOR ALTERNATE = 1, STORM = 1
MAIN TIME INCREMENT = 1.050 hr, DRAINAGE AREA = 10.84 SQ.MI.

HRS								
.00 CFS	.00	1.19	1.19	3.85	4.52	6.08	7.00	7.30
8.40 CFS	7.36	7.40	7.42	7.39	7.91	8.12	8.49	8.83
16.80 CFS	8.96	9.10	9.12	9.12	9.15	9.13	9.14	9.20
25.20 CFS	9.49	9.54	9.87	9.96	10.00	10.02	9.96	9.90
33.60 CFS	9.88	9.87	9.87	9.97	9.99	10.02	10.02	9.99
42.00 CFS	9.91	9.88	9.87	9.87	9.95	9.99	10.44	11.44
50.40 CFS	11.73	12.80	13.20	13.31	13.34	13.35	13.35	13.35
58.80 CFS	13.35	13.35	13.35	13.35	13.35	13.35	13.35	13.35
67.20 CFS	13.35	13.35	13.35	13.45	13.47	14.42	15.41	16.09
75.60 CFS	17.36	17.82	18.07	18.11	18.14	18.15	18.09	18.03
84.00 CFS	18.11	20.38	20.42	22.71	23.58	23.86	23.93	23.92
92.40 CFS	23.84	23.82	23.92	23.92	23.94	23.95	25.32	29.08
100.80 CFS	30.20	36.75	38.41	41.00	41.99	44.34	46.53	48.13
109.20 CFS	51.07	52.13	57.24	57.56	67.36	71.55	81.92	98.45
117.60 CFS	118	479	494	915	1058	997	886	761
126.00 CFS	436	342	195	151	104	86	73	61
134.40 CFS	57.42	47.43	45.22	40.37	38.49	36.20	34.21	32.95
142.80 CFS	31.48	30.65	28.08	28.21	25.17	23.80	23.72	24.46
151.20 CFS	24.62	24.45	24.77	23.79	23.39	22.67	22.04	21.43
159.60 CFS	19.55	19.16	18.01	17.58	18.31	18.62	19.00	18.80
168.00 CFS	18.74	16.71	16.34	14.13	13.50	13.04	13.07	13.19
176.40 CFS	12.92	13.10	13.29	12.96	13.90	14.33	14.12	13.31
184.80 CFS	13.11	13.30	12.97	13.95	14.35	13.87	13.31	12.87
193.20 CFS	12.03	11.72	10.49	10.42	10.25	10.10	10.30	10.10
201.60 CFS	10.13	10.38	10.06	10.03	10.26	10.05	10.13	10.26
210.00 CFS	10.01	10.20	10.36	10.05	10.15	10.24	9.67	9.02
218.40 CFS	8.77	7.55	7.49	7.44	7.17	7.34	7.28	7.15
226.80 CFS	7.40	7.19	7.04	7.36	6.44	5.99	6.21	7.01

235.20 CFS	7.19	7.03	7.34	7.39	7.16	7.37	7.28	6.69
243.60 CFS	3.83	3.33	1.14	.32				

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
1.66 WATERSHED INCHES; 11620 CFS-HRS; 960.3 ACRE-FEET.

OUTPUT #2 DIVERTED HYDROGRAPH (XSECTION 199)

*** MESSAGE - HYDROGRAPH CONTAINS NO FLOW ***

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
238 CFS-HRS; 960.3 ACRE-FEET.

*** WARNING - ROUTING COEFFICIENT (C) EQUALS 1.0,
CONSIDER SMALLER MAIN TIME INCREMENT FOR XSECTION 45. ***

OPERATION REACH XSECTION 45

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
122.01	1061.9	2.32
145.47	28.5	.17
153.03	24.8	.15
166.06	19.0	.11
175.15	13.2	.08
178.35	13.3	.08
181.83	14.3	.09
185.71	13.3	.08
188.96	14.4	.09
214.86	10.3	.06

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
1.66 WATERSHED INCHES; 11620 CFS-HRS; 960.3 ACRE-FEET.

OPERATION RUNOFF XSECTION 6

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
121.27	178.9	(RUNOFF)
143.18	4.5	(RUNOFF)
150.54	3.7	(RUNOFF)
169.58	2.1	(RUNOFF)
174.29	2.0	(RUNOFF)
181.13	2.1	(RUNOFF)
188.48	2.1	(RUNOFF)
212.62	1.7	(RUNOFF)
234.63	1.2	(RUNOFF)
239.03	1.2	(RUNOFF)

HYDROGRAPH POINTS FOR ALTERNATE = 1, STORM = 1
MAIN TIME INCREMENT = 1.050 hr, DRAINAGE AREA = 1.47 SQ.MI.

HRS									
2.10	CFS	.41	.95	1.02	1.04	1.06	1.05	1.02	1.02
10.50	CFS	1.06	1.06	1.22	1.26	1.26	1.26	1.27	1.30
18.90	CFS	1.30	1.26	1.26	1.29	1.30	1.33	1.38	1.39
27.30	CFS	1.42	1.42	1.39	1.38	1.38	1.38	1.38	1.38
35.70	CFS	1.39	1.42	1.42	1.39	1.38	1.38	1.38	1.38
44.10	CFS	1.38	1.38	1.42	1.42	1.68	1.87	1.87	1.87
52.50	CFS	1.87	1.87	1.87	1.87	1.87	1.87	1.87	1.87
60.90	CFS	1.87	1.87	1.87	1.87	1.87	1.87	1.87	1.87
69.30	CFS	1.87	1.91	1.91	2.31	2.52	2.52	2.52	2.52
77.70	CFS	2.56	2.56	2.53	2.52	2.52	2.52	2.57	3.34
86.10	CFS	3.34	3.37	3.38	3.35	3.34	3.34	3.34	3.34
94.50	CFS	3.38	3.38	3.34	3.34	4.29	5.13	5.29	5.94
102.90	CFS	5.94	5.94	5.94	7.05	7.37	7.37	7.37	7.58
111.30	CFS	9	9	12	12	15	18	49	142
119.70	CFS	144	175	175	82	59	45	23	22
128.10	CFS	12.62	12.62	9.38	8.96	7.83	6.92	6.58	5.29
136.50	CFS	5.29	5.29	5.29	4.46	4.07	4.20	4.48	4.43
144.90	CFS	3.29	3.26	3.26	3.26	3.45	3.66	3.63	3.26
153.30	CFS	3.26	3.26	3.26	3.00	2.85	2.75	2.44	2.44
161.70	CFS	2.44	2.44	2.76	2.85	2.66	2.44	2.40	2.04
170.10	CFS	2.04	1.66	1.63	1.91	2.04	1.90	1.63	1.66
178.50	CFS	2.04	2.04	2.04	2.04	1.81	1.63	1.72	2.04
186.90	CFS	2.04	2.04	2.04	1.71	1.63	1.63	1.63	1.57
195.30	CFS	1.22	1.22	1.63	1.63	1.39	1.22	1.32	1.63
203.70	CFS	1.61	1.22	1.22	1.53	1.63	1.47	1.22	1.26
212.10	CFS	1.63	1.63	1.28	1.22	1.22	1.22	1.15	.81
220.50	CFS	.81	1.19	1.22	.95	.81	.92	1.22	1.22
228.90	CFS	.83	.81	.81	.81	1.00	1.22	1.21	.82
237.30	CFS	.81	1.18	1.22	.96	.81	.61	.00	

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
1.68 WATERSHED INCHES; 1598 CFS-HRS; 132.0 ACRE-FEET.

*** WARNING - MAIN TIME INCREMENT (1.050) IS GREATER THAN 50% OF THE
TIME OF CONCENTRATION (.47) FOR SUBWATERSHED XSECTION 6.
THIS WILL REDUCE THE COMPUTED PEAK BY ABOUT -2.3%. ***

OPERATION REACH XSECTION 60

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
122.40	180.7	2.78
144.39	4.5	.11
151.78	3.7	.09
165.88	2.8	.07
182.19	2.1	.05
189.53	2.1	.05
213.87	1.6	.04
223.45	1.2	.03
228.53	1.2	.03
235.83	1.2	.03

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
1.67 WATERSHED INCHES; 1587 CFS-HRS; 131.1 ACRE-FEET.

*** WARNING - ROUTING COEFFICIENT (C) EQUALS 1.0,
CONSIDER SMALLER MAIN TIME INCREMENT FOR XSECTION 67. ***

OPERATION REACH XSECTION 67

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
122.40	180.7	1.83
144.39	4.5	.32
151.78	3.7	.26
165.88	2.8	.20
182.19	2.1	.14
189.53	2.1	.14
213.87	1.6	.11
223.45	1.2	.08
228.53	1.2	.09
235.83	1.2	.09

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
1.67 WATERSHED INCHES; 1587 CFS-HRS; 131.1 ACRE-FEET.

OPERATION ADDHYD XSECTION 64

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
122.07	1233.0	(NULL)
152.80	28.2	(NULL)
166.01	21.8	(NULL)
175.28	15.2	(NULL)
181.83	16.4	(NULL)
186.13	15.0	(NULL)
188.96	16.4	(NULL)
214.17	11.8	(NULL)
229.44	8.4	(NULL)
240.47	8.6	(NULL)

HYDROGRAPH POINTS FOR ALTERNATE = 1, STORM = 1
MAIN TIME INCREMENT = 1.050 hr, DRAINAGE AREA = 12.31 SQ.MI.

HRS									
.00	CFS	.00	1.19	1.52	4.24	5.36	7.06	8.03	8.35
8.40	CFS	8.41	8.42	8.44	8.44	8.97	9.31	9.73	10.09
16.80	CFS	10.22	10.37	10.41	10.42	10.42	10.40	10.43	10.50
25.20	CFS	10.81	10.91	11.25	11.37	11.42	11.41	11.35	11.28
33.60	CFS	11.26	11.25	11.25	11.36	11.41	11.44	11.41	11.38
42.00	CFS	11.29	11.26	11.25	11.25	11.34	11.40	11.86	13.07
50.40	CFS	13.55	14.66	15.07	15.18	15.21	15.22	15.22	15.22
58.80	CFS	15.22	15.22	15.22	15.22	15.22	15.22	15.22	15.22
67.20	CFS	15.22	15.22	15.22	15.33	15.37	16.33	17.63	18.55
75.60	CFS	19.87	20.34	20.59	20.66	20.70	20.69	20.62	20.55
84.00	CFS	20.64	22.95	23.60	26.01	26.94	27.24	27.28	27.26
92.40	CFS	27.18	27.15	27.26	27.29	27.32	27.30	28.66	33.18
100.80	CFS	35.12	41.97	44.21	46.92	47.93	50.28	53.35	55.39
109.20	CFS	58	59	65	66	76	83	93	113
117.60	CFS	135	522	616	1054	1226	1171	987	829
126.00	CFS	485	371	218	166	117	96	82	69
134.40	CFS	64.59	54.13	50.80	45.72	43.80	41.49	38.84	37.13
142.80	CFS	35.67	35.07	32.51	31.73	28.48	27.06	26.98	27.86
151.20	CFS	28.23	28.08	28.10	27.06	26.65	25.93	25.09	24.32
159.60	CFS	22.33	21.67	20.46	20.03	20.75	21.32	21.82	21.49
168.00	CFS	21.23	19.13	18.45	16.18	15.24	14.69	14.92	15.19
176.40	CFS	14.84	14.79	14.95	14.91	15.92	16.36	16.15	15.16
184.80	CFS	14.78	15.01	14.94	15.97	16.38	15.91	15.08	14.52
193.20	CFS	13.67	13.35	12.08	11.71	11.49	11.65	11.91	11.54
201.60	CFS	11.39	11.69	11.62	11.62	11.56	11.28	11.61	11.86
210.00	CFS	11.51	11.47	11.63	11.61	11.77	11.59	10.91	10.25
218.40	CFS	9.99	8.71	8.38	8.27	8.28	8.53	8.28	8.00
226.80	CFS	8.31	8.34	8.25	8.26	7.27	6.81	7.02	7.97
235.20	CFS	8.35	8.24	8.24	8.22	8.27	8.57	8.29	7.54
243.60	CFS	4.48	3.46	1.16	.32				

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
1.66 WATERSHED INCHES; 13207 CFS-HRS; 1091.4 ACRE-FEET.

OPERATION RUNOFF XSECTION 5

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
78.28	8.1	(RUNOFF)
121.36	569.3	(RUNOFF)
138.08	16.9	(RUNOFF)
143.30	14.3	(RUNOFF)
150.60	11.7	(RUNOFF)
164.86	9.0	(RUNOFF)
174.64	6.5	(RUNOFF)
180.43	6.4	(RUNOFF)
188.48	6.5	(RUNOFF)
208.22	5.2	(RUNOFF)

HYDROGRAPH POINTS FOR ALTERNATE = 1, STORM = 1
MAIN TIME INCREMENT = 1.050 hr, DRAINAGE AREA = 4.78 SQ.MI.

HRS								
.00 CFS	.00	1.28	1.28	2.92	3.21	3.27	3.34	3.32
8.40 CFS	3.21	3.21	3.33	3.34	3.76	3.98	3.98	3.98
16.80 CFS	3.98	4.11	4.11	4.00	3.98	4.04	4.11	4.14
25.20 CFS	4.37	4.37	4.48	4.49	4.41	4.37	4.37	4.37
33.60 CFS	4.37	4.37	4.37	4.47	4.49	4.43	4.37	4.37
42.00 CFS	4.37	4.37	4.37	4.37	4.46	4.49	4.87	5.91
50.40 CFS	5.91	5.91	5.91	5.91	5.91	5.91	5.91	5.91
58.80 CFS	5.91	5.91	5.91	5.91	5.91	5.91	5.91	5.91
67.20 CFS	5.91	5.91	5.91	6.01	6.03	6.91	7.96	7.96
75.60 CFS	7.96	7.96	8.08	8.09	8.00	7.96	7.96	7.96
84.00 CFS	8.07	10.47	10.53	10.64	10.66	10.60	10.53	10.53
92.40 CFS	10.53	10.53	10.65	10.66	10.57	10.53	12.17	16.18
100.80 CFS	16.22	18.72	18.75	18.75	18.75	20.91	23.24	23.24
109.20 CFS	23.24	23.31	28.33	28.63	34.05	36.85	41.93	55.47
117.60 CFS	62	448	448	537	552	373	187	174
126.00 CFS	73.19	72.66	42.18	39.80	32.11	28.25	26.69	21.83
134.40 CFS	21.61	16.69	16.69	16.69	16.69	14.82	12.84	13.01
142.80 CFS	14.12	14.10	10.56	10.27	10.27	10.27	10.59	11.56
151.20 CFS	11.48	10.28	10.27	10.27	10.27	9.67	8.99	8.82
159.60 CFS	7.70	7.70	7.70	7.70	8.62	8.99	8.63	7.70
168.00 CFS	7.63	6.44	6.42	5.35	5.14	5.72	6.42	6.27
176.40 CFS	5.14	5.14	6.36	6.42	6.42	6.42	6.04	5.14
184.80 CFS	5.20	6.39	6.42	6.42	6.42	5.83	5.14	5.14
193.20 CFS	5.14	5.14	3.89	3.85	4.72	5.14	4.76	3.85
201.60 CFS	3.89	5.11	5.14	4.05	3.85	4.46	5.14	4.97
210.00 CFS	3.85	3.86	5.08	5.14	4.29	3.85	3.85	3.85
218.40 CFS	3.85	2.57	2.57	3.66	3.85	3.23	2.57	2.73
226.80 CFS	3.85	3.83	2.65	2.57	2.57	2.57	2.90	3.85
235.20 CFS	3.81	2.57	2.57	3.65	3.85	3.22	2.57	2.25
243.60 CFS	.00							

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
1.67 WATERSHED INCHES; 5155 CFS-HRS; 426.0 ACRE-FEET.

*** WARNING - MAIN TIME INCREMENT (1.050) IS GREATER THAN 50% OF THE
TIME OF CONCENTRATION (.78) FOR SUBWATERSHED XSECTION 5.
THIS WILL REDUCE THE COMPUTED PEAK BY ABOUT -3.1%. ***

OPERATION RUNOFF XSECTION 7

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
121.49	403.1	(RUNOFF)
143.33	10.5	(RUNOFF)
150.66	8.4	(RUNOFF)
165.11	6.5	(RUNOFF)
174.73	4.7	(RUNOFF)
180.93	4.6	(RUNOFF)
188.48	4.7	(RUNOFF)
192.68	3.7	(RUNOFF)
208.35	3.8	(RUNOFF)
212.82	3.7	(RUNOFF)

HYDROGRAPH POINTS FOR ALTERNATE = 1, STORM = 1
MAIN TIME INCREMENT = 1.050 hr, DRAINAGE AREA = 3.48 SQ.MI.

HRS								
.00 CFS	.00	.90	.93	1.92	2.32	2.35	2.41	2.40
8.40 CFS	2.32	2.32	2.40	2.41	2.65	2.87	2.87	2.87
16.80 CFS	2.88	2.96	2.97	2.90	2.87	2.90	2.97	2.98
25.20 CFS	3.15	3.15	3.23	3.25	3.20	3.15	3.15	3.15
33.60 CFS	3.15	3.15	3.15	3.22	3.25	3.22	3.15	3.15
42.00 CFS	3.15	3.15	3.15	3.15	3.20	3.25	3.39	4.27
50.40 CFS	4.27	4.27	4.27	4.27	4.27	4.27	4.27	4.27
58.80 CFS	4.27	4.27	4.27	4.27	4.27	4.27	4.27	4.27
67.20 CFS	4.27	4.27	4.27	4.33	4.36	4.79	5.75	5.75
75.60 CFS	5.75	5.75	5.83	5.84	5.79	5.75	5.75	5.75
84.00 CFS	5.79	7.52	7.60	7.67	7.70	7.67	7.60	7.60
92.40 CFS	7.60	7.60	7.69	7.70	7.65	7.60	8.19	11.68
100.80 CFS	11.70	13.48	13.54	13.54	13.54	14.58	16.78	16.78
109.20 CFS	16.78	16.78	20.14	20.68	23.74	26.61	28.86	40.03
117.60 CFS	43	311	324	377	399	317	135	130
126.00 CFS	53.45	52.79	32.22	28.75	24.51	20.40	19.64	15.76
134.40 CFS	15.69	12.24	12.05	12.05	12.05	11.18	9.27	9.32
142.80 CFS	10.19	10.20	7.75	7.42	7.42	7.42	7.55	8.35
151.20 CFS	8.33	7.45	7.42	7.42	7.42	7.12	6.49	6.44
159.60 CFS	5.57	5.56	5.56	5.56	6.04	6.49	6.34	5.57
168.00 CFS	5.56	4.67	4.64	3.97	3.71	4.00	4.64	4.57
176.40 CFS	3.72	3.71	4.50	4.64	4.64	4.64	4.48	3.71
184.80 CFS	3.73	4.59	4.64	4.64	4.64	4.35	3.71	3.71
193.20 CFS	3.71	3.71	2.89	2.78	3.25	3.71	3.58	2.78
201.60 CFS	2.80	3.68	3.71	3.06	2.78	3.08	3.71	3.66
210.00 CFS	2.79	2.78	3.60	3.71	3.23	2.78	2.78	2.78
218.40 CFS	2.78	1.88	1.85	2.52	2.78	2.49	1.85	1.92
226.80 CFS	2.77	2.78	1.99	1.85	1.85	1.85	2.01	2.78
235.20 CFS	2.77	1.90	1.85	2.51	2.78	2.50	1.85	1.76

243.60 CFS .00

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
1.68 WATERSHED INCHES; 3762 CFS-HRS; 310.9 ACRE-FEET.

*** WARNING - MAIN TIME INCREMENT (1.050) IS GREATER THAN 50% OF THE
TIME OF CONCENTRATION (1.01) FOR SUBWATERSHED XSECTION 7.
THIS WILL REDUCE THE COMPUTED PEAK BY ABOUT -1.1%. ***

OPERATION ADDHYD XSECTION 75

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
121.40	971.9	(NULL)
138.08	29.1	(NULL)
143.32	24.6	(NULL)
150.63	20.1	(NULL)
164.97	15.5	(NULL)
174.68	11.2	(NULL)
180.84	11.1	(NULL)
188.48	11.2	(NULL)
208.28	8.9	(NULL)
212.74	9.0	(NULL)

HYDROGRAPH POINTS FOR ALTERNATE = 1, STORM = 1
MAIN TIME INCREMENT = 1.050 hr, DRAINAGE AREA = 8.26 SQ.MI.

HRS								
.00 CFS	.00	2.18	2.21	4.84	5.53	5.62	5.75	5.73
8.40 CFS	5.53	5.53	5.73	5.75	6.41	6.85	6.85	6.85
16.80 CFS	6.86	7.07	7.08	6.90	6.85	6.95	7.08	7.12
25.20 CFS	7.52	7.52	7.72	7.74	7.61	7.52	7.52	7.52
33.60 CFS	7.52	7.52	7.52	7.69	7.74	7.65	7.52	7.52
42.00 CFS	7.52	7.52	7.52	7.52	7.66	7.74	8.26	10.17
50.40 CFS	10.17	10.17	10.17	10.17	10.17	10.17	10.17	10.17
58.80 CFS	10.17	10.17	10.17	10.17	10.17	10.17	10.17	10.17
67.20 CFS	10.17	10.17	10.17	10.35	10.39	11.70	13.71	13.71
75.60 CFS	13.71	13.71	13.91	13.93	13.80	13.71	13.71	13.71
84.00 CFS	13.86	17.99	18.13	18.31	18.35	18.26	18.13	18.13
92.40 CFS	18.13	18.13	18.34	18.35	18.22	18.13	20.36	27.86
100.80 CFS	27.93	32.20	32.28	32.28	32.28	35.49	40.02	40.02
109.20 CFS	40.02	40.10	48.47	49.31	57.79	63.46	70.79	95.50
117.60 CFS	105	759	772	914	951	690	323	304
126.00 CFS	127	125	74	69	57	49	46	38
134.40 CFS	37.30	28.93	28.75	28.75	28.75	26.00	22.11	22.33
142.80 CFS	24.32	24.30	18.31	17.69	17.69	17.69	18.15	19.90
151.20 CFS	19.81	17.72	17.69	17.69	17.69	16.79	15.48	15.26
159.60 CFS	13.28	13.27	13.27	13.27	14.67	15.48	14.97	13.27
168.00 CFS	13.19	11.12	11.06	9.32	8.84	9.72	11.06	10.84
176.40 CFS	8.85	8.85	10.86	11.06	11.06	11.06	10.52	8.85
184.80 CFS	8.93	10.98	11.06	11.06	11.06	10.18	8.84	8.84
193.20 CFS	8.84	8.84	6.78	6.63	7.97	8.84	8.33	6.63
201.60 CFS	6.69	8.79	8.84	7.11	6.63	7.54	8.85	8.63

210.00 CFS	6.64	6.64	8.68	8.84	7.52	6.63	6.63	6.63
218.40 CFS	6.63	4.45	4.42	6.18	6.63	5.71	4.42	4.64
226.80 CFS	6.62	6.61	4.64	4.42	4.42	4.42	4.91	6.63
235.20 CFS	6.58	4.47	4.42	6.16	6.63	5.72	4.42	4.01
243.60 CFS	.00							

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
1.67 WATERSHED INCHES; 8917 CFS-HRS; 736.9 ACRE-FEET.

OPERATION ADDHYD XSECTION 76

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
121.69	2179.1	(NULL)
142.76	60.0	(NULL)
150.79	48.2	(NULL)
165.37	37.0	(NULL)
174.85	26.3	(NULL)
181.52	27.4	(NULL)
188.72	27.5	(NULL)
198.77	20.6	(NULL)
203.17	20.8	(NULL)
208.44	20.8	(NULL)

HYDROGRAPH POINTS FOR ALTERNATE = 1, STORM = 1
MAIN TIME INCREMENT = 1.050 hr, DRAINAGE AREA = 20.57 SQ.MI.

HRS								
.00 CFS	.00	3.38	3.73	9.09	10.89	12.68	13.78	14.08
8.40 CFS	13.94	13.95	14.17	14.19	15.38	16.17	16.59	16.95
16.80 CFS	17.08	17.44	17.49	17.33	17.28	17.34	17.50	17.62
25.20 CFS	18.33	18.43	18.97	19.11	19.03	18.93	18.87	18.80
33.60 CFS	18.78	18.77	18.77	19.05	19.14	19.09	18.93	18.89
42.00 CFS	18.81	18.78	18.77	18.77	18.99	19.14	20.12	23.24
50.40 CFS	23.72	24.83	25.24	25.35	25.38	25.39	25.39	25.39
58.80 CFS	25.39	25.39	25.39	25.39	25.39	25.39	25.39	25.39
67.20 CFS	25.39	25.39	25.39	25.67	25.76	28.03	31.34	32.26
75.60 CFS	33.58	34.05	34.50	34.59	34.49	34.39	34.33	34.26
84.00 CFS	34.49	40.94	41.73	44.32	45.29	45.50	45.41	45.39
92.40 CFS	45.31	45.29	45.60	45.65	45.54	45.44	49.02	61.04
100.80 CFS	63.04	74.17	76.49	79.20	80.21	85.77	93.38	95.41
109.20 CFS	98	100	113	116	134	146	164	208
117.60 CFS	240	1281	1387	1968	2176	1861	1310	1133
126.00 CFS	612	496	293	234	174	144	129	107
134.40 CFS	102	83	80	74	73	67	61	59
142.80 CFS	59.99	59.37	50.82	49.42	46.17	44.75	45.13	47.77
151.20 CFS	48.04	45.80	45.79	44.75	44.34	42.72	40.57	39.58
159.60 CFS	35.61	34.94	33.73	33.30	35.42	36.80	36.79	34.76
168.00 CFS	34.42	30.24	29.51	25.50	24.08	24.42	25.98	26.03
176.40 CFS	23.70	23.63	25.80	25.97	26.98	27.42	26.68	24.01
184.80 CFS	23.71	25.99	26.00	27.02	27.44	26.09	23.93	23.37
193.20 CFS	22.51	22.19	18.86	18.35	19.46	20.50	20.24	18.17
201.60 CFS	18.08	20.48	20.46	18.73	18.19	18.82	20.45	20.49

210.00 CFS	18.16	18.12	20.31	20.45	19.28	18.22	17.55	16.88
218.40 CFS	16.62	13.16	12.80	14.45	14.92	14.25	12.70	12.65
226.80 CFS	14.93	14.96	12.89	12.68	11.69	11.23	11.94	14.61
235.20 CFS	14.93	12.71	12.66	14.39	14.90	14.29	12.71	11.55
243.60 CFS	4.48	3.46	1.16	.32				

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
1.67 WATERSHED INCHES; 22124 CFS-HRS; 1828.3 ACRE-FEET.

--- XSECTION 76, ALTERNATE 1, STORM 1, HYDROGRAPH ADDED TO READHD FILE ---

*** MESSAGE - STRUCTURE 1, USER ENTERED STARTING ELEVATION (1200.0 FEET) CAN ADD .546 INCHES OF RUNOFF TO THE OUTFLOW HYDROGRAPH VOLUME.***

OPERATION RESVOR STRUCTURE 1

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
.00	45.6	1200.00
129.46	216.2	1206.10

HYDROGRAPH POINTS FOR ALTERNATE = 1, STORM = 1
MAIN TIME INCREMENT = 1.050 hr, DRAINAGE AREA = 20.57 SQ.MI.

HRS								
.00 CFS	45.58	43.86	42.29	40.89	39.68	38.59	37.60	36.67
8.40 CFS	35.78	34.93	34.11	33.33	32.61	31.95	31.34	30.77
16.80 CFS	30.23	29.73	29.25	28.79	28.34	27.91	27.50	27.11
25.20 CFS	26.75	26.42	26.12	25.84	25.58	25.32	25.07	24.83
33.60 CFS	24.59	24.36	24.14	23.94	23.75	23.57	23.39	23.22
42.00 CFS	23.05	22.88	22.72	22.56	22.42	22.29	22.19	22.17
50.40 CFS	22.22	22.30	22.40	22.52	22.63	22.74	22.84	22.94
58.80 CFS	23.04	23.13	23.22	23.30	23.38	23.46	23.54	23.61
67.20 CFS	23.68	23.75	23.81	23.88	23.95	24.07	24.29	24.58
75.60 CFS	24.91	25.25	25.61	25.96	26.29	26.61	26.91	27.20
84.00 CFS	27.48	27.88	28.41	28.98	29.60	30.22	30.81	31.38
92.40 CFS	31.93	32.45	32.96	33.45	33.93	34.38	34.88	35.67
100.80 CFS	36.70	37.95	39.41	40.91	42.43	44.02	45.80	47.70
109.20 CFS	49.62	51.55	53.70	56.07	58.76	61.95	65.59	70.31
117.60 CFS	76	103	151	169	183	195	203	209
126.00 CFS	213	215	216	216	216	216	215	215
134.40 CFS	214	214	213	212	211	210	210	209
142.80 CFS	208	207	206	205	204	203	202	201
151.20 CFS	201	200	199	198	197	196	195	194
159.60 CFS	193	192	191	190	190	189	188	187
168.00 CFS	185	184	183	182	181	180	178	177
176.40 CFS	176	175	174	173	172	171	170	168
184.80 CFS	167	166	165	164	163	162	161	160
193.20 CFS	159	154	149	144	139	134	130	125
201.60 CFS	121	117	113	110	106	103	99	96
210.00 CFS	93.33	90.39	87.61	84.98	82.44	79.95	77.52	75.16
218.40 CFS	72.88	70.61	68.36	66.22	64.20	62.26	60.36	58.49
226.80 CFS	56.74	55.11	53.50	51.91	50.36	48.83	47.38	46.04

235.20 CFS	44.82	43.61	42.40	41.27	40.23	39.23	38.22	37.20
243.60 CFS	36.06	34.81	33.54	32.25	31.00	29.79	28.63	27.51
252.00 CFS	26.43	25.40	24.41	23.45	22.53	21.65	20.81	19.99
260.40 CFS	19.21	18.46	17.74	17.05	16.38	15.74	15.12	14.53
268.80 CFS	13.96	13.42	12.89	12.39	11.90	11.44	10.99	10.56
277.20 CFS	10.15	9.75	9.37	9.00	8.65	8.31	7.99	7.68
285.60 CFS	7.38	7.09	6.81	6.55	6.29	6.04	5.81	5.58
294.00 CFS	5.36	5.15	4.95	4.76	4.57	4.39	4.22	4.06
302.40 CFS	3.90	3.74	3.60	3.46	3.32	3.19	3.07	2.95
310.80 CFS	2.83	2.72	2.62	2.51	2.41	2.32	2.23	2.14
319.20 CFS	2.06	1.98	1.90	1.83	1.76	1.69	1.62	1.56
327.60 CFS	1.50	1.44	1.38	1.33	1.28	1.23	1.18	1.13
336.00 CFS	1.09	1.05	1.00	.97	.93	.89	.86	.82
344.40 CFS	.79	.76	.73	.70	.67	.65	.62	.60
352.80 CFS	.57	.55	.53	.51	.49	.47	.45	.43
361.20 CFS	.42	.40	.39	.37	.36	.34	.33	.32
369.60 CFS	.30	.29	.28	.27	.26	.25	.24	.23
378.00 CFS	.22	.21	.21	.21	.21	.21	.21	.21
386.40 CFS	.21	.21	.21	.21	.21	.21	.21	.21
394.80 CFS	.21	.21	.21	.21	.21	.21	.21	.21
403.20 CFS	.21	.21	.21	.21	.21	.21	.21	.21
411.60 CFS	.21	.21	.21	.21	.21	.21	.21	.21

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
1.73 WATERSHED INCHES; 22983 CFS-HRS; 1899.3 ACRE-FEET.

--- STRUCTURE 1, ALTERNATE 1, STORM 1, HYDROGRAPH ADDED TO READHD FILE ---

EXECUTIVE CONTROL ENDCMP COMPUTATIONS COMPLETED FOR PASS 1

EXECUTIVE CONTROL COMPUT FROM XSECTION 1 TO STRUCTURE 1
STARTING TIME = .00 RAIN DEPTH = 1.00 RAIN DURATION = 1.00
ANT. RUNOFF COND. = 2 MAIN TIME INCREMENT = 1.050 HOURS
ALTERNATE NO. = 2 STORM NO. = 1 RAIN TABLE NO. = 1

OPERATION RUNOFF XSECTION 1

Reservoir Elevation 10 days following the peak of Hydrograph:

$Q_1 = 0.21$ cfs $E_1 = 1199.2'$

$Q_2 = 0.29$ cfs $E_2 = ?$

$Q_3 = 159$ cfs $E_3 = 1202.0$ ft

$$E_2 = 1199.2 + \left(\frac{0.29 - 0.21}{159 - 0.21}\right) * (1202 - 1199.2)$$

$$= 1199.2 + \left(\frac{0.08}{158.79}\right) * (2.8)$$

$$\boxed{E_2 = 1199.2'}$$

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
121.40	290.4	(RUNOFF)
138.08	8.7	(RUNOFF)
143.29	7.3	(RUNOFF)
150.61	6.0	(RUNOFF)
164.99	4.6	(RUNOFF)
174.63	3.3	(RUNOFF)
179.55	3.3 *	(RUNOFF)
187.64	3.3	(RUNOFF)
192.22	2.6	(RUNOFF)
208.25	2.7	(RUNOFF)

* FIRST POINT OF FLAT PEAK

HYDROGRAPH POINTS FOR ALTERNATE = 2, STORM = 1
MAIN TIME INCREMENT = 1.050 hr, DRAINAGE AREA = 2.46 SQ.MI.

HRS									
.00	CFS	.00	.66	.66	1.45	1.65	1.68	1.72	1.71
8.40	CFS	1.65	1.65	1.71	1.72	1.92	2.05	2.05	2.05
16.80	CFS	2.05	2.11	2.11	2.06	2.05	2.08	2.11	2.13
25.20	CFS	2.25	2.25	2.31	2.31	2.27	2.25	2.25	2.25
33.60	CFS	2.25	2.25	2.25	2.30	2.31	2.29	2.25	2.25
42.00	CFS	2.25	2.25	2.25	2.25	2.29	2.31	2.48	3.04
50.40	CFS	3.04	3.04	3.04	3.04	3.04	3.04	3.04	3.04
58.80	CFS	3.04	3.04	3.04	3.04	3.04	3.04	3.04	3.04
67.20	CFS	3.04	3.04	3.04	3.09	3.11	3.51	4.10	4.10
75.60	CFS	4.10	4.10	4.16	4.16	4.12	4.10	4.10	4.10
84.00	CFS	4.11	5.40	5.42	5.47	5.48	5.46	5.42	5.42
92.40	CFS	5.42	5.42	5.48	5.48	5.44	5.42	6.18	8.33
100.80	CFS	8.41	9.58	9.65	9.65	9.65	10.62	11.96	11.96
109.20	CFS	11.96	12.01	14.43	14.74	17.28	18.96	21.33	28.55
117.60	CFS	33.56	229.35	230.66	273.71	284.13	207.45	96.47	89.78
126.00	CFS	38.02	37.66	22.09	20.48	16.69	14.54	13.75	11.23
134.40	CFS	11.10	8.71	8.59	8.59	8.59	7.72	6.61	6.68
142.80	CFS	7.27	7.25	5.50	5.29	5.29	5.29	5.46	5.95
151.20	CFS	5.91	5.31	5.29	5.29	5.29	5.02	4.63	4.55
159.60	CFS	3.96	3.96	3.96	3.96	4.38	4.63	4.48	3.96
168.00	CFS	3.95	3.32	3.30	2.79	2.64	2.93	3.30	3.22
176.40	CFS	2.65	2.64	3.25	3.30	3.30	3.30	3.13	2.64
184.80	CFS	2.68	3.27	3.30	3.30	3.30	3.03	2.64	2.64
193.20	CFS	2.64	2.63	2.05	1.98	2.38	2.64	2.49	1.98
201.60	CFS	1.99	2.64	2.64	2.11	1.98	2.26	2.64	2.56
210.00	CFS	1.99	1.98	2.58	2.64	2.22	1.98	1.98	1.98
218.40	CFS	1.95	1.35	1.32	1.83	1.98	1.70	1.32	1.39
226.80	CFS	1.98	1.97	1.39	1.32	1.32	1.32	1.49	1.98
235.20	CFS	1.95	1.34	1.32	1.85	1.98	1.72	1.32	1.17
243.60	CFS	.00							

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
1.68 WATERSHED INCHES; 2671 CFS-HRS; 220.7 ACRE-FEET.

*** WARNING - MAIN TIME INCREMENT (1.050) IS GREATER THAN 50% OF THE
TIME OF CONCENTRATION (.85) FOR SUBWATERSHED XSECTION 1.
THIS WILL REDUCE THE COMPUTED PEAK BY ABOUT -2.1%. ***

OPERATION REACH XSECTION 5

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
122.55	283.3	2.23
144.42	7.4	.39
151.83	5.9	.36
166.22	4.6	.32
175.87	3.3	.23
182.21	3.3	.23
189.54	3.3	.23
214.00	2.6	.18
240.45	1.9	.14

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
1.62 WATERSHED INCHES; 2576 CFS-HRS; 212.9 ACRE-FEET.

OPERATION REACH XSECTION 10

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
123.70	277.3	3.72
145.52	7.3	.92
153.01	5.9	.88
167.44	4.5	.78
177.05	3.2	.56
183.33	3.3	.57
190.64	3.3	.57
215.18	2.6	.44
241.65	1.9	.33

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
1.66 WATERSHED INCHES; 2642 CFS-HRS; 218.3 ACRE-FEET.

OPERATION RUNOFF XSECTION 2

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
78.23	4.0	(RUNOFF)
121.33	285.1	(RUNOFF)
137.49	8.3	(RUNOFF)
143.33	7.3	(RUNOFF)
154.35	5.1	(RUNOFF)
164.80	4.5	(RUNOFF)
174.61	3.2	(RUNOFF)
181.13	3.2	(RUNOFF)
188.48	3.2	(RUNOFF)
192.69	2.6	(RUNOFF)

HYDROGRAPH POINTS FOR ALTERNATE = 2, STORM = 1
MAIN TIME INCREMENT = 1.050 hr, DRAINAGE AREA = 2.38 SQ.MI.

HRS									
.00	CFS	.00	.64	.64	1.49	1.60	1.63	1.66	1.65
8.40	CFS	1.60	1.60	1.66	1.66	1.90	1.98	1.98	1.98
16.80	CFS	1.99	2.05	2.05	1.99	1.98	2.01	2.05	2.06
25.20	CFS	2.17	2.17	2.23	2.24	2.19	2.17	2.17	2.17
33.60	CFS	2.17	2.17	2.17	2.23	2.24	2.20	2.17	2.17
42.00	CFS	2.17	2.17	2.17	2.17	2.22	2.24	2.46	2.94
50.40	CFS	2.94	2.94	2.94	2.94	2.94	2.94	2.94	2.94
58.80	CFS	2.94	2.94	2.94	2.94	2.94	2.94	2.94	2.94
67.20	CFS	2.94	2.94	2.94	3.00	3.00	3.49	3.96	3.96
75.60	CFS	3.96	3.96	4.03	4.03	3.98	3.96	3.96	3.96
84.00	CFS	4.03	5.24	5.24	5.30	5.31	5.27	5.24	5.24
92.40	CFS	5.24	5.24	5.30	5.31	5.26	5.24	5.96	8.06
100.80	CFS	8.11	9.32	9.33	9.33	9.33	10.46	11.57	11.57
109.20	CFS	11.57	11.57	14.21	14.26	17.19	18.35	21.32	27.62
117.60	CFS	36.73	223.11	223.11	269.22	274.90	177.77	93.34	85.77
126.00	CFS	36.44	36.28	20.57	19.82	15.53	14.06	13.20	10.87
134.40	CFS	10.74	8.33	8.31	8.31	8.31	7.35	6.39	6.48
142.80	CFS	7.03	7.03	5.17	5.11	5.11	5.11	5.32	5.75
151.20	CFS	5.73	5.11	5.11	5.11	5.11	4.77	4.48	4.39
159.60	CFS	3.84	3.84	3.84	3.84	4.32	4.48	4.29	3.84
168.00	CFS	3.80	3.20	3.20	2.63	2.56	2.88	3.20	3.12
176.40	CFS	2.56	2.56	3.17	3.20	3.20	3.20	2.99	2.56
184.80	CFS	2.57	3.20	3.20	3.20	3.20	2.85	2.56	2.56
193.20	CFS	2.56	2.55	1.94	1.92	2.41	2.56	2.37	1.92
201.60	CFS	1.96	2.56	2.56	2.00	1.92	2.24	2.56	2.47
210.00	CFS	1.92	1.92	2.53	2.56	2.10	1.92	1.92	1.92
218.40	CFS	1.91	1.28	1.28	1.85	1.92	1.58	1.28	1.37
226.80	CFS	1.92	1.91	1.29	1.28	1.28	1.28	1.48	1.92
235.20	CFS	1.88	1.28	1.28	1.84	1.92	1.59	1.28	1.10
243.60	CFS	.00							

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
1.67 WATERSHED INCHES; 2561 CFS-HRS; 211.6 ACRE-FEET.

*** WARNING - MAIN TIME INCREMENT (1.050) IS GREATER THAN 50% OF THE
TIME OF CONCENTRATION (.73) FOR SUBWATERSHED XSECTION 2.
THIS WILL REDUCE THE COMPUTED PEAK BY ABOUT -3.7%. ***

OPERATION ADDHYD XSECTION 12

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
121.80	488.3	(NULL)
145.48	12.4	(NULL)
150.94	11.1	(NULL)
153.00	11.0	(NULL)
165.72	8.5	(NULL)
178.68	6.0	(NULL)
181.69	6.4	(NULL)
186.07	6.0	(NULL)
188.84	6.4	(NULL)
212.28	4.7	(NULL)

HYDROGRAPH POINTS FOR ALTERNATE = 2, STORM = 1
MAIN TIME INCREMENT = 1.050 hr, DRAINAGE AREA = 4.84 SQ.MI.

HRS								
.00 CFS	.00	.64	.64	1.93	2.20	2.81	3.18	3.29
8.40 CFS	3.29	3.30	3.33	3.32	3.59	3.69	3.84	3.97
16.80 CFS	4.02	4.09	4.09	4.08	4.09	4.09	4.10	4.13
25.20 CFS	4.27	4.29	4.44	4.47	4.47	4.48	4.46	4.43
33.60 CFS	4.42	4.42	4.42	4.48	4.48	4.49	4.48	4.47
42.00 CFS	4.43	4.42	4.42	4.42	4.47	4.48	4.74	5.24
50.40 CFS	5.36	5.78	5.93	5.97	5.98	5.98	5.98	5.98
58.80 CFS	5.98	5.98	5.98	5.98	5.98	5.98	5.98	5.98
67.20 CFS	5.98	5.98	5.98	6.04	6.04	6.56	7.06	7.33
75.60 CFS	7.83	8.00	8.11	8.12	8.12	8.12	8.10	8.07
84.00 CFS	8.13	9.34	9.35	10.28	10.61	10.70	10.71	10.70
92.40 CFS	10.67	10.66	10.72	10.72	10.72	10.72	11.42	13.48
100.80 CFS	14.04	16.88	17.51	18.48	18.85	20.07	21.21	21.87
109.20 CFS	23.01	23.40	26.14	26.24	30.83	32.77	37.69	45.80
117.60 CFS	57	249	254	434	488	433	369	316
126.00 CFS	175	139	79	63	44	37	32	27
134.40 CFS	25.04	20.52	19.70	17.87	17.16	16.00	15.00	14.49
142.80 CFS	14.08	13.80	12.26	12.32	11.17	10.62	10.66	11.05
151.20 CFS	11.13	10.89	10.99	10.61	10.46	10.07	9.76	9.50
159.60 CFS	8.61	8.45	8.01	7.85	8.30	8.44	8.54	8.34
168.00 CFS	8.30	7.34	7.19	6.17	5.92	5.85	5.93	5.98
176.40 CFS	5.72	5.77	6.01	5.89	6.26	6.43	6.28	5.86
184.80 CFS	5.76	6.01	5.91	6.28	6.44	6.14	5.86	5.68
193.20 CFS	5.35	5.23	4.59	4.55	4.66	4.61	4.63	4.44
201.60 CFS	4.46	4.71	4.59	4.43	4.51	4.51	4.62	4.66
210.00 CFS	4.42	4.47	4.70	4.59	4.50	4.49	4.26	4.01
218.40 CFS	3.92	3.27	3.24	3.40	3.30	3.25	3.17	3.13
226.80 CFS	3.38	3.32	3.08	3.20	2.85	2.67	2.81	3.24
235.20 CFS	3.32	3.09	3.20	3.37	3.29	3.28	3.18	2.88

243.60 CFS 1.47 1.26 .40

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
1.67 WATERSHED INCHES; 5202 CFS-HRS; 429.9 ACRE-FEET.

OPERATION DIVERT XSECTION 12
OUTPUT #1 HYDROGRAPH

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
121.80	488.3	(DIVERT)
145.48	12.4	(DIVERT)
150.94	11.1	(DIVERT)
153.00	11.0	(DIVERT)
165.72	8.5	(DIVERT)
178.68	6.0	(DIVERT)
181.69	6.4	(DIVERT)
186.07	6.0	(DIVERT)
188.84	6.4	(DIVERT)
212.28	4.7	(DIVERT)

HYDROGRAPH POINTS FOR ALTERNATE = 2, STORM = 1
MAIN TIME INCREMENT = 1.050 hr, DRAINAGE AREA = 4.84 SQ.MI.

HRS								
.00 CFS	.00	.64	.64	1.93	2.20	2.81	3.18	3.29
8.40 CFS	3.29	3.30	3.33	3.32	3.59	3.69	3.84	3.97
16.80 CFS	4.02	4.09	4.09	4.08	4.09	4.09	4.10	4.13
25.20 CFS	4.27	4.29	4.44	4.47	4.47	4.48	4.46	4.43
33.60 CFS	4.42	4.42	4.42	4.48	4.48	4.49	4.48	4.47
42.00 CFS	4.43	4.42	4.42	4.42	4.47	4.48	4.74	5.24
50.40 CFS	5.36	5.78	5.93	5.97	5.98	5.98	5.98	5.98
58.80 CFS	5.98	5.98	5.98	5.98	5.98	5.98	5.98	5.98
67.20 CFS	5.98	5.98	5.98	6.04	6.04	6.56	7.06	7.33
75.60 CFS	7.83	8.00	8.11	8.12	8.12	8.12	8.10	8.07
84.00 CFS	8.13	9.34	9.35	10.28	10.61	10.70	10.71	10.70
92.40 CFS	10.67	10.66	10.72	10.72	10.72	10.72	11.42	13.48
100.80 CFS	14.04	16.88	17.51	18.48	18.85	20.07	21.21	21.87
109.20 CFS	23.01	23.40	26.14	26.24	30.83	32.77	37.69	45.80
117.60 CFS	57	249	254	434	488	433	369	316
126.00 CFS	175	139	79	63	44	37	32	27
134.40 CFS	25.04	20.52	19.70	17.87	17.16	16.00	15.00	14.49
142.80 CFS	14.08	13.80	12.26	12.32	11.17	10.62	10.66	11.05
151.20 CFS	11.13	10.89	10.99	10.61	10.46	10.07	9.76	9.50
159.60 CFS	8.61	8.45	8.01	7.85	8.30	8.44	8.54	8.34
168.00 CFS	8.30	7.34	7.19	6.17	5.92	5.85	5.93	5.98
176.40 CFS	5.72	5.77	6.01	5.89	6.26	6.43	6.28	5.86
184.80 CFS	5.76	6.01	5.91	6.28	6.44	6.14	5.86	5.68
193.20 CFS	5.35	5.23	4.59	4.55	4.66	4.61	4.63	4.44
201.60 CFS	4.46	4.71	4.59	4.43	4.51	4.51	4.62	4.66
210.00 CFS	4.42	4.47	4.70	4.59	4.50	4.49	4.26	4.01
218.40 CFS	3.92	3.27	3.24	3.40	3.30	3.25	3.17	3.13
226.80 CFS	3.38	3.32	3.08	3.20	2.85	2.67	2.81	3.24

```
   235.20 CFS     3.32    3.09    3.20    3.37    3.29    3.28    3.18    2.88
   243.60 CFS     1.47    1.26     .40

    RUNOFF ABOVE BASEFLOW  (BASEFLOW =     .00 CFS)
                  1.67 WATERSHED INCHES;    5202 CFS-HRS;     429.9 ACRE-FEET.


            OUTPUT #2 DIVERTED HYDROGRAPH (XSECTION  200)

 *** MESSAGE - HYDROGRAPH CONTAINS NO FLOW                                  ***

    RUNOFF ABOVE BASEFLOW  (BASEFLOW =     .00 CFS)
                    237 CFS-HRS;     429.9 ACRE-FEET.

 *** WARNING - ROUTING COEFFICIENT (C) EQUALS 1.0,
               CONSIDER SMALLER MAIN TIME INCREMENT FOR XSECTION  20.       ***


OPERATION REACH     XSECTION  20

    PEAK TIME(HRS)             PEAK DISCHARGE(CFS)          PEAK ELEVATION(FEET)
      121.80                         488.3                          2.45
      145.48                          12.4                           .13
      150.94                          11.1                           .11
      153.00                          11.0                           .11
      165.72                           8.5                           .09
      178.68                           6.0                           .06
      181.69                           6.4                           .06
      186.07                           6.0                           .06
      188.84                           6.4                           .07
      212.28                           4.7                           .05

    RUNOFF ABOVE BASEFLOW  (BASEFLOW =     .00 CFS)
                  1.67 WATERSHED INCHES;    5202 CFS-HRS;     429.9 ACRE-FEET.

 *** WARNING - ROUTING COEFFICIENT (C) EQUALS 1.0,
               CONSIDER SMALLER MAIN TIME INCREMENT FOR XSECTION  25.       ***


OPERATION REACH     XSECTION  25
```

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
121.80	488.3	1.54
145.48	12.4	.08
150.94	11.1	.07
153.00	11.0	.07
165.72	8.5	.05
178.68	6.0	.04
181.69	6.4	.04
186.07	6.0	.04
188.84	6.4	.04
212.28	4.7	.03

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
1.67 WATERSHED INCHES; 5202 CFS-HRS; 429.9 ACRE-FEET.

OPERATION RUNOFF XSECTION 3

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
121.39	461.9	(RUNOFF)
126.52	63.0	(RUNOFF)
138.08	13.8	(RUNOFF)
143.32	11.7	(RUNOFF)
150.67	9.6	(RUNOFF)
154.88	8.5	(RUNOFF)
165.01	7.4	(RUNOFF)
174.70	5.3	(RUNOFF)
181.12	5.2	(RUNOFF)
186.90	5.2 *	(RUNOFF)

* FIRST POINT OF FLAT PEAK

HYDROGRAPH POINTS FOR ALTERNATE = 2, STORM = 1
MAIN TIME INCREMENT = 1.050 hr, DRAINAGE AREA = 3.94 SQ.MI.

HRS								
.00 CFS	.00	1.05	1.05	2.37	2.62	2.67	2.73	2.72
8.40 CFS	2.62	2.62	2.72	2.73	3.06	3.25	3.25	3.25
16.80 CFS	3.26	3.36	3.36	3.27	3.25	3.30	3.36	3.38
25.20 CFS	3.57	3.57	3.67	3.67	3.61	3.57	3.57	3.57
33.60 CFS	3.57	3.57	3.57	3.66	3.67	3.63	3.57	3.57
42.00 CFS	3.57	3.57	3.57	3.57	3.64	3.67	3.91	4.83
50.40 CFS	4.83	4.83	4.83	4.83	4.83	4.83	4.83	4.83
58.80 CFS	4.83	4.83	4.83	4.83	4.83	4.83	4.83	4.83
67.20 CFS	4.83	4.83	4.83	4.92	4.93	5.55	6.51	6.51
75.60 CFS	6.51	6.51	6.61	6.61	6.55	6.51	6.51	6.51
84.00 CFS	6.54	8.59	8.61	8.70	8.71	8.67	8.61	8.61
92.40 CFS	8.61	8.61	8.71	8.71	8.65	8.61	9.50	13.23
100.80 CFS	13.26	15.31	15.33	15.33	15.33	16.76	19.00	19.00
109.20 CFS	19.00	19.00	23.26	23.41	27.69	30.13	33.19	45.35
117.60 CFS	49	364	366	437	451	331	153	147
126.00 CFS	59.84	59.84	34.19	32.54	26.67	23.10	22.09	17.85

134.40 CFS	17.77	13.69	13.65	13.65	13.65	12.40	10.50	10.57
142.80 CFS	11.55	11.54	8.50	8.40	8.40	8.40	8.60	9.45
151.20 CFS	9.44	8.40	8.40	8.40	8.40	7.98	7.35	7.29
159.60 CFS	6.30	6.30	6.30	6.30	6.95	7.35	7.14	6.30
168.00 CFS	6.28	5.26	5.25	4.39	4.20	4.62	5.25	5.17
176.40 CFS	4.20	4.20	5.22	5.25	5.25	5.25	5.05	4.20
184.80 CFS	4.20	5.25	5.25	5.25	5.25	4.83	4.20	4.20
193.20 CFS	4.20	4.20	3.21	3.15	3.81	4.20	3.99	3.15
201.60 CFS	3.17	4.19	4.20	3.33	3.15	3.57	4.20	4.12
210.00 CFS	3.15	3.15	4.16	4.20	3.54	3.15	3.15	3.15
218.40 CFS	3.14	2.10	2.10	2.98	3.15	2.74	2.10	2.16
226.80 CFS	3.15	3.15	2.16	2.10	2.10	2.10	2.31	3.15
235.20 CFS	3.13	2.11	2.10	2.98	3.15	2.73	2.10	1.94
243.60 CFS	.00							

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
1.67 WATERSHED INCHES; 4251 CFS-HRS; 351.3 ACRE-FEET.

*** WARNING - MAIN TIME INCREMENT (1.050) IS GREATER THAN 50% OF THE
TIME OF CONCENTRATION (.88) FOR SUBWATERSHED XSECTION 3.
THIS WILL REDUCE THE COMPUTED PEAK BY ABOUT -2.3%. ***

OPERATION REACH XSECTION 30

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
122.60	444.1	2.56
144.45	11.7	.88
151.93	9.4	.85
166.33	7.2	.81
175.98	5.2	.77
182.27	5.3	.77
189.57	5.3	.77
204.49	4.2	.64
209.58	4.1	.64
214.02	4.1	.64

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
1.61 WATERSHED INCHES; 4102 CFS-HRS; 339.0 ACRE-FEET.

OPERATION REACH XSECTION 5

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
123.73	437.4	2.71
145.53	11.6	.45
153.06	9.4	.42
167.50	7.2	.38
177.12	5.2	.35
183.39	5.2	.35
190.65	5.3	.35
205.63	4.1	.29
210.71	4.1	.29
215.18	4.1	.29

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
1.65 WATERSHED INCHES; 4198 CFS-HRS; 347.0 ACRE-FEET.

*** WARNING - ROUTING COEFFICIENT (C) EQUALS 1.0,
CONSIDER SMALLER MAIN TIME INCREMENT FOR XSECTION 25. ***

OPERATION REACH XSECTION 25

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
123.73	437.4	1.44
145.53	11.6	.07
153.06	9.4	.06
167.50	7.2	.05
177.12	5.2	.03
183.39	5.2	.03
190.65	5.3	.03
205.63	4.1	.03
210.71	4.1	.03
215.18	4.1	.03

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
1.65 WATERSHED INCHES; 4198 CFS-HRS; 347.0 ACRE-FEET.

OPERATION RUNOFF XSECTION 4

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
121.36	245.1	(RUNOFF)
138.08	7.3	(RUNOFF)
143.27	6.1	(RUNOFF)
154.88	4.5	(RUNOFF)
164.96	3.9	(RUNOFF)
193.72	2.2	(RUNOFF)
198.49	2.2	(RUNOFF)
203.17	2.3	(RUNOFF)
208.22	2.2	(RUNOFF)
212.72	2.2	(RUNOFF)

HYDROGRAPH POINTS FOR ALTERNATE = 2, STORM = 1
MAIN TIME INCREMENT = 1.050 hr, DRAINAGE AREA = 2.06 SQ.MI.

HRS									
.00	CFS	.00	.55	.55	1.25	1.38	1.41	1.44	1.43
8.40	CFS	1.38	1.38	1.43	1.44	1.63	1.72	1.72	1.72
16.80	CFS	1.72	1.77	1.77	1.72	1.72	1.74	1.77	1.78
25.20	CFS	1.88	1.88	1.93	1.94	1.90	1.88	1.88	1.88
33.60	CFS	1.88	1.88	1.88	1.93	1.94	1.91	1.88	1.88
42.00	CFS	1.88	1.88	1.88	1.88	1.92	1.94	2.09	2.55
50.40	CFS	2.55	2.55	2.55	2.55	2.55	2.55	2.55	2.55
58.80	CFS	2.55	2.55	2.55	2.55	2.55	2.55	2.55	2.55
67.20	CFS	2.55	2.55	2.55	2.59	2.60	2.97	3.43	3.43
75.60	CFS	3.43	3.43	3.48	3.49	3.45	3.43	3.43	3.43
84.00	CFS	3.47	4.54	4.54	4.58	4.59	4.57	4.54	4.54
92.40	CFS	4.54	4.54	4.59	4.59	4.56	4.54	5.24	6.97
100.80	CFS	6.98	8.08	8.08	8.08	8.08	9.01	10.02	10.02
109.20	CFS	10.02	10.02	12.18	12.34	14.81	15.88	18.22	23.90
117.60	CFS	29.21	189.88	193.12	230.82	237.94	161.93	80.79	74.74
126.00	CFS	31.54	31.45	18.30	17.15	13.66	12.17	11.39	9.41
134.40	CFS	9.29	7.25	7.19	7.19	7.19	6.41	5.53	5.60
142.80	CFS	6.09	6.06	4.55	4.43	4.43	4.43	4.57	4.98
151.20	CFS	4.95	4.44	4.43	4.43	4.43	4.18	3.87	3.80
159.60	CFS	3.32	3.32	3.32	3.32	3.68	3.87	3.75	3.32
168.00	CFS	3.29	2.77	2.77	2.31	2.21	2.46	2.77	2.70
176.40	CFS	2.21	2.21	2.75	2.77	2.77	2.77	2.62	2.21
184.80	CFS	2.23	2.77	2.77	2.77	2.77	2.51	2.21	2.21
193.20	CFS	2.21	2.21	1.68	1.66	2.03	2.21	2.06	1.66
201.60	CFS	1.66	2.21	2.21	1.75	1.66	1.92	2.21	2.14
210.00	CFS	1.66	1.66	2.18	2.21	1.83	1.66	1.66	1.66
218.40	CFS	1.64	1.12	1.11	1.57	1.66	1.39	1.11	1.17
226.80	CFS	1.66	1.66	1.15	1.11	1.11	1.11	1.26	1.66
235.20	CFS	1.63	1.12	1.11	1.57	1.66	1.40	1.11	.97
243.60	CFS	.00							

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
1.67 WATERSHED INCHES; 2219 CFS-HRS; 183.4 ACRE-FEET.

*** WARNING - MAIN TIME INCREMENT (1.050) IS GREATER THAN 50% OF THE
TIME OF CONCENTRATION (.79) FOR SUBWATERSHED XSECTION 4.
THIS WILL REDUCE THE COMPUTED PEAK BY ABOUT -3.0%. ***

OPERATION ADDHYD XSECTION 34

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
80.58	10.0	(NULL)
122.26	578.6	(NULL)
145.46	16.1	(NULL)
153.05	13.8	(NULL)
166.39	10.5	(NULL)
189.08	7.9	(NULL)
214.94	5.8	(NULL)
229.70	4.2	(NULL)
237.42	4.1	(NULL)
241.03	4.1	(NULL)

HYDROGRAPH POINTS FOR ALTERNATE = 2, STORM = 1
MAIN TIME INCREMENT = 1.050 hr, DRAINAGE AREA = 6.00 SQ.MI.

HRS								
.00 CFS	.00	.55	.55	1.92	2.32	3.27	3.82	4.01
8.40 CFS	4.07	4.09	4.09	4.07	4.32	4.43	4.65	4.86
16.80 CFS	4.94	5.01	5.02	5.04	5.06	5.04	5.04	5.07
25.20 CFS	5.21	5.24	5.43	5.48	5.53	5.54	5.51	5.47
33.60 CFS	5.46	5.45	5.45	5.50	5.51	5.53	5.54	5.52
42.00 CFS	5.48	5.46	5.45	5.45	5.49	5.51	5.70	6.20
50.40 CFS	6.37	7.02	7.27	7.34	7.37	7.37	7.37	7.37
58.80 CFS	7.37	7.37	7.37	7.37	7.37	7.37	7.37	7.37
67.20 CFS	7.37	7.37	7.37	7.42	7.43	7.86	8.35	8.75
75.60 CFS	9.53	9.82	9.96	9.99	10.02	10.03	10.00	9.96
84.00 CFS	9.98	11.05	11.07	12.43	12.97	13.17	13.22	13.21
92.40 CFS	13.17	13.15	13.20	13.20	13.23	13.24	13.90	15.60
100.80 CFS	16.16	19.87	20.90	22.53	23.14	24.26	25.32	26.26
109.20 CFS	28.06	28.73	31.10	31.32	36.53	38.78	44.23	52.66
117.60 CFS	61	230	239	481	569	564	517	445
126.00 CFS	260	203	116	88	60	49	41	35
134.40 CFS	32.39	26.91	25.52	22.51	21.34	20.20	19.22	18.46
142.80 CFS	17.40	16.85	15.81	15.88	13.99	13.18	13.07	13.40
151.20 CFS	13.48	13.56	13.77	13.18	12.93	12.60	12.28	11.93
159.60 CFS	10.94	10.71	10.00	9.73	10.01	10.18	10.46	10.46
168.00 CFS	10.44	9.37	9.14	7.96	7.58	7.19	7.13	7.21
176.40 CFS	7.20	7.33	7.28	7.07	7.64	7.90	7.84	7.45
184.80 CFS	7.35	7.29	7.06	7.66	7.91	7.73	7.45	7.19
193.20 CFS	6.68	6.49	5.91	5.86	5.60	5.49	5.66	5.66
201.60 CFS	5.66	5.67	5.47	5.59	5.75	5.54	5.51	5.60
210.00 CFS	5.60	5.73	5.66	5.46	5.66	5.74	5.41	5.01
218.40 CFS	4.85	4.28	4.25	4.05	3.87	4.09	4.11	4.02
226.80 CFS	4.02	3.87	3.96	4.15	3.59	3.32	3.40	3.77
235.20 CFS	3.87	3.95	4.15	4.02	3.86	4.09	4.11	3.80

243.60 CFS 2.36 2.07 .73 .22

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
1.66 WATERSHED INCHES; 6418 CFS-HRS; 530.4 ACRE-FEET.

OPERATION ADDHYD XSECTION 35

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
122.01	1061.9	(NULL)
145.47	28.5	(NULL)
153.03	24.8	(NULL)
166.06	19.0	(NULL)
175.15	13.2	(NULL)
178.35	13.3	(NULL)
181.83	14.3	(NULL)
185.71	13.3	(NULL)
188.96	14.4	(NULL)
214.86	10.3	(NULL)

HYDROGRAPH POINTS FOR ALTERNATE = 2, STORM = 1
MAIN TIME INCREMENT = 1.050 hr, DRAINAGE AREA = 10.84 SQ.MI.

HRS								
.00 CFS	.00	1.19	1.19	3.85	4.52	6.08	7.00	7.30
8.40 CFS	7.36	7.40	7.42	7.39	7.91	8.12	8.49	8.83
16.80 CFS	8.96	9.10	9.12	9.12	9.15	9.13	9.14	9.20
25.20 CFS	9.49	9.54	9.87	9.96	10.00	10.02	9.96	9.90
33.60 CFS	9.88	9.87	9.87	9.97	9.99	10.02	10.02	9.99
42.00 CFS	9.91	9.88	9.87	9.87	9.95	9.99	10.44	11.44
50.40 CFS	11.73	12.80	13.20	13.31	13.34	13.35	13.35	13.35
58.80 CFS	13.35	13.35	13.35	13.35	13.35	13.35	13.35	13.35
67.20 CFS	13.35	13.35	13.35	13.45	13.47	14.42	15.41	16.09
75.60 CFS	17.36	17.82	18.07	18.11	18.14	18.15	18.09	18.03
84.00 CFS	18.11	20.38	20.42	22.71	23.58	23.86	23.93	23.92
92.40 CFS	23.84	23.82	23.92	23.92	23.94	23.95	25.32	29.08
100.80 CFS	30.20	36.75	38.41	41.00	41.99	44.34	46.53	48.13
109.20 CFS	51.07	52.13	57.24	57.56	67.36	71.55	81.92	98.45
117.60 CFS	118	479	494	915	1058	997	886	761
126.00 CFS	436	342	195	151	104	86	73	61
134.40 CFS	57.42	47.43	45.22	40.37	38.49	36.20	34.21	32.95
142.80 CFS	31.48	30.65	28.08	28.21	25.17	23.80	23.72	24.46
151.20 CFS	24.62	24.45	24.77	23.79	23.39	22.67	22.04	21.43
159.60 CFS	19.55	19.16	18.01	17.58	18.31	18.62	19.00	18.80
168.00 CFS	18.74	16.71	16.34	14.13	13.50	13.04	13.07	13.19
176.40 CFS	12.92	13.10	13.29	12.96	13.90	14.33	14.12	13.31
184.80 CFS	13.11	13.30	12.97	13.95	14.35	13.87	13.31	12.87
193.20 CFS	12.03	11.72	10.49	10.42	10.25	10.10	10.30	10.10
201.60 CFS	10.13	10.38	10.06	10.03	10.26	10.05	10.13	10.26
210.00 CFS	10.01	10.20	10.36	10.05	10.15	10.24	9.67	9.02
218.40 CFS	8.77	7.55	7.49	7.44	7.17	7.34	7.28	7.15
226.80 CFS	7.40	7.19	7.04	7.36	6.44	5.99	6.21	7.01
235.20 CFS	7.19	7.03	7.34	7.39	7.16	7.37	7.28	6.69

243.60 CFS 3.83 3.33 1.14 .32

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
1.66 WATERSHED INCHES; 11620 CFS-HRS; 960.3 ACRE-FEET.

OPERATION DIVERT XSECTION 35
OUTPUT #1 HYDROGRAPH

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
122.01	1061.9	(DIVERT)
145.47	28.5	(DIVERT)
153.03	24.8	(DIVERT)
166.06	19.0	(DIVERT)
175.15	13.2	(DIVERT)
178.35	13.3	(DIVERT)
181.83	14.3	(DIVERT)
185.71	13.3	(DIVERT)
188.96	14.4	(DIVERT)
214.86	10.3	(DIVERT)

HYDROGRAPH POINTS FOR ALTERNATE = 2, STORM = 1
MAIN TIME INCREMENT = 1.050 hr, DRAINAGE AREA = 10.84 SQ.MI.

HRS								
.00 CFS	.00	1.19	1.19	3.85	4.52	6.08	7.00	7.30
8.40 CFS	7.36	7.40	7.42	7.39	7.91	8.12	8.49	8.83
16.80 CFS	8.96	9.10	9.12	9.12	9.15	9.13	9.14	9.20
25.20 CFS	9.49	9.54	9.87	9.96	10.00	10.02	9.96	9.90
33.60 CFS	9.88	9.87	9.87	9.97	9.99	10.02	10.02	9.99
42.00 CFS	9.91	9.88	9.87	9.87	9.95	9.99	10.44	11.44
50.40 CFS	11.73	12.80	13.20	13.31	13.34	13.35	13.35	13.35
58.80 CFS	13.35	13.35	13.35	13.35	13.35	13.35	13.35	13.35
67.20 CFS	13.35	13.35	13.35	13.45	13.47	14.42	15.41	16.09
75.60 CFS	17.36	17.82	18.07	18.11	18.14	18.15	18.09	18.03
84.00 CFS	18.11	20.38	20.42	22.71	23.58	23.86	23.93	23.92
92.40 CFS	23.84	23.82	23.92	23.92	23.94	23.95	25.32	29.08
100.80 CFS	30.20	36.75	38.41	41.00	41.99	44.34	46.53	48.13
109.20 CFS	51.07	52.13	57.24	57.56	67.36	71.55	81.92	98.45
117.60 CFS	118	479	494	915	1058	997	886	761
126.00 CFS	436	342	195	151	104	86	73	61
134.40 CFS	57.42	47.43	45.22	40.37	38.49	36.20	34.21	32.95
142.80 CFS	31.48	30.65	28.08	28.21	25.17	23.80	23.72	24.46
151.20 CFS	24.62	24.45	24.77	23.79	23.39	22.67	22.04	21.43
159.60 CFS	19.55	19.16	18.01	17.58	18.31	18.62	19.00	18.80
168.00 CFS	18.74	16.71	16.34	14.13	13.50	13.04	13.07	13.19
176.40 CFS	12.92	13.10	13.29	12.96	13.90	14.33	14.12	13.31
184.80 CFS	13.11	13.30	12.97	13.95	14.35	13.87	13.31	12.87
193.20 CFS	12.03	11.72	10.49	10.42	10.25	10.10	10.30	10.10
201.60 CFS	10.13	10.38	10.06	10.03	10.26	10.05	10.13	10.26
210.00 CFS	10.01	10.20	10.36	10.05	10.15	10.24	9.67	9.02
218.40 CFS	8.77	7.55	7.49	7.44	7.17	7.34	7.28	7.15
226.80 CFS	7.40	7.19	7.04	7.36	6.44	5.99	6.21	7.01

235.20 CFS	7.19	7.03	7.34	7.39	7.16	7.37	7.28	6.69
243.60 CFS	3.83	3.33	1.14	.32				

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
1.66 WATERSHED INCHES; 11620 CFS-HRS; 960.3 ACRE-FEET.

OUTPUT #2 DIVERTED HYDROGRAPH (XSECTION 199)

*** MESSAGE - HYDROGRAPH CONTAINS NO FLOW ***

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
238 CFS-HRS; 960.3 ACRE-FEET.

*** WARNING - ROUTING COEFFICIENT (C) EQUALS 1.0,
CONSIDER SMALLER MAIN TIME INCREMENT FOR XSECTION 45. ***

OPERATION REACH XSECTION 45

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
122.01	1061.9	2.32
145.47	28.5	.17
153.03	24.8	.15
166.06	19.0	.11
175.15	13.2	.08
178.35	13.3	.08
181.83	14.3	.09
185.71	13.3	.08
188.96	14.4	.09
214.86	10.3	.06

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
1.66 WATERSHED INCHES; 11620 CFS-HRS; 960.3 ACRE-FEET.

OPERATION RUNOFF XSECTION 6

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
121.27	178.9	(RUNOFF)
143.18	4.5	(RUNOFF)
150.54	3.7	(RUNOFF)
169.58	2.1	(RUNOFF)
174.29	2.0	(RUNOFF)
181.13	2.1	(RUNOFF)
188.48	2.1	(RUNOFF)
212.62	1.7	(RUNOFF)
234.63	1.2	(RUNOFF)
239.03	1.2	(RUNOFF)

HYDROGRAPH POINTS FOR ALTERNATE = 2, STORM = 1
MAIN TIME INCREMENT = 1.050 hr, DRAINAGE AREA = 1.47 SQ.MI.

HRS									
2.10	CFS	.41	.95	1.02	1.04	1.06	1.05	1.02	1.02
10.50	CFS	1.06	1.06	1.22	1.26	1.26	1.26	1.27	1.30
18.90	CFS	1.30	1.26	1.26	1.29	1.30	1.33	1.38	1.39
27.30	CFS	1.42	1.42	1.39	1.38	1.38	1.38	1.38	1.38
35.70	CFS	1.39	1.42	1.42	1.39	1.38	1.38	1.38	1.38
44.10	CFS	1.38	1.38	1.42	1.42	1.68	1.87	1.87	1.87
52.50	CFS	1.87	1.87	1.87	1.87	1.87	1.87	1.87	1.87
60.90	CFS	1.87	1.87	1.87	1.87	1.87	1.87	1.87	1.87
69.30	CFS	1.87	1.91	1.91	2.31	2.52	2.52	2.52	2.52
77.70	CFS	2.56	2.56	2.53	2.52	2.52	2.52	2.57	3.34
86.10	CFS	3.34	3.37	3.38	3.35	3.34	3.34	3.34	3.34
94.50	CFS	3.38	3.38	3.34	3.34	4.29	5.13	5.29	5.94
102.90	CFS	5.94	5.94	5.94	7.05	7.37	7.37	7.37	7.58
111.30	CFS	9	9	12	12	15	18	49	142
119.70	CFS	144	175	175	82	59	45	23	22
128.10	CFS	12.62	12.62	9.38	8.96	7.83	6.92	6.58	5.29
136.50	CFS	5.29	5.29	5.29	4.46	4.07	4.20	4.48	4.43
144.90	CFS	3.29	3.26	3.26	3.26	3.45	3.66	3.63	3.26
153.30	CFS	3.26	3.26	3.26	3.00	2.85	2.75	2.44	2.44
161.70	CFS	2.44	2.44	2.76	2.85	2.66	2.44	2.40	2.04
170.10	CFS	2.04	1.66	1.63	1.91	2.04	1.90	1.63	1.66
178.50	CFS	2.04	2.04	2.04	2.04	1.81	1.63	1.72	2.04
186.90	CFS	2.04	2.04	2.04	1.71	1.63	1.63	1.63	1.57
195.30	CFS	1.22	1.22	1.63	1.63	1.39	1.22	1.32	1.63
203.70	CFS	1.61	1.22	1.22	1.53	1.63	1.47	1.22	1.26
212.10	CFS	1.63	1.63	1.28	1.22	1.22	1.22	1.15	.81
220.50	CFS	.81	1.19	1.22	.95	.81	.92	1.22	1.22
228.90	CFS	.83	.81	.81	.81	1.00	1.22	1.21	.82
237.30	CFS	.81	1.18	1.22	.96	.81	.61	.00	

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
1.68 WATERSHED INCHES; 1598 CFS-HRS; 132.0 ACRE-FEET.

*** WARNING - MAIN TIME INCREMENT (1.050) IS GREATER THAN 50% OF THE
TIME OF CONCENTRATION (.47) FOR SUBWATERSHED XSECTION 6.
THIS WILL REDUCE THE COMPUTED PEAK BY ABOUT -2.3%. ***

OPERATION REACH XSECTION 60

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
122.40	180.7	2.78
144.39	4.5	.11
151.78	3.7	.09
165.88	2.8	.07
182.19	2.1	.05
189.53	2.1	.05
213.87	1.6	.04
223.45	1.2	.03
228.53	1.2	.03
235.83	1.2	.03

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
1.67 WATERSHED INCHES; 1587 CFS-HRS; 131.1 ACRE-FEET.

*** WARNING - ROUTING COEFFICIENT (C) EQUALS 1.0,
CONSIDER SMALLER MAIN TIME INCREMENT FOR XSECTION 67. ***

OPERATION REACH XSECTION 67

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
122.40	180.7	1.83
144.39	4.5	.32
151.78	3.7	.26
165.88	2.8	.20
182.19	2.1	.14
189.53	2.1	.14
213.87	1.6	.11
223.45	1.2	.08
228.53	1.2	.09
235.83	1.2	.09

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
1.67 WATERSHED INCHES; 1587 CFS-HRS; 131.1 ACRE-FEET.

OPERATION ADDHYD XSECTION 64

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
122.07	1233.0	(NULL)
152.80	28.2	(NULL)
166.01	21.8	(NULL)
175.28	15.2	(NULL)
181.83	16.4	(NULL)
186.13	15.0	(NULL)
188.96	16.4	(NULL)
214.17	11.8	(NULL)
229.44	8.4	(NULL)
240.47	8.6	(NULL)

HYDROGRAPH POINTS FOR ALTERNATE = 2, STORM = 1
MAIN TIME INCREMENT = 1.050 hr, DRAINAGE AREA = 12.31 SQ.MI.

HRS								
.00 CFS	.00	1.19	1.52	4.24	5.36	7.06	8.03	8.35
8.40 CFS	8.41	8.42	8.44	8.44	8.97	9.31	9.73	10.09
16.80 CFS	10.22	10.37	10.41	10.42	10.42	10.40	10.43	10.50
25.20 CFS	10.81	10.91	11.25	11.37	11.42	11.41	11.35	11.28
33.60 CFS	11.26	11.25	11.25	11.36	11.41	11.44	11.41	11.38
42.00 CFS	11.29	11.26	11.25	11.25	11.34	11.40	11.86	13.07
50.40 CFS	13.55	14.66	15.07	15.18	15.21	15.22	15.22	15.22
58.80 CFS	15.22	15.22	15.22	15.22	15.22	15.22	15.22	15.22
67.20 CFS	15.22	15.22	15.22	15.33	15.37	16.33	17.63	18.55
75.60 CFS	19.87	20.34	20.59	20.66	20.70	20.69	20.62	20.55
84.00 CFS	20.64	22.95	23.60	26.01	26.94	27.24	27.28	27.26
92.40 CFS	27.18	27.15	27.26	27.29	27.32	27.30	28.66	33.18
100.80 CFS	35.12	41.97	44.21	46.92	47.93	50.28	53.35	55.39
109.20 CFS	58	59	65	66	76	83	93	113
117.60 CFS	135	522	616	1054	1226	1171	987	829
126.00 CFS	485	371	218	166	117	96	82	69
134.40 CFS	64.59	54.13	50.80	45.72	43.80	41.49	38.84	37.13
142.80 CFS	35.67	35.07	32.51	31.73	28.48	27.06	26.98	27.86
151.20 CFS	28.23	28.08	28.10	27.06	26.65	25.93	25.09	24.32
159.60 CFS	22.33	21.67	20.46	20.03	20.75	21.32	21.82	21.49
168.00 CFS	21.23	19.13	18.45	16.18	15.24	14.69	14.92	15.19
176.40 CFS	14.84	14.79	14.95	14.91	15.92	16.36	16.15	15.16
184.80 CFS	14.78	15.01	14.94	15.97	16.38	15.91	15.08	14.52
193.20 CFS	13.67	13.35	12.08	11.71	11.49	11.65	11.91	11.54
201.60 CFS	11.39	11.69	11.62	11.62	11.56	11.28	11.61	11.86
210.00 CFS	11.51	11.47	11.63	11.61	11.77	11.59	10.91	10.25
218.40 CFS	9.99	8.71	8.38	8.27	8.28	8.53	8.28	8.00
226.80 CFS	8.31	8.34	8.25	8.26	7.27	6.81	7.02	7.97
235.20 CFS	8.35	8.24	8.24	8.22	8.27	8.57	8.29	7.54
243.60 CFS	4.48	3.46	1.16	.32				

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
1.66 WATERSHED INCHES; 13207 CFS-HRS; 1091.4 ACRE-FEET.

OPERATION RUNOFF XSECTION 5

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
78.28	8.1	(RUNOFF)
121.36	569.3	(RUNOFF)
138.08	16.9	(RUNOFF)
143.30	14.3	(RUNOFF)
150.60	11.7	(RUNOFF)
164.86	9.0	(RUNOFF)
174.64	6.5	(RUNOFF)
180.43	6.4	(RUNOFF)
188.48	6.5	(RUNOFF)
208.22	5.2	(RUNOFF)

HYDROGRAPH POINTS FOR ALTERNATE = 2, STORM = 1
MAIN TIME INCREMENT = 1.050 hr, DRAINAGE AREA = 4.78 SQ.MI.

HRS								
.00 CFS	.00	1.28	1.28	2.92	3.21	3.27	3.34	3.32
8.40 CFS	3.21	3.21	3.33	3.34	3.76	3.98	3.98	3.98
16.80 CFS	3.98	4.11	4.11	4.00	3.98	4.04	4.11	4.14
25.20 CFS	4.37	4.37	4.48	4.49	4.41	4.37	4.37	4.37
33.60 CFS	4.37	4.37	4.37	4.47	4.49	4.43	4.37	4.37
42.00 CFS	4.37	4.37	4.37	4.37	4.46	4.49	4.87	5.91
50.40 CFS	5.91	5.91	5.91	5.91	5.91	5.91	5.91	5.91
58.80 CFS	5.91	5.91	5.91	5.91	5.91	5.91	5.91	5.91
67.20 CFS	5.91	5.91	5.91	6.01	6.03	6.91	7.96	7.96
75.60 CFS	7.96	7.96	8.08	8.09	8.00	7.96	7.96	7.96
84.00 CFS	8.07	10.47	10.53	10.64	10.66	10.60	10.53	10.53
92.40 CFS	10.53	10.53	10.65	10.66	10.57	10.53	12.17	16.18
100.80 CFS	16.22	18.72	18.75	18.75	18.75	20.91	23.24	23.24
109.20 CFS	23.24	23.31	28.33	28.63	34.05	36.85	41.93	55.47
117.60 CFS	62	448	448	537	552	373	187	174
126.00 CFS	73.19	72.66	42.18	39.80	32.11	28.25	26.69	21.83
134.40 CFS	21.61	16.69	16.69	16.69	16.69	14.82	12.84	13.01
142.80 CFS	14.12	14.10	10.56	10.27	10.27	10.27	10.59	11.56
151.20 CFS	11.48	10.28	10.27	10.27	10.27	9.67	8.99	8.82
159.60 CFS	7.70	7.70	7.70	7.70	8.62	8.99	8.63	7.70
168.00 CFS	7.63	6.44	6.42	5.35	5.14	5.72	6.42	6.27
176.40 CFS	5.14	5.14	6.36	6.42	6.42	6.42	6.04	5.14
184.80 CFS	5.20	6.39	6.42	6.42	6.42	5.83	5.14	5.14
193.20 CFS	5.14	5.14	3.89	3.85	4.72	5.14	4.76	3.85
201.60 CFS	3.89	5.11	5.14	4.05	3.85	4.46	5.14	4.97
210.00 CFS	3.85	3.86	5.08	5.14	4.29	3.85	3.85	3.85
218.40 CFS	3.85	2.57	2.57	3.66	3.85	3.23	2.57	2.73
226.80 CFS	3.85	3.83	2.65	2.57	2.57	2.57	2.90	3.85
235.20 CFS	3.81	2.57	2.57	3.65	3.85	3.22	2.57	2.25
243.60 CFS	.00							

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
1.67 WATERSHED INCHES; 5155 CFS-HRS; 426.0 ACRE-FEET.

*** WARNING - MAIN TIME INCREMENT (1.050) IS GREATER THAN 50% OF THE
TIME OF CONCENTRATION (.78) FOR SUBWATERSHED XSECTION 5.
THIS WILL REDUCE THE COMPUTED PEAK BY ABOUT -3.1%. ***

OPERATION RUNOFF XSECTION 7

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
121.49	403.1	(RUNOFF)
143.33	10.5	(RUNOFF)
150.66	8.4	(RUNOFF)
165.11	6.5	(RUNOFF)
174.73	4.7	(RUNOFF)
180.93	4.6	(RUNOFF)
188.48	4.7	(RUNOFF)
192.68	3.7	(RUNOFF)
208.35	3.8	(RUNOFF)
212.82	3.7	(RUNOFF)

HYDROGRAPH POINTS FOR ALTERNATE = 2, STORM = 1
MAIN TIME INCREMENT = 1.050 hr, DRAINAGE AREA = 3.48 SQ.MI.

HRS								
.00 CFS	.00	.90	.93	1.92	2.32	2.35	2.41	2.40
8.40 CFS	2.32	2.32	2.40	2.41	2.65	2.87	2.87	2.87
16.80 CFS	2.88	2.96	2.97	2.90	2.87	2.90	2.97	2.98
25.20 CFS	3.15	3.15	3.23	3.25	3.20	3.15	3.15	3.15
33.60 CFS	3.15	3.15	3.15	3.22	3.25	3.22	3.15	3.15
42.00 CFS	3.15	3.15	3.15	3.15	3.20	3.25	3.39	4.27
50.40 CFS	4.27	4.27	4.27	4.27	4.27	4.27	4.27	4.27
58.80 CFS	4.27	4.27	4.27	4.27	4.27	4.27	4.27	4.27
67.20 CFS	4.27	4.27	4.27	4.33	4.36	4.79	5.75	5.75
75.60 CFS	5.75	5.75	5.83	5.84	5.79	5.75	5.75	5.75
84.00 CFS	5.79	7.52	7.60	7.67	7.70	7.67	7.60	7.60
92.40 CFS	7.60	7.60	7.69	7.70	7.65	7.60	8.19	11.68
100.80 CFS	11.70	13.48	13.54	13.54	13.54	14.58	16.78	16.78
109.20 CFS	16.78	16.78	20.14	20.68	23.74	26.61	28.86	40.03
117.60 CFS	43	311	324	377	399	317	135	130
126.00 CFS	53.45	52.79	32.22	28.75	24.51	20.40	19.64	15.76
134.40 CFS	15.69	12.24	12.05	12.05	12.05	11.18	9.27	9.32
142.80 CFS	10.19	10.20	7.75	7.42	7.42	7.42	7.55	8.35
151.20 CFS	8.33	7.45	7.42	7.42	7.42	7.12	6.49	6.44
159.60 CFS	5.57	5.56	5.56	5.56	6.04	6.49	6.34	5.57
168.00 CFS	5.56	4.67	4.64	3.97	3.71	4.00	4.64	4.57
176.40 CFS	3.72	3.71	4.50	4.64	4.64	4.64	4.48	3.71
184.80 CFS	3.73	4.59	4.64	4.64	4.64	4.35	3.71	3.71
193.20 CFS	3.71	3.71	2.89	2.78	3.25	3.71	3.58	2.78
201.60 CFS	2.80	3.68	3.71	3.06	2.78	3.08	3.71	3.66
210.00 CFS	2.79	2.78	3.60	3.71	3.23	2.78	2.78	2.78
218.40 CFS	2.78	1.88	1.85	2.52	2.78	2.49	1.85	1.92
226.80 CFS	2.77	2.78	1.99	1.85	1.85	1.85	2.01	2.78
235.20 CFS	2.77	1.90	1.85	2.51	2.78	2.50	1.85	1.76

243.60 CFS .00

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
1.68 WATERSHED INCHES; 3762 CFS-HRS; 310.9 ACRE-FEET.

*** WARNING - MAIN TIME INCREMENT (1.050) IS GREATER THAN 50% OF THE
TIME OF CONCENTRATION (1.01) FOR SUBWATERSHED XSECTION 7.
THIS WILL REDUCE THE COMPUTED PEAK BY ABOUT -1.1%. ***

OPERATION ADDHYD XSECTION 75

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
121.40	971.9	(NULL)
138.08	29.1	(NULL)
143.32	24.6	(NULL)
150.63	20.1	(NULL)
164.97	15.5	(NULL)
174.68	11.2	(NULL)
180.84	11.1	(NULL)
188.48	11.2	(NULL)
208.28	8.9	(NULL)
212.74	9.0	(NULL)

HYDROGRAPH POINTS FOR ALTERNATE = 2, STORM = 1
MAIN TIME INCREMENT = 1.050 hr, DRAINAGE AREA = 8.26 SQ.MI.

HRS								
.00 CFS	.00	2.18	2.21	4.84	5.53	5.62	5.75	5.73
8.40 CFS	5.53	5.53	5.73	5.75	6.41	6.85	6.85	6.85
16.80 CFS	6.86	7.07	7.08	6.90	6.85	6.95	7.08	7.12
25.20 CFS	7.52	7.52	7.72	7.74	7.61	7.52	7.52	7.52
33.60 CFS	7.52	7.52	7.52	7.69	7.74	7.65	7.52	7.52
42.00 CFS	7.52	7.52	7.52	7.52	7.66	7.74	8.26	10.17
50.40 CFS	10.17	10.17	10.17	10.17	10.17	10.17	10.17	10.17
58.80 CFS	10.17	10.17	10.17	10.17	10.17	10.17	10.17	10.17
67.20 CFS	10.17	10.17	10.17	10.35	10.39	11.70	13.71	13.71
75.60 CFS	13.71	13.71	13.91	13.93	13.80	13.71	13.71	13.71
84.00 CFS	13.86	17.99	18.13	18.31	18.35	18.26	18.13	18.13
92.40 CFS	18.13	18.13	18.34	18.35	18.22	18.13	20.36	27.86
100.80 CFS	27.93	32.20	32.28	32.28	32.28	35.49	40.02	40.02
109.20 CFS	40.02	40.10	48.47	49.31	57.79	63.46	70.79	95.50
117.60 CFS	105	759	772	914	951	690	323	304
126.00 CFS	127	125	74	69	57	49	46	38
134.40 CFS	37.30	28.93	28.75	28.75	28.75	26.00	22.11	22.33
142.80 CFS	24.32	24.30	18.31	17.69	17.69	17.69	18.15	19.90
151.20 CFS	19.81	17.72	17.69	17.69	17.69	16.79	15.48	15.26
159.60 CFS	13.28	13.27	13.27	13.27	14.67	15.48	14.97	13.27
168.00 CFS	13.19	11.12	11.06	9.32	8.84	9.72	11.06	10.84
176.40 CFS	8.85	8.85	10.86	11.06	11.06	11.06	10.52	8.85
184.80 CFS	8.93	10.98	11.06	11.06	11.06	10.18	8.84	8.84
193.20 CFS	8.84	8.84	6.78	6.63	7.97	8.84	8.33	6.63
201.60 CFS	6.69	8.79	8.84	7.11	6.63	7.54	8.85	8.63

210.00 CFS	6.64	6.64	8.68	8.84	7.52	6.63	6.63	6.63
218.40 CFS	6.63	4.45	4.42	6.18	6.63	5.71	4.42	4.64
226.80 CFS	6.62	6.61	4.64	4.42	4.42	4.42	4.91	6.63
235.20 CFS	6.58	4.47	4.42	6.16	6.63	5.72	4.42	4.01
243.60 CFS	.00							

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
1.67 WATERSHED INCHES; 8917 CFS-HRS; 736.9 ACRE-FEET.

OPERATION ADDHYD XSECTION 76

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
121.69	2179.1	(NULL)
142.76	60.0	(NULL)
150.79	48.2	(NULL)
165.37	37.0	(NULL)
174.85	26.3	(NULL)
181.52	27.4	(NULL)
188.72	27.5	(NULL)
198.77	20.6	(NULL)
203.17	20.8	(NULL)
208.44	20.8	(NULL)

HYDROGRAPH POINTS FOR ALTERNATE = 2, STORM = 1
MAIN TIME INCREMENT = 1.050 hr, DRAINAGE AREA = 20.57 SQ.MI.

HRS								
.00 CFS	.00	3.38	3.73	9.09	10.89	12.68	13.78	14.08
8.40 CFS	13.94	13.95	14.17	14.19	15.38	16.17	16.59	16.95
16.80 CFS	17.08	17.44	17.49	17.33	17.28	17.34	17.50	17.62
25.20 CFS	18.33	18.43	18.97	19.11	19.03	18.93	18.87	18.80
33.60 CFS	18.78	18.77	18.77	19.05	19.14	19.09	18.93	18.89
42.00 CFS	18.81	18.78	18.77	18.77	18.99	19.14	20.12	23.24
50.40 CFS	23.72	24.83	25.24	25.35	25.38	25.39	25.39	25.39
58.80 CFS	25.39	25.39	25.39	25.39	25.39	25.39	25.39	25.39
67.20 CFS	25.39	25.39	25.39	25.67	25.76	28.03	31.34	32.26
75.60 CFS	33.58	34.05	34.50	34.59	34.49	34.39	34.33	34.26
84.00 CFS	34.49	40.94	41.73	44.32	45.29	45.50	45.41	45.39
92.40 CFS	45.31	45.29	45.60	45.65	45.54	45.44	49.02	61.04
100.80 CFS	63.04	74.17	76.49	79.20	80.21	85.77	93.38	95.41
109.20 CFS	98	100	113	116	134	146	164	208
117.60 CFS	240	1281	1387	1968	2176	1861	1310	1133
126.00 CFS	612	496	293	234	174	144	129	107
134.40 CFS	102	83	80	74	73	67	61	59
142.80 CFS	59.99	59.37	50.82	49.42	46.17	44.75	45.13	47.77
151.20 CFS	48.04	45.80	45.79	44.75	44.34	42.72	40.57	39.58
159.60 CFS	35.61	34.94	33.73	33.30	35.42	36.80	36.79	34.76
168.00 CFS	34.42	30.24	29.51	25.50	24.08	24.42	25.98	26.03
176.40 CFS	23.70	23.63	25.80	25.97	26.98	27.42	26.68	24.01
184.80 CFS	23.71	25.99	26.00	27.02	27.44	26.09	23.93	23.37
193.20 CFS	22.51	22.19	18.86	18.35	19.46	20.50	20.24	18.17
201.60 CFS	18.08	20.48	20.46	18.73	18.19	18.82	20.45	20.49

210.00 CFS	18.16	18.12	20.31	20.45	19.28	18.22	17.55	16.88
218.40 CFS	16.62	13.16	12.80	14.45	14.92	14.25	12.70	12.65
226.80 CFS	14.93	14.96	12.89	12.68	11.69	11.23	11.94	14.61
235.20 CFS	14.93	12.71	12.66	14.39	14.90	14.29	12.71	11.55
243.60 CFS	4.48	3.46	1.16	.32				

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
1.67 WATERSHED INCHES; 22124 CFS-HRS; 1828.3 ACRE-FEET.

--- XSECTION 76, ALTERNATE 2, STORM 1, HYDROGRAPH ADDED TO READHD FILE ---

*** MESSAGE - STRUCTURE 1, USER ENTERED STARTING ELEVATION (1200.0 FEET) CAN ADD .546 INCHES OF RUNOFF TO THE OUTFLOW HYDROGRAPH VOLUME.***

OPERATION RESVOR STRUCTURE 1

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
.00	45.6	1200.00
129.46	216.2	1206.10

HYDROGRAPH POINTS FOR ALTERNATE = 2, STORM = 1
MAIN TIME INCREMENT = 1.050 hr, DRAINAGE AREA = 20.57 SQ.MI.

HRS								
.00 CFS	45.58	43.86	42.29	40.89	39.68	38.59	37.60	36.67
8.40 CFS	35.78	34.93	34.11	33.33	32.61	31.95	31.34	30.77
16.80 CFS	30.23	29.73	29.25	28.79	28.34	27.91	27.50	27.11
25.20 CFS	26.75	26.42	26.12	25.84	25.58	25.32	25.07	24.83
33.60 CFS	24.59	24.36	24.14	23.94	23.75	23.57	23.39	23.22
42.00 CFS	23.05	22.88	22.72	22.56	22.42	22.29	22.19	22.17
50.40 CFS	22.22	22.30	22.40	22.52	22.63	22.74	22.84	22.94
58.80 CFS	23.04	23.13	23.22	23.30	23.38	23.46	23.54	23.61
67.20 CFS	23.68	23.75	23.81	23.88	23.95	24.07	24.29	24.58
75.60 CFS	24.91	25.25	25.61	25.96	26.29	26.61	26.91	27.20
84.00 CFS	27.48	27.88	28.41	28.98	29.60	30.22	30.81	31.38
92.40 CFS	31.93	32.45	32.96	33.45	33.93	34.38	34.88	35.67
100.80 CFS	36.70	37.95	39.41	40.91	42.43	44.02	45.80	47.70
109.20 CFS	49.62	51.55	53.70	56.07	58.76	61.95	65.59	70.31
117.60 CFS	76	103	151	169	183	195	203	209
126.00 CFS	213	215	216	216	216	216	215	215
134.40 CFS	214	214	213	212	211	210	210	209
142.80 CFS	208	207	206	205	204	203	202	201
151.20 CFS	201	200	199	198	197	196	195	194
159.60 CFS	193	192	191	190	190	189	188	187
168.00 CFS	185	184	183	182	181	180	178	177
176.40 CFS	176	175	174	173	172	171	170	168
184.80 CFS	167	166	165	164	163	162	161	160
193.20 CFS	159	154	149	144	139	134	130	125
201.60 CFS	121	117	113	110	106	103	99	96
210.00 CFS	93.33	90.39	87.61	84.98	82.44	79.95	77.52	75.16
218.40 CFS	72.88	70.61	68.36	66.22	64.20	62.26	60.36	58.49
226.80 CFS	56.74	55.11	53.50	51.91	50.36	48.83	47.38	46.04

235.20 CFS	44.82	43.61	42.40	41.27	40.23	39.23	38.22	37.20
243.60 CFS	36.06	34.81	33.54	32.25	31.00	29.79	28.63	27.51
252.00 CFS	26.43	25.40	24.41	23.45	22.53	21.65	20.81	19.99
260.40 CFS	19.21	18.46	17.74	17.05	16.38	15.74	15.12	14.53
268.80 CFS	13.96	13.42	12.89	12.39	11.90	11.44	10.99	10.56
277.20 CFS	10.15	9.75	9.37	9.00	8.65	8.31	7.99	7.68
285.60 CFS	7.38	7.09	6.81	6.55	6.29	6.04	5.81	5.58
294.00 CFS	5.36	5.15	4.95	4.76	4.57	4.39	4.22	4.06
302.40 CFS	3.90	3.74	3.60	3.46	3.32	3.19	3.07	2.95
310.80 CFS	2.83	2.72	2.62	2.51	2.41	2.32	2.23	2.14
319.20 CFS	2.06	1.98	1.90	1.83	1.76	1.69	1.62	1.56
327.60 CFS	1.50	1.44	1.38	1.33	1.28	1.23	1.18	1.13
336.00 CFS	1.09	1.05	1.00	.97	.93	.89	.86	.82
344.40 CFS	.79	.76	.73	.70	.67	.65	.62	.60
352.80 CFS	.57	.55	.53	.51	.49	.47	.45	.43
361.20 CFS	.42	.40	.39	.37	.36	.34	.33	.32
369.60 CFS	.30	.29	.28	.27	.26	.25	.24	.23
378.00 CFS	.22	.21	.21	.21	.21	.21	.21	.21
386.40 CFS	.21	.21	.21	.21	.21	.21	.21	.21
394.80 CFS	.21	.21	.21	.21	.21	.21	.21	.21
403.20 CFS	.21	.21	.21	.21	.21	.21	.21	.21
411.60 CFS	.21	.21	.21	.21	.21	.21	.21	.21

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
1.73 WATERSHED INCHES; 22983 CFS-HRS; 1899.3 ACRE-FEET.

--- STRUCTURE 1, ALTERNATE 2, STORM 1, HYDROGRAPH ADDED TO READHD FILE ---

EXECUTIVE CONTROL ENDCMP COMPUTATIONS COMPLETED FOR PASS 2

SUMMARY TABLE 1

SELECTED RESULTS OF STANDARD AND EXECUTIVE CONTROL IN ORDER PERFORMED.
A CHARACTER FOLLOWING THE PEAK DISCHARGE TIME AND RATE (CFS) INDICATES:
F-FLAT TOP HYDROGRAPH T-TRUNCATED HYDROGRAPH R-RISING TRUNCATED HYDROGRAPH

RAINFALL OF 1.64 inches AND 242.40 hr DURATION, BEGINS AT .0 hrs.
RAINTABLE NUMBER 1, ARC 2
MAIN TIME INCREMENT 1.050 HOURS

ALTERNATE 1 STORM 1

XSECTION/ STRUCTURE ID	STANDARD CONTROL OPERATION	DRAINAGE AREA (SQ MI)	RUNOFF AMOUNT (IN)	PEAK DISCHARGE ELEVATION (FT)	TIME (HR)	RATE (CFS)	RATE (CSM)
XSECTION 1	RUNOFF	2.46	1.68	---	121.40	290	117.9
XSECTION 5	REACH	2.46	1.62	2.23	122.55	283	115.0
XSECTION 10	REACH	2.46	1.66	3.72	123.70	277	112.6
XSECTION 2	RUNOFF	2.38	1.67	---	121.33	285	119.7
XSECTION 12	ADDHYD	4.84	1.67	---	121.80	488	100.8
XSECTION 12	DIVERT	4.84	1.67	---	121.80	488	100.8
XSECTION 200	DIVERT	.00	1.67	---	.00	0	********
XSECTION 20	REACH	4.84	1.67	2.45	121.80	488	100.8
XSECTION 25	REACH	4.84	1.67	1.54	121.80	488	100.8
XSECTION 3	RUNOFF	3.94	1.67	---	121.39	462	117.3
XSECTION 30	REACH	3.94	1.61	2.56	122.60	444	112.7
XSECTION 5	REACH	3.94	1.65	2.71	123.73	437	110.9
XSECTION 25	REACH	3.94	1.65	1.44	123.73	437	110.9
XSECTION 4	RUNOFF	2.06	1.67	---	121.36	245	118.9
XSECTION 34	ADDHYD	6.00	1.66	---	122.26	579	96.5
XSECTION 35	ADDHYD	10.84	1.66	---	122.01	1062	98.0
XSECTION 35	DIVERT	10.84	1.66	---	122.01	1062	98.0
XSECTION 199	DIVERT	.00	1.66	---	.00	0	********
XSECTION 45	REACH	10.84	1.66	2.32	122.01	1062	98.0
XSECTION 6	RUNOFF	1.47	1.68	---	121.27	179	121.8
XSECTION 60	REACH	1.47	1.67	2.78	122.40	181	123.1
XSECTION 67	REACH	1.47	1.67	1.83	122.40	181	123.1
XSECTION 64	ADDHYD	12.31	1.66	---	122.07	1233	100.2
XSECTION 5	RUNOFF	4.78	1.67	---	121.36	569	119.0
XSECTION 7	RUNOFF	3.48	1.68	---	121.49	403	115.8
XSECTION 75	ADDHYD	8.26	1.67	---	121.40	972	117.7
XSECTION 76	ADDHYD	20.57	1.67	---	121.69	2179	105.9
STRUCTURE 1	RESVOR	20.57	1.73	1206.10	129.46	216	10.5

SUMMARY TABLE 1

SELECTED RESULTS OF STANDARD AND EXECUTIVE CONTROL IN ORDER PERFORMED.
A CHARACTER FOLLOWING THE PEAK DISCHARGE TIME AND RATE (CFS) INDICATES:
F-FLAT TOP HYDROGRAPH T-TRUNCATED HYDROGRAPH R-RISING TRUNCATED HYDROGRAPH

XSECTION/ STRUCTURE ID	STANDARD CONTROL OPERATION	DRAINAGE AREA (SQ MI)	RUNOFF AMOUNT (IN)	PEAK DISCHARGE ELEVATION (FT)	TIME (HR)	RATE (CFS)	RATE (CSM)
ALTERNATE 2 STORM 1							
XSECTION 1	RUNOFF	2.46	1.68	---	121.40	290	117.9
XSECTION 5	REACH	2.46	1.62	2.23	122.55	283	115.0
XSECTION 10	REACH	2.46	1.66	3.72	123.70	277	112.6
XSECTION 2	RUNOFF	2.38	1.67	---	121.33	285	119.7
XSECTION 12	ADDHYD	4.84	1.67	---	121.80	488	100.8
XSECTION 12	DIVERT	4.84	1.67	---	121.80	488	100.8
XSECTION 200	DIVERT	.00	1.67	---	.00	0	********
XSECTION 20	REACH	4.84	1.67	2.45	121.80	488	100.8
XSECTION 25	REACH	4.84	1.67	1.54	121.80	488	100.8
XSECTION 3	RUNOFF	3.94	1.67	---	121.39	462	117.3
XSECTION 30	REACH	3.94	1.61	2.56	122.60	444	112.7
XSECTION 5	REACH	3.94	1.65	2.71	123.73	437	110.9
XSECTION 25	REACH	3.94	1.65	1.44	123.73	437	110.9
XSECTION 4	RUNOFF	2.06	1.67	---	121.36	245	118.9
XSECTION 34	ADDHYD	6.00	1.66	---	122.26	579	96.5
XSECTION 35	ADDHYD	10.84	1.66	---	122.01	1062	98.0
XSECTION 35	DIVERT	10.84	1.66	---	122.01	1062	98.0
XSECTION 199	DIVERT	.00	1.66	---	.00	0	********
XSECTION 45	REACH	10.84	1.66	2.32	122.01	1062	98.0
XSECTION 6	RUNOFF	1.47	1.68	---	121.27	179	121.8
XSECTION 60	REACH	1.47	1.67	2.78	122.40	181	123.1
XSECTION 67	REACH	1.47	1.67	1.83	122.40	181	123.1
XSECTION 64	ADDHYD	12.31	1.66	---	122.07	1233	100.2
XSECTION 5	RUNOFF	4.78	1.67	---	121.36	569	119.0
XSECTION 7	RUNOFF	3.48	1.68	---	121.49	403	115.8
XSECTION 75	ADDHYD	8.26	1.67	---	121.40	972	117.7
XSECTION 76	ADDHYD	20.57	1.67	---	121.69	2179	105.9

SUMMARY TABLE 1

SELECTED RESULTS OF STANDARD AND EXECUTIVE CONTROL IN ORDER PERFORMED.
A CHARACTER FOLLOWING THE PEAK DISCHARGE TIME AND RATE (CFS) INDICATES:
F-FLAT TOP HYDROGRAPH T-TRUNCATED HYDROGRAPH R-RISING TRUNCATED HYDROGRAPH

XSECTION/ STRUCTURE ID	STANDARD CONTROL OPERATION	DRAINAGE AREA (SQ MI)	RUNOFF AMOUNT (IN)	PEAK DISCHARGE ELEVATION (FT)	TIME (HR)	RATE (CFS)	RATE (CSM)
ALTERNATE 2 STORM 1							
STRUCTURE 1	RESVOR	20.57	1.73	1206.10	129.46	216	10.5

SUMMARY TABLE 2

MODIFIED ATT-KIN REACH ROUTING IN ORDER PERFORMED.
QUESTION MARK (?) AFTER: OUTFLOW PEAK - MAX. NUMBER ROUTING ITERATIONS USED;
LENGTH FACTOR - VALUE k* GREATER THAN 1.0;
ATT-KIN COEFF - VALUE C GREATER THAN 0.667.

			HYDROGRAPH INFORMATION				ROUTING PARAMETERS				
		FLOOD	INFLOW		OUTFLOW		Q-A EQ.			PEAK	ATT-
XSEC ID	REACH LENGTH (FT)	PLAIN LENGTH (FT)	PEAK (CFS)	TIME (HR)	PEAK (CFS)	TIME (HR)	COEFF (X)	POWER (M)	LENGTH FACTOR (k*)	RATIO Q/I (Q*)	KIN COEFF (C)
BASEFLOW IS .0 CFS											
ALTERNATE 1 STORM 1											
5	9100		284	121.8	280	122.8	.52	1.33	.053	.986	.81?
10	9100		280	122.8	276	123.9	.88	1.25	.057	.985	.83?
20	3332		488	121.8	488	121.8	.10	1.69	.002	1.000	1.00?
25	1950		488	121.8	488	121.8	.046	1.75	.001	1.000	1.00?
30	8865		451	121.8	441	122.8	.79	1.20	.075	.977	.73?
5	8865		441	122.8	436	123.9	.53	1.32	.045	.989	.87?
25	1950		436	123.9	436	123.9	.047	1.75	.002	1.000	1.00?
45	4200		1058	121.8	1058	121.8	.045	1.73	.003	1.000	1.00?
60	7540		175	120.8	174	122.8	1.40	1.12	.074	.992	.80?
67	5140		174	122.8	174	122.8	.53	1.32	.031	1.000	1.00?
ALTERNATE 2 STORM 1											
5	9100		284	121.8	280	122.8	.52	1.33	.053	.986	.81?
10	9100		280	122.8	276	123.9	.88	1.25	.057	.985	.83?
20	3332		488	121.8	488	121.8	.10	1.69	.002	1.000	1.00?
25	1950		488	121.8	488	121.8	.046	1.75	.001	1.000	1.00?
30	8865		451	121.8	441	122.8	.79	1.20	.075	.977	.73?
5	8865		441	122.8	436	123.9	.53	1.32	.045	.989	.87?
25	1950		436	123.9	436	123.9	.047	1.75	.002	1.000	1.00?
45	4200		1058	121.8	1058	121.8	.045	1.73	.003	1.000	1.00?
60	7540		175	120.8	174	122.8	1.40	1.12	.074	.992	.80?
67	5140		174	122.8	174	122.8	.53	1.32	.031	1.000	1.00?

SUMMARY TABLE 3

STORM DISCHARGES (CFS) AT XSECTIONS AND STRUCTURES FOR ALL ALTERNATES
QUESTION MARK (?) AFTER: OUTFLOW PEAK - RISING TRUNCATED HYDROGRAPH.

XSECTION/ STRUCTURE ID	DRAINAGE AREA (SQ MI)	STORM NUMBERS..... 1
STRUCTURE 1	20.57	
ALTERNATE 1		216
ALTERNATE 2		216
XSECTION 1	2.46	
ALTERNATE 1		290
ALTERNATE 2		290
XSECTION 2	2.38	
ALTERNATE 1		285
ALTERNATE 2		285
XSECTION 3	3.94	
ALTERNATE 1		462
ALTERNATE 2		462
XSECTION 4	2.06	
ALTERNATE 1		245
ALTERNATE 2		245
XSECTION 5	4.78	
ALTERNATE 1		569
ALTERNATE 2		569
XSECTION 6	1.47	
ALTERNATE 1		179
ALTERNATE 2		179
XSECTION 7	3.48	
ALTERNATE 1		403
ALTERNATE 2		403
XSECTION 10	2.46	
ALTERNATE 1		277
ALTERNATE 2		277
XSECTION 12	4.84	
ALTERNATE 1		488
ALTERNATE 2		488

SUMMARY TABLE 3

STORM DISCHARGES (CFS) AT XSECTIONS AND STRUCTURES FOR ALL ALTERNATES
QUESTION MARK (?) AFTER: OUTFLOW PEAK - RISING TRUNCATED HYDROGRAPH.

XSECTION/ STRUCTURE ID	DRAINAGE AREA (SQ MI)	STORM NUMBERS..... 1
XSECTION 20	4.84	
ALTERNATE 1		488
ALTERNATE 2		488
XSECTION 25	3.94	
ALTERNATE 1		437
ALTERNATE 2		437
XSECTION 30	3.94	
ALTERNATE 1		444
ALTERNATE 2		444
XSECTION 34	6.00	
ALTERNATE 1		579
ALTERNATE 2		579
XSECTION 35	10.84	
ALTERNATE 1		1062
ALTERNATE 2		1062
XSECTION 45	10.84	
ALTERNATE 1		1062
ALTERNATE 2		1062
XSECTION 60	1.47	
ALTERNATE 1		181
ALTERNATE 2		181
XSECTION 64	12.31	
ALTERNATE 1		1233
ALTERNATE 2		1233
XSECTION 67	1.47	
ALTERNATE 1		181
ALTERNATE 2		181
XSECTION 75	8.26	
ALTERNATE 1		972
ALTERNATE 2		972

SUMMARY TABLE 3

STORM DISCHARGES (CFS) AT XSECTIONS AND STRUCTURES FOR ALL ALTERNATES
QUESTION MARK (?) AFTER: OUTFLOW PEAK - RISING TRUNCATED HYDROGRAPH.

XSECTION/ STRUCTURE ID	DRAINAGE AREA (SQ MI)	STORM NUMBERS..... 1
XSECTION 76	20.57	
ALTERNATE 1		2179
ALTERNATE 2		2179
XSECTION 199	.00	
ALTERNATE 1		0
ALTERNATE 2		0
XSECTION 200	.00	
ALTERNATE 1		0
ALTERNATE 2		0

```
TR20 ------------------------------------------------------------------------ SCS -
WHTANK3      WHITE TANK FRS #3, WATERSHED DIVIDED INTO 7 SUB-BASINS      VERSION
08/11/**  100-YR 10-DAY RUNOFF & DIST IN TABLE 1, 100-YR SED IN RESVOIR 2.04TEST


END OF  1 JOBS IN THIS RUN


                    SCS  TR-20,  VERSION 2.04TEST
                          WHTANK3   FILES

     INPUT  = 10DAY.DAT                                , GIVEN DATA FILE
     OUTPUT = 10DOUT.OUT                               , DATED 08/11/**,15:27:13

              FILES GENERATED - DATED 08/11/**,15:27:13

   FILE 111.TRD CONTAINS READHD INFORMATION


          TOTAL NUMBER OF WARNINGS =  24,  MESSAGES =   6

                       JOB ENDED AT 15:27:14
                   *** TR-20 RUN COMPLETED ***
```

URS

CALCULATION PACKAGE NO. 15

EXHIBIT 4.7-2

CALCULATION COVER SHEET

Client: Flood Control District of Maricopa County (FCDMC)

Project Name: White Tank FRS No. 3 Design

Project/Calculation Number: 23443748

Title: **RESERVOIR ROUTING OF 6-HR LOCAL AND 6-HR, 12-HR, 18-HR, 24-HR, 48-HR AND 72-HR GENERAL PMF HYDROGRAPHS (INTERIM CONDITION) (NRCS CRITERIA)**

Total Number of Pages (including cover sheet): _____

Total Number of Computer Runs: _____

Prepared by: Hammad Hussain Date: 07/29/04

Checked by: JUNEU KIM Date: 7/30/04

Description and Purpose:

See Page 2

Design Basis /Assumptions

See Page 2

Remarks/Conclusions/Results:

See Page 3.

Calculation Approved by: Todd Ringsmuth 8-17-04
Project Manager/Date

Revision No.:	Description of Revision:	Approved by:

RESERVOIR ROUTING OF 6-HR LOCAL AND 6-HR, 12-HR, 18-HR, 24-HR, 48-HR AND 72-HR GENERAL PMF HYDROGRAPHS (INTERIM CONDITION) (NRCS CRITERIA)

(WHITE TANK FLOOD RETARDING STRUCTURE (FRS) NO. 3)
FLOOD CONTROL DISTRICT OF MARICOPA COUNTY (FCDMC)
23443748

PROBLEM STATEMENT

This particular calculation package addresses the reservoir routing results of 6-hr Local, 6-hr, 12-hr, 18-hr, 24-hr, 48-hr and 72-hr General Probable Maximum Flood (PMF) storms for the **Interim Condition** based on NRCS criteria.

DESIGN BASIS/ASSUMPTIONS/REFERENCES

INTERIM CONDITION

The Interim Condition represents the time period following construction of the facilities included in the Remediation Project and the installation of the downstream conveyance channel. Since this time period is anticipated to be short (less than 10 years), it is assumed that no additional sediment has accumulated in the reservoir. The principal spillway is closed and does not convey flow out of the reservoir. Under this condition the only outflow from the reservoir occurs through infiltration and flow through the emergency spillway. The detailed calculations involved in estimating the infiltration rates for the Interim condition are provided in a separate calculation package

Given that the Interim Condition was assumed a short period following construction of the dam and prior to construction of a dedicated downstream conveyance, the routing for the Interim Condition was performed based on the current topographic condition in the reservoir (i.e., no additional sediment). The reservoir routing for the Interim Condition was carried out for 6-hr Local and 6-hr, 12-hr, 18-hr, 24-hr, 48-hr and 72-hr General PMF storms based on NRCS criteria. The NRCS criterion for the interim condition is explained as follows.

NRCS Routing Criteria: For the Interim Condition, the antecedent reservoir condition (ARC) for the routing of the 6-hr Local and 6-hr, 12-hr, 18-hr, 24-hr, 48-hr and 72-hr General PMF storms will be based on the water surface elevation 10 days following the peak of the 100-year, 10-day storm. Since the outlets are gated, drawdown of the reservoir for this case was the result of infiltration.

The ARC for routing of the 100-year, 10-day storm for the Interim Condition under NRCS criteria is set at the invert elevation of the proposed gated outlet or at elevation 1193.0 ft (NAVD 88).

ROUTING RESULTS

NRCS Routing: The 100-year, 10-day storm was routed through the reservoir by setting the ARC at the invert elevation of the proposed gated outlet, or elevation 1,193 ft (NAVD 88). The reservoir routing results of the 100-year 10-day storm for the interim condition are provided in a separate calculation package submitted with this report. The reservoir elevation at the end of 10th day following the peak of a 100-year, 10-day storm was found to be equal to 1201.42 ft and was used as the ARC for the routing of the 6-hr Local and 6-hr, 12-hr, 18-hr, 24-hr, 48-hr and 72-hr General PMF storms.

The reservoir routing results i.e. ARC, peak outflows, and the maximum reservoir elevation for the 100-yr 10-day, 6-hour Local and 6-hr, 12-hr, 18-hr, 24-hr, 48-hr and 72-hr General PMF storms for Interim Condition based on NRCS criteria are provided in Table 1.

The input file and the detailed output results of TR-20 modeling for reservoir routing of 6-hour Local and 6-hr, 12-hr, 18-hr, 24-hr, 48-hr and 72-hr General PMF storms for the Interim Condition based on NRCS criteria are attached at the end of this calculation package.

TABLE 1
RESERVOIR ROUTING RESULTS
(BASED ON NRCS CRITERION ONLY)

(INTERIM CONDITON)

Storm Event	Inflow to White Tank FRS No.3		Outflow from White Tank FRS No.3		
	Precipitation (inches)	Peak Inflow (cfs)	Antecedent Reservoir Condition (ARC) [1]	Peak Outflow (cfs)	Maximum Reservoir Elevation (NAVD 88) (ft)
6-hr Local	12.70	68,291	1,201.42	25,272	**1,216.1**
6-hr General	8.8	35,793	1,201.42	14,991	1,214.9
12-hr General	11.0	33,379	1,201.42	17,654	1,215.2
18-hr General	12.2	27,450	1,201.42	21,745	1,215.7
24-hr General	12.9	24,171	1,201.42	20,546	1,215.6
48-hr General	15.0	32,262	1,201.42	21,360	1,215.7
72-hr General	15.80	32,764	1,201.42	24,183	**1,216.0**

NOTE:

1) ***The 100-year, 10-day storm was routed under interim condition through the reservoir by setting the ARC at the invert elevation of the proposed gated outlet, or elevation 1,193 ft (NAVD 88). The reservoir elevation at the end of 10th day following the peak of a 100-year, 10-day storm was found to be equal to 1201.42 ft and was used as the ARC for the routing of the 6-hr Local and 6-hr, 12-hr, 18-hr, 24-hr, 48-hr and 72-hr General PMF storms under interim condition.***

NRCS CRITERIA

(6-hr Local PMF Hydrograph)

Reservoir Routing Results of 6-hr Local Hydrograph (NRCS Criteria)

```
******************80-80 LIST OF INPUT DATA FOR TR-20 HYDROLOGY******************

JOB TR-20 WT3PMP6   ECON                PASS=001  SUMMARY
TITLE     WHITE TANK FRS #3, WATERSHED DIVIDED INTO 7 SUB-BASINS
TITLE     6HR LOCAL, INITIAL EMPTY RESERVOIR W/100-YR SEDIMENT
 5 RAINFL 1            0.1                                          6HRLOCAL
 8          .0000      .003       .006       .009       .013
 8          .016       .020       .025       .030       .035
 8          .039       .046       .052       .058       .065
 8          .071       .080       .090       .099       .109
 8          .118       .283       .449       .567       .622
 8          .669       .701       .732       .756       .780
 8          .795       .809       .824       .838       .852
 8          .866       .876       .885       .894       .904
 8          .913       .920       .926       .932       .939
 8          .945       .950       .954       .959       .964
 8          .969       .972       .976       .980       .984
 8          .988       .991       .993       .995       .998
 8          1.         1.         1.         1.         1.
 9 ENDTBL
 5 RAINFL 2            .1                                           6HR GEN
 8          .000       .005       .013       .020       .028
 8          .038       .045       .053       .060       .070
 8          .080       .085       .095       .108       .120
 8          .138       .150       .165       .190       .210
 8          .238       .280       .350       .440       .550
 8          .590       .620       .645       .668       .685
 8          .700       .720       .735       .753       .765
 8          .775       .790       .800       .810       .820
 8          .835       .843       .850       .863       .870
 8          .880       .890       .898       .908       .915
 8          .925       .930       .940       .945       .955
 8          .963       .970       .978       .985       .990
 8          1.00       1.00       1.00       1.00       1.00
 9 ENDTBL
 5 RAINFL 3            0.1                                          12HRGEN
 8          .000       .003       .007       .010       .013
 8          .016       .019       .022       .025       .028
 8          .031       .034       .037       .040       .043
 8          .045       .050       .054       .058       .062
 8          .066       .071       .075       .080       .085
 8          .089       .095       .101       .107       .112
 8          .118       .125       .132       .139       .146
 8          .153       .162       .171       .180       .189
 8          .198       .211       .224       .237       .250
 8          .264       .300       .345       .391       .436
 8          .491       .536       .564       .586       .607
 8          .629       .643       .657       .672       .686
 8          .700       .711       .721       .732       .742
 8          .753       .761       .769       .778       .786
 8          .795       .802       .809       .817       .824
 8          .832       .837       .843       .848       .854
 8          .859       .865       .870       .875       .881
 8          .886       .891       .895       .900       .905
 8          .909       .913       .917       .921       .925
 8          .929       .933       .936       .940       .944
 8          .948       .951       .954       .957       .960
 8          .963       .966       .969       .971       .974
```

Input File

```
8          .977        .980        .982        .984        .986
8          .989        .991        .993        .995        .998
8          1.000      01.000       1.000       1.000       1.00
9 ENDTBL
5 RAINFL 4             0.1                                          18HRGEN
8          .000        .001        .002        .003        .004
8          .005        .005        .006        .007        .008
8          .009        .012        .014        .017        .020
8          .023        .025        .028        .031        .033
8          .036        .040        .044        .049        .053
8          .057        .061        .065        .070        .074
8          .078        .084        .090        .096        .102
8          .108        .114        .120        .126        .132
8          .138        .146        .154        .162        .170
8          .179        .187        .195        .203        .211
8          .220        .238        .256        .275        .293
8          .311        .330        .348        .367        .385
8          .403        .430        .457        .484        .511
8          .538        .557        .577        .597        .616
8          .636        .653        .670        .687        .704
8          .721        .734        .746        .759        .771
8          .784        .792        .801        .810        .818
8          .827        .832        .838        .843        .848
8          .853        .856        .859        .862        .864
8          .867        .870        .872        .875        .878
8          .880        .882        .885        .887        .889
8          .891        .893        .895        .897        .899
8          .901        .903        .905        .907        .909
8          .911        .912        .914        .916        .917
8          .919        .920        .922        .924        .925
8          .927        .929        .930        .932        .934
8          .935        .937        .938        .940        .941
8          .943        .945        .946        .948        .949
8          .951        .952        .953        .955        .956
8          .957        .959        .960        .961        .963
8          .964        .965        .967        .968        .970
8          .971        .972        .974        .975        .976
8          .978        .979        .980        .982        .983
8          .984        .985        .986        .988        .989
8          .990        .991        .992        .993        .994
8          .995        .996        .997        .998        .999
8          1.000       1.000       1.000       1.000       1.000
9 ENDTBL
5 RAINFL 5             0.1                                          24HRGEN
8          0.000       0.000       0.001       0.001       0.002
8          0.002       0.002       0.003       0.003       0.003
8          0.004       0.005       0.007       0.009       0.010
8          0.012       0.013       0.015       0.016       0.018
8          0.019       0.022       0.024       0.027       0.030
8          0.032       0.035       0.037       0.040       0.042
8          0.045       0.048       0.051       0.055       0.058
8          0.061       0.064       0.068       0.071       0.074
8          0.078       0.082       0.087       0.091       0.096
8          0.100       0.104       0.109       0.113       0.118
8          0.122       0.127       0.132       0.137       0.142
8          0.147       0.151       0.156       0.161       0.166
```

```
8          0.171      0.177      0.184      0.191      0.198
8          0.205      0.214      0.224      0.233      0.242
8          0.252      0.265      0.278      0.291      0.303
8          0.316      0.334      0.351      0.368      0.386
8          0.403      0.425      0.447      0.468      0.490
8          0.512      0.527      0.543      0.558      0.574
8          0.589      0.603      0.617      0.631      0.645
8          0.659      0.671      0.684      0.696      0.709
8          0.721      0.731      0.741      0.751      0.761
8          0.771      0.779      0.786      0.793      0.800
8          0.808      0.814      0.820      0.825      0.831
8          0.837      0.840      0.843      0.847      0.850
8          0.853      0.855      0.857      0.859      0.861
8          0.864      0.866      0.868      0.870      0.872
8          0.874      0.876      0.878      0.880      0.881
8          0.883      0.885      0.886      0.888      0.890
8          0.891      0.893      0.895      0.896      0.898
8          0.899      0.901      0.902      0.904      0.905
8          0.907      0.908      0.909      0.910      0.912
8          0.913      0.914      0.915      0.916      0.917
8          0.919      0.920      0.921      0.922      0.923
8          0.924      0.926      0.927      0.928      0.929
8          0.930      0.932      0.933      0.935      0.936
8          0.938      0.940      0.941      0.943      0.944
8          0.946      0.947      0.947      0.948      0.949
8          0.950      0.950      0.951      0.952      0.953
8          0.953      0.955      0.956      0.957      0.958
8          0.959      0.960      0.961      0.962      0.963
8          0.964      0.965      0.966      0.967      0.968
8          0.969      0.970      0.971      0.972      0.973
8          0.974      0.975      0.976      0.977      0.978
8          0.979      0.980      0.981      0.982      0.983
8          0.984      0.985      0.986      0.987      0.988
8          0.988      0.989      0.990      0.991      0.991
8          0.992      0.993      0.994      0.995      0.995
8          0.996      0.997      0.998      0.998      0.999
8          1.000      1.000      1.000      1.000      1.000
9 ENDTBL
5 RAINFL 6            .25                                                48HRGEN
8          0.0000     0.0015     0.0029     0.0044     0.0058
8          0.0073     0.0088     0.0102     0.0117     0.0131
8          0.0146     0.0160     0.0175     0.0190     0.0204
8          0.0219     0.0233     0.0248     0.0263     0.0277
8          0.0292     0.0306     0.0321     0.0335     0.0350
8          0.0365     0.0379     0.0394     0.0408     0.0423
8          0.0438     0.0452     0.0467     0.0481     0.0496
8          0.0510     0.0525     0.0542     0.0558     0.0575
8          0.0592     0.0608     0.0625     0.0642     0.0658
8          0.0692     0.0725     0.0758     0.0792     0.0825
8          0.0858     0.0892     0.0925     0.0975     0.1025
8          0.1075     0.1125     0.1175     0.1225     0.1275
8          0.1325     0.1442     0.1560     0.1677     0.1794
8          0.1985     0.2176     0.2366     0.2557     0.3239
8          0.3921     0.4603     0.5285     0.5520     0.5754
8          0.5989     0.6224     0.6356     0.6488     0.6620
8          0.6752     0.6862     0.6972     0.7082     0.7192
```

```
8          0.7267     0.7342     0.7417     0.7492     0.7558
8          0.7625     0.7692     0.7758     0.7825     0.7892
8          0.7958     0.8025     0.8083     0.8142     0.8200
8          0.8258     0.8308     0.8358     0.8408     0.8458
8          0.8508     0.8558     0.8608     0.8658     0.8683
8          0.8708     0.8733     0.8758     0.8783     0.8808
8          0.8833     0.8858     0.8875     0.8892     0.8908
8          0.8925     0.8942     0.8958     0.8975     0.8992
8          0.9008     0.9025     0.9042     0.9058     0.9075
8          0.9092     0.9108     0.9125     0.9140     0.9154
8          0.9169     0.9183     0.9198     0.9213     0.9227
8          0.9242     0.9256     0.9271     0.9285     0.9300
8          0.9315     0.9329     0.9344     0.9358     0.9373
8          0.9388     0.9402     0.9417     0.9431     0.9446
8          0.9460     0.9475     0.9490     0.9504     0.9519
8          0.9533     0.9548     0.9563     0.9577     0.9592
8          0.9606     0.9621     0.9635     0.9650     0.9665
8          0.9679     0.9694     0.9708     0.9723     0.9737
8          0.9752     0.9767     0.9781     0.9796     0.9810
8          0.9825     0.9840     0.9854     0.9869     0.9883
8          0.9898     0.9912     0.9927     0.9942     0.9956
8          0.9971     0.9985     1.0000     1.0000     1.0
9 ENDTBL
5 RAINFL 7            .25                                          72HRGEN
8          0.0000     0.0005     0.0009     0.0014     0.0019
8          0.0025     0.0032     0.0038     0.0044     0.0051
8          0.0057     0.0063     0.0070     0.0076     0.0082
8          0.0089     0.0095     0.0103     0.0111     0.0119
8          0.0127     0.0134     0.0142     0.0150     0.0158
8          0.0171     0.0184     0.0196     0.0209     0.0222
8          0.0234     0.0247     0.0259     0.0272     0.0285
8          0.0297     0.0310     0.0323     0.0335     0.0348
8          0.0361     0.0375     0.0389     0.0403     0.0418
8          0.0432     0.0446     0.0460     0.0475     0.0489
8          0.0503     0.0517     0.0532     0.0546     0.0560
8          0.0574     0.0589     0.0604     0.0620     0.0636
8          0.0652     0.0668     0.0684     0.0699     0.0715
8          0.0731     0.0747     0.0763     0.0778     0.0797
8          0.0816     0.0835     0.0854     0.0877     0.0899
8          0.0921     0.0943     0.0968     0.0994     0.1019
8          0.1044     0.1073     0.1101     0.1130     0.1158
8          0.1193     0.1228     0.1263     0.1297     0.1335
8          0.1373     0.1411     0.1449     0.1491     0.1532
8          0.1573     0.1614     0.1725     0.1837     0.1948
8          0.2059     0.2241     0.2422     0.2603     0.2784
8          0.3431     0.4078     0.4726     0.5373     0.5596
8          0.5819     0.6042     0.6265     0.6390     0.6515
8          0.6641     0.6766     0.6870     0.6975     0.7079
8          0.7184     0.7255     0.7326     0.7397     0.7468
8          0.7535     0.7601     0.7668     0.7734     0.7794
8          0.7854     0.7915     0.7975     0.8030     0.8085
8          0.8141     0.8196     0.8247     0.8297     0.8348
8          0.8399     0.8443     0.8487     0.8532     0.8576
8          0.8598     0.8620     0.8642     0.8665     0.8685
8          0.8706     0.8726     0.8747     0.8766     0.8785
8          0.8804     0.8823     0.8840     0.8858     0.8875
```

```
8          0.8892     0.8908     0.8924     0.8940     0.8956
8          0.8972     0.8987     0.9003     0.9019     0.9035
8          0.9051     0.9066     0.9082     0.9098     0.9114
8          0.9130     0.9146     0.9160     0.9174     0.9188
8          0.9203     0.9217     0.9231     0.9245     0.9259
8          0.9274     0.9288     0.9302     0.9316     0.9329
8          0.9342     0.9354     0.9367     0.9380     0.9392
8          0.9405     0.9418     0.9430     0.9443     0.9456
8          0.9468     0.9481     0.9494     0.9506     0.9519
8          0.9530     0.9541     0.9552     0.9563     0.9574
8          0.9585     0.9597     0.9608     0.9619     0.9630
8          0.9641     0.9652     0.9661     0.9671     0.9680
8          0.9690     0.9699     0.9709     0.9718     0.9728
8          0.9736     0.9744     0.9752     0.9759     0.9767
8          0.9775     0.9783     0.9791     0.9797     0.9804
8          0.9810     0.9816     0.9823     0.9829     0.9835
8          0.9842     0.9847     0.9851     0.9856     0.9861
8          0.9866     0.9870     0.9875     0.9880     0.9884
8          0.9889     0.9894     0.9899     0.9902     0.9905
8          0.9908     0.9911     0.9915     0.9918     0.9921
8          0.9924     0.9927     0.9930     0.9934     0.9937
8          0.9940     0.9943     0.9946     0.9949     0.9953
8          0.9956     0.9959     0.9962     0.9965     0.9968
8          0.9972     0.9975     0.9978     0.9981     0.9984
8          0.9987     0.9989     0.9991     0.9992     0.9994
8          0.9995     0.9997     0.9998     1.0000     1.0000
9 ENDTBL
5 RAINFL 8     1      2.4                                          10-DAY
8          .0000      .0024      .0048      .0073      .0097
8          .0121      .0148      .0174      .0201      .0228
8          .0254      .0284      .0314      .0344      .0374
8          .0404      .0437      .0471      .0505      .0539
8          .0572      .0612      .0651      .0690      .0729
8          .0768      .0815      .0862      .0909      .0955
8          .1002      .1061      .1120      .1179      .1238
8          .1297      .1377      .1458      .1538      .1618
8          .1699      .1832      .1966      .2099      .2232
8          .2366      .2548      .2778      .3093      .3614
8          1.092      1.174      1.213      1.240      1.260
8          1.276      1.286      1.296      1.306      1.316
8          1.326      1.333      1.340      1.347      1.354
8          1.360      1.365      1.371      1.376      1.381
8          1.386      1.391      1.395      1.399      1.403
8          1.408      1.411      1.415      1.418      1.422
8          1.426      1.429      1.432      1.435      1.438
8          1.442      1.444      1.447      1.450      1.453
8          1.456      1.458      1.461      1.463      1.466
8          1.468      1.471      1.473      1.475      1.477
8          1.48       1.48       1.48       1.48       1.48
9 ENDTBL
4 DIMHYD              .0556                                         WT3
8          0.0        .03        .10        .19        .31
8          .47        .66        .82        .93        .99
8          1.0        .99        .93        .82        .66
8          .47        .31        .03        .00        .00
9 ENDTBL
```

```
 2 XSECTN   005        1.0        8.77                          BOSSCS#5
 8                     0.         0.0        0.0
 8                     0.35       5.         5.56
 8                     1.03       50.        30.95
 8                     1.39       100.       52.16
 8                     1.94       200.       88.72
 8                     2.63       400.       148.61
 8                     3.51       800.       260.63
 8                     4.62       1600.      459.66
 8                     6.04       3200.      929.36
 8                     7.38       6400.      1811.51
 8                     8.77       12800.     3374.20
 8                     10.17      25600.     6398.87
 8                     11.89      51200.     10982.51
 9 ENDTBL
 2 XSECTN   010        1.0        8.94                          BOSSCS#4
 8                     0.         0.0        0.0
 8                     0.91       5.         4.95
 8                     2.03       50.        24.80
 8                     2.63       100.       41.32
 8                     3.34       200.       74.14
 8                     4.15       400.       130.28
 8                     5.23       800.       223.37
 8                     6.41       1600.      447.51
 8                     7.65       3200.      898.64
 8                     8.94       6400.      1690.88
 8                     10.29      12800.     3331.95
 8                     11.64      25600.     6185.81
 8                     13.14      51200.     10661.04
 9 ENDTBL
 2 XSECTN   020        1.0        7.3                           REACHC
 8                     0.         0.0        0.0
 8                     1.01       100.       57.78
 8                     1.49       200.       86.81
 8                     1.88       300.       110.25
 8                     2.49       500.       149.47
 8                     3.68       1000.      226.31
 8                     5.40       2000.      346.26
 8                     7.85       4000.      533.39
 8                     9.64       6000.      688.07
 8                     11.16      8000.      838.10
 8                     12.46      10000.     985.31
 8                     13.61      12000.     1122.03
 8                     14.56      14000.     1236.94
 8                     15.43      16000.     1345.18
 8                     16.31      18000.     1456.68
 9 ENDTBL
 2 XSECTN   025        1.0        7.3                           REACHB
 8                     0.         0.0        0.0
 8                     0.63       100.       80.89
 8                     0.93       200.       120.32
 8                     1.17       300.       151.77
 8                     1.56       500.       203.28
 8                     2.30       1000.      302.00
 8                     3.38       2000.      449.24
 8                     4.97       4000.      673.73
```

```
8                       6.23        6000.       855.96
8                       7.31        8000.       1016.35
8                       8.24        10000.      1158.51
8                       9.09        12000.      1293.31
8                       9.90        14000.      1425.57
8                       10.64       16000.      1549.17
8                       11.36       18000.      1673.11
9 ENDTBL
2 XSECTN    030         1.0         9.45                                BOSSCS#6
8                       0.          0.0         0.0
8                       0.77        5.          4.67
8                       1.54        50.         32.06
8                       1.78        100.        56.64
8                       2.10        200.        100.59
8                       2.50        400.        179.97
8                       3.01        800.        320.25
8                       3.63        1600.       589.66
8                       4.35        3200.       1110.72
8                       5.21        6400.       2084.48
8                       6.03        12800.      4119.83
8                       6.99        25600.      6856.75
8                       8.28        51200.      11085.87
9 ENDTBL
2 XSECTN    045         1.0         4.87                                REACHA
8                       0.          0.0         0.0
8                       0.60        100.        85.69
8                       0.90        200.        127.94
8                       1.13        300.        161.93
8                       1.52        500.        217.27
8                       2.25        1000.       324.03
8                       3.31        2000.       483.02
8                       4.87        4000.       722.17
8                       6.09        6000.       914.99
8                       7.15        8000.       1084.61
8                       8.05        10000.      1234.17
8                       8.87        12000.      1373.80
8                       9.64        14000.      1507.84
8                       10.34       16000.      1633.45
8                       11.00       18000.      1753.12
9 ENDTBL
2 XSECTN    060         1.0         4.7                                 2CP6CP7
8                       0.          0.0         0.0
8                       2.36        100.        45.12
8                       2.88        200.        83.75
8                       3.18        300.        114.33
8                       3.64        500.        172.72
8                       4.42        1000.       289.04
8                       5.40        2000.       470.72
8                       6.87        4000.       782.74
8                       7.91        6000.       1020.12
8                       8.79        8000.       1231.25
8                       9.60        10000.      1435.05
8                       10.26       12000.      1618.34
8                       10.94       14000.      1812.58
8                       11.47       16000.      1983.46
8                       11.96       18000.      2150.12
```

```
**********************80-80 LIST OF INPUT DATA (CONTINUED)**********************

 9 ENDTBL
 2 XSECTN   067          1.0         8.77                                BOSSCS#5
 8                       0.          0.0         0.0
 8                       0.35        5.          5.56
 8                       1.03        50.         30.95
 8                       1.39        100.        52.16
 8                       1.94        200.        88.72
 8                       2.63        400.        148.61
 8                       3.51        800.        260.63
 8                       4.62        1600.       459.66
 8                       6.04        3200.       929.36
 8                       7.38        6400.       1811.51
 8                       8.77        12800.      3374.20
 8                       10.17       25600.      6398.87
 8                       11.89       51200.      10982.51
 9 ENDTBL
 3 STRUCT       01                                                          95/11/6
 8                       1178.0      0.00        0.0
 8                       1188.0      2.71        44.8
 8                       1193.0      7.29        129.0
 8                       1199.2      26.75       500.0
 8                       1202.0      38.68       845.55
 8                       1204.0      48.00       1176.28
 8                       1206.0      56.80       1575.25
 8                       1208.0      66.40       2044.97
 8                       1210.0      77.10       2593.40
 8                       1212.0      85.95       3218.00
 8                       1213.0      2685.00     3556.67
 8                       1214.0      8231.00     3916.02
 8                       1215.0      15545.0     4294.13
 8                       1216.0      24272.0     4692.68
 8                       1217.0      34212.0     5113.19
 8                       1218.0      45232.0     5556.01
 8                       1219.0      57233.0     6021.50
 8                       1220.0      70142.0     6509.75
 9 ENDTBL
 6 RUNOFF 1 001       1 2.46         87.2        0.85        1 1
 6 REACH  3 005   1   7 9100.                                1           BOSS#6
 6 REACH  3 010   7   2 9100.                                1           BOSS#4
 6 RUNOFF 1 002       3 2.38         79.9        0.73        1 1
 6 ADDHYD 4 012   2 3 1                                      1 1
 6 DIVERT 6 012   1 4 7 4100.        1.00        200.        1 1         OLIVE
 6 REACH  3 020   4   7 3332.                                1           REACH C
 6 REACH  3 025   7   5 1950.                                1           REACH B
 6 RUNOFF 1 003       6 3.94         87.2        0.88        1 1
 6 REACH  3 030   6   7 8865.                                1           BOSS#6
 6 REACH  3 005   7   1 8865.                                1           BOSS#5
 6 REACH  3 025   1   7 1950.                                1           REACH B
 6 RUNOFF 1 004       1 2.06         77.3        0.79        1 1
 6 ADDHYD 4 034   7 1 2                                      1 1
 6 ADDHYD 4 035   5 2 3                                      1 1
 6 DIVERT 6 035   3 4 7 11000.       1.00        199.        1 1         NORTHERN
 6 REACH  3 045   4   5 4200.                                1           REACH A
 6 RUNOFF 1 006       2 1.47         87.7        0.47        1 1
 6 REACH  3 060   2   3 7540.                                1           CP6CP7
 6 REACH  3 067   3   4 5140.                                1           BOSS#5
```

```
**********************80-80 LIST OF INPUT DATA (CONTINUED)*********************

 6 ADDHYD 4 064    5 4 3                                        1 1
 6 RUNOFF 1 005        6 4.78        78.8        0.78          1 1
 6 RUNOFF 1 007        7 3.48        81.7        1.01          1 1
 6 ADDHYD 4 075    6 7 1                                        1 1
 6 ADDHYD 4 076    1 3 2                                        1 1      1
 6 RESVOR 2     01 2   1 1201.42 -> ARC                         1 1      1
ENDATA
 7 LIST                  1.0                     1.
 7 INCREM 6              0.05
 7 COMPUT 7 001       01 0.         (12.7)       1.0           1 2  01  01
   ENDCMP 1
   ENDJOB 2

********************************END OF 80-80 LIST******************************
```

PRCP.

RUNOFF OPTION USED WITH RAINTABLE NO. 8, RUNOFF CURVE NO. = 100.

COMPUTED DIMHYD PEAK RATE FACTOR = 664.607

```
EXECUTIVE CONTROL  LIST          1.          0.          1.

          LISTING OF CURRENT DATA


                      COMPUTED TIME INCREMENT
DIMHYD                          .0556

                   .0000       .0300       .1000       .1900       .3100
                   .4700       .6600       .8200       .9300       .9900
                  1.0000       .9900       .9300       .8200       .6600
                   .4700       .3100       .0300       .0000       .0000
ENDTBL

   COMPUTED PEAK RATE FACTOR =  664.607
```

```
      TABLE NO.        TIME INCREMENT
RAINFL    1                .1000

                   .0000       .0030       .0060       .0090       .0130
                   .0160       .0200       .0250       .0300       .0350
                   .0390       .0460       .0520       .0580       .0650
                   .0710       .0800       .0900       .0990       .1090
                   .1180       .2830       .4490       .5670       .6220
                   .6690       .7010       .7320       .7560       .7800
                   .7950       .8090       .8240       .8380       .8520
                   .8660       .8760       .8850       .8940       .9040
                   .9130       .9200       .9260       .9320       .9390
                   .9450       .9500       .9540       .9590       .9640
                   .9690       .9720       .9760       .9800       .9840
                   .9880       .9910       .9930       .9950       .9980
                  1.0000      1.0000      1.0000      1.0000      1.0000
ENDTBL
```

6-hr Local output File

STANDARD CONTROL INSTRUCTIONS

```
RUNOFF      1       1      2.4600     87.2000      .85001 1 0 0 0 1
REACH       5   1   7   9100.0000       .0000      .00001 0 0 0 0 1
REACH      10   7   2   9100.0000       .0000      .00001 0 0 0 0 1
RUNOFF      2       3      2.3800     79.9000      .73001 1 0 0 0 1
ADDHYD     12   2 3 1                                   1 1 0 0 0 1
DIVERT     12   1 4 7   4100.0000      1.0000   200.00001 1 0 0 0 1
REACH      20   4   7   3332.0000       .0000      .00001 0 0 0 0 1
REACH      25   7   5   1950.0000       .0000      .00001 0 0 0 0 1
RUNOFF      3       6      3.9400     87.2000      .88001 1 0 0 0 1
REACH      30   6   7   8865.0000       .0000      .00001 0 0 0 0 1
REACH       5   7   1   8865.0000       .0000      .00001 0 0 0 0 1
REACH      25   1   7   1950.0000       .0000      .00001 0 0 0 0 1
RUNOFF      4       1      2.0600     77.3000      .79001 1 0 0 0 1
ADDHYD     34   7 1 2                                   1 1 0 0 0 1
ADDHYD     35   5 2 3                                   1 1 0 0 0 1
DIVERT     35   3 4 7  11000.0000      1.0000   199.00001 1 0 0 0 1
REACH      45   4   5   4200.0000       .0000      .00001 0 0 0 0 1
RUNOFF      6       2      1.4700     87.7000      .47001 1 0 0 0 1
REACH      60   2   3   7540.0000       .0000      .00001 0 0 0 0 1
REACH      67   3   4   5140.0000       .0000      .00001 0 0 0 0 1
ADDHYD     64   5 4 3                                   1 1 0 0 0 1
RUNOFF      5       6      4.7800     78.8000      .78001 1 0 0 0 1
RUNOFF      7       7      3.4800     81.7000     1.01001 1 0 0 0 1
ADDHYD     75   6 7 1                                   1 1 0 0 0 1
ADDHYD     76   1 3 2                                   1 1 0 0 1 1
RESVOR        1 2   1   1201.4200                       1 1 0 0 1 1
ENDATA
```

END OF LISTING

EXECUTIVE CONTROL INCREM MAIN TIME INCREMENT = .050 HOURS

EXECUTIVE CONTROL COMPUT FROM XSECTION 1 TO STRUCTURE 1
STARTING TIME = .00 RAIN DEPTH = 12.70 RAIN DURATION = 1.00
ANT. RUNOFF COND. = 2 MAIN TIME INCREMENT = .050 HOURS
ALTERNATE NO. = 1 STORM NO. = 1 RAIN TABLE NO. = 1

OPERATION RUNOFF XSECTION 1

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
2.71	17873.0	(RUNOFF)

HYDROGRAPH POINTS FOR ALTERNATE = 1, STORM = 1
MAIN TIME INCREMENT = .050 hr, DRAINAGE AREA = 2.46 SQ.MI.

HRS								
.75 CFS	.38	1.15	2.73	5.54	9.95	16.43	25.70	38.37
1.15 CFS	55	75	99	128	160	196	235	276
1.55 CFS	318	362	409	458	510	566	625	688
1.95 CFS	753	830	978	1279	1794	2595	3743	5287
2.35 CFS	7187	9294	11447	13473	15219	16590	17491	17866
2.75 CFS	17674	16919	15643	13899	11960	10148	8586	7352
3.15 CFS	6416	5736	5217	4765	4374	4049	3771	3525
3.55 CFS	3312	3138	2995	2873	2772	2690	2613	2530
3.95 CFS	2439	2343	2247	2154	2065	1978	1896	1819
4.35 CFS	1749	1687	1631	1574	1516	1458	1400	1342
4.75 CFS	1287	1239	1196	1160	1128	1098	1069	1038
5.15 CFS	1007	976	947	922	901	882	867	852
5.55 CFS	837	819	800	781	762	742	721	700
5.95 CFS	676	646	612	576	539	500	458	413
6.35 CFS	367	322	278	234	191	147	106	68
6.75 CFS	37.92	17.14	5.12	.74	.04			

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
11.09 WATERSHED INCHES; 17613 CFS-HRS; 1455.5 ACRE-FEET.

OPERATION REACH XSECTION 5

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
3.32	10200.1	8.21

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
11.09 WATERSHED INCHES; 17613 CFS-HRS; 1455.5 ACRE-FEET.

OPERATION REACH XSECTION 10

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
3.96	7060.0	9.08

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
11.09 WATERSHED INCHES; 17613 CFS-HRS; 1455.5 ACRE-FEET.

OPERATION RUNOFF XSECTION 2

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
2.64	16995.9	(RUNOFF)

HYDROGRAPH POINTS FOR ALTERNATE = 1, STORM = 1
MAIN TIME INCREMENT = .050 hr, DRAINAGE AREA = 2.38 SQ.MI.

HRS								
1.05 CFS	.16	.69	1.94	4.40	8.67	15.34	25.03	38.19
1.45 CFS	55	75	99	128	161	198	240	286
1.85 CFS	336	390	445	523	689	1033	1648	2632
2.25 CFS	4059	5924	8106	10407	12610	14524	15972	16813
2.65 CFS	16970	16435	15174	13412	11508	9715	8223	7053
3.05 CFS	6203	5583	5079	4636	4253	3923	3631	3372
3.45 CFS	3155	2982	2842	2733	2654	2597	2536	2461
3.85 CFS	2371	2271	2170	2073	1981	1896	1820	1752
4.25 CFS	1694	1642	1588	1530	1468	1405	1343	1286
4.65 CFS	1236	1194	1158	1126	1094	1061	1028	995
5.05 CFS	962	932	906	886	869	852	836	819
5.45 CFS	801	781	762	746	733	721	708	691
5.85 CFS	668	636	601	565	530	495	459	422
6.25 CFS	383	341	298	252	204	155	108	65
6.65 CFS	33.37	12.75	2.82	.21				

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
10.12 WATERSHED INCHES; 15550 CFS-HRS; 1285.0 ACRE-FEET.

OPERATION ADDHYD XSECTION 12

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
2.64	17248.4	(NULL)
3.81	9386.1	(NULL)

HYDROGRAPH POINTS FOR ALTERNATE = 1, STORM = 1
MAIN TIME INCREMENT = .050 hr, DRAINAGE AREA = 4.84 SQ.MI.

HRS								
1.05 CFS	.16	.69	1.94	4.40	8.68	15.37	25.12	38.38
1.45 CFS	55	76	101	130	164	203	246	295
1.85 CFS	349	407	468	552	726	1078	1702	2698
2.25 CFS	4138	6017	8214	10533	12754	14690	16164	17035
2.65 CFS	17234	16756	15574	13921	12165	10563	9314	8436
3.05 CFS	7930	7699	7624	7638	7731	7880	8056	8240
3.45 CFS	8433	8628	8811	8978	9131	9262	9350	9385
3.85 CFS	9371	9316	9230	9123	8998	8860	8713	8560
4.25 CFS	8404	8243	8072	7889	7696	7497	7295	7095
4.65 CFS	6900	6711	6528	6348	6169	5990	5812	5635

5.05 CFS	5461	5291	5129	4974	4825	4679	4537	4397
5.45 CFS	4259	4123	3991	3865	3745	3630	3517	3404
5.85 CFS	3287	3165	3043	2923	2807	2695	2585	2475
6.25 CFS	2367	2259	2152	2045	1937	1831	1727	1631
6.65 CFS	1547	1475	1416	1364	1316	1269	1223	1177
7.05 CFS	1132	1087	1043	999	956	913	871	830
7.45 CFS	790	751	714	678	642	609	576	545
7.85 CFS	516	487	460	434	409	386	363	342
8.25 CFS	322	303	285	268	252	236	222	208
8.65 CFS	195	183	172	161	151	141	132	124
9.05 CFS	116	109	102	95	89	83	78	73
9.45 CFS	67.78	63.31	59.13	55.22	51.55	48.12	44.91	41.90
9.85 CFS	39.10	36.47	34.01	31.72	29.57	27.57	25.70	23.95
10.25 CFS	22.32	20.79	19.37	18.04	16.81	15.65	14.57	13.57
10.65 CFS	12.63	11.76	10.94	10.18	9.47	8.81	8.20	7.63
11.05 CFS	7.10	6.60	6.14	5.71	5.30	4.93	4.58	4.26
11.45 CFS	3.96	3.68	3.42	3.18	2.95	2.74	2.55	2.37
11.85 CFS	2.20	2.04	1.89	1.76	1.63	1.51	1.40	1.30
12.25 CFS	1.21	1.12	1.04	.97	.90	.83	.77	.71
12.65 CFS	.66	.61	.57	.53	.49			

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
10.62 WATERSHED INCHES; 33163 CFS-HRS; 2740.6 ACRE-FEET.

OPERATION DIVERT XSECTION 12
OUTPUT #1 HYDROGRAPH

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
2.25	4100.0 *	(DIVERT)

* FIRST POINT OF FLAT PEAK

HYDROGRAPH POINTS FOR ALTERNATE = 1, STORM = 1
MAIN TIME INCREMENT = .050 hr, DRAINAGE AREA = 4.84 SQ.MI.

HRS								
1.05 CFS	.16	.69	1.94	4.40	8.68	15.37	25.12	38.38
1.45 CFS	55	76	101	130	164	203	246	295
1.85 CFS	349	407	468	552	726	1078	1702	2698
2.25 CFS	4100	4100	4100	4100	4100	4100	4100	4100
2.65 CFS	4100	4100	4100	4100	4100	4100	4100	4100
3.05 CFS	4100	4100	4100	4100	4100	4100	4100	4100
3.45 CFS	4100	4100	4100	4100	4100	4100	4100	4100
3.85 CFS	4100	4100	4100	4100	4100	4100	4100	4100
4.25 CFS	4100	4100	4100	4100	4100	4100	4100	4100
4.65 CFS	4100	4100	4100	4100	4100	4100	4100	4100
5.05 CFS	4100	4100	4100	4100	4100	4100	4100	4100
5.45 CFS	4100	4100	3991	3865	3745	3630	3517	3404
5.85 CFS	3287	3165	3043	2923	2807	2695	2585	2475
6.25 CFS	2367	2259	2152	2045	1937	1831	1727	1631
6.65 CFS	1547	1475	1416	1364	1316	1269	1223	1177
7.05 CFS	1132	1087	1043	999	956	913	871	830

7.45 CFS	790	751	714	678	642	609	576	545
7.85 CFS	516	487	460	434	409	386	363	342
8.25 CFS	322	303	285	268	252	236	222	208
8.65 CFS	195	183	172	161	151	141	132	124
9.05 CFS	116	109	102	95	89	83	78	73
9.45 CFS	67.78	63.31	59.13	55.22	51.55	48.12	44.91	41.90
9.85 CFS	39.10	36.47	34.01	31.72	29.57	27.57	25.70	23.95
10.25 CFS	22.32	20.79	19.37	18.04	16.81	15.65	14.57	13.57
10.65 CFS	12.63	11.76	10.94	10.18	9.47	8.81	8.20	7.63
11.05 CFS	7.10	6.60	6.14	5.71	5.30	4.93	4.58	4.26
11.45 CFS	3.96	3.68	3.42	3.18	2.95	2.74	2.55	2.37
11.85 CFS	2.20	2.04	1.89	1.76	1.63	1.51	1.40	1.30
12.25 CFS	1.21	1.12	1.04	.97	.90	.83	.77	.71
12.65 CFS	.66	.61	.57	.53	.49			

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
5.98 WATERSHED INCHES; 18666 CFS-HRS; 1542.6 ACRE-FEET.

OUTPUT #2 DIVERTED HYDROGRAPH (XSECTION 200)

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
2.64	13148.4	(DIVERT)
3.81	5286.1	(DIVERT)

HYDROGRAPH POINTS FOR ALTERNATE = 1, STORM = 1
MAIN TIME INCREMENT = .050 hr, DRAINAGE AREA = .00 SQ.MI.

HRS								
2.20 CFS	0	38	1917	4114	6433	8654	10590	12064
2.60 CFS	12935	13134	12656	11474	9821	8065	6463	5214
3.00 CFS	4336	3830	3599	3524	3538	3631	3780	3956
3.40 CFS	4140	4333	4528	4711	4878	5031	5162	5250
3.80 CFS	5285	5271	5216	5130	5023	4898	4760	4613
4.20 CFS	4460	4304	4143	3972	3789	3596	3397	3195
4.60 CFS	2995	2800	2611	2428	2248	2069	1890	1712
5.00 CFS	1535	1361	1191	1029	874	725	579	437
5.40 CFS	297	159	23	0				

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
14497 CFS-HRS; 1198.0 ACRE-FEET.

OPERATION REACH XSECTION 20

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
3.35	4100.0 *	7.94

* FIRST POINT OF FLAT PEAK

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
5.98 WATERSHED INCHES; 18674 CFS-HRS; 1543.2 ACRE-FEET.

OPERATION REACH XSECTION 25

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
3.40	4100.0 *	5.03

* FIRST POINT OF FLAT PEAK

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
5.98 WATERSHED INCHES; 18671 CFS-HRS; 1543.0 ACRE-FEET.

OPERATION RUNOFF XSECTION 3

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
2.73	28008.6	(RUNOFF)

HYDROGRAPH POINTS FOR ALTERNATE = 1, STORM = 1
MAIN TIME INCREMENT = .050 hr, DRAINAGE AREA = 3.94 SQ.MI.

HRS								
.70 CFS	.11	.53	1.63	3.91	7.97	14.38	23.74	37.26
1.10 CFS	56	80	110	147	190	239	295	355
1.50 CFS	419	485	555	629	707	789	876	970
1.90 CFS	1070	1172	1291	1520	1978	2754	3947	5645
2.30 CFS	7914	10709	13856	17125	20269	23051	25326	26959
2.70 CFS	27856	27941	27181	25638	23334	20446	17522	14870
3.10 CFS	12659	10940	9640	8690	7921	7256	6690	6220
3.50 CFS	5813	5453	5146	4895	4684	4501	4348	4218
3.90 CFS	4089	3952	3806	3656	3508	3364	3224	3089
4.30 CFS	2960	2840	2733	2639	2550	2461	2371	2280
4.70 CFS	2188	2099	2016	1942	1879	1824	1775	1729
5.10 CFS	1682	1634	1585	1537	1492	1455	1423	1396
5.50 CFS	1372	1350	1324	1294	1262	1230	1197	1163
5.90 CFS	1128	1091	1048	998	943	885	823	756
6.30 CFS	686	612	539	468	398	331	264	199
6.70 CFS	138	85	45	18	5	0		

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
11.10 WATERSHED INCHES; 28213 CFS-HRS; 2331.5 ACRE-FEET.

OPERATION REACH XSECTION 30

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
3.40	16237.6	6.29

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
11.10 WATERSHED INCHES; 28213 CFS-HRS; 2331.5 ACRE-FEET.

OPERATION REACH XSECTION 5

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
4.00	11557.4	8.50

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
11.10 WATERSHED INCHES; 28213 CFS-HRS; 2331.5 ACRE-FEET.

OPERATION REACH XSECTION 25

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
4.06	11552.0	8.90

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
11.10 WATERSHED INCHES; 28213 CFS-HRS; 2331.5 ACRE-FEET.

OPERATION RUNOFF XSECTION 4

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
2.68	13580.0	(RUNOFF)

HYDROGRAPH POINTS FOR ALTERNATE = 1, STORM = 1
MAIN TIME INCREMENT = .050 hr, DRAINAGE AREA = 2.06 SQ.MI.

HRS								
1.20 CFS	.32	.94	2.20	4.53	8.43	14.25	22.34	33.25
1.60 CFS	48	65	87	114	145	180	219	260
2.00 CFS	305	403	622	1013	1651	2596	3893	5471
2.40 CFS	7211	8963	10567	11924	12911	13469	13552	13136
2.80 CFS	12289	10903	9457	8031	6802	5872	5130	4648
3.20 CFS	4233	3871	3547	3287	3055	2849	2670	2532
3.60 CFS	2417	2323	2247	2197	2140	2073	1998	1916
4.00 CFS	1834	1756	1682	1611	1545	1485	1430	1385
4.40 CFS	1339	1292	1243	1192	1143	1095	1051	1014
4.80 CFS	980	952	925	899	874	848	822	796
5.20 CFS	773	754	738	723	709	697	684	668
5.60 CFS	652	638	624	611	596	581	561	535
6.00 CFS	506	477	447	416	384	349	313	276
6.40 CFS	239	203	165	126	89	55	29	12
6.80 CFS	2.44	.16						

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
9.75 WATERSHED INCHES; 12960 CFS-HRS; 1071.0 ACRE-FEET.

OPERATION ADDHYD XSECTION 34

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
2.69	13913.0	(NULL)
3.98	13359.3	(NULL)

HYDROGRAPH POINTS FOR ALTERNATE = 1, STORM = 1
MAIN TIME INCREMENT = .050 hr, DRAINAGE AREA = 6.00 SQ.MI.

HRS								
1.20 CFS	.32	.94	2.20	4.54	8.47	14.37	22.62	33.79

1.60 CFS	49	67	90	118	151	190	233	279
2.00 CFS	331	437	665	1068	1719	2680	3994	5593
2.40 CFS	7355	9131	10763	12150	13171	13769	13900	13547
2.80 CFS	12787	11520	10239	9034	8094	7531	7235	7282
3.20 CFS	7472	7784	8186	8690	9239	9807	10376	10937
3.60 CFS	11459	11929	12340	12699	12977	13175	13298	13353
4.00 CFS	13354	13307	13219	13096	12942	12763	12562	12350
4.40 CFS	12118	11870	11608	11334	11053	10768	10482	10199
4.80 CFS	9918	9642	9367	9094	8823	8555	8290	8028
5.20 CFS	7773	7527	7288	7056	6829	6609	6394	6181
5.60 CFS	5974	5774	5582	5394	5212	5034	4857	4679
6.00 CFS	4504	4334	4169	4009	3851	3697	3545	3398
6.40 CFS	3255	3116	2979	2846	2718	2596	2485	2385
6.80 CFS	2295	2215	2138	2062	1988	1916	1844	1773
7.20 CFS	1702	1633	1564	1495	1428	1362	1297	1234
7.60 CFS	1172	1112	1054	998	945	893	844	796
8.00 CFS	751	708	667	628	591	555	522	490
8.40 CFS	460	432	405	380	356	334	312	292
8.80 CFS	274	256	239	224	209	195	182	170
9.20 CFS	159	148	139	129	120	112	105	98
9.60 CFS	90.94	84.72	78.91	73.48	68.41	63.69	59.27	55.16
10.00 CFS	51.32	47.74	44.40	41.29	38.39	35.69	33.17	30.83
10.40 CFS	28.65	26.62	24.73	22.97	21.34	19.81	18.40	17.08
10.80 CFS	15.86	14.72	13.66	12.68	11.76	10.91	10.12	9.39
11.20 CFS	8.71	8.08	7.49	6.95	6.44	5.97	5.53	5.13
11.60 CFS	4.75	4.40	4.08	3.78	3.50	3.24	3.00	2.78
12.00 CFS	2.58	2.38	2.21	2.04	1.89	1.75	1.62	1.50
12.40 CFS	1.39	1.28	1.19	1.10	1.02	.94	.87	.80
12.80 CFS	.74	.69	.63	.58	.54	.50		

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
10.63 WATERSHED INCHES; 41173 CFS-HRS; 3402.6 ACRE-FEET.

OPERATION ADDHYD XSECTION 35

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
2.69	17992.4	(NULL)
3.98	17459.3	(NULL)

HYDROGRAPH POINTS FOR ALTERNATE = 1, STORM = 1
MAIN TIME INCREMENT = .050 hr, DRAINAGE AREA = 10.84 SQ.MI.

HRS								
1.15 CFS	.13	.58	1.78	4.30	8.98	16.87	28.87	45.91
1.55 CFS	69	99	137	183	238	302	377	461
1.95 CFS	554	656	817	1111	1616	2456	3763	5660
2.35 CFS	8149	10567	12747	14606	16117	17202	17834	17983
2.75 CFS	17639	16883	15618	14338	13133	12193	11631	11335
3.15 CFS	11382	11572	11884	12286	12790	13339	13907	14476
3.55 CFS	15037	15559	16029	16440	16799	17077	17275	17398
3.95 CFS	17453	17454	17407	17319	17196	17042	16863	16662
4.35 CFS	16450	16218	15970	15708	15434	15153	14868	14582

4.75 CFS	14299	14018	13742	13467	13194	12923	12655	12390
5.15 CFS	12128	11873	11627	11388	11156	10929	10709	10494
5.55 CFS	10281	10074	9839	9576	9296	9008	8722	8434
5.95 CFS	8142	7851	7562	7278	6998	6725	6456	6193
6.35 CFS	5935	5683	5435	5191	4950	4714	4487	4272
6.75 CFS	4077	3900	3743	3600	3466	3338	3215	3094
7.15 CFS	2976	2860	2745	2631	2519	2408	2299	2192
7.55 CFS	2087	1985	1886	1790	1697	1608	1522	1439
7.95 CFS	1360	1285	1212	1143	1078	1015	956	899
8.35 CFS	846	795	747	701	658	618	579	543
8.75 CFS	509	477	447	418	392	366	343	321
9.15 CFS	300	280	262	245	228	213	199	186
9.55 CFS	173	162	151	141	131	122	114	106
9.95 CFS	98.98	92.21	85.89	79.99	74.48	69.34	64.54	60.07
10.35 CFS	55.90	52.01	48.39	45.01	41.87	38.94	36.21	33.66
10.75 CFS	31.29	29.09	27.04	25.13	23.35	21.69	20.15	18.72
11.15 CFS	17.39	16.15	15.00	13.92	12.93	12.00	11.14	10.34
11.55 CFS	9.59	8.90	8.26	7.66	7.11	6.60	6.12	5.68
11.95 CFS	5.26	4.88	4.52	4.19	3.89	3.60	3.34	3.09
12.35 CFS	2.87	2.66	2.46	2.28	2.11	1.96	1.81	1.68
12.75 CFS	1.55	1.44	1.33	1.23	1.14	1.05	.97	.90
13.15 CFS	.83	.77	.71	.65	.61	.56	.51	.47

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
8.55 WATERSHED INCHES; 59845 CFS-HRS; 4945.6 ACRE-FEET.

OPERATION DIVERT XSECTION 35
OUTPUT #1 HYDROGRAPH

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET) (DIVERT)
2.45	11000.0 *	

* FIRST POINT OF FLAT PEAK

HYDROGRAPH POINTS FOR ALTERNATE = 1, STORM = 1
MAIN TIME INCREMENT = .050 hr, DRAINAGE AREA = 10.84 SQ.MI.

HRS								
1.15 CFS	.13	.58	1.78	4.30	8.98	16.87	28.87	45.91
1.55 CFS	69	99	137	183	238	302	377	461
1.95 CFS	554	656	817	1111	1616	2456	3763	5660
2.35 CFS	8149	10567	11000	11000	11000	11000	11000	11000
2.75 CFS	11000	11000	11000	11000	11000	11000	11000	11000
3.15 CFS	11000	11000	11000	11000	11000	11000	11000	11000
3.55 CFS	11000	11000	11000	11000	11000	11000	11000	11000
3.95 CFS	11000	11000	11000	11000	11000	11000	11000	11000
4.35 CFS	11000	11000	11000	11000	11000	11000	11000	11000
4.75 CFS	11000	11000	11000	11000	11000	11000	11000	11000
5.15 CFS	11000	11000	11000	11000	11000	10929	10709	10494
5.55 CFS	10281	10074	9839	9576	9296	9008	8722	8434
5.95 CFS	8142	7851	7562	7278	6998	6725	6456	6193
6.35 CFS	5935	5683	5435	5191	4950	4714	4487	4272

6.75 CFS	4077	3900	3743	3600	3466	3338	3215	3094
7.15 CFS	2976	2860	2745	2631	2519	2408	2299	2192
7.55 CFS	2087	1985	1886	1790	1697	1608	1522	1439
7.95 CFS	1360	1285	1212	1143	1078	1015	956	899
8.35 CFS	846	795	747	701	658	618	579	543
8.75 CFS	509	477	447	418	392	366	343	321
9.15 CFS	300	280	262	245	228	213	199	186
9.55 CFS	173	162	151	141	131	122	114	106
9.95 CFS	98.98	92.21	85.89	79.99	74.48	69.34	64.54	60.07
10.35 CFS	55.90	52.01	48.39	45.01	41.87	38.94	36.21	33.66
10.75 CFS	31.29	29.09	27.04	25.13	23.35	21.69	20.15	18.72
11.15 CFS	17.39	16.15	15.00	13.92	12.93	12.00	11.14	10.34
11.55 CFS	9.59	8.90	8.26	7.66	7.11	6.60	6.12	5.68
11.95 CFS	5.26	4.88	4.52	4.19	3.89	3.60	3.34	3.09
12.35 CFS	2.87	2.66	2.46	2.28	2.11	1.96	1.81	1.68
12.75 CFS	1.55	1.44	1.33	1.23	1.14	1.05	.97	.90
13.15 CFS	.83	.77	.71	.65	.61	.56	.51	.47

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
6.98 WATERSHED INCHES; 48844 CFS-HRS; 4036.5 ACRE-FEET.

OUTPUT #2 DIVERTED HYDROGRAPH (XSECTION 199)

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
2.69	6992.4	(DIVERT)
3.98	6459.3	(DIVERT)

HYDROGRAPH POINTS FOR ALTERNATE = 1, STORM = 1
MAIN TIME INCREMENT = .050 hr, DRAINAGE AREA = .00 SQ.MI.

HRS								
2.40 CFS	0	1747	3606	5117	6202	6834	6983	6639
2.80 CFS	5883	4618	3338	2133	1193	631	335	382
3.20 CFS	572	884	1286	1790	2339	2907	3476	4037
3.60 CFS	4559	5029	5440	5799	6077	6275	6398	6453
4.00 CFS	6454	6407	6319	6196	6042	5863	5662	5450
4.40 CFS	5218	4970	4708	4434	4153	3868	3582	3299
4.80 CFS	3018	2742	2467	2194	1923	1655	1390	1128
5.20 CFS	873	627	388	156	0			

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
11001 CFS-HRS; 909.1 ACRE-FEET.

OPERATION REACH XSECTION 45

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
3.60	11000.0 *	8.46

* FIRST POINT OF FLAT PEAK

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
6.98 WATERSHED INCHES; 48837 CFS-HRS; 4035.9 ACRE-FEET.

OPERATION RUNOFF XSECTION 6

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
2.44	14477.1	(RUNOFF)
5.09	565.7	(RUNOFF)
5.57	467.7	(RUNOFF)

HYDROGRAPH POINTS FOR ALTERNATE = 1, STORM = 1
MAIN TIME INCREMENT = .050 hr, DRAINAGE AREA = 1.47 SQ.MI.

HRS	.49	1.79	4.72	10.27	19.17	31.25	46.11	63.69
.70 CFS	84	107	133	161	189	217	246	272
1.10 CFS	296	320	348	382	424	473	525	578
1.50 CFS	629	673	751	1016	1675	2951	4958	7479
1.90 CFS	10139	12487	14048	14453	13548	11805	9813	7930
2.30 CFS	6413	5301	4595	4109	3719	3397	3144	2908
2.70 CFS	2660	2416	2203	2019	1869	1766	1716	1699
3.10 CFS	1689	1673	1643	1594	1528	1446	1355	1265
3.50 CFS	1188	1135	1109	1100	1091	1070	1033	980
3.90 CFS	915	851	800	767	752	748	744	734
4.30 CFS	711	676	634	596	571	559	559	563
4.70 CFS	565	559	539	512	488	468	456	454
5.10 CFS	460	467	466	456	437	410	376	342
5.50 CFS	311	289	278	271	262	243	211	166
5.90 CFS	116	68	32	10	1	0		
6.30 CFS								

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
11.12 WATERSHED INCHES; 10551 CFS-HRS; 871.9 ACRE-FEET.

OPERATION REACH XSECTION 60

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
2.65	11037.3	9.94

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
11.12 WATERSHED INCHES; 10551 CFS-HRS; 871.9 ACRE-FEET.

OPERATION REACH XSECTION 67

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
2.98	7397.2	7.60

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
11.12 WATERSHED INCHES; 10551 CFS-HRS; 871.9 ACRE-FEET.

OPERATION ADDHYD XSECTION 64

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
2.98	18393.8	(NULL)

HYDROGRAPH POINTS FOR ALTERNATE = 1, STORM = 1
MAIN TIME INCREMENT = .050 hr, DRAINAGE AREA = 12.31 SQ.MI.

HRS								
1.00 CFS	.28	.72	1.60	3.11	5.54	9.19	14.51	22.08
1.40 CFS	33	47	67	92	124	163	210	265
1.80 CFS	330	405	491	588	696	816	970	1207
2.20 CFS	1588	2212	3205	4714	6841	9347	11203	12592
2.60 CFS	13786	14881	15877	16738	17427	17925	18235	18378
3.00 CFS	18383	18283	18103	17867	17594	17296	16984	16665
3.40 CFS	16344	16027	15718	15420	15137	14873	14630	14407
3.80 CFS	14203	14018	13849	13692	13546	13409	13280	13159
4.20 CFS	13045	12940	12844	12756	12674	12599	12527	12459
4.60 CFS	12392	12329	12268	12212	12160	12112	12068	12026
5.00 CFS	11986	11947	11910	11874	11840	11809	11781	11755
5.40 CFS	11731	11675	11531	11344	11135	10918	10685	10430
5.80 CFS	10158	9872	9581	9285	8984	8680	8375	8071
6.20 CFS	7771	7475	7184	6898	6617	6340	6066	5795
6.60 CFS	5526	5260	5000	4750	4516	4299	4102	3922
7.00 CFS	3757	3603	3459	3320	3188	3059	2933	2810
7.40 CFS	2690	2571	2456	2342	2231	2123	2019	1917
7.80 CFS	1819	1724	1633	1545	1461	1380	1303	1230
8.20 CFS	1159	1093	1029	969	912	857	806	757
8.60 CFS	711	667	626	587	551	516	484	453
9.00 CFS	424	397	371	347	325	304	284	265
9.40 CFS	248	232	216	202	188	176	164	153
9.80 CFS	143	133	124	116	108	100	94	87
10.20 CFS	81.15	75.56	70.35	65.49	60.95	56.72	52.78	49.10
10.60 CFS	45.68	42.49	39.51	36.74	34.17	31.76	29.52	27.44
11.00 CFS	25.50	23.70	22.02	20.46	19.00	17.65	16.40	15.23
11.40 CFS	14.14	13.13	12.19	11.31	10.50	9.74	9.04	8.39
11.80 CFS	7.78	7.22	6.70	6.21	5.76	5.34	4.95	4.59
12.20 CFS	4.26	3.95	3.66	3.39	3.14	2.91	2.70	2.50
12.60 CFS	2.32	2.14	1.99	1.84	1.70	1.58	1.46	1.35
13.00 CFS	1.25	1.15	1.07	.99	.91	.84	.78	.72
13.40 CFS	.67	.61	.57	.52	.48			

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
7.48 WATERSHED INCHES; 59391 CFS-HRS; 4908.1 ACRE-FEET.

OPERATION RUNOFF XSECTION 5

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
2.67	32338.6	(RUNOFF)

HYDROGRAPH POINTS FOR ALTERNATE = 1, STORM = 1
MAIN TIME INCREMENT = .050 hr, DRAINAGE AREA = 4.78 SQ.MI.

HRS								
1.10 CFS	.35	1.23	3.30	7.30	14.19	25.19	41.59	63.91
1.50 CFS	93	129	173	226	289	361	444	535
1.90 CFS	634	737	869	1142	1708	2714	4325	6694
2.30 CFS	9866	13685	17849	21989	25760	28874	31081	32214
2.70 CFS	32167	30967	28567	25291	21793	18489	15718	13544
3.10 CFS	11939	10771	9814	8968	8240	7625	7085	6605
3.50 CFS	6203	5882	5620	5407	5246	5124	4988	4829
3.90 CFS	4648	4454	4262	4079	3905	3741	3591	3453
4.30 CFS	3329	3225	3117	3005	2887	2768	2653	2541
4.70 CFS	2441	2356	2280	2217	2154	2093	2032	1970
5.10 CFS	1909	1848	1797	1756	1718	1685	1653	1624
5.50 CFS	1591	1553	1517	1484	1454	1423	1390	1353
5.90 CFS	1303	1240	1173	1104	1034	961	886	805
6.30 CFS	722	637	550	463	372	282	195	118
6.70 CFS	60.08	22.99	4.65	.29				

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
9.96 WATERSHED INCHES; 30716 CFS-HRS; 2538.3 ACRE-FEET.

OPERATION RUNOFF XSECTION 7

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
2.83	21194.2	(RUNOFF)

HYDROGRAPH POINTS FOR ALTERNATE = 1, STORM = 1
MAIN TIME INCREMENT = .050 hr, DRAINAGE AREA = 3.48 SQ.MI.

HRS								
1.00 CFS	.19	.70	1.87	4.06	7.63	13.12	21.11	32.24
1.40 CFS	47	66	88	115	147	185	228	276
1.80 CFS	330	390	456	526	613	762	1034	1484
2.20 CFS	2161	3116	4397	6018	7955	10115	12368	14560
2.60 CFS	16553	18252	19605	20564	21097	21158	20717	19797
3.00 CFS	18426	16619	14575	12598	10822	9364	8214	7356
3.40 CFS	6708	6164	5698	5314	4987	4694	4434	4215
3.80 CFS	4027	3858	3706	3582	3469	3358	3243	3124
4.20 CFS	3003	2884	2765	2649	2537	2431	2335	2251
4.60 CFS	2177	2104	2032	1957	1882	1806	1734	1669
5.00 CFS	1613	1566	1525	1486	1449	1410	1370	1328
5.40 CFS	1288	1254	1227	1204	1184	1165	1144	1117
5.80 CFS	1087	1055	1022	988	954	920	884	843
6.20 CFS	795	743	686	625	562	497	435	375
6.60 CFS	320	267	216	168	123	81	47	23
7.00 CFS	7.37	1.46	.17					

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
10.35 WATERSHED INCHES; 23254 CFS-HRS; 1921.7 ACRE-FEET.

OPERATION ADDHYD XSECTION 75

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
2.72	51863.3	(NULL)

HYDROGRAPH POINTS FOR ALTERNATE = 1, STORM = 1
MAIN TIME INCREMENT = .050 hr, DRAINAGE AREA = 8.26 SQ.MI.

HRS								
1.00 CFS	.19	.78	2.22	5.28	10.93	20.42	35.29	57.43
1.40 CFS	89	130	181	244	320	411	517	638
1.80 CFS	774	925	1090	1263	1482	1904	2742	4198
2.20 CFS	6486	9810	14263	19702	25804	32104	38127	43435
2.60 CFS	47634	50466	51771	51531	49664	46449	42510	38287
3.00 CFS	34144	30163	26514	23368	20636	18333	16454	14981
3.40 CFS	13793	12769	11901	11196	10607	10101	9680	9339
3.80 CFS	9015	8687	8354	8036	7732	7437	7148	6866
4.20 CFS	6594	6337	6094	5874	5654	5436	5222	5019
4.60 CFS	4829	4645	4473	4313	4162	4023	3887	3762
5.00 CFS	3645	3536	3434	3335	3245	3165	3087	3012
5.40 CFS	2941	2878	2817	2757	2701	2649	2597	2540
5.80 CFS	2477	2408	2325	2229	2127	2024	1918	1804
6.20 CFS	1681	1548	1408	1262	1112	960	807	657
6.60 CFS	515	385	276	191	127	81	47	23
7.00 CFS	7.37	1.46	.17					

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
10.12 WATERSHED INCHES; 53970 CFS-HRS; 4460.1 ACRE-FEET.

OPERATION ADDHYD XSECTION 76 → Inflow Hydrograph

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
2.74	68291.0	(NULL)

HYDROGRAPH POINTS FOR ALTERNATE = 1, STORM = 1
MAIN TIME INCREMENT = .050 hr, DRAINAGE AREA = 20.57 SQ.MI.

HRS								
1.00 CFS	.46	1.50	3.81	8.39	16.46	29.61	49.80	79.52
1.40 CFS	121	177	248	336	444	574	726	903
1.80 CFS	1104	1330	1580	1851	2178	2720	3712	5404
2.20 CFS	8074	12021	17468	24416	32645	41451	49331	56027
2.60 CFS	61419	65347	67649	68269	67091	64374	60745	56664
3.00 CFS	52527	48446	44617	41236	38230	35629	33438	31646
3.40 CFS	30137	28797	27619	26615	25744	24974	24309	23745
3.80 CFS	23218	22705	22202	21728	21278	20847	20429	20024
4.20 CFS	19639	19277	18938	18630	18328	18035	17749	17477
4.60 CFS	17221	16974	16741	16525	16322	16136	15955	15788
5.00 CFS	15631	15484	15344	15209	15085	14974	14868	14768
5.40 CFS	14672	14553	14349	14101	13835	13567	13282	12970
5.80 CFS	12634	12280	11906	11513	11111	10704	10293	9875
6.20 CFS	9452	9023	8592	8160	7729	7300	6873	6452
6.60 CFS	6040	5645	5277	4941	4643	4380	4148	3945
7.00 CFS	3764	3605	3459	3320	3188	3059	2933	2810
7.40 CFS	2690	2571	2456	2342	2231	2123	2019	1917
7.80 CFS	1819	1724	1633	1545	1461	1380	1303	1230
8.20 CFS	1159	1093	1029	969	912	857	806	757

8.60 CFS	711	667	626	587	551	516	484	453
9.00 CFS	424	397	371	347	325	304	284	265
9.40 CFS	248	232	216	202	188	176	164	153
9.80 CFS	143	133	124	116	108	100	94	87
10.20 CFS	81.15	75.56	70.35	65.49	60.95	56.72	52.78	49.10
10.60 CFS	45.68	42.49	39.51	36.74	34.17	31.76	29.52	27.44
11.00 CFS	25.50	23.70	22.02	20.46	19.00	17.65	16.40	15.23
11.40 CFS	14.14	13.13	12.19	11.31	10.50	9.74	9.04	8.39
11.80 CFS	7.78	7.22	6.70	6.21	5.76	5.34	4.95	4.59
12.20 CFS	4.26	3.95	3.66	3.39	3.14	2.91	2.70	2.50
12.60 CFS	2.32	2.14	1.99	1.84	1.70	1.58	1.46	1.35
13.00 CFS	1.25	1.15	1.07	.99	.91	.84	.78	.72
13.40 CFS	.67	.61	.57	.52	.48			

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
8.54 WATERSHED INCHES; 113361 CFS-HRS; 9368.2 ACRE-FEET.

--- XSECTION 76, ALTERNATE 1, STORM 1, HYDROGRAPH ADDED TO READHD FILE ---

*** MESSAGE - STRUCTURE 1, USER ENTERED STARTING ELEVATION (1201.4 FEET) CAN ADD .705 INCHES OF RUNOFF TO THE OUTFLOW HYDROGRAPH VOLUME.***

6-hr Local *** MESSAGE - RESERVOIR ROUTING, STRUCTURE 1, TRUNCATED AT 400 POINTS WITH 3172.69 AC-FT (.24 WATERSHED INCHES) FLOOD STORAGE REMAINING IN RESERVOIR AT ELEV. 1211.85. ***

outflow Hydrograph

OPERATION RESVOR STRUCTURE 1

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
3.63	25272.4	1216.10

HYDROGRAPH POINTS FOR ALTERNATE = 1, STORM = 1
MAIN TIME INCREMENT = .050 hr, DRAINAGE AREA = 20.57 SQ.MI.

HRS								
.70 CFS	36.21	36.20	36.20	36.19	36.19	36.18	36.18	36.17
1.10 CFS	36.17	36.16	36.16	36.16	36.16	36.16	36.17	36.19
1.50 CFS	36.21	36.25	36.30	36.37	36.46	36.57	36.70	36.87
1.90 CFS	37.08	37.31	37.60	37.94	38.39	38.97	39.75	40.92
2.30 CFS	42.63	45.06	48.30	51.67	55.80	60.32	65.27	70.43
2.70 CFS	76	80	84	1137	3416	6833	10163	13262
3.10 CFS	15854	18198	20062	21522	22648	23505	24144	24630
3.50 CFS	24963	25164	25259	25268	25210	25100	24949	24764
3.90 CFS	24549	24308	24063	23803	23529	23243	22948	22646
4.30 CFS	22339	22032	21724	21417	21112	20809	20510	20214
4.70 CFS	19924	19639	19361	19090	18826	18570	18323	18083
5.10 CFS	17852	17629	17414	17208	17010	16820	16638	16463
5.50 CFS	16289	16110	15925	15732	15534	15349	15153	14946
5.90 CFS	14727	14495	14250	13993	13725	13445	13154	12853
6.30 CFS	12542	12222	11893	11557	11213	10863	10508	10150
6.70 CFS	9789	9430	9073	8723	8380	8083	7822	7566
7.10 CFS	7317	7074	6838	6608	6385	6168	5957	5751

7.50 CFS	5551	5356	5166	4982	4802	4627	4456	4290
7.90 CFS	4129	3972	3819	3671	3527	3387	3252	3120
8.30 CFS	2993	2870	2751	2660	2603	2546	2489	2433
8.70 CFS	2377	2322	2267	2213	2160	2107	2055	2004
9.10 CFS	1953	1903	1854	1806	1759	1713	1667	1623
9.50 CFS	1579	1536	1494	1453	1413	1374	1336	1299
9.90 CFS	1262	1226	1192	1158	1124	1092	1061	1030
10.30 CFS	1000	971	943	915	888	862	837	812
10.70 CFS	788	765	742	720	698	677	657	637
11.10 CFS	618	599	581	564	547	530	514	498
11.50 CFS	483	468	454	440	427	414	401	389
11.90 CFS	377	365	354	343	333	322	313	303
12.30 CFS	294	285	276	267	259	251	243	236
12.70 CFS	228	221	214	208	201	195	189	183
13.10 CFS	178	172	167	162	157	152	147	142
13.50 CFS	138	134	129	125	122	118	114	111
13.90 CFS	107	104	101	97	94	91	89	86
14.30 CFS	85.94	85.94	85.93	85.93	85.92	85.92	85.91	85.91
14.70 CFS	85.90	85.90	85.89	85.89	85.88	85.88	85.87	85.87
15.10 CFS	85.86	85.86	85.85	85.85	85.84	85.84	85.83	85.83
15.50 CFS	85.82	85.82	85.81	85.81	85.80	85.80	85.79	85.79
15.90 CFS	85.78	85.78	85.77	85.77	85.76	85.76	85.75	85.75
16.30 CFS	85.74	85.74	85.73	85.73	85.72	85.72	85.71	85.71
16.70 CFS	85.70	85.70	85.69	85.69	85.68	85.68	85.67	85.67
17.10 CFS	85.66	85.66	85.65	85.65	85.64	85.64	85.63	85.63
17.50 CFS	85.62	85.62	85.61	85.61	85.60	85.60	85.59	85.59
17.90 CFS	85.58	85.58	85.57	85.57	85.56	85.56	85.55	85.55
18.30 CFS	85.54	85.54	85.53	85.53	85.52	85.52	85.51	85.51
18.70 CFS	85.50	85.50	85.49	85.49	85.48	85.48	85.47	85.47
19.10 CFS	85.46	85.46	85.45	85.45	85.44	85.44	85.43	85.43
19.50 CFS	85.42	85.42	85.41	85.41	85.40	85.40	85.39	85.39
19.90 CFS	85.38	85.38	85.37	85.37	85.36	85.36	85.35	85.35
20.30 CFS	85.34	85.34	85.33	85.33	85.32	85.32	85.31	85.31

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
6.35 WATERSHED INCHES; 84340 CFS-HRS; 6969.9 ACRE-FEET.

--- STRUCTURE 1, ALTERNATE 1, STORM 1, HYDROGRAPH ADDED TO READHD FILE ---

EXECUTIVE CONTROL ENDCMP COMPUTATIONS COMPLETED FOR PASS 1

SUMMARY TABLE 1

SELECTED RESULTS OF STANDARD AND EXECUTIVE CONTROL IN ORDER PERFORMED.
A CHARACTER FOLLOWING THE PEAK DISCHARGE TIME AND RATE (CFS) INDICATES:
F-FLAT TOP HYDROGRAPH T-TRUNCATED HYDROGRAPH R-RISING TRUNCATED HYDROGRAPH

RAINFALL OF 12.70 inches AND 6.00 hr DURATION, BEGINS AT .0 hrs.
RAINTABLE NUMBER 1, ARC 2
MAIN TIME INCREMENT .050 HOURS

ALTERNATE 1 STORM 1

XSECTION/ STRUCTURE ID	STANDARD CONTROL OPERATION	DRAINAGE AREA (SQ MI)	RUNOFF AMOUNT (IN)	PEAK DISCHARGE ELEVATION (FT)	TIME (HR)	RATE (CFS)	RATE (CSM)
XSECTION 1	RUNOFF	2.46	11.09	---	2.71	17873	7265.4
XSECTION 5	REACH	2.46	11.09	8.21	3.32	10200	4146.3
XSECTION 10	REACH	2.46	11.09	9.08	3.96	7060	2869.9
XSECTION 2	RUNOFF	2.38	10.12	---	2.64	16996	7141.2
XSECTION 12	ADDHYD	4.84	10.62	---	2.64	17248	3563.6
XSECTION 12	DIVERT	4.84	5.98	---	2.25F	4100F	847.1
XSECTION 200	DIVERT	.00	5.98	---	2.64	13148	********
XSECTION 20	REACH	4.84	5.98	7.94	3.35F	4100F	847.1
XSECTION 25	REACH	4.84	5.98	5.03	3.40F	4100F	847.1
XSECTION 3	RUNOFF	3.94	11.10	---	2.73	28009	7108.9
XSECTION 30	REACH	3.94	11.10	6.29	3.40	16238	4121.3
XSECTION 5	REACH	3.94	11.10	8.50	4.00	11557	2933.2
XSECTION 25	REACH	3.94	11.10	8.90	4.06	11552	2932.0
XSECTION 4	RUNOFF	2.06	9.75	---	2.68	13580	6592.2
XSECTION 34	ADDHYD	6.00	10.63	---	2.69	13913	2318.8
XSECTION 35	ADDHYD	10.84	8.55	---	2.69	17992	1659.8
XSECTION 35	DIVERT	10.84	6.98	---	2.45F	11000F	1014.8
XSECTION 199	DIVERT	.00	6.98	---	2.69	6992	********
XSECTION 45	REACH	10.84	6.98	8.46	3.60F	11000F	1014.8
XSECTION 6	RUNOFF	1.47	11.12	---	2.44	14477	9848.3
XSECTION 60	REACH	1.47	11.12	9.94	2.65	11037	7508.2
XSECTION 67	REACH	1.47	11.12	7.60	2.98	7397	5032.0
XSECTION 64	ADDHYD	12.31	7.48	---	2.98	18394	1494.2
XSECTION 5	RUNOFF	4.78	9.96	---	2.67	32339	6765.5
XSECTION 7	RUNOFF	3.48	10.35	---	2.83	21194	6090.2
XSECTION 75	ADDHYD	8.26	10.12	---	2.72	51863	6278.8
XSECTION 76	ADDHYD	20.57	8.54	---	2.74	68291	3319.9
STRUCTURE 1	RESVOR	20.57	6.35	1216.10	3.63	25272	1228.6

SUMMARY TABLE 2

MODIFIED ATT-KIN REACH ROUTING IN ORDER PERFORMED.
QUESTION MARK (?) AFTER: OUTFLOW PEAK - MAX. NUMBER ROUTING ITERATIONS USED;
LENGTH FACTOR - VALUE k* GREATER THAN 1.0;
ATT-KIN COEFF - VALUE C GREATER THAN 0.667.

			HYDROGRAPH INFORMATION				ROUTING PARAMETERS				
		FLOOD	INFLOW		OUTFLOW		Q-A EQ.			PEAK	ATT-
XSEC ID	REACH LENGTH (FT)	PLAIN LENGTH (FT)	PEAK (CFS)	TIME (HR)	PEAK (CFS)	TIME (HR)	COEFF (X)	POWER (M)	LENGTH FACTOR (k*)	RATIO Q/I (Q*)	KIN COEFF (C)
BASEFLOW IS .0 CFS											
ALTERNATE 1 STORM 1											
5	9100		17866	2.7	10182	3.3	1.77	1.09	.634	.570	.08
10	9100		10182	3.3	7060	4.0	2.37	1.06	.361	.693	.08
20	3332		4100	2.3	4100	3.3	.14	1.63	.003	1.000	.50
25	1950		4100	3.3	4100	3.4	.052	1.73	.001	1.000	.65
30	8865		27941	2.8	16238	3.4	.95	1.15	.638	.581	.08
5	8865		16238	3.4	11557	4.0	1.76	1.09	.334	.712	.08
25	1950		11557	4.0	11551	4.1	.062	1.70	.002	.999	.84?
45	4200		11000	2.5	11000	3.6	.049	1.72	.003	1.000	.47
60	7540		14453	2.5	11037	2.7	.28	1.44	.236	.764	.24
67	5140		11037	2.7	7386	3.0	1.78	1.09	.367	.669	.13

SUMMARY TABLE 3

STORM DISCHARGES (CFS) AT XSECTIONS AND STRUCTURES FOR ALL ALTERNATES
QUESTION MARK (?) AFTER: OUTFLOW PEAK - RISING TRUNCATED HYDROGRAPH.

XSECTION/ STRUCTURE ID	DRAINAGE AREA (SQ MI)	STORM NUMBERS..... 1
STRUCTURE 1	20.57	
ALTERNATE 1		25272
XSECTION 1	2.46	
ALTERNATE 1		17873
XSECTION 2	2.38	
ALTERNATE 1		16996
XSECTION 3	3.94	
ALTERNATE 1		28009
XSECTION 4	2.06	
ALTERNATE 1		13580
XSECTION 5	4.78	
ALTERNATE 1		32339
XSECTION 6	1.47	
ALTERNATE 1		14477
XSECTION 7	3.48	
ALTERNATE 1		21194
XSECTION 10	2.46	
ALTERNATE 1		7060
XSECTION 12	4.84	
ALTERNATE 1		4100
XSECTION 20	4.84	
ALTERNATE 1		4100
XSECTION 25	3.94	
ALTERNATE 1		11552
XSECTION 30	3.94	
ALTERNATE 1		16238
XSECTION 34	6.00	

SUMMARY TABLE 3

STORM DISCHARGES (CFS) AT XSECTIONS AND STRUCTURES FOR ALL ALTERNATES
QUESTION MARK (?) AFTER: OUTFLOW PEAK - RISING TRUNCATED HYDROGRAPH.

XSECTION/ STRUCTURE ID	DRAINAGE AREA (SQ MI)	STORM NUMBERS..... 1
XSECTION 34	6.00	
ALTERNATE 1		13913
XSECTION 35	10.84	
ALTERNATE 1		11000
XSECTION 45	10.84	
ALTERNATE 1		11000
XSECTION 60	1.47	
ALTERNATE 1		11037
XSECTION 64	12.31	
ALTERNATE 1		18394
XSECTION 67	1.47	
ALTERNATE 1		7397
XSECTION 75	8.26	
ALTERNATE 1		51863
XSECTION 76	20.57	
ALTERNATE 1		68291
XSECTION 199	.00	
ALTERNATE 1		6992
XSECTION 200	.00	
ALTERNATE 1		13148

```
******************80-80 LIST OF INPUT DATA FOR TR-20 HYDROLOGY******************

JOB TR-20 WT3PMP6   ECON                PASS=001  SUMMARY
TITLE     WHITE TANK FRS #3, WATERSHED DIVIDED INTO 7 SUB-BASINS
TITLE     6HR GENERAL, INITIAL EMPTY RESERVOIR W/100-YR SEDIMENT
 5 RAINFL 1            0.1                                          6HRLOCAL
 8          .0000      .003       .006       .009       .013
 8          .016       .020       .025       .030       .035
 8          .039       .046       .052       .058       .065
 8          .071       .080       .090       .099       .109
 8          .118       .283       .449       .567       .622
 8          .669       .701       .732       .756       .780
 8          .795       .809       .824       .838       .852
 8          .866       .876       .885       .894       .904
 8          .913       .920       .926       .932       .939
 8          .945       .950       .954       .959       .964
 8          .969       .972       .976       .980       .984
 8          .988       .991       .993       .995       .998
 8          1.         1.         1.         1.         1.
 9 ENDTBL
 5 RAINFL 2            .1                                           6HR GEN
 8          .000       .005       .013       .020       .028
 8          .038       .045       .053       .060       .070
 8          .080       .085       .095       .108       .120
 8          .138       .150       .165       .190       .210
 8          .238       .280       .350       .440       .550
 8          .590       .620       .645       .668       .685
 8          .700       .720       .735       .753       .765
 8          .775       .790       .800       .810       .820
 8          .835       .843       .850       .863       .870
 8          .880       .890       .898       .908       .915
 8          .925       .930       .940       .945       .955
 8          .963       .970       .978       .985       .990
 8          1.00       1.00       1.00       1.00       1.00
 9 ENDTBL
 5 RAINFL 3            0.1                                          12HRGEN
 8          .000       .003       .007       .010       .013
 8          .016       .019       .022       .025       .028
 8          .031       .034       .037       .040       .043
 8          .045       .050       .054       .058       .062
 8          .066       .071       .075       .080       .085
 8          .089       .095       .101       .107       .112
 8          .118       .125       .132       .139       .146
 8          .153       .162       .171       .180       .189
 8          .198       .211       .224       .237       .250
 8          .264       .300       .345       .391       .436
 8          .491       .536       .564       .586       .607
 8          .629       .643       .657       .672       .686
 8          .700       .711       .721       .732       .742
 8          .753       .761       .769       .778       .786
 8          .795       .802       .809       .817       .824
 8          .832       .837       .843       .848       .854
 8          .859       .865       .870       .875       .881
 8          .886       .891       .895       .900       .905
 8          .909       .913       .917       .921       .925
 8          .929       .933       .936       .940       .944
 8          .948       .951       .954       .957       .960
 8          .963       .966       .969       .971       .974
```

```
8          .977        .980        .982        .984        .986
8          .989        .991        .993        .995        .998
8          1.000      01.000       1.000       1.000       1.00
9 ENDTBL
5 RAINFL 4             0.1                                                  18HRGEN
8          .000        .001        .002        .003        .004
8          .005        .005        .006        .007        .008
8          .009        .012        .014        .017        .020
8          .023        .025        .028        .031        .033
8          .036        .040        .044        .049        .053
8          .057        .061        .065        .070        .074
8          .078        .084        .090        .096        .102
8          .108        .114        .120        .126        .132
8          .138        .146        .154        .162        .170
8          .179        .187        .195        .203        .211
8          .220        .238        .256        .275        .293
8          .311        .330        .348        .367        .385
8          .403        .430        .457        .484        .511
8          .538        .557        .577        .597        .616
8          .636        .653        .670        .687        .704
8          .721        .734        .746        .759        .771
8          .784        .792        .801        .810        .818
8          .827        .832        .838        .843        .848
8          .853        .856        .859        .862        .864
8          .867        .870        .872        .875        .878
8          .880        .882        .885        .887        .889
8          .891        .893        .895        .897        .899
8          .901        .903        .905        .907        .909
8          .911        .912        .914        .916        .917
8          .919        .920        .922        .924        .925
8          .927        .929        .930        .932        .934
8          .935        .937        .938        .940        .941
8          .943        .945        .946        .948        .949
8          .951        .952        .953        .955        .956
8          .957        .959        .960        .961        .963
8          .964        .965        .967        .968        .970
8          .971        .972        .974        .975        .976
8          .978        .979        .980        .982        .983
8          .984        .985        .986        .988        .989
8          .990        .991        .992        .993        .994
8          .995        .996        .997        .998        .999
8          1.000       1.000       1.000       1.000       1.000
9 ENDTBL
5 RAINFL 5             0.1                                                  24HRGEN
8          0.000       0.000       0.001       0.001       0.002
8          0.002       0.002       0.003       0.003       0.003
8          0.004       0.005       0.007       0.009       0.010
8          0.012       0.013       0.015       0.016       0.018
8          0.019       0.022       0.024       0.027       0.030
8          0.032       0.035       0.037       0.040       0.042
8          0.045       0.048       0.051       0.055       0.058
8          0.061       0.064       0.068       0.071       0.074
8          0.078       0.082       0.087       0.091       0.096
8          0.100       0.104       0.109       0.113       0.118
8          0.122       0.127       0.132       0.137       0.142
8          0.147       0.151       0.156       0.161       0.166
```

```
8          0.171      0.177      0.184      0.191      0.198
8          0.205      0.214      0.224      0.233      0.242
8          0.252      0.265      0.278      0.291      0.303
8          0.316      0.334      0.351      0.368      0.386
8          0.403      0.425      0.447      0.468      0.490
8          0.512      0.527      0.543      0.558      0.574
8          0.589      0.603      0.617      0.631      0.645
8          0.659      0.671      0.684      0.696      0.709
8          0.721      0.731      0.741      0.751      0.761
8          0.771      0.779      0.786      0.793      0.800
8          0.808      0.814      0.820      0.825      0.831
8          0.837      0.840      0.843      0.847      0.850
8          0.853      0.855      0.857      0.859      0.861
8          0.864      0.866      0.868      0.870      0.872
8          0.874      0.876      0.878      0.880      0.881
8          0.883      0.885      0.886      0.888      0.890
8          0.891      0.893      0.895      0.896      0.898
8          0.899      0.901      0.902      0.904      0.905
8          0.907      0.908      0.909      0.910      0.912
8          0.913      0.914      0.915      0.916      0.917
8          0.919      0.920      0.921      0.922      0.923
8          0.924      0.926      0.927      0.928      0.929
8          0.930      0.932      0.933      0.935      0.936
8          0.938      0.940      0.941      0.943      0.944
8          0.946      0.947      0.947      0.948      0.949
8          0.950      0.950      0.951      0.952      0.953
8          0.953      0.955      0.956      0.957      0.958
8          0.959      0.960      0.961      0.962      0.963
8          0.964      0.965      0.966      0.967      0.968
8          0.969      0.970      0.971      0.972      0.973
8          0.974      0.975      0.976      0.977      0.978
8          0.979      0.980      0.981      0.982      0.983
8          0.984      0.985      0.986      0.987      0.988
8          0.988      0.989      0.990      0.991      0.991
8          0.992      0.993      0.994      0.995      0.995
8          0.996      0.997      0.998      0.998      0.999
8          1.000      1.000      1.000      1.000      1.000
9 ENDTBL
5 RAINFL 6            .25                                                48HRGEN
8          0.0000     0.0015     0.0029     0.0044     0.0058
8          0.0073     0.0088     0.0102     0.0117     0.0131
8          0.0146     0.0160     0.0175     0.0190     0.0204
8          0.0219     0.0233     0.0248     0.0263     0.0277
8          0.0292     0.0306     0.0321     0.0335     0.0350
8          0.0365     0.0379     0.0394     0.0408     0.0423
8          0.0438     0.0452     0.0467     0.0481     0.0496
8          0.0510     0.0525     0.0542     0.0558     0.0575
8          0.0592     0.0608     0.0625     0.0642     0.0658
8          0.0692     0.0725     0.0758     0.0792     0.0825
8          0.0858     0.0892     0.0925     0.0975     0.1025
8          0.1075     0.1125     0.1175     0.1225     0.1275
8          0.1325     0.1442     0.1560     0.1677     0.1794
8          0.1985     0.2176     0.2366     0.2557     0.3239
8          0.3921     0.4603     0.5285     0.5520     0.5754
8          0.5989     0.6224     0.6356     0.6488     0.6620
8          0.6752     0.6862     0.6972     0.7082     0.7192
```

```
8          0.7267     0.7342     0.7417     0.7492     0.7558
8          0.7625     0.7692     0.7758     0.7825     0.7892
8          0.7958     0.8025     0.8083     0.8142     0.8200
8          0.8258     0.8308     0.8358     0.8408     0.8458
8          0.8508     0.8558     0.8608     0.8658     0.8683
8          0.8708     0.8733     0.8758     0.8783     0.8808
8          0.8833     0.8858     0.8875     0.8892     0.8908
8          0.8925     0.8942     0.8958     0.8975     0.8992
8          0.9008     0.9025     0.9042     0.9058     0.9075
8          0.9092     0.9108     0.9125     0.9140     0.9154
8          0.9169     0.9183     0.9198     0.9213     0.9227
8          0.9242     0.9256     0.9271     0.9285     0.9300
8          0.9315     0.9329     0.9344     0.9358     0.9373
8          0.9388     0.9402     0.9417     0.9431     0.9446
8          0.9460     0.9475     0.9490     0.9504     0.9519
8          0.9533     0.9548     0.9563     0.9577     0.9592
8          0.9606     0.9621     0.9635     0.9650     0.9665
8          0.9679     0.9694     0.9708     0.9723     0.9737
8          0.9752     0.9767     0.9781     0.9796     0.9810
8          0.9825     0.9840     0.9854     0.9869     0.9883
8          0.9898     0.9912     0.9927     0.9942     0.9956
8          0.9971     0.9985     1.0000     1.0000     1.0
9 ENDTBL
5 RAINFL 7            .25                                          72HRGEN
8          0.0000     0.0005     0.0009     0.0014     0.0019
8          0.0025     0.0032     0.0038     0.0044     0.0051
8          0.0057     0.0063     0.0070     0.0076     0.0082
8          0.0089     0.0095     0.0103     0.0111     0.0119
8          0.0127     0.0134     0.0142     0.0150     0.0158
8          0.0171     0.0184     0.0196     0.0209     0.0222
8          0.0234     0.0247     0.0259     0.0272     0.0285
8          0.0297     0.0310     0.0323     0.0335     0.0348
8          0.0361     0.0375     0.0389     0.0403     0.0418
8          0.0432     0.0446     0.0460     0.0475     0.0489
8          0.0503     0.0517     0.0532     0.0546     0.0560
8          0.0574     0.0589     0.0604     0.0620     0.0636
8          0.0652     0.0668     0.0684     0.0699     0.0715
8          0.0731     0.0747     0.0763     0.0778     0.0797
8          0.0816     0.0835     0.0854     0.0877     0.0899
8          0.0921     0.0943     0.0968     0.0994     0.1019
8          0.1044     0.1073     0.1101     0.1130     0.1158
8          0.1193     0.1228     0.1263     0.1297     0.1335
8          0.1373     0.1411     0.1449     0.1491     0.1532
8          0.1573     0.1614     0.1725     0.1837     0.1948
8          0.2059     0.2241     0.2422     0.2603     0.2784
8          0.3431     0.4078     0.4726     0.5373     0.5596
8          0.5819     0.6042     0.6265     0.6390     0.6515
8          0.6641     0.6766     0.6870     0.6975     0.7079
8          0.7184     0.7255     0.7326     0.7397     0.7468
8          0.7535     0.7601     0.7668     0.7734     0.7794
8          0.7854     0.7915     0.7975     0.8030     0.8085
8          0.8141     0.8196     0.8247     0.8297     0.8348
8          0.8399     0.8443     0.8487     0.8532     0.8576
8          0.8598     0.8620     0.8642     0.8665     0.8685
8          0.8706     0.8726     0.8747     0.8766     0.8785
8          0.8804     0.8823     0.8840     0.8858     0.8875
```

```
8          0.8892     0.8908     0.8924     0.8940     0.8956
8          0.8972     0.8987     0.9003     0.9019     0.9035
8          0.9051     0.9066     0.9082     0.9098     0.9114
8          0.9130     0.9146     0.9160     0.9174     0.9188
8          0.9203     0.9217     0.9231     0.9245     0.9259
8          0.9274     0.9288     0.9302     0.9316     0.9329
8          0.9342     0.9354     0.9367     0.9380     0.9392
8          0.9405     0.9418     0.9430     0.9443     0.9456
8          0.9468     0.9481     0.9494     0.9506     0.9519
8          0.9530     0.9541     0.9552     0.9563     0.9574
8          0.9585     0.9597     0.9608     0.9619     0.9630
8          0.9641     0.9652     0.9661     0.9671     0.9680
8          0.9690     0.9699     0.9709     0.9718     0.9728
8          0.9736     0.9744     0.9752     0.9759     0.9767
8          0.9775     0.9783     0.9791     0.9797     0.9804
8          0.9810     0.9816     0.9823     0.9829     0.9835
8          0.9842     0.9847     0.9851     0.9856     0.9861
8          0.9866     0.9870     0.9875     0.9880     0.9884
8          0.9889     0.9894     0.9899     0.9902     0.9905
8          0.9908     0.9911     0.9915     0.9918     0.9921
8          0.9924     0.9927     0.9930     0.9934     0.9937
8          0.9940     0.9943     0.9946     0.9949     0.9953
8          0.9956     0.9959     0.9962     0.9965     0.9968
8          0.9972     0.9975     0.9978     0.9981     0.9984
8          0.9987     0.9989     0.9991     0.9992     0.9994
8          0.9995     0.9997     0.9998     1.0000     1.0000
9 ENDTBL
5 RAINFL 8     1      2.4                                          10-DAY
8          .0000      .0024      .0048      .0073      .0097
8          .0121      .0148      .0174      .0201      .0228
8          .0254      .0284      .0314      .0344      .0374
8          .0404      .0437      .0471      .0505      .0539
8          .0572      .0612      .0651      .0690      .0729
8          .0768      .0815      .0862      .0909      .0955
8          .1002      .1061      .1120      .1179      .1238
8          .1297      .1377      .1458      .1538      .1618
8          .1699      .1832      .1966      .2099      .2232
8          .2366      .2548      .2778      .3093      .3614
8          1.092      1.174      1.213      1.240      1.260
8          1.276      1.286      1.296      1.306      1.316
8          1.326      1.333      1.340      1.347      1.354
8          1.360      1.365      1.371      1.376      1.381
8          1.386      1.391      1.395      1.399      1.403
8          1.408      1.411      1.415      1.418      1.422
8          1.426      1.429      1.432      1.435      1.438
8          1.442      1.444      1.447      1.450      1.453
8          1.456      1.458      1.461      1.463      1.466
8          1.468      1.471      1.473      1.475      1.477
8          1.48       1.48       1.48       1.48       1.48
9 ENDTBL
4 DIMHYD              .0556                                         WT3
8          0.0        .03        .10        .19        .31
8          .47        .66        .82        .93        .99
8          1.0        .99        .93        .82        .66
8          .47        .31        .03        .00        .00
9 ENDTBL
```

```
**********************80-80 LIST OF INPUT DATA (CONTINUED)**********************

 2 XSECTN   005         1.0         8.77                                BOSSCS#5
 8                      0.          0.0         0.0
 8                      0.35        5.          5.56
 8                      1.03        50.         30.95
 8                      1.39        100.        52.16
 8                      1.94        200.        88.72
 8                      2.63        400.        148.61
 8                      3.51        800.        260.63
 8                      4.62        1600.       459.66
 8                      6.04        3200.       929.36
 8                      7.38        6400.       1811.51
 8                      8.77        12800.      3374.20
 8                      10.17       25600.      6398.87
 8                      11.89       51200.      10982.51
 9 ENDTBL
 2 XSECTN   010         1.0         8.94                                BOSSCS#4
 8                      0.          0.0         0.0
 8                      0.91        5.          4.95
 8                      2.03        50.         24.80
 8                      2.63        100.        41.32
 8                      3.34        200.        74.14
 8                      4.15        400.        130.28
 8                      5.23        800.        223.37
 8                      6.41        1600.       447.51
 8                      7.65        3200.       898.64
 8                      8.94        6400.       1690.88
 8                      10.29       12800.      3331.95
 8                      11.64       25600.      6185.81
 8                      13.14       51200.      10661.04
 9 ENDTBL
 2 XSECTN   020         1.0         7.3                                 REACHC
 8                      0.          0.0         0.0
 8                      1.01        100.        57.78
 8                      1.49        200.        86.81
 8                      1.88        300.        110.25
 8                      2.49        500.        149.47
 8                      3.68        1000.       226.31
 8                      5.40        2000.       346.26
 8                      7.85        4000.       533.39
 8                      9.64        6000.       688.07
 8                      11.16       8000.       838.10
 8                      12.46       10000.      985.31
 8                      13.61       12000.      1122.03
 8                      14.56       14000.      1236.94
 8                      15.43       16000.      1345.18
 8                      16.31       18000.      1456.68
 9 ENDTBL
 2 XSECTN   025         1.0         7.3                                 REACHB
 8                      0.          0.0         0.0
 8                      0.63        100.        80.89
 8                      0.93        200.        120.32
 8                      1.17        300.        151.77
 8                      1.56        500.        203.28
 8                      2.30        1000.       302.00
 8                      3.38        2000.       449.24
 8                      4.97        4000.       673.73
```

```
8                       6.23        6000.       855.96
8                       7.31        8000.       1016.35
8                       8.24        10000.      1158.51
8                       9.09        12000.      1293.31
8                       9.90        14000.      1425.57
8                       10.64       16000.      1549.17
8                       11.36       18000.      1673.11
9 ENDTBL
2 XSECTN    030         1.0         9.45                                BOSSCS#6
8                       0.          0.0         0.0
8                       0.77        5.          4.67
8                       1.54        50.         32.06
8                       1.78        100.        56.64
8                       2.10        200.        100.59
8                       2.50        400.        179.97
8                       3.01        800.        320.25
8                       3.63        1600.       589.66
8                       4.35        3200.       1110.72
8                       5.21        6400.       2084.48
8                       6.03        12800.      4119.83
8                       6.99        25600.      6856.75
8                       8.28        51200.      11085.87
9 ENDTBL
2 XSECTN    045         1.0         4.87                                REACHA
8                       0.          0.0         0.0
8                       0.60        100.        85.69
8                       0.90        200.        127.94
8                       1.13        300.        161.93
8                       1.52        500.        217.27
8                       2.25        1000.       324.03
8                       3.31        2000.       483.02
8                       4.87        4000.       722.17
8                       6.09        6000.       914.99
8                       7.15        8000.       1084.61
8                       8.05        10000.      1234.17
8                       8.87        12000.      1373.80
8                       9.64        14000.      1507.84
8                       10.34       16000.      1633.45
8                       11.00       18000.      1753.12
9 ENDTBL
2 XSECTN    060         1.0         4.7                                 2CP6CP7
8                       0.          0.0         0.0
8                       2.36        100.        45.12
8                       2.88        200.        83.75
8                       3.18        300.        114.33
8                       3.64        500.        172.72
8                       4.42        1000.       289.04
8                       5.40        2000.       470.72
8                       6.87        4000.       782.74
8                       7.91        6000.       1020.12
8                       8.79        8000.       1231.25
8                       9.60        10000.      1435.05
8                       10.26       12000.      1618.34
8                       10.94       14000.      1812.58
8                       11.47       16000.      1983.46
8                       11.96       18000.      2150.12
```

```
**********************80-80 LIST OF INPUT DATA (CONTINUED)**********************

 9 ENDTBL
 2 XSECTN   067          1.0         8.77                                BOSSCS#5
 8                       0.          0.0         0.0
 8                       0.35        5.          5.56
 8                       1.03        50.         30.95
 8                       1.39        100.        52.16
 8                       1.94        200.        88.72
 8                       2.63        400.        148.61
 8                       3.51        800.        260.63
 8                       4.62        1600.       459.66
 8                       6.04        3200.       929.36
 8                       7.38        6400.       1811.51
 8                       8.77        12800.      3374.20
 8                       10.17       25600.      6398.87
 8                       11.89       51200.      10982.51
 9 ENDTBL
 3 STRUCT       01                                                           95/11/6
 8                       1178.0      0.00        0.0
 8                       1188.0      2.71        44.8
 8                       1193.0      7.29        129.0
 8                       1199.2      26.75       500.0
 8                       1202.0      38.68       845.55
 8                       1204.0      48.00       1176.28
 8                       1206.0      56.80       1575.25
 8                       1208.0      66.40       2044.97
 8                       1210.0      77.10       2593.40
 8                       1212.0      85.95       3218.00
 8                       1213.0      2685.00     3556.67
 8                       1214.0      8231.00     3916.02
 8                       1215.0      15545.0     4294.13
 8                       1216.0      24272.0     4692.68
 8                       1217.0      34212.0     5113.19
 8                       1218.0      45232.0     5556.01
 8                       1219.0      57233.0     6021.50
 8                       1220.0      70142.0     6509.75
 9 ENDTBL
 6 RUNOFF 1 001        1 2.46        87.2        0.85        1 1
 6 REACH  3 005   1    7 9100.                               1           BOSS#6
 6 REACH  3 010   7    2 9100.                               1           BOSS#4
 6 RUNOFF 1 002        3 2.38        79.9        0.73        1 1
 6 ADDHYD 4 012   2 3 1                                      1 1
 6 DIVERT 6 012   1 4 7 4100.        1.00        200.        1 1         OLIVE
 6 REACH  3 020   4    7 3332.                               1           REACH C
 6 REACH  3 025   7    5 1950.                               1           REACH B
 6 RUNOFF 1 003        6 3.94        87.2        0.88        1 1
 6 REACH  3 030   6    7 8865.                               1           BOSS#6
 6 REACH  3 005   7    1 8865.                               1           BOSS#5
 6 REACH  3 025   1    7 1950.                               1           REACH B
 6 RUNOFF 1 004        1 2.06        77.3        0.79        1 1
 6 ADDHYD 4 034   7 1 2                                      1 1
 6 ADDHYD 4 035   5 2 3                                      1 1
 6 DIVERT 6 035   3 4 7 11000.       1.00        199.        1 1         NORTHERN
 6 REACH  3 045   4    5 4200.                               1           REACH A
 6 RUNOFF 1 006        2 1.47        87.7        0.47        1 1
 6 REACH  3 060   2    3 7540.                               1           CP6CP7
 6 REACH  3 067   3    4 5140.                               1           BOSS#5
```

```
**********************80-80 LIST OF INPUT DATA (CONTINUED)**********************

 6 ADDHYD 4 064    5 4 3                                          1 1
 6 RUNOFF 1 005        6 4.78         78.8         0.78          1 1
 6 RUNOFF 1 007        7 3.48         81.7         1.01          1 1
 6 ADDHYD 4 075    6 7 1                                          1 1
 6 ADDHYD 4 076    1 3 2                                          1 1      1
 6 RESVOR 2     01 2   1 1201.42                                  1 1      1
 ENDATA
 7 LIST                  1.0                        1.
 7 INCREM 6              0.05
 7 COMPUT 7 001       01 0.          8.8          1.0           2 2  01  02
   ENDCMP 1
   ENDJOB 2

******************************END OF 80-80 LIST******************************
```

ARC

Precipitation

```
8                       6.23        6000.       855.96
8                       7.31        8000.       1016.35
8                       8.24        10000.      1158.51
8                       9.09        12000.      1293.31
8                       9.90        14000.      1425.57
8                       10.64       16000.      1549.17
8                       11.36       18000.      1673.11
9 ENDTBL
2 XSECTN    030         1.0         9.45                                BOSSCS#6
8                       0.          0.0         0.0
8                       0.77        5.          4.67
8                       1.54        50.         32.06
8                       1.78        100.        56.64
8                       2.10        200.        100.59
8                       2.50        400.        179.97
8                       3.01        800.        320.25
8                       3.63        1600.       589.66
8                       4.35        3200.       1110.72
8                       5.21        6400.       2084.48
8                       6.03        12800.      4119.83
8                       6.99        25600.      6856.75
8                       8.28        51200.      11085.87
9 ENDTBL
2 XSECTN    045         1.0         4.87                                REACHA
8                       0.          0.0         0.0
8                       0.60        100.        85.69
8                       0.90        200.        127.94
8                       1.13        300.        161.93
8                       1.52        500.        217.27
8                       2.25        1000.       324.03
8                       3.31        2000.       483.02
8                       4.87        4000.       722.17
8                       6.09        6000.       914.99
8                       7.15        8000.       1084.61
8                       8.05        10000.      1234.17
8                       8.87        12000.      1373.80
8                       9.64        14000.      1507.84
8                       10.34       16000.      1633.45
8                       11.00       18000.      1753.12
9 ENDTBL
2 XSECTN    060         1.0         4.7                                 2CP6CP7
8                       0.          0.0         0.0
8                       2.36        100.        45.12
8                       2.88        200.        83.75
8                       3.18        300.        114.33
8                       3.64        500.        172.72
8                       4.42        1000.       289.04
8                       5.40        2000.       470.72
8                       6.87        4000.       782.74
8                       7.91        6000.       1020.12
8                       8.79        8000.       1231.25
8                       9.60        10000.      1435.05
8                       10.26       12000.      1618.34
8                       10.94       14000.      1812.58
8                       11.47       16000.      1983.46
8                       11.96       18000.      2150.12
```

RUNOFF OPTION USED WITH RAINTABLE NO. 8, RUNOFF CURVE NO. = 100.

COMPUTED DIMHYD PEAK RATE FACTOR = 664.607

```
EXECUTIVE CONTROL  LIST                1.          0.          1.

          LISTING OF CURRENT DATA


                      COMPUTED TIME INCREMENT
DIMHYD                          .0556

                   .0000       .0300       .1000       .1900       .3100
                   .4700       .6600       .8200       .9300       .9900
                  1.0000       .9900       .9300       .8200       .6600
                   .4700       .3100       .0300       .0000       .0000
ENDTBL

   COMPUTED PEAK RATE FACTOR =  664.607
```

	TABLE NO.	TIME INCREMENT				
RAINFL	1	.1000				
		.0000	.0030	.0060	.0090	.0130
		.0160	.0200	.0250	.0300	.0350
		.0390	.0460	.0520	.0580	.0650
		.0710	.0800	.0900	.0990	.1090
		.1180	.2830	.4490	.5670	.6220
		.6690	.7010	.7320	.7560	.7800
		.7950	.8090	.8240	.8380	.8520
		.8660	.8760	.8850	.8940	.9040
		.9130	.9200	.9260	.9320	.9390
		.9450	.9500	.9540	.9590	.9640
		.9690	.9720	.9760	.9800	.9840
		.9880	.9910	.9930	.9950	.9980
		1.0000	1.0000	1.0000	1.0000	1.0000
ENDTBL						

STANDARD CONTROL INSTRUCTIONS

```
RUNOFF      1       1      2.4600     87.2000      .85001 1 0 0 0 1
REACH       5   1   7   9100.0000       .0000      .00001 0 0 0 0 1
REACH      10   7   2   9100.0000       .0000      .00001 0 0 0 0 1
RUNOFF      2       3      2.3800     79.9000      .73001 1 0 0 0 1
ADDHYD     12   2 3 1                                   1 1 0 0 0 1
DIVERT     12   1 4 7   4100.0000      1.0000   200.00001 1 0 0 0 1
REACH      20   4   7   3332.0000       .0000      .00001 0 0 0 0 1
REACH      25   7   5   1950.0000       .0000      .00001 0 0 0 0 1
RUNOFF      3       6      3.9400     87.2000      .88001 1 0 0 0 1
REACH      30   6   7   8865.0000       .0000      .00001 0 0 0 0 1
REACH       5   7   1   8865.0000       .0000      .00001 0 0 0 0 1
REACH      25   1   7   1950.0000       .0000      .00001 0 0 0 0 1
RUNOFF      4       1      2.0600     77.3000      .79001 1 0 0 0 1
ADDHYD     34   7 1 2                                   1 1 0 0 0 1
ADDHYD     35   5 2 3                                   1 1 0 0 0 1
DIVERT     35   3 4 7  11000.0000      1.0000   199.00001 1 0 0 0 1
REACH      45   4   5   4200.0000       .0000      .00001 0 0 0 0 1
RUNOFF      6       2      1.4700     87.7000      .47001 1 0 0 0 1
REACH      60   2   3   7540.0000       .0000      .00001 0 0 0 0 1
REACH      67   3   4   5140.0000       .0000      .00001 0 0 0 0 1
ADDHYD     64   5 4 3                                   1 1 0 0 0 1
RUNOFF      5       6      4.7800     78.8000      .78001 1 0 0 0 1
RUNOFF      7       7      3.4800     81.7000     1.01001 1 0 0 0 1
ADDHYD     75   6 7 1                                   1 1 0 0 0 1
ADDHYD     76   1 3 2                                   1 1 0 0 1 1
RESVOR        1 2   1   1201.4200                       1 1 0 0 1 1
ENDATA
```

END OF LISTING

EXECUTIVE CONTROL INCREM MAIN TIME INCREMENT = .050 HOURS

EXECUTIVE CONTROL COMPUT FROM XSECTION 1 TO STRUCTURE 1
STARTING TIME = .00 RAIN DEPTH = 8.80 RAIN DURATION = 1.00
ANT. RUNOFF COND. = 2 MAIN TIME INCREMENT = .050 HOURS
ALTERNATE NO. = 1 STORM NO. = 2 RAIN TABLE NO. = 2

OPERATION RUNOFF XSECTION 1

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
2.79	8235.5	(RUNOFF)
5.76	1062.4	(RUNOFF)

HYDROGRAPH POINTS FOR ALTERNATE = 1, STORM = 2
MAIN TIME INCREMENT = .050 hr, DRAINAGE AREA = 2.46 SQ.MI.

HRS								
.50 CFS	.21	.72	1.85	4.05	7.83	13.70	22.20	34.04
.90 CFS	50	70	94	123	154	189	226	264
1.30 CFS	303	344	387	435	490	549	614	682
1.70 CFS	756	836	924	1018	1119	1228	1347	1479
2.10 CFS	1630	1811	2042	2338	2718	3202	3803	4497
2.50 CFS	5243	6005	6734	7370	7859	8155	8234	8099
2.90 CFS	7769	7263	6606	5859	5088	4360	3719	3224
3.30 CFS	2916	2724	2582	2466	2368	2284	2210	2143
3.70 CFS	2080	2017	1953	1885	1811	1737	1675	1624
4.10 CFS	1580	1546	1524	1509	1493	1471	1441	1411
4.50 CFS	1393	1380	1364	1343	1319	1298	1278	1265
4.90 CFS	1262	1262	1260	1251	1232	1213	1200	1187
5.30 CFS	1165	1141	1119	1101	1087	1077	1066	1059
5.70 CFS	1060	1062	1061	1058	1057	1057	1049	1034
6.10 CFS	1017	993	955	906	849	780	701	613
6.50 CFS	521	428	339	254	179	113	56	17
6.90 CFS	2.55	.12						

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
7.25 WATERSHED INCHES; 11516 CFS-HRS; 951.7 ACRE-FEET.

OPERATION REACH XSECTION 5

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
3.43	5012.4	6.80

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
7.25 WATERSHED INCHES; 11516 CFS-HRS; 951.7 ACRE-FEET.

OPERATION REACH XSECTION 10

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
4.08	3660.9	7.84

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
7.25 WATERSHED INCHES; 11516 CFS-HRS; 951.7 ACRE-FEET.

OPERATION RUNOFF XSECTION 2

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
2.73	7532.8	(RUNOFF)
4.85	1182.8	(RUNOFF)
5.82	999.5	(RUNOFF)

HYDROGRAPH POINTS FOR ALTERNATE = 1, STORM = 2
MAIN TIME INCREMENT = .050 hr, DRAINAGE AREA = 2.38 SQ.MI.

HRS								
.85 CFS	.47	1.55	3.84	7.96	14.28	23.04	34.63	49.26
1.25 CFS	67	89	115	146	184	228	277	331
1.65 CFS	390	453	522	596	675	760	855	964
2.05 CFS	1089	1238	1424	1666	1990	2413	2950	3617
2.45 CFS	4376	5177	5972	6684	7209	7492	7512	7293
2.85 CFS	6855	6239	5502	4730	4000	3375	2937	2674
3.25 CFS	2500	2369	2266	2183	2114	2055	2004	1955
3.65 CFS	1898	1834	1763	1690	1621	1559	1502	1456
4.05 CFS	1427	1412	1403	1392	1372	1346	1323	1305
4.45 CFS	1289	1272	1251	1225	1198	1177	1172	1179
4.85 CFS	1183	1179	1168	1152	1140	1130	1117	1097
5.25 CFS	1075	1051	1030	1015	1002	989	981	982
5.65 CFS	986	988	992	999	998	989	980	971
6.05 CFS	952	921	887	849	797	728	643	548
6.45 CFS	451	355	263	179	104	44	10	1
6.85 CFS	.00							

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
6.37 WATERSHED INCHES; 9782 CFS-HRS; 808.4 ACRE-FEET.

OPERATION ADDHYD XSECTION 12

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
2.74	8014.5	(NULL)
3.80	5169.2	(NULL)

HYDROGRAPH POINTS FOR ALTERNATE = 1, STORM = 2
MAIN TIME INCREMENT = .050 hr, DRAINAGE AREA = 4.84 SQ.MI.

HRS								
.85 CFS	.47	1.55	3.84	7.96	14.30	23.09	34.75	49.52
1.25 CFS	68	90	116	149	187	233	285	342
1.65 CFS	404	473	547	628	714	808	914	1034
2.05 CFS	1172	1335	1536	1797	2140	2585	3146	3839
2.45 CFS	4627	5460	6290	7040	7607	7937	8011	7853
2.85 CFS	7485	6951	6310	5650	5048	4568	4293	4207
3.25 CFS	4223	4290	4390	4510	4638	4767	4890	4997

3.65 CFS	5079	5133	5162	5169	5164	5151	5129	5104
4.05 CFS	5086	5072	5055	5027	4984	4927	4868	4809
4.45 CFS	4749	4683	4608	4528	4443	4363	4299	4245
4.85 CFS	4188	4123	4051	3974	3902	3833	3760	3683
5.25 CFS	3603	3524	3449	3380	3315	3251	3195	3148
5.65 CFS	3106	3064	3025	2989	2947	2898	2850	2804
6.05 CFS	2748	2682	2614	2543	2459	2359	2244	2121
6.45 CFS	1997	1876	1758	1650	1551	1468	1410	1377
6.85 CFS	1353	1328	1303	1276	1247	1218	1186	1153
7.25 CFS	1119	1083	1047	1009	972	934	897	860
7.65 CFS	823	787	752	717	684	651	620	589
8.05 CFS	560	532	505	478	453	429	406	385
8.45 CFS	364	344	325	306	289	273	257	243
8.85 CFS	229	215	203	191	180	169	159	150
9.25 CFS	141	132	124	117	109	103	96	91
9.65 CFS	84.91	79.65	74.70	70.04	65.66	61.54	57.67	54.03
10.05 CFS	50.62	47.41	44.40	41.57	38.92	36.43	34.09	31.90
10.45 CFS	29.85	27.92	26.12	24.43	22.84	21.36	19.97	18.66
10.85 CFS	17.44	16.30	15.23	14.23	13.30	12.42	11.60	10.83
11.25 CFS	10.12	9.45	8.82	8.23	7.68	7.17	6.69	6.25
11.65 CFS	5.83	5.44	5.07	4.73	4.41	4.12	3.84	3.58
12.05 CFS	3.34	3.11	2.90	2.70	2.52	2.35	2.19	2.04
12.45 CFS	1.90	1.77	1.65	1.54	1.43	1.33	1.24	1.15
12.85 CFS	1.07	1.00	.93	.87	.81	.75	.70	.65
13.25 CFS	.60	.56	.52	.48				

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
6.82 WATERSHED INCHES; 21298 CFS-HRS; 1760.1 ACRE-FEET.

OPERATION DIVERT XSECTION 12
OUTPUT #1 HYDROGRAPH

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
2.45	4100.0 *	(DIVERT)

* FIRST POINT OF FLAT PEAK

HYDROGRAPH POINTS FOR ALTERNATE = 1, STORM = 2
MAIN TIME INCREMENT = .050 hr, DRAINAGE AREA = 4.84 SQ.MI.

HRS								
.85 CFS	.47	1.55	3.84	7.96	14.30	23.09	34.75	49.52
1.25 CFS	68	90	116	149	187	233	285	342
1.65 CFS	404	473	547	628	714	808	914	1034
2.05 CFS	1172	1335	1536	1797	2140	2585	3146	3839
2.45 CFS	4100	4100	4100	4100	4100	4100	4100	4100
2.85 CFS	4100	4100	4100	4100	4100	4100	4100	4100
3.25 CFS	4100	4100	4100	4100	4100	4100	4100	4100
3.65 CFS	4100	4100	4100	4100	4100	4100	4100	.4100
4.05 CFS	4100	4100	4100	4100	4100	4100	4100	4100
4.45 CFS	4100	4100	4100	4100	4100	4100	4100	4100
4.85 CFS	4100	4100	4051	3974	3902	3833	3760	3683

5.25 CFS	3603	3524	3449	3380	3315	3251	3195	3148
5.65 CFS	3106	3064	3025	2989	2947	2898	2850	2804
6.05 CFS	2748	2682	2614	2543	2459	2359	2244	2121
6.45 CFS	1997	1876	1758	1650	1551	1468	1410	1377
6.85 CFS	1353	1328	1303	1276	1247	1218	1186	1153
7.25 CFS	1119	1083	1047	1009	972	934	897	860
7.65 CFS	823	787	752	717	684	651	620	589
8.05 CFS	560	532	505	478	453	429	406	385
8.45 CFS	364	344	325	306	289	273	257	243
8.85 CFS	229	215	203	191	180	169	159	150
9.25 CFS	141	132	124	117	109	103	96	91
9.65 CFS	84.91	79.65	74.70	70.04	65.66	61.54	57.67	54.03
10.05 CFS	50.62	47.41	44.40	41.57	38.92	36.43	34.09	31.90
10.45 CFS	29.85	27.92	26.12	24.43	22.84	21.36	19.97	18.66
10.85 CFS	17.44	16.30	15.23	14.23	13.30	12.42	11.60	10.83
11.25 CFS	10.12	9.45	8.82	8.23	7.68	7.17	6.69	6.25
11.65 CFS	5.83	5.44	5.07	4.73	4.41	4.12	3.84	3.58
12.05 CFS	3.34	3.11	2.90	2.70	2.52	2.35	2.19	2.04
12.45 CFS	1.90	1.77	1.65	1.54	1.43	1.33	1.24	1.15
12.85 CFS	1.07	1.00	.93	.87	.81	.75	.70	.65
13.25 CFS	.60	.56	.52	.48				

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
5.92 WATERSHED INCHES; 18490 CFS-HRS; 1528.0 ACRE-FEET.

OUTPUT #2 DIVERTED HYDROGRAPH (XSECTION 200)

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
2.74	3914.5	(DIVERT)
3.80	1069.2	(DIVERT)

HYDROGRAPH POINTS FOR ALTERNATE = 1, STORM = 2
MAIN TIME INCREMENT = .050 hr, DRAINAGE AREA = .00 SQ.MI.

HRS								
2.40 CFS	0	527	1360	2190	2940	3507	3837	3911
2.80 CFS	3753	3385	2851	2210	1550	948	468	193
3.20 CFS	107	123	190	290	410	538	667	790
3.60 CFS	897	979	1033	1062	1069	1064	1051	1029
4.00 CFS	1004	986	972	955	927	884	827	768
4.40 CFS	709	649	583	508	428	343	263	199
4.80 CFS	145	88	23	0				

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
2808 CFS-HRS; 232.1 ACRE-FEET.

OPERATION REACH XSECTION 20

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
3.45	4100.0 *	7.94

* FIRST POINT OF FLAT PEAK

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
5.92 WATERSHED INCHES; 18488 CFS-HRS; 1527.9 ACRE-FEET.

OPERATION REACH XSECTION 25

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
3.55	4100.0 *	5.03

* FIRST POINT OF FLAT PEAK

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
5.92 WATERSHED INCHES; 18489 CFS-HRS; 1527.9 ACRE-FEET.

OPERATION RUNOFF XSECTION 3

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
2.81	12960.3	(RUNOFF)
5.77	1700.2	(RUNOFF)

HYDROGRAPH POINTS FOR ALTERNATE = 1, STORM = 2
MAIN TIME INCREMENT = .050 hr, DRAINAGE AREA = 3.94 SQ.MI.

HRS								
.50 CFS	.30	1.02	2.65	5.82	11.30	19.83	32.18	49.52
.90 CFS	73	103	140	182	230	283	340	401
1.30 CFS	463	528	596	671	757	850	950	1057
1.70 CFS	1172	1296	1433	1579	1737	1910	2099	2309
2.10 CFS	2547	2831	3185	3638	4215	4943	5844	6892
2.50 CFS	8030	9201	10339	11353	12168	12714	12951	12868
2.90 CFS	12484	11824	10921	9832	8659	7495	6432	5532
3.30 CFS	4883	4492	4232	4027	3856	3710	3583	3468
3.70 CFS	3361	3260	3160	3057	2947	2831	2726	2638
4.10 CFS	2564	2501	2455	2425	2399	2367	2325	2277
4.50 CFS	2239	2215	2192	2163	2129	2095	2064	2038
4.90 CFS	2022	2018	2016	2006	1985	1954	1926	1904
5.30 CFS	1877	1842	1807	1776	1752	1733	1717	1705
5.70 CFS	1699	1700	1700	1694	1689	1689	1682	1662
6.10 CFS	1633	1598	1547	1475	1385	1280	1159	1025
6.50 CFS	884	740	599	463	339	230	137	61
6.90 CFS	15.18	1.21	.00					

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
7.26 WATERSHED INCHES; 18449 CFS-HRS; 1524.7 ACRE-FEET.

OPERATION REACH XSECTION 30

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
3.53	7477.5	5.35

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
7.26 WATERSHED INCHES; 18449 CFS-HRS; 1524.7 ACRE-FEET.

OPERATION REACH XSECTION 5

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
4.22	5600.9	7.05

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
7.26 WATERSHED INCHES; 18449 CFS-HRS; 1524.6 ACRE-FEET.

OPERATION REACH XSECTION 25

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
4.29	5596.7	5.98

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
7.26 WATERSHED INCHES; 18449 CFS-HRS; 1524.6 ACRE-FEET.

OPERATION RUNOFF XSECTION 4

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
2.77	5991.6	(RUNOFF)
4.89	999.1	(RUNOFF)
5.88	845.7	(RUNOFF)

HYDROGRAPH POINTS FOR ALTERNATE = 1, STORM = 2
MAIN TIME INCREMENT = .050 hr, DRAINAGE AREA = 2.06 SQ.MI.

HRS	.29	.94	2.13	4.01	7.08	11.85	18.72	28.20
.95 CFS								
1.35 CFS	41	57	79	106	138	175	216	262
1.75 CFS	311	366	425	490	561	644	738	848
2.15 CFS	982	1158	1385	1685	2073	2559	3120	3729
2.55 CFS	4348	4941	5448	5801	5972	5967	5786	5466
2.95 CFS	4991	4443	3844	3289	2793	2411	2218	2080
3.35 CFS	1980	1895	1827	1767	1716	1669	1628	1579
3.75 CFS	1528	1475	1415	1356	1308	1266	1229	1203
4.15 CFS	1192	1183	1173	1158	1133	1109	1096	1087
4.55 CFS	1074	1057	1037	1018	1000	993	997	999
4.95 CFS	996	990	975	961	953	943	927	907
5.35 CFS	887	872	861	852	841	835	837	841
5.75 CFS	841	840	844	845	836	827	819	802
6.15 CFS	773	740	701	651	588	516	438	361
6.55 CFS	285	212	146	89	40	8	1	0

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
6.05 WATERSHED INCHES; 8042 CFS-HRS; 664.6 ACRE-FEET.

OPERATION ADDHYD XSECTION 34

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
2.79	6573.7	(NULL)
4.24	6766.2	(NULL)

HYDROGRAPH POINTS FOR ALTERNATE = 1, STORM = 2
MAIN TIME INCREMENT = .050 hr, DRAINAGE AREA = 6.00 SQ.MI.

HRS								
.95 CFS	.29	.94	2.13	4.01	7.09	11.90	18.84	28.47
1.35 CFS	41	58	80	109	143	181	225	275
1.75 CFS	329	389	456	529	610	705	812	936
2.15 CFS	1088	1283	1531	1855	2271	2786	3380	4025
2.55 CFS	4684	5321	5876	6282	6511	6572	6464	6227
2.95 CFS	5846	5408	4937	4530	4204	4018	4043	4147
3.35 CFS	4309	4502	4724	4960	5205	5447	5681	5891
3.75 CFS	6076	6233	6357	6456	6540	6607	6657	6698
4.15 CFS	6736	6759	6766	6754	6720	6676	6633	6584
4.55 CFS	6524	6452	6371	6285	6196	6113	6039	5959
4.95 CFS	5874	5783	5683	5581	5487	5391	5288	5183
5.35 CFS	5079	4979	4886	4795	4705	4621	4546	4475
5.75 CFS	4402	4331	4265	4198	4123	4049	3978	3900
6.15 CFS	3811	3719	3624	3519	3403	3279	3152	3026
6.55 CFS	2903	2785	2676	2577	2487	2416	2369	2329
6.95 CFS	2289	2249	2208	2166	2121	2075	2027	1977
7.35 CFS	1925	1870	1814	1757	1699	1640	1581	1523
7.75 CFS	1464	1407	1350	1294	1240	1187	1135	1084
8.15 CFS	1035	988	942	898	855	814	774	736
8.55 CFS	700	665	631	599	569	539	511	485
8.95 CFS	459	435	412	390	369	349	330	312
9.35 CFS	295	279	263	249	235	222	209	197
9.75 CFS	186	176	166	156	147	139	131	123
10.15 CFS	116	109	103	97	91	86	81	76
10.55 CFS	71.71	67.48	63.49	59.72	56.18	52.84	49.69	46.72
10.95 CFS	43.93	41.30	38.82	36.49	34.29	32.22	30.28	28.45
11.35 CFS	26.73	25.11	23.58	22.15	20.80	19.54	18.34	17.22
11.75 CFS	16.17	15.18	14.25	13.38	12.55	11.78	11.06	10.38
12.15 CFS	9.73	9.13	8.57	8.04	7.54	7.07	6.63	6.22
12.55 CFS	5.84	5.47	5.13	4.81	4.51	4.23	3.96	3.72
12.95 CFS	3.48	3.27	3.06	2.87	2.69	2.52	2.36	2.21
13.35 CFS	2.07	1.94	1.82	1.70	1.60	1.49	1.40	1.31
13.75 CFS	1.23	1.15	1.08	1.01	.94	.88	.82	.77
14.15 CFS	.72	.68	.63	.59	.55	.52	.48	

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
6.84 WATERSHED INCHES; 26491 CFS-HRS; 2189.2 ACRE-FEET.

OPERATION ADDHYD XSECTION 35

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
2.80	10644.6	(NULL)
4.24	10866.2	(NULL)

HYDROGRAPH POINTS FOR ALTERNATE = 1, STORM = 2
MAIN TIME INCREMENT = .050 hr, DRAINAGE AREA = 10.84 SQ.MI.

HRS								
.95 CFS	.46	1.59	3.89	7.98	14.79	25.23	40.10	60.26
1.35 CFS	87	120	163	216	280	355	441	539
1.75 CFS	647	767	899	1043	1201	1380	1579	1806
2.15 CFS	2074	2401	2809	3329	3994	4832	5839	7003
2.55 CFS	8117	9050	9777	10278	10558	10645	10550	10320
2.95 CFS	9942	9506	9036	8630	8304	8118	8143	8247
3.35 CFS	8409	8602	8824	9060	9305	9547	9781	9991
3.75 CFS	10176	10333	10457	10556	10640	10707	10757	10798
4.15 CFS	10836	10859	10866	10854	10820	10776	10733	10684
4.55 CFS	10624	10552	10471	10385	10296	10213	10139	10059
4.95 CFS	9974	9883	9767	9627	9480	9323	9154	8977
5.35 CFS	8799	8623	8453	8288	8127	7975	7837	7709
5.75 CFS	7584	7465	7356	7248	7133	7016	6899	6776
6.15 CFS	6637	6490	6335	6165	5977	5771	5549	5317
6.55 CFS	5081	4845	4618	4403	4204	4033	3901	3796
6.95 CFS	3708	3630	3557	3485	3413	3338	3260	3179
7.35 CFS	3094	3006	2915	2822	2727	2632	2536	2440
7.75 CFS	2344	2250	2157	2066	1977	1890	1805	1723
8.15 CFS	1643	1565	1491	1419	1349	1282	1218	1157
8.55 CFS	1098	1041	987	936	886	839	794	752
8.95 CFS	711	672	635	600	567	535	506	477
9.35 CFS	450	425	400	378	356	335	316	298
9.75 CFS	280	264	249	234	220	207	195	183
10.15 CFS	172	162	152	143	135	127	119	112
10.55 CFS	105	99	93	87	82	77	72	68
10.95 CFS	63.42	59.52	55.85	52.40	49.16	46.12	43.26	40.57
11.35 CFS	38.05	35.68	33.46	31.37	29.41	27.57	25.84	24.22
11.75 CFS	22.70	21.27	19.94	18.68	17.50	16.40	15.36	14.39
12.15 CFS	13.48	12.63	11.83	11.07	10.37	9.71	9.09	8.51
12.55 CFS	7.97	7.46	6.98	6.54	6.12	5.73	5.36	5.01
12.95 CFS	4.69	4.39	4.11	3.84	3.59	3.36	3.14	2.94
13.35 CFS	2.75	2.57	2.40	2.25	2.10	1.96	1.84	1.71
13.75 CFS	1.60	1.50	1.40	1.31	1.22	1.14	1.06	.99
14.15 CFS	.93	.87	.81	.75	.70	.66	.61	.57
14.55 CFS	.53	.49						

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
6.43 WATERSHED INCHES; 44980 CFS-HRS; 3717.2 ACRE-FEET.

OPERATION DIVERT XSECTION 35

OUTPUT #1 HYDROGRAPH

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
2.80	10644.6	(DIVERT)
4.24	10866.2	(DIVERT)

HYDROGRAPH POINTS FOR ALTERNATE = 1, STORM = 2
MAIN TIME INCREMENT = .050 hr, DRAINAGE AREA = 10.84 SQ.MI.

HRS								
.95 CFS	.46	1.59	3.89	7.98	14.79	25.23	40.10	60.26
1.35 CFS	87	120	163	216	280	355	441	539
1.75 CFS	647	767	899	1043	1201	1380	1579	1806
2.15 CFS	2074	2401	2809	3329	3994	4832	5839	7003
2.55 CFS	8117	9050	9777	10278	10558	10645	10550	10320
2.95 CFS	9942	9506	9036	8630	8304	8118	8143	8247
3.35 CFS	8409	8602	8824	9060	9305	9547	9781	9991
3.75 CFS	10176	10333	10457	10556	10640	10707	10757	10798
4.15 CFS	10836	10859	10866	10854	10820	10776	10733	10684
4.55 CFS	10624	10552	10471	10385	10296	10213	10139	10059
4.95 CFS	9974	9883	9767	9627	9480	9323	9154	8977
5.35 CFS	8799	8623	8453	8288	8127	7975	7837	7709
5.75 CFS	7584	7465	7356	7248	7133	7016	6899	6776
6.15 CFS	6637	6490	6335	6165	5977	5771	5549	5317
6.55 CFS	5081	4845	4618	4403	4204	4033	3901	3796
6.95 CFS	3708	3630	3557	3485	3413	3338	3260	3179
7.35 CFS	3094	3006	2915	2822	2727	2632	2536	2440
7.75 CFS	2344	2250	2157	2066	1977	1890	1805	1723
8.15 CFS	1643	1565	1491	1419	1349	1282	1218	1157
8.55 CFS	1098	1041	987	936	886	839	794	752
8.95 CFS	711	672	635	600	567	535	506	477
9.35 CFS	450	425	400	378	356	335	316	298
9.75 CFS	280	264	249	234	220	207	195	183
10.15 CFS	172	162	152	143	135	127	119	112
10.55 CFS	105	99	93	87	82	77	72	68
10.95 CFS	63.42	59.52	55.85	52.40	49.16	46.12	43.26	40.57
11.35 CFS	38.05	35.68	33.46	31.37	29.41	27.57	25.84	24.22
11.75 CFS	22.70	21.27	19.94	18.68	17.50	16.40	15.36	14.39
12.15 CFS	13.48	12.63	11.83	11.07	10.37	9.71	9.09	8.51
12.55 CFS	7.97	7.46	6.98	6.54	6.12	5.73	5.36	5.01
12.95 CFS	4.69	4.39	4.11	3.84	3.59	3.36	3.14	2.94
13.35 CFS	2.75	2.57	2.40	2.25	2.10	1.96	1.84	1.71
13.75 CFS	1.60	1.50	1.40	1.31	1.22	1.14	1.06	.99
14.15 CFS	.93	.87	.81	.75	.70	.66	.61	.57
14.55 CFS	.53	.49						

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
6.43 WATERSHED INCHES; 44980 CFS-HRS; 3717.2 ACRE-FEET.

OUTPUT #2 DIVERTED HYDROGRAPH (XSECTION 199)

*** MESSAGE - HYDROGRAPH CONTAINS NO FLOW ***

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
327 CFS-HRS; 3717.2 ACRE-FEET.

OPERATION REACH XSECTION 45

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
2.91	10423.0	8.22
4.34	10847.4	8.40

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
6.43 WATERSHED INCHES; 44980 CFS-HRS; 3717.1 ACRE-FEET.

OPERATION RUNOFF XSECTION 6

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
2.56	6278.2	(RUNOFF)
4.16	897.6	(RUNOFF)
4.63	774.2	(RUNOFF)
4.84	752.9	(RUNOFF)
5.72	651.8	(RUNOFF)

HYDROGRAPH POINTS FOR ALTERNATE = 1, STORM = 2
MAIN TIME INCREMENT = .050 hr, DRAINAGE AREA = 1.47 SQ.MI.

HRS	.24	.99	3.05	7.22	14.50	25.60	40.54	58.95
.45 CFS	80	104	131	160	189	215	236	254
.85 CFS	271	292	321	361	414	479	547	612
1.25 CFS	666	711	754	808	876	960	1061	1181
1.65 CFS	1323	1494	1716	2018	2445	3021	3730	4531
2.05 CFS	5311	5939	6264	6158	5697	4981	4127	3279
2.45 CFS	2605	2216	1993	1824	1682	1565	1475	1413
2.85 CFS	1379	1366	1363	1353	1322	1262	1189	1122
3.25 CFS	1065	1018	982	959	943	925	903	880
3.65 CFS	871	882	897	892	870	839	803	770
4.05 CFS	750	750	761	772	773	759	747	750
4.45 CFS	753	745	730	714	701	691	678	658
4.85 CFS	640	630	622	612	610	623	639	646
5.25 CFS	647	651	651	639	619	600	585	574
5.65 CFS	562	545	513	456	380	293	198	103
6.05 CFS	32.07	4.60	.20					
6.45 CFS								

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
7.29 WATERSHED INCHES; 6915 CFS-HRS; 571.5 ACRE-FEET.

OPERATION REACH XSECTION 60

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
2.79	4755.8	7.26
5.84	647.9	3.87

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
7.29 WATERSHED INCHES; 6915 CFS-HRS; 571.5 ACRE-FEET.

OPERATION REACH XSECTION 67

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
3.22	3446.0	6.14

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
7.29 WATERSHED INCHES; 6915 CFS-HRS; 571.5 ACRE-FEET.

OPERATION ADDHYD XSECTION 64

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
2.99	13110.0	(NULL)
4.03	12465.9	(NULL)

HYDROGRAPH POINTS FOR ALTERNATE = 1, STORM = 2
MAIN TIME INCREMENT = .050 hr, DRAINAGE AREA = 12.31 SQ.MI.

HRS	.34	.87	1.99	4.17	7.99	14.09	23.36	36.76
.90 CFS								
1.30 CFS	55	80	111	149	197	254	321	400
1.70 CFS	491	595	711	842	987	1147	1322	1516
2.10 CFS	1729	1968	2240	2561	2947	3423	4019	4766
2.50 CFS	5678	6762	7927	9067	10119	11037	11796	12390
2.90 CFS	12807	13051	13109	13009	12777	12476	12153	11869
3.30 CFS	11692	11601	11576	11596	11653	11735	11836	11948
3.70 CFS	12066	12178	12277	12357	12413	12447	12464	12465
4.10 CFS	12452	12430	12405	12371	12329	12274	12206	12127
4.50 CFS	12046	11963	11873	11776	11670	11559	11444	11331
4.90 CFS	11226	11122	11017	10911	10791	10655	10507	10348
5.30 CFS	10179	10000	9815	9629	9445	9263	9086	8914
5.70 CFS	8753	8602	8458	8322	8195	8074	7953	7832
6.10 CFS	7711	7586	7453	7310	7158	6994	6815	6619
6.50 CFS	6405	6174	5932	5680	5425	5172	4927	4700
6.90 CFS	4500	4329	4182	4053	3938	3830	3728	3629
7.30 CFS	3531	3432	3332	3232	3130	3026	2922	2818
7.70 CFS	2714	2610	2507	2406	2306	2208	2113	2020
8.10 CFS	1929	1841	1756	1673	1593	1516	1442	1371
8.50 CFS	1303	1237	1174	1114	1056	1001	949	899
8.90 CFS	851	805	762	720	681	644	608	574
9.30 CFS	542	512	483	456	430	406	382	360
9.70 CFS	340	320	301	284	267	252	237	223
10.10 CFS	210	197	186	175	164	154	145	136
10.50 CFS	128	120	113	106	100	94	88	83

10.90 CFS	77.67	72.91	68.44	64.24	60.28	56.56	53.07	49.79
11.30 CFS	46.71	43.82	41.10	38.54	36.15	33.89	31.78	29.79
11.70 CFS	27.93	26.18	24.54	23.00	21.56	20.20	18.93	17.73
12.10 CFS	16.61	15.57	14.58	13.66	12.79	11.98	11.22	10.51
12.50 CFS	9.84	9.21	8.63	8.08	7.56	7.08	6.62	6.20
12.90 CFS	5.80	5.43	5.08	4.76	4.45	4.16	3.89	3.64
13.30 CFS	3.41	3.19	2.98	2.79	2.61	2.44	2.28	2.13
13.70 CFS	1.99	1.86	1.74	1.62	1.52	1.42	1.32	1.24
14.10 CFS	1.15	1.08	1.01	.94	.88	.82	.76	.71
14.50 CFS	.66	.62	.57	.54	.50			

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
6.53 WATERSHED INCHES; 51895 CFS-HRS; 4288.6 ACRE-FEET.

OPERATION RUNOFF XSECTION 5

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
2.76	14364.6	(RUNOFF)
4.89	2348.1	(RUNOFF)
5.86	1982.9	(RUNOFF)

HYDROGRAPH POINTS FOR ALTERNATE = 1, STORM = 2
MAIN TIME INCREMENT = .050 hr, DRAINAGE AREA = 4.78 SQ.MI.

HRS								
.85 CFS	.22	.96	2.89	6.88	13.42	23.06	36.93	56.11
1.25 CFS	81	113	153	202	264	339	426	522
1.65 CFS	628	743	869	1005	1153	1312	1490	1693
2.05 CFS	1924	2196	2533	2967	3534	4279	5236	6410
2.45 CFS	7761	9215	10687	12072	13224	14002	14347	14252
2.85 CFS	13756	12888	11716	10353	8941	7617	6476	5672
3.25 CFS	5197	4883	4645	4451	4290	4152	4033	3927
3.65 CFS	3825	3709	3586	3455	3312	3176	3062	2963
4.05 CFS	2878	2823	2801	2781	2756	2716	2656	2602
4.45 CFS	2574	2551	2521	2478	2428	2382	2342	2330
4.85 CFS	2346	2348	2339	2321	2284	2253	2236	2210
5.25 CFS	2169	2122	2076	2041	2017	1993	1969	1959
5.65 CFS	1964	1971	1971	1974	1983	1978	1958	1938
6.05 CFS	1917	1872	1804	1726	1634	1513	1363	1191
6.45 CFS	1007	823	644	473	320	186	76	14
6.85 CFS	.83	.00						

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
6.23 WATERSHED INCHES; 19223 CFS-HRS; 1588.6 ACRE-FEET.

OPERATION RUNOFF XSECTION 7

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
2.91	9766.3	(RUNOFF)

HYDROGRAPH POINTS FOR ALTERNATE = 1, STORM = 2
MAIN TIME INCREMENT = .050 hr, DRAINAGE AREA = 3.48 SQ.MI.

HRS								
.75 CFS	.18	.60	1.60	3.56	6.97	12.30	19.85	29.95

1.15 CFS	43	60	81	106	136	170	211	259
1.55 CFS	314	377	445	520	602	692	789	893
1.95 CFS	1007	1135	1282	1450	1647	1883	2177	2543
2.35 CFS	3004	3577	4249	5002	5817	6664	7493	8251
2.75 CFS	8882	9350	9646	9765	9697	9450	9029	8456
3.15 CFS	7749	6962	6154	5396	4712	4151	3793	3556
3.55 CFS	3380	3234	3109	2996	2893	2798	2715	2636
3.95 CFS	2558	2479	2395	2311	2240	2182	2132	2090
4.35 CFS	2057	2028	1998	1968	1935	1903	1881	1862
4.75 CFS	1841	1818	1795	1773	1748	1726	1717	1711
5.15 CFS	1702	1690	1665	1636	1614	1595	1572	1547
5.55 CFS	1524	1505	1491	1482	1474	1465	1460	1457
5.95 CFS	1450	1442	1436	1427	1403	1366	1326	1277
6.35 CFS	1206	1117	1020	917	810	701	591	483
6.75 CFS	381	286	203	134	72	24	4	0

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
6.58 WATERSHED INCHES; 14778 CFS-HRS; 1221.3 ACRE-FEET.

OPERATION ADDHYD XSECTION 75

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
2.81	23607.9	(NULL)
5.84	3443.2	(NULL)

HYDROGRAPH POINTS FOR ALTERNATE = 1, STORM = 2
MAIN TIME INCREMENT = .050 hr, DRAINAGE AREA = 8.26 SQ.MI.

HRS								
.75 CFS	.18	.60	1.82	4.52	9.85	19.18	33.28	53.01
1.15 CFS	80	116	162	219	288	372	475	598
1.55 CFS	740	899	1073	1263	1470	1697	1941	2206
1.95 CFS	2497	2828	3206	3647	4181	4851	5711	6822
2.35 CFS	8241	9987	12010	14217	16504	18736	20718	22253
2.75 CFS	23229	23601	23402	22652	21413	19802	17970	16073
3.15 CFS	14225	12635	11352	10279	9357	8602	8083	7709
3.55 CFS	7413	7161	6934	6705	6479	6253	6027	5812
3.95 CFS	5621	5442	5273	5134	5041	4963	4888	4806
4.35 CFS	4713	4630	4572	4519	4455	4381	4309	4244
4.75 CFS	4183	4148	4141	4121	4088	4048	4001	3964
5.15 CFS	3938	3900	3834	3757	3690	3636	3588	3540
5.55 CFS	3494	3464	3455	3453	3444	3439	3443	3435
5.95 CFS	3408	3380	3353	3299	3207	3093	2960	2790
6.35 CFS	2569	2308	2027	1740	1454	1174	911	669
6.75 CFS	457	301	204	134	72	24	4	0

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
6.38 WATERSHED INCHES; 34001 CFS-HRS; 2809.9 ACRE-FEET.

OPERATION ADDHYD XSECTION 76] → inflow

Inflow

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
2.85	35792.8	(NULL)

HYDROGRAPH POINTS FOR ALTERNATE = 1, STORM = 2
MAIN TIME INCREMENT = .050 hr, DRAINAGE AREA = 20.57 SQ.MI.

HRS								
.75 CFS	.18	.62	1.93	4.86	10.72	21.17	37.45	60.99
1.15 CFS	94	140	199	274	368	483	624	795
1.55 CFS	994	1220	1473	1754	2065	2408	2783	3193
1.95 CFS	3644	4150	4721	5376	6149	7091	8272	9768
2.35 CFS	11663	14006	16775	19895	23266	26663	29785	32372
2.75 CFS	34265	35398	35792	35459	34464	32911	30979	28850
3.15 CFS	26701	24788	23221	21971	20958	20178	19679	19361
3.55 CFS	19148	18997	18882	18772	18657	18530	18384	18226
3.95 CFS	18068	17906	17738	17587	17472	17367	17259	17135
4.35 CFS	16987	16836	16699	16565	16418	16255	16085	15914
4.75 CFS	15741	15592	15472	15346	15210	15065	14912	14755
5.15 CFS	14594	14407	14182	13936	13690	13451	13217	12985
5.55 CFS	12757	12549	12369	12206	12046	11898	11765	11630
5.95 CFS	11482	11333	11185	11010	10793	10545	10270	9948
6.35 CFS	9563	9122	8646	8145	7628	7106	6591	6094
6.75 CFS	5629	5228	4904	4634	4401	4206	4058	3938
7.15 CFS	3830	3728	3629	3531	3432	3332	3232	3130
7.55 CFS	3026	2922	2818	2714	2610	2507	2406	2306
7.95 CFS	2208	2113	2020	1929	1841	1756	1673	1593
8.35 CFS	1516	1442	1371	1303	1237	1174	1114	1056
8.75 CFS	1001	949	899	851	805	762	720	681
9.15 CFS	644	608	574	542	512	483	456	430
9.55 CFS	406	382	360	340	320	301	284	267
9.95 CFS	252	237	223	210	197	186	175	164
10.35 CFS	154	145	136	128	120	113	106	100
10.75 CFS	93.81	88.10	82.72	77.67	72.91	68.44	64.24	60.28
11.15 CFS	56.56	53.07	49.79	46.71	43.82	41.10	38.54	36.15
11.55 CFS	33.89	31.78	29.79	27.93	26.18	24.54	23.00	21.56
11.95 CFS	20.20	18.93	17.73	16.61	15.57	14.58	13.66	12.79
12.35 CFS	11.98	11.22	10.51	9.84	9.21	8.63	8.08	7.56
12.75 CFS	7.08	6.62	6.20	5.80	5.43	5.08	4.76	4.45
13.15 CFS	4.16	3.89	3.64	3.41	3.19	2.98	2.79	2.61
13.55 CFS	2.44	2.28	2.13	1.99	1.86	1.74	1.62	1.52
13.95 CFS	1.42	1.32	1.24	1.15	1.08	1.01	.94	.88
14.35 CFS	.82	.76	.71	.66	.62	.57	.54	.50

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
6.47 WATERSHED INCHES; 85897 CFS-HRS; 7098.5 ACRE-FEET.

--- XSECTION 76, ALTERNATE 1, STORM 2, HYDROGRAPH ADDED TO READHD FILE ---

*** MESSAGE - STRUCTURE 1, USER ENTERED STARTING ELEVATION (1201.4 FEET) CAN ADD .705 INCHES OF RUNOFF TO THE OUTFLOW HYDROGRAPH VOLUME.***

*** MESSAGE - RESERVOIR ROUTING, STRUCTURE 1, TRUNCATED AT 400 POINTS
WITH 3176.50 AC-FT (.24 WATERSHED INCHES) FLOOD STORAGE
REMAINING IN RESERVOIR AT ELEV. 1211.87. ***

outflow

OPERATION RESVOR STRUCTURE 1

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
5.02	14990.8	1214.92

HYDROGRAPH POINTS FOR ALTERNATE = 1, STORM = 2
MAIN TIME INCREMENT = .050 hr, DRAINAGE AREA = 20.57 SQ.MI.

HRS								
.60 CFS	36.21	36.20	36.20	36.19	36.19	36.18	36.18	36.17
1.00 CFS	36.17	36.17	36.17	36.18	36.19	36.21	36.24	36.28
1.40 CFS	36.33	36.41	36.50	36.63	36.78	36.97	37.19	37.46
1.80 CFS	37.77	38.14	38.56	38.97	39.42	39.93	40.52	41.18
2.20 CFS	41.95	42.84	43.88	45.13	46.62	48.32	49.98	51.94
2.60 CFS	54.21	56.78	59.40	62.21	65.15	68.07	70.94	73.75
3.00 CFS	76	79	80	82	83	85	160	825
3.40 CFS	1442	2019	2565	3479	4443	5339	6172	6948
3.80 CFS	7667	8359	9124	9817	10445	11012	11523	11985
4.20 CFS	12403	12780	13120	13422	13691	13927	14135	14316
4.60 CFS	14471	14602	14709	14795	14862	14914	14952	14977
5.00 CFS	14989	14989	14977	14954	14919	14871	14809	14732
5.40 CFS	14643	14542	14432	14312	14184	14052	13916	13778
5.80 CFS	13640	13501	13362	13223	13084	12943	12801	12655
6.20 CFS	12503	12342	12170	11985	11781	11559	11316	11052
6.60 CFS	10769	10467	10150	9821	9483	9144	8807	8478
7.00 CFS	8171	7922	7679	7445	7218	6999	6788	6584
7.40 CFS	6386	6194	6008	5827	5650	5479	5311	5147
7.80 CFS	4987	4831	4678	4528	4382	4239	4099	3962
8.20 CFS	3828	3698	3570	3445	3324	3205	3090	2978
8.60 CFS	2868	2761	2671	2620	2569	2517	2466	2415
9.00 CFS	2364	2313	2263	2213	2163	2114	2066	2018
9.40 CFS	1970	1923	1877	1832	1787	1743	1699	1656
9.80 CFS	1614	1573	1533	1493	1454	1416	1378	1342
10.20 CFS	1306	1271	1236	1203	1170	1138	1106	1076
10.60 CFS	1046	1016	988	960	933	906	881	856
11.00 CFS	831	807	784	761	739	718	697	677
11.40 CFS	657	637	619	601	583	566	549	533
11.80 CFS	517	501	486	472	458	444	431	418
12.20 CFS	405	393	381	370	358	348	337	327
12.60 CFS	317	307	298	289	280	271	263	255
13.00 CFS	247	240	232	225	218	212	205	199
13.40 CFS	193	187	181	176	170	165	160	155
13.80 CFS	150	145	141	137	132	128	124	120
14.20 CFS	117	113	110	106	103	100	97	94
14.60 CFS	90.77	87.95	85.95	85.94	85.94	85.93	85.93	85.92
15.00 CFS	85.92	85.91	85.91	85.90	85.90	85.89	85.89	85.88
15.40 CFS	85.88	85.87	85.87	85.86	85.86	85.85	85.85	85.84

15.80 CFS	85.84	85.83	85.83	85.82	85.82	85.81	85.81	85.80
16.20 CFS	85.80	85.79	85.79	85.78	85.78	85.77	85.77	85.76
16.60 CFS	85.76	85.75	85.75	85.74	85.74	85.73	85.73	85.72
17.00 CFS	85.72	85.71	85.71	85.70	85.70	85.69	85.69	85.68
17.40 CFS	85.68	85.67	85.67	85.66	85.66	85.65	85.65	85.64
17.80 CFS	85.64	85.63	85.63	85.62	85.62	85.61	85.61	85.60
18.20 CFS	85.60	85.59	85.59	85.58	85.58	85.57	85.57	85.56
18.60 CFS	85.56	85.55	85.55	85.54	85.54	85.53	85.53	85.52
19.00 CFS	85.52	85.51	85.51	85.50	85.50	85.49	85.49	85.48
19.40 CFS	85.48	85.47	85.47	85.46	85.46	85.45	85.45	85.44
19.80 CFS	85.44	85.43	85.43	85.42	85.42	85.41	85.41	85.40
20.20 CFS	85.40	85.39	85.39	85.38	85.38	85.37	85.37	85.36

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
4.28 WATERSHED INCHES; 56829 CFS-HRS; 4696.3 ACRE-FEET.

--- STRUCTURE 1, ALTERNATE 1, STORM 2, HYDROGRAPH ADDED TO READHD FILE ---

EXECUTIVE CONTROL ENDCMP COMPUTATIONS COMPLETED FOR PASS 1

SUMMARY TABLE 1

SELECTED RESULTS OF STANDARD AND EXECUTIVE CONTROL IN ORDER PERFORMED.
A CHARACTER FOLLOWING THE PEAK DISCHARGE TIME AND RATE (CFS) INDICATES:
F-FLAT TOP HYDROGRAPH T-TRUNCATED HYDROGRAPH R-RISING TRUNCATED HYDROGRAPH

RAINFALL OF 8.80 inches AND 6.00 hr DURATION, BEGINS AT .0 hrs.
RAINTABLE NUMBER 2, ARC 2
MAIN TIME INCREMENT .050 HOURS

ALTERNATE 1 STORM 2

XSECTION/ STRUCTURE ID	STANDARD CONTROL OPERATION	DRAINAGE AREA (SQ MI)	RUNOFF AMOUNT (IN)	PEAK DISCHARGE ELEVATION (FT)	TIME (HR)	RATE (CFS)	RATE (CSM)
XSECTION 1	RUNOFF	2.46	7.25	---	2.79	8235	3347.6
XSECTION 5	REACH	2.46	7.25	6.80	3.43	5012	2037.4
XSECTION 10	REACH	2.46	7.25	7.84	4.08	3661	1488.2
XSECTION 2	RUNOFF	2.38	6.37	---	2.73	7533	3165.1
XSECTION 12	ADDHYD	4.84	6.82	---	2.74	8015	1656.0
XSECTION 12	DIVERT	4.84	5.92	---	2.45F	4100F	847.1
XSECTION 200	DIVERT	.00	5.92	---	2.74	3915	********
XSECTION 20	REACH	4.84	5.92	7.94	3.45F	4100F	847.1
XSECTION 25	REACH	4.84	5.92	5.03	3.55F	4100F	847.1
XSECTION 3	RUNOFF	3.94	7.26	---	2.81	12960	3289.3
XSECTION 30	REACH	3.94	7.26	5.35	3.53	7477	1897.7
XSECTION 5	REACH	3.94	7.26	7.05	4.22	5601	1421.6
XSECTION 25	REACH	3.94	7.26	5.98	4.29	5597	1420.6
XSECTION 4	RUNOFF	2.06	6.05	---	2.77	5992	2908.7
XSECTION 34	ADDHYD	6.00	6.84	---	4.24	6766	1127.7
XSECTION 35	ADDHYD	10.84	6.43	---	4.24	10866	1002.4
XSECTION 35	DIVERT	10.84	6.43	---	4.24	10866	1002.4
XSECTION 199	DIVERT	.00	6.43	---	.00	0	********
XSECTION 45	REACH	10.84	6.43	8.40	4.34	10847	1000.6
XSECTION 6	RUNOFF	1.47	7.29	---	2.56	6278	4270.7
XSECTION 60	REACH	1.47	7.29	7.26	2.79	4756	3235.4
XSECTION 67	REACH	1.47	7.29	6.14	3.22	3446	2344.2
XSECTION 64	ADDHYD	12.31	6.53	---	2.99	13110	1065.0
XSECTION 5	RUNOFF	4.78	6.23	---	2.76	14365	3005.2
XSECTION 7	RUNOFF	3.48	6.58	---	2.91	9766	2806.3
XSECTION 75	ADDHYD	8.26	6.38	---	2.81	23608	2858.1
XSECTION 76	ADDHYD	20.57	6.47	---	2.85	35793	1740.1
STRUCTURE 1	RESVOR	20.57	4.28	1214.92	5.02	14991	728.8

SUMMARY TABLE 2

MODIFIED ATT-KIN REACH ROUTING IN ORDER PERFORMED.
QUESTION MARK (?) AFTER: OUTFLOW PEAK - MAX. NUMBER ROUTING ITERATIONS USED;
LENGTH FACTOR - VALUE k* GREATER THAN 1.0;
ATT-KIN COEFF - VALUE C GREATER THAN 0.667.

			HYDROGRAPH INFORMATION				ROUTING PARAMETERS				
		FLOOD	INFLOW		OUTFLOW		Q-A EQ.			PEAK	ATT-
XSEC	REACH	PLAIN							LENGTH	RATIO	KIN
ID	LENGTH	LENGTH	PEAK	TIME	PEAK	TIME	COEFF	POWER	FACTOR	Q/I	COEFF
	(FT)	(FT)	(CFS)	(HR)	(CFS)	(HR)	(X)	(M)	(k*)	(Q*)	(C)

BASEFLOW IS .0 CFS

ALTERNATE 1 STORM 2

5	9100	8234	2.8	5008	3.5	1.88	1.08	.470	.608	.07
10	9100	5008	3.5	3660	4.1	2.16	1.07	.271	.731	.08
20	3332	4100	2.5	4100	3.5	.14	1.63	.003	1.000	.50
25	1950	4100	3.5	4100	3.5	.052	1.73	.001	1.000	.65
30	8865	12951	2.8	7470	3.5	1.75	1.07	.532	.577	.07
5	8865	7470	3.5	5600	4.2	1.91	1.08	.250	.750	.08
25	1950	5600	4.2	5596	4.3	.055	1.72	.002	.999	.70?
45	4200	10866	4.3	10847	4.3	.049	1.72	.003	.998	.47
60	7540	6264	2.5	4753	2.8	.32	1.42	.197	.759	.18
67	5140	4753	2.8	3443	3.2	1.75	1.10	.249	.724	.13

SUMMARY TABLE 3

STORM DISCHARGES (CFS) AT XSECTIONS AND STRUCTURES FOR ALL ALTERNATES
QUESTION MARK (?) AFTER: OUTFLOW PEAK - RISING TRUNCATED HYDROGRAPH.

XSECTION/ STRUCTURE ID	DRAINAGE AREA (SQ MI)	STORM NUMBERS..... 2
STRUCTURE 1	20.57	
ALTERNATE 1		14991
XSECTION 1	2.46	
ALTERNATE 1		8235
XSECTION 2	2.38	
ALTERNATE 1		7533
XSECTION 3	3.94	
ALTERNATE 1		12960
XSECTION 4	2.06	
ALTERNATE 1		5992
XSECTION 5	4.78	
ALTERNATE 1		14365
XSECTION 6	1.47	
ALTERNATE 1		6278
XSECTION 7	3.48	
ALTERNATE 1		9766
XSECTION 10	2.46	
ALTERNATE 1		3661
XSECTION 12	4.84	
ALTERNATE 1		4100
XSECTION 20	4.84	
ALTERNATE 1		4100
XSECTION 25	3.94	
ALTERNATE 1		5597
XSECTION 30	3.94	
ALTERNATE 1		7477
XSECTION 34	6.00	

SUMMARY TABLE 3

STORM DISCHARGES (CFS) AT XSECTIONS AND STRUCTURES FOR ALL ALTERNATES
QUESTION MARK (?) AFTER: OUTFLOW PEAK - RISING TRUNCATED HYDROGRAPH.

XSECTION/ STRUCTURE ID	DRAINAGE AREA (SQ MI)	STORM NUMBERS..... 2
XSECTION 34	6.00	
ALTERNATE 1		6766
XSECTION 35	10.84	
ALTERNATE 1		10866
XSECTION 45	10.84	
ALTERNATE 1		10847
XSECTION 60	1.47	
ALTERNATE 1		4756
XSECTION 64	12.31	
ALTERNATE 1		13110
XSECTION 67	1.47	
ALTERNATE 1		3446
XSECTION 75	8.26	
ALTERNATE 1		23608
XSECTION 76	20.57	
ALTERNATE 1		35793
XSECTION 199	.00	
ALTERNATE 1		0
XSECTION 200	.00	
ALTERNATE 1		3915

ECON2 DATA FILE

```
ECON2
TITLE        WHITE TANK FRS #3, WATERSHED DIVIDED INTO 7 SUB-BASINS
TITLE        6HR GENERAL, INITIAL EMPTY RESERVOIR W/100-YR SEDIMENT
FLOW-FREQ    -1        14991.                                        ALT  1   1
FLOW-FREQ     1         8235.                                        ALT  1   2
FLOW-FREQ     2         7533.                                        ALT  1   3
FLOW-FREQ     3        12960.                                        ALT  1   4
FLOW-FREQ     4         5992.                                        ALT  1   5
FLOW-FREQ     5        14365.                                        ALT  1   6
FLOW-FREQ     6         6278.                                        ALT  1   7
FLOW-FREQ     7         9766.                                        ALT  1   8
FLOW-FREQ    10         3661.                                        ALT  1   9
FLOW-FREQ    12         4100.                                        ALT  1  10
FLOW-FREQ    20         4100.                                        ALT  1  11
FLOW-FREQ    25         5597.                                        ALT  1  12
FLOW-FREQ    30         7477.                                        ALT  1  13
FLOW-FREQ    34         6766.                                        ALT  1  14
FLOW-FREQ    35        10866.                                        ALT  1  15
FLOW-FREQ    45        10847.                                        ALT  1  16
FLOW-FREQ    60         4756.                                        ALT  1  17
FLOW-FREQ    64        13110.                                        ALT  1  18
FLOW-FREQ    67         3446.                                        ALT  1  19
FLOW-FREQ    75        23608.                                        ALT  1  20
FLOW-FREQ    76        35793.                                        ALT  1  21
FLOW-FREQ   200         3915.                                        ALT  1  22
```

```
TR20 ------------------------------------------------------------------ SCS -
WT3PMP6      WHITE TANK FRS #3, WATERSHED DIVIDED INTO 7 SUB-BASINS      VERSION
07/29/**     6HR GENERAL, INITIAL EMPTY RESERVOIR W/100-YR SEDIMENT     2.04TEST


END OF  1 JOBS IN THIS RUN


                    SCS  TR-20,  VERSION 2.04TEST
                         WT3PMP6   FILES

     INPUT  = 6GPMPIN.DAT                              , GIVEN DATA FILE
     OUTPUT = 6GOUT.OUT                                , DATED 07/29/**,14:46:41

              FILES GENERATED - DATED 07/29/**,14:46:41

    FILE 111.TEC CONTAINS ECON2 INFORMATION

    FILE 111.TRD CONTAINS READHD INFORMATION


          TOTAL NUMBER OF WARNINGS =   0,  MESSAGES =   3

                     JOB ENDED AT 14:46:41
                  *** TR-20 RUN COMPLETED ***
```

NRCS CRITERIA

(INTERIM CONDITION)

12-hr General TR-20
Results

```
******************80-80 LIST OF INPUT DATA FOR TR-20 HYDROLOGY******************

JOB TR-20 WT3PMP12  ECON                PASS=001  SUMMARY
TITLE     WHITE TANK FRS #3, WATERSHED DIVIDED INTO 7 SUB-BASINS
TITLE     12-HR GENERAL PMP, RESERVOIR INIT EMPTY W/100-YR SEDMNT
 5 RAINFL 1             0.1                                                6HRLOCAL
 8          .0000       .003        .006        .009        .013
 8          .016        .020        .025        .030        .035
 8          .039        .046        .052        .058        .065
 8          .071        .080        .090        .099        .109
 8          .118        .283        .449        .567        .622
 8          .669        .701        .732        .756        .780
 8          .795        .809        .824        .838        .852
 8          .866        .876        .885        .894        .904
 8          .913        .920        .926        .932        .939
 8          .945        .950        .954        .959        .964
 8          .969        .972        .976        .980        .984
 8          .988        .991        .993        .995        .998
 8          1.          1.          1.          1.          1.
 9 ENDTBL
 5 RAINFL 2             .1                                                 6HR GEN
 8          .000        .005        .013        .020        .028
 8          .038        .045        .053        .060        .070
 8          .080        .085        .095        .108        .120
 8          .138        .150        .165        .190        .210
 8          .238        .280        .350        .440        .550
 8          .590        .620        .645        .668        .685
 8          .700        .720        .735        .753        .765
 8          .775        .790        .800        .810        .820
 8          .835        .843        .850        .863        .870
 8          .880        .890        .898        .908        .915
 8          .925        .930        .940        .945        .955
 8          .963        .970        .978        .985        .990
 8          1.00        1.00        1.00        1.00        1.00
 9 ENDTBL
 5 RAINFL 3             0.1                                                12HRGEN
 8          .000        .003        .007        .010        .013
 8          .016        .019        .022        .025        .028
 8          .031        .034        .037        .040        .043
 8          .045        .050        .054        .058        .062
 8          .066        .071        .075        .080        .085
 8          .089        .095        .101        .107        .112
 8          .118        .125        .132        .139        .146
 8          .153        .162        .171        .180        .189
 8          .198        .211        .224        .237        .250
 8          .264        .300        .345        .391        .436
 8          .491        .536        .564        .586        .607
 8          .629        .643        .657        .672        .686
 8          .700        .711        .721        .732        .742
 8          .753        .761        .769        .778        .786
 8          .795        .802        .809        .817        .824
 8          .832        .837        .843        .848        .854
 8          .859        .865        .870        .875        .881
 8          .886        .891        .895        .900        .905
 8          .909        .913        .917        .921        .925
 8          .929        .933        .936        .940        .944
 8          .948        .951        .954        .957        .960
 8          .963        .966        .969        .971        .974
```

```
8          .977       .980       .982       .984       .986
8          .989       .991       .993       .995       .998
8          1.000      1.000      1.000      1.000      1.00
9 ENDTBL
5 RAINFL 4            0.1                                                    18HRGEN
8          .000       .001       .002       .003       .004
8          .005       .005       .006       .007       .008
8          .009       .012       .014       .017       .020
8          .023       .025       .028       .031       .033
8          .036       .040       .044       .049       .053
8          .057       .061       .065       .070       .074
8          .078       .084       .090       .096       .102
8          .108       .114       .120       .126       .132
8          .138       .146       .154       .162       .170
8          .179       .187       .195       .203       .211
8          .220       .238       .256       .275       .293
8          .311       .330       .348       .367       .385
8          .403       .430       .457       .484       .511
8          .538       .557       .577       .597       .616
8          .636       .653       .670       .687       .704
8          .721       .734       .746       .759       .771
8          .784       .792       .801       .810       .818
8          .827       .832       .838       .843       .848
8          .853       .856       .859       .862       .864
8          .867       .870       .872       .875       .878
8          .880       .882       .885       .887       .889
8          .891       .893       .895       .897       .899
8          .901       .903       .905       .907       .909
8          .911       .912       .914       .916       .917
8          .919       .920       .922       .924       .925
8          .927       .929       .930       .932       .934
8          .935       .937       .938       .940       .941
8          .943       .945       .946       .948       .949
8          .951       .952       .953       .955       .956
8          .957       .959       .960       .961       .963
8          .964       .965       .967       .968       .970
8          .971       .972       .974       .975       .976
8          .978       .979       .980       .982       .983
8          .984       .985       .986       .988       .989
8          .990       .991       .992       .993       .994
8          .995       .996       .997       .998       .999
8          1.000      1.000      1.000      1.000      1.000
9 ENDTBL
5 RAINFL 5            0.1                                                    24HRGEN
8          0.000      0.000      0.001      0.001      0.002
8          0.002      0.002      0.003      0.003      0.003
8          0.004      0.005      0.007      0.009      0.010
8          0.012      0.013      0.015      0.016      0.018
8          0.019      0.022      0.024      0.027      0.030
8          0.032      0.035      0.037      0.040      0.042
8          0.045      0.048      0.051      0.055      0.058
8          0.061      0.064      0.068      0.071      0.074
8          0.078      0.082      0.087      0.091      0.096
8          0.100      0.104      0.109      0.113      0.118
8          0.122      0.127      0.132      0.137      0.142
8          0.147      0.151      0.156      0.161      0.166
```

```
8          0.171      0.177      0.184      0.191      0.198
8          0.205      0.214      0.224      0.233      0.242
8          0.252      0.265      0.278      0.291      0.303
8          0.316      0.334      0.351      0.368      0.386
8          0.403      0.425      0.447      0.468      0.490
8          0.512      0.527      0.543      0.558      0.574
8          0.589      0.603      0.617      0.631      0.645
8          0.659      0.671      0.684      0.696      0.709
8          0.721      0.731      0.741      0.751      0.761
8          0.771      0.779      0.786      0.793      0.800
8          0.808      0.814      0.820      0.825      0.831
8          0.837      0.840      0.843      0.847      0.850
8          0.853      0.855      0.857      0.859      0.861
8          0.864      0.866      0.868      0.870      0.872
8          0.874      0.876      0.878      0.880      0.881
8          0.883      0.885      0.886      0.888      0.890
8          0.891      0.893      0.895      0.896      0.898
8          0.899      0.901      0.902      0.904      0.905
8          0.907      0.908      0.909      0.910      0.912
8          0.913      0.914      0.915      0.916      0.917
8          0.919      0.920      0.921      0.922      0.923
8          0.924      0.926      0.927      0.928      0.929
8          0.930      0.932      0.933      0.935      0.936
8          0.938      0.940      0.941      0.943      0.944
8          0.946      0.947      0.947      0.948      0.949
8          0.950      0.950      0.951      0.952      0.953
8          0.953      0.955      0.956      0.957      0.958
8          0.959      0.960      0.961      0.962      0.963
8          0.964      0.965      0.966      0.967      0.968
8          0.969      0.970      0.971      0.972      0.973
8          0.974      0.975      0.976      0.977      0.978
8          0.979      0.980      0.981      0.982      0.983
8          0.984      0.985      0.986      0.987      0.988
8          0.988      0.989      0.990      0.991      0.991
8          0.992      0.993      0.994      0.995      0.995
8          0.996      0.997      0.998      0.998      0.999
8          1.000      1.000      1.000      1.000      1.000
9 ENDTBL
5 RAINFL 6            .25                                          48HRGEN
8          0.0000     0.0015     0.0029     0.0044     0.0058
8          0.0073     0.0088     0.0102     0.0117     0.0131
8          0.0146     0.0160     0.0175     0.0190     0.0204
8          0.0219     0.0233     0.0248     0.0263     0.0277
8          0.0292     0.0306     0.0321     0.0335     0.0350
8          0.0365     0.0379     0.0394     0.0408     0.0423
8          0.0438     0.0452     0.0467     0.0481     0.0496
8          0.0510     0.0525     0.0542     0.0558     0.0575
8          0.0592     0.0608     0.0625     0.0642     0.0658
8          0.0692     0.0725     0.0758     0.0792     0.0825
8          0.0858     0.0892     0.0925     0.0975     0.1025
8          0.1075     0.1125     0.1175     0.1225     0.1275
8          0.1325     0.1442     0.1560     0.1677     0.1794
8          0.1985     0.2176     0.2366     0.2557     0.3239
8          0.3921     0.4603     0.5285     0.5520     0.5754
8          0.5989     0.6224     0.6356     0.6488     0.6620
8          0.6752     0.6862     0.6972     0.7082     0.7192
```

```
8          0.7267     0.7342     0.7417     0.7492     0.7558
8          0.7625     0.7692     0.7758     0.7825     0.7892
8          0.7958     0.8025     0.8083     0.8142     0.8200
8          0.8258     0.8308     0.8358     0.8408     0.8458
8          0.8508     0.8558     0.8608     0.8658     0.8683
8          0.8708     0.8733     0.8758     0.8783     0.8808
8          0.8833     0.8858     0.8875     0.8892     0.8908
8          0.8925     0.8942     0.8958     0.8975     0.8992
8          0.9008     0.9025     0.9042     0.9058     0.9075
8          0.9092     0.9108     0.9125     0.9140     0.9154
8          0.9169     0.9183     0.9198     0.9213     0.9227
8          0.9242     0.9256     0.9271     0.9285     0.9300
8          0.9315     0.9329     0.9344     0.9358     0.9373
8          0.9388     0.9402     0.9417     0.9431     0.9446
8          0.9460     0.9475     0.9490     0.9504     0.9519
8          0.9533     0.9548     0.9563     0.9577     0.9592
8          0.9606     0.9621     0.9635     0.9650     0.9665
8          0.9679     0.9694     0.9708     0.9723     0.9737
8          0.9752     0.9767     0.9781     0.9796     0.9810
8          0.9825     0.9840     0.9854     0.9869     0.9883
8          0.9898     0.9912     0.9927     0.9942     0.9956
8          0.9971     0.9985     1.0000     1.0000     1.0
9 ENDTBL
5 RAINFL 7            .25                                          72HRGEN
8          0.0000     0.0005     0.0009     0.0014     0.0019
8          0.0025     0.0032     0.0038     0.0044     0.0051
8          0.0057     0.0063     0.0070     0.0076     0.0082
8          0.0089     0.0095     0.0103     0.0111     0.0119
8          0.0127     0.0134     0.0142     0.0150     0.0158
8          0.0171     0.0184     0.0196     0.0209     0.0222
8          0.0234     0.0247     0.0259     0.0272     0.0285
8          0.0297     0.0310     0.0323     0.0335     0.0348
8          0.0361     0.0375     0.0389     0.0403     0.0418
8          0.0432     0.0446     0.0460     0.0475     0.0489
8          0.0503     0.0517     0.0532     0.0546     0.0560
8          0.0574     0.0589     0.0604     0.0620     0.0636
8          0.0652     0.0668     0.0684     0.0699     0.0715
8          0.0731     0.0747     0.0763     0.0778     0.0797
8          0.0816     0.0835     0.0854     0.0877     0.0899
8          0.0921     0.0943     0.0968     0.0994     0.1019
8          0.1044     0.1073     0.1101     0.1130     0.1158
8          0.1193     0.1228     0.1263     0.1297     0.1335
8          0.1373     0.1411     0.1449     0.1491     0.1532
8          0.1573     0.1614     0.1725     0.1837     0.1948
8          0.2059     0.2241     0.2422     0.2603     0.2784
8          0.3431     0.4078     0.4726     0.5373     0.5596
8          0.5819     0.6042     0.6265     0.6390     0.6515
8          0.6641     0.6766     0.6870     0.6975     0.7079
8          0.7184     0.7255     0.7326     0.7397     0.7468
8          0.7535     0.7601     0.7668     0.7734     0.7794
8          0.7854     0.7915     0.7975     0.8030     0.8085
8          0.8141     0.8196     0.8247     0.8297     0.8348
8          0.8399     0.8443     0.8487     0.8532     0.8576
8          0.8598     0.8620     0.8642     0.8665     0.8685
8          0.8706     0.8726     0.8747     0.8766     0.8785
8          0.8804     0.8823     0.8840     0.8858     0.8875
```

```
**********************80-80 LIST OF INPUT DATA (CONTINUED)**********************

8          0.8892      0.8908      0.8924      0.8940      0.8956
8          0.8972      0.8987      0.9003      0.9019      0.9035
8          0.9051      0.9066      0.9082      0.9098      0.9114
8          0.9130      0.9146      0.9160      0.9174      0.9188
8          0.9203      0.9217      0.9231      0.9245      0.9259
8          0.9274      0.9288      0.9302      0.9316      0.9329
8          0.9342      0.9354      0.9367      0.9380      0.9392
8          0.9405      0.9418      0.9430      0.9443      0.9456
8          0.9468      0.9481      0.9494      0.9506      0.9519
8          0.9530      0.9541      0.9552      0.9563      0.9574
8          0.9585      0.9597      0.9608      0.9619      0.9630
8          0.9641      0.9652      0.9661      0.9671      0.9680
8          0.9690      0.9699      0.9709      0.9718      0.9728
8          0.9736      0.9744      0.9752      0.9759      0.9767
8          0.9775      0.9783      0.9791      0.9797      0.9804
8          0.9810      0.9816      0.9823      0.9829      0.9835
8          0.9842      0.9847      0.9851      0.9856      0.9861
8          0.9866      0.9870      0.9875      0.9880      0.9884
8          0.9889      0.9894      0.9899      0.9902      0.9905
8          0.9908      0.9911      0.9915      0.9918      0.9921
8          0.9924      0.9927      0.9930      0.9934      0.9937
8          0.9940      0.9943      0.9946      0.9949      0.9953
8          0.9956      0.9959      0.9962      0.9965      0.9968
8          0.9972      0.9975      0.9978      0.9981      0.9984
8          0.9987      0.9989      0.9991      0.9992      0.9994
8          0.9995      0.9997      0.9998      1.0000      1.0000
9 ENDTBL
5 RAINFL 8     1       2.4                                          10-DAY
8          .0000       .0024       .0048       .0073       .0097
8          .0121       .0148       .0174       .0201       .0228
8          .0254       .0284       .0314       .0344       .0374
8          .0404       .0437       .0471       .0505       .0539
8          .0572       .0612       .0651       .0690       .0729
8          .0768       .0815       .0862       .0909       .0955
8          .1002       .1061       .1120       .1179       .1238
8          .1297       .1377       .1458       .1538       .1618
8          .1699       .1832       .1966       .2099       .2232
8          .2366       .2548       .2778       .3093       .3614
8          1.092       1.174       1.213       1.240       1.260
8          1.276       1.286       1.296       1.306       1.316
8          1.326       1.333       1.340       1.347       1.354
8          1.360       1.365       1.371       1.376       1.381
8          1.386       1.391       1.395       1.399       1.403
8          1.408       1.411       1.415       1.418       1.422
8          1.426       1.429       1.432       1.435       1.438
8          1.442       1.444       1.447       1.450       1.453
8          1.456       1.458       1.461       1.463       1.466
8          1.468       1.471       1.473       1.475       1.477
8          1.48        1.48        1.48        1.48        1.48
9 ENDTBL
4 DIMHYD               .0556                                          WT3
8          0.0         .03         .10         .19         .31
8          .47         .66         .82         .93         .99
8          1.0         .99         .93         .82         .66
8          .47         .31         .03         .00         .00
9 ENDTBL
```

```
**********************80-80 LIST OF INPUT DATA (CONTINUED)**********************

 2 XSECTN   005         1.0         8.77                                BOSSCS#5
 8                      0.          0.0         0.0
 8                      0.35        5.          5.56
 8                      1.03        50.         30.95
 8                      1.39        100.        52.16
 8                      1.94        200.        88.72
 8                      2.63        400.        148.61
 8                      3.51        800.        260.63
 8                      4.62        1600.       459.66
 8                      6.04        3200.       929.36
 8                      7.38        6400.       1811.51
 8                      8.77        12800.      3374.20
 8                      10.17       25600.      6398.87
 8                      11.89       51200.      10982.51
 9 ENDTBL
 2 XSECTN   010         1.0         8.94                                BOSSCS#4
 8                      0.          0.0         0.0
 8                      0.91        5.          4.95
 8                      2.03        50.         24.80
 8                      2.63        100.        41.32
 8                      3.34        200.        74.14
 8                      4.15        400.        130.28
 8                      5.23        800.        223.37
 8                      6.41        1600.       447.51
 8                      7.65        3200.       898.64
 8                      8.94        6400.       1690.88
 8                      10.29       12800.      3331.95
 8                      11.64       25600.      6185.81
 8                      13.14       51200.      10661.04
 9 ENDTBL
 2 XSECTN   020         1.0         7.3                                 REACHC
 8                      0.          0.0         0.0
 8                      1.01        100.        57.78
 8                      1.49        200.        86.81
 8                      1.88        300.        110.25
 8                      2.49        500.        149.47
 8                      3.68        1000.       226.31
 8                      5.40        2000.       346.26
 8                      7.85        4000.       533.39
 8                      9.64        6000.       688.07
 8                      11.16       8000.       838.10
 8                      12.46       10000.      985.31
 8                      13.61       12000.      1122.03
 8                      14.56       14000.      1236.94
 8                      15.43       16000.      1345.18
 8                      16.31       18000.      1456.68
 9 ENDTBL
 2 XSECTN   025         1.0         7.3                                 REACHB
 8                      0.          0.0         0.0
 8                      0.63        100.        80.89
 8                      0.93        200.        120.32
 8                      1.17        300.        151.77
 8                      1.56        500.        203.28
 8                      2.30        1000.       302.00
 8                      3.38        2000.       449.24
 8                      4.97        4000.       673.73
```

```
8                       6.23        6000.       855.96
8                       7.31        8000.       1016.35
8                       8.24        10000.      1158.51
8                       9.09        12000.      1293.31
8                       9.90        14000.      1425.57
8                       10.64       16000.      1549.17
8                       11.36       18000.      1673.11
9 ENDTBL
2 XSECTN    030         1.0         9.45                                BOSSCS#6
8                       0.          0.0         0.0
8                       0.77        5.          4.67
8                       1.54        50.         32.06
8                       1.78        100.        56.64
8                       2.10        200.        100.59
8                       2.50        400.        179.97
8                       3.01        800.        320.25
8                       3.63        1600.       589.66
8                       4.35        3200.       1110.72
8                       5.21        6400.       2084.48
8                       6.03        12800.      4119.83
8                       6.99        25600.      6856.75
8                       8.28        51200.      11085.87
9 ENDTBL
2 XSECTN    045         1.0         4.87                                REACHA
8                       0.          0.0         0.0
8                       0.60        100.        85.69
8                       0.90        200.        127.94
8                       1.13        300.        161.93
8                       1.52        500.        217.27
8                       2.25        1000.       324.03
8                       3.31        2000.       483.02
8                       4.87        4000.       722.17
8                       6.09        6000.       914.99
8                       7.15        8000.       1084.61
8                       8.05        10000.      1234.17
8                       8.87        12000.      1373.80
8                       9.64        14000.      1507.84
8                       10.34       16000.      1633.45
8                       11.00       18000.      1753.12
9 ENDTBL
2 XSECTN    060         1.0         4.7                                 2CP6CP7
8                       0.          0.0         0.0
8                       2.36        100.        45.12
8                       2.88        200.        83.75
8                       3.18        300.        114.33
8                       3.64        500.        172.72
8                       4.42        1000.       289.04
8                       5.40        2000.       470.72
8                       6.87        4000.       782.74
8                       7.91        6000.       1020.12
8                       8.79        8000.       1231.25
8                       9.60        10000.      1435.05
8                       10.26       12000.      1618.34
8                       10.94       14000.      1812.58
8                       11.47       16000.      1983.46
8                       11.96       18000.      2150.12
```

```
**********************80-80 LIST OF INPUT DATA (CONTINUED)**********************

 9 ENDTBL
 2 XSECTN   067          1.0         8.77                                BOSSCS#5
 8                       0.          0.0         0.0
 8                       0.35        5.          5.56
 8                       1.03        50.         30.95
 8                       1.39        100.        52.16
 8                       1.94        200.        88.72
 8                       2.63        400.        148.61
 8                       3.51        800.        260.63
 8                       4.62        1600.       459.66
 8                       6.04        3200.       929.36
 8                       7.38        6400.       1811.51
 8                       8.77        12800.      3374.20
 8                       10.17       25600.      6398.87
 8                       11.89       51200.      10982.51
 9 ENDTBL
 3 STRUCT       01                                                           95/11/6
 8                       1178.0      0.00        0.0
 8                       1188.0      2.71        44.8
 8                       1193.0      7.29        129.0
 8                       1199.2      26.75       500.0
 8                       1202.0      38.68       845.55
 8                       1204.0      48.00       1176.28
 8                       1206.0      56.80       1575.25
 8                       1208.0      66.40       2044.97
 8                       1210.0      77.10       2593.40
 8                       1212.0      85.95       3218.00
 8                       1213.0      2685.00     3556.67
 8                       1214.0      8231.00     3916.02
 8                       1215.0      15545.0     4294.13
 8                       1216.0      24272.0     4692.68
 8                       1217.0      34212.0     5113.19
 8                       1218.0      45232.0     5556.01
 8                       1219.0      57233.0     6021.50
 8                       1220.0      70142.0     6509.75
 9 ENDTBL
 6 RUNOFF 1 001        1 2.46        87.2        0.85        1 1
 6 REACH  3 005   1    7 9100.                               1           BOSS#6
 6 REACH  3 010   7    2 9100.                               1           BOSS#4
 6 RUNOFF 1 002        3 2.38        79.9        0.73        1 1
 6 ADDHYD 4 012   2 3 1                                      1 1
 6 DIVERT 6 012   1 4 7 4100.        1.00        200.        1 1         OLIVE
 6 REACH  3 020   4    7 3332.                               1           REACH C
 6 REACH  3 025   7    5 1950.                               1           REACH B
 6 RUNOFF 1 003        6 3.94        87.2        0.88        1 1
 6 REACH  3 030   6    7 8865.                               1           BOSS#6
 6 REACH  3 005   7    1 8865.                               1           BOSS#5
 6 REACH  3 025   1    7 1950.                               1           REACH B
 6 RUNOFF 1 004        1 2.06        77.3        0.79        1 1
 6 ADDHYD 4 034   7 1 2                                      1 1
 6 ADDHYD 4 035   5 2 3                                      1 1
 6 DIVERT 6 035   3 4 7 11000.       1.00        199.        1 1         NORTHERN
 6 REACH  3 045   4    5 4200.                               1           REACH A
 6 RUNOFF 1 006        2 1.47        87.7        0.47        1 1
 6 REACH  3 060   2    3 7540.                               1           CP6CP7
 6 REACH  3 067   3    4 5140.                               1           BOSS#5
```

```
**********************80-80 LIST OF INPUT DATA (CONTINUED)*********************

 6 ADDHYD 4 064    5 4 3                                          1 1
 6 RUNOFF 1 005        6 4.78         78.8         0.78          1 1
 6 RUNOFF 1 007        7 3.48         81.7         1.01          1 1
 6 ADDHYD 4 075    6 7 1                                          1 1
 6 ADDHYD 4 076    1 3 2                                          1 1      1
 6 RESVOR 2     01 2   1 1201.42  ARC                             1 1      1
 ENDATA
 7 LIST                  1.0                        1.
 7 INCREM 6              0.10
 7 COMPUT 7 001       01 0.          11.0         1.0           3 2  01  03
   ENDCMP 1
   ENDJOB 2

*******************************END OF 80-80 LIST******************************
```

PICP

RUNOFF OPTION USED WITH RAINTABLE NO. 8, RUNOFF CURVE NO. = 100.

COMPUTED DIMHYD PEAK RATE FACTOR = 664.607

```
EXECUTIVE CONTROL  LIST          1.          0.          1.

          LISTING OF CURRENT DATA


                      COMPUTED TIME INCREMENT
DIMHYD                          .0556

                   .0000       .0300       .1000       .1900       .3100
                   .4700       .6600       .8200       .9300       .9900
                  1.0000       .9900       .9300       .8200       .6600
                   .4700       .3100       .0300       .0000       .0000
ENDTBL

   COMPUTED PEAK RATE FACTOR =  664.607
```

TABLE NO.	TIME INCREMENT				
RAINFL 1	.1000				
	.0000	.0030	.0060	.0090	.0130
	.0160	.0200	.0250	.0300	.0350
	.0390	.0460	.0520	.0580	.0650
	.0710	.0800	.0900	.0990	.1090
	.1180	.2830	.4490	.5670	.6220
	.6690	.7010	.7320	.7560	.7800
	.7950	.8090	.8240	.8380	.8520
	.8660	.8760	.8850	.8940	.9040
	.9130	.9200	.9260	.9320	.9390
	.9450	.9500	.9540	.9590	.9640
	.9690	.9720	.9760	.9800	.9840
	.9880	.9910	.9930	.9950	.9980
	1.0000	1.0000	1.0000	1.0000	1.0000

ENDTBL

STANDARD CONTROL INSTRUCTIONS

```
RUNOFF      1       1      2.4600     87.2000      .85001 1 0 0 0 1
REACH       5   1   7   9100.0000       .0000      .00001 0 0 0 0 1
REACH      10   7   2   9100.0000       .0000      .00001 0 0 0 0 1
RUNOFF      2       3      2.3800     79.9000      .73001 1 0 0 0 1
ADDHYD     12   2 3 1                                   1 1 0 0 0 1
DIVERT     12   1 4 7   4100.0000      1.0000   200.00001 1 0 0 0 1
REACH      20   4   7   3332.0000       .0000      .00001 0 0 0 0 1
REACH      25   7   5   1950.0000       .0000      .00001 0 0 0 0 1
RUNOFF      3       6      3.9400     87.2000      .88001 1 0 0 0 1
REACH      30   6   7   8865.0000       .0000      .00001 0 0 0 0 1
REACH       5   7   1   8865.0000       .0000      .00001 0 0 0 0 1
REACH      25   1   7   1950.0000       .0000      .00001 0 0 0 0 1
RUNOFF      4       1      2.0600     77.3000      .79001 1 0 0 0 1
ADDHYD     34   7 1 2                                   1 1 0 0 0 1
ADDHYD     35   5 2 3                                   1 1 0 0 0 1
DIVERT     35   3 4 7  11000.0000      1.0000   199.00001 1 0 0 0 1
REACH      45   4   5   4200.0000       .0000      .00001 0 0 0 0 1
RUNOFF      6       2      1.4700     87.7000      .47001 1 0 0 0 1
REACH      60   2   3   7540.0000       .0000      .00001 0 0 0 0 1
REACH      67   3   4   5140.0000       .0000      .00001 0 0 0 0 1
ADDHYD     64   5 4 3                                   1 1 0 0 0 1
RUNOFF      5       6      4.7800     78.8000      .78001 1 0 0 0 1
RUNOFF      7       7      3.4800     81.7000     1.01001 1 0 0 0 1
ADDHYD     75   6 7 1                                   1 1 0 0 0 1
ADDHYD     76   1 3 2                                   1 1 0 0 1 1
RESVOR        1 2   1   1201.4200                       1 1 0 0 1 1
ENDATA
```

END OF LISTING

EXECUTIVE CONTROL INCREM MAIN TIME INCREMENT = .100 HOURS

EXECUTIVE CONTROL COMPUT FROM XSECTION 1 TO STRUCTURE 1
STARTING TIME = .00 RAIN DEPTH = 11.00 RAIN DURATION = 1.00
ANT. RUNOFF COND. = 2 MAIN TIME INCREMENT = .100 HOURS
ALTERNATE NO. = 1 STORM NO. = 3 RAIN TABLE NO. = 3

OPERATION RUNOFF XSECTION 1

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
5.37	6990.8	(RUNOFF)

HYDROGRAPH POINTS FOR ALTERNATE = 1, STORM = 3
MAIN TIME INCREMENT = .100 hr, DRAINAGE AREA = 2.46 SQ.MI.

HRS								
.90 CFS	.05	.53	2.12	5.85	12.68	22.89	36.28	52.89
1.70 CFS	73	96	123	152	182	214	246	277
2.50 CFS	307	339	374	411	451	493	535	577
3.30 CFS	624	672	718	770	829	894	961	1032
4.10 CFS	1111	1203	1310	1429	1563	1751	2072	2599
4.90 CFS	3362	4310	5327	6250	6863	6973	6604	5939
5.70 CFS	5127	4279	3557	3092	2796	2568	2375	2223
6.50 CFS	2098	1975	1855	1750	1666	1599	1533	1470
7.30 CFS	1417	1376	1344	1308	1265	1217	1163	1107
8.10 CFS	1047	993	953	935	927	921	912	896
8.90 CFS	876	853	830	802	774	751	731	710
9.70 CFS	690	677	667	658	650	641	628	611
10.50 CFS	592	567	541	520	506	497	488	480
11.30 CFS	471	459	444	429	413	397	385	383
12.10 CFS	380	364	325	266	199	129	65	21
12.90 CFS	.00							

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
9.37 WATERSHED INCHES; 14877 CFS-HRS; 1229.4 ACRE-FEET.

OPERATION REACH XSECTION 5

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
6.10	4725.6	6.68

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
9.37 WATERSHED INCHES; 14877 CFS-HRS; 1229.4 ACRE-FEET.

OPERATION REACH XSECTION 10

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
6.72	3732.2	7.86

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
9.37 WATERSHED INCHES; 14877 CFS-HRS; 1229.4 ACRE-FEET.

OPERATION RUNOFF XSECTION 2

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
5.31	6529.6	(RUNOFF)
11.98	369.2	(RUNOFF)

HYDROGRAPH POINTS FOR ALTERNATE = 1, STORM = 3
MAIN TIME INCREMENT = .100 hr, DRAINAGE AREA = 2.38 SQ.MI.

HRS								
1.60 CFS	.31	1.76	5.75	13.61	25.86	42.65	63.15	86.45
2.40 CFS	111	136	163	191	223	257	292	328
3.20 CFS	366	406	448	494	544	596	654	718
4.00 CFS	787	863	949	1054	1174	1314	1516	1868
4.80 CFS	2466	3312	4326	5355	6176	6526	6309	5728
5.60 CFS	4945	4113	3394	2930	2655	2440	2263	2125
6.40 CFS	2011	1889	1773	1677	1598	1529	1463	1402
7.20 CFS	1353	1316	1284	1250	1214	1175	1128	1072
8.00 CFS	1008	950	910	890	885	877	873	861
8.80 CFS	844	820	798	774	746	724	703	681
9.60 CFS	661	649	641	630	622	615	607	594
10.40 CFS	575	549	521	500	488	479	469	460
11.20 CFS	453	445	432	416	398	381	369	367
12.00 CFS	369	363	337	285	217	139	66	0

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
8.55 WATERSHED INCHES; 13133 CFS-HRS; 1085.3 ACRE-FEET.

OPERATION ADDHYD XSECTION 12

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
5.33	7501.0	(NULL)
6.43	5543.0	(NULL)

HYDROGRAPH POINTS FOR ALTERNATE = 1, STORM = 3
MAIN TIME INCREMENT = .100 hr, DRAINAGE AREA = 4.84 SQ.MI.

HRS								
1.60 CFS	.37	1.98	6.34	14.93	28.43	47.18	70.52	97.71
2.40 CFS	127	159	194	232	275	322	372	423
3.20 CFS	478	538	600	668	741	819	904	996
4.00 CFS	1095	1202	1321	1461	1618	1797	2042	2437
4.80 CFS	3083	3981	5052	6143	7036	7475	7373	6942
5.60 CFS	6355	5766	5332	5181	5224	5313	5405	5488
6.40 CFS	5539	5530	5480	5408	5320	5213	5086	4947
7.20 CFS	4806	4666	4524	4376	4223	4067	3903	3733
8.00 CFS	3559	3394	3251	3133	3033	2935	2844	2747
8.80 CFS	2649	2548	2453	2360	2268	2186	2108	2034

9.60 CFS	1964	1906	1854	1802	1753	1709	1665	1617
10.40 CFS	1565	1509	1452	1404	1367	1333	1300	1268
11.20 CFS	1240	1210	1176	1140	1101	1065	1035	1014
12.00 CFS	999	977	934	866	782	689	601	521
12.80 CFS	506	490	473	453	431	406	379	352
13.60 CFS	324	298	272	247	224	203	183	165
14.40 CFS	148	132	118	105	94	84	74	66
15.20 CFS	58.37	51.67	45.69	40.36	35.62	31.41	27.67	24.36
16.00 CFS	21.44	18.85	16.56	14.54	12.76	11.19	9.81	8.59
16.80 CFS	7.52	6.58	5.76	5.03	4.40	3.84	3.36	2.93
17.60 CFS	2.56	2.23	1.94	1.69	1.48	1.28	1.12	.97
18.40 CFS	.85	.74	.64	.56	.48			

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
8.97 WATERSHED INCHES; 28010 CFS-HRS; 2314.7 ACRE-FEET.

OPERATION DIVERT XSECTION 12
OUTPUT #1 HYDROGRAPH

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
5.00	4100.0 *	(DIVERT)

* FIRST POINT OF FLAT PEAK

HYDROGRAPH POINTS FOR ALTERNATE = 1, STORM = 3
MAIN TIME INCREMENT = .100 hr, DRAINAGE AREA = 4.84 SQ.MI.

HRS								
1.60 CFS	.37	1.98	6.34	14.93	28.43	47.18	70.52	97.71
2.40 CFS	127	159	194	232	275	322	372	423
3.20 CFS	478	538	600	668	741	819	904	996
4.00 CFS	1095	1202	1321	1461	1618	1797	2042	2437
4.80 CFS	3083	3981	4100	4100	4100	4100	4100	4100
5.60 CFS	4100	4100	4100	4100	4100	4100	4100	4100
6.40 CFS	4100	4100	4100	4100	4100	4100	4100	4100
7.20 CFS	4100	4100	4100	4100	4100	4067	3903	3733
8.00 CFS	3559	3394	3251	3133	3033	2935	2844	2747
8.80 CFS	2649	2548	2453	2360	2268	2186	2108	2034
9.60 CFS	1964	1906	1854	1802	1753	1709	1665	1617
10.40 CFS	1565	1509	1452	1404	1367	1333	1300	1268
11.20 CFS	1240	1210	1176	1140	1101	1065	1035	1014
12.00 CFS	999	977	934	866	782	689	601	521
12.80 CFS	506	490	473	453	431	406	379	352
13.60 CFS	324	298	272	247	224	203	183	165
14.40 CFS	148	132	118	105	94	84	74	66
15.20 CFS	58.37	51.67	45.69	40.36	35.62	31.41	27.67	24.36
16.00 CFS	21.44	18.85	16.56	14.54	12.76	11.19	9.81	8.59
16.80 CFS	7.52	6.58	5.76	5.03	4.40	3.84	3.36	2.93
17.60 CFS	2.56	2.23	1.94	1.69	1.48	1.28	1.12	.97
18.40 CFS	.85	.74	.64	.56	.48			

```
    RUNOFF ABOVE BASEFLOW  (BASEFLOW =    .00 CFS)
                  7.73 WATERSHED INCHES;   24153 CFS-HRS;    1996.0 ACRE-FEET.


            OUTPUT #2 DIVERTED HYDROGRAPH (XSECTION  200)

    PEAK TIME(HRS)             PEAK DISCHARGE(CFS)          PEAK ELEVATION(FEET)
        5.33                        3401.0                       (DIVERT)
        6.43                        1443.0                       (DIVERT)

                   HYDROGRAPH POINTS FOR   ALTERNATE = 1,   STORM = 3
     HRS      MAIN TIME INCREMENT =  .100 hr,      DRAINAGE AREA =    .00 SQ.MI.
     4.90 CFS        0     952    2043    2936    3375    3273    2842    2255
     5.70 CFS     1666    1232    1081    1124    1213    1305    1388    1439
     6.50 CFS     1430    1380    1308    1220    1113     986     847     706
     7.30 CFS      566     424     276     123       0

    RUNOFF ABOVE BASEFLOW  (BASEFLOW =    .00 CFS)
                   3857 CFS-HRS;     318.8 ACRE-FEET.


OPERATION REACH     XSECTION  20

    PEAK TIME(HRS)             PEAK DISCHARGE(CFS)          PEAK ELEVATION(FEET)
        5.90                        4100.0 *                        7.94
                                          * FIRST POINT OF FLAT PEAK

    RUNOFF ABOVE BASEFLOW  (BASEFLOW =    .00 CFS)
                  7.74 WATERSHED INCHES;   24164 CFS-HRS;    1996.9 ACRE-FEET.


OPERATION REACH     XSECTION  25

    PEAK TIME(HRS)             PEAK DISCHARGE(CFS)          PEAK ELEVATION(FEET)
        6.00                        4100.0 *                        5.03
                                          * FIRST POINT OF FLAT PEAK

    RUNOFF ABOVE BASEFLOW  (BASEFLOW =    .00 CFS)
                  7.73 WATERSHED INCHES;   24155 CFS-HRS;    1996.2 ACRE-FEET.


OPERATION RUNOFF    XSECTION   3

    PEAK TIME(HRS)             PEAK DISCHARGE(CFS)          PEAK ELEVATION(FEET)
        5.39                       11124.1                       (RUNOFF)

                   HYDROGRAPH POINTS FOR   ALTERNATE = 1,   STORM = 3
     HRS      MAIN TIME INCREMENT =  .100 hr,      DRAINAGE AREA =   3.94 SQ.MI.
      .90 CFS       .07     .73    3.02    8.43   18.53   33.93   54.30   80.04
     1.70 CFS       111     148     190     236     284     335     387     436
```

2.50 CFS	484	534	589	647	711	777	843	911
3.30 CFS	986	1063	1138	1219	1312	1415	1522	1633
4.10 CFS	1756	1901	2070	2260	2480	2794	3301	4103
4.90 CFS	5243	6669	8235	9707	10776	11123	10686	9713
5.70 CFS	8468	7142	5936	5081	4555	4174	3851	3590
6.50 CFS	3392	3202	3010	2837	2693	2579	2476	2376
7.30 CFS	2286	2215	2162	2107	2040	1963	1877	1789
8.10 CFS	1697	1609	1541	1502	1487	1476	1462	1438
8.90 CFS	1407	1372	1336	1294	1248	1209	1176	1144
9.70 CFS	1112	1088	1071	1057	1045	1031	1011	983
10.50 CFS	952	917	876	839	814	798	784	771
11.30 CFS	756	736	713	691	668	642	622	614
12.10 CFS	607	583	526	439	337	229	125	45
12.90 CFS	.00							

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
9.38 WATERSHED INCHES; 23861 CFS-HRS; 1971.8 ACRE-FEET.

OPERATION REACH XSECTION 30

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
6.25	7234.3	5.32

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
9.38 WATERSHED INCHES; 23861 CFS-HRS; 1971.8 ACRE-FEET.

OPERATION REACH XSECTION 5

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
6.89	5802.7	7.13

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
9.38 WATERSHED INCHES; 23861 CFS-HRS; 1971.8 ACRE-FEET.

*** WARNING - ROUTING COEFFICIENT (C) EQUALS 1.0,
CONSIDER SMALLER MAIN TIME INCREMENT FOR XSECTION 25. ***

OPERATION REACH XSECTION 25

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
6.89	5802.7	6.11

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
9.38 WATERSHED INCHES; 23861 CFS-HRS; 1971.8 ACRE-FEET.

OPERATION RUNOFF XSECTION 4

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
5.36	5262.0	(RUNOFF)

HYDROGRAPH POINTS FOR ALTERNATE = 1, STORM = 3
MAIN TIME INCREMENT = .100 hr, DRAINAGE AREA = 2.06 SQ.MI.

HRS								
1.80 CFS	.28	1.36	4.20	9.85	18.94	31.80	47.93	66.51
2.60 CFS	87	109	133	159	186	214	244	277
3.40 CFS	311	346	385	427	475	526	581	642
4.20 CFS	713	796	890	1004	1171	1446	1884	2500
5.00 CFS	3254	4056	4764	5199	5233	4910	4371	3740
5.80 CFS	3121	2645	2345	2139	1974	1839	1735	1642
6.60 CFS	1545	1456	1381	1318	1266	1215	1168	1130
7.40 CFS	1100	1077	1047	1015	974	929	880	830
8.20 CFS	790	765	755	751	745	737	723	706
9.00 CFS	688	669	646	624	606	589	573	559
9.80 CFS	550	542	534	528	521	510	495	477
10.60 CFS	456	435	421	411	404	396	390	383
11.40 CFS	372	359	346	333	321	314	314	310
12.20 CFS	291	253	202	144	86	38	0	

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
8.20 WATERSHED INCHES; 10905 CFS-HRS; 901.2 ACRE-FEET.

OPERATION ADDHYD XSECTION 34

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
5.40	6671.5	(NULL)
6.75	7171.2	(NULL)

HYDROGRAPH POINTS FOR ALTERNATE = 1, STORM = 3
MAIN TIME INCREMENT = .100 hr, DRAINAGE AREA = 6.00 SQ.MI.

HRS								
1.70 CFS	.09	.57	2.14	5.95	13.30	25.08	41.88	63.50
2.50 CFS	89	119	153	191	234	280	330	383
3.30 CFS	442	504	570	642	720	805	897	995
4.10 CFS	1101	1220	1354	1501	1672	1899	2238	2744
4.90 CFS	3434	4266	5155	5958	6504	6671	6519	6201
5.70 CFS	5852	5585	5525	5687	5961	6265	6555	6814
6.50 CFS	7007	7119	7166	7164	7120	7042	6927	6786
7.30 CFS	6630	6462	6287	6095	5894	5682	5464	5243
8.10 CFS	5024	4820	4635	4471	4318	4168	4020	3871
8.90 CFS	3725	3580	3442	3306	3178	3060	2949	2844
9.70 CFS	2747	2660	2577	2498	2425	2353	2281	.2208
10.50 CFS	2135	2061	1991	1930	1876	1827	1780	1736
11.30 CFS	1691	1644	1595	1548	1500	1456	1418	1388
12.10 CFS	1355	1308	1242	1164	1080	996	923	861
12.90 CFS	837	812	784	753	719	680	639	597
13.70 CFS	554	512	471	432	395	359	327	296
14.50 CFS	268	242	218	196	176	158	142	127

15.30 CFS	113	101	90	81	72	64	57	50
16.10 CFS	44.81	39.76	35.27	31.26	27.69	24.52	21.70	19.20
16.90 CFS	16.98	15.00	13.25	11.70	10.33	9.12	8.04	7.09
17.70 CFS	6.25	5.51	4.85	4.28	3.76	3.31	2.91	2.56
18.50 CFS	2.26	1.98	1.74	1.53	1.35	1.18	1.04	.91
19.30 CFS	.80	.70	.62	.54	.47			

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
8.98 WATERSHED INCHES; 34765 CFS-HRS; 2873.0 ACRE-FEET.

OPERATION ADDHYD XSECTION 35

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
5.40	10768.8	(NULL)
6.75	11271.2	(NULL)

HYDROGRAPH POINTS FOR ALTERNATE = 1, STORM = 3
MAIN TIME INCREMENT = .100 hr, DRAINAGE AREA = 10.84 SQ.MI.

HRS								
1.70 CFS	0	1	4	11	26	50	84	128
2.50 CFS	180	239	304	376	455	543	639	741
3.30 CFS	851	968	1091	1225	1370	1527	1695	1876
4.10 CFS	2073	2288	2526	2791	3096	3476	3988	4723
4.90 CFS	5772	7189	8908	9986	10590	10768	10619	10301
5.70 CFS	9952	9685	9625	9787	10061	10365	10655	10914
6.50 CFS	11107	11219	11266	11264	11220	11142	11027	10886
7.30 CFS	10730	10562	10387	10195	9994	9782	9538	9183
8.10 CFS	8801	8425	8074	7762	7484	7229	6982	6740
8.90 CFS	6498	6256	6018	5786	5563	5353	5158	4974
9.70 CFS	4801	4643	4499	4367	4241	4120	4002	3885
10.50 CFS	3765	3641	3515	3398	3294	3205	3123	3045
11.30 CFS	2968	2892	2813	2733	2650	2568	2493	2432
12.10 CFS	2375	2312	2225	2109	1963	1800	1637	1487
12.90 CFS	1380	1326	1280	1231	1177	1117	1051	983
13.70 CFS	913	844	776	711	649	590	536	485
14.50 CFS	438	394	355	318	285	255	228	204
15.30 CFS	182	162	144	128	114	101	89	79
16.10 CFS	70.11	62.03	54.84	48.46	42.80	37.78	33.33	29.39
16.90 CFS	25.91	22.83	20.10	17.70	15.57	13.70	12.04	10.59
17.70 CFS	9.30	8.17	7.18	6.30	5.53	4.85	4.25	3.73
18.50 CFS	3.27	2.87	2.51	2.20	1.92	1.68	1.47	1.29
19.30 CFS	1.13	.99	.86	.75	.65	.57	.50	

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
8.42 WATERSHED INCHES; 58920 CFS-HRS; 4869.1 ACRE-FEET.

OPERATION DIVERT XSECTION 35
OUTPUT #1 HYDROGRAPH

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
5.40	10768.8	(DIVERT)
6.50	11000.0 *	(DIVERT)

* FIRST POINT OF FLAT PEAK

HYDROGRAPH POINTS FOR ALTERNATE = 1, STORM = 3
MAIN TIME INCREMENT = .100 hr, DRAINAGE AREA = 10.84 SQ.MI.

HRS								
1.70 CFS	0	1	4	11	26	50	84	128
2.50 CFS	180	239	304	376	455	543	639	741
3.30 CFS	851	968	1091	1225	1370	1527	1695	1876
4.10 CFS	2073	2288	2526	2791	3096	3476	3988	4723
4.90 CFS	5772	7189	8908	9986	10590	10768	10619	10301
5.70 CFS	9952	9685	9625	9787	10061	10365	10655	10914
6.50 CFS	11000	11000	11000	11000	11000	11000	11000	10886
7.30 CFS	10730	10562	10387	10195	9994	9782	9538	9183
8.10 CFS	8801	8425	8074	7762	7484	7229	6982	6740
8.90 CFS	6498	6256	6018	5786	5563	5353	5158	4974
9.70 CFS	4801	4643	4499	4367	4241	4120	4002	3885
10.50 CFS	3765	3641	3515	3398	3294	3205	3123	3045
11.30 CFS	2968	2892	2813	2733	2650	2568	2493	2432
12.10 CFS	2375	2312	2225	2109	1963	1800	1637	1487
12.90 CFS	1380	1326	1280	1231	1177	1117	1051	983
13.70 CFS	913	844	776	711	649	590	536	485
14.50 CFS	438	394	355	318	285	255	228	204
15.30 CFS	182	162	144	128	114	101	89	79
16.10 CFS	70.11	62.03	54.84	48.46	42.80	37.78	33.33	29.39
16.90 CFS	25.91	22.83	20.10	17.70	15.57	13.70	12.04	10.59
17.70 CFS	9.30	8.17	7.18	6.30	5.53	4.85	4.25	3.73
18.50 CFS	3.27	2.87	2.51	2.20	1.92	1.68	1.47	1.29
19.30 CFS	1.13	.99	.86	.75	.65	.57	.50	

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
8.40 WATERSHED INCHES; 58795 CFS-HRS; 4858.8 ACRE-FEET.

OUTPUT #2 DIVERTED HYDROGRAPH (XSECTION 199)

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
6.75	271.2	(DIVERT)

HYDROGRAPH POINTS FOR ALTERNATE = 1, STORM = 3
MAIN TIME INCREMENT = .100 hr, DRAINAGE AREA = .00 SQ.MI.

HRS								
6.40 CFS	.00	106.97	218.58	265.93	263.98	220.48	141.53	26.82
7.20 CFS	.00							

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
125 CFS-HRS; 10.3 ACRE-FEET.

OPERATION REACH XSECTION 45

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
5.54	10698.8	8.34
7.15	11010.9	8.46

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
8.41 WATERSHED INCHES; 58803 CFS-HRS; 4859.4 ACRE-FEET.

OPERATION RUNOFF XSECTION 6

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
5.16	4720.9	(RUNOFF)
7.07	870.2	(RUNOFF)
10.11	394.8	(RUNOFF)
11.20	290.4	(RUNOFF)
11.73	240.7	(RUNOFF)
11.97	229.6	(RUNOFF)

HYDROGRAPH POINTS FOR ALTERNATE = 1, STORM = 3
MAIN TIME INCREMENT = .100 hr, DRAINAGE AREA = 1.47 SQ.MI.

HRS	.36	2.21	7.32	16.42	28.11	40.33	50.78	61.20
.90 CFS								
1.70 CFS	79	104	128	146	159	179	199	221
2.50 CFS	239	256	281	315	350	371	382	410
3.30 CFS	454	496	520	542	586	648	706	743
4.10 CFS	777	859	981	1095	1168	1328	1836	2713
4.90 CFS	3644	4319	4636	4691	4312	3534	2726	2278
5.70 CFS	2012	1773	1570	1466	1445	1366	1242	1138
6.50 CFS	1082	1068	1024	949	889	864	869	846
7.30 CFS	803	772	762	761	724	658	599	569
8.10 CFS	568	567	564	555	553	550	541	511
8.90 CFS	487	483	477	459	430	416	415	414
9.70 CFS	409	394	383	386	395	388	356	327
10.50 CFS	312	311	311	306	292	280	281	290
11.30 CFS	282	253	229	230	240	238	229	229
12.10 CFS	226	183	104	32	3	0		

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
9.56 WATERSHED INCHES; 9074 CFS-HRS; 749.9 ACRE-FEET.

OPERATION REACH XSECTION 60

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
5.50	3964.6	6.84

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
9.57 WATERSHED INCHES; 9075 CFS-HRS; 750.0 ACRE-FEET.

OPERATION REACH XSECTION 67

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
5.93	3212.0	6.05

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
9.57 WATERSHED INCHES; 9075 CFS-HRS; 750.0 ACRE-FEET.

OPERATION ADDHYD XSECTION 64

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
5.69	13269.4	(NULL)
6.52	13240.6	(NULL)

HYDROGRAPH POINTS FOR ALTERNATE = 1, STORM = 3
MAIN TIME INCREMENT = .100 hr, DRAINAGE AREA = 12.31 SQ.MI.

HRS								
1.40 CFS	.19	.80	2.23	4.86	8.86	14.55	23.00	36.78
2.20 CFS	59	92	136	191	255	327	407	494
3.00 CFS	589	692	805	927	1057	1194	1338	1493
3.80 CFS	1661	1842	2034	2240	2464	2709	2978	3272
4.60 CFS	3607	4016	4551	5289	6324	7744	9551	11034
5.40 CFS	12134	12840	13189	13269	13167	12977	12847	12852
6.20 CFS	12940	13052	13154	13239	13196	13064	12917	12778
7.00 CFS	12652	12540	12438	12257	12033	11798	11564	11319
7.80 CFS	11071	10816	10541	10179	9774	9362	8967	8609
8.60 CFS	8289	7998	7723	7458	7197	6940	6685	6436
9.40 CFS	6195	5967	5753	5551	5360	5183	5021	4873
10.20 CFS	4734	4600	4471	4345	4219	4088	3953	3822
11.00 CFS	3703	3599	3504	3414	3327	3241	3156	3069
11.80 CFS	2979	2888	2802	2728	2663	2593	2506	2393
12.60 CFS	2249	2078	1894	1715	1571	1476	1402	1333
13.40 CFS	1263	1191	1116	1039	962	887	814	744
14.20 CFS	678	617	559	505	456	411	369	332
15.00 CFS	297	266	238	212	189	168	150	133
15.80 CFS	118	105	93	82	73	65	57	51
16.60 CFS	44.62	39.40	34.76	30.66	27.02	23.81	20.97	18.46
17.40 CFS	16.25	14.30	12.57	11.05	9.71	8.53	7.49	6.58
18.20 CFS	5.77	5.07	4.44	3.90	3.42	2.99	2.62	2.30
19.00 CFS	2.01	1.76	1.54	1.35	1.18	1.03	.90	.79
19.80 CFS	.69	.60	.52	.45				

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
8.54 WATERSHED INCHES; 67872 CFS-HRS; 5609.0 ACRE-FEET.

OPERATION RUNOFF XSECTION 5

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
5.35	12491.0	(RUNOFF)
11.99	735.7	(RUNOFF)

HYDROGRAPH POINTS FOR ALTERNATE = 1, STORM = 3
MAIN TIME INCREMENT = .100 hr, DRAINAGE AREA = 4.78 SQ.MI.

HRS								
1.60 CFS	0	1	4	12	27	50	81	121
2.40 CFS	166	214	265	319	378	443	510	578
3.20 CFS	651	729	812	897	991	1094	1208	1329
4.00 CFS	1458	1601	1766	1967	2197	2460	2849	3501
4.80 CFS	4574	6087	7922	9838	11465	12386	12359	11532
5.60 CFS	10235	8737	7301	6182	5475	5008	4630	4315
6.40 CFS	4064	3842	3611	3405	3230	3084	2960	2835
7.20 CFS	2729	2642	2579	2518	2444	2364	2271	2167
8.00 CFS	2054	1940	1848	1792	1767	1757	1744	1724
8.80 CFS	1691	1651	1607	1562	1507	1458	1415	1375
9.60 CFS	1335	1304	1285	1265	1248	1234	1217	1191
10.40 CFS	1155	1113	1062	1015	982	960	942	925
11.20 CFS	911	894	869	839	808	776	746	732
12.00 CFS	736	729	687	592	468	327	186	73
12.80 CFS	.00							

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
8.39 WATERSHED INCHES; 25897 CFS-HRS; 2140.1 ACRE-FEET.

OPERATION RUNOFF XSECTION 7

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
5.49	8882.4	(RUNOFF)

HYDROGRAPH POINTS FOR ALTERNATE = 1, STORM = 3
MAIN TIME INCREMENT = .100 hr, DRAINAGE AREA = 3.48 SQ.MI.

HRS								
1.50 CFS	.44	1.90	5.52	12.61	24.38	41.39	63.70	90.97
2.30 CFS	123	158	194	232	272	315	361	410
3.10 CFS	461	514	571	632	696	760	829	906
3.90 CFS	994	1083	1177	1285	1411	1560	1731	1955
4.70 CFS	2293	2817	3578	4570	5706	6876	7929	8660
5.50 CFS	8879	8538	7822	6915	5942	5028	4318	3856
6.30 CFS	3536	3269	3039	2875	2725	2569	2423	2299
7.10 CFS	2203	2122	2041	1965	1901	1853	1806	1743
7.90 CFS	1674	1597	1528	1461	1392	1339	1303	1285
8.70 CFS	1274	1259	1237	1211	1181	1150	1116	1075
9.50 CFS	1042	1015	991	965	942	927	916	905
10.30 CFS	889	868	843	816	791	759	729	705
11.10 CFS	691	680	668	653	634	614	595	579
11.90 CFS	560	543	529	516	486	430	352	270
12.70 CFS	188	111	49	12	0			

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
8.70 WATERSHED INCHES; 19531 CFS-HRS; 1614.1 ACRE-FEET.

OPERATION ADDHYD XSECTION 75

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
5.40	21019.6	(NULL)

HYDROGRAPH POINTS FOR ALTERNATE = 1, STORM = 3
MAIN TIME INCREMENT = .100 hr, DRAINAGE AREA = 8.26 SQ.MI.

HRS								
1.50 CFS	0	2	6	17	36	68	113	172
2.30 CFS	244	324	408	496	590	693	803	920
3.10 CFS	1039	1165	1301	1444	1593	1752	1923	2114
3.90 CFS	2323	2541	2778	3051	3379	3757	4191	4804
4.70 CFS	5794	7392	9665	12492	15544	18342	20315	21019
5.50 CFS	20411	18773	16559	14216	12124	10503	9326	8486
6.30 CFS	7851	7333	6881	6486	6130	5799	5507	5259
7.10 CFS	5038	4851	4683	4544	4419	4297	4170	4014
7.90 CFS	3841	3651	3468	3308	3184	3106	3060	3029
8.70 CFS	2998	2950	2888	2818	2743	2657	2573	2490
9.50 CFS	2417	2350	2295	2250	2208	2175	2150	2121
10.30 CFS	2080	2023	1955	1878	1806	1741	1689	1647
11.10 CFS	1616	1591	1562	1522	1473	1422	1371	1325
11.90 CFS	1292	1278	1258	1202	1078	898	679	456
12.70 CFS	261	111	49	12	0			

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
8.52 WATERSHED INCHES; 45428 CFS-HRS; 3754.1 ACRE-FEET.

OPERATION ADDHYD XSECTION 76] Inflow

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
5.46	33378.8	(NULL)

HYDROGRAPH POINTS FOR ALTERNATE = 1, STORM = 3
MAIN TIME INCREMENT = .100 hr, DRAINAGE AREA = 20.57 SQ.MI.

HRS								
1.40 CFS	0	1	4	11	25	51	91	150
2.20 CFS	231	336	460	599	752	918	1100	1297
3.00 CFS	1508	1732	1971	2228	2501	2787	3090	3416
3.80 CFS	3775	4165	4575	5018	5514	6088	6734	7463
4.60 CFS	8411	9811	11943	14955	18816	23288	27893	31349
5.40 CFS	33153	33251	31962	29828	27382	25101	23350	22178
6.20 CFS	21426	20903	20488	20120	19682	19194	18716	18284
7.00 CFS	17911	17578	17289	16940	16576	16218	15860	15490
7.80 CFS	15085	14657	14192	13646	13082	12546	12073	11669
8.60 CFS	11318	10996	10673	10346	10015	9683	9342	9009
9.40 CFS	8685	8384	8103	7846	7610	7391	7196	7024
10.20 CFS	6855	6679	6494	6300	6097	5894	5694	5511
11.00 CFS	5350	5214	5095	4976	4849	4714	4578	4440
11.80 CFS	4305	4180	4080	3986	3865	3671	3404	.3072
12.60 CFS	2704	2339	2006	1764	1583	1476	1402	1333
13.40 CFS	1263	1191	1116	1039	962	887	814	744
14.20 CFS	678	617	559	505	456	411	369	332
15.00 CFS	297	266	238	212	189	168	150	133
15.80 CFS	118	105	93	82	73	65	57	51
16.60 CFS	44.62	39.40	34.76	30.66	27.02	23.81	20.97	18.46

17.40 CFS	16.25	14.30	12.57	11.05	9.71	8.53	7.49	6.58
18.20 CFS	5.77	5.07	4.44	3.90	3.42	2.99	2.62	2.30
19.00 CFS	2.01	1.76	1.54	1.35	1.18	1.03	.90	.79
19.80 CFS	.69	.60	.52	.45				

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
8.53 WATERSHED INCHES; 113300 CFS-HRS; 9363.1 ACRE-FEET.

--- XSECTION 76, ALTERNATE 1, STORM 3, HYDROGRAPH ADDED TO READHD FILE ---

*** MESSAGE - STRUCTURE 1, USER ENTERED STARTING ELEVATION (1201.4 FEET) CAN ADD .705 INCHES OF RUNOFF TO THE OUTFLOW HYDROGRAPH VOLUME.***

*** MESSAGE - RESERVOIR ROUTING, STRUCTURE 1, TRUNCATED AT 400 POINTS WITH 3069.11 AC-FT (.23 WATERSHED INCHES) FLOOD STORAGE REMAINING IN RESERVOIR AT ELEV. 1211.52. ***

12-hr Cr outflow

OPERATION RESVOR STRUCTURE 1

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
7.08	17654.0	1215.24

HYDROGRAPH POINTS FOR ALTERNATE = 1, STORM = 3
MAIN TIME INCREMENT = .100 hr, DRAINAGE AREA = 20.57 SQ.MI.

HRS								
1.00 CFS	36.21	36.20	36.19	36.18	36.17	36.16	36.15	36.14
1.80 CFS	36.13	36.14	36.15	36.17	36.21	36.28	36.39	36.53
2.60 CFS	36.71	36.94	37.22	37.55	37.94	38.39	38.86	39.34
3.40 CFS	39.88	40.49	41.17	41.91	42.74	43.66	44.66	45.77
4.20 CFS	46.99	48.25	49.41	50.70	52.14	53.79	55.76	58.10
5.00 CFS	61	64	69	73	78	82	86	1957
5.80 CFS	4460	7072	9339	11326	12877	14104	15080	15890
6.60 CFS	16556	17034	17353	17543	17635	17653	17617	17533
7.40 CFS	17405	17237	17039	16812	16559	16279	15971	15631
8.20 CFS	15286	14920	14534	14139	13748	13364	12990	12623
9.00 CFS	12261	11904	11550	11199	10850	10508	10172	9847
9.80 CFS	9533	9232	8945	8674	8417	8184	7992	7801
10.60 CFS	7609	7415	7221	7027	6835	6649	6470	6298
11.40 CFS	6132	5970	5811	5655	5501	5350	5204	5064
12.20 CFS	4927	4788	4638	4470	4281	4070	3842	3608
13.00 CFS	3376	3154	2949	2759	2633	2547	2461	2376
13.80 CFS	2291	2207	2124	2041	1960	1879	1799	1722
14.60 CFS	1645	1571	1498	1428	1359	1293	1229	1167
15.40 CFS	1108	1051	996	943	893	845	799	755
16.20 CFS	714	674	636	601	567	534	504	475
17.00 CFS	447	422	397	374	352	331	312	293
17.80 CFS	276	259	244	229	216	203	191	179
18.60 CFS	168	158	149	140	131	123	116	109
19.40 CFS	102	96	90	86	86	86	86	86
20.20 CFS	85.90	85.89	85.88	85.87	85.86	85.85	85.84	85.83
21.00 CFS	85.82	85.81	85.80	85.79	85.78	85.77	85.76	85.75

21.80 CFS	85.74	85.73	85.72	85.71	85.70	85.69	85.68	85.67
22.60 CFS	85.66	85.65	85.64	85.63	85.62	85.61	85.60	85.59
23.40 CFS	85.58	85.57	85.56	85.55	85.54	85.53	85.52	85.51
24.20 CFS	85.50	85.49	85.48	85.47	85.46	85.45	85.44	85.43
25.00 CFS	85.42	85.41	85.40	85.39	85.38	85.37	85.36	85.35
25.80 CFS	85.34	85.33	85.32	85.31	85.30	85.29	85.28	85.27
26.60 CFS	85.26	85.25	85.24	85.23	85.22	85.21	85.20	85.19
27.40 CFS	85.18	85.17	85.16	85.15	85.14	85.13	85.12	85.11
28.20 CFS	85.10	85.09	85.08	85.07	85.06	85.05	85.04	85.03
29.00 CFS	85.02	85.01	85.00	84.99	84.98	84.97	84.96	84.95
29.80 CFS	84.94	84.93	84.92	84.91	84.90	84.89	84.88	84.87
30.60 CFS	84.86	84.85	84.84	84.83	84.82	84.81	84.80	84.79
31.40 CFS	84.78	84.77	84.76	84.75	84.74	84.73	84.72	84.71
32.20 CFS	84.70	84.69	84.68	84.67	84.66	84.65	84.64	84.63
33.00 CFS	84.62	84.61	84.60	84.59	84.58	84.57	84.56	84.55
33.80 CFS	84.54	84.53	84.52	84.51	84.50	84.49	84.48	84.47
34.60 CFS	84.46	84.45	84.44	84.43	84.42	84.41	84.40	84.39
35.40 CFS	84.38	84.37	84.36	84.35	84.34	84.33	84.32	84.31
36.20 CFS	84.30	84.29	84.28	84.27	84.26	84.25	84.24	84.23
37.00 CFS	84.22	84.21	84.20	84.19	84.18	84.18	84.17	84.16
37.80 CFS	84.15	84.14	84.13	84.12	84.11	84.10	84.09	84.08
38.60 CFS	84.07	84.06	84.05	84.04	84.03	84.02	84.01	84.00
39.40 CFS	83.99	83.98	83.97	83.96	83.95	83.94	83.93	83.92
40.20 CFS	83.91	83.90	83.89	83.88	83.87	83.86	83.85	83.84

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
6.44 WATERSHED INCHES; 85545 CFS-HRS; 7069.4 ACRE-FEET.

--- STRUCTURE 1, ALTERNATE 1, STORM 3, HYDROGRAPH ADDED TO READHD FILE ---

EXECUTIVE CONTROL ENDCMP COMPUTATIONS COMPLETED FOR PASS 1

SUMMARY TABLE 1

SELECTED RESULTS OF STANDARD AND EXECUTIVE CONTROL IN ORDER PERFORMED.
A CHARACTER FOLLOWING THE PEAK DISCHARGE TIME AND RATE (CFS) INDICATES:
F-FLAT TOP HYDROGRAPH T-TRUNCATED HYDROGRAPH R-RISING TRUNCATED HYDROGRAPH

RAINFALL OF 11.00 inches AND 12.00 hr DURATION, BEGINS AT .0 hrs.
RAINTABLE NUMBER 3, ARC 2
MAIN TIME INCREMENT .100 HOURS

ALTERNATE 1 STORM 3

XSECTION/ STRUCTURE ID		STANDARD CONTROL OPERATION	DRAINAGE AREA (SQ MI)	RUNOFF AMOUNT (IN)	PEAK DISCHARGE ELEVATION (FT)	TIME (HR)	RATE (CFS)	RATE (CSM)
XSECTION	1	RUNOFF	2.46	9.37	---	5.37	6991	2841.9
XSECTION	5	REACH	2.46	9.37	6.68	6.10	4726	1921.1
XSECTION	10	REACH	2.46	9.37	7.86	6.72	3732	1517.1
XSECTION	2	RUNOFF	2.38	8.55	---	5.31	6530	2743.7
XSECTION	12	ADDHYD	4.84	8.97	---	5.33	7501	1549.8
XSECTION	12	DIVERT	4.84	7.73	---	5.00F	4100F	847.1
XSECTION	200	DIVERT	.00	7.73	---	5.33	3401	********
XSECTION	20	REACH	4.84	7.74	7.94	5.90F	4100F	847.1
XSECTION	25	REACH	4.84	7.73	5.03	6.00F	4100F	847.1
XSECTION	3	RUNOFF	3.94	9.38	---	5.39	11124	2823.4
XSECTION	30	REACH	3.94	9.38	5.32	6.25	7234	1836.0
XSECTION	5	REACH	3.94	9.38	7.13	6.89	5803	1472.8
XSECTION	25	REACH	3.94	9.38	6.11	6.89	5803	1472.8
XSECTION	4	RUNOFF	2.06	8.20	---	5.36	5262	2554.4
XSECTION	34	ADDHYD	6.00	8.98	---	6.75	7171	1195.2
XSECTION	35	ADDHYD	10.84	8.42	---	6.75	11271	1039.8
XSECTION	35	DIVERT	10.84	8.40	---	6.50F	11000F	1014.8
XSECTION	199	DIVERT	.00	8.40	---	6.75	271	********
XSECTION	45	REACH	10.84	8.41	8.46	7.15	11011	1015.8
XSECTION	6	RUNOFF	1.47	9.56	---	5.16	4721	3211.6
XSECTION	60	REACH	1.47	9.57	6.84	5.50	3965	2697.3
XSECTION	67	REACH	1.47	9.57	6.05	5.93	3212	2185.0
XSECTION	64	ADDHYD	12.31	8.54	---	5.69	13269	1077.9
XSECTION	5	RUNOFF	4.78	8.39	---	5.35	12491	2613.2
XSECTION	7	RUNOFF	3.48	8.70	---	5.49	8882	2552.3
XSECTION	75	ADDHYD	8.26	8.52	---	5.40	21020	2544.8
XSECTION	76	ADDHYD	20.57	8.53	---	5.46	33379	1622.7
STRUCTURE	1	RESVOR	20.57	6.44	1215.24	7.08	17654	858.2

SUMMARY TABLE 2

MODIFIED ATT-KIN REACH ROUTING IN ORDER PERFORMED.
QUESTION MARK (?) AFTER: OUTFLOW PEAK - MAX. NUMBER ROUTING ITERATIONS USED;
LENGTH FACTOR - VALUE k* GREATER THAN 1.0;
ATT-KIN COEFF - VALUE C GREATER THAN 0.667.

			HYDROGRAPH INFORMATION				ROUTING PARAMETERS				
		FLOOD	INFLOW		OUTFLOW		Q-A EQ.			PEAK	ATT-
XSEC ID	REACH LENGTH (FT)	PLAIN LENGTH (FT)	PEAK (CFS)	TIME (HR)	PEAK (CFS)	TIME (HR)	COEFF (X)	POWER (M)	LENGTH FACTOR (k*)	RATIO Q/I (Q*)	KIN COEFF (C)

BASEFLOW IS .0 CFS

ALTERNATE 1 STORM 3

5	9100	6973	5.4	4726	6.1	1.93	1.08	.304	.678	.14
10	9100	4726	6.1	3731	6.7	2.18	1.07	.195	.790	.15
20	3332	4100	5.0	4100	5.9	.14	1.63	.002	1.000	.80?
25	1950	4100	5.9	4100	6.0	.052	1.73	.001	1.000	.98?
30	8865	11123	5.4	7215	6.2	1.65	1.08	.343	.649	.13
5	8865	7215	6.2	5803	6.9	1.92	1.08	.183	.804	.15
25	1950	5803	6.9	5803	6.9	.055	1.72	.001	1.000	1.00?
45	4200	11000	6.5	11000	7.2	.049	1.72	.002	1.000	.77?
60	7540	4691	5.2	3964	5.5	.42	1.38	.109	.845	.30
67	5140	3964	5.5	3206	5.9	1.65	1.11	.150	.809	.24

SUMMARY TABLE 3

STORM DISCHARGES (CFS) AT XSECTIONS AND STRUCTURES FOR ALL ALTERNATES
QUESTION MARK (?) AFTER: OUTFLOW PEAK - RISING TRUNCATED HYDROGRAPH.

XSECTION/ STRUCTURE ID	DRAINAGE AREA (SQ MI)	STORM NUMBERS..... 3
STRUCTURE 1	20.57	
ALTERNATE 1		17654
XSECTION 1	2.46	
ALTERNATE 1		6991
XSECTION 2	2.38	
ALTERNATE 1		6530
XSECTION 3	3.94	
ALTERNATE 1		11124
XSECTION 4	2.06	
ALTERNATE 1		5262
XSECTION 5	4.78	
ALTERNATE 1		12491
XSECTION 6	1.47	
ALTERNATE 1		4721
XSECTION 7	3.48	
ALTERNATE 1		8882
XSECTION 10	2.46	
ALTERNATE 1		3732
XSECTION 12	4.84	
ALTERNATE 1		4100
XSECTION 20	4.84	
ALTERNATE 1		4100
XSECTION 25	3.94	
ALTERNATE 1		5803
XSECTION 30	3.94	
ALTERNATE 1		7234
XSECTION 34	6.00	

SUMMARY TABLE 3

STORM DISCHARGES (CFS) AT XSECTIONS AND STRUCTURES FOR ALL ALTERNATES
QUESTION MARK (?) AFTER: OUTFLOW PEAK - RISING TRUNCATED HYDROGRAPH.

XSECTION/ STRUCTURE ID	DRAINAGE AREA (SQ MI)	STORM NUMBERS..... 3
XSECTION 34	6.00	
ALTERNATE 1		7171
XSECTION 35	10.84	
ALTERNATE 1		11000
XSECTION 45	10.84	
ALTERNATE 1		11011
XSECTION 60	1.47	
ALTERNATE 1		3965
XSECTION 64	12.31	
ALTERNATE 1		13269
XSECTION 67	1.47	
ALTERNATE 1		3212
XSECTION 75	8.26	
ALTERNATE 1		21020
XSECTION 76	20.57	
ALTERNATE 1		33379
XSECTION 199	.00	
ALTERNATE 1		271
XSECTION 200	.00	
ALTERNATE 1		3401

ECON2 DATA FILE

```
ECON2
TITLE        WHITE TANK FRS #3, WATERSHED DIVIDED INTO 7 SUB-BASINS
TITLE       12-HR GENERAL PMP, RESERVOIR INIT EMPTY W/100-YR SEDMNT
FLOW-FREQ    -1         17654.                                        ALT  1   1
FLOW-FREQ     1          6991.                                        ALT  1   2
FLOW-FREQ     2          6530.                                        ALT  1   3
FLOW-FREQ     3         11124.                                        ALT  1   4
FLOW-FREQ     4          5262.                                        ALT  1   5
FLOW-FREQ     5         12491.                                        ALT  1   6
FLOW-FREQ     6          4721.                                        ALT  1   7
FLOW-FREQ     7          8882.                                        ALT  1   8
FLOW-FREQ    10          3732.                                        ALT  1   9
FLOW-FREQ    12          4100.                                        ALT  1  10
FLOW-FREQ    20          4100.                                        ALT  1  11
FLOW-FREQ    25          5803.                                        ALT  1  12
FLOW-FREQ    30          7234.                                        ALT  1  13
FLOW-FREQ    34          7171.                                        ALT  1  14
FLOW-FREQ    35         11000.                                        ALT  1  15
FLOW-FREQ    45         11011.                                        ALT  1  16
FLOW-FREQ    60          3965.                                        ALT  1  17
FLOW-FREQ    64         13269.                                        ALT  1  18
FLOW-FREQ    67          3212.                                        ALT  1  19
FLOW-FREQ    75         21020.                                        ALT  1  20
FLOW-FREQ    76         33379.                                        ALT  1  21
FLOW-FREQ   199           271.                                        ALT  1  22
FLOW-FREQ   200          3401.                                        ALT  1  23
```

```
TR20 ------------------------------------------------------------------------ SCS -
WT3PMP12     WHITE TANK FRS #3, WATERSHED DIVIDED INTO 7 SUB-BASINS      VERSION
07/29/**    12-HR GENERAL PMP, RESERVOIR INIT EMPTY W/100-YR SEDMNT     2.04TEST


END OF  1 JOBS IN THIS RUN


                    SCS  TR-20,  VERSION 2.04TEST
                          WT3PMP12  FILES

     INPUT  = WT3PMP12.DAT                          , GIVEN DATA FILE
     OUTPUT = 12OUT.OUT                             , DATED 07/29/**,14:47:38

              FILES GENERATED - DATED 07/29/**,14:47:38

    FILE 111.TEC CONTAINS ECON2 INFORMATION

    FILE 111.TRD CONTAINS READHD INFORMATION


          TOTAL NUMBER OF WARNINGS =   1,  MESSAGES =   2

                       JOB ENDED AT 14:47:39
                   *** TR-20 RUN COMPLETED ***
```

NRCS CRITERIA

INTERIM Condition

18-hr General

```
*****************80-80 LIST OF INPUT DATA FOR TR-20 HYDROLOGY*****************

JOB TR-20 WT3PMP18  ECON                PASS=001  SUMMARY
TITLE     WHITE TANK FRS #3, WATERSHED DIVIDED INTO 7 SUB-BASINS
TITLE     18-HR PMP (MTI=.1), RESERVOIR INIT EMPTY W/100-YR SED
 5 RAINFL 1            0.1                                                6HRLOCAL
 8          .0000      .003       .006       .009       .013
 8          .016       .020       .025       .030       .035
 8          .039       .046       .052       .058       .065
 8          .071       .080       .090       .099       .109
 8          .118       .283       .449       .567       .622
 8          .669       .701       .732       .756       .780
 8          .795       .809       .824       .838       .852
 8          .866       .876       .885       .894       .904
 8          .913       .920       .926       .932       .939
 8          .945       .950       .954       .959       .964
 8          .969       .972       .976       .980       .984
 8          .988       .991       .993       .995       .998
 8          1.         1.         1.         1.         1.
 9 ENDTBL
 5 RAINFL 2            .1                                                 6HR GEN
 8          .000       .005       .013       .020       .028
 8          .038       .045       .053       .060       .070
 8          .080       .085       .095       .108       .120
 8          .138       .150       .165       .190       .210
 8          .238       .280       .350       .440       .550
 8          .590       .620       .645       .668       .685
 8          .700       .720       .735       .753       .765
 8          .775       .790       .800       .810       .820
 8          .835       .843       .850       .863       .870
 8          .880       .890       .898       .908       .915
 8          .925       .930       .940       .945       .955
 8          .963       .970       .978       .985       .990
 8          1.00       1.00       1.00       1.00       1.00
 9 ENDTBL
 5 RAINFL 3            0.1                                                12HRGEN
 8          .000       .003       .007       .010       .013
 8          .016       .019       .022       .025       .028
 8          .031       .034       .037       .040       .043
 8          .045       .050       .054       .058       .062
 8          .066       .071       .075       .080       .085
 8          .089       .095       .101       .107       .112
 8          .118       .125       .132       .139       .146
 8          .153       .162       .171       .180       .189
 8          .198       .211       .224       .237       .250
 8          .264       .300       .345       .391       .436
 8          .491       .536       .564       .586       .607
 8          .629       .643       .657       .672       .686
 8          .700       .711       .721       .732       .742
 8          .753       .761       .769       .778       .786
 8          .795       .802       .809       .817       .824
 8          .832       .837       .843       .848       .854
 8          .859       .865       .870       .875       .881
 8          .886       .891       .895       .900       .905
 8          .909       .913       .917       .921       .925
 8          .929       .933       .936       .940       .944
 8          .948       .951       .954       .957       .960
 8          .963       .966       .969       .971       .974
```

```
**********************80-80 LIST OF INPUT DATA (CONTINUED)**********************

 8          .977        .980        .982        .984        .986
 8          .989        .991        .993        .995        .998
 8         1.000       01.000       1.000       1.000       1.00
 9 ENDTBL
 5 RAINFL 4            0.1                                                  18HRGEN
 8          .000        .001        .002        .003        .004
 8          .005        .005        .006        .007        .008
 8          .009        .012        .014        .017        .020
 8          .023        .025        .028        .031        .033
 8          .036        .040        .044        .049        .053
 8          .057        .061        .065        .070        .074
 8          .078        .084        .090        .096        .102
 8          .108        .114        .120        .126        .132
 8          .138        .146        .154        .162        .170
 8          .179        .187        .195        .203        .211
 8          .220        .238        .256        .275        .293
 8          .311        .330        .348        .367        .385
 8          .403        .430        .457        .484        .511
 8          .538        .557        .577        .597        .616
 8          .636        .653        .670        .687        .704
 8          .721        .734        .746        .759        .771
 8          .784        .792        .801        .810        .818
 8          .827        .832        .838        .843        .848
 8          .853        .856        .859        .862        .864
 8          .867        .870        .872        .875        .878
 8          .880        .882        .885        .887        .889
 8          .891        .893        .895        .897        .899
 8          .901        .903        .905        .907        .909
 8          .911        .912        .914        .916        .917
 8          .919        .920        .922        .924        .925
 8          .927        .929        .930        .932        .934
 8          .935        .937        .938        .940        .941
 8          .943        .945        .946        .948        .949
 8          .951        .952        .953        .955        .956
 8          .957        .959        .960        .961        .963
 8          .964        .965        .967        .968        .970
 8          .971        .972        .974        .975        .976
 8          .978        .979        .980        .982        .983
 8          .984        .985        .986        .988        .989
 8          .990        .991        .992        .993        .994
 8          .995        .996        .997        .998        .999
 8         1.000       1.000       1.000       1.000       1.000
 9 ENDTBL
 5 RAINFL 5            0.1                                                  24HRGEN
 8         0.000       0.000       0.001       0.001       0.002
 8         0.002       0.002       0.003       0.003       0.003
 8         0.004       0.005       0.007       0.009       0.010
 8         0.012       0.013       0.015       0.016       0.018
 8         0.019       0.022       0.024       0.027       0.030
 8         0.032       0.035       0.037       0.040       0.042
 8         0.045       0.048       0.051       0.055       0.058
 8         0.061       0.064       0.068       0.071       0.074
 8         0.078       0.082       0.087       0.091       0.096
 8         0.100       0.104       0.109       0.113       0.118
 8         0.122       0.127       0.132       0.137       0.142
 8         0.147       0.151       0.156       0.161       0.166
```

```
8          0.171      0.177      0.184      0.191      0.198
8          0.205      0.214      0.224      0.233      0.242
8          0.252      0.265      0.278      0.291      0.303
8          0.316      0.334      0.351      0.368      0.386
8          0.403      0.425      0.447      0.468      0.490
8          0.512      0.527      0.543      0.558      0.574
8          0.589      0.603      0.617      0.631      0.645
8          0.659      0.671      0.684      0.696      0.709
8          0.721      0.731      0.741      0.751      0.761
8          0.771      0.779      0.786      0.793      0.800
8          0.808      0.814      0.820      0.825      0.831
8          0.837      0.840      0.843      0.847      0.850
8          0.853      0.855      0.857      0.859      0.861
8          0.864      0.866      0.868      0.870      0.872
8          0.874      0.876      0.878      0.880      0.881
8          0.883      0.885      0.886      0.888      0.890
8          0.891      0.893      0.895      0.896      0.898
8          0.899      0.901      0.902      0.904      0.905
8          0.907      0.908      0.909      0.910      0.912
8          0.913      0.914      0.915      0.916      0.917
8          0.919      0.920      0.921      0.922      0.923
8          0.924      0.926      0.927      0.928      0.929
8          0.930      0.932      0.933      0.935      0.936
8          0.938      0.940      0.941      0.943      0.944
8          0.946      0.947      0.947      0.948      0.949
8          0.950      0.950      0.951      0.952      0.953
8          0.953      0.955      0.956      0.957      0.958
8          0.959      0.960      0.961      0.962      0.963
8          0.964      0.965      0.966      0.967      0.968
8          0.969      0.970      0.971      0.972      0.973
8          0.974      0.975      0.976      0.977      0.978
8          0.979      0.980      0.981      0.982      0.983
8          0.984      0.985      0.986      0.987      0.988
8          0.988      0.989      0.990      0.991      0.991
8          0.992      0.993      0.994      0.995      0.995
8          0.996      0.997      0.998      0.998      0.999
8          1.000      1.000      1.000      1.000      1.000
9 ENDTBL
5 RAINFL 6            .25                                          48HRGEN
8          0.0000     0.0015     0.0029     0.0044     0.0058
8          0.0073     0.0088     0.0102     0.0117     0.0131
8          0.0146     0.0160     0.0175     0.0190     0.0204
8          0.0219     0.0233     0.0248     0.0263     0.0277
8          0.0292     0.0306     0.0321     0.0335     0.0350
8          0.0365     0.0379     0.0394     0.0408     0.0423
8          0.0438     0.0452     0.0467     0.0481     0.0496
8          0.0510     0.0525     0.0542     0.0558     0.0575
8          0.0592     0.0608     0.0625     0.0642     0.0658
8          0.0692     0.0725     0.0758     0.0792     0.0825
8          0.0858     0.0892     0.0925     0.0975     0.1025
8          0.1075     0.1125     0.1175     0.1225     0.1275
8          0.1325     0.1442     0.1560     0.1677     0.1794
8          0.1985     0.2176     0.2366     0.2557     0.3239
8          0.3921     0.4603     0.5285     0.5520     0.5754
8          0.5989     0.6224     0.6356     0.6488     0.6620
8          0.6752     0.6862     0.6972     0.7082     0.7192
```

```
8          0.7267     0.7342     0.7417     0.7492     0.7558
8          0.7625     0.7692     0.7758     0.7825     0.7892
8          0.7958     0.8025     0.8083     0.8142     0.8200
8          0.8258     0.8308     0.8358     0.8408     0.8458
8          0.8508     0.8558     0.8608     0.8658     0.8683
8          0.8708     0.8733     0.8758     0.8783     0.8808
8          0.8833     0.8858     0.8875     0.8892     0.8908
8          0.8925     0.8942     0.8958     0.8975     0.8992
8          0.9008     0.9025     0.9042     0.9058     0.9075
8          0.9092     0.9108     0.9125     0.9140     0.9154
8          0.9169     0.9183     0.9198     0.9213     0.9227
8          0.9242     0.9256     0.9271     0.9285     0.9300
8          0.9315     0.9329     0.9344     0.9358     0.9373
8          0.9388     0.9402     0.9417     0.9431     0.9446
8          0.9460     0.9475     0.9490     0.9504     0.9519
8          0.9533     0.9548     0.9563     0.9577     0.9592
8          0.9606     0.9621     0.9635     0.9650     0.9665
8          0.9679     0.9694     0.9708     0.9723     0.9737
8          0.9752     0.9767     0.9781     0.9796     0.9810
8          0.9825     0.9840     0.9854     0.9869     0.9883
8          0.9898     0.9912     0.9927     0.9942     0.9956
8          0.9971     0.9985     1.0000     1.0000     1.0
9 ENDTBL
5 RAINFL 7            .25                                          72HRGEN
8          0.0000     0.0005     0.0009     0.0014     0.0019
8          0.0025     0.0032     0.0038     0.0044     0.0051
8          0.0057     0.0063     0.0070     0.0076     0.0082
8          0.0089     0.0095     0.0103     0.0111     0.0119
8          0.0127     0.0134     0.0142     0.0150     0.0158
8          0.0171     0.0184     0.0196     0.0209     0.0222
8          0.0234     0.0247     0.0259     0.0272     0.0285
8          0.0297     0.0310     0.0323     0.0335     0.0348
8          0.0361     0.0375     0.0389     0.0403     0.0418
8          0.0432     0.0446     0.0460     0.0475     0.0489
8          0.0503     0.0517     0.0532     0.0546     0.0560
8          0.0574     0.0589     0.0604     0.0620     0.0636
8          0.0652     0.0668     0.0684     0.0699     0.0715
8          0.0731     0.0747     0.0763     0.0778     0.0797
8          0.0816     0.0835     0.0854     0.0877     0.0899
8          0.0921     0.0943     0.0968     0.0994     0.1019
8          0.1044     0.1073     0.1101     0.1130     0.1158
8          0.1193     0.1228     0.1263     0.1297     0.1335
8          0.1373     0.1411     0.1449     0.1491     0.1532
8          0.1573     0.1614     0.1725     0.1837     0.1948
8          0.2059     0.2241     0.2422     0.2603     0.2784
8          0.3431     0.4078     0.4726     0.5373     0.5596
8          0.5819     0.6042     0.6265     0.6390     0.6515
8          0.6641     0.6766     0.6870     0.6975     0.7079
8          0.7184     0.7255     0.7326     0.7397     0.7468
8          0.7535     0.7601     0.7668     0.7734     0.7794
8          0.7854     0.7915     0.7975     0.8030     0.8085
8          0.8141     0.8196     0.8247     0.8297     0.8348
8          0.8399     0.8443     0.8487     0.8532     0.8576
8          0.8598     0.8620     0.8642     0.8665     0.8685
8          0.8706     0.8726     0.8747     0.8766     0.8785
8          0.8804     0.8823     0.8840     0.8858     0.8875
```

```
8          0.8892     0.8908     0.8924     0.8940     0.8956
8          0.8972     0.8987     0.9003     0.9019     0.9035
8          0.9051     0.9066     0.9082     0.9098     0.9114
8          0.9130     0.9146     0.9160     0.9174     0.9188
8          0.9203     0.9217     0.9231     0.9245     0.9259
8          0.9274     0.9288     0.9302     0.9316     0.9329
8          0.9342     0.9354     0.9367     0.9380     0.9392
8          0.9405     0.9418     0.9430     0.9443     0.9456
8          0.9468     0.9481     0.9494     0.9506     0.9519
8          0.9530     0.9541     0.9552     0.9563     0.9574
8          0.9585     0.9597     0.9608     0.9619     0.9630
8          0.9641     0.9652     0.9661     0.9671     0.9680
8          0.9690     0.9699     0.9709     0.9718     0.9728
8          0.9736     0.9744     0.9752     0.9759     0.9767
8          0.9775     0.9783     0.9791     0.9797     0.9804
8          0.9810     0.9816     0.9823     0.9829     0.9835
8          0.9842     0.9847     0.9851     0.9856     0.9861
8          0.9866     0.9870     0.9875     0.9880     0.9884
8          0.9889     0.9894     0.9899     0.9902     0.9905
8          0.9908     0.9911     0.9915     0.9918     0.9921
8          0.9924     0.9927     0.9930     0.9934     0.9937
8          0.9940     0.9943     0.9946     0.9949     0.9953
8          0.9956     0.9959     0.9962     0.9965     0.9968
8          0.9972     0.9975     0.9978     0.9981     0.9984
8          0.9987     0.9989     0.9991     0.9992     0.9994
8          0.9995     0.9997     0.9998     1.0000     1.0000
9 ENDTBL
5 RAINFL 8     1      2.4                                          10-DAY
8          .0000      .0024      .0048      .0073      .0097
8          .0121      .0148      .0174      .0201      .0228
8          .0254      .0284      .0314      .0344      .0374
8          .0404      .0437      .0471      .0505      .0539
8          .0572      .0612      .0651      .0690      .0729
8          .0768      .0815      .0862      .0909      .0955
8          .1002      .1061      .1120      .1179      .1238
8          .1297      .1377      .1458      .1538      .1618
8          .1699      .1832      .1966      .2099      .2232
8          .2366      .2548      .2778      .3093      .3614
8          1.092      1.174      1.213      1.240      1.260
8          1.276      1.286      1.296      1.306      1.316
8          1.326      1.333      1.340      1.347      1.354
8          1.360      1.365      1.371      1.376      1.381
8          1.386      1.391      1.395      1.399      1.403
8          1.408      1.411      1.415      1.418      1.422
8          1.426      1.429      1.432      1.435      1.438
8          1.442      1.444      1.447      1.450      1.453
8          1.456      1.458      1.461      1.463      1.466
8          1.468      1.471      1.473      1.475      1.477
8          1.48       1.48       1.48       1.48       1.48
9 ENDTBL
4 DIMHYD              .0556                                         WT3
8          0.0        .03        .10        .19        .31
8          .47        .66        .82        .93        .99
8          1.0        .99        .93        .82        .66
8          .47        .31        .03        .00        .00
9 ENDTBL
```

```
**********************80-80 LIST OF INPUT DATA (CONTINUED)**********************

 2 XSECTN   005         1.0         8.77                                BOSSCS#5
 8                      0.          0.0         0.0
 8                      0.35        5.          5.56
 8                      1.03        50.         30.95
 8                      1.39        100.        52.16
 8                      1.94        200.        88.72
 8                      2.63        400.        148.61
 8                      3.51        800.        260.63
 8                      4.62        1600.       459.66
 8                      6.04        3200.       929.36
 8                      7.38        6400.       1811.51
 8                      8.77        12800.      3374.20
 8                      10.17       25600.      6398.87
 8                      11.89       51200.      10982.51
 9 ENDTBL
 2 XSECTN   010         1.0         8.94                                BOSSCS#4
 8                      0.          0.0         0.0
 8                      0.91        5.          4.95
 8                      2.03        50.         24.80
 8                      2.63        100.        41.32
 8                      3.34        200.        74.14
 8                      4.15        400.        130.28
 8                      5.23        800.        223.37
 8                      6.41        1600.       447.51
 8                      7.65        3200.       898.64
 8                      8.94        6400.       1690.88
 8                      10.29       12800.      3331.95
 8                      11.64       25600.      6185.81
 8                      13.14       51200.      10661.04
 9 ENDTBL
 2 XSECTN   020         1.0         7.3                                 REACHC
 8                      0.          0.0         0.0
 8                      1.01        100.        57.78
 8                      1.49        200.        86.81
 8                      1.88        300.        110.25
 8                      2.49        500.        149.47
 8                      3.68        1000.       226.31
 8                      5.40        2000.       346.26
 8                      7.85        4000.       533.39
 8                      9.64        6000.       688.07
 8                      11.16       8000.       838.10
 8                      12.46       10000.      985.31
 8                      13.61       12000.      1122.03
 8                      14.56       14000.      1236.94
 8                      15.43       16000.      1345.18
 8                      16.31       18000.      1456.68
 9 ENDTBL
 2 XSECTN   025         1.0         7.3                                 REACHB
 8                      0.          0.0         0.0
 8                      0.63        100.        80.89
 8                      0.93        200.        120.32
 8                      1.17        300.        151.77
 8                      1.56        500.        203.28
 8                      2.30        1000.       302.00
 8                      3.38        2000.       449.24
 8                      4.97        4000.       673.73
```

```
8                       6.23        6000.       855.96
8                       7.31        8000.       1016.35
8                       8.24        10000.      1158.51
8                       9.09        12000.      1293.31
8                       9.90        14000.      1425.57
8                       10.64       16000.      1549.17
8                       11.36       18000.      1673.11
9 ENDTBL
2 XSECTN    030         1.0         9.45                                BOSSCS#6
8                       0.          0.0         0.0
8                       0.77        5.          4.67
8                       1.54        50.         32.06
8                       1.78        100.        56.64
8                       2.10        200.        100.59
8                       2.50        400.        179.97
8                       3.01        800.        320.25
8                       3.63        1600.       589.66
8                       4.35        3200.       1110.72
8                       5.21        6400.       2084.48
8                       6.03        12800.      4119.83
8                       6.99        25600.      6856.75
8                       8.28        51200.      11085.87
9 ENDTBL
2 XSECTN    045         1.0         4.87                                REACHA
8                       0.          0.0         0.0
8                       0.60        100.        85.69
8                       0.90        200.        127.94
8                       1.13        300.        161.93
8                       1.52        500.        217.27
8                       2.25        1000.       324.03
8                       3.31        2000.       483.02
8                       4.87        4000.       722.17
8                       6.09        6000.       914.99
8                       7.15        8000.       1084.61
8                       8.05        10000.      1234.17
8                       8.87        12000.      1373.80
8                       9.64        14000.      1507.84
8                       10.34       16000.      1633.45
8                       11.00       18000.      1753.12
9 ENDTBL
2 XSECTN    060         1.0         4.7                                 2CP6CP7
8                       0.          0.0         0.0
8                       2.36        100.        45.12
8                       2.88        200.        83.75
8                       3.18        300.        114.33
8                       3.64        500.        172.72
8                       4.42        1000.       289.04
8                       5.40        2000.       470.72
8                       6.87        4000.       782.74
8                       7.91        6000.       1020.12
8                       8.79        8000.       1231.25
8                       9.60        10000.      1435.05
8                       10.26       12000.      1618.34
8                       10.94       14000.      1812.58
8                       11.47       16000.      1983.46
8                       11.96       18000.      2150.12
```

```
**********************80-80 LIST OF INPUT DATA (CONTINUED)*********************

 9 ENDTBL
 2 XSECTN   067          1.0         8.77                                BOSSCS#5
 8                       0.          0.0         0.0
 8                       0.35        5.          5.56
 8                       1.03        50.         30.95
 8                       1.39        100.        52.16
 8                       1.94        200.        88.72
 8                       2.63        400.        148.61
 8                       3.51        800.        260.63
 8                       4.62        1600.       459.66
 8                       6.04        3200.       929.36
 8                       7.38        6400.       1811.51
 8                       8.77        12800.      3374.20
 8                       10.17       25600.      6398.87
 8                       11.89       51200.      10982.51
 9 ENDTBL
 3 STRUCT       01                                                           95/11/6
 8                       1178.0      0.00        0.0
 8                       1188.0      2.71        44.8
 8                       1193.0      7.29        129.0
 8                       1199.2      26.75       500.0
 8                       1202.0      38.68       845.55
 8                       1204.0      48.00       1176.28
 8                       1206.0      56.80       1575.25
 8                       1208.0      66.40       2044.97
 8                       1210.0      77.10       2593.40
 8                       1212.0      85.95       3218.00
 8                       1213.0      2685.00     3556.67
 8                       1214.0      8231.00     3916.02
 8                       1215.0      15545.0     4294.13
 8                       1216.0      24272.0     4692.68
 8                       1217.0      34212.0     5113.19
 8                       1218.0      45232.0     5556.01
 8                       1219.0      57233.0     6021.50
 8                       1220.0      70142.0     6509.75
 9 ENDTBL
 6 RUNOFF 1 001       1 2.46         87.2        0.85        1 1
 6 REACH  3 005   1   7 9100.                                1           BOSS#6
 6 REACH  3 010   7   2 9100.                                1           BOSS#4
 6 RUNOFF 1 002       3 2.38         79.9        0.73        1 1
 6 ADDHYD 4 012   2 3 1                                      1 1
 6 DIVERT 6 012   1 4 7 4100.        1.00        200.        1 1         OLIVE
 6 REACH  3 020   4   7 3332.                                1           REACH C
 6 REACH  3 025   7   5 1950.                                1           REACH B
 6 RUNOFF 1 003       6 3.94         87.2        0.88        1 1
 6 REACH  3 030   6   7 8865.                                1           BOSS#6
 6 REACH  3 005   7   1 8865.                                1           BOSS#5
 6 REACH  3 025   1   7 1950.                                1           REACH B
 6 RUNOFF 1 004       1 2.06         77.3        0.79        1 1
 6 ADDHYD 4 034   7 1 2                                      1 1
 6 ADDHYD 4 035   5 2 3                                      1 1
 6 DIVERT 6 035   3 4 7 11000.       1.00        199.        1 1         NORTHERN
 6 REACH  3 045   4   5 4200.                                1           REACH A
 6 RUNOFF 1 006       2 1.47         87.7        0.47        1 1
 6 REACH  3 060   2   3 7540.                                1           CP6CP7
 6 REACH  3 067   3   4 5140.                                1           BOSS#5
```

```
**********************80-80 LIST OF INPUT DATA (CONTINUED)**********************

 6 ADDHYD 4 064   5 4 3                                          1 1
 6 RUNOFF 1 005       6 4.78        78.8        0.78             1 1
 6 RUNOFF 1 007       7 3.48        81.7        1.01             1 1
 6 ADDHYD 4 075   6 7 1                                          1 1
 6 ADDHYD 4 076   1 3 2                                          1 1     1
 6 RESVOR 2    01 2   1 1201.42                                  1 1     1
 ENDATA
 7 LIST                 1.0                       1.
 7 INCREM 6             0.10
 7 COMPUT 7 001      01 0.          12.2          1.0            4 2  01  01
   ENDCMP 1
   ENDJOB 2

*******************************END OF 80-80 LIST*******************************
```

PRCP.

RUNOFF OPTION USED WITH RAINTABLE NO. 8, RUNOFF CURVE NO. = 100.

COMPUTED DIMHYD PEAK RATE FACTOR = 664.607

```
EXECUTIVE CONTROL  LIST          1.          0.          1.

          LISTING OF CURRENT DATA


                      COMPUTED TIME INCREMENT
DIMHYD                          .0556

                   .0000       .0300       .1000       .1900       .3100
                   .4700       .6600       .8200       .9300       .9900
                  1.0000       .9900       .9300       .8200       .6600
                   .4700       .3100       .0300       .0000       .0000
ENDTBL

   COMPUTED PEAK RATE FACTOR =  664.607
```

```
      TABLE NO.        TIME INCREMENT
RAINFL    1                .1000

                  .0000       .0030       .0060       .0090       .0130
                  .0160       .0200       .0250       .0300       .0350
                  .0390       .0460       .0520       .0580       .0650
                  .0710       .0800       .0900       .0990       .1090
                  .1180       .2830       .4490       .5670       .6220
                  .6690       .7010       .7320       .7560       .7800
                  .7950       .8090       .8240       .8380       .8520
                  .8660       .8760       .8850       .8940       .9040
                  .9130       .9200       .9260       .9320       .9390
                  .9450       .9500       .9540       .9590       .9640
                  .9690       .9720       .9760       .9800       .9840
                  .9880       .9910       .9930       .9950       .9980
                 1.0000      1.0000      1.0000      1.0000      1.0000
ENDTBL
```

STANDARD CONTROL INSTRUCTIONS

```
RUNOFF      1       1      2.4600     87.2000      .85001 1 0 0 0 1
REACH       5   1   7   9100.0000       .0000      .00001 0 0 0 0 1
REACH      10   7   2   9100.0000       .0000      .00001 0 0 0 0 1
RUNOFF      2       3      2.3800     79.9000      .73001 1 0 0 0 1
ADDHYD     12   2 3 1                                   1 1 0 0 0 1
DIVERT     12   1 4 7   4100.0000      1.0000   200.00001 1 0 0 0 1
REACH      20   4   7   3332.0000       .0000      .00001 0 0 0 0 1
REACH      25   7   5   1950.0000       .0000      .00001 0 0 0 0 1
RUNOFF      3       6      3.9400     87.2000      .88001 1 0 0 0 1
REACH      30   6   7   8865.0000       .0000      .00001 0 0 0 0 1
REACH       5   7   1   8865.0000       .0000      .00001 0 0 0 0 1
REACH      25   1   7   1950.0000       .0000      .00001 0 0 0 0 1
RUNOFF      4       1      2.0600     77.3000      .79001 1 0 0 0 1
ADDHYD     34   7 1 2                                   1 1 0 0 0 1
ADDHYD     35   5 2 3                                   1 1 0 0 0 1
DIVERT     35   3 4 7  11000.0000      1.0000   199.00001 1 0 0 0 1
REACH      45   4   5   4200.0000       .0000      .00001 0 0 0 0 1
RUNOFF      6       2      1.4700     87.7000      .47001 1 0 0 0 1
REACH      60   2   3   7540.0000       .0000      .00001 0 0 0 0 1
REACH      67   3   4   5140.0000       .0000      .00001 0 0 0 0 1
ADDHYD     64   5 4 3                                   1 1 0 0 0 1
RUNOFF      5       6      4.7800     78.8000      .78001 1 0 0 0 1
RUNOFF      7       7      3.4800     81.7000     1.01001 1 0 0 0 1
ADDHYD     75   6 7 1                                   1 1 0 0 0 1
ADDHYD     76   1 3 2                                   1 1 0 0 1 1
RESVOR        1 2   1   1201.4200                       1 1 0 0 1 1
ENDATA
```

END OF LISTING

EXECUTIVE CONTROL INCREM MAIN TIME INCREMENT = .100 HOURS

EXECUTIVE CONTROL COMPUT FROM XSECTION 1 TO STRUCTURE 1
STARTING TIME = .00 RAIN DEPTH = 12.20 RAIN DURATION = 1.00
ANT. RUNOFF COND. = 2 MAIN TIME INCREMENT = .100 HOURS
ALTERNATE NO. = 1 STORM NO. = 1 RAIN TABLE NO. = 4

OPERATION RUNOFF XSECTION 1

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
6.78	4656.2	(RUNOFF)
11.36	380.2	(RUNOFF)
12.92	318.4	(RUNOFF)
14.00	303.3	(RUNOFF)
14.98	254.7	(RUNOFF)
15.72	266.0	(RUNOFF)
16.38	255.1	(RUNOFF)
17.85	190.6	(RUNOFF)

HYDROGRAPH POINTS FOR ALTERNATE = 1, STORM = 1
MAIN TIME INCREMENT = .100 hr, DRAINAGE AREA = 2.46 SQ.MI.

HRS								
1.60 CFS	.04	.52	2.18	5.91	12.84	24.03	40.78	64.60
2.40 CFS	95	131	170	208	245	278	308	338
3.20 CFS	373	417	470	527	585	641	690	726
4.00 CFS	753	780	816	864	929	1003	1080	1154
4.80 CFS	1214	1252	1280	1328	1427	1607	1884	2215
5.60 CFS	2552	2848	3065	3183	3237	3293	3394	3569
6.40 CFS	3818	4113	4396	4597	4654	4538	4321	4078
7.20 CFS	3848	3661	3534	3439	3339	3226	3094	2947
8.00 CFS	2793	2629	2458	2291	2138	1999	1856	1710
8.80 CFS	1569	1445	1326	1198	1073	956	852	760
9.60 CFS	674	600	547	519	507	502	498	487
10.40 CFS	473	461	444	425	412	401	389	382
11.20 CFS	380	380	380	380	377	371	361	348
12.00 CFS	337	324	313	307	305	305	306	310
12.80 CFS	315	318	317	316	315	310	304	299
13.60 CFS	296	294	298	302	303	302	296	287
14.40 CFS	274	266	262	256	253	254	255	253
15.20 CFS	254	255	256	260	265	266	265	265
16.00 CFS	261	256	253	254	255	253	251	246
16.80 CFS	237	232	230	229	226	225	221	211
17.60 CFS	199	192	191	191	190	187	178	159
18.40 CFS	130	96	61	31	10	1	0	

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
10.56 WATERSHED INCHES; 16763 CFS-HRS; 1385.3 ACRE-FEET.

OPERATION REACH XSECTION 5

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
7.45	3848.4	6.31
16.13	264.8	2.16

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
10.56 WATERSHED INCHES; 16763 CFS-HRS; 1385.3 ACRE-FEET.

OPERATION REACH XSECTION 10

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
8.23	3472.4	7.76

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
10.56 WATERSHED INCHES; 16763 CFS-HRS; 1385.3 ACRE-FEET.

OPERATION RUNOFF XSECTION 2

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
6.72	4354.8	(RUNOFF)
11.36	364.1	(RUNOFF)
12.84	305.1	(RUNOFF)
13.09	305.0	(RUNOFF)
13.97	293.5	(RUNOFF)
14.90	244.5	(RUNOFF)
15.22	244.5	(RUNOFF)
15.70	256.7	(RUNOFF)
16.29	245.3	(RUNOFF)
16.45	243.3	(RUNOFF)

HYDROGRAPH POINTS FOR ALTERNATE = 1, STORM = 1
MAIN TIME INCREMENT = .100 hr, DRAINAGE AREA = 2.38 SQ.MI.

HRS	.17	1.57	5.81	14.86	29.29	48.64	72.31	98.38
2.20 CFS	125	153	185	223	267	315	363	407
3.00 CFS	444	475	505	537	578	632	698	770
3.80 CFS	841	904	950	982	1012	1071	1195	1419
4.60 CFS	1727	2062	2372	2603	2739	2801	2856	2933
5.40 CFS	3071	3306	3617	3949	4222	4352	4286	4081
6.20 CFS	3849	3630	3460	3347	3262	3173	3080	2973
7.00 CFS	2845	2697	2536	2374	2224	2084	1948	1808
7.80 CFS	1668	1541	1424	1306	1179	1054	944	844
8.60 CFS	756	663	582	523	494	485	482	481
9.40 CFS	472	457	445	430	411	398	386	373
10.20 CFS	365	364	364	364	364	363	359	351
11.00 CFS	338	325	313	301	294	292	291	292
11.80 CFS	296	302	305	305	302	305	301	294
12.60 CFS								

13.40 CFS	288	283	278	282	291	292	293	287
14.20 CFS	278	266	257	252	246	243	243	244
15.00 CFS	243	243	244	244	248	253	256	257
15.80 CFS	256	252	246	243	243	245	243	243
16.60 CFS	242	230	221	218	218	219	221	217
17.40 CFS	206	193	183	183	183	183	182	177
18.20 CFS	164	138	104	67	34	11	0	

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
9.71 WATERSHED INCHES; 14922 CFS-HRS; 1233.1 ACRE-FEET.

OPERATION ADDHYD XSECTION 12

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
6.80	6319.2	(NULL)
7.60	6254.9	(NULL)
13.78	651.5	(NULL)
15.52	546.1	(NULL)
16.26	518.8	(NULL)
17.16	483.5	(NULL)

HYDROGRAPH POINTS FOR ALTERNATE = 1, STORM = 1
MAIN TIME INCREMENT = .100 hr, DRAINAGE AREA = 4.84 SQ.MI.

HRS								
2.20 CFS	0	2	6	16	32	54	81	112
3.00 CFS	145	182	225	276	334	398	463	527
3.80 CFS	586	640	695	756	827	912	1011	1116
4.60 CFS	1222	1319	1401	1470	1541	1640	1808	2078
5.40 CFS	2431	2812	3170	3452	3646	3778	3915	4089
6.20 CFS	4336	4691	5126	5586	5988	6250	6319	6255
7.00 CFS	6172	6108	6096	6137	6197	6237	6255	6240
7.80 CFS	6185	6092	5971	5835	5695	5553	5402	5234
8.60 CFS	5055	4877	4697	4509	4303	4090	3887	3689
9.40 CFS	3497	3297	3106	2935	2792	2668	2550	2435
10.20 CFS	2314	2189	2073	1958	1844	1742	1648	1559
11.00 CFS	1479	1411	1349	1292	1239	1190	1141	1091
11.80 CFS	1041	994	951	911	878	852	829	809
12.60 CFS	794	782	768	753	736	726	710	692
13.40 CFS	677	664	652	649	651	646	642	631
14.20 CFS	618	601	588	580	571	565	562	560
15.00 CFS	555	551	548	544	544	546	545	543
15.80 CFS	539	532	524	519	518	518	515	514
16.60 CFS	511	499	488	484	483	482	483	477
17.40 CFS	465	449	438	436	433	431	427	419
18.20 CFS	402	374	336	295	259	233	216	211
19.00 CFS	203	194	184	173	161	149	138	126
19.80 CFS	115	105	95	86	78	70	63	56
20.60 CFS	50.42	45.04	40.18	35.79	31.84	28.29	25.10	22.25
21.40 CFS	19.71	17.44	15.42	13.62	12.02	10.60	9.34	8.23
22.20 CFS	7.24	6.37	5.60	4.92	4.32	3.79	3.32	2.91
23.00 CFS	2.55	2.24	1.96	1.71	1.50	1.31	1.14	1.00

23.80 CFS	.87	.76	.66	.58	.50	.44

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
10.14 WATERSHED INCHES; 31684 CFS-HRS; 2618.4 ACRE-FEET.

OPERATION DIVERT XSECTION 12
OUTPUT #1 HYDROGRAPH

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
6.20	4100.0 *	(DIVERT)
13.78	651.5	(DIVERT)
15.52	546.1	(DIVERT)
16.26	518.8	(DIVERT)
17.16	483.5	(DIVERT)

* FIRST POINT OF FLAT PEAK

HYDROGRAPH POINTS FOR ALTERNATE = 1, STORM = 1
MAIN TIME INCREMENT = .100 hr, DRAINAGE AREA = 4.84 SQ.MI.

HRS								
2.20 CFS	0	2	6	16	32	54	81	112
3.00 CFS	145	182	225	276	334	398	463	527
3.80 CFS	586	640	695	756	827	912	1011	1116
4.60 CFS	1222	1319	1401	1470	1541	1640	1808	2078
5.40 CFS	2431	2812	3170	3452	3646	3778	3915	4089
6.20 CFS	4100	4100	4100	4100	4100	4100	4100	4100
7.00 CFS	4100	4100	4100	4100	4100	4100	4100	4100
7.80 CFS	4100	4100	4100	4100	4100	4100	4100	4100
8.60 CFS	4100	4100	4100	4100	4100	4090	3887	3689
9.40 CFS	3497	3297	3106	2935	2792	2668	2550	2435
10.20 CFS	2314	2189	2073	1958	1844	1742	1648	1559
11.00 CFS	1479	1411	1349	1292	1239	1190	1141	1091
11.80 CFS	1041	994	951	911	878	852	829	809
12.60 CFS	794	782	768	753	736	726	710	692
13.40 CFS	677	664	652	649	651	646	642	631
14.20 CFS	618	601	588	580	571	565	562	560
15.00 CFS	555	551	548	544	544	546	545	543
15.80 CFS	539	532	524	519	518	518	515	514
16.60 CFS	511	499	488	484	483	482	483	477
17.40 CFS	465	449	438	436	433	431	427	419
18.20 CFS	402	374	336	295	259	233	216	211
19.00 CFS	203	194	184	173	161	149	138	126
19.80 CFS	115	105	95	86	78	70	63	56
20.60 CFS	50.42	45.04	40.18	35.79	31.84	28.29	25.10	22.25
21.40 CFS	19.71	17.44	15.42	13.62	12.02	10.60	9.34	8.23
22.20 CFS	7.24	6.37	5.60	4.92	4.32	3.79	3.32	2.91
23.00 CFS	2.55	2.24	1.96	1.71	1.50	1.31	1.14	1.00
23.80 CFS	.87	.76	.66	.58	.50	.44		

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
8.72 WATERSHED INCHES; 27237 CFS-HRS; 2250.9 ACRE-FEET.

OUTPUT #2 DIVERTED HYDROGRAPH (XSECTION 200)

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
6.80	2219.2	(DIVERT)
7.60	2154.9	(DIVERT)

HYDROGRAPH POINTS FOR ALTERNATE = 1, STORM = 1
MAIN TIME INCREMENT = .100 hr, DRAINAGE AREA = .00 SQ.MI.

HRS								
6.10 CFS	0	236	591	1026	1486	1888	2150	2219
6.90 CFS	2155	2072	2008	1996	2037	2097	2137	2155
7.70 CFS	2140	2085	1992	1871	1735	1595	1453	1302
8.50 CFS	1134	955	777	597	409	203	0	

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
4447 CFS-HRS; 367.5 ACRE-FEET.

OPERATION REACH XSECTION 20

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
7.00	4100.0 *	7.94
13.87	651.3	2.85
15.63	545.7	2.60
17.26	483.3	2.44

* FIRST POINT OF FLAT PEAK

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
8.72 WATERSHED INCHES; 27233 CFS-HRS; 2250.5 ACRE-FEET.

OPERATION REACH XSECTION 25

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
7.10	4100.0 *	5.03
13.97	651.3	1.78
15.73	545.7	1.63
17.36	483.3	1.53

* FIRST POINT OF FLAT PEAK

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
8.72 WATERSHED INCHES; 27236 CFS-HRS; 2250.8 ACRE-FEET.

OPERATION RUNOFF XSECTION 3

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
6.80	7420.0	(RUNOFF)
11.36	609.0	(RUNOFF)
12.96	508.3	(RUNOFF)
14.02	484.3	(RUNOFF)
15.00	407.5	(RUNOFF)
15.73	425.8	(RUNOFF)
16.39	407.8	(RUNOFF)

HYDROGRAPH POINTS FOR ALTERNATE = 1, STORM = 1
MAIN TIME INCREMENT = .100 hr, DRAINAGE AREA = 3.94 SQ.MI.

HRS								
1.60 CFS	.05	.72	3.12	8.51	18.72	35.50	60.78	97.11
2.40 CFS	145	201	261	323	382	436	485	534
3.20 CFS	589	656	738	828	919	1008	1089	1153
4.00 CFS	1198	1243	1298	1373	1471	1586	1708	1826
4.80 CFS	1926	1995	2045	2125	2281	2557	2963	3460
5.60 CFS	3983	4463	4837	5062	5166	5253	5400	5656
6.40 CFS	6044	6502	6943	7281	7420	7300	6986	6608
7.20 CFS	6238	5921	5693	5533	5375	5195	4986	4755
8.00 CFS	4513	4256	3985	3715	3463	3242	3022	2789
8.80 CFS	2562	2348	2157	1958	1754	1562	1388	1241
9.60 CFS	1105	985	895	841	816	805	797	783
10.40 CFS	762	741	716	686	662	645	628	613
11.20 CFS	609	609	609	608	604	595	581	561
12.00 CFS	542	523	504	493	489	490	490	495
12.80 CFS	502	508	508	506	504	499	488	479
13.60 CFS	476	471	475	483	484	484	475	462
14.40 CFS	443	428	420	412	407	406	407	406
15.20 CFS	406	408	410	416	422	426	425	424
16.00 CFS	421	412	406	406	408	406	401	395
16.80 CFS	383	373	370	367	362	359	354	341
17.60 CFS	324	310	306	305	305	300	287	259
18.40 CFS	216	163	109	60	23	0		

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
10.56 WATERSHED INCHES; 26846 CFS-HRS; 2218.6 ACRE-FEET.

OPERATION REACH XSECTION 30

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
7.52	6039.3	5.11

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
10.56 WATERSHED INCHES; 26846 CFS-HRS; 2218.6 ACRE-FEET.

OPERATION REACH XSECTION 5

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
8.30	5491.7	7.00

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
10.56 WATERSHED INCHES; 26846 CFS-HRS; 2218.6 ACRE-FEET.

*** WARNING - ROUTING COEFFICIENT (C) EQUALS 1.0,
CONSIDER SMALLER MAIN TIME INCREMENT FOR XSECTION 25. ***

OPERATION REACH XSECTION 25

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
8.30	5491.7	5.91

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
10.56 WATERSHED INCHES; 26846 CFS-HRS; 2218.6 ACRE-FEET.

OPERATION RUNOFF XSECTION 4

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
6.76	3612.1	(RUNOFF)
11.36	311.5	(RUNOFF)
12.91	261.1	(RUNOFF)
13.98	250.1	(RUNOFF)
14.98	209.3	(RUNOFF)
15.69	219.3	(RUNOFF)
16.31	209.8	(RUNOFF)
17.95	157.3	(RUNOFF)

HYDROGRAPH POINTS FOR ALTERNATE = 1, STORM = 1
MAIN TIME INCREMENT = .100 hr, DRAINAGE AREA = 2.06 SQ.MI.

HRS								
2.40 CFS	.39	1.81	5.38	12.20	22.98	37.73	56.03	77.32
3.20 CFS	102	130	162	197	234	270	303	332
4.00 CFS	358	385	418	459	510	567	625	680
4.80 CFS	725	757	789	840	935	1092	1310	1562
5.60 CFS	1812	2027	2183	2276	2333	2402	2510	2692
6.40 CFS	2933	3198	3435	3586	3603	3492	3322	3145
7.20 CFS	2988	2868	2787	2722	2646	2559	2455	2335
8.00 CFS	2211	2078	1946	1817	1699	1587	1468	1354
8.80 CFS	1246	1147	1046	941	841	750	669	597
9.60 CFS	528	472	436	419	414	411	406	395
10.40 CFS	384	373	358	344	334	325	315	311
11.20 CFS	311	311	311	311	308	302	293	282
12.00 CFS	273	261	254	250	249	250	251	256
12.80 CFS	260	261	260	259	258	254	248	244
13.60 CFS	242	241	246	249	250	248	241	232
14.40 CFS	222	218	213	209	208	209	209	208
15.20 CFS	209	210	211	215	219	219	218	218

16.00 CFS	213	209	209	210	209	208	206	200
16.80 CFS	193	189	189	187	186	185	179	171
17.60 CFS	162	157	157	157	157	154	145	126
18.40 CFS	98.95	68.98	40.12	17.42	.00			

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
9.35 WATERSHED INCHES; 12435 CFS-HRS; 1027.7 ACRE-FEET.

OPERATION ADDHYD XSECTION 34

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
7.81	7676.3	(NULL)

HYDROGRAPH POINTS FOR ALTERNATE = 1, STORM = 1
MAIN TIME INCREMENT = .100 hr, DRAINAGE AREA = 6.00 SQ.MI.

HRS								
2.30 CFS	.31	1.18	3.61	9.03	18.96	34.63	56.54	84.69
3.10 CFS	119	159	206	260	320	383	448	514
3.90 CFS	579	643	713	791	882	983	1092	1203
4.70 CFS	1312	1413	1505	1598	1714	1876	2103	2393
5.50 CFS	2717	3043	3338	3585	3784	3966	4181	4454
6.30 CFS	4817	5250	5712	6151	6506	6734	6841	6902
7.10 CFS	6966	7055	7179	7329	7475	7584	7653	7676
7.90 CFS	7657	7610	7529	7428	7309	7179	7037	6867
8.70 CFS	6684	6490	6290	6075	5842	5603	5365	5127
9.50 CFS	4892	4654	4426	4213	4016	3832	3650	3467
10.30 CFS	3283	3105	2933	2765	2607	2462	2326	2199
11.10 CFS	2084	1981	1886	1797	1713	1634	1558	1484
11.90 CFS	1415	1352	1291	1239	1194	1155	1120	1088
12.70 CFS	1061	1036	1010	984	960	938	915	893
13.50 CFS	874	858	845	839	831	822	811	796
14.30 CFS	779	762	751	741	732	725	720	714
15.10 CFS	707	701	696	692	689	687	682	676
15.90 CFS	671	663	655	652	650	647	644	640
16.70 CFS	632	623	617	615	611	608	604	596
17.50 CFS	584	572	563	560	556	552	544	530
18.30 CFS	506	474	438	404	375	351	342	331
19.10 CFS	318	302	285	267	249	231	213	195
19.90 CFS	179	163	148	135	122	110	99	90
20.70 CFS	80.46	72.21	64.72	57.93	51.80	46.26	41.27	36.78
21.50 CFS	32.75	29.14	25.91	23.01	20.43	18.12	16.07	14.23
22.30 CFS	12.60	11.15	9.86	8.72	7.70	6.80	6.01	5.30
23.10 CFS	4.68	4.12	3.63	3.20	2.82	2.48	2.18	1.92
23.90 CFS	1.69	1.48	1.30	1.14	1.00	.88	.77	.68
24.70 CFS	.60	.52	.46					

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
10.14 WATERSHED INCHES; 39282 CFS-HRS; 3246.2 ACRE-FEET.

OPERATION ADDHYD XSECTION 35

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
7.81	11776.3	(NULL)

HYDROGRAPH POINTS FOR ALTERNATE = 1, STORM = 1
MAIN TIME INCREMENT = .100 hr, DRAINAGE AREA = 10.84 SQ.MI.

HRS								
2.30 CFS	0	1	5	14	33	63	105	158
3.10 CFS	222	295	378	473	582	702	829	960
3.90 CFS	1088	1213	1338	1471	1621	1791	1981	2188
4.70 CFS	2400	2606	2797	2976	3164	3397	3718	4159
5.50 CFS	4728	5383	6049	6657	7155	7553	7918	8331
6.30 CFS	8860	9339	9810	10250	10606	10834	10941	11002
7.10 CFS	11066	11155	11279	11429	11575	11684	11753	11776
7.90 CFS	11757	11710	11629	11528	11409	11279	11137	10967
8.70 CFS	10784	10590	10390	10175	9942	9703	9457	9059
9.50 CFS	8634	8204	7777	7372	7000	6664	6353	6050
10.30 CFS	5749	5451	5156	4870	4597	4338	4097	3873
11.10 CFS	3668	3483	3316	3163	3022	2888	2762	2639
11.90 CFS	2519	2406	2298	2202	2116	2042	1979	1923
12.70 CFS	1876	1834	1796	1756	1717	1679	1644	1607
13.50 CFS	1571	1539	1513	1494	1481	1473	1458	1439
14.30 CFS	1413	1383	1357	1332	1314	1298	1287	1277
15.10 CFS	1268	1257	1249	1241	1234	1231	1228	1221
15.90 CFS	1214	1203	1189	1178	1171	1166	1163	1156
16.70 CFS	1146	1134	1119	1106	1097	1091	1086	1078
17.50 CFS	1062	1039	1017	1001	993	986	976	958
18.30 CFS	927	880	819	749	681	620	582	552
19.10 CFS	531	508	482	454	425	395	365	336
19.90 CFS	308	282	256	233	211	190	172	154
20.70 CFS	139	124	111	99	89	79	71	63
21.50 CFS	55.81	49.57	43.99	39.00	34.55	30.59	27.06	23.93
22.30 CFS	21.14	18.67	16.48	14.53	12.81	11.29	9.94	8.75
23.10 CFS	7.70	6.78	5.96	5.24	4.60	4.04	3.54	3.11
23.90 CFS	2.73	2.39	2.10	1.84	1.61	1.41	1.23	1.08
24.70 CFS	.94	.82	.72	.63	.55	.48		

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
9.51 WATERSHED INCHES; 66518 CFS-HRS; 5497.0 ACRE-FEET.

OPERATION DIVERT XSECTION 35
OUTPUT #1 HYDROGRAPH

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
7.00	11000.0 *	(DIVERT)

* FIRST POINT OF FLAT PEAK

HYDROGRAPH POINTS FOR ALTERNATE = 1, STORM = 1
MAIN TIME INCREMENT = .100 hr, DRAINAGE AREA = 10.84 SQ.MI.

HRS								
2.30 CFS	0	1	5	14	33	63	105	158
3.10 CFS	222	295	378	473	582	702	829	960
3.90 CFS	1088	1213	1338	1471	1621	1791	1981	2188

4.70 CFS	2400	2606	2797	2976	3164	3397	3718	4159
5.50 CFS	4728	5383	6049	6657	7155	7553	7918	8331
6.30 CFS	8860	9339	9810	10250	10606	10834	10941	11000
7.10 CFS	11000	11000	11000	11000	11000	11000	11000	11000
7.90 CFS	11000	11000	11000	11000	11000	11000	11000	10967
8.70 CFS	10784	10590	10390	10175	9942	9703	9457	9059
9.50 CFS	8634	8204	7777	7372	7000	6664	6353	6050
10.30 CFS	5749	5451	5156	4870	4597	4338	4097	3873
11.10 CFS	3668	3483	3316	3163	3022	2888	2762	2639
11.90 CFS	2519	2406	2298	2202	2116	2042	1979	1923
12.70 CFS	1876	1834	1796	1756	1717	1679	1644	1607
13.50 CFS	1571	1539	1513	1494	1481	1473	1458	1439
14.30 CFS	1413	1383	1357	1332	1314	1298	1287	1277
15.10 CFS	1268	1257	1249	1241	1234	1231	1228	1221
15.90 CFS	1214	1203	1189	1178	1171	1166	1163	1156
16.70 CFS	1146	1134	1119	1106	1097	1091	1086	1078
17.50 CFS	1062	1039	1017	1001	993	986	976	958
18.30 CFS	927	880	819	749	681	620	582	552
19.10 CFS	531	508	482	454	425	395	365	336
19.90 CFS	308	282	256	233	211	190	172	154
20.70 CFS	139	124	111	99	89	79	71	63
21.50 CFS	55.81	49.57	43.99	39.00	34.55	30.59	27.06	23.93
22.30 CFS	21.14	18.67	16.48	14.53	12.81	11.29	9.94	8.75
23.10 CFS	7.70	6.78	5.96	5.24	4.60	4.04	3.54	3.11
23.90 CFS	2.73	2.39	2.10	1.84	1.61	1.41	1.23	1.08
24.70 CFS	.94	.82	.72	.63	.55	.48		

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
9.41 WATERSHED INCHES; 65800 CFS-HRS; 5437.7 ACRE-FEET.

OUTPUT #2 DIVERTED HYDROGRAPH (XSECTION 199)

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
7.81	776.3	(DIVERT)

HYDROGRAPH POINTS FOR ALTERNATE = 1, STORM = 1
MAIN TIME INCREMENT = .100 hr, DRAINAGE AREA = .00 SQ.MI.

HRS								
6.90 CFS	0	2	66	155	279	429	575	684
7.70 CFS	753	776	757	710	629	528	409	279
8.50 CFS	137	0						

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
718 CFS-HRS; 59.3 ACRE-FEET.

OPERATION REACH XSECTION 45

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
7.90	11000.0 *	8.46

* FIRST POINT OF FLAT PEAK

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
9.41 WATERSHED INCHES; 65799 CFS-HRS; 5437.6 ACRE-FEET.

OPERATION RUNOFF XSECTION 6

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
4.82	794.8	(RUNOFF)
6.54	3008.9	(RUNOFF)
9.89	308.2	(RUNOFF)
11.35	230.5	(RUNOFF)
11.96	192.5	(RUNOFF)
12.58	193.5	(RUNOFF)
12.90	193.2	(RUNOFF)
13.78	191.1	(RUNOFF)
14.94	155.3	(RUNOFF)
15.52	171.4	(RUNOFF)

HYDROGRAPH POINTS FOR ALTERNATE = 1, STORM = 1
MAIN TIME INCREMENT = .100 hr, DRAINAGE AREA = 1.47 SQ.MI.

HRS								
1.60 CFS	.31	2.09	7.57	16.65	27.85	41.59	61.27	89.12
2.40 CFS	122	149	168	181	196	217	238	257
3.20 CFS	288	335	387	422	441	457	472	485
4.00 CFS	498	519	565	631	693	735	764	786
4.80 CFS	795	791	798	875	1103	1430	1736	1894
5.60 CFS	1935	1954	1975	2000	2013	2061	2261	2561
6.40 CFS	2853	2997	2977	2808	2564	2345	2241	2216
7.20 CFS	2153	2068	1989	1944	1916	1817	1664	1517
8.00 CFS	1439	1405	1313	1179	1063	1001	971	887
8.80 CFS	779	678	613	578	517	444	374	326
9.60 CFS	309	306	306	308	305	300	285	270
10.40 CFS	267	263	247	232	230	230	230	230
11.20 CFS	230	230	230	230	224	208	194	192
12.00 CFS	192	187	175	178	190	192	193	191
12.80 CFS	191	193	191	191	187	175	174	175
13.60 CFS	179	189	191	187	175	173	167	155
14.40 CFS	154	152	154	153	152	155	155	153
15.20 CFS	155	155	159	171	167	156	155	153
16.00 CFS	155	155	153	154	153	152	148	132
16.80 CFS	123	138	151	148	132	117	115	115
17.60 CFS	115	115	115	116	115	108	86	50
18.40 CFS	17.14	.83	.00					

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
10.76 WATERSHED INCHES; 10211 CFS-HRS; 843.8 ACRE-FEET.

OPERATION REACH XSECTION 60

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
6.81	2681.9	5.90
13.03	191.6	2.84
13.97	185.7	2.81
15.70	161.9	2.68
17.18	144.5	2.59

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
10.76 WATERSHED INCHES; 10210 CFS-HRS; 843.8 ACRE-FEET.

OPERATION REACH XSECTION 67

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
7.19	2460.7	5.38
14.08	184.9	1.86
15.93	159.3	1.72

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
10.76 WATERSHED INCHES; 10211 CFS-HRS; 843.8 ACRE-FEET.

OPERATION ADDHYD XSECTION 64

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
7.23	13456.1	(NULL)

HYDROGRAPH POINTS FOR ALTERNATE = 1, STORM = 1
MAIN TIME INCREMENT = .100 hr, DRAINAGE AREA = 12.31 SQ.MI.

HRS								
1.90 CFS	.16	.72	2.07	4.49	8.29	14.00	22.79	36.69
2.70 CFS	58	90	132	187	255	333	422	521
3.50 CFS	634	763	906	1059	1217	1372	1523	1672
4.30 CFS	1826	1995	2186	2401	2637	2882	3124	3351
5.10 CFS	3564	3778	4028	4367	4842	5471	6216	6997
5.90 CFS	7737	8377	8908	9379	9866	10451	11034	11629
6.70 CFS	12212	12720	13093	13313	13429	13455	13447	13423
7.50 CFS	13385	13339	13288	13235	13179	13114	13040	12959
8.30 CFS	12879	12798	12712	12623	12508	12276	12008	11728
9.10 CFS	11431	11118	10801	10479	10041	9556	9059	8566
9.90 CFS	8096	7662	7272	6915	6577	6248	5925	5608
10.70 CFS	5302	5009	4731	4471	4230	4009	3809	3629
11.50 CFS	3466	3316	3176	3043	2915	2789	2669	2554
12.30 CFS	2449	2354	2272	2201	2140	2088	2043	2002
13.10 CFS	1962	1922	1883	1847	1809	1771	1736	1707
13.90 CFS	1685	1670	1661	1647	1628	1602	1571	1541
14.70 CFS	1513	1490	1470	1455	1443	1432	1420	1410
15.50 CFS	1401	1394	1390	1388	1383	1376	1365	1351
16.30 CFS	1340	1331	1325	1320	1313	1304	1291	1273
17.10 CFS	1257	1246	1239	1233	1223	1206	1182	1156
17.90 CFS	1136	1123	1114	1102	1085	1054	1005	939

18.70 CFS	860	780	705	650	608	575	545	514
19.50 CFS	482	449	416	384	353	323	295	268
20.30 CFS	243	220	198	179	161	144	129	116
21.10 CFS	104	92	82	73	65	58	52	46
21.90 CFS	40.63	36.00	31.87	28.20	24.94	22.04	19.46	17.17
22.70 CFS	15.15	13.36	11.77	10.37	9.13	8.04	7.07	6.22
23.50 CFS	5.47	4.80	4.22	3.70	3.25	2.85	2.50	2.19
24.30 CFS	1.92	1.68	1.47	1.29	1.13	.98	.86	.75
25.10 CFS	.65	.57	.50					

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
9.57 WATERSHED INCHES; 76010 CFS-HRS; 6281.5 ACRE-FEET.

OPERATION RUNOFF XSECTION 5

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
6.76	8523.3	(RUNOFF)
11.36	727.9	(RUNOFF)
12.88	609.8	(RUNOFF)
13.07	606.9	(RUNOFF)
13.96	582.9	(RUNOFF)
14.93	488.1	(RUNOFF)
15.22	489.2	(RUNOFF)
15.71	511.7	(RUNOFF)
16.36	489.2	(RUNOFF)
17.85	366.4	(RUNOFF)

HYDROGRAPH POINTS FOR ALTERNATE = 1, STORM = 1
MAIN TIME INCREMENT = .100 hr, DRAINAGE AREA = 4.78 SQ.MI.

HRS								
2.20 CFS	0	1	4	13	31	58	94	139
3.00 CFS	189	244	304	374	455	543	633	721
3.80 CFS	800	867	927	992	1070	1169	1290	1425
4.60 CFS	1565	1695	1800	1870	1932	2041	2260	2652
5.40 CFS	3201	3821	4427	4929	5274	5464	5595	5762
6.20 CFS	6030	6447	6999	7605	8144	8476	8495	8217
7.00 CFS	7799	7371	7002	6724	6542	6382	6201	5999
7.80 CFS	5747	5463	5158	4837	4523	4227	3959	3696
8.60 CFS	3421	3152	2902	2668	2434	2187	1955	1745
9.40 CFS	1556	1384	1221	1093	1013	977	966	961
10.20 CFS	948	921	897	870	832	801	779	757
11.00 CFS	735	727	728	728	728	726	719	705
11.80 CFS	683	658	635	610	592	584	583	585
12.60 CFS	587	599	608	610	606	607	603	590
13.40 CFS	578	571	563	564	575	582	582	577
14.20 CFS	561	541	519	506	497	488	486	488
15.00 CFS	488	486	489	488	493	504	511	512
15.80 CFS	511	508	496	489	486	488	489	485
16.60 CFS	479	467	450	441	440	438	436	432
17.40 CFS	418	396	374	366	366	366	366	358
18.20 CFS	336	291	227	157	90	38	0	

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
9.56 WATERSHED INCHES; 29498 CFS-HRS; 2437.7 ACRE-FEET.

OPERATION RUNOFF XSECTION 7

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
6.91	6137.1	(RUNOFF)
12.63	430.3	(RUNOFF)
13.10	443.1	(RUNOFF)
14.03	419.7	(RUNOFF)
15.21	355.8	(RUNOFF)
15.80	371.2	(RUNOFF)
15.98	367.7	(RUNOFF)

HYDROGRAPH POINTS FOR ALTERNATE = 1, STORM = 1
MAIN TIME INCREMENT = .100 hr, DRAINAGE AREA = 3.48 SQ.MI.

HRS								
2.10 CFS	0	1	5	12	25	44	69	101
2.90 CFS	137	176	218	262	309	363	425	490
3.70 CFS	557	622	684	741	791	841	900	971
4.50 CFS	1054	1145	1239	1330	1410	1477	1550	1658
5.30 CFS	1835	2097	2431	2811	3204	3571	3876	4096
6.10 CFS	4227	4360	4548	4822	5163	5513	5826	6051
6.90 CFS	6137	6072	5861	5585	5306	5055	4852	4721
7.70 CFS	4589	4430	4246	4044	3839	3627	3398	3165
8.50 CFS	2944	2758	2577	2379	2181	1992	1828	1666
9.30 CFS	1496	1331	1180	1055	947	853	782	731
10.10 CFS	709	698	687	676	659	639	617	594
10.90 CFS	573	559	548	535	530	530	530	527
11.70 CFS	522	513	499	485	470	453	439	430
12.50 CFS	427	430	429	430	439	440	443	441
13.30 CFS	436	431	425	418	417	415	415	419
14.10 CFS	418	417	409	400	385	373	367	359
14.90 CFS	356	354	354	356	354	357	362	362
15.70 CFS	368	371	367	368	367	360	356	355
16.50 CFS	354	353	346	340	335	326	324	322
17.30 CFS	313	308	304	295	284	272	267	266
18.10 CFS	263	254	237	209	173	132	90	53
18.90 CFS	24.22	6.53	.00					

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
9.85 WATERSHED INCHES; 22130 CFS-HRS; 1828.8 ACRE-FEET.

OPERATION ADDHYD XSECTION 75

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
6.81	14546.6	(NULL)
12.93	1049.2	(NULL)
13.09	1049.8	(NULL)
13.99	1001.9	(NULL)
15.21	845.0	(NULL)
15.78	882.5	(NULL)

HYDROGRAPH POINTS FOR ALTERNATE = 1, STORM = 1
MAIN TIME INCREMENT = .100 hr, DRAINAGE AREA = 8.26 SQ.MI.

HRS								
2.10 CFS	0	1	5	16	38	75	127	195
2.90 CFS	276	366	462	565	683	818	967	1123
3.70 CFS	1277	1422	1551	1668	1783	1911	2069	2261
4.50 CFS	2479	2709	2934	3130	3280	3410	3591	3918
5.30 CFS	4487	5298	6252	7239	8132	8844	9340	9691
6.10 CFS	9989	10389	10995	11821	12767	13656	14302	14546
6.90 CFS	14354	13871	13232	12587	12031	11597	11234	10922
7.70 CFS	10588	10177	9709	9203	8677	8150	7625	7123
8.50 CFS	6641	6178	5729	5281	4849	4425	4016	3621
9.30 CFS	3241	2887	2564	2276	2040	1866	1758	1697
10.10 CFS	1670	1647	1608	1572	1529	1471	1419	1374
10.90 CFS	1330	1294	1275	1262	1258	1258	1256	1246
11.70 CFS	1227	1196	1158	1120	1080	1045	1024	1013
12.50 CFS	1012	1017	1029	1038	1049	1046	1050	1044
13.30 CFS	1026	1009	995	982	980	990	997	1002
14.10 CFS	995	978	950	919	891	870	854	846
14.90 CFS	844	842	840	845	842	850	866	873
15.70 CFS	879	882	875	864	855	846	845	844
16.50 CFS	839	832	813	790	776	766	762	757
17.30 CFS	745	726	699	670	650	639	633	632
18.10 CFS	621	590	528	437	329	221	128	53
18.90 CFS	24.22	6.53	.00					

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
9.68 WATERSHED INCHES; 51627 CFS-HRS; 4266.5 ACRE-FEET.

OPERATION ADDHYD XSECTION 76 → Inflow

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
6.89	27449.2	(NULL)
15.55	2268.0	(NULL)
15.75	2271.6	(NULL)

HYDROGRAPH POINTS FOR ALTERNATE = 1, STORM = 1
MAIN TIME INCREMENT = .100 hr, DRAINAGE AREA = 20.57 SQ.MI.

HRS								
1.90 CFS	0	1	2	6	14	30	61	111
2.70 CFS	185	285	409	553	716	899	1104	1339
3.50 CFS	1601	1886	2184	2481	2768	3040	3306	3583
4.30 CFS	3895	4256	4665	5111	5570	6012	6404	6761
5.10 CFS	7155	7696	8515	9665	11095	12710	14348	15841
5.90 CFS	17078	18068	18897	19769	20861	22272	23801	25286

6.70 CFS	26514	27266	27447	27184	26662	26042	25478	25019
7.50 CFS	24620	24261	23876	23412	22887	22317	21716	21110
8.30 CFS	20504	19921	19353	18801	18237	17557	16857	16153
9.10 CFS	15447	14739	14042	13366	12605	11832	11099	10432
9.90 CFS	9854	9360	8942	8562	8185	7820	7454	7079
10.70 CFS	6720	6382	6061	5765	5505	5271	5067	4887
11.50 CFS	4722	4562	4402	4239	4072	3909	3748	3599
12.30 CFS	3472	3367	3284	3219	3169	3126	3092	3048
13.10 CFS	3012	2966	2909	2856	2804	2752	2716	2697
13.90 CFS	2682	2672	2656	2625	2578	2522	2462	2411
14.70 CFS	2367	2335	2314	2297	2283	2276	2262	2260
15.50 CFS	2267	2267	2270	2270	2258	2239	2220	2197
16.30 CFS	2184	2175	2163	2152	2126	2094	2067	2039
17.10 CFS	2019	2003	1984	1958	1922	1876	1832	1795
17.90 CFS	1769	1755	1735	1692	1612	1490	1334	1160
18.70 CFS	988	833	729	657	608	575	545	514
19.50 CFS	482	449	416	384	353	323	295	268
20.30 CFS	243	220	198	179	161	144	129	116
21.10 CFS	104	92	82	73	65	58	52	46
21.90 CFS	40.63	36.00	31.87	28.20	24.94	22.04	19.46	17.17
22.70 CFS	15.15	13.36	11.77	10.37	9.13	8.04	7.07	6.22
23.50 CFS	5.47	4.80	4.22	3.70	3.25	2.85	2.50	2.19
24.30 CFS	1.92	1.68	1.47	1.29	1.13	.98	.86	.75
25.10 CFS	.65	.57	.50					

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
9.61 WATERSHED INCHES; 127637 CFS-HRS; 10547.9 ACRE-FEET.

--- XSECTION 76, ALTERNATE 1, STORM 1, HYDROGRAPH ADDED TO READHD FILE ---

*** MESSAGE - STRUCTURE 1, USER ENTERED STARTING ELEVATION (1201.4 FEET) CAN ADD .705 INCHES OF RUNOFF TO THE OUTFLOW HYDROGRAPH VOLUME.***

*** MESSAGE - RESERVOIR ROUTING, STRUCTURE 1, TRUNCATED AT 400 POINTS WITH 3100.64 AC-FT (.23 WATERSHED INCHES) FLOOD STORAGE REMAINING IN RESERVOIR AT ELEV. 1211.62. ***

OPERATION RESVOR STRUCTURE 1 outflow

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
8.10	21744.5	1215.71

HYDROGRAPH POINTS FOR ALTERNATE = 1, STORM = 1
MAIN TIME INCREMENT = .100 hr, DRAINAGE AREA = 20.57 SQ.MI.

HRS								
1.30 CFS	36.21	36.20	36.19	36.18	36.17	36.16	36.15	36.14
2.10 CFS	36.13	36.12	36.11	36.11	36.11	36.12	36.16	36.21
2.90 CFS	36.30	36.43	36.60	36.82	37.09	37.43	37.84	38.33
3.70 CFS	38.86	39.39	39.99	40.66	41.39	42.18	43.04	43.98
4.50 CFS	45.01	46.14	47.37	48.55	49.68	50.87	52.13	53.47
5.30 CFS	54.94	56.59	58.34	60.34	62.62	65.16	67.86	70.68

6.10 CFS	74	77	79	82	84	787	2331	4939
6.90 CFS	7627	10400	12846	14845	16572	18012	19142	20021
7.70 CFS	20693	21182	21509	21690	21744	21690	21543	21322
8.50 CFS	21042	20716	20352	19944	19490	18995	18465	17905
9.30 CFS	17322	16721	16102	15467	14874	14266	13656	13056
10.10 CFS	12478	11927	11401	10898	10415	9949	9498	9061
10.90 CFS	8641	8237	7924	7620	7326	7044	6776	6520
11.70 CFS	6276	6041	5815	5596	5384	5179	4982	4795
12.50 CFS	4619	4455	4304	4165	4038	3922	3815	3716
13.30 CFS	3623	3534	3450	3369	3293	3223	3159	3101
14.10 CFS	3049	3000	2952	2904	2854	2804	2754	2706
14.90 CFS	2672	2650	2628	2606	2586	2566	2547	2530
15.70 CFS	2514	2499	2484	2470	2455	2440	2425	2410
16.50 CFS	2395	2380	2365	2350	2333	2316	2298	2281
17.30 CFS	2263	2245	2226	2206	2185	2162	2138	2115
18.10 CFS	2092	2069	2044	2013	1976	1932	1879	1819
18.90 CFS	1755	1690	1625	1562	1500	1440	1382	1326
19.70 CFS	1271	1218	1165	1115	1065	1017	970	925
20.50 CFS	881	838	797	757	719	683	647	614
21.30 CFS	581	550	521	493	466	440	416	392
22.10 CFS	370	349	330	311	293	276	260	245
22.90 CFS	231	217	204	192	181	170	160	151
23.70 CFS	142	133	125	118	111	104	98	92
24.50 CFS	86.29	85.94	85.93	85.92	85.91	85.90	85.89	85.88
25.30 CFS	85.87	85.86	85.85	85.84	85.83	85.82	85.81	85.80
26.10 CFS	85.79	85.78	85.77	85.76	85.75	85.74	85.73	85.72
26.90 CFS	85.71	85.70	85.69	85.68	85.67	85.66	85.65	85.64
27.70 CFS	85.63	85.62	85.61	85.60	85.59	85.58	85.57	85.56
28.50 CFS	85.55	85.54	85.53	85.52	85.51	85.50	85.49	85.48
29.30 CFS	85.47	85.46	85.45	85.44	85.43	85.42	85.41	85.40
30.10 CFS	85.39	85.38	85.37	85.36	85.35	85.34	85.33	85.32
30.90 CFS	85.31	85.30	85.29	85.28	85.27	85.26	85.25	85.24
31.70 CFS	85.23	85.22	85.21	85.20	85.19	85.18	85.17	85.16
32.50 CFS	85.15	85.14	85.13	85.12	85.11	85.10	85.09	85.08
33.30 CFS	85.07	85.06	85.05	85.04	85.03	85.02	85.01	85.00
34.10 CFS	84.99	84.98	84.97	84.96	84.95	84.94	84.93	84.92
34.90 CFS	84.91	84.90	84.89	84.88	84.87	84.86	84.85	84.84
35.70 CFS	84.83	84.82	84.81	84.80	84.79	84.78	84.77	84.76
36.50 CFS	84.75	84.74	84.73	84.72	84.71	84.70	84.69	84.68
37.30 CFS	84.67	84.66	84.65	84.64	84.63	84.62	84.61	84.60
38.10 CFS	84.59	84.58	84.57	84.56	84.55	84.54	84.53	84.52
38.90 CFS	84.51	84.50	84.49	84.48	84.48	84.47	84.46	84.45
39.70 CFS	84.44	84.43	84.42	84.41	84.40	84.39	84.38	84.37
40.50 CFS	84.36	84.35	84.34	84.33	84.32	84.31	84.30	84.29

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
7.49 WATERSHED INCHES; 99491 CFS-HRS; 8221.9 ACRE-FEET.

--- STRUCTURE 1, ALTERNATE 1, STORM 1, HYDROGRAPH ADDED TO READHD FILE ---

EXECUTIVE CONTROL ENDCMP COMPUTATIONS COMPLETED FOR PASS 1

SUMMARY TABLE 1

SELECTED RESULTS OF STANDARD AND EXECUTIVE CONTROL IN ORDER PERFORMED.
A CHARACTER FOLLOWING THE PEAK DISCHARGE TIME AND RATE (CFS) INDICATES:
F-FLAT TOP HYDROGRAPH T-TRUNCATED HYDROGRAPH R-RISING TRUNCATED HYDROGRAPH

RAINFALL OF 12.20 inches AND 18.00 hr DURATION, BEGINS AT .0 hrs.
RAINTABLE NUMBER 4, ARC 2
MAIN TIME INCREMENT .100 HOURS

ALTERNATE 1 STORM 1

XSECTION/ STRUCTURE ID	STANDARD CONTROL OPERATION	DRAINAGE AREA (SQ MI)	RUNOFF AMOUNT (IN)	PEAK DISCHARGE ELEVATION (FT)	TIME (HR)	RATE (CFS)	RATE (CSM)
XSECTION 1	RUNOFF	2.46	10.56	---	6.78	4656	1892.7
XSECTION 5	REACH	2.46	10.56	6.31	7.45	3848	1564.2
XSECTION 10	REACH	2.46	10.56	7.76	8.23	3472	1411.4
XSECTION 2	RUNOFF	2.38	9.71	---	6.72	4355	1829.8
XSECTION 12	ADDHYD	4.84	10.14	---	6.80	6319	1305.6
XSECTION 12	DIVERT	4.84	8.72	---	6.20F	4100F	847.1
XSECTION 200	DIVERT	.00	8.72	---	6.80	2219	********
XSECTION 20	REACH	4.84	8.72	7.94	7.00F	4100F	847.1
XSECTION 25	REACH	4.84	8.72	5.03	7.10F	4100F	847.1
XSECTION 3	RUNOFF	3.94	10.56	---	6.80	7420	1883.2
XSECTION 30	REACH	3.94	10.56	5.11	7.52	6039	1532.7
XSECTION 5	REACH	3.94	10.56	7.00	8.30	5492	1393.9
XSECTION 25	REACH	3.94	10.56	5.91	8.30	5492	1393.9
XSECTION 4	RUNOFF	2.06	9.35	---	6.76	3612	1753.4
XSECTION 34	ADDHYD	6.00	10.14	---	7.81	7676	1279.3
XSECTION 35	ADDHYD	10.84	9.51	---	7.81	11776	1086.3
XSECTION 35	DIVERT	10.84	9.41	---	7.00F	11000F	1014.8
XSECTION 199	DIVERT	.00	9.41	---	7.81	776	********
XSECTION 45	REACH	10.84	9.41	8.46	7.90F	11000F	1014.8
XSECTION 6	RUNOFF	1.47	10.76	---	6.54	3009	2046.9
XSECTION 60	REACH	1.47	10.76	5.90	6.81	2682	1824.5
XSECTION 67	REACH	1.47	10.76	5.38	7.19	2461	1674.1
XSECTION 64	ADDHYD	12.31	9.57	---	7.23	13456	1093.1
XSECTION 5	RUNOFF	4.78	9.56	---	6.76	8523	1783.1
XSECTION 7	RUNOFF	3.48	9.85	---	6.91	6137	1763.5
XSECTION 75	ADDHYD	8.26	9.68	---	6.81	14547	1761.1
XSECTION 76	ADDHYD	20.57	9.61	---	6.89	27449	1334.4
STRUCTURE 1	RESVOR	20.57	7.49	1215.71	8.10	21744	1057.1

SUMMARY TABLE 2

MODIFIED ATT-KIN REACH ROUTING IN ORDER PERFORMED.
QUESTION MARK (?) AFTER: OUTFLOW PEAK - MAX. NUMBER ROUTING ITERATIONS USED;
LENGTH FACTOR - VALUE k* GREATER THAN 1.0;
ATT-KIN COEFF - VALUE C GREATER THAN 0.667.

			HYDROGRAPH INFORMATION				ROUTING PARAMETERS				
		FLOOD	INFLOW		OUTFLOW		Q-A EQ.			PEAK	ATT-
XSEC	REACH	PLAIN							LENGTH	RATIO	KIN
ID	LENGTH	LENGTH	PEAK	TIME	PEAK	TIME	COEFF	POWER	FACTOR	Q/I	COEFF
	(FT)	(FT)	(CFS)	(HR)	(CFS)	(HR)	(X)	(M)	(k*)	(Q*)	(C)
BASEFLOW IS .0 CFS											
ALTERNATE 1 STORM 1											
5	9100		4654	6.8	3845	7.5	1.74	1.10	.172	.826	.14
10	9100		3845	7.5	3472	8.2	2.24	1.07	.141	.903	.14
20	3332		4100	6.2	4100	7.0	.14	1.63	.001	1.000	.80?
25	1950		4100	7.0	4100	7.1	.052	1.73	.001	1.000	.98?
30	8865		7420	6.8	6039	7.5	1.35	1.11	.189	.814	.13
5	8865		6039	7.5	5492	8.3	1.92	1.08	.135	.909	.14
25	1950		5492	8.3	5492	8.3	.054	1.72	.001	1.000	1.00?
45	4200		11000	7.0	11000	7.9	.049	1.72	.002	1.000	.77?
60	7540		2997	6.5	2682	6.8	.49	1.35	.063	.895	.27
67	5140		2682	6.8	2461	7.2	1.26	1.15	.078	.918	.24

SUMMARY TABLE 3

STORM DISCHARGES (CFS) AT XSECTIONS AND STRUCTURES FOR ALL ALTERNATES
QUESTION MARK (?) AFTER: OUTFLOW PEAK - RISING TRUNCATED HYDROGRAPH.

XSECTION/ STRUCTURE ID	DRAINAGE AREA (SQ MI)	STORM NUMBERS..... 1
STRUCTURE 1	20.57	
ALTERNATE 1		21744
XSECTION 1	2.46	
ALTERNATE 1		4656
XSECTION 2	2.38	
ALTERNATE 1		4355
XSECTION 3	3.94	
ALTERNATE 1		7420
XSECTION 4	2.06	
ALTERNATE 1		3612
XSECTION 5	4.78	
ALTERNATE 1		8523
XSECTION 6	1.47	
ALTERNATE 1		3009
XSECTION 7	3.48	
ALTERNATE 1		6137
XSECTION 10	2.46	
ALTERNATE 1		3472
XSECTION 12	4.84	
ALTERNATE 1		4100
XSECTION 20	4.84	
ALTERNATE 1		4100
XSECTION 25	3.94	
ALTERNATE 1		5492
XSECTION 30	3.94	
ALTERNATE 1		6039
XSECTION 34	6.00	

SUMMARY TABLE 3

STORM DISCHARGES (CFS) AT XSECTIONS AND STRUCTURES FOR ALL ALTERNATES
QUESTION MARK (?) AFTER: OUTFLOW PEAK - RISING TRUNCATED HYDROGRAPH.

XSECTION/ STRUCTURE ID	DRAINAGE AREA (SQ MI)	STORM NUMBERS..... 1
XSECTION 34	6.00	
ALTERNATE 1		7676
XSECTION 35	10.84	
ALTERNATE 1		11000
XSECTION 45	10.84	
ALTERNATE 1		11000
XSECTION 60	1.47	
ALTERNATE 1		2682
XSECTION 64	12.31	
ALTERNATE 1		13456
XSECTION 67	1.47	
ALTERNATE 1		2461
XSECTION 75	8.26	
ALTERNATE 1		14547
XSECTION 76	20.57	
ALTERNATE 1		27449
XSECTION 199	.00	
ALTERNATE 1		776
XSECTION 200	.00	
ALTERNATE 1		2219

ECON2 DATA FILE

```
ECON2
TITLE        WHITE TANK FRS #3, WATERSHED DIVIDED INTO 7 SUB-BASINS
TITLE        18-HR PMP (MTI=.1), RESERVOIR INIT EMPTY W/100-YR SED
FLOW-FREQ    -1         21744.                                        ALT  1   1
FLOW-FREQ     1          4656.                                        ALT  1   2
FLOW-FREQ     2          4355.                                        ALT  1   3
FLOW-FREQ     3          7420.                                        ALT  1   4
FLOW-FREQ     4          3612.                                        ALT  1   5
FLOW-FREQ     5          8523.                                        ALT  1   6
FLOW-FREQ     6          3009.                                        ALT  1   7
FLOW-FREQ     7          6137.                                        ALT  1   8
FLOW-FREQ    10          3472.                                        ALT  1   9
FLOW-FREQ    12          4100.                                        ALT  1  10
FLOW-FREQ    20          4100.                                        ALT  1  11
FLOW-FREQ    25          5492.                                        ALT  1  12
FLOW-FREQ    30          6039.                                        ALT  1  13
FLOW-FREQ    34          7676.                                        ALT  1  14
FLOW-FREQ    35         11000.                                        ALT  1  15
FLOW-FREQ    45         11000.                                        ALT  1  16
FLOW-FREQ    60          2682.                                        ALT  1  17
FLOW-FREQ    64         13456.                                        ALT  1  18
FLOW-FREQ    67          2461.                                        ALT  1  19
FLOW-FREQ    75         14547.                                        ALT  1  20
FLOW-FREQ    76         27449.                                        ALT  1  21
FLOW-FREQ   199           776.                                        ALT  1  22
FLOW-FREQ   200          2219.                                        ALT  1  23
```

```
TR20 ------------------------------------------------------------------------ SCS -
WT3PMP18     WHITE TANK FRS #3, WATERSHED DIVIDED INTO 7 SUB-BASINS      VERSION
07/29/**     18-HR PMP (MTI=.1), RESERVOIR INIT EMPTY W/100-YR SED      2.04TEST


END OF  1 JOBS IN THIS RUN


                    SCS  TR-20,  VERSION 2.04TEST
                          WT3PMP18  FILES

     INPUT  = WT3PMP18.DAT                          , GIVEN DATA FILE
     OUTPUT = 18GOUT.OUT                            , DATED 07/29/**,14:48:42

              FILES GENERATED - DATED 07/29/**,14:48:42

    FILE 111.TEC CONTAINS ECON2 INFORMATION

    FILE 111.TRD CONTAINS READHD INFORMATION


          TOTAL NUMBER OF WARNINGS =   1,  MESSAGES =   2

                       JOB ENDED AT 14:48:42
                   *** TR-20 RUN COMPLETED ***
```

Interim Condition

24-hr General

```
******************80-80 LIST OF INPUT DATA FOR TR-20 HYDROLOGY******************

JOB TR-20 WT3PMP24  ECON                PASS=001  SUMMARY
TITLE     WHITE TANK FRS #3, WATERSHED DIVIDED INTO 7 SUB-BASINS
TITLE     24-HR PMP (MTI=.1), RESERVOIR INIT EMPTY W/100-YR STOR
 5 RAINFL 1            0.1                                                6HRLOCAL
 8          .0000      .003       .006       .009       .013
 8          .016       .020       .025       .030       .035
 8          .039       .046       .052       .058       .065
 8          .071       .080       .090       .099       .109
 8          .118       .283       .449       .567       .622
 8          .669       .701       .732       .756       .780
 8          .795       .809       .824       .838       .852
 8          .866       .876       .885       .894       .904
 8          .913       .920       .926       .932       .939
 8          .945       .950       .954       .959       .964
 8          .969       .972       .976       .980       .984
 8          .988       .991       .993       .995       .998
 8          1.         1.         1.         1.         1.
 9 ENDTBL
 5 RAINFL 2            .1                                                 6HR GEN
 8          .000       .005       .013       .020       .028
 8          .038       .045       .053       .060       .070
 8          .080       .085       .095       .108       .120
 8          .138       .150       .165       .190       .210
 8          .238       .280       .350       .440       .550
 8          .590       .620       .645       .668       .685
 8          .700       .720       .735       .753       .765
 8          .775       .790       .800       .810       .820
 8          .835       .843       .850       .863       .870
 8          .880       .890       .898       .908       .915
 8          .925       .930       .940       .945       .955
 8          .963       .970       .978       .985       .990
 8          1.00       1.00       1.00       1.00       1.00
 9 ENDTBL
 5 RAINFL 3            0.1                                                12HRGEN
 8          .000       .003       .007       .010       .013
 8          .016       .019       .022       .025       .028
 8          .031       .034       .037       .040       .043
 8          .045       .050       .054       .058       .062
 8          .066       .071       .075       .080       .085
 8          .089       .095       .101       .107       .112
 8          .118       .125       .132       .139       .146
 8          .153       .162       .171       .180       .189
 8          .198       .211       .224       .237       .250
 8          .264       .300       .345       .391       .436
 8          .491       .536       .564       .586       .607
 8          .629       .643       .657       .672       .686
 8          .700       .711       .721       .732       .742
 8          .753       .761       .769       .778       .786
 8          .795       .802       .809       .817       .824
 8          .832       .837       .843       .848       .854
 8          .859       .865       .870       .875       .881
 8          .886       .891       .895       .900       .905
 8          .909       .913       .917       .921       .925
 8          .929       .933       .936       .940       .944
 8          .948       .951       .954       .957       .960
 8          .963       .966       .969       .971       .974
```

```
**********************80-80 LIST OF INPUT DATA (CONTINUED)**********************

 8          .977        .980        .982        .984        .986
 8          .989        .991        .993        .995        .998
 8          1.000      01.000       1.000       1.000       1.00
 9 ENDTBL
 5 RAINFL 4             0.1                                                18HRGEN
 8          .000        .001        .002        .003        .004
 8          .005        .005        .006        .007        .008
 8          .009        .012        .014        .017        .020
 8          .023        .025        .028        .031        .033
 8          .036        .040        .044        .049        .053
 8          .057        .061        .065        .070        .074
 8          .078        .084        .090        .096        .102
 8          .108        .114        .120        .126        .132
 8          .138        .146        .154        .162        .170
 8          .179        .187        .195        .203        .211
 8          .220        .238        .256        .275        .293
 8          .311        .330        .348        .367        .385
 8          .403        .430        .457        .484        .511
 8          .538        .557        .577        .597        .616
 8          .636        .653        .670        .687        .704
 8          .721        .734        .746        .759        .771
 8          .784        .792        .801        .810        .818
 8          .827        .832        .838        .843        .848
 8          .853        .856        .859        .862        .864
 8          .867        .870        .872        .875        .878
 8          .880        .882        .885        .887        .889
 8          .891        .893        .895        .897        .899
 8          .901        .903        .905        .907        .909
 8          .911        .912        .914        .916        .917
 8          .919        .920        .922        .924        .925
 8          .927        .929        .930        .932        .934
 8          .935        .937        .938        .940        .941
 8          .943        .945        .946        .948        .949
 8          .951        .952        .953        .955        .956
 8          .957        .959        .960        .961        .963
 8          .964        .965        .967        .968        .970
 8          .971        .972        .974        .975        .976
 8          .978        .979        .980        .982        .983
 8          .984        .985        .986        .988        .989
 8          .990        .991        .992        .993        .994
 8          .995        .996        .997        .998        .999
 8          1.000       1.000       1.000       1.000       1.000
 9 ENDTBL
 5 RAINFL 5             0.1                                                24HRGEN
 8          0.000       0.000       0.001       0.001       0.002
 8          0.002       0.002       0.003       0.003       0.003
 8          0.004       0.005       0.007       0.009       0.010
 8          0.012       0.013       0.015       0.016       0.018
 8          0.019       0.022       0.024       0.027       0.030
 8          0.032       0.035       0.037       0.040       0.042
 8          0.045       0.048       0.051       0.055       0.058
 8          0.061       0.064       0.068       0.071       0.074
 8          0.078       0.082       0.087       0.091       0.096
 8          0.100       0.104       0.109       0.113       0.118
 8          0.122       0.127       0.132       0.137       0.142
 8          0.147       0.151       0.156       0.161       0.166
```

```
8          0.171      0.177      0.184      0.191      0.198
8          0.205      0.214      0.224      0.233      0.242
8          0.252      0.265      0.278      0.291      0.303
8          0.316      0.334      0.351      0.368      0.386
8          0.403      0.425      0.447      0.468      0.490
8          0.512      0.527      0.543      0.558      0.574
8          0.589      0.603      0.617      0.631      0.645
8          0.659      0.671      0.684      0.696      0.709
8          0.721      0.731      0.741      0.751      0.761
8          0.771      0.779      0.786      0.793      0.800
8          0.808      0.814      0.820      0.825      0.831
8          0.837      0.840      0.843      0.847      0.850
8          0.853      0.855      0.857      0.859      0.861
8          0.864      0.866      0.868      0.870      0.872
8          0.874      0.876      0.878      0.880      0.881
8          0.883      0.885      0.886      0.888      0.890
8          0.891      0.893      0.895      0.896      0.898
8          0.899      0.901      0.902      0.904      0.905
8          0.907      0.908      0.909      0.910      0.912
8          0.913      0.914      0.915      0.916      0.917
8          0.919      0.920      0.921      0.922      0.923
8          0.924      0.926      0.927      0.928      0.929
8          0.930      0.932      0.933      0.935      0.936
8          0.938      0.940      0.941      0.943      0.944
8          0.946      0.947      0.947      0.948      0.949
8          0.950      0.950      0.951      0.952      0.953
8          0.953      0.955      0.956      0.957      0.958
8          0.959      0.960      0.961      0.962      0.963
8          0.964      0.965      0.966      0.967      0.968
8          0.969      0.970      0.971      0.972      0.973
8          0.974      0.975      0.976      0.977      0.978
8          0.979      0.980      0.981      0.982      0.983
8          0.984      0.985      0.986      0.987      0.988
8          0.988      0.989      0.990      0.991      0.991
8          0.992      0.993      0.994      0.995      0.995
8          0.996      0.997      0.998      0.998      0.999
8          1.000      1.000      1.000      1.000      1.000
9 ENDTBL
5 RAINFL 6            .25                                          48HRGEN
8          0.0000     0.0015     0.0029     0.0044     0.0058
8          0.0073     0.0088     0.0102     0.0117     0.0131
8          0.0146     0.0160     0.0175     0.0190     0.0204
8          0.0219     0.0233     0.0248     0.0263     0.0277
8          0.0292     0.0306     0.0321     0.0335     0.0350
8          0.0365     0.0379     0.0394     0.0408     0.0423
8          0.0438     0.0452     0.0467     0.0481     0.0496
8          0.0510     0.0525     0.0542     0.0558     0.0575
8          0.0592     0.0608     0.0625     0.0642     0.0658
8          0.0692     0.0725     0.0758     0.0792     0.0825
8          0.0858     0.0892     0.0925     0.0975     0.1025
8          0.1075     0.1125     0.1175     0.1225     0.1275
8          0.1325     0.1442     0.1560     0.1677     0.1794
8          0.1985     0.2176     0.2366     0.2557     0.3239
8          0.3921     0.4603     0.5285     0.5520     0.5754
8          0.5989     0.6224     0.6356     0.6488     0.6620
8          0.6752     0.6862     0.6972     0.7082     0.7192
```

```
**********************80-80 LIST OF INPUT DATA (CONTINUED)**********************

 8          0.7267      0.7342      0.7417      0.7492      0.7558
 8          0.7625      0.7692      0.7758      0.7825      0.7892
 8          0.7958      0.8025      0.8083      0.8142      0.8200
 8          0.8258      0.8308      0.8358      0.8408      0.8458
 8          0.8508      0.8558      0.8608      0.8658      0.8683
 8          0.8708      0.8733      0.8758      0.8783      0.8808
 8          0.8833      0.8858      0.8875      0.8892      0.8908
 8          0.8925      0.8942      0.8958      0.8975      0.8992
 8          0.9008      0.9025      0.9042      0.9058      0.9075
 8          0.9092      0.9108      0.9125      0.9140      0.9154
 8          0.9169      0.9183      0.9198      0.9213      0.9227
 8          0.9242      0.9256      0.9271      0.9285      0.9300
 8          0.9315      0.9329      0.9344      0.9358      0.9373
 8          0.9388      0.9402      0.9417      0.9431      0.9446
 8          0.9460      0.9475      0.9490      0.9504      0.9519
 8          0.9533      0.9548      0.9563      0.9577      0.9592
 8          0.9606      0.9621      0.9635      0.9650      0.9665
 8          0.9679      0.9694      0.9708      0.9723      0.9737
 8          0.9752      0.9767      0.9781      0.9796      0.9810
 8          0.9825      0.9840      0.9854      0.9869      0.9883
 8          0.9898      0.9912      0.9927      0.9942      0.9956
 8          0.9971      0.9985      1.0000      1.0000      1.0
 9 ENDTBL
 5 RAINFL 7            .25                                                 72HRGEN
 8          0.0000      0.0005      0.0009      0.0014      0.0019
 8          0.0025      0.0032      0.0038      0.0044      0.0051
 8          0.0057      0.0063      0.0070      0.0076      0.0082
 8          0.0089      0.0095      0.0103      0.0111      0.0119
 8          0.0127      0.0134      0.0142      0.0150      0.0158
 8          0.0171      0.0184      0.0196      0.0209      0.0222
 8          0.0234      0.0247      0.0259      0.0272      0.0285
 8          0.0297      0.0310      0.0323      0.0335      0.0348
 8          0.0361      0.0375      0.0389      0.0403      0.0418
 8          0.0432      0.0446      0.0460      0.0475      0.0489
 8          0.0503      0.0517      0.0532      0.0546      0.0560
 8          0.0574      0.0589      0.0604      0.0620      0.0636
 8          0.0652      0.0668      0.0684      0.0699      0.0715
 8          0.0731      0.0747      0.0763      0.0778      0.0797
 8          0.0816      0.0835      0.0854      0.0877      0.0899
 8          0.0921      0.0943      0.0968      0.0994      0.1019
 8          0.1044      0.1073      0.1101      0.1130      0.1158
 8          0.1193      0.1228      0.1263      0.1297      0.1335
 8          0.1373      0.1411      0.1449      0.1491      0.1532
 8          0.1573      0.1614      0.1725      0.1837      0.1948
 8          0.2059      0.2241      0.2422      0.2603      0.2784
 8          0.3431      0.4078      0.4726      0.5373      0.5596
 8          0.5819      0.6042      0.6265      0.6390      0.6515
 8          0.6641      0.6766      0.6870      0.6975      0.7079
 8          0.7184      0.7255      0.7326      0.7397      0.7468
 8          0.7535      0.7601      0.7668      0.7734      0.7794
 8          0.7854      0.7915      0.7975      0.8030      0.8085
 8          0.8141      0.8196      0.8247      0.8297      0.8348
 8          0.8399      0.8443      0.8487      0.8532      0.8576
 8          0.8598      0.8620      0.8642      0.8665      0.8685
 8          0.8706      0.8726      0.8747      0.8766      0.8785
 8          0.8804      0.8823      0.8840      0.8858      0.8875
```

```
**********************80-80 LIST OF INPUT DATA (CONTINUED)**********************

 8          0.8892      0.8908      0.8924      0.8940      0.8956
 8          0.8972      0.8987      0.9003      0.9019      0.9035
 8          0.9051      0.9066      0.9082      0.9098      0.9114
 8          0.9130      0.9146      0.9160      0.9174      0.9188
 8          0.9203      0.9217      0.9231      0.9245      0.9259
 8          0.9274      0.9288      0.9302      0.9316      0.9329
 8          0.9342      0.9354      0.9367      0.9380      0.9392
 8          0.9405      0.9418      0.9430      0.9443      0.9456
 8          0.9468      0.9481      0.9494      0.9506      0.9519
 8          0.9530      0.9541      0.9552      0.9563      0.9574
 8          0.9585      0.9597      0.9608      0.9619      0.9630
 8          0.9641      0.9652      0.9661      0.9671      0.9680
 8          0.9690      0.9699      0.9709      0.9718      0.9728
 8          0.9736      0.9744      0.9752      0.9759      0.9767
 8          0.9775      0.9783      0.9791      0.9797      0.9804
 8          0.9810      0.9816      0.9823      0.9829      0.9835
 8          0.9842      0.9847      0.9851      0.9856      0.9861
 8          0.9866      0.9870      0.9875      0.9880      0.9884
 8          0.9889      0.9894      0.9899      0.9902      0.9905
 8          0.9908      0.9911      0.9915      0.9918      0.9921
 8          0.9924      0.9927      0.9930      0.9934      0.9937
 8          0.9940      0.9943      0.9946      0.9949      0.9953
 8          0.9956      0.9959      0.9962      0.9965      0.9968
 8          0.9972      0.9975      0.9978      0.9981      0.9984
 8          0.9987      0.9989      0.9991      0.9992      0.9994
 8          0.9995      0.9997      0.9998      1.0000      1.0000
 9 ENDTBL
 5 RAINFL 8     1        2.4                                          10-DAY
 8          .0000       .0024       .0048       .0073       .0097
 8          .0121       .0148       .0174       .0201       .0228
 8          .0254       .0284       .0314       .0344       .0374
 8          .0404       .0437       .0471       .0505       .0539
 8          .0572       .0612       .0651       .0690       .0729
 8          .0768       .0815       .0862       .0909       .0955
 8          .1002       .1061       .1120       .1179       .1238
 8          .1297       .1377       .1458       .1538       .1618
 8          .1699       .1832       .1966       .2099       .2232
 8          .2366       .2548       .2778       .3093       .3614
 8          1.092       1.174       1.213       1.240       1.260
 8          1.276       1.286       1.296       1.306       1.316
 8          1.326       1.333       1.340       1.347       1.354
 8          1.360       1.365       1.371       1.376       1.381
 8          1.386       1.391       1.395       1.399       1.403
 8          1.408       1.411       1.415       1.418       1.422
 8          1.426       1.429       1.432       1.435       1.438
 8          1.442       1.444       1.447       1.450       1.453
 8          1.456       1.458       1.461       1.463       1.466
 8          1.468       1.471       1.473       1.475       1.477
 8          1.48        1.48        1.48        1.48        1.48
 9 ENDTBL
 4 DIMHYD               .0556                                           WT3
 8          0.0         .03         .10         .19         .31
 8          .47         .66         .82         .93         .99
 8          1.0         .99         .93         .82         .66
 8          .47         .31         .03         .00         .00
 9 ENDTBL
```

```
2 XSECTN   005        1.0        8.77                          BOSSCS#5
8                     0.         0.0        0.0
8                     0.35       5.         5.56
8                     1.03       50.        30.95
8                     1.39       100.       52.16
8                     1.94       200.       88.72
8                     2.63       400.       148.61
8                     3.51       800.       260.63
8                     4.62       1600.      459.66
8                     6.04       3200.      929.36
8                     7.38       6400.      1811.51
8                     8.77       12800.     3374.20
8                     10.17      25600.     6398.87
8                     11.89      51200.     10982.51
9 ENDTBL
2 XSECTN   010        1.0        8.94                          BOSSCS#4
8                     0.         0.0        0.0
8                     0.91       5.         4.95
8                     2.03       50.        24.80
8                     2.63       100.       41.32
8                     3.34       200.       74.14
8                     4.15       400.       130.28
8                     5.23       800.       223.37
8                     6.41       1600.      447.51
8                     7.65       3200.      898.64
8                     8.94       6400.      1690.88
8                     10.29      12800.     3331.95
8                     11.64      25600.     6185.81
8                     13.14      51200.     10661.04
9 ENDTBL
2 XSECTN   020        1.0        7.3                           REACHC
8                     0.         0.0        0.0
8                     1.01       100.       57.78
8                     1.49       200.       86.81
8                     1.88       300.       110.25
8                     2.49       500.       149.47
8                     3.68       1000.      226.31
8                     5.40       2000.      346.26
8                     7.85       4000.      533.39
8                     9.64       6000.      688.07
8                     11.16      8000.      838.10
8                     12.46      10000.     985.31
8                     13.61      12000.     1122.03
8                     14.56      14000.     1236.94
8                     15.43      16000.     1345.18
8                     16.31      18000.     1456.68
9 ENDTBL
2 XSECTN   025        1.0        7.3                           REACHB
8                     0.         0.0        0.0
8                     0.63       100.       80.89
8                     0.93       200.       120.32
8                     1.17       300.       151.77
8                     1.56       500.       203.28
8                     2.30       1000.      302.00
8                     3.38       2000.      449.24
8                     4.97       4000.      673.73
```

```
8                       6.23        6000.       855.96
8                       7.31        8000.       1016.35
8                       8.24        10000.      1158.51
8                       9.09        12000.      1293.31
8                       9.90        14000.      1425.57
8                       10.64       16000.      1549.17
8                       11.36       18000.      1673.11
9 ENDTBL
2 XSECTN    030         1.0         9.45                                BOSSCS#6
8                       0.          0.0         0.0
8                       0.77        5.          4.67
8                       1.54        50.         32.06
8                       1.78        100.        56.64
8                       2.10        200.        100.59
8                       2.50        400.        179.97
8                       3.01        800.        320.25
8                       3.63        1600.       589.66
8                       4.35        3200.       1110.72
8                       5.21        6400.       2084.48
8                       6.03        12800.      4119.83
8                       6.99        25600.      6856.75
8                       8.28        51200.      11085.87
9 ENDTBL
2 XSECTN    045         1.0         4.87                                REACHA
8                       0.          0.0         0.0
8                       0.60        100.        85.69
8                       0.90        200.        127.94
8                       1.13        300.        161.93
8                       1.52        500.        217.27
8                       2.25        1000.       324.03
8                       3.31        2000.       483.02
8                       4.87        4000.       722.17
8                       6.09        6000.       914.99
8                       7.15        8000.       1084.61
8                       8.05        10000.      1234.17
8                       8.87        12000.      1373.80
8                       9.64        14000.      1507.84
8                       10.34       16000.      1633.45
8                       11.00       18000.      1753.12
9 ENDTBL
2 XSECTN    060         1.0         4.7                                 2CP6CP7
8                       0.          0.0         0.0
8                       2.36        100.        45.12
8                       2.88        200.        83.75
8                       3.18        300.        114.33
8                       3.64        500.        172.72
8                       4.42        1000.       289.04
8                       5.40        2000.       470.72
8                       6.87        4000.       782.74
8                       7.91        6000.       1020.12
8                       8.79        8000.       1231.25
8                       9.60        10000.      1435.05
8                       10.26       12000.      1618.34
8                       10.94       14000.      1812.58
8                       11.47       16000.      1983.46
8                       11.96       18000.      2150.12
```

```
 9 ENDTBL
 2 XSECTN   067          1.0          8.77                                BOSSCS#5
 8                       0.           0.0          0.0
 8                       0.35         5.           5.56
 8                       1.03         50.          30.95
 8                       1.39         100.         52.16
 8                       1.94         200.         88.72
 8                       2.63         400.         148.61
 8                       3.51         800.         260.63
 8                       4.62         1600.        459.66
 8                       6.04         3200.        929.36
 8                       7.38         6400.        1811.51
 8                       8.77         12800.       3374.20
 8                       10.17        25600.       6398.87
 8                       11.89        51200.       10982.51
 9 ENDTBL
 3 STRUCT       01                                                           95/11/6
 8                       1178.0       0.00         0.0
 8                       1188.0       2.71         44.8
 8                       1193.0       7.29         129.0
 8                       1199.2       26.75        500.0
 8                       1202.0       38.68        845.55
 8                       1204.0       48.00        1176.28
 8                       1206.0       56.80        1575.25
 8                       1208.0       66.40        2044.97
 8                       1210.0       77.10        2593.40
 8                       1212.0       85.95        3218.00
 8                       1213.0       2685.00      3556.67
 8                       1214.0       8231.00      3916.02
 8                       1215.0       15545.0      4294.13
 8                       1216.0       24272.0      4692.68
 8                       1217.0       34212.0      5113.19
 8                       1218.0       45232.0      5556.01
 8                       1219.0       57233.0      6021.50
 8                       1220.0       70142.0      6509.75
 9 ENDTBL
 6 RUNOFF 1 001        1 2.46         87.2         0.85         1 1
 6 REACH  3 005    1   7 9100.                                   1            BOSS#6
 6 REACH  3 010    7   2 9100.                                   1            BOSS#4
 6 RUNOFF 1 002        3 2.38         79.9         0.73         1 1
 6 ADDHYD 4 012    2 3 1                                         1 1
 6 DIVERT 6 012    1 4 7 4100.        1.00         200.         1 1          OLIVE
 6 REACH  3 020    4   7 3332.                                   1            REACH C
 6 REACH  3 025    7   5 1950.                                   1            REACH B
 6 RUNOFF 1 003        6 3.94         87.2         0.88         1 1
 6 REACH  3 030    6   7 8865.                                   1            BOSS#6
 6 REACH  3 005    7   1 8865.                                   1            BOSS#5
 6 REACH  3 025    1   7 1950.                                   1            REACH B
 6 RUNOFF 1 004        1 2.06         77.3         0.79         1 1
 6 ADDHYD 4 034    7 1 2                                         1 1
 6 ADDHYD 4 035    5 2 3                                         1 1
 6 DIVERT 6 035    3 4 7 11000.       1.00         199.         1 1          NORTHERN
 6 REACH  3 045    4   5 4200.                                   1            REACH A
 6 RUNOFF 1 006        2 1.47         87.7         0.47         1 1
 6 REACH  3 060    2   3 7540.                                   1            CP6CP7
 6 REACH  3 067    3   4 5140.                                   1            BOSS#5
```

```
*********************80-80 LIST OF INPUT DATA (CONTINUED)*********************

 6 ADDHYD 4 064   5 4 3                                      1 1
 6 RUNOFF 1 005       6 4.78        78.8        0.78         1 1
 6 RUNOFF 1 007       7 3.48        81.7        1.01         1 1
 6 ADDHYD 4 075   6 7 1                                      1 1
 6 ADDHYD 4 076   1 3 2                                      1 1     1
 6 RESVOR 2    01 2   1 1201.42                              1 1     1
 ENDATA
 7 LIST                 1.0                     1.
 7 INCREM 6             0.10
 7 COMPUT 7 001      01 0.          12.9        1.0         5 2  01  05
   ENDCMP 1
   ENDJOB 2

*******************************END OF 80-80 LIST*******************************
```

RUNOFF OPTION USED WITH RAINTABLE NO. 8, RUNOFF CURVE NO. = 100.

COMPUTED DIMHYD PEAK RATE FACTOR = 664.607

```
EXECUTIVE CONTROL  LIST          1.          0.          1.

          LISTING OF CURRENT DATA


                      COMPUTED TIME INCREMENT
DIMHYD                          .0556

                   .0000       .0300       .1000       .1900       .3100
                   .4700       .6600       .8200       .9300       .9900
                  1.0000       .9900       .9300       .8200       .6600
                   .4700       .3100       .0300       .0000       .0000
ENDTBL

   COMPUTED PEAK RATE FACTOR =  664.607
```

TABLE NO.	TIME INCREMENT				
RAINFL 1	.1000				
	.0000	.0030	.0060	.0090	.0130
	.0160	.0200	.0250	.0300	.0350
	.0390	.0460	.0520	.0580	.0650
	.0710	.0800	.0900	.0990	.1090
	.1180	.2830	.4490	.5670	.6220
	.6690	.7010	.7320	.7560	.7800
	.7950	.8090	.8240	.8380	.8520
	.8660	.8760	.8850	.8940	.9040
	.9130	.9200	.9260	.9320	.9390
	.9450	.9500	.9540	.9590	.9640
	.9690	.9720	.9760	.9800	.9840
	.9880	.9910	.9930	.9950	.9980
	1.0000	1.0000	1.0000	1.0000	1.0000

ENDTBL

STANDARD CONTROL INSTRUCTIONS

RUNOFF	1			1	2.4600	87.2000	.85001	1	0	0	0	1
REACH	5	1		7	9100.0000	.0000	.00001	0	0	0	0	1
REACH	10	7		2	9100.0000	.0000	.00001	0	0	0	0	1
RUNOFF	2			3	2.3800	79.9000	.73001	1	0	0	0	1
ADDHYD	12	2	3	1			1	1	0	0	0	1
DIVERT	12	1	4	7	4100.0000	1.0000	200.00001	1	0	0	0	1
REACH	20	4		7	3332.0000	.0000	.00001	0	0	0	0	1
REACH	25	7		5	1950.0000	.0000	.00001	0	0	0	0	1
RUNOFF	3			6	3.9400	87.2000	.88001	1	0	0	0	1
REACH	30	6		7	8865.0000	.0000	.00001	0	0	0	0	1
REACH	5	7		1	8865.0000	.0000	.00001	0	0	0	0	1
REACH	25	1		7	1950.0000	.0000	.00001	0	0	0	0	1
RUNOFF	4			1	2.0600	77.3000	.79001	1	0	0	0	1
ADDHYD	34	7	1	2			1	1	0	0	0	1
ADDHYD	35	5	2	3			1	1	0	0	0	1
DIVERT	35	3	4	7	11000.0000	1.0000	199.00001	1	0	0	0	1
REACH	45	4		5	4200.0000	.0000	.00001	0	0	0	0	1
RUNOFF	6			2	1.4700	87.7000	.47001	1	0	0	0	1
REACH	60	2		3	7540.0000	.0000	.00001	0	0	0	0	1
REACH	67	3		4	5140.0000	.0000	.00001	0	0	0	0	1
ADDHYD	64	5	4	3			1	1	0	0	0	1
RUNOFF	5			6	4.7800	78.8000	.78001	1	0	0	0	1
RUNOFF	7			7	3.4800	81.7000	1.01001	1	0	0	0	1
ADDHYD	75	6	7	1			1	1	0	0	0	1
ADDHYD	76	1	3	2			1	1	0	0	1	1
RESVOR	1	2		1	1201.4200		1	1	0	0	1	1
ENDATA												

END OF LISTING

EXECUTIVE CONTROL INCREM MAIN TIME INCREMENT = .100 HOURS

EXECUTIVE CONTROL COMPUT FROM XSECTION 1 TO STRUCTURE 1
STARTING TIME = .00 RAIN DEPTH = 12.90 RAIN DURATION = 1.00
ANT. RUNOFF COND. = 2 MAIN TIME INCREMENT = .100 HOURS
ALTERNATE NO. = 1 STORM NO. = 5 RAIN TABLE NO. = 5

OPERATION RUNOFF XSECTION 1

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
8.73	4016.1	(RUNOFF)
14.21	336.0	(RUNOFF)
16.48	238.3	(RUNOFF)
17.99	321.0	(RUNOFF)
19.79	214.7	(RUNOFF)
22.25	201.7	(RUNOFF)
23.43	160.6	(RUNOFF)
23.72	162.0	(RUNOFF)

HYDROGRAPH POINTS FOR ALTERNATE = 1, STORM = 5
MAIN TIME INCREMENT = .100 hr, DRAINAGE AREA = 2.46 SQ.MI.

HRS								
2.20 CFS	.07	.69	2.75	7.24	15.11	26.37	40.70	57.22
3.00 CFS	75	93	111	132	156	182	208	233
3.80 CFS	255	275	294	312	336	368	404	443
4.60 CFS	481	517	543	562	578	594	613	635
5.40 CFS	661	686	710	729	742	750	757	769
6.20 CFS	793	834	895	966	1045	1133	1229	1328
7.00 CFS	1424	1524	1637	1766	1901	2035	2178	2334
7.80 CFS	2499	2667	2841	3030	3232	3427	3606	3779
8.60 CFS	3926	4011	3992	3857	3654	3436	3232	3069
9.40 CFS	2973	2914	2858	2800	2741	2685	2631	2569
10.20 CFS	2498	2418	2331	2240	2144	2043	1943	1845
11.00 CFS	1744	1640	1541	1454	1382	1322	1258	1180
11.80 CFS	1088	993	903	814	722	637	576	528
12.60 CFS	486	457	444	440	439	434	424	411
13.40 CFS	400	392	382	369	357	346	337	335
14.20 CFS	336	335	334	333	328	321	316	310
15.00 CFS	304	302	298	292	282	271	262	255
15.80 CFS	246	240	237	234	231	234	238	238
16.60 CFS	237	233	231	233	238	241	244	247
17.40 CFS	251	262	281	299	313	320	321	319
18.20 CFS	309	289	260	231	203	179	159	150
19.00 CFS	153	157	160	170	187	199	206	211
19.80 CFS	215	209	203	202	202	202	202	202
20.60 CFS	202	202	202	202	202	202	202	202
21.40 CFS	202	202	202	202	202	202	202	202
22.20 CFS	202	202	202	198	192	182	170	162

23.00 CFS	155	150	150	157	160	160	159	162
23.80 CFS	161	155	150	145	142	129	105	79
24.60 CFS	55.83	31.60	10.69	1.50	.00			

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
11.25 WATERSHED INCHES; 17856 CFS-HRS; 1475.6 ACRE-FEET.

OPERATION REACH XSECTION 5

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
9.38	3377.8	6.11
18.55	289.8	2.25
20.25	202.9	1.95

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
11.25 WATERSHED INCHES; 17856 CFS-HRS; 1475.6 ACRE-FEET.

OPERATION REACH XSECTION 10

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
10.20	3039.2	7.53
18.88	274.6	3.64

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
11.25 WATERSHED INCHES; 17856 CFS-HRS; 1475.6 ACRE-FEET.

OPERATION RUNOFF XSECTION 2

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
8.68	3737.5	(RUNOFF)
12.87	424.8	(RUNOFF)
14.15	322.8	(RUNOFF)
14.39	321.9	(RUNOFF)
16.39	232.7	(RUNOFF)
17.05	233.9	(RUNOFF)
17.97	311.6	(RUNOFF)
19.68	207.4	(RUNOFF)
22.25	194.2	(RUNOFF)
23.58	156.9	(RUNOFF)

HYDROGRAPH POINTS FOR ALTERNATE = 1, STORM = 5
MAIN TIME INCREMENT = .100 hr, DRAINAGE AREA = 2.38 SQ.MI.

HRS								
2.90 CFS	.28	1.37	4.32	10.24	20.11	33.91	50.79	68.64
3.70 CFS	86	104	121	137	155	178	205	235
4.50 CFS	268	299	324	344	362	380	400	421
5.30 CFS	445	471	496	520	537	548	557	569
6.10 CFS	587	618	667	730	798	871	952	1041
6.90 CFS	1134	1226	1325	1436	1560	1692	1831	1973

7.70 CFS	2117	2274	2450	2640	2835	3020	3198	3382
8.50 CFS	3563	3698	3735	3643	3460	3249	3051	2898
9.30 CFS	2806	2753	2702	2652	2604	2556	2505	2451
10.10 CFS	2393	2330	2250	2160	2062	1970	1883	1798
10.90 CFS	1700	1590	1486	1403	1339	1285	1226	1156
11.70 CFS	1075	985	894	802	712	632	570	518
12.50 CFS	470	437	424	423	425	420	409	395
13.30 CFS	386	381	372	358	344	333	322	320
14.10 CFS	322	322	320	322	319	310	305	299
14.90 CFS	291	289	289	284	276	263	253	246
15.70 CFS	240	234	229	222	218	222	230	233
16.50 CFS	229	222	218	222	231	234	234	231
17.30 CFS	235	245	266	285	299	309	309	311
18.10 CFS	304	290	263	231	202	174	155	144
18.90 CFS	146	149	150	158	174	189	198	205
19.70 CFS	207	202	196	194	194	194	194	194
20.50 CFS	194	194	194	194	194	194	194	194
21.30 CFS	194	194	194	194	194	194	194	194
22.10 CFS	194	194	194	193	189	180	167	157
22.90 CFS	150	145	143	147	152	154	156	157
23.70 CFS	155	150	145	142	142	135	112	86
24.50 CFS	60.34	34.14	.00					

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
10.40 WATERSHED INCHES; 15974 CFS-HRS; 1320.1 ACRE-FEET.

OPERATION ADDHYD XSECTION 12

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
8.78	5546.9	(NULL)
9.76	5520.2	(NULL)
16.90	525.1	(NULL)
17.84	567.6	(NULL)
17.97	567.7	(NULL)
19.00	422.2	(NULL)
19.55	447.3	(NULL)
23.36	350.7	(NULL)

HYDROGRAPH POINTS FOR ALTERNATE = 1, STORM = 5
MAIN TIME INCREMENT = .100 hr, DRAINAGE AREA = 4.84 SQ.MI.

HRS								
2.80 CFS	.11	.54	2.07	5.85	13.16	25.13	41.86	62.58
3.60 CFS	85	109	133	158	184	213	247	287
4.40 CFS	331	378	424	465	502	538	576	616
5.20 CFS	659	706	754	803	849	890	924	956
6.00 CFS	991	1033	1087	1158	1243	1332	1427	1529
6.80 CFS	1639	1755	1873	2001	2143	2303	2476	2658
7.60 CFS	2849	3046	3263	3502	3763	4032	4299	4565
8.40 CFS	4843	5124	5366	5517	5546	5488	5408	5343
9.20 CFS	5322	5355	5417	5467	5500	5518	5519	5504
10.00 CFS	5473	5428	5369	5285	5184	5069	4954	4839

10.80 CFS	4720	4584	4432	4281	4146	4026	3912	3789
11.60 CFS	3652	3500	3338	3173	3006	2840	2684	2545
12.40 CFS	2415	2287	2173	2080	1998	1918	1835	1746
13.20 CFS	1657	1576	1503	1431	1357	1287	1224	1166
14.00 CFS	1118	1080	1041	1003	971	937	901	869
14.80 CFS	839	810	788	770	749	725	698	674
15.60 CFS	655	638	622	606	590	576	571	570
16.40 CFS	564	552	537	525	522	525	522	517
17.20 CFS	509	509	514	532	548	559	567	566
18.00 CFS	567	560	548	523	494	468	444	427
18.80 CFS	418	421	422	421	424	435	444	447
19.60 CFS	447	443	433	421	416	412	410	408
20.40 CFS	407	405	404	403	402	401	401	400
21.20 CFS	399	399	398	398	398	398	397	397
22.00 CFS	397	397	397	397	396	391	382	369
22.80 CFS	359	352	347	344	347	351	351	350
23.60 CFS	348	344	336	329	324	321	312	288
24.40 CFS	260	232	204	168	165	161	156	150
25.20 CFS	143	134	126	117	108	99	91	83
26.00 CFS	75.33	68.27	61.71	55.64	50.06	44.94	40.28	36.03
26.80 CFS	32.19	28.71	25.57	22.75	20.22	17.95	15.91	14.10
27.60 CFS	12.48	11.03	9.75	8.61	7.59	6.69	5.90	5.19
28.40 CFS	4.57	4.02	3.53	3.10	2.72	2.39	2.10	1.84
29.20 CFS	1.61	1.41	1.23	1.08	.94	.83	.72	.63
30.00 CFS	.55	.48						

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
10.83 WATERSHED INCHES; 33829 CFS-HRS; 2795.7 ACRE-FEET.

OPERATION DIVERT XSECTION 12
OUTPUT #1 HYDROGRAPH

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
8.20	4100.0 *	(DIVERT)
16.90	525.1	(DIVERT)
17.84	567.6	(DIVERT)
17.97	567.7	(DIVERT)
19.00	422.2	(DIVERT)
19.55	447.3	(DIVERT)
23.36	350.7	(DIVERT)

* FIRST POINT OF FLAT PEAK

HYDROGRAPH POINTS FOR ALTERNATE = 1, STORM = 5
HRS MAIN TIME INCREMENT = .100 hr, DRAINAGE AREA = 4.84 SQ.MI.

2.80 CFS	.11	.54	2.07	5.85	13.16	25.13	41.86	62.58
3.60 CFS	85	109	133	158	184	213	247	287
4.40 CFS	331	378	424	465	502	538	576	616
5.20 CFS	659	706	754	803	849	890	924	956
6.00 CFS	991	1033	1087	1158	1243	1332	1427	1529

6.80 CFS	1639	1755	1873	2001	2143	2303	2476	2658
7.60 CFS	2849	3046	3263	3502	3763	4032	4100	4100
8.40 CFS	4100	4100	4100	4100	4100	4100	4100	4100
9.20 CFS	4100	4100	4100	4100	4100	4100	4100	4100
10.00 CFS	4100	4100	4100	4100	4100	4100	4100	4100
10.80 CFS	4100	4100	4100	4100	4100	4026	3912	3789
11.60 CFS	3652	3500	3338	3173	3006	2840	2684	2545
12.40 CFS	2415	2287	2173	2080	1998	1918	1835	1746
13.20 CFS	1657	1576	1503	1431	1357	1287	1224	1166
14.00 CFS	1118	1080	1041	1003	971	937	901	869
14.80 CFS	839	810	788	770	749	725	698	674
15.60 CFS	655	638	622	606	590	576	571	570
16.40 CFS	564	552	537	525	522	525	522	517
17.20 CFS	509	509	514	532	548	559	567	566
18.00 CFS	567	560	548	523	494	468	444	427
18.80 CFS	418	421	422	421	424	435	444	447
19.60 CFS	447	443	433	421	416	412	410	408
20.40 CFS	407	405	404	403	402	401	401	400
21.20 CFS	399	399	398	398	398	398	397	397
22.00 CFS	397	397	397	397	396	391	382	369
22.80 CFS	359	352	347	344	347	351	351	350
23.60 CFS	348	344	336	329	324	321	312	288
24.40 CFS	260	232	204	168	165	161	156	150
25.20 CFS	143	134	126	117	108	99	91	83
26.00 CFS	75.33	68.27	61.71	55.64	50.06	44.94	40.28	36.03
26.80 CFS	32.19	28.71	25.57	22.75	20.22	17.95	15.91	14.10
27.60 CFS	12.48	11.03	9.75	8.61	7.59	6.69	5.90	5.19
28.40 CFS	4.57	4.02	3.53	3.10	2.72	2.39	2.10	1.84
29.20 CFS	1.61	1.41	1.23	1.08	.94	.83	.72	.63
30.00 CFS	.55	.48						

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
9.81 WATERSHED INCHES; 30652 CFS-HRS; 2533.1 ACRE-FEET.

OUTPUT #2 DIVERTED HYDROGRAPH (XSECTION 200)

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
8.78	1446.9	(DIVERT)
9.76	1420.2	(DIVERT)

HYDROGRAPH POINTS FOR ALTERNATE = 1, STORM = 5
MAIN TIME INCREMENT = .100 hr, DRAINAGE AREA = .00 SQ.MI.

HRS								
8.10 CFS	0	199	465	743	1024	1266	1417	1446
8.90 CFS	1388	1308	1243	1222	1255	1317	1367	1400
9.70 CFS	1418	1419	1404	1373	1328	1269	1185	1084
10.50 CFS	969	854	739	620	484	332	181	46
11.30 CFS	.00							

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
3177 CFS-HRS; 262.6 ACRE-FEET.

OPERATION REACH XSECTION 20

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
9.10	4100.0 *	7.94
16.99	524.8	2.55
18.07	567.2	2.65
19.11	421.9	2.25
19.67	446.9	2.33
23.52	350.5	2.03

* FIRST POINT OF FLAT PEAK

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
9.81 WATERSHED INCHES; 30653 CFS-HRS; 2533.1 ACRE-FEET.

OPERATION REACH XSECTION 25

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
9.20	4100.0 *	5.03
17.08	524.8	1.60
18.17	567.2	1.66
19.21	421.8	1.41
19.77	446.8	1.46
23.62	350.5	1.27

* FIRST POINT OF FLAT PEAK

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
9.81 WATERSHED INCHES; 30652 CFS-HRS; 2533.1 ACRE-FEET.

OPERATION RUNOFF XSECTION 3

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
8.75	6396.0	(RUNOFF)
14.23	538.1	(RUNOFF)
16.52	379.8	(RUNOFF)
18.01	512.7	(RUNOFF)
19.82	341.6	(RUNOFF)
22.25	323.2	(RUNOFF)
23.47	256.4	(RUNOFF)
23.77	258.9	(RUNOFF)

HYDROGRAPH POINTS FOR ALTERNATE = 1, STORM = 5
HRS MAIN TIME INCREMENT = .100 hr, DRAINAGE AREA = 3.94 SQ.MI.

2.20 CFS	.09	.96	3.94	10.45	22.16	39.17	61.08	86.80
3.00 CFS	115	144	174	207	244	284	326	365
3.80 CFS	402	435	465	494	531	579	637	699

4.60 CFS	759	817	863	896	923	947	977	1011
5.40 CFS	1052	1093	1129	1160	1184	1200	1213	1232
6.20 CFS	1267	1328	1418	1528	1649	1785	1937	2097
7.00 CFS	2252	2410	2589	2794	3011	3223	3448	3696
7.80 CFS	3962	4233	4504	4798	5115	5434	5730	5999
8.60 CFS	6229	6374	6375	6204	5909	5574	5249	4971
9.40 CFS	4786	4683	4595	4502	4405	4313	4227	4131
10.20 CFS	4019	3891	3754	3613	3462	3303	3140	2979
11.00 CFS	2820	2657	2499	2353	2231	2132	2035	1918
11.80 CFS	1777	1618	1471	1330	1186	1047	937	860
12.60 CFS	795	742	714	704	701	695	683	663
13.40 CFS	644	630	614	594	575	558	542	536
14.20 CFS	538	537	536	533	528	517	507	499
15.00 CFS	488	482	478	468	454	438	424	411
15.80 CFS	397	385	380	376	372	373	378	380
16.60 CFS	379	375	372	373	379	385	391	397
17.40 CFS	404	418	445	474	498	509	513	510
18.20 CFS	496	468	424	378	334	295	262	242
19.00 CFS	243	252	256	268	293	316	328	336
19.80 CFS	341	338	328	323	323	323	323	323
20.60 CFS	323	323	323	323	323	323	323	323
21.40 CFS	323	323	323	323	323	323	323	323
22.20 CFS	323	323	322	317	308	293	277	263
23.00 CFS	251	242	239	248	256	256	255	257
23.80 CFS	258	252	242	233	227	211	175	133
24.60 CFS	95.14	59.23	25.25	5.49	.00			

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
11.25 WATERSHED INCHES; 28596 CFS-HRS; 2363.2 ACRE-FEET.

OPERATION REACH XSECTION 30

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
9.54	5305.4	4.92
18.67	460.9	2.58
20.38	326.7	2.35

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
11.25 WATERSHED INCHES; 28596 CFS-HRS; 2363.2 ACRE-FEET.

OPERATION REACH XSECTION 5

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
10.36	4825.7	6.72
19.00	439.5	2.72

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
11.25 WATERSHED INCHES; 28596 CFS-HRS; 2363.2 ACRE-FEET.

*** WARNING - ROUTING COEFFICIENT (C) EQUALS 1.0,
CONSIDER SMALLER MAIN TIME INCREMENT FOR XSECTION 25. ***

OPERATION REACH XSECTION 25

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
10.36	4825.7	5.49
19.00	439.5	1.44

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
11.25 WATERSHED INCHES; 28596 CFS-HRS; 2363.2 ACRE-FEET.

OPERATION RUNOFF XSECTION 4

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
8.72	3120.1	(RUNOFF)
14.24	275.8	(RUNOFF)
16.43	197.0	(RUNOFF)
17.96	264.7	(RUNOFF)
19.75	176.5	(RUNOFF)
22.25	166.5	(RUNOFF)
23.68	133.7	(RUNOFF)

HYDROGRAPH POINTS FOR ALTERNATE = 1, STORM = 5
MAIN TIME INCREMENT = .100 hr, DRAINAGE AREA = 2.06 SQ.MI.

HRS								
3.10 CFS	.10	.68	2.56	6.56	13.21	22.40	33.79	46.78
3.90 CFS	61	75	89	106	126	148	172	196
4.70 CFS	218	237	254	270	286	304	323	345
5.50 CFS	366	386	403	416	426	437	453	476
6.30 CFS	511	558	611	668	733	805	881	955
7.10 CFS	1034	1125	1229	1338	1451	1571	1698	1833
7.90 CFS	1975	2126	2289	2456	2619	2776	2925	3052
8.70 CFS	3118	3089	2970	2808	2646	2506	2404	2349
9.50 CFS	2308	2267	2225	2183	2144	2102	2053	1998
10.30 CFS	1934	1864	1791	1713	1637	1559	1477	1391
11.10 CFS	1304	1229	1165	1113	1065	1010	943	867
11.90 CFS	789	715	640	568	505	457	420	387
12.70 CFS	368	362	361	360	353	344	334	327
13.50 CFS	320	310	299	289	281	275	275	276
14.30 CFS	276	274	273	269	262	258	252	248
15.10 CFS	248	244	239	228	220	213	207	201
15.90 CFS	196	193	190	190	193	197	196	193
16.70 CFS	190	190	194	198	200	200	203	208
17.50 CFS	221	238	251	261	264	264	262	251
18.30 CFS	233	207	182	160	140	126	123	127

19.10 CFS	129	133	144	158	167	172	176	176
19.90 CFS	171	166	166	166	166	166	166	166
20.70 CFS	166	166	166	166	166	166	166	166
21.50 CFS	166	166	166	166	166	166	166	166
22.30 CFS	166	166	163	157	146	138	132	127
23.10 CFS	123	124	130	132	132	133	134	131
23.90 CFS	126	122	120	115	102	81	59	38
24.70 CFS	18.59	4.43	.00					

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
10.03 WATERSHED INCHES; 13339 CFS-HRS; 1102.3 ACRE-FEET.

OPERATION ADDHYD XSECTION 34

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
10.04	6837.0	(NULL)
17.84	682.9	(NULL)
19.44	579.8	(NULL)
23.34	451.2	(NULL)

HYDROGRAPH POINTS FOR ALTERNATE = 1, STORM = 5
HRS MAIN TIME INCREMENT = .100 hr, DRAINAGE AREA = 6.00 SQ.MI.

3.00 CFS	.37	1.07	2.81	6.66	13.67	24.59	39.43	57.97
3.80 CFS	80	104	130	159	192	230	272	317
4.60 CFS	363	408	452	495	539	585	635	689
5.40 CFS	745	802	859	912	962	1009	1057	1109
6.20 CFS	1170	1242	1324	1412	1504	1603	1708	1819
7.00 CFS	1930	2049	2184	2337	2502	2676	2865	3066
7.80 CFS	3284	3517	3767	4037	4320	4610	4903	5198
8.60 CFS	5481	5713	5860	5929	5963	6005	6073	6179
9.40 CFS	6325	6468	6592	6689	6762	6810	6834	6833
10.20 CFS	6807	6758	6689	6605	6507	6401	6284	6156
11.00 CFS	6015	5866	5720	5578	5442	5303	5150	4980
11.80 CFS	4795	4605	4415	4223	4032	3849	3680	3520
12.60 CFS	3362	3216	3082	2953	2823	2690	2556	2425
13.40 CFS	2303	2186	2072	1963	1862	1768	1683	1608
14.20 CFS	1540	1475	1414	1357	1301	1246	1198	1152
15.00 CFS	1111	1077	1043	1008	972	939	909	883
15.80 CFS	857	834	814	794	778	765	754	739
16.60 CFS	722	705	693	686	678	670	661	656
17.40 CFS	653	659	669	678	682	682	679	675
18.20 CFS	664	648	625	604	586	572	562	562
19.00 CFS	567	567	567	572	579	578	574	568
19.80 CFS	558	544	531	525	520	516	512	510
20.60 CFS	507	505	503	501	500	499	497	496
21.40 CFS	496	495	494	494	493	493	492	492
22.20 CFS	492	491	491	487	481	471	462	455
23.00 CFS	450	446	447	451	450	448	445	442
23.80 CFS	435	426	419	413	405	389	364	339
24.60 CFS	316	293	275	266	260	253	244	233

25.40 CFS	220	207	193	179	166	152	139	127
26.20 CFS	116	105	95	86	78	70	63	56
27.00 CFS	50.62	45.31	40.51	36.17	32.26	28.75	25.59	22.76
27.80 CFS	20.23	17.96	15.94	14.13	12.52	11.09	9.82	8.68
28.60 CFS	7.68	6.78	5.99	5.29	4.66	4.11	3.63	3.19
29.40 CFS	2.81	2.48	2.18	1.92	1.69	1.48	1.30	1.15
30.20 CFS	1.01	.88	.77	.68	.60	.52	.46	

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
10.83 WATERSHED INCHES; 41935 CFS-HRS; 3465.5 ACRE-FEET.

OPERATION ADDHYD XSECTION 35

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
10.04	10937.0	(NULL)
18.02	1244.1	(NULL)
19.62	1015.9	(NULL)
23.46	797.6	(NULL)

HYDROGRAPH POINTS FOR ALTERNATE = 1, STORM = 5
MAIN TIME INCREMENT = .100 hr, DRAINAGE AREA = 10.84 SQ.MI.

HRS								
3.00 CFS	0	2	5	12	25	47	77	115
3.80 CFS	159	206	257	310	369	435	510	593
4.60 CFS	682	773	863	948	1030	1113	1200	1293
5.40 CFS	1393	1496	1600	1702	1798	1887	1971	2056
6.20 CFS	2151	2263	2397	2552	2725	2911	3110	3320
7.00 CFS	3539	3773	4025	4304	4607	4937	5294	5675
7.80 CFS	6081	6510	6972	7476	8013	8569	8973	9292
8.60 CFS	9579	9813	9960	10029	10063	10105	10173	10279
9.40 CFS	10425	10568	10692	10789	10862	10910	10934	10933
10.20 CFS	10907	10858	10789	10705	10607	10501	10384	10256
11.00 CFS	10115	9966	9820	9678	9542	9345	9090	8801
11.80 CFS	8483	8145	7796	7440	7084	6735	6407	6103
12.60 CFS	5813	5539	5288	5059	4844	4630	4413	4195
13.40 CFS	3984	3784	3596	3414	3239	3074	2925	2790
14.20 CFS	2672	2566	2466	2370	2281	2193	2109	2030
15.00 CFS	1959	1895	1837	1784	1726	1670	1614	1564
15.80 CFS	1518	1477	1440	1405	1372	1345	1327	1310
16.60 CFS	1288	1260	1234	1214	1202	1195	1184	1174
17.40 CFS	1164	1169	1182	1205	1226	1238	1244	1241
18.20 CFS	1231	1210	1175	1133	1088	1047	1012	994
19.00 CFS	988	988	989	993	1003	1011	1016	1013
19.80 CFS	1005	988	966	949	937	929	923	918
20.60 CFS	914	911	907	905	902	900	898	897
21.40 CFS	895	894	893	892	891	890	890	889
22.20 CFS	889	888	887	884	877	863	846	828
23.00 CFS	812	800	795	796	797	797	795	792
23.80 CFS	784	771	757	743	730	711	679	633
24.60 CFS	583	533	487	443	428	415	401	384
25.40 CFS	365	344	321	299	276	254	233	212

26.20 CFS	193	176	159	144	129	116	105	94
27.00 CFS	83.89	75.00	66.96	59.71	53.19	47.33	42.08	37.37
27.80 CFS	33.16	29.40	26.05	23.06	20.40	18.04	15.94	14.07
28.60 CFS	12.42	10.95	9.66	8.51	7.49	6.60	5.80	5.11
29.40 CFS	4.49	3.94	3.46	3.04	2.67	2.34	2.05	1.80
30.20 CFS	1.58	1.38	1.21	1.06	.93	.81	.71	.62
31.00 CFS	.54	.47						

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
10.38 WATERSHED INCHES; 72587 CFS-HRS; 5998.6 ACRE-FEET.

OPERATION DIVERT XSECTION 35
OUTPUT #1 HYDROGRAPH

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
10.04	10937.0	(DIVERT)
18.02	1244.1	(DIVERT)
19.62	1015.9	(DIVERT)
23.46	797.6	(DIVERT)

HYDROGRAPH POINTS FOR ALTERNATE = 1, STORM = 5
MAIN TIME INCREMENT = .100 hr, DRAINAGE AREA = 10.84 SQ.MI.

HRS								
3.00 CFS	0	2	5	12	25	47	77	115
3.80 CFS	159	206	257	310	369	435	510	593
4.60 CFS	682	773	863	948	1030	1113	1200	1293
5.40 CFS	1393	1496	1600	1702	1798	1887	1971	2056
6.20 CFS	2151	2263	2397	2552	2725	2911	3110	3320
7.00 CFS	3539	3773	4025	4304	4607	4937	5294	5675
7.80 CFS	6081	6510	6972	7476	8013	8569	8973	9292
8.60 CFS	9579	9813	9960	10029	10063	10105	10173	10279
9.40 CFS	10425	10568	10692	10789	10862	10910	10934	10933
10.20 CFS	10907	10858	10789	10705	10607	10501	10384	10256
11.00 CFS	10115	9966	9820	9678	9542	9345	9090	8801
11.80 CFS	8483	8145	7796	7440	7084	6735	6407	6103
12.60 CFS	5813	5539	5288	5059	4844	4630	4413	4195
13.40 CFS	3984	3784	3596	3414	3239	3074	2925	2790
14.20 CFS	2672	2566	2466	2370	2281	2193	2109	2030
15.00 CFS	1959	1895	1837	1784	1726	1670	1614	1564
15.80 CFS	1518	1477	1440	1405	1372	1345	1327	1310
16.60 CFS	1288	1260	1234	1214	1202	1195	1184	1174
17.40 CFS	1164	1169	1182	1205	1226	1238	1244	1241
18.20 CFS	1231	1210	1175	1133	1088	1047	1012	994
19.00 CFS	988	988	989	993	1003	1011	1016	1013
19.80 CFS	1005	988	966	949	937	929	923	918
20.60 CFS	914	911	907	905	902	900	898	897
21.40 CFS	895	894	893	892	891	890	890	889
22.20 CFS	889	888	887	884	877	863	846	828
23.00 CFS	812	800	795	796	797	797	795	792
23.80 CFS	784	771	757	743	730	711	679	633
24.60 CFS	583	533	487	443	428	415	401	384

25.40 CFS	365	344	321	299	276	254	233	212
26.20 CFS	193	176	159	144	129	116	105	94
27.00 CFS	83.89	75.00	66.96	59.71	53.19	47.33	42.08	37.37
27.80 CFS	33.16	29.40	26.05	23.06	20.40	18.04	15.94	14.07
28.60 CFS	12.42	10.95	9.66	8.51	7.49	6.60	5.80	5.11
29.40 CFS	4.49	3.94	3.46	3.04	2.67	2.34	2.05	1.80
30.20 CFS	1.58	1.38	1.21	1.06	.93	.81	.71	.62
31.00 CFS	.54	.47						

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
10.38 WATERSHED INCHES; 72587 CFS-HRS; 5998.6 ACRE-FEET.

OUTPUT #2 DIVERTED HYDROGRAPH (XSECTION 199)

*** MESSAGE - HYDROGRAPH CONTAINS NO FLOW ***

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
313 CFS-HRS; 5998.6 ACRE-FEET.

OPERATION REACH XSECTION 45

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
10.18	10931.8	8.43
18.14	1242.4	2.51
19.74	1014.6	2.27
23.57	797.4	1.95

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
10.38 WATERSHED INCHES; 72588 CFS-HRS; 5998.7 ACRE-FEET.

OPERATION RUNOFF XSECTION 6

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
5.57	467.9	(RUNOFF)
8.52	2560.4	(RUNOFF)
12.74	282.1	(RUNOFF)
13.15	243.9	(RUNOFF)
13.88	205.2	(RUNOFF)
14.19	204.6	(RUNOFF)
14.35	202.4	(RUNOFF)
14.76	183.9	(RUNOFF)
14.96	182.4	(RUNOFF)
17.78	203.4	(RUNOFF)

HYDROGRAPH POINTS FOR ALTERNATE = 1, STORM = 5
MAIN TIME INCREMENT = .100 hr, DRAINAGE AREA = 1.47 SQ.MI.

HRS								
2.20 CFS	.43	2.66	9.18	19.68	31.95	43.67	53.99	64.50
3.00 CFS	74	86	101	120	142	159	168	174

3.80 CFS	185	200	210	223	249	287	319	339
4.60 CFS	346	348	357	368	384	393	405	426
5.40 CFS	447	466	468	460	455	462	481	505
6.20 CFS	537	595	661	711	746	801	891	971
7.00 CFS	1012	1049	1141	1284	1397	1440	1476	1591
7.80 CFS	1773	1932	2008	2057	2175	2342	2487	2558
8.60 CFS	2527	2395	2176	1964	1867	1846	1806	1753
9.40 CFS	1705	1689	1675	1635	1580	1533	1514	1492
10.20 CFS	1426	1334	1250	1216	1198	1144	1046	939
11.00 CFS	879	868	857	811	742	696	673	618
11.80 CFS	529	443	408	392	351	298	262	252
12.60 CFS	267	281	279	261	246	244	244	243
13.40 CFS	237	219	205	203	204	205	202	203
14.20 CFS	205	202	202	198	185	184	184	182
15.00 CFS	182	181	176	159	146	148	160	156
15.80 CFS	139	124	129	146	159	157	139	125
16.60 CFS	129	147	160	156	139	129	148	168
17.40 CFS	182	184	188	201	203	199	185	181
18.20 CFS	169	134	102	89	98	96	84	87
19.00 CFS	99	104	110	126	140	137	123	122
19.80 CFS	122	122	122	122	122	122	122	122
20.60 CFS	122	122	122	122	122	122	122	122
21.40 CFS	122	122	122	122	122	122	122	122
22.20 CFS	122	122	122	115	97	85	88	99
23.00 CFS	97.76	84.97	87.40	104.51	113.31	98.58	85.03	86.95
23.80 CFS	97.82	95.74	83.81	80.72	74.22	51.70	18.13	.00

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
11.46 WATERSHED INCHES; 10873 CFS-HRS; 898.5 ACRE-FEET.

OPERATION REACH XSECTION 60

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
8.89	2332.6	5.64
16.50	149.9	2.62
17.10	148.3	2.61
18.13	188.4	2.82
22.45	122.2	2.48
23.64	101.3	2.37
24.06	95.5	2.25

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
11.46 WATERSHED INCHES; 10873 CFS-HRS; 898.5 ACRE-FEET.

OPERATION REACH XSECTION 67

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
9.31	2158.7	5.12
17.35	145.8	1.64
18.57	179.6	1.83
22.66	122.2	1.51
23.78	100.8	1.39

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
11.46 WATERSHED INCHES; 10873 CFS-HRS; 898.5 ACRE-FEET.

OPERATION ADDHYD XSECTION 64

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
10.00	12810.0	(NULL)
18.22	1409.0	(NULL)
19.76	1128.0	(NULL)

HYDROGRAPH POINTS FOR ALTERNATE = 1, STORM = 5
MAIN TIME INCREMENT = .100 hr, DRAINAGE AREA = 12.31 SQ.MI.

HRS								
2.70 CFS	.21	.89	2.47	5.31	9.58	15.54	24.09	36.92
3.50 CFS	56	84	121	168	222	281	343	408
4.30 CFS	477	554	638	732	834	942	1050	1156
5.10 CFS	1256	1356	1458	1565	1677	1792	1910	2026
5.90 CFS	2139	2245	2343	2439	2542	2658	2796	2956
6.70 CFS	3140	3342	3563	3799	4048	4317	4608	4926
7.50 CFS	5270	5644	6051	6492	6960	7451	7975	8547
8.30 CFS	9164	9808	10340	10782	11185	11541	11820	12012
9.10 CFS	12141	12233	12312	12399	12508	12615	12702	12762
9.90 CFS	12797	12810	12799	12763	12702	12619	12517	12398
10.70 CFS	12261	12110	11946	11772	11586	11388	11186	10983
11.50 CFS	10787	10549	10259	9931	9571	9191	8798	8395
12.30 CFS	7985	7580	7195	6834	6489	6161	5858	5583
13.10 CFS	5331	5088	4848	4609	4378	4160	3955	3759
13.90 CFS	3571	3393	3229	3081	2950	2834	2725	2623
14.70 CFS	2528	2436	2348	2264	2187	2118	2055	1997
15.50 CFS	1938	1879	1819	1763	1711	1664	1623	1583
16.30 CFS	1545	1512	1487	1468	1446	1419	1390	1367
17.10 CFS	1351	1342	1333	1322	1312	1313	1325	1348
17.90 CFS	1372	1391	1404	1409	1406	1392	1364	1325
18.70 CFS	1278	1230	1185	1154	1135	1124	1117	1114
19.50 CFS	1117	1122	1127	1128	1123	1110	1092	1075
20.30 CFS	1062	1053	1047	1042	1037	1034	1030	1028
21.10 CFS	1025	1023	1021	1019	1018	1016	1015	1014
21.90 CFS	1013	1013	1012	1011	1011	1011	1010	1007
22.70 CFS	1001	989	972	953	934	917	907	904
23.50 CFS	902	899	896	894	887	874	859	845
24.30 CFS	831	812	782	738	686	630	574	520
25.10 CFS	488	465	443	420	396	370	344	318
25.90 CFS	293	269	246	224	203	184	167	150

26.70 CFS	135	122	109	98	88	78	70	62
27.50 CFS	55.47	49.35	43.87	38.96	34.57	30.65	27.16	24.04
28.30 CFS	21.27	18.81	16.62	14.68	12.95	11.43	10.07	8.88
29.10 CFS	7.82	6.88	6.06	5.33	4.68	4.12	3.62	3.18
29.90 CFS	2.79	2.45	2.15	1.88	1.65	1.44	1.26	1.11
30.70 CFS	.97	.85	.74	.64	.56	.49		

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
10.51 WATERSHED INCHES; 83461 CFS-HRS; 6897.2 ACRE-FEET.

OPERATION RUNOFF XSECTION 5

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
8.71	7379.5	(RUNOFF)
14.21	645.0	(RUNOFF)
16.43	461.7	(RUNOFF)
17.97	619.3	(RUNOFF)
19.74	411.3	(RUNOFF)
22.25	388.6	(RUNOFF)
23.50	310.1	(RUNOFF)
23.68	312.5	(RUNOFF)

HYDROGRAPH POINTS FOR ALTERNATE = 1, STORM = 5
MAIN TIME INCREMENT = .100 hr, DRAINAGE AREA = 4.78 SQ.MI.

HRS								
3.00 CFS	0	2	8	19	37	62	92	125
3.80 CFS	159	193	226	261	303	352	408	468
4.60 CFS	527	580	624	663	699	737	778	825
5.40 CFS	876	926	974	1012	1040	1061	1085	1121
6.20 CFS	1178	1264	1378	1506	1647	1804	1976	2153
7.00 CFS	2333	2524	2741	2983	3239	3500	3776	4069
7.80 CFS	4387	4727	5081	5466	5848	6223	6590	6950
8.60 CFS	7245	7379	7283	6978	6590	6205	5874	5638
9.40 CFS	5506	5415	5317	5218	5118	5022	4921	4807
10.20 CFS	4679	4526	4359	4180	3999	3821	3641	3449
11.00 CFS	3242	3036	2857	2709	2593	2482	2352	2196
11.80 CFS	2017	1835	1660	1484	1316	1172	1063	975
12.60 CFS	900	858	846	844	841	825	801	778
13.40 CFS	764	748	723	696	673	652	642	642
14.20 CFS	645	643	640	637	626	612	601	589
15.00 CFS	580	577	571	555	533	512	497	485
15.80 CFS	469	459	449	440	441	454	461	460
16.60 CFS	451	443	442	452	462	466	469	475
17.40 CFS	489	518	556	588	610	617	619	612
18.20 CFS	587	542	477	422	367	325	293	289
19.00 CFS	298	300	310	337	371	391	403	411
19.80 CFS	410	398	388	388	388	388	388	388
20.60 CFS	388	388	388	388	388	388	388	388
21.40 CFS	388	388	388	388	388	388	388	388
22.20 CFS	388	388	386	379	363	342	321	306
23.00 CFS	294	287	290	304	309	310	309	312

23.80 CFS	305	294	286	281	272	235	185	135
24.60 CFS	87.25	41.12	.00					

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
10.25 WATERSHED INCHES; 31607 CFS-HRS; 2612.0 ACRE-FEET.

OPERATION RUNOFF XSECTION 7

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
8.83	5322.9	(RUNOFF)
14.39	468.5	(RUNOFF)
16.25	331.0	(RUNOFF)
16.78	330.1	(RUNOFF)
18.05	444.4	(RUNOFF)
19.97	296.9	(RUNOFF)
22.25	282.3	(RUNOFF)
23.58	224.7	(RUNOFF)
23.88	223.8	(RUNOFF)

HYDROGRAPH POINTS FOR ALTERNATE = 1, STORM = 5
MAIN TIME INCREMENT = .100 hr, DRAINAGE AREA = 3.48 SQ.MI.

HRS								
2.70 CFS	.13	.74	2.31	5.68	11.73	21.24	35.00	53.22
3.50 CFS	75	101	128	155	182	208	235	263
4.30 CFS	295	333	376	420	462	504	542	574
5.10 CFS	603	629	658	690	726	761	791	819
5.90 CFS	842	864	886	913	952	1009	1083	1174
6.70 CFS	1275	1389	1515	1649	1783	1925	2085	2263
7.50 CFS	2446	2630	2822	3043	3285	3527	3762	4015
8.30 CFS	4291	4578	4849	5066	5228	5317	5298	5177
9.10 CFS	4961	4710	4469	4253	4093	4003	3933	3857
9.90 CFS	3776	3699	3625	3542	3443	3330	3211	3099
10.70 CFS	2972	2837	2689	2544	2412	2283	2153	2029
11.50 CFS	1917	1823	1735	1631	1508	1372	1251	1133
12.30 CFS	1015	900	805	740	693	652	625	610
13.10 CFS	605	601	592	578	557	543	529	514
13.90 CFS	500	486	475	469	467	468	466	460
14.70 CFS	457	449	439	435	427	419	413	404
15.50 CFS	392	380	369	356	345	333	330	330
16.30 CFS	330	326	326	328	330	330	329	327
17.10 CFS	328	335	343	352	362	372	392	416
17.90 CFS	434	444	444	437	421	395	359	320
18.70 CFS	289	256	232	214	213	223	230	241
19.50 CFS	258	275	286	291	294	296	287	282
20.30 CFS	282	282	282	282	282	282	282	282
21.10 CFS	282	282	282	282	282	282	282	282
21.90 CFS	282	282	282	282	282	282	279	273
22.70 CFS	264	252	240	230	220	213	212	217
23.50 CFS	223	225	222	222	224	219	209	200
24.30 CFS	188	173	143	108	77	50	25	7
25.10 CFS	.00							

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
10.53 WATERSHED INCHES; 23658 CFS-HRS; 1955.1 ACRE-FEET.

OPERATION ADDHYD XSECTION 75

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
8.75	12641.2	(NULL)
16.40	787.4	(NULL)
18.01	1062.5	(NULL)
19.78	700.9	(NULL)
22.25	671.0	(NULL)
23.65	535.0	(NULL)

HYDROGRAPH POINTS FOR ALTERNATE = 1, STORM = 5
MAIN TIME INCREMENT = .100 hr, DRAINAGE AREA = 8.26 SQ.MI.

HRS								
2.70 CFS	.13	.74	2.33	6.17	14.22	29.15	54.14	90.57
3.50 CFS	138	193	253	314	374	434	496	565
4.30 CFS	647	742	844	946	1043	1128	1206	1273
5.10 CFS	1340	1407	1483	1567	1652	1735	1803	1859
5.90 CFS	1903	1949	2006	2090	2216	2387	2589	2821
6.70 CFS	3079	3364	3669	3982	4308	4666	5068	5502
7.50 CFS	5946	6406	6891	7430	8012	8608	9228	9863
8.30 CFS	10513	11168	11799	12311	12606	12601	12276	11766
9.10 CFS	11166	10584	10107	9759	9508	9320	9151	8975
9.90 CFS	8798	8619	8432	8221	7969	7689	7391	7098
10.70 CFS	6793	6478	6137	5786	5448	5140	4863	4621
11.50 CFS	4400	4176	3931	3648	3343	3032	2735	2449
12.30 CFS	2187	1963	1780	1640	1550	1498	1469	1451
13.10 CFS	1430	1402	1370	1341	1306	1267	1225	1187
13.90 CFS	1152	1127	1117	1114	1110	1109	1103	1086
14.70 CFS	1069	1050	1028	1015	1005	990	968	937
15.50 CFS	904	877	855	825	803	782	771	771
16.30 CFS	785	787	785	779	773	772	782	789
17.10 CFS	795	804	818	841	880	928	980	1026
17.90 CFS	1051	1062	1055	1025	964	872	781	687
18.70 CFS	613	549	521	512	514	533	567	612
19.50 CFS	650	678	697	701	692	684	675	670
20.30 CFS	670	670	670	670	670	670	670	670
21.10 CFS	670	670	670	670	670	670	670	670
21.90 CFS	671	671	671	671	671	668	658	636
22.70 CFS	606	574	546	524	507	503	516	526
23.50 CFS	534	534	534	527	518	505	490	472
24.30 CFS	423	358	278	196	118	50	25	7
25.10 CFS	.00							

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
10.37 WATERSHED INCHES; 55266 CFS-HRS; 4567.2 ACRE-FEET.

OPERATION ADDHYD XSECTION 76 → Inflow

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
8.84	24171.2	(NULL)
18.07	2460.6	(NULL)
19.78	1828.8	(NULL)
23.52	1435.5	(NULL)

HYDROGRAPH POINTS FOR ALTERNATE = 1, STORM = 5
MAIN TIME INCREMENT = .100 hr, DRAINAGE AREA = 20.57 SQ.MI.

HRS								
2.70 CFS	0	2	5	11	24	45	78	127
3.50 CFS	194	277	374	482	596	715	839	973
4.30 CFS	1125	1295	1482	1678	1877	2070	2256	2429
5.10 CFS	2596	2763	2941	3131	3328	3526	3713	3885
5.90 CFS	4042	4194	4350	4530	4758	5045	5385	5777
6.70 CFS	6219	6707	7232	7781	8356	8982	9676	10428
7.50 CFS	11217	12049	12942	13923	14973	16059	17204	18410
8.30 CFS	19678	20976	22139	23094	23791	24142	24097	23779
9.10 CFS	23306	22817	22420	22158	22016	21935	21853	21737
9.90 CFS	21595	21429	21231	20984	20671	20308	19908	19496
10.70 CFS	19054	18587	18083	17558	17034	16529	16049	15605
11.50 CFS	15187	14725	14190	13578	12914	12223	11533	10843
12.30 CFS	10172	9544	8975	8473	8039	7659	7327	7034
13.10 CFS	6761	6490	6218	5950	5684	5427	5180	4946
13.90 CFS	4724	4520	4346	4195	4060	3942	3829	3709
14.70 CFS	3597	3486	3376	3279	3192	3108	3022	2934
15.50 CFS	2842	2756	2674	2588	2514	2447	2394	2355
16.30 CFS	2330	2299	2273	2247	2219	2191	2172	2156
17.10 CFS	2145	2146	2150	2163	2192	2241	2305	2374
17.90 CFS	2423	2453	2459	2433	2370	2264	2145	2012
18.70 CFS	1892	1779	1707	1666	1649	1657	1683	1726
19.50 CFS	1767	1800	1823	1828	1815	1794	1766	1745
20.30 CFS	1732	1723	1717	1712	1707	1704	1701	1698
21.10 CFS	1695	1693	1691	1690	1688	1687	1686	1685
21.90 CFS	1684	1683	1683	1682	1682	1679	1668	1643
22.70 CFS	1606	1562	1518	1477	1441	1420	1423	1430
23.50 CFS	1435	1433	1431	1420	1405	1379	1349	1317
24.30 CFS	1255	1170	1059	934	804	680	599	527
25.10 CFS	488	465	443	420	396	370	344	318
25.90 CFS	293	269	246	224	203	184	167	150
26.70 CFS	135	122	109	98	88	78	70	62
27.50 CFS	55.47	49.35	43.87	38.96	34.57	30.65	27.16	24.04
28.30 CFS	21.27	18.81	16.62	14.68	12.95	11.43	10.07	8.88
29.10 CFS	7.82	6.88	6.06	5.33	4.68	4.12	3.62	3.18
29.90 CFS	2.79	2.45	2.15	1.88	1.65	1.44	1.26	1.11
30.70 CFS	.97	.85	.74	.64	.56	.49		

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
10.45 WATERSHED INCHES; 138726 CFS-HRS; 11464.3 ACRE-FEET.

--- XSECTION 76, ALTERNATE 1, STORM 5, HYDROGRAPH ADDED TO READHD FILE ---

*** MESSAGE - STRUCTURE 1, USER ENTERED STARTING ELEVATION (1201.4 FEET) CAN ADD .705 INCHES OF RUNOFF TO THE OUTFLOW HYDROGRAPH VOLUME.***

*** MESSAGE - RESERVOIR ROUTING, STRUCTURE 1, TRUNCATED AT 400 POINTS WITH 3134.37 AC-FT (.24 WATERSHED INCHES) FLOOD STORAGE REMAINING IN RESERVOIR AT ELEV. 1211.73. ***

OPERATION RESVOR STRUCTURE 1 → outflow

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
10.34	20545.9	1215.57
18.16	2443.1	1212.91

HYDROGRAPH POINTS FOR ALTERNATE = 1, STORM = 5
MAIN TIME INCREMENT = .100 hr, DRAINAGE AREA = 20.57 SQ.MI.

HRS								
2.10 CFS	36.21	36.20	36.19	36.18	36.17	36.16	36.15	36.14
2.90 CFS	36.13	36.12	36.11	36.11	36.12	36.14	36.18	36.23
3.70 CFS	36.32	36.43	36.57	36.75	36.96	37.21	37.49	37.83
4.50 CFS	38.21	38.65	39.06	39.51	40.01	40.55	41.12	41.74
5.30 CFS	42.39	43.09	43.83	44.62	45.45	46.32	47.24	48.14
6.10 CFS	48.91	49.71	50.55	51.44	52.38	53.38	54.47	55.64
6.90 CFS	56.89	58.15	59.50	60.95	62.52	64.21	66.02	67.91
7.70 CFS	69.91	72.06	74.38	76.87	78.87	80.95	83.17	85.54
8.50 CFS	1190	2507	4848	7141	9398	11551	13326	14767
9.30 CFS	15976	17023	17864	18546	19102	19549	19900	20168
10.10 CFS	20361	20485	20541	20533	20462	20336	20160	19938
10.90 CFS	19672	19365	19021	18650	18258	17854	17446	17033
11.70 CFS	16606	16154	15671	15198	14707	14186	13642	13081
12.50 CFS	12516	11954	11407	10880	10379	9905	9460	9040
13.30 CFS	8643	8264	7964	7675	7391	7112	6839	6573
14.10 CFS	6316	6071	5838	5618	5410	5213	5026	4848
14.90 CFS	4678	4516	4363	4217	4079	3947	3820	3698
15.70 CFS	3580	3466	3356	3251	3152	3058	2973	2894
16.50 CFS	2821	2753	2691	2658	2629	2600	2573	2546
17.30 CFS	2522	2499	2480	2463	2452	2445	2442	2442
18.10 CFS	2443	2443	2440	2433	2419	2398	2370	2337
18.90 CFS	2301	2263	2226	2191	2159	2131	2107	2087
19.70 CFS	2070	2055	2041	2026	2011	1996	1980	1964
20.50 CFS	1949	1935	1921	1908	1895	1883	1872	1861
21.30 CFS	1850	1840	1831	1822	1814	1806	1799	1791
22.10 CFS	1785	1779	1773	1767	1761	1755	1747	1737
22.90 CFS	1725	1711	1695	1679	1663	1649	1635	1623
23.70 CFS	1611	1600	1588	1576	1563	1549	1533	1513
24.50 CFS	1489	1458	1422	1380	1335	1287	1239	1193
25.30 CFS	1147	1103	1060	1019	978	938	899	861
26.10 CFS	824	788	753	718	685	653	621	591
26.90 CFS	562	534	506	480	455	432	409	387

27.70 CFS	366	346	327	309	292	275	260	245
28.50 CFS	231	218	205	193	182	172	161	152
29.30 CFS	143	135	127	119	112	105	99	93
30.10 CFS	87.56	85.94	85.93	85.92	85.91	85.90	85.89	85.88
30.90 CFS	85.87	85.86	85.85	85.84	85.83	85.82	85.81	85.80
31.70 CFS	85.79	85.78	85.77	85.76	85.75	85.74	85.73	85.72
32.50 CFS	85.71	85.70	85.69	85.68	85.67	85.66	85.65	85.64
33.30 CFS	85.63	85.62	85.61	85.60	85.59	85.58	85.57	85.56
34.10 CFS	85.55	85.54	85.53	85.52	85.51	85.50	85.49	85.48
34.90 CFS	85.47	85.46	85.45	85.44	85.43	85.42	85.41	85.40
35.70 CFS	85.39	85.38	85.37	85.36	85.35	85.34	85.33	85.32
36.50 CFS	85.31	85.30	85.29	85.28	85.27	85.26	85.25	85.24
37.30 CFS	85.23	85.22	85.21	85.20	85.19	85.18	85.17	85.16
38.10 CFS	85.15	85.14	85.13	85.12	85.11	85.10	85.09	85.08
38.90 CFS	85.07	85.06	85.05	85.04	85.03	85.02	85.01	85.00
39.70 CFS	84.99	84.98	84.97	84.96	84.95	84.94	84.93	84.92
40.50 CFS	84.91	84.90	84.89	84.88	84.87	84.86	84.85	84.84
41.30 CFS	84.83	84.82	84.81	84.80	84.80	84.79	84.78	84.77

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
8.30 WATERSHED INCHES; 110150 CFS-HRS; 9102.8 ACRE-FEET.

--- STRUCTURE 1, ALTERNATE 1, STORM 5, HYDROGRAPH ADDED TO READHD FILE ---

EXECUTIVE CONTROL ENDCMP COMPUTATIONS COMPLETED FOR PASS 1

SUMMARY TABLE 1

SELECTED RESULTS OF STANDARD AND EXECUTIVE CONTROL IN ORDER PERFORMED.
A CHARACTER FOLLOWING THE PEAK DISCHARGE TIME AND RATE (CFS) INDICATES:
F-FLAT TOP HYDROGRAPH T-TRUNCATED HYDROGRAPH R-RISING TRUNCATED HYDROGRAPH

RAINFALL OF 12.90 inches AND 24.00 hr DURATION, BEGINS AT .0 hrs.
RAINTABLE NUMBER 5, ARC 2
MAIN TIME INCREMENT .100 HOURS

ALTERNATE 1 STORM 5

XSECTION/ STRUCTURE ID		STANDARD CONTROL OPERATION	DRAINAGE AREA (SQ MI)	RUNOFF AMOUNT (IN)	PEAK DISCHARGE ELEVATION (FT)	TIME (HR)	RATE (CFS)	RATE (CSM)
XSECTION	1	RUNOFF	2.46	11.25	---	8.73	4016	1632.5
XSECTION	5	REACH	2.46	11.25	6.11	9.38	3378	1373.2
XSECTION	10	REACH	2.46	11.25	7.53	10.20	3039	1235.4
XSECTION	2	RUNOFF	2.38	10.40	---	8.68	3737	1570.2
XSECTION	12	ADDHYD	4.84	10.83	---	8.78	5547	1146.1
XSECTION	12	DIVERT	4.84	9.81	---	8.20F	4100F	847.1
XSECTION	200	DIVERT	.00	9.81	---	8.78	1447	********
XSECTION	20	REACH	4.84	9.81	7.94	9.10F	4100F	847.1
XSECTION	25	REACH	4.84	9.81	5.03	9.20F	4100F	847.1
XSECTION	3	RUNOFF	3.94	11.25	---	8.75	6396	1623.4
XSECTION	30	REACH	3.94	11.25	4.92	9.54	5305	1346.4
XSECTION	5	REACH	3.94	11.25	6.72	10.36	4826	1224.9
XSECTION	25	REACH	3.94	11.25	5.49	10.36	4826	1224.9
XSECTION	4	RUNOFF	2.06	10.03	---	8.72	3120	1514.6
XSECTION	34	ADDHYD	6.00	10.83	---	10.04	6837	1139.5
XSECTION	35	ADDHYD	10.84	10.38	---	10.04	10937	1008.9
XSECTION	35	DIVERT	10.84	10.38	---	10.04	10937	1008.9
XSECTION	199	DIVERT	.00	10.38	---	.00	0	********
XSECTION	45	REACH	10.84	10.38	8.43	10.18	10932	1008.5
XSECTION	6	RUNOFF	1.47	11.46	---	8.52	2560	1741.5
XSECTION	60	REACH	1.47	11.46	5.64	8.89	2333	1587.1
XSECTION	67	REACH	1.47	11.46	5.12	9.31	2159	1468.7
XSECTION	64	ADDHYD	12.31	10.51	---	10.00	12810	1040.6
XSECTION	5	RUNOFF	4.78	10.25	---	8.71	7379	1543.7
XSECTION	7	RUNOFF	3.48	10.53	---	8.83	5323	1529.6
XSECTION	75	ADDHYD	8.26	10.37	---	8.75	12641	1530.4
XSECTION	76	ADDHYD	20.57	10.45	---	8.84	24171	1175.1
STRUCTURE	1	RESVOR	20.57	8.30	1215.57	10.34	20546	998.8

SUMMARY TABLE 2

MODIFIED ATT-KIN REACH ROUTING IN ORDER PERFORMED.
QUESTION MARK (?) AFTER: OUTFLOW PEAK - MAX. NUMBER ROUTING ITERATIONS USED;
LENGTH FACTOR - VALUE k* GREATER THAN 1.0;
ATT-KIN COEFF - VALUE C GREATER THAN 0.667.

BASEFLOW IS .0 CFS

ALTERNATE 1 STORM 5

XSEC ID	REACH LENGTH (FT)	FLOOD PLAIN LENGTH (FT)	HYDROGRAPH INFORMATION INFLOW PEAK (CFS)	INFLOW TIME (HR)	OUTFLOW PEAK (CFS)	OUTFLOW TIME (HR)	ROUTING PARAMETERS Q-A EQ. COEFF (X)	POWER (M)	LENGTH FACTOR (k*)	PEAK RATIO Q/I (Q*)	ATT-KIN COEFF (C)
5	9100		4011	8.7	3377	9.4	1.65	1.11	.135	.842	.14
10	9100		3377	9.4	3039	10.2	2.28	1.07	.117	.900	.14
20	3332		4100	8.2	4100	9.1	.14	1.63	.001	1.000	.80?
25	1950		4100	9.1	4100	9.2	.052	1.73	.000	1.000	.98?
30	8865		6375	8.8	5302	9.5	1.26	1.12	.146	.832	.13
5	8865		5302	9.5	4825	10.4	1.83	1.09	.109	.910	.14
25	1950		4825	10.4	4825	10.4	.053	1.72	.001	1.000	1.00?
45	4200		10934	10.0	10931	10.2	.049	1.72	.001	1.000	.76?
60	7540		2558	8.5	2332	8.9	.49	1.35	.050	.911	.26
67	5140		2332	8.9	2158	9.3	1.09	1.18	.058	.926	.25

SUMMARY TABLE 3

STORM DISCHARGES (CFS) AT XSECTIONS AND STRUCTURES FOR ALL ALTERNATES
QUESTION MARK (?) AFTER: OUTFLOW PEAK - RISING TRUNCATED HYDROGRAPH.

XSECTION/ STRUCTURE ID	DRAINAGE AREA (SQ MI)	STORM NUMBERS..... 5
STRUCTURE 1	20.57	
ALTERNATE 1		20546
XSECTION 1	2.46	
ALTERNATE 1		4016
XSECTION 2	2.38	
ALTERNATE 1		3737
XSECTION 3	3.94	
ALTERNATE 1		6396
XSECTION 4	2.06	
ALTERNATE 1		3120
XSECTION 5	4.78	
ALTERNATE 1		7379
XSECTION 6	1.47	
ALTERNATE 1		2560
XSECTION 7	3.48	
ALTERNATE 1		5323
XSECTION 10	2.46	
ALTERNATE 1		3039
XSECTION 12	4.84	
ALTERNATE 1		4100
XSECTION 20	4.84	
ALTERNATE 1		4100
XSECTION 25	3.94	
ALTERNATE 1		4826
XSECTION 30	3.94	
ALTERNATE 1		5305
XSECTION 34	6.00	

SUMMARY TABLE 3

STORM DISCHARGES (CFS) AT XSECTIONS AND STRUCTURES FOR ALL ALTERNATES
QUESTION MARK (?) AFTER: OUTFLOW PEAK - RISING TRUNCATED HYDROGRAPH.

XSECTION/ STRUCTURE ID	DRAINAGE AREA (SQ MI)	STORM NUMBERS..... 5
XSECTION 34	6.00	
ALTERNATE 1		6837
XSECTION 35	10.84	
ALTERNATE 1		10937
XSECTION 45	10.84	
ALTERNATE 1		10932
XSECTION 60	1.47	
ALTERNATE 1		2333
XSECTION 64	12.31	
ALTERNATE 1		12810
XSECTION 67	1.47	
ALTERNATE 1		2159
XSECTION 75	8.26	
ALTERNATE 1		12641
XSECTION 76	20.57	
ALTERNATE 1		24171
XSECTION 199	.00	
ALTERNATE 1		0
XSECTION 200	.00	
ALTERNATE 1		1447

ECON2 DATA FILE

```
ECON2
TITLE        WHITE TANK FRS #3, WATERSHED DIVIDED INTO 7 SUB-BASINS
TITLE        24-HR PMP (MTI=.1), RESERVOIR INIT EMPTY W/100-YR STOR
FLOW-FREQ    -1         20546.                                        ALT  1   1
FLOW-FREQ     1          4016.                                        ALT  1   2
FLOW-FREQ     2          3737.                                        ALT  1   3
FLOW-FREQ     3          6396.                                        ALT  1   4
FLOW-FREQ     4          3120.                                        ALT  1   5
FLOW-FREQ     5          7379.                                        ALT  1   6
FLOW-FREQ     6          2560.                                        ALT  1   7
FLOW-FREQ     7          5323.                                        ALT  1   8
FLOW-FREQ    10          3039.                                        ALT  1   9
FLOW-FREQ    12          4100.                                        ALT  1  10
FLOW-FREQ    20          4100.                                        ALT  1  11
FLOW-FREQ    25          4826.                                        ALT  1  12
FLOW-FREQ    30          5305.                                        ALT  1  13
FLOW-FREQ    34          6837.                                        ALT  1  14
FLOW-FREQ    35         10937.                                        ALT  1  15
FLOW-FREQ    45         10932.                                        ALT  1  16
FLOW-FREQ    60          2333.                                        ALT  1  17
FLOW-FREQ    64         12810.                                        ALT  1  18
FLOW-FREQ    67          2159.                                        ALT  1  19
FLOW-FREQ    75         12641.                                        ALT  1  20
FLOW-FREQ    76         24171.                                        ALT  1  21
FLOW-FREQ   200          1447.                                        ALT  1  22
```

```
TR20 ------------------------------------------------------------------------ SCS -
WT3PMP24     WHITE TANK FRS #3, WATERSHED DIVIDED INTO 7 SUB-BASINS      VERSION
07/29/**     24-HR PMP (MTI=.1), RESERVOIR INIT EMPTY W/100-YR STOR     2.04TEST


END OF  1 JOBS IN THIS RUN


                    SCS  TR-20,  VERSION 2.04TEST
                          WT3PMP24  FILES

     INPUT  = WT3PMP24.DAT                          , GIVEN DATA FILE
     OUTPUT = 24GOUT.OUT                            , DATED 07/29/**,14:49:28

              FILES GENERATED - DATED 07/29/**,14:49:28

    FILE 111.TEC CONTAINS ECON2 INFORMATION

    FILE 111.TRD CONTAINS READHD INFORMATION


          TOTAL NUMBER OF WARNINGS =   1,  MESSAGES =   3

                       JOB ENDED AT 14:49:28
                   *** TR-20 RUN COMPLETED ***
```

Interim Condition

48-hr General

```
******************80-80 LIST OF INPUT DATA FOR TR-20 HYDROLOGY******************

JOB TR-20 WTPMP48   ECON                PASS=001  SUMMARY
TITLE     WHITE TANK FRS #3, WATERSHED DIVIDED INTO 7 SUB-BASINS
TITLE     48-HR PMP (MTI=.15), RESERVOIR INIT EMPTY W/100-YR SED
 5 RAINFL 1             0.1                                                6HRLOCAL
 8          .0000       .003        .006        .009        .013
 8          .016        .020        .025        .030        .035
 8          .039        .046        .052        .058        .065
 8          .071        .080        .090        .099        .109
 8          .118        .283        .449        .567        .622
 8          .669        .701        .732        .756        .780
 8          .795        .809        .824        .838        .852
 8          .866        .876        .885        .894        .904
 8          .913        .920        .926        .932        .939
 8          .945        .950        .954        .959        .964
 8          .969        .972        .976        .980        .984
 8          .988        .991        .993        .995        .998
 8          1.          1.          1.          1.          1.
 9 ENDTBL
 5 RAINFL 2             .1                                                 6HR GEN
 8          .000        .005        .013        .020        .028
 8          .038        .045        .053        .060        .070
 8          .080        .085        .095        .108        .120
 8          .138        .150        .165        .190        .210
 8          .238        .280        .350        .440        .550
 8          .590        .620        .645        .668        .685
 8          .700        .720        .735        .753        .765
 8          .775        .790        .800        .810        .820
 8          .835        .843        .850        .863        .870
 8          .880        .890        .898        .908        .915
 8          .925        .930        .940        .945        .955
 8          .963        .970        .978        .985        .990
 8          1.00        1.00        1.00        1.00        1.00
 9 ENDTBL
 5 RAINFL 3             0.1                                                12HRGEN
 8          .000        .003        .007        .010        .013
 8          .016        .019        .022        .025        .028
 8          .031        .034        .037        .040        .043
 8          .045        .050        .054        .058        .062
 8          .066        .071        .075        .080        .085
 8          .089        .095        .101        .107        .112
 8          .118        .125        .132        .139        .146
 8          .153        .162        .171        .180        .189
 8          .198        .211        .224        .237        .250
 8          .264        .300        .345        .391        .436
 8          .491        .536        .564        .586        .607
 8          .629        .643        .657        .672        .686
 8          .700        .711        .721        .732        .742
 8          .753        .761        .769        .778        .786
 8          .795        .802        .809        .817        .824
 8          .832        .837        .843        .848        .854
 8          .859        .865        .870        .875        .881
 8          .886        .891        .895        .900        .905
 8          .909        .913        .917        .921        .925
 8          .929        .933        .936        .940        .944
 8          .948        .951        .954        .957        .960
 8          .963        .966        .969        .971        .974
```

```
8          .977        .980        .982        .984        .986
8          .989        .991        .993        .995        .998
8          1.000      01.000       1.000       1.000       1.00
9 ENDTBL
5 RAINFL 4             0.1                                                18HRGEN
8          .000        .001        .002        .003        .004
8          .005        .005        .006        .007        .008
8          .009        .012        .014        .017        .020
8          .023        .025        .028        .031        .033
8          .036        .040        .044        .049        .053
8          .057        .061        .065        .070        .074
8          .078        .084        .090        .096        .102
8          .108        .114        .120        .126        .132
8          .138        .146        .154        .162        .170
8          .179        .187        .195        .203        .211
8          .220        .238        .256        .275        .293
8          .311        .330        .348        .367        .385
8          .403        .430        .457        .484        .511
8          .538        .557        .577        .597        .616
8          .636        .653        .670        .687        .704
8          .721        .734        .746        .759        .771
8          .784        .792        .801        .810        .818
8          .827        .832        .838        .843        .848
8          .853        .856        .859        .862        .864
8          .867        .870        .872        .875        .878
8          .880        .882        .885        .887        .889
8          .891        .893        .895        .897        .899
8          .901        .903        .905        .907        .909
8          .911        .912        .914        .916        .917
8          .919        .920        .922        .924        .925
8          .927        .929        .930        .932        .934
8          .935        .937        .938        .940        .941
8          .943        .945        .946        .948        .949
8          .951        .952        .953        .955        .956
8          .957        .959        .960        .961        .963
8          .964        .965        .967        .968        .970
8          .971        .972        .974        .975        .976
8          .978        .979        .980        .982        .983
8          .984        .985        .986        .988        .989
8          .990        .991        .992        .993        .994
8          .995        .996        .997        .998        .999
8          1.000       1.000       1.000       1.000       1.000
9 ENDTBL
5 RAINFL 5             0.1                                                24HRGEN
8          0.000       0.000       0.001       0.001       0.002
8          0.002       0.002       0.003       0.003       0.003
8          0.004       0.005       0.007       0.009       0.010
8          0.012       0.013       0.015       0.016       0.018
8          0.019       0.022       0.024       0.027       0.030
8          0.032       0.035       0.037       0.040       0.042
8          0.045       0.048       0.051       0.055       0.058
8          0.061       0.064       0.068       0.071       0.074
8          0.078       0.082       0.087       0.091       0.096
8          0.100       0.104       0.109       0.113       0.118
8          0.122       0.127       0.132       0.137       0.142
8          0.147       0.151       0.156       0.161       0.166
```

```
8          0.171      0.177      0.184      0.191      0.198
8          0.205      0.214      0.224      0.233      0.242
8          0.252      0.265      0.278      0.291      0.303
8          0.316      0.334      0.351      0.368      0.386
8          0.403      0.425      0.447      0.468      0.490
8          0.512      0.527      0.543      0.558      0.574
8          0.589      0.603      0.617      0.631      0.645
8          0.659      0.671      0.684      0.696      0.709
8          0.721      0.731      0.741      0.751      0.761
8          0.771      0.779      0.786      0.793      0.800
8          0.808      0.814      0.820      0.825      0.831
8          0.837      0.840      0.843      0.847      0.850
8          0.853      0.855      0.857      0.859      0.861
8          0.864      0.866      0.868      0.870      0.872
8          0.874      0.876      0.878      0.880      0.881
8          0.883      0.885      0.886      0.888      0.890
8          0.891      0.893      0.895      0.896      0.898
8          0.899      0.901      0.902      0.904      0.905
8          0.907      0.908      0.909      0.910      0.912
8          0.913      0.914      0.915      0.916      0.917
8          0.919      0.920      0.921      0.922      0.923
8          0.924      0.926      0.927      0.928      0.929
8          0.930      0.932      0.933      0.935      0.936
8          0.938      0.940      0.941      0.943      0.944
8          0.946      0.947      0.947      0.948      0.949
8          0.950      0.950      0.951      0.952      0.953
8          0.953      0.955      0.956      0.957      0.958
8          0.959      0.960      0.961      0.962      0.963
8          0.964      0.965      0.966      0.967      0.968
8          0.969      0.970      0.971      0.972      0.973
8          0.974      0.975      0.976      0.977      0.978
8          0.979      0.980      0.981      0.982      0.983
8          0.984      0.985      0.986      0.987      0.988
8          0.988      0.989      0.990      0.991      0.991
8          0.992      0.993      0.994      0.995      0.995
8          0.996      0.997      0.998      0.998      0.999
8          1.000      1.000      1.000      1.000      1.000
9  ENDTBL
5 RAINFL 6            .25                                          48HRGEN
8          0.0000     0.0015     0.0029     0.0044     0.0058
8          0.0073     0.0088     0.0102     0.0117     0.0131
8          0.0146     0.0160     0.0175     0.0190     0.0204
8          0.0219     0.0233     0.0248     0.0263     0.0277
8          0.0292     0.0306     0.0321     0.0335     0.0350
8          0.0365     0.0379     0.0394     0.0408     0.0423
8          0.0438     0.0452     0.0467     0.0481     0.0496
8          0.0510     0.0525     0.0542     0.0558     0.0575
8          0.0592     0.0608     0.0625     0.0642     0.0658
8          0.0692     0.0725     0.0758     0.0792     0.0825
8          0.0858     0.0892     0.0925     0.0975     0.1025
8          0.1075     0.1125     0.1175     0.1225     0.1275
8          0.1325     0.1442     0.1560     0.1677     0.1794
8          0.1985     0.2176     0.2366     0.2557     0.3239
8          0.3921     0.4603     0.5285     0.5520     0.5754
8          0.5989     0.6224     0.6356     0.6488     0.6620
8          0.6752     0.6862     0.6972     0.7082     0.7192
```

```
8          0.7267     0.7342     0.7417     0.7492     0.7558
8          0.7625     0.7692     0.7758     0.7825     0.7892
8          0.7958     0.8025     0.8083     0.8142     0.8200
8          0.8258     0.8308     0.8358     0.8408     0.8458
8          0.8508     0.8558     0.8608     0.8658     0.8683
8          0.8708     0.8733     0.8758     0.8783     0.8808
8          0.8833     0.8858     0.8875     0.8892     0.8908
8          0.8925     0.8942     0.8958     0.8975     0.8992
8          0.9008     0.9025     0.9042     0.9058     0.9075
8          0.9092     0.9108     0.9125     0.9140     0.9154
8          0.9169     0.9183     0.9198     0.9213     0.9227
8          0.9242     0.9256     0.9271     0.9285     0.9300
8          0.9315     0.9329     0.9344     0.9358     0.9373
8          0.9388     0.9402     0.9417     0.9431     0.9446
8          0.9460     0.9475     0.9490     0.9504     0.9519
8          0.9533     0.9548     0.9563     0.9577     0.9592
8          0.9606     0.9621     0.9635     0.9650     0.9665
8          0.9679     0.9694     0.9708     0.9723     0.9737
8          0.9752     0.9767     0.9781     0.9796     0.9810
8          0.9825     0.9840     0.9854     0.9869     0.9883
8          0.9898     0.9912     0.9927     0.9942     0.9956
8          0.9971     0.9985     1.0000     1.0000     1.0
9 ENDTBL
5 RAINFL 7            .25                                          72HRGEN
8          0.0000     0.0005     0.0009     0.0014     0.0019
8          0.0025     0.0032     0.0038     0.0044     0.0051
8          0.0057     0.0063     0.0070     0.0076     0.0082
8          0.0089     0.0095     0.0103     0.0111     0.0119
8          0.0127     0.0134     0.0142     0.0150     0.0158
8          0.0171     0.0184     0.0196     0.0209     0.0222
8          0.0234     0.0247     0.0259     0.0272     0.0285
8          0.0297     0.0310     0.0323     0.0335     0.0348
8          0.0361     0.0375     0.0389     0.0403     0.0418
8          0.0432     0.0446     0.0460     0.0475     0.0489
8          0.0503     0.0517     0.0532     0.0546     0.0560
8          0.0574     0.0589     0.0604     0.0620     0.0636
8          0.0652     0.0668     0.0684     0.0699     0.0715
8          0.0731     0.0747     0.0763     0.0778     0.0797
8          0.0816     0.0835     0.0854     0.0877     0.0899
8          0.0921     0.0943     0.0968     0.0994     0.1019
8          0.1044     0.1073     0.1101     0.1130     0.1158
8          0.1193     0.1228     0.1263     0.1297     0.1335
8          0.1373     0.1411     0.1449     0.1491     0.1532
8          0.1573     0.1614     0.1725     0.1837     0.1948
8          0.2059     0.2241     0.2422     0.2603     0.2784
8          0.3431     0.4078     0.4726     0.5373     0.5596
8          0.5819     0.6042     0.6265     0.6390     0.6515
8          0.6641     0.6766     0.6870     0.6975     0.7079
8          0.7184     0.7255     0.7326     0.7397     0.7468
8          0.7535     0.7601     0.7668     0.7734     0.7794
8          0.7854     0.7915     0.7975     0.8030     0.8085
8          0.8141     0.8196     0.8247     0.8297     0.8348
8          0.8399     0.8443     0.8487     0.8532     0.8576
8          0.8598     0.8620     0.8642     0.8665     0.8685
8          0.8706     0.8726     0.8747     0.8766     0.8785
8          0.8804     0.8823     0.8840     0.8858     0.8875
```

```
8          0.8892     0.8908     0.8924     0.8940     0.8956
8          0.8972     0.8987     0.9003     0.9019     0.9035
8          0.9051     0.9066     0.9082     0.9098     0.9114
8          0.9130     0.9146     0.9160     0.9174     0.9188
8          0.9203     0.9217     0.9231     0.9245     0.9259
8          0.9274     0.9288     0.9302     0.9316     0.9329
8          0.9342     0.9354     0.9367     0.9380     0.9392
8          0.9405     0.9418     0.9430     0.9443     0.9456
8          0.9468     0.9481     0.9494     0.9506     0.9519
8          0.9530     0.9541     0.9552     0.9563     0.9574
8          0.9585     0.9597     0.9608     0.9619     0.9630
8          0.9641     0.9652     0.9661     0.9671     0.9680
8          0.9690     0.9699     0.9709     0.9718     0.9728
8          0.9736     0.9744     0.9752     0.9759     0.9767
8          0.9775     0.9783     0.9791     0.9797     0.9804
8          0.9810     0.9816     0.9823     0.9829     0.9835
8          0.9842     0.9847     0.9851     0.9856     0.9861
8          0.9866     0.9870     0.9875     0.9880     0.9884
8          0.9889     0.9894     0.9899     0.9902     0.9905
8          0.9908     0.9911     0.9915     0.9918     0.9921
8          0.9924     0.9927     0.9930     0.9934     0.9937
8          0.9940     0.9943     0.9946     0.9949     0.9953
8          0.9956     0.9959     0.9962     0.9965     0.9968
8          0.9972     0.9975     0.9978     0.9981     0.9984
8          0.9987     0.9989     0.9991     0.9992     0.9994
8          0.9995     0.9997     0.9998     1.0000     1.0000
9 ENDTBL
5 RAINFL 8     1      2.4                                          10-DAY
8          .0000      .0024      .0048      .0073      .0097
8          .0121      .0148      .0174      .0201      .0228
8          .0254      .0284      .0314      .0344      .0374
8          .0404      .0437      .0471      .0505      .0539
8          .0572      .0612      .0651      .0690      .0729
8          .0768      .0815      .0862      .0909      .0955
8          .1002      .1061      .1120      .1179      .1238
8          .1297      .1377      .1458      .1538      .1618
8          .1699      .1832      .1966      .2099      .2232
8          .2366      .2548      .2778      .3093      .3614
8          1.092      1.174      1.213      1.240      1.260
8          1.276      1.286      1.296      1.306      1.316
8          1.326      1.333      1.340      1.347      1.354
8          1.360      1.365      1.371      1.376      1.381
8          1.386      1.391      1.395      1.399      1.403
8          1.408      1.411      1.415      1.418      1.422
8          1.426      1.429      1.432      1.435      1.438
8          1.442      1.444      1.447      1.450      1.453
8          1.456      1.458      1.461      1.463      1.466
8          1.468      1.471      1.473      1.475      1.477
8          1.48       1.48       1.48       1.48       1.48
9 ENDTBL
4 DIMHYD              .0556                                         WT3
8          0.0        .03        .10        .19        .31
8          .47        .66        .82        .93        .99
8          1.0        .99        .93        .82        .66
8          .47        .31        .03        .00        .00
9 ENDTBL
```

```
 2 XSECTN   005        1.0        8.77                          BOSSCS#5
 8                     0.         0.0        0.0
 8                     0.35       5.         5.56
 8                     1.03       50.        30.95
 8                     1.39       100.       52.16
 8                     1.94       200.       88.72
 8                     2.63       400.       148.61
 8                     3.51       800.       260.63
 8                     4.62       1600.      459.66
 8                     6.04       3200.      929.36
 8                     7.38       6400.      1811.51
 8                     8.77       12800.     3374.20
 8                     10.17      25600.     6398.87
 8                     11.89      51200.     10982.51
 9 ENDTBL
 2 XSECTN   010        1.0        8.94                          BOSSCS#4
 8                     0.         0.0        0.0
 8                     0.91       5.         4.95
 8                     2.03       50.        24.80
 8                     2.63       100.       41.32
 8                     3.34       200.       74.14
 8                     4.15       400.       130.28
 8                     5.23       800.       223.37
 8                     6.41       1600.      447.51
 8                     7.65       3200.      898.64
 8                     8.94       6400.      1690.88
 8                     10.29      12800.     3331.95
 8                     11.64      25600.     6185.81
 8                     13.14      51200.     10661.04
 9 ENDTBL
 2 XSECTN   020        1.0        7.3                           REACHC
 8                     0.         0.0        0.0
 8                     1.01       100.       57.78
 8                     1.49       200.       86.81
 8                     1.88       300.       110.25
 8                     2.49       500.       149.47
 8                     3.68       1000.      226.31
 8                     5.40       2000.      346.26
 8                     7.85       4000.      533.39
 8                     9.64       6000.      688.07
 8                     11.16      8000.      838.10
 8                     12.46      10000.     985.31
 8                     13.61      12000.     1122.03
 8                     14.56      14000.     1236.94
 8                     15.43      16000.     1345.18
 8                     16.31      18000.     1456.68
 9 ENDTBL
 2 XSECTN   025        1.0        7.3                           REACHB
 8                     0.         0.0        0.0
 8                     0.63       100.       80.89
 8                     0.93       200.       120.32
 8                     1.17       300.       151.77
 8                     1.56       500.       203.28
 8                     2.30       1000.      302.00
 8                     3.38       2000.      449.24
 8                     4.97       4000.      673.73
```

```
 8                      6.23        6000.       855.96
 8                      7.31        8000.       1016.35
 8                      8.24        10000.      1158.51
 8                      9.09        12000.      1293.31
 8                      9.90        14000.      1425.57
 8                      10.64       16000.      1549.17
 8                      11.36       18000.      1673.11
 9 ENDTBL
 2 XSECTN    030        1.0         9.45                                BOSSCS#6
 8                      0.          0.0         0.0
 8                      0.77        5.          4.67
 8                      1.54        50.         32.06
 8                      1.78        100.        56.64
 8                      2.10        200.        100.59
 8                      2.50        400.        179.97
 8                      3.01        800.        320.25
 8                      3.63        1600.       589.66
 8                      4.35        3200.       1110.72
 8                      5.21        6400.       2084.48
 8                      6.03        12800.      4119.83
 8                      6.99        25600.      6856.75
 8                      8.28        51200.      11085.87
 9 ENDTBL
 2 XSECTN    045        1.0         4.87                                REACHA
 8                      0.          0.0         0.0
 8                      0.60        100.        85.69
 8                      0.90        200.        127.94
 8                      1.13        300.        161.93
 8                      1.52        500.        217.27
 8                      2.25        1000.       324.03
 8                      3.31        2000.       483.02
 8                      4.87        4000.       722.17
 8                      6.09        6000.       914.99
 8                      7.15        8000.       1084.61
 8                      8.05        10000.      1234.17
 8                      8.87        12000.      1373.80
 8                      9.64        14000.      1507.84
 8                      10.34       16000.      1633.45
 8                      11.00       18000.      1753.12
 9 ENDTBL
 2 XSECTN    060        1.0         4.7                                 2CP6CP7
 8                      0.          0.0         0.0
 8                      2.36        100.        45.12
 8                      2.88        200.        83.75
 8                      3.18        300.        114.33
 8                      3.64        500.        172.72
 8                      4.42        1000.       289.04
 8                      5.40        2000.       470.72
 8                      6.87        4000.       782.74
 8                      7.91        6000.       1020.12
 8                      8.79        8000.       1231.25
 8                      9.60        10000.      1435.05
 8                      10.26       12000.      1618.34
 8                      10.94       14000.      1812.58
 8                      11.47       16000.      1983.46
 8                      11.96       18000.      2150.12
```

```
*********************80-80 LIST OF INPUT DATA (CONTINUED)*********************

 9 ENDTBL
 2 XSECTN   067          1.0         8.77                                BOSSCS#5
 8                       0.          0.0         0.0
 8                       0.35        5.          5.56
 8                       1.03        50.         30.95
 8                       1.39        100.        52.16
 8                       1.94        200.        88.72
 8                       2.63        400.        148.61
 8                       3.51        800.        260.63
 8                       4.62        1600.       459.66
 8                       6.04        3200.       929.36
 8                       7.38        6400.       1811.51
 8                       8.77        12800.      3374.20
 8                       10.17       25600.      6398.87
 8                       11.89       51200.      10982.51
 9 ENDTBL
 3 STRUCT       01                                                           95/11/6
 8                       1178.0      0.00        0.0
 8                       1188.0      2.71        44.8
 8                       1193.0      7.29        129.0
 8                       1199.2      26.75       500.0
 8                       1202.0      38.68       845.55
 8                       1204.0      48.00       1176.28
 8                       1206.0      56.80       1575.25
 8                       1208.0      66.40       2044.97
 8                       1210.0      77.10       2593.40
 8                       1212.0      85.95       3218.00
 8                       1213.0      2685.00     3556.67
 8                       1214.0      8231.00     3916.02
 8                       1215.0      15545.0     4294.13
 8                       1216.0      24272.0     4692.68
 8                       1217.0      34212.0     5113.19
 8                       1218.0      45232.0     5556.01
 8                       1219.0      57233.0     6021.50
 8                       1220.0      70142.0     6509.75
 9 ENDTBL
 6 RUNOFF 1 001       1 2.46         87.2        0.85        1 1
 6 REACH  3 005   1   7 9100.                                1           BOSS#6
 6 REACH  3 010   7   2 9100.                                1           BOSS#4
 6 RUNOFF 1 002       3 2.38         79.9        0.73        1 1
 6 ADDHYD 4 012   2 3 1                                      1 1
 6 DIVERT 6 012   1 4 7 4100.        1.00        200.        1 1         OLIVE
 6 REACH  3 020   4   7 3332.                                1           REACH C
 6 REACH  3 025   7   5 1950.                                1           REACH B
 6 RUNOFF 1 003       6 3.94         87.2        0.88        1 1
 6 REACH  3 030   6   7 8865.                                1           BOSS#6
 6 REACH  3 005   7   1 8865.                                1           BOSS#5
 6 REACH  3 025   1   7 1950.                                1           REACH B
 6 RUNOFF 1 004       1 2.06         77.3        0.79        1 1
 6 ADDHYD 4 034   7 1 2                                      1 1
 6 ADDHYD 4 035   5 2 3                                      1 1
 6 DIVERT 6 035   3 4 7 11000.       1.00        199.        1 1         NORTHERN
 6 REACH  3 045   4   5 4200.                                1           REACH A
 6 RUNOFF 1 006       2 1.47         87.7        0.47        1 1
 6 REACH  3 060   2   3 7540.                                1           CP6CP7
 6 REACH  3 067   3   4 5140.                                1           BOSS#5
```

```
**********************80-80 LIST OF INPUT DATA (CONTINUED)**********************

 6 ADDHYD 4 064   5 4 3                                          1 1
 6 RUNOFF 1 005       6 4.78        78.8        0.78            1 1
 6 RUNOFF 1 007       7 3.48        81.7        1.01            1 1
 6 ADDHYD 4 075   6 7 1                                          1 1
 6 ADDHYD 4 076   1 3 2                                          1 1     1
 6 RESVOR 2    01 2   1 1201.42                                  1 1     1
 ENDATA
 7 LIST                 1.0                     1.
 7 INCREM 6             0.15
 7 COMPUT 7 001      01 0.          15.         1.0             6 2  01  06
   ENDCMP 1
   ENDJOB 2

*******************************END OF 80-80 LIST******************************
```

RUNOFF OPTION USED WITH RAINTABLE NO. 8, RUNOFF CURVE NO. = 100.

COMPUTED DIMHYD PEAK RATE FACTOR = 664.607

```
EXECUTIVE CONTROL  LIST          1.          0.          1.

          LISTING OF CURRENT DATA


                      COMPUTED TIME INCREMENT
DIMHYD                         .0556

                   .0000       .0300       .1000       .1900       .3100
                   .4700       .6600       .8200       .9300       .9900
                  1.0000       .9900       .9300       .8200       .6600
                   .4700       .3100       .0300       .0000       .0000
ENDTBL

   COMPUTED PEAK RATE FACTOR =  664.607
```

```
      TABLE NO.        TIME INCREMENT
RAINFL    1                .1000

                   .0000       .0030       .0060       .0090       .0130
                   .0160       .0200       .0250       .0300       .0350
                   .0390       .0460       .0520       .0580       .0650
                   .0710       .0800       .0900       .0990       .1090
                   .1180       .2830       .4490       .5670       .6220
                   .6690       .7010       .7320       .7560       .7800
                   .7950       .8090       .8240       .8380       .8520
                   .8660       .8760       .8850       .8940       .9040
                   .9130       .9200       .9260       .9320       .9390
                   .9450       .9500       .9540       .9590       .9640
                   .9690       .9720       .9760       .9800       .9840
                   .9880       .9910       .9930       .9950       .9980
                  1.0000      1.0000      1.0000      1.0000      1.0000
ENDTBL
```

STANDARD CONTROL INSTRUCTIONS

```
RUNOFF      1       1      2.4600     87.2000      .85001 1 0 0 0 1
REACH       5   1   7   9100.0000       .0000      .00001 0 0 0 0 1
REACH      10   7   2   9100.0000       .0000      .00001 0 0 0 0 1
RUNOFF      2       3      2.3800     79.9000      .73001 1 0 0 0 1
ADDHYD     12   2 3 1                                   1 1 0 0 0 1
DIVERT     12   1 4 7   4100.0000      1.0000   200.00001 1 0 0 0 1
REACH      20   4   7   3332.0000       .0000      .00001 0 0 0 0 1
REACH      25   7   5   1950.0000       .0000      .00001 0 0 0 0 1
RUNOFF      3       6      3.9400     87.2000      .88001 1 0 0 0 1
REACH      30   6   7   8865.0000       .0000      .00001 0 0 0 0 1
REACH       5   7   1   8865.0000       .0000      .00001 0 0 0 0 1
REACH      25   1   7   1950.0000       .0000      .00001 0 0 0 0 1
RUNOFF      4       1      2.0600     77.3000      .79001 1 0 0 0 1
ADDHYD     34   7 1 2                                   1 1 0 0 0 1
ADDHYD     35   5 2 3                                   1 1 0 0 0 1
DIVERT     35   3 4 7  11000.0000      1.0000   199.00001 1 0 0 0 1
REACH      45   4   5   4200.0000       .0000      .00001 0 0 0 0 1
RUNOFF      6       2      1.4700     87.7000      .47001 1 0 0 0 1
REACH      60   2   3   7540.0000       .0000      .00001 0 0 0 0 1
REACH      67   3   4   5140.0000       .0000      .00001 0 0 0 0 1
ADDHYD     64   5 4 3                                   1 1 0 0 0 1
RUNOFF      5       6      4.7800     78.8000      .78001 1 0 0 0 1
RUNOFF      7       7      3.4800     81.7000     1.01001 1 0 0 0 1
ADDHYD     75   6 7 1                                   1 1 0 0 0 1
ADDHYD     76   1 3 2                                   1 1 0 0 1 1
RESVOR        1 2   1   1201.4200                       1 1 0 0 1 1
ENDATA
```

END OF LISTING

EXECUTIVE CONTROL INCREM MAIN TIME INCREMENT = .150 HOURS

EXECUTIVE CONTROL COMPUT FROM XSECTION 1 TO STRUCTURE 1
STARTING TIME = .00 RAIN DEPTH = 15.00 RAIN DURATION = 1.00
ANT. RUNOFF COND. = 2 MAIN TIME INCREMENT = .150 HOURS
ALTERNATE NO. = 1 STORM NO. = 6 RAIN TABLE NO. = 6

OPERATION RUNOFF XSECTION 1

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
18.02	6247.3	(RUNOFF)
23.78	633.5	(RUNOFF)
26.78	475.5	(RUNOFF)
28.88	238.0	(RUNOFF)
30.51	159.6	(RUNOFF)
31.28	159.5	(RUNOFF)
32.02	159.5	(RUNOFF)
32.77	159.6	(RUNOFF)
44.27	140.7	(RUNOFF)
47.26	140.8	(RUNOFF)

HYDROGRAPH POINTS FOR ALTERNATE = 1, STORM = 6
MAIN TIME INCREMENT = .150 hr, DRAINAGE AREA = 2.46 SQ.MI.

HRS								
3.60 CFS	.24	.81	1.90	3.51	5.57	7.84	10.14	12.46
4.80 CFS	14.63	16.67	18.63	20.57	22.49	24.37	26.20	27.94
6.00 CFS	29.72	31.59	33.50	35.43	37.01	38.26	39.58	40.95
7.20 CFS	42.40	43.98	45.64	47.40	48.89	49.87	50.78	51.84
8.40 CFS	53.01	54.29	55.48	56.54	57.80	59.46	62.05	65.59
9.60 CFS	69.01	71.52	73.50	75.19	76.94	78.13	78.73	79.70
10.80 CFS	81	83	86	96	114	139	163	178
12.00 CFS	185	189	193	196	199	201	204	209
13.20 CFS	218	239	270	302	327	338	343	347
14.40 CFS	351	355	359	363	369	391	464	587
15.60 CFS	730	848	914	940	992	1106	1269	1439
16.80 CFS	1564	1622	1745	2193	3088	4258	5341	6043
18.00 CFS	6245	6118	5615	4673	3586	2687	2238	2197
19.20 CFS	2141	1984	1737	1487	1303	1245	1241	1224
20.40 CFS	1181	1127	1077	1048	1039	1027	983	907
21.60 CFS	820	751	716	710	704	690	670	650
22.80 CFS	638	633	633	632	632	632	633	633
24.00 CFS	632	628	618	601	581	564	555	553
25.20 CFS	547	533	514	494	480	475	475	475
26.40 CFS	475	475	475	475	474	465	434	379
27.60 CFS	317	266	242	238	238	238	238	238
28.80 CFS	238	238	236	229	213	194	175	162
30.00 CFS	158	158	158	159	159	158	158	158
31.20 CFS	159	159	158	158	158	159	159	158

32.40 CFS	158	158	159	159	158	157	155	152
33.60 CFS	147	141	139	138	138	138	139	140
34.80 CFS	141	140	139	138	138	138	138	138
36.00 CFS	138	139	139	141	140	139	138	138
37.20 CFS	138	138	139	140	141	140	139	138
38.40 CFS	138	138	138	138	138	139	139	140
39.60 CFS	140	139	138	138	138	139	139	140
40.80 CFS	141	140	139	138	138	138	138	138
42.00 CFS	138	139	140	141	141	139	138	138
43.20 CFS	138	138	138	138	138	139	140	141
44.40 CFS	140	139	138	138	138	139	139	141
45.60 CFS	141	139	139	138	138	138	138	138
46.80 CFS	138	139	140	141	140	139	138	138
48.00 CFS	138	133	115	83	47	17	2	0

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
13.49 WATERSHED INCHES; 21420 CFS-HRS; 1770.2 ACRE-FEET.

OPERATION REACH XSECTION 5

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
18.82	4765.3	6.70
33.23	159.4	1.72
37.10	139.5	1.61
38.37	139.5	1.61
40.12	139.3	1.61
41.37	139.5	1.61
43.12	139.4	1.61
44.88	139.4	1.61
46.11	139.5	1.61
47.88	139.5	1.61

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
13.49 WATERSHED INCHES; 21423 CFS-HRS; 1770.4 ACRE-FEET.

OPERATION REACH XSECTION 10

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
19.38	3887.3	7.93
38.67	139.2	2.91
41.73	139.1	2.91
43.52	139.0	2.91
45.30	139.0	2.91
46.49	139.2	2.91
48.27	139.1	2.91

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
13.49 WATERSHED INCHES; 21422 CFS-HRS; 1770.3 ACRE-FEET.

OPERATION RUNOFF XSECTION 2

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
17.99	5716.2	(RUNOFF)
22.96	599.9	(RUNOFF)
23.70	600.8	(RUNOFF)
26.79	451.7	(RUNOFF)
28.76	226.2	(RUNOFF)
30.44	152.4	(RUNOFF)
31.19	152.4	(RUNOFF)
31.94	152.6	(RUNOFF)
32.69	152.6	(RUNOFF)
42.44	135.0	(RUNOFF)

HYDROGRAPH POINTS FOR ALTERNATE = 1, STORM = 6
MAIN TIME INCREMENT = .150 hr, DRAINAGE AREA = 2.38 SQ.MI.

HRS								
6.00 CFS	.20	.64	1.48	2.60	3.86	5.18	6.51	7.80
7.20 CFS	9.05	10.34	11.72	13.09	14.25	15.25	16.36	17.52
8.40 CFS	18.64	19.73	20.84	21.94	23.00	24.34	26.46	28.86
9.60 CFS	30.79	32.32	33.73	35.37	36.83	37.75	38.58	39.83
10.80 CFS	41	43	45	52	67	84	97	103
12.00 CFS	107	112	116	119	122	125	129	134
13.20 CFS	144	163	189	212	225	232	238	243
14.40 CFS	249	254	259	264	269	295	370	495
15.60 CFS	619	697	722	745	807	939	1111	1265
16.80 CFS	1340	1373	1519	2055	3135	4353	5263	5616
18.00 CFS	5715	5579	4949	3831	2727	2145	2058	2054
19.20 CFS	1981	1771	1498	1267	1175	1171	1166	1142
20.40 CFS	1090	1032	993	981	980	964	907	816
21.60 CFS	728	679	671	671	665	646	622	605
22.80 CFS	599	600	599	598	598	600	601	600
24.00 CFS	598	594	581	560	540	529	527	524
25.20 CFS	516	499	477	459	451	451	451	451
26.40 CFS	451	451	452	452	451	439	397	331
27.60 CFS	268	230	226	226	226	226	226	226
28.80 CFS	226	226	224	214	195	173	157	151
30.00 CFS	150	150	151	152	151	150	150	151
31.20 CFS	152	151	150	150	152	153	151	150
32.40 CFS	150	151	153	151	150	149	147	143
33.60 CFS	136	132	131	132	132	132	133	134
34.80 CFS	134	132	131	131	132	131	131	132
36.00 CFS	132	132	134	135	133	132	131	132
37.20 CFS	132	132	133	135	134	132	131	132
38.40 CFS	132	131	132	132	132	132	134	135
39.60 CFS	133	132	131	132	132	132	133	135
40.80 CFS	134	132	132	132	132	132	132	132

42.00 CFS	132	132	134	135	134	132	132	132
43.20 CFS	132	132	132	132	132	133	135	135
44.40 CFS	133	132	132	132	132	132	134	135
45.60 CFS	134	132	132	132	132	132	132	132
46.80 CFS	132	133	135	135	133	132	132	132
48.00 CFS	132	125	102	63	24	3	0	

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
12.46 WATERSHED INCHES; 19146 CFS-HRS; 1582.2 ACRE-FEET.

OPERATION ADDHYD XSECTION 12

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
18.11	7080.4	(NULL)
19.19	5803.0	(NULL)
36.41	275.5	(NULL)
37.68	274.0	(NULL)
39.43	273.6	(NULL)
40.69	273.7	(NULL)
42.44	273.8	(NULL)
44.18	273.7	(NULL)
45.44	274.0	(NULL)
47.18	273.8	(NULL)

HYDROGRAPH POINTS FOR ALTERNATE = 1, STORM = 6
MAIN TIME INCREMENT = .150 hr, DRAINAGE AREA = 4.84 SQ.MI.

HRS								
4.65 CFS	.37	.72	1.25	1.96	2.85	3.92	5.13	6.47
5.85 CFS	7.95	9.65	11.70	14.19	17.00	19.98	23.04	26.14
7.05 CFS	29.21	32.24	35.31	38.43	41.49	44.32	46.97	49.71
8.25 CFS	52.50	55.23	57.91	60.55	63.13	65.63	68.38	71.87
9.45 CFS	75.60	78.85	81.69	84.47	87.61	90.73	93.44	96.17
10.65 CFS	99	103	106	110	119	136	155	170
11.85 CFS	178	184	194	204	215	227	239	252
13.05 CFS	266	284	311	344	374	395	408	423
14.25 CFS	439	456	475	493	511	529	567	654
15.45 CFS	789	923	1011	1049	1090	1181	1351	1569
16.65 CFS	1772	1899	1987	2196	2805	3965	5268	6266
17.85 CFS	6726	6977	7063	6739	5995	5300	5127	5410
19.05 CFS	5696	5802	5657	5354	5034	4816	4662	4488
20.25 CFS	4279	4032	3779	3553	3366	3204	3039	2846
21.45 CFS	2632	2432	2285	2188	2106	2022	1928	1833
22.65 CFS	1749	1683	1629	1578	1531	1490	1455	1424
23.85 CFS	1394	1367	1341	1310	1273	1240	1217	1205
25.05 CFS	1193	1175	1147	1115	1087	1069	1059	1049
26.25 CFS	1038	1027	1016	1005	995	984	964	914
27.45 CFS	842	773	731	720	711	699	682	662
28.65 CFS	641	621	601	581	554	520	485	457
29.85 CFS	442	430	420	412	402	390	379	369
31.05 CFS	363	356	348	341	336	333	330	326
32.25 CFS	322	320	319	319	316	314	312	309

33.45 CFS	304	297	293	291	291	290	289	288
34.65 CFS	288	286	282	280	279	278	277	276
35.85 CFS	275	274	274	275	275	274	272	271
37.05 CFS	271	271	271	273	274	273	271	270
38.25 CFS	271	271	271	271	271	271	271	273
39.45 CFS	274	272	271	270	270	271	271	272
40.65 CFS	274	273	271	270	271	271	271	271
41.85 CFS	271	271	271	273	274	272	271	270
43.05 CFS	271	271	271	271	271	271	272	273
44.25 CFS	273	272	270	270	271	271	271	273
45.45 CFS	274	273	271	271	271	271	271	271
46.65 CFS	271	271	272	273	274	272	271	271
47.85 CFS	271	271	264	241	202	163	141	137
49.05 CFS	134	129	120	110	99	88	77	67
50.25 CFS	57.48	49.23	41.94	35.56	30.02	25.26	21.18	17.71
51.45 CFS	14.77	12.29	10.20	8.45	6.99	5.77	4.76	3.91
52.65 CFS	3.22	2.64	2.17	1.77	1.45	1.19	.97	.79
53.85 CFS	.64	.52	.43					

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
12.99 WATERSHED INCHES; 40574 CFS-HRS; 3353.1 ACRE-FEET.

OPERATION DIVERT XSECTION 12
OUTPUT #1 HYDROGRAPH

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
17.55	4100.0 *	(DIVERT)
36.41	275.5	(DIVERT)
37.68	274.0	(DIVERT)
39.43	273.6	(DIVERT)
40.69	273.7	(DIVERT)
42.44	273.8	(DIVERT)
44.18	273.7	(DIVERT)
45.44	274.0	(DIVERT)
46.63	271.2	(DIVERT)
47.18	273.8	(DIVERT)

* FIRST POINT OF FLAT PEAK

HYDROGRAPH POINTS FOR ALTERNATE = 1, STORM = 6
MAIN TIME INCREMENT = .150 hr, DRAINAGE AREA = 4.84 SQ.MI.

HRS								
4.65 CFS	.37	.72	1.25	1.96	2.85	3.92	5.13	6.47
5.85 CFS	7.95	9.65	11.70	14.19	17.00	19.98	23.04	26.14
7.05 CFS	29.21	32.24	35.31	38.43	41.49	44.32	46.97	49.71
8.25 CFS	52.50	55.23	57.91	60.55	63.13	65.63	68.38	71.87
9.45 CFS	75.60	78.85	81.69	84.47	87.61	90.73	93.44	96.17
10.65 CFS	99	103	106	110	119	136	155	170
11.85 CFS	178	184	194	204	215	227	239	252
13.05 CFS	266	284	311	344	374	395	408	423
14.25 CFS	439	456	475	493	511	529	567	654

15.45 CFS	789	923	1011	1049	1090	1181	1351	1569
16.65 CFS	1772	1899	1987	2196	2805	3965	4100	4100
17.85 CFS	4100	4100	4100	4100	4100	4100	4100	4100
19.05 CFS	4100	4100	4100	4100	4100	4100	4100	4100
20.25 CFS	4100	4032	3779	3553	3366	3204	3039	2846
21.45 CFS	2632	2432	2285	2188	2106	2022	1928	1833
22.65 CFS	1749	1683	1629	1578	1531	1490	1455	1424
23.85 CFS	1394	1367	1341	1310	1273	1240	1217	1205
25.05 CFS	1193	1175	1147	1115	1087	1069	1059	1049
26.25 CFS	1038	1027	1016	1005	995	984	964	914
27.45 CFS	842	773	731	720	711	699	682	662
28.65 CFS	641	621	601	581	554	520	485	457
29.85 CFS	442	430	420	412	402	390	379	369
31.05 CFS	363	356	348	341	336	333	330	326
32.25 CFS	322	320	319	319	316	314	312	309
33.45 CFS	304	297	293	291	291	290	289	288
34.65 CFS	288	286	282	280	279	278	277	276
35.85 CFS	275	274	274	275	275	274	272	271
37.05 CFS	271	271	271	273	274	273	271	270
38.25 CFS	271	271	271	271	271	271	271	273
39.45 CFS	274	272	271	270	270	271	271	272
40.65 CFS	274	273	271	270	271	271	271	271
41.85 CFS	271	271	271	273	274	272	271	270
43.05 CFS	271	271	271	271	271	271	272	273
44.25 CFS	273	272	270	270	271	271	271	273
45.45 CFS	274	273	271	271	271	271	271	271
46.65 CFS	271	271	272	273	274	272	271	271
47.85 CFS	271	271	264	241	202	163	141	137
49.05 CFS	134	129	120	110	99	88	77	67
50.25 CFS	57.48	49.23	41.94	35.56	30.02	25.26	21.18	17.71
51.45 CFS	14.77	12.29	10.20	8.45	6.99	5.77	4.76	3.91
52.65 CFS	3.22	2.64	2.17	1.77	1.45	1.19	.97	.79
53.85 CFS	.64	.52	.43					

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
11.61 WATERSHED INCHES; 36273 CFS-HRS; 2997.6 ACRE-FEET.

OUTPUT #2 DIVERTED HYDROGRAPH (XSECTION 200)

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
18.11	2980.4	(DIVERT)
19.19	1703.0	(DIVERT)

HYDROGRAPH POINTS FOR ALTERNATE = 1, STORM = 6
MAIN TIME INCREMENT = .150 hr, DRAINAGE AREA = .00 SQ.MI.

HRS								
17.40 CFS	0	1168	2166	2626	2877	2963	2639	.1895
18.60 CFS	1200	1027	1310	1596	1702	1557	1254	934
19.80 CFS	716	562	388	179	0			

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
4301 CFS-HRS; 355.4 ACRE-FEET.

OPERATION REACH XSECTION 20

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
17.85	4100.0 *	7.94
36.56	275.5	1.78
37.83	274.0	1.78
39.58	273.6	1.78
40.84	273.7	1.78
42.59	273.8	1.78
44.33	273.7	1.78
45.59	274.0	1.78
46.78	271.2	1.77
47.33	273.8	1.78

* FIRST POINT OF FLAT PEAK

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
11.60 WATERSHED INCHES; 36242 CFS-HRS; 2995.0 ACRE-FEET.

*** WARNING - ROUTING COEFFICIENT (C) EQUALS 1.0,
CONSIDER SMALLER MAIN TIME INCREMENT FOR XSECTION 25. ***

OPERATION REACH XSECTION 25

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
17.85	4100.0 *	5.03
36.56	275.5	1.11
37.83	274.0	1.11
39.58	273.6	1.11
40.84	273.7	1.11
42.59	273.8	1.11
44.33	273.7	1.11
45.59	274.0	1.11
46.78	271.2	1.10
47.33	273.8	1.11

* FIRST POINT OF FLAT PEAK

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
11.60 WATERSHED INCHES; 36242 CFS-HRS; 2995.0 ACRE-FEET.

OPERATION RUNOFF XSECTION 3

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
18.04	9977.3	(RUNOFF)
23.80	1014.4	(RUNOFF)
26.78	761.5	(RUNOFF)
28.77	380.9	(RUNOFF)
30.55	255.4	(RUNOFF)
31.30	255.2	(RUNOFF)
32.05	255.3	(RUNOFF)
32.80	255.5	(RUNOFF)
40.80	225.2	(RUNOFF)
47.28	225.3	(RUNOFF)

HYDROGRAPH POINTS FOR ALTERNATE = 1, STORM = 6
MAIN TIME INCREMENT = .150 hr, DRAINAGE AREA = 3.94 SQ.MI.

HRS								
3.60 CFS	.34	1.18	2.85	5.33	8.53	12.14	15.86	19.58
4.80 CFS	23.04	26.29	29.43	32.52	35.56	38.64	41.66	44.46
6.00 CFS	47.36	50.34	53.29	56.31	58.91	61.04	63.16	65.33
7.20 CFS	67.62	70.14	72.80	75.52	77.99	79.76	81.20	82.85
8.40 CFS	85	87	89	90	92	95	99	104
9.60 CFS	110	114	118	120	123	125	126	128
10.80 CFS	130	132	137	150	179	218	257	283
12.00 CFS	295	301	308	313	317	321	327	334
13.20 CFS	348	380	426	476	517	540	548	555
14.40 CFS	562	568	574	580	588	626	731	916
15.60 CFS	1138	1335	1457	1503	1583	1751	2001	2268
16.80 CFS	2478	2590	2755	3425	4793	6590	8348	9530
18.00 CFS	9957	9832	9053	7644	5974	4508	3714	3516
19.20 CFS	3436	3193	2826	2438	2135	2010	1988	1961
20.40 CFS	1899	1816	1737	1682	1664	1644	1582	1467
21.60 CFS	1333	1217	1149	1137	1128	1108	1077	1046
22.80 CFS	1024	1014	1014	1013	1012	1012	1014	1014
24.00 CFS	1013	1007	991	965	935	908	892	887
25.20 CFS	877	855	826	796	773	763	761	761
26.40 CFS	761	761	761	761	760	745	701	617
27.60 CFS	521	438	390	381	381	381	381	381
28.80 CFS	381	381	378	367	344	314	284	263
30.00 CFS	254	253	254	255	255	254	253	253
31.20 CFS	255	255	254	253	254	255	255	254
32.40 CFS	253	254	255	255	254	252	249	243
33.60 CFS	236	228	223	221	221	222	223	224
34.80 CFS	225	224	222	221	221	221	221	221
36.00 CFS	221	222	223	225	225	223	222	221
37.20 CFS	221	222	223	224	225	224	222	221
38.40 CFS	221	221	221	221	221	222	223	225
39.60 CFS	225	223	222	221	221	222	223	224
40.80 CFS	225	224	222	221	221	221	222	221
42.00 CFS	221	222	223	225	225	223	222	221
43.20 CFS	221	222	221	221	222	223	224	225
44.40 CFS	225	223	222	221	221	222	223	225
45.60 CFS	225	224	222	221	221	222	221	221

46.80 CFS	222	223	224	225	225	223	222	221
48.00 CFS	220	212	187	139	84	34	5	0

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
13.49 WATERSHED INCHES; 34313 CFS-HRS; 2835.6 ACRE-FEET.

OPERATION REACH XSECTION 30

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
18.71	7354.3	5.33
36.98	223.4	2.15
38.24	223.3	2.15
40.01	223.1	2.15
41.25	223.3	2.15
43.02	223.1	2.15
44.76	223.2	2.15
45.99	223.4	2.15
47.75	223.3	2.15

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
13.49 WATERSHED INCHES; 34313 CFS-HRS; 2835.6 ACRE-FEET.

OPERATION REACH XSECTION 5

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
19.28	6057.5	7.24
38.51	223.0	2.02
48.15	222.8	2.02

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
13.49 WATERSHED INCHES; 34313 CFS-HRS; 2835.6 ACRE-FEET.

*** WARNING - ROUTING COEFFICIENT (C) EQUALS 1.0,
CONSIDER SMALLER MAIN TIME INCREMENT FOR XSECTION 25. ***

OPERATION REACH XSECTION 25

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
19.28	6057.5	6.26
38.51	223.0	.99
48.15	222.8	.98

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
13.49 WATERSHED INCHES; 34313 CFS-HRS; 2835.6 ACRE-FEET.

OPERATION RUNOFF XSECTION 4

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
18.03	4785.9	(RUNOFF)
23.74	514.4	(RUNOFF)
26.79	387.5	(RUNOFF)
28.77	194.1	(RUNOFF)
30.48	130.5	(RUNOFF)
31.23	130.5	(RUNOFF)
31.98	130.6	(RUNOFF)
32.73	130.7	(RUNOFF)
45.48	115.7	(RUNOFF)
47.23	115.7	(RUNOFF)

HYDROGRAPH POINTS FOR ALTERNATE = 1, STORM = 6
MAIN TIME INCREMENT = .150 hr, DRAINAGE AREA = 2.06 SQ.MI.

HRS								
7.05 CFS	.25	.67	1.36	2.27	3.29	4.28	5.22	6.17
8.25 CFS	7.12	8.07	8.99	9.89	10.80	11.71	12.75	14.10
9.45 CFS	15.67	17.15	18.44	19.64	20.85	22.05	23.00	23.81
10.65 CFS	24.81	25.99	27.20	28.93	33.22	42.11	53.04	62.91
11.85 CFS	69.27	72.82	76.47	80.04	83.14	85.89	88.69	92.02
13.05 CFS	96	103	116	134	152	165	172	177
14.25 CFS	182	187	192	197	201	207	225	277
15.45 CFS	362	456	530	566	587	630	729	859
16.65 CFS	986	1072	1114	1224	1593	2389	3353	4181
17.85 CFS	4643	4782	4718	4298	3467	2575	1956	1761
19.05 CFS	1748	1693	1551	1337	1137	1023	1000	997
20.25 CFS	979	941	895	856	840	838	827	785
21.45 CFS	717	644	592	574	574	570	556	538
22.65 CFS	522	514	513	513	512	512	513	514
23.85 CFS	514	513	510	501	484	467	455	451
25.05 CFS	450	443	431	414	398	389	387	387
26.25 CFS	387	387	387	387	387	387	378	347
27.45 CFS	298	245	207	194	194	194	194	194
28.65 CFS	194	194	194	192	186	171	154	139
29.85 CFS	131	129	129	130	130	130	129	129
31.05 CFS	130	131	130	129	129	130	131	130
32.25 CFS	129	129	130	131	130	129	128	126
33.45 CFS	124	119	114	113	113	113	113	114
34.65 CFS	115	115	114	113	113	113	113	113
35.85 CFS	113	113	113	114	115	115	114	113
37.05 CFS	113	113	113	114	115	115	114	113
38.25 CFS	113	113	113	113	113	113	113	114
39.45 CFS	115	115	114	113	113	113	113	114
40.65 CFS	115	115	114	113	113	113	113	113
41.85 CFS	113	113	114	114	115	115	114	113
43.05 CFS	113	113	113	113	113	113	114	115
44.25 CFS	116	115	114	113	113	113	114	115
45.45 CFS	116	115	114	113	113	113	113	113

46.65 CFS	113	114	114	115	116	115	114	113
47.85 CFS	113	113	108	91	62	30	7	0

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
12.08 WATERSHED INCHES; 16066 CFS-HRS; 1327.7 ACRE-FEET.

OPERATION ADDHYD XSECTION 34

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
18.28	7560.3	(NULL)
19.19	7734.7	(NULL)
36.39	340.9	(NULL)
37.71	338.4	(NULL)
39.46	337.7	(NULL)
40.72	337.9	(NULL)
42.46	337.7	(NULL)
44.22	337.8	(NULL)
45.47	338.2	(NULL)
47.22	338.0	(NULL)

HYDROGRAPH POINTS FOR ALTERNATE = 1, STORM = 6
MAIN TIME INCREMENT = .150 hr, DRAINAGE AREA = 6.00 SQ.MI.

HRS								
4.35 CFS	.21	.51	1.01	1.77	2.81	4.13	5.72	7.55
5.55 CFS	9.58	11.78	14.13	16.60	19.17	21.81	24.50	27.25
6.75 CFS	30.04	32.91	35.93	39.16	42.62	46.26	49.95	53.58
7.95 CFS	57.13	60.69	64.23	67.73	71.14	74.45	77.68	80.87
9.15 CFS	84	88	91	95	98	102	106	110
10.35 CFS	114	118	122	126	130	135	142	153
11.55 CFS	167	180	191	201	214	229	246	262
12.75 CFS	279	296	314	333	358	387	416	441
13.95 CFS	461	482	506	531	557	582	607	632
15.15 CFS	669	738	839	949	1043	1107	1169	1269
16.35 CFS	1436	1641	1847	2020	2158	2378	2869	3796
17.55 CFS	4896	5886	6572	7038	7423	7558	7346	7085
18.75 CFS	7049	7329	7637	7734	7598	7290	6930	6612
19.95 CFS	6349	6079	5773	5441	5108	4797	4525	4286
21.15 CFS	4055	3812	3561	3324	3123	2968	2838	2709
22.35 CFS	2577	2448	2330	2229	2144	2067	1995	1932
23.55 CFS	1876	1827	1783	1743	1707	1669	1629	1591
24.75 CFS	1560	1539	1520	1496	1466	1432	1399	1374
25.95 CFS	1355	1338	1320	1302	1284	1267	1252	1237
27.15 CFS	1216	1174	1115	1053	1005	979	960	935
28.35 CFS	905	873	840	809	780	752	721	685
29.55 CFS	648	616	591	573	556	540	524	507
30.75 CFS	490	476	464	454	443	433	426	420
31.95 CFS	415	410	405	401	399	398	395	392
33.15 CFS	389	387	383	377	372	369	367	365
34.35 CFS	363	361	359	357	353	350	348	346
35.55 CFS	345	344	342	341	341	341	341	340
36.75 CFS	338	337	337	337	337	337	338	338

37.95 CFS	337	336	336	336	336	336	336	336
39.15 CFS	336	337	338	337	336	335	335	336
40.35 CFS	336	337	338	338	336	336	336	336
41.55 CFS	336	336	336	336	336	337	338	337
42.75 CFS	336	335	336	336	336	336	336	336
43.95 CFS	336	337	338	337	336	335	336	336
45.15 CFS	336	337	338	338	336	336	336	336
46.35 CFS	336	336	336	336	337	338	338	337
47.55 CFS	336	336	336	336	331	314	285	252
48.75 CFS	227	216	208	196	181	164	147	130
49.95 CFS	114	100	86	74	64	54	46	39
51.15 CFS	33.25	28.06	23.62	19.85	16.64	13.93	11.65	9.72
52.35 CFS	8.10	6.74	5.61	4.66	3.87	3.20	2.65	2.20
53.55 CFS	1.82	1.50	1.24	1.02	.84	.69	.57	.47

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
13.01 WATERSHED INCHES; 50376 CFS-HRS; 4163.1 ACRE-FEET.

OPERATION ADDHYD XSECTION 35

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
18.28	11660.3	(NULL)
19.19	11834.7	(NULL)
36.47	615.8	(NULL)
37.78	612.2	(NULL)
39.54	610.9	(NULL)
40.79	611.4	(NULL)
42.55	611.1	(NULL)
44.28	611.2	(NULL)
45.55	611.8	(NULL)
47.28	611.6	(NULL)

HYDROGRAPH POINTS FOR ALTERNATE = 1, STORM = 6
MAIN TIME INCREMENT = .150 hr, DRAINAGE AREA = 10.84 SQ.MI.

HRS								
4.35 CFS	.22	.56	1.16	2.13	3.53	5.38	7.68	10.40
5.55 CFS	13.50	16.92	20.60	24.54	28.82	33.50	38.69	44.24
6.75 CFS	50.02	55.95	62.07	68.37	74.86	81.57	88.37	95.07
7.95 CFS	101	108	114	120	126	132	138	144
9.15 CFS	150	156	163	171	177	184	190	197
10.35 CFS	204	211	218	225	233	241	252	273
11.55 CFS	303	335	361	379	399	423	450	477
12.75 CFS	506	535	566	599	642	698	760	815
13.95 CFS	856	891	929	970	1013	1057	1100	1144
15.15 CFS	1198	1305	1492	1738	1966	2118	2218	2360
16.35 CFS	2617	2992	3416	3791	4056	4365	5065	6600
17.55 CFS	8861	9986	10672	11138	11523	11658	11446	11185
18.75 CFS	11149	11429	11737	11834	11698	11390	11030	10712
19.95 CFS	10449	10179	9873	9541	9140	8576	8078	7652
21.15 CFS	7259	6851	6407	5956	5555	5254	5027	4815
22.35 CFS	4599	4376	4164	3979	3827	3696	3573	3463

23.55 CFS	3366	3282	3206	3137	3074	3011	2938	2864
24.75 CFS	2800	2756	2724	2688	2641	2579	2514	2461
25.95 CFS	2424	2397	2369	2340	2311	2283	2257	2232
27.15 CFS	2200	2139	2029	1895	1779	1709	1680	1646
28.35 CFS	1603	1555	1503	1451	1401	1352	1302	1239
29.55 CFS	1168	1101	1049	1015	987	961	936	909
30.75 CFS	881	855	834	816	799	781	766	756
31.95 CFS	748	741	731	723	719	717	714	708
33.15 CFS	703	699	692	681	669	661	659	656
34.35 CFS	653	650	648	645	639	632	628	625
35.55 CFS	623	620	618	616	615	615	616	615
36.75 CFS	612	609	608	608	608	609	611	612
37.95 CFS	610	607	606	607	607	607	606	607
39.15 CFS	607	608	610	611	608	606	606	606
40.35 CFS	606	607	610	611	610	607	606	606
41.55 CFS	607	607	607	607	607	608	610	611
42.75 CFS	608	606	606	606	607	606	607	607
43.95 CFS	607	609	611	610	607	606	606	607
45.15 CFS	607	608	611	612	609	607	607	607
46.35 CFS	607	607	607	607	607	609	611	611
47.55 CFS	608	606	607	607	602	578	525	454
48.75 CFS	390	358	346	331	310	285	257	229
49.95 CFS	202	176	153	132	113	96	82	69
51.15 CFS	58.51	49.24	41.33	34.62	28.93	24.13	20.10	16.71
52.35 CFS	13.87	11.50	9.52	7.88	6.51	5.37	4.43	3.65
53.55 CFS	3.00	2.47	2.03	1.66	1.37	1.12	.91	.75
54.75 CFS	.61	.50	.41					

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
12.39 WATERSHED INCHES; 86649 CFS-HRS; 7160.7 ACRE-FEET.

OPERATION DIVERT XSECTION 35
OUTPUT #1 HYDROGRAPH

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
18.00	11000.0 *	(DIVERT)
36.47	615.8	(DIVERT)
37.78	612.2	(DIVERT)
39.54	610.9	(DIVERT)
40.79	611.4	(DIVERT)
42.55	611.1	(DIVERT)
44.28	611.2	(DIVERT)
45.55	611.8	(DIVERT)
47.28	611.6	(DIVERT)
47.94	607.6	(DIVERT)

* FIRST POINT OF FLAT PEAK

HYDROGRAPH POINTS FOR ALTERNATE = 1, STORM = 6
MAIN TIME INCREMENT = .150 hr, DRAINAGE AREA = 10.84 SQ.MI.

HRS								
4.35 CFS	.22	.56	1.16	2.13	3.53	5.38	7.68	10.40
5.55 CFS	13.50	16.92	20.60	24.54	28.82	33.50	38.69	44.24
6.75 CFS	50.02	55.95	62.07	68.37	74.86	81.57	88.37	95.07
7.95 CFS	101	108	114	120	126	132	138	144
9.15 CFS	150	156	163	171	177	184	190	197
10.35 CFS	204	211	218	225	233	241	252	273
11.55 CFS	303	335	361	379	399	423	450	477
12.75 CFS	506	535	566	599	642	698	760	815
13.95 CFS	856	891	929	970	1013	1057	1100	1144
15.15 CFS	1198	1305	1492	1738	1966	2118	2218	2360
16.35 CFS	2617	2992	3416	3791	4056	4365	5065	6600
17.55 CFS	8861	9986	10672	11000	11000	11000	11000	11000
18.75 CFS	11000	11000	11000	11000	11000	11000	11000	10712
19.95 CFS	10449	10179	9873	9541	9140	8576	8078	7652
21.15 CFS	7259	6851	6407	5956	5555	5254	5027	4815
22.35 CFS	4599	4376	4164	3979	3827	3696	3573	3463
23.55 CFS	3366	3282	3206	3137	3074	3011	2938	2864
24.75 CFS	2800	2756	2724	2688	2641	2579	2514	2461
25.95 CFS	2424	2397	2369	2340	2311	2283	2257	2232
27.15 CFS	2200	2139	2029	1895	1779	1709	1680	1646
28.35 CFS	1603	1555	1503	1451	1401	1352	1302	1239
29.55 CFS	1168	1101	1049	1015	987	961	936	909
30.75 CFS	881	855	834	816	799	781	766	756
31.95 CFS	748	741	731	723	719	717	714	708
33.15 CFS	703	699	692	681	669	661	659	656
34.35 CFS	653	650	648	645	639	632	628	625
35.55 CFS	623	620	618	616	615	615	616	615
36.75 CFS	612	609	608	608	608	609	611	612
37.95 CFS	610	607	606	607	607	607	606	607
39.15 CFS	607	608	610	611	608	606	606	606
40.35 CFS	606	607	610	611	610	607	606	606
41.55 CFS	607	607	607	607	607	608	610	611
42.75 CFS	608	606	606	606	607	606	607	607
43.95 CFS	607	609	611	610	607	606	606	607
45.15 CFS	607	608	611	612	609	607	607	607
46.35 CFS	607	607	607	607	607	609	611	611
47.55 CFS	608	606	607	607	602	578	525	454
48.75 CFS	390	358	346	331	310	285	257	229
49.95 CFS	202	176	153	132	113	96	82	69
51.15 CFS	58.51	49.24	41.33	34.62	28.93	24.13	20.10	16.71
52.35 CFS	13.87	11.50	9.52	7.88	6.51	5.37	4.43	3.65
53.55 CFS	3.00	2.47	2.03	1.66	1.37	1.12	.91	.75
54.75 CFS	.61	.50	.41					

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
12.27 WATERSHED INCHES; 85869 CFS-HRS; 7096.2 ACRE-FEET.

OUTPUT #2 DIVERTED HYDROGRAPH (XSECTION 199)

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
18.28	660.3	(DIVERT)
19.19	834.7	(DIVERT)

HYDROGRAPH POINTS FOR ALTERNATE = 1, STORM = 6
MAIN TIME INCREMENT = .150 hr, DRAINAGE AREA = .00 SQ.MI.

HRS								
17.85 CFS	0	138	523	658	446	185	149	429
19.05 CFS	737	834	698	390	30	0		

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
780 CFS-HRS; 64.5 ACRE-FEET.

OPERATION REACH XSECTION 45

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
18.75	11000.0 *	8.46
36.62	615.8	1.69
37.94	612.2	1.68
39.70	610.9	1.68
40.95	611.3	1.68
42.70	611.1	1.68
44.44	611.1	1.68
45.70	611.7	1.68
47.44	611.5	1.68
48.09	607.6	1.68

* FIRST POINT OF FLAT PEAK

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
12.27 WATERSHED INCHES; 85837 CFS-HRS; 7093.6 ACRE-FEET.

OPERATION RUNOFF XSECTION 6

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
17.93	3818.1	(RUNOFF)
18.87	1322.5	(RUNOFF)
19.88	746.7	(RUNOFF)
20.81	622.7	(RUNOFF)
21.84	425.2	(RUNOFF)
22.78	380.0	(RUNOFF)
23.53	380.2	(RUNOFF)
23.94	377.5	(RUNOFF)
26.82	284.3	(RUNOFF)
28.82	142.2	(RUNOFF)

HYDROGRAPH POINTS FOR ALTERNATE = 1, STORM = 6
MAIN TIME INCREMENT = .150 hr, DRAINAGE AREA = 1.47 SQ.MI.

HRS								
3.45 CFS	.47	1.39	2.76	4.22	5.51	6.91	8.44	9.99
4.65 CFS	11.19	12.10	13.26	14.73	15.81	16.59	18.01	19.25
5.85 CFS	19.78	20.97	22.59	23.79	24.40	24.62	25.70	27.09
7.05 CFS	27.44	28.05	29.67	31.06	31.59	31.49	31.96	33.45
8.25 CFS	34.00	34.01	35.33	36.34	36.12	37.02	39.50	42.80
9.45 CFS	44.93	44.89	45.89	47.82	48.92	48.96	48.47	49.40
10.65 CFS	51	52	52	55	75	102	111	112
11.85 CFS	114	118	121	121	122	124	127	129
13.05 CFS	131	148	181	201	205	208	210	213
14.25 CFS	215	217	220	222	224	227	271	407
15.45 CFS	527	556	563	568	581	677	854	960
16.65 CFS	976	983	991	1153	2091	3268	3702	3741
17.85 CFS	3770	3781	3450	2397	1477	1317	1319	1322
19.05 CFS	1313	1172	906	753	745	746	746	739
20.25 CFS	696	641	622	623	623	622	595	510
21.45 CFS	437	425	425	425	424	412	389	377
22.65 CFS	379	380	379	376	377	379	380	379
23.85 CFS	377	377	372	352	334	333	333	330
25.05 CFS	329	318	297	284	284	284	284	284
26.25 CFS	284	284	284	284	284	284	265	204
27.45 CFS	150	142	142	142	142	142	142	142
28.65 CFS	142	142	142	139	124	104	97	95
29.85 CFS	93.00	93.42	95.89	96.63	95.30	93.02	93.43	95.90
31.05 CFS	96.63	95.31	93.03	93.45	95.91	96.64	95.31	93.04
32.25 CFS	93.47	95.92	96.65	95.31	93.05	93.44	94.36	90.21
33.45 CFS	84.58	81.68	82.09	83.77	82.31	81.52	83.80	85.30
34.65 CFS	84.63	82.32	81.54	83.44	83.02	81.34	82.82	83.59
35.85 CFS	81.69	82.15	84.59	85.29	83.94	81.69	82.13	83.80
37.05 CFS	82.34	81.59	83.84	85.31	84.64	82.34	81.60	83.50
38.25 CFS	83.04	81.40	82.85	83.59	81.69	82.18	84.59	85.32
39.45 CFS	83.95	81.68	82.16	83.79	82.35	81.62	83.88	85.34
40.65 CFS	84.65	82.35	81.63	83.56	83.07	81.44	82.89	83.60
41.85 CFS	81.68	82.19	84.61	85.36	83.97	81.69	82.17	83.80
43.05 CFS	82.35	81.64	83.57	83.10	81.47	83.03	85.13	85.15
44.25 CFS	83.18	81.47	82.93	83.64	81.71	82.19	84.64	85.40
45.45 CFS	84.01	81.72	82.17	83.83	82.35	81.64	83.59	83.14
46.65 CFS	81.47	83.06	85.17	85.17	83.19	81.47	82.97	83.71
47.85 CFS	81.73	82.04	72.67	36.78	4.78	.00		

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
13.56 WATERSHED INCHES; 12867 CFS-HRS; 1063.3 ACRE-FEET.

OPERATION REACH XSECTION 60

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
18.35	3553.7	6.54
23.86	379.7	3.36
31.40	95.7	2.26
32.16	95.6	2.26
32.91	95.6	2.26
33.38	94.4	2.23
34.91	84.3	1.99
40.92	84.2	1.99
44.41	84.2	1.99
47.41	84.2	1.99

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
13.56 WATERSHED INCHES; 12866 CFS-HRS; 1063.2 ACRE-FEET.

OPERATION REACH XSECTION 67

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
18.81	3163.8	6.01
32.52	95.2	1.36
33.29	95.2	1.36
35.19	84.2	1.28
38.32	83.5	1.27
40.08	83.5	1.27
41.32	83.6	1.27
43.07	83.5	1.27
46.07	83.6	1.27
48.23	83.2	1.27

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
13.56 WATERSHED INCHES; 12866 CFS-HRS; 1063.2 ACRE-FEET.

OPERATION ADDHYD XSECTION 64

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
18.81	14163.8	(NULL)
36.63	698.4	(NULL)
37.95	695.0	(NULL)
39.71	693.6	(NULL)
40.96	694.2	(NULL)
42.71	693.8	(NULL)
44.45	693.9	(NULL)
45.72	694.6	(NULL)
47.45	694.2	(NULL)
48.09	690.8	(NULL)

HYDROGRAPH POINTS FOR ALTERNATE = 1, STORM = 6
MAIN TIME INCREMENT = .150 hr, DRAINAGE AREA = 12.31 SQ.MI.

HRS								
4.20 CFS	.28	.75	1.53	2.66	4.22	6.27	8.85	11.94
5.40 CFS	15.45	19.36	23.68	28.31	33.15	38.25	43.69	49.47
6.60 CFS	56	62	69	76	83	91	98	106
7.80 CFS	113	121	128	136	143	150	157	163
9.00 CFS	170	176	183	190	198	206	214	222
10.20 CFS	230	239	247	255	263	271	280	289
11.40 CFS	300	322	353	388	422	450	479	511
12.60 CFS	545	579	612	646	679	715	760	819
13.80 CFS	885	949	1002	1050	1099	1150	1201	1251
15.00 CFS	1300	1348	1406	1515	1702	1953	2210	2412
16.20 CFS	2567	2756	3051	3456	3919	4356	4700	5080
17.40 CFS	5829	7385	9680	11027	12092	12877	13312	13676
18.60 CFS	13968	14149	14123	13895	13595	13306	13059	12861
19.80 CFS	12691	12240	11807	11388	10964	10541	10072	9457
21.00 CFS	8904	8431	8000	7564	7100	6629	6200	5858
22.20 CFS	5592	5347	5105	4863	4633	4430	4262	4117
23.40 CFS	3984	3866	3763	3673	3594	3523	3458	3394
24.60 CFS	3321	3245	3176	3125	3086	3043	2990	2924
25.80 CFS	2855	2793	2747	2711	2675	2641	2607	2576
27.00 CFS	2547	2521	2489	2427	2319	2183	2054	1962
28.20 CFS	1909	1855	1796	1734	1672	1613	1557	1505
29.40 CFS	1452	1388	1315	1245	1186	1143	1108	1075
30.60 CFS	1045	1015	984	956	933	914	896	878
31.80 CFS	863	852	844	836	826	818	814	812
33.00 CFS	809	803	798	794	787	776	764	754
34.20 CFS	749	745	740	736	733	729	723	717
35.40 CFS	712	709	706	703	701	699	698	697
36.60 CFS	698	698	695	693	691	691	691	692
37.80 CFS	694	695	693	691	690	690	690	690
39.00 CFS	689	690	690	691	693	693	691	689
40.20 CFS	689	689	690	690	693	694	693	691
41.40 CFS	690	690	690	690	690	690	690	691
42.60 CFS	693	694	692	690	689	690	690	689
43.80 CFS	689	690	690	691	694	693	691	689
45.00 CFS	689	690	690	691	694	695	692	691
46.20 CFS	690	690	690	690	690	690	690	692
47.40 CFS	694	694	691	690	690	690	685	662
48.60 CFS	610	538	468	422	396	369	339	306
49.80 CFS	273	241	210	183	157	135	115	98
51.00 CFS	83.22	70.34	59.28	49.83	41.79	34.98	29.22	24.36
52.20 CFS	20.28	16.86	13.99	11.60	9.60	7.94	6.56	5.41
53.40 CFS	4.46	3.68	3.03	2.49	2.04	1.68	1.38	1.13
54.60 CFS	.92	.75	.62	.50	.41			

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
12.43 WATERSHED INCHES; 98734 CFS-HRS; 8159.4 ACRE-FEET.

OPERATION RUNOFF XSECTION 5

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
18.01	11281.1	(RUNOFF)
23.73	1201.2	(RUNOFF)
26.82	903.8	(RUNOFF)
28.88	453.1	(RUNOFF)
30.47	304.7	(RUNOFF)
31.22	304.5	(RUNOFF)
31.97	304.6	(RUNOFF)
32.72	304.9	(RUNOFF)
45.47	269.5	(RUNOFF)
47.23	269.6	(RUNOFF)

HYDROGRAPH POINTS FOR ALTERNATE = 1, STORM = 6
MAIN TIME INCREMENT = .150 hr, DRAINAGE AREA = 4.78 SQ.MI.

HRS								
6.30 CFS	.12	.52	1.43	3.01	5.19	7.61	10.08	12.60
7.50 CFS	15.17	17.79	20.16	22.31	24.52	26.75	29.01	31.22
8.70 CFS	33.35	35.50	37.66	40.23	43.75	47.97	51.81	54.99
9.90 CFS	57.81	60.80	63.70	65.86	67.65	69.98	72.90	75.73
11.10 CFS	80	92	116	145	171	187	194	203
12.30 CFS	211	218	225	231	239	248	265	299
13.50 CFS	344	389	421	436	448	460	471	482
14.70 CFS	492	502	515	558	692	903	1133	1308
15.90 CFS	1390	1436	1539	1779	2096	2398	2597	2683
17.10 CFS	2932	3853	5769	8079	10011	11058	11280	11114
18.30 CFS	10014	8063	5977	4560	4104	4099	3987	3617
19.50 CFS	3105	2632	2372	2339	2330	2290	2197	2087
20.70 CFS	2001	1963	1959	1931	1834	1668	1492	1379
21.90 CFS	1343	1341	1329	1298	1255	1217	1200	1199
23.10 CFS	1198	1196	1196	1198	1201	1200	1197	1190
24.30 CFS	1168	1129	1089	1062	1054	1049	1034	1005
25.50 CFS	964	926	906	903	903	903	903	903
26.70 CFS	904	904	903	881	811	690	563	475
27.90 CFS	452	452	452	453	453	453	453	453
29.10 CFS	449	432	398	356	321	304	300	300
30.30 CFS	302	305	303	300	300	302	305	303
31.50 CFS	300	300	302	305	303	300	300	303
32.70 CFS	305	304	300	298	295	288	276	266
33.90 CFS	263	263	263	264	265	268	268	265
35.10 CFS	263	263	263	263	263	263	263	264
36.30 CFS	267	269	268	265	263	263	263	264
37.50 CFS	266	269	269	265	264	263	263	264
38.70 CFS	263	263	264	264	267	269	268	265
39.90 CFS	263	263	264	264	266	269	269	266
41.10 CFS	264	263	264	264	264	264	264	265
42.30 CFS	267	269	268	265	264	264	264	264
43.50 CFS	264	264	264	265	268	269	267	265
44.70 CFS	264	264	264	265	267	269	268	265

45.90 CFS	264	264	264	264	264	264	264	265
47.10 CFS	268	270	267	265	264	264	264	251
48.30 CFS	210	142	67	14	0			

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
12.31 WATERSHED INCHES; 37963 CFS-HRS; 3137.3 ACRE-FEET.

OPERATION RUNOFF XSECTION 7

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
18.12	8276.5	(RUNOFF)
23.91	882.2	(RUNOFF)
26.78	664.0	(RUNOFF)
28.88	332.6	(RUNOFF)
30.66	222.1	(RUNOFF)
31.37	222.2	(RUNOFF)
32.16	222.3	(RUNOFF)
32.87	222.2	(RUNOFF)
45.62	196.3	(RUNOFF)
47.38	196.4	(RUNOFF)

HYDROGRAPH POINTS FOR ALTERNATE = 1, STORM = 6
MAIN TIME INCREMENT = .150 hr, DRAINAGE AREA = 3.48 SQ.MI.

HRS								
5.40 CFS	.21	.64	1.50	2.81	4.53	6.57	8.76	10.94
6.60 CFS	13.08	15.12	17.11	19.04	20.97	22.96	25.02	27.02
7.80 CFS	28.97	30.78	32.48	34.04	35.63	37.29	39.02	40.64
9.00 CFS	42.26	44.22	46.66	49.57	52.85	56.03	58.88	61.34
10.20 CFS	63.46	65.37	67.09	68.71	70.47	72.49	75.97	83.28
11.40 CFS	97	116	137	157	172	181	186	192
12.60 CFS	197	202	207	213	223	241	268	300
13.80 CFS	330	355	371	380	388	396	403	410
15.00 CFS	419	444	505	614	756	905	1030	1115
16.20 CFS	1183	1294	1461	1657	1845	1991	2165	2548
17.40 CFS	3423	4693	6072	7300	8095	8267	7887	7026
18.60 CFS	5849	4635	3681	3159	2978	2832	2585	2290
19.80 CFS	2008	1806	1722	1704	1665	1607	1545	1491
21.00 CFS	1456	1433	1394	1317	1218	1119	1040	997
22.20 CFS	983	970	948	924	903	888	882	881
23.40 CFS	881	881	882	882	882	878	868	850
24.60 CFS	827	805	786	774	767	753	732	708
25.80 CFS	687	671	664	663	664	664	664	664
27.00 CFS	662	652	623	568	498	425	368	339
28.20 CFS	332	332	332	332	332	332	331	324
29.40 CFS	309	287	263	241	227	222	221	222
30.60 CFS	222	222	222	221	222	222	222	221
31.80 CFS	221	222	222	222	222	221	222	222
33.00 CFS	222	221	218	214	209	203	198	194
34.20 CFS	193	193	194	195	196	196	195	194
35.40 CFS	193	193	193	193	193	194	195	195
36.60 CFS	196	196	195	194	193	193	195	195

37.80 CFS	196	196	195	194	193	193	193	193
39.00 CFS	193	194	195	196	196	196	195	194
40.20 CFS	193	194	195	195	196	196	195	194
41.40 CFS	193	193	194	194	193	194	195	196
42.60 CFS	196	196	195	194	193	193	194	193
43.80 CFS	193	194	195	196	196	196	195	194
45.00 CFS	193	194	195	196	196	196	195	194
46.20 CFS	193	193	194	194	194	194	195	196
47.40 CFS	196	196	195	194	193	187	170	139
48.60 CFS	97.69	55.60	21.25	3.49	.00			

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
12.72 WATERSHED INCHES; 28567 CFS-HRS; 2360.7 ACRE-FEET.

OPERATION ADDHYD XSECTION 75

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
18.08	19563.9	(NULL)
23.76	2082.9	(NULL)
26.79	1567.8	(NULL)
28.88	785.7	(NULL)
30.48	526.4	(NULL)
31.23	526.4	(NULL)
31.99	526.4	(NULL)
32.74	526.9	(NULL)
45.49	465.4	(NULL)
47.25	465.7	(NULL)

HYDROGRAPH POINTS FOR ALTERNATE = 1, STORM = 6
MAIN TIME INCREMENT = .150 hr, DRAINAGE AREA = 8.26 SQ.MI.

HRS								
5.40 CFS	.21	.64	1.50	2.81	4.53	6.59	8.88	11.46
6.60 CFS	14.51	18.12	22.30	26.66	31.06	35.57	40.19	44.81
7.80 CFS	49.13	53.10	57.00	60.79	64.64	68.51	72.37	76.15
9.00 CFS	80	84	90	98	105	111	117	122
10.20 CFS	127	131	135	139	143	148	156	175
11.40 CFS	212	261	308	343	366	384	398	410
12.60 CFS	422	433	446	461	488	540	612	689
13.80 CFS	752	791	819	840	859	877	895	912
15.00 CFS	934	1002	1197	1517	1889	2213	2420	2550
16.20 CFS	2722	3073	3557	4054	4442	4674	5097	6401
17.40 CFS	9192	12772	16083	18358	19375	19381	17901	15089
18.60 CFS	11825	9195	7784	7258	6965	6449	5690	4922
19.80 CFS	4380	4145	4052	3994	3861	3695	3546	3455
21.00 CFS	3415	3364	3228	2984	2710	2497	2383	2338
22.20 CFS	2312	2268	2203	2141	2102	2087	2080	2077
23.40 CFS	2076	2079	2083	2082	2079	2068	2036	1979
24.60 CFS	1916	1866	1839	1823	1802	1758	1696	1634
25.80 CFS	1593	1574	1567	1566	1567	1567	1567	1568
27.00 CFS	1566	1534	1434	1258	1061	900	821	791
28.20 CFS	785	785	785	785	785	785	780	756

29.40 CFS	707	643	584	546	527	522	523	526
30.60 CFS	525	522	521	524	526	525	522	521
31.80 CFS	524	526	526	523	522	524	527	526
33.00 CFS	522	519	513	502	485	469	460	457
34.20 CFS	456	457	460	463	464	461	458	457
35.40 CFS	456	456	456	456	456	458	461	464
36.60 CFS	463	460	458	457	456	457	460	464
37.80 CFS	464	461	459	457	457	457	457	457
39.00 CFS	457	458	462	465	464	461	458	457
40.20 CFS	457	458	460	464	465	462	459	458
41.40 CFS	457	457	457	457	457	459	462	465
42.60 CFS	464	461	459	458	457	457	458	457
43.80 CFS	458	460	463	465	463	460	459	458
45.00 CFS	457	459	462	465	464	461	459	458
46.20 CFS	458	458	458	458	458	460	464	466
47.40 CFS	464	461	459	458	456	438	381	280
48.60 CFS	165	69	21	3	0			

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
12.48 WATERSHED INCHES; 66530 CFS-HRS; 5498.0 ACRE-FEET.

OPERATION ADDHYD XSECTION 76 → 90% flow

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
18.14	32262.4	(NULL)
36.53	1162.2	(NULL)
37.81	1157.8	(NULL)
39.58	1156.6	(NULL)
40.83	1157.2	(NULL)
42.59	1157.0	(NULL)
44.34	1157.3	(NULL)
45.58	1158.2	(NULL)
46.48	1148.3	(NULL)
47.33	1158.1	(NULL)

HYDROGRAPH POINTS FOR ALTERNATE = 1, STORM = 6
MAIN TIME INCREMENT = .150 hr, DRAINAGE AREA = 20.57 SQ.MI.

HRS								
4.20 CFS	.28	.75	1.53	2.66	4.22	6.27	8.86	11.98
5.40 CFS	15.65	20.00	25.18	31.12	37.68	44.84	52.58	60.93
6.60 CFS	70	81	92	103	115	126	138	151
7.80 CFS	163	174	185	196	207	218	229	240
9.00 CFS	250	261	273	287	302	317	331	344
10.20 CFS	357	370	382	394	406	419	435	464
11.40 CFS	513	583	661	732	788	834	877	922
12.60 CFS	967	1012	1058	1107	1167	1255	1373	1507
13.80 CFS	1637	1740	1821	1890	1958	2027	2096	2163
15.00 CFS	2234	2350	2603	3032	3591	4166	4629	4963
16.20 CFS	5289	5829	6608	7511	8361	9030	9797	11481
17.40 CFS	15021	20157	25763	29385	31468	32258	31213	28764
18.60 CFS	25793	23345	21907	21154	20560	19755	18749	17783

19.80 CFS	17070	16385	15859	15382	14825	14236	13619	12911
21.00 CFS	12320	11794	11228	10548	9810	9126	8583	8196
22.20 CFS	7903	7615	7309	7004	6735	6518	6342	6194
23.40 CFS	6061	5945	5845	5756	5674	5591	5494	5373
24.60 CFS	5237	5111	5016	4948	4887	4801	4686	4559
25.80 CFS	4448	4367	4314	4277	4242	4208	4175	4144
27.00 CFS	4113	4054	3922	3685	3380	3083	2875	2754
28.20 CFS	2693	2639	2580	2519	2457	2398	2337	2261
29.40 CFS	2159	2031	1899	1790	1713	1665	1631	1601
30.60 CFS	1570	1537	1505	1479	1459	1439	1419	1400
31.80 CFS	1386	1378	1369	1358	1348	1342	1340	1337
33.00 CFS	1331	1322	1312	1296	1272	1246	1224	1211
34.20 CFS	1205	1202	1200	1199	1197	1190	1181	1174
35.40 CFS	1168	1165	1163	1160	1157	1157	1159	1162
36.60 CFS	1162	1158	1153	1149	1148	1149	1152	1156
37.80 CFS	1158	1156	1152	1148	1147	1147	1147	1146
39.00 CFS	1146	1148	1151	1155	1157	1154	1150	1147
40.20 CFS	1146	1147	1150	1154	1157	1156	1152	1148
41.40 CFS	1147	1147	1147	1147	1147	1148	1152	1155
42.60 CFS	1157	1155	1150	1147	1147	1147	1147	1147
43.80 CFS	1147	1149	1153	1157	1157	1154	1149	1147
45.00 CFS	1147	1149	1152	1157	1158	1156	1152	1148
46.20 CFS	1148	1148	1148	1148	1148	1150	1154	1158
47.40 CFS	1158	1154	1150	1148	1146	1128	1066	942
48.60 CFS	775	607	489	425	396	369	339	306
49.80 CFS	273	241	210	183	157	135	115	98
51.00 CFS	83.22	70.34	59.28	49.83	41.79	34.98	29.22	24.36
52.20 CFS	20.28	16.86	13.99	11.60	9.60	7.94	6.56	5.41
53.40 CFS	4.46	3.68	3.03	2.49	2.04	1.68	1.38	1.13
54.60 CFS	.92	.75	.62	.50	.41			

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
12.45 WATERSHED INCHES; 165263 CFS-HRS; 13657.4 ACRE-FEET.

--- XSECTION 76, ALTERNATE 1, STORM 6, HYDROGRAPH ADDED TO READHD FILE ---

*** MESSAGE - STRUCTURE 1, USER ENTERED STARTING ELEVATION (1201.4 FEET) CAN ADD .705 INCHES OF RUNOFF TO THE OUTFLOW HYDROGRAPH VOLUME.***

*** MESSAGE - RESERVOIR ROUTING, STRUCTURE 1, TRUNCATED AT 400 POINTS WITH 3152.95 AC-FT (.24 WATERSHED INCHES) FLOOD STORAGE REMAINING IN RESERVOIR AT ELEV. 1211.79. ***

OPERATION RESVOR STRUCTURE 1 → outflow

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
3.15	36.2	1201.42
19.02	21359.7	1215.67
40.94	1155.5	1212.41
42.83	1152.4	1212.41
44.63	1151.5	1212.41
45.89	1152.1	1212.41
47.64	1152.0	1212.41

HYDROGRAPH POINTS FOR ALTERNATE = 1, STORM = 6
MAIN TIME INCREMENT = .150 hr, DRAINAGE AREA = 20.57 SQ.MI.

HRS								
3.15 CFS	36.21	36.19	36.18	36.16	36.15	36.13	36.12	36.10
4.35 CFS	36.09	36.07	36.06	36.04	36.03	36.02	36.01	36.00
5.55 CFS	35.99	35.98	35.98	35.98	35.98	35.99	36.00	36.01
6.75 CFS	36.02	36.05	36.07	36.10	36.14	36.18	36.23	36.28
7.95 CFS	36.34	36.40	36.46	36.53	36.61	36.69	36.77	36.86
9.15 CFS	36.96	37.05	37.16	37.27	37.39	37.51	37.64	37.77
10.35 CFS	37.91	38.05	38.20	38.36	38.52	38.68	38.83	38.98
11.55 CFS	39.16	39.37	39.60	39.85	40.12	40.40	40.70	41.02
12.75 CFS	41.35	41.69	42.06	42.44	42.85	43.29	43.78	44.31
13.95 CFS	44.89	45.50	46.13	46.78	47.46	48.13	48.70	49.29
15.15 CFS	49.90	50.56	51.32	52.21	53.26	54.44	55.74	57.10
16.35 CFS	58.50	60.06	61.83	63.83	66.01	68.29	70.85	74.03
17.55 CFS	78	82	524	3751	8757	13677	17359	19730
18.75 CFS	20886	21302	21357	21237	20979	20566	20017	19398
19.95 CFS	18759	18129	17529	16950	16372	15787	15222	14664
21.15 CFS	14106	13550	12980	12380	11757	11135	10547	10013
22.35 CFS	9530	9087	8674	8287	7987	7715	7462	7229
23.55 CFS	7015	6820	6642	6480	6332	6194	6061	5929
24.75 CFS	5797	5669	5549	5439	5335	5232	5125	5017
25.95 CFS	4910	4811	4721	4640	4568	4502	4442	4387
27.15 CFS	4334	4274	4192	4077	3929	3763	3597	3445
28.35 CFS	3309	3187	3076	2973	2878	2789	2703	2650
29.55 CFS	2599	2542	2478	2412	2347	2283	2223	2165
30.75 CFS	2109	2056	2005	1956	1910	1866	1825	1786
31.95 CFS	1749	1715	1683	1653	1625	1599	1576	1554
33.15 CFS	1533	1513	1494	1475	1456	1436	1416	1397
34.35 CFS	1379	1363	1348	1335	1322	1309	1297	1286
35.55 CFS	1275	1265	1256	1247	1239	1231	1225	1219
36.75 CFS	1214	1209	1203	1198	1194	1190	1187	1184
37.95 CFS	1181	1179	1176	1174	1171	1169	1167	1165
39.15 CFS	1163	1162	1161	1161	1160	1160	1159	1157
40.35 CFS	1156	1156	1155	1155	1156	1155	1155	1154
41.55 CFS	1154	1153	1152	1152	1152	1151	1152	1152
42.75 CFS	1152	1152	1152	1152	1151	1151	1150	1150
43.95 CFS	1150	1150	1150	1151	1151	1151	1151	1151
45.15 CFS	1150	1151	1151	1151	1152	1152	1152	1152
46.35 CFS	1151	1151	1151	1150	1150	1150	1151	1152
47.55 CFS	1152	1152	1152	1151	1150	1145	1132	1108
48.75 CFS	1070	1022	971	920	871	824	779	734

49.95 CFS	691	649	608	568	530	493	458	424
51.15 CFS	393	363	335	309	284	261	240	220
52.35 CFS	202	185	169	155	142	129	118	108
53.55 CFS	98.53	89.89	85.94	85.93	85.91	85.90	85.88	85.87
54.75 CFS	85.85	85.84	85.82	85.81	85.79	85.78	85.76	85.75
55.95 CFS	85.73	85.72	85.70	85.69	85.67	85.66	85.64	85.63
57.15 CFS	85.61	85.60	85.58	85.57	85.55	85.54	85.52	85.51
58.35 CFS	85.49	85.48	85.46	85.45	85.43	85.42	85.40	85.39
59.55 CFS	85.37	85.36	85.34	85.33	85.31	85.30	85.28	85.27
60.75 CFS	85.25	85.24	85.22	85.21	85.19	85.18	85.16	85.15
61.95 CFS	85.13	85.12	85.10	85.09	85.07	85.06	85.04	85.03

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
10.28 WATERSHED INCHES; 136476 CFS-HRS; 11278.4 ACRE-FEET.

--- STRUCTURE 1, ALTERNATE 1, STORM 6, HYDROGRAPH ADDED TO READHD FILE ---

EXECUTIVE CONTROL ENDCMP COMPUTATIONS COMPLETED FOR PASS 1

SUMMARY TABLE 1

SELECTED RESULTS OF STANDARD AND EXECUTIVE CONTROL IN ORDER PERFORMED.
A CHARACTER FOLLOWING THE PEAK DISCHARGE TIME AND RATE (CFS) INDICATES:
F-FLAT TOP HYDROGRAPH T-TRUNCATED HYDROGRAPH R-RISING TRUNCATED HYDROGRAPH

RAINFALL OF 15.00 inches AND 48.00 hr DURATION, BEGINS AT .0 hrs.
RAINTABLE NUMBER 6, ARC 2
MAIN TIME INCREMENT .150 HOURS

ALTERNATE 1 STORM 6

XSECTION/ STRUCTURE ID	STANDARD CONTROL OPERATION	DRAINAGE AREA (SQ MI)	RUNOFF AMOUNT (IN)	PEAK DISCHARGE ELEVATION (FT)	TIME (HR)	RATE (CFS)	RATE (CSM)
XSECTION 1	RUNOFF	2.46	13.49	---	18.02	6247	2539.4
XSECTION 5	REACH	2.46	13.49	6.70	18.82	4765	1937.0
XSECTION 10	REACH	2.46	13.49	7.93	19.38	3887	1580.1
XSECTION 2	RUNOFF	2.38	12.46	---	17.99	5716	2401.7
XSECTION 12	ADDHYD	4.84	12.99	---	18.11	7080	1462.8
XSECTION 12	DIVERT	4.84	11.61	---	17.55F	4100F	847.1
XSECTION 200	DIVERT	.00	11.61	---	18.11	2980	********
XSECTION 20	REACH	4.84	11.60	7.94	17.85F	4100F	847.1
XSECTION 25	REACH	4.84	11.60	5.03	17.85F	4100F	847.1
XSECTION 3	RUNOFF	3.94	13.49	---	18.04	9977	2532.2
XSECTION 30	REACH	3.94	13.49	5.33	18.71	7354	1866.5
XSECTION 5	REACH	3.94	13.49	7.24	19.28	6057	1537.3
XSECTION 25	REACH	3.94	13.49	6.26	19.28	6057	1537.3
XSECTION 4	RUNOFF	2.06	12.08	---	18.03	4786	2323.3
XSECTION 34	ADDHYD	6.00	13.01	---	19.19	7735	1289.2
XSECTION 35	ADDHYD	10.84	12.39	---	19.19	11835	1091.8
XSECTION 35	DIVERT	10.84	12.27	---	18.00F	11000F	1014.8
XSECTION 199	DIVERT	.00	12.27	---	19.19	835	********
XSECTION 45	REACH	10.84	12.27	8.46	18.75F	11000F	1014.8
XSECTION 6	RUNOFF	1.47	13.56	---	17.93	3818	2597.3
XSECTION 60	REACH	1.47	13.56	6.54	18.35	3554	2417.7
XSECTION 67	REACH	1.47	13.56	6.01	18.81	3164	2152.4
XSECTION 64	ADDHYD	12.31	12.43	---	18.81	14164	1150.6
XSECTION 5	RUNOFF	4.78	12.31	---	18.01	11281	2360.0
XSECTION 7	RUNOFF	3.48	12.72	---	18.12	8277	2378.4
XSECTION 75	ADDHYD	8.26	12.48	---	18.08	19564	2368.5
XSECTION 76	ADDHYD	20.57	12.45	---	18.14	32262	1568.4
STRUCTURE 1	RESVOR	20.57	10.28	1215.67	19.02	21360	1038.4

SUMMARY TABLE 2

MODIFIED ATT-KIN REACH ROUTING IN ORDER PERFORMED.
QUESTION MARK (?) AFTER: OUTFLOW PEAK - MAX. NUMBER ROUTING ITERATIONS USED;
LENGTH FACTOR - VALUE k* GREATER THAN 1.0;
ATT-KIN COEFF - VALUE C GREATER THAN 0.667.

BASEFLOW IS .0 CFS

ALTERNATE 1 STORM 6

XSEC ID	REACH LENGTH (FT)	FLOOD PLAIN LENGTH (FT)	HYDROGRAPH INFORMATION INFLOW PEAK (CFS)	INFLOW TIME (HR)	OUTFLOW PEAK (CFS)	OUTFLOW TIME (HR)	ROUTING PARAMETERS Q-A EQ. COEFF (X)	Q-A EQ. POWER (M)	LENGTH FACTOR (k*)	PEAK RATIO Q/I (Q*)	ATT-KIN COEFF (C)
5	9100		6245	18.0	4742	18.8	1.94	1.08	.184	.759	.20
10	9100		4742	18.8	3886	19.4	2.18	1.07	.132	.819	.21
20	3332		4100	17.5	4100	17.9	.14	1.63	.001	1.000	1.00?
25	1950		4100	17.9	4100	17.9	.052	1.73	.000	1.000	1.00?
30	8865		9957	18.0	7341	18.8	1.56	1.08	.204	.737	.19
5	8865		7341	18.8	6048	19.4	1.92	1.08	.126	.824	.21
25	1950		6048	19.4	6048	19.4	.055	1.72	.001	1.000	1.00?
45	4200		11000	18.0	11000	18.8	.049	1.72	.001	1.000	.96?
60	7540		3781	18.0	3545	18.3	.48	1.36	.058	.938	.39
67	5140		3545	18.3	3149	18.8	1.59	1.11	.089	.888	.34

SUMMARY TABLE 3

STORM DISCHARGES (CFS) AT XSECTIONS AND STRUCTURES FOR ALL ALTERNATES
QUESTION MARK (?) AFTER: OUTFLOW PEAK - RISING TRUNCATED HYDROGRAPH.

XSECTION/ STRUCTURE ID	DRAINAGE AREA (SQ MI)	STORM NUMBERS..... 6
STRUCTURE 1	20.57	
ALTERNATE 1		21360
XSECTION 1	2.46	
ALTERNATE 1		6247
XSECTION 2	2.38	
ALTERNATE 1		5716
XSECTION 3	3.94	
ALTERNATE 1		9977
XSECTION 4	2.06	
ALTERNATE 1		4786
XSECTION 5	4.78	
ALTERNATE 1		11281
XSECTION 6	1.47	
ALTERNATE 1		3818
XSECTION 7	3.48	
ALTERNATE 1		8277
XSECTION 10	2.46	
ALTERNATE 1		3887
XSECTION 12	4.84	
ALTERNATE 1		4100
XSECTION 20	4.84	
ALTERNATE 1		4100
XSECTION 25	3.94	
ALTERNATE 1		6057
XSECTION 30	3.94	
ALTERNATE 1		7354
XSECTION 34	6.00	

SUMMARY TABLE 3

STORM DISCHARGES (CFS) AT XSECTIONS AND STRUCTURES FOR ALL ALTERNATES
QUESTION MARK (?) AFTER: OUTFLOW PEAK - RISING TRUNCATED HYDROGRAPH.

XSECTION/ STRUCTURE ID	DRAINAGE AREA (SQ MI)	STORM NUMBERS..... 6
XSECTION 34	6.00	
ALTERNATE 1		7735
XSECTION 35	10.84	
ALTERNATE 1		11000
XSECTION 45	10.84	
ALTERNATE 1		11000
XSECTION 60	1.47	
ALTERNATE 1		3554
XSECTION 64	12.31	
ALTERNATE 1		14164
XSECTION 67	1.47	
ALTERNATE 1		3164
XSECTION 75	8.26	
ALTERNATE 1		19564
XSECTION 76	20.57	
ALTERNATE 1		32262
XSECTION 199	.00	
ALTERNATE 1		835
XSECTION 200	.00	
ALTERNATE 1		2980

ECON2 DATA FILE

```
ECON2
TITLE        WHITE TANK FRS #3, WATERSHED DIVIDED INTO 7 SUB-BASINS
TITLE        48-HR PMP (MTI=.15), RESERVOIR INIT EMPTY W/100-YR SED
FLOW-FREQ    -1         21360.                                        ALT  1   1
FLOW-FREQ     1          6247.                                        ALT  1   2
FLOW-FREQ     2          5716.                                        ALT  1   3
FLOW-FREQ     3          9977.                                        ALT  1   4
FLOW-FREQ     4          4786.                                        ALT  1   5
FLOW-FREQ     5         11281.                                        ALT  1   6
FLOW-FREQ     6          3818.                                        ALT  1   7
FLOW-FREQ     7          8277.                                        ALT  1   8
FLOW-FREQ    10          3887.                                        ALT  1   9
FLOW-FREQ    12          4100.                                        ALT  1  10
FLOW-FREQ    20          4100.                                        ALT  1  11
FLOW-FREQ    25          6057.                                        ALT  1  12
FLOW-FREQ    30          7354.                                        ALT  1  13
FLOW-FREQ    34          7735.                                        ALT  1  14
FLOW-FREQ    35         11000.                                        ALT  1  15
FLOW-FREQ    45         11000.                                        ALT  1  16
FLOW-FREQ    60          3554.                                        ALT  1  17
FLOW-FREQ    64         14164.                                        ALT  1  18
FLOW-FREQ    67          3164.                                        ALT  1  19
FLOW-FREQ    75         19564.                                        ALT  1  20
FLOW-FREQ    76         32262.                                        ALT  1  21
FLOW-FREQ   199           835.                                        ALT  1  22
FLOW-FREQ   200          2980.                                        ALT  1  23
```

```
TR20 ------------------------------------------------------------------------ SCS -
WTPMP48      WHITE TANK FRS #3, WATERSHED DIVIDED INTO 7 SUB-BASINS      VERSION
07/29/**     48-HR PMP (MTI=.15), RESERVOIR INIT EMPTY W/100-YR SED     2.04TEST


END OF  1 JOBS IN THIS RUN


                    SCS  TR-20,  VERSION 2.04TEST
                          WTPMP48   FILES

     INPUT  = WT3PMP48.DAT                          , GIVEN DATA FILE
     OUTPUT = 48GOUT.OUT                            , DATED 07/29/**,14:50:19

              FILES GENERATED - DATED 07/29/**,14:50:19

    FILE 111.TEC CONTAINS ECON2 INFORMATION

    FILE 111.TRD CONTAINS READHD INFORMATION


          TOTAL NUMBER OF WARNINGS =   2,  MESSAGES =   2

                       JOB ENDED AT 14:50:19
                   *** TR-20 RUN COMPLETED ***
```

NRCS CRITERIA

Reservoir Routing Results for

(72-hr General PMF Hydrograph)

Reservoir Routing Results & 72-hr General Hydrographs.

```
******************80-80 LIST OF INPUT DATA FOR TR-20 HYDROLOGY******************

JOB TR-20 WT3PMP72  ECON                PASS=001  SUMMARY
TITLE     WHITE TANK FRS #3, WATERSHED DIVIDED INTO 7 SUB-BASINS
TITLE     72-HR PMP (MTI=.2), RESERVOIR INIT EMPTY W/100-YR SED
 5 RAINFL 1            0.1                                          6HRLOCAL
 8          .0000      .003       .006       .009       .013
 8          .016       .020       .025       .030       .035
 8          .039       .046       .052       .058       .065
 8          .071       .080       .090       .099       .109
 8          .118       .283       .449       .567       .622
 8          .669       .701       .732       .756       .780
 8          .795       .809       .824       .838       .852
 8          .866       .876       .885       .894       .904
 8          .913       .920       .926       .932       .939
 8          .945       .950       .954       .959       .964
 8          .969       .972       .976       .980       .984
 8          .988       .991       .993       .995       .998
 8          1.         1.         1.         1.         1.
 9 ENDTBL
 5 RAINFL 2            .1                                           6HR GEN
 8          .000       .005       .013       .020       .028
 8          .038       .045       .053       .060       .070
 8          .080       .085       .095       .108       .120
 8          .138       .150       .165       .190       .210
 8          .238       .280       .350       .440       .550
 8          .590       .620       .645       .668       .685
 8          .700       .720       .735       .753       .765
 8          .775       .790       .800       .810       .820
 8          .835       .843       .850       .863       .870
 8          .880       .890       .898       .908       .915
 8          .925       .930       .940       .945       .955
 8          .963       .970       .978       .985       .990
 8          1.00       1.00       1.00       1.00       1.00
 9 ENDTBL
 5 RAINFL 3            0.1                                          12HRGEN
 8          .000       .003       .007       .010       .013
 8          .016       .019       .022       .025       .028
 8          .031       .034       .037       .040       .043
 8          .045       .050       .054       .058       .062
 8          .066       .071       .075       .080       .085
 8          .089       .095       .101       .107       .112
 8          .118       .125       .132       .139       .146
 8          .153       .162       .171       .180       .189
 8          .198       .211       .224       .237       .250
 8          .264       .300       .345       .391       .436
 8          .491       .536       .564       .586       .607
 8          .629       .643       .657       .672       .686
 8          .700       .711       .721       .732       .742
 8          .753       .761       .769       .778       .786
 8          .795       .802       .809       .817       .824
 8          .832       .837       .843       .848       .854
 8          .859       .865       .870       .875       .881
 8          .886       .891       .895       .900       .905
 8          .909       .913       .917       .921       .925
 8          .929       .933       .936       .940       .944
 8          .948       .951       .954       .957       .960
 8          .963       .966       .969       .971       .974
```

```
8          .977        .980        .982        .984        .986
8          .989        .991        .993        .995        .998
8          1.000      01.000       1.000       1.000       1.00
9 ENDTBL
5 RAINFL 4             0.1                                                18HRGEN
8          .000        .001        .002        .003        .004
8          .005        .005        .006        .007        .008
8          .009        .012        .014        .017        .020
8          .023        .025        .028        .031        .033
8          .036        .040        .044        .049        .053
8          .057        .061        .065        .070        .074
8          .078        .084        .090        .096        .102
8          .108        .114        .120        .126        .132
8          .138        .146        .154        .162        .170
8          .179        .187        .195        .203        .211
8          .220        .238        .256        .275        .293
8          .311        .330        .348        .367        .385
8          .403        .430        .457        .484        .511
8          .538        .557        .577        .597        .616
8          .636        .653        .670        .687        .704
8          .721        .734        .746        .759        .771
8          .784        .792        .801        .810        .818
8          .827        .832        .838        .843        .848
8          .853        .856        .859        .862        .864
8          .867        .870        .872        .875        .878
8          .880        .882        .885        .887        .889
8          .891        .893        .895        .897        .899
8          .901        .903        .905        .907        .909
8          .911        .912        .914        .916        .917
8          .919        .920        .922        .924        .925
8          .927        .929        .930        .932        .934
8          .935        .937        .938        .940        .941
8          .943        .945        .946        .948        .949
8          .951        .952        .953        .955        .956
8          .957        .959        .960        .961        .963
8          .964        .965        .967        .968        .970
8          .971        .972        .974        .975        .976
8          .978        .979        .980        .982        .983
8          .984        .985        .986        .988        .989
8          .990        .991        .992        .993        .994
8          .995        .996        .997        .998        .999
8          1.000       1.000       1.000       1.000       1.000
9 ENDTBL
5 RAINFL 5             0.1                                                24HRGEN
8          0.000       0.000       0.001       0.001       0.002
8          0.002       0.002       0.003       0.003       0.003
8          0.004       0.005       0.007       0.009       0.010
8          0.012       0.013       0.015       0.016       0.018
8          0.019       0.022       0.024       0.027       0.030
8          0.032       0.035       0.037       0.040       0.042
8          0.045       0.048       0.051       0.055       0.058
8          0.061       0.064       0.068       0.071       0.074
8          0.078       0.082       0.087       0.091       0.096
8          0.100       0.104       0.109       0.113       0.118
8          0.122       0.127       0.132       0.137       0.142
8          0.147       0.151       0.156       0.161       0.166
```

```
8          0.171      0.177      0.184      0.191      0.198
8          0.205      0.214      0.224      0.233      0.242
8          0.252      0.265      0.278      0.291      0.303
8          0.316      0.334      0.351      0.368      0.386
8          0.403      0.425      0.447      0.468      0.490
8          0.512      0.527      0.543      0.558      0.574
8          0.589      0.603      0.617      0.631      0.645
8          0.659      0.671      0.684      0.696      0.709
8          0.721      0.731      0.741      0.751      0.761
8          0.771      0.779      0.786      0.793      0.800
8          0.808      0.814      0.820      0.825      0.831
8          0.837      0.840      0.843      0.847      0.850
8          0.853      0.855      0.857      0.859      0.861
8          0.864      0.866      0.868      0.870      0.872
8          0.874      0.876      0.878      0.880      0.881
8          0.883      0.885      0.886      0.888      0.890
8          0.891      0.893      0.895      0.896      0.898
8          0.899      0.901      0.902      0.904      0.905
8          0.907      0.908      0.909      0.910      0.912
8          0.913      0.914      0.915      0.916      0.917
8          0.919      0.920      0.921      0.922      0.923
8          0.924      0.926      0.927      0.928      0.929
8          0.930      0.932      0.933      0.935      0.936
8          0.938      0.940      0.941      0.943      0.944
8          0.946      0.947      0.947      0.948      0.949
8          0.950      0.950      0.951      0.952      0.953
8          0.953      0.955      0.956      0.957      0.958
8          0.959      0.960      0.961      0.962      0.963
8          0.964      0.965      0.966      0.967      0.968
8          0.969      0.970      0.971      0.972      0.973
8          0.974      0.975      0.976      0.977      0.978
8          0.979      0.980      0.981      0.982      0.983
8          0.984      0.985      0.986      0.987      0.988
8          0.988      0.989      0.990      0.991      0.991
8          0.992      0.993      0.994      0.995      0.995
8          0.996      0.997      0.998      0.998      0.999
8          1.000      1.000      1.000      1.000      1.000
9  ENDTBL
5 RAINFL 6            .25                                          48HRGEN
8          0.0000     0.0015     0.0029     0.0044     0.0058
8          0.0073     0.0088     0.0102     0.0117     0.0131
8          0.0146     0.0160     0.0175     0.0190     0.0204
8          0.0219     0.0233     0.0248     0.0263     0.0277
8          0.0292     0.0306     0.0321     0.0335     0.0350
8          0.0365     0.0379     0.0394     0.0408     0.0423
8          0.0438     0.0452     0.0467     0.0481     0.0496
8          0.0510     0.0525     0.0542     0.0558     0.0575
8          0.0592     0.0608     0.0625     0.0642     0.0658
8          0.0692     0.0725     0.0758     0.0792     0.0825
8          0.0858     0.0892     0.0925     0.0975     0.1025
8          0.1075     0.1125     0.1175     0.1225     0.1275
8          0.1325     0.1442     0.1560     0.1677     0.1794
8          0.1985     0.2176     0.2366     0.2557     0.3239
8          0.3921     0.4603     0.5285     0.5520     0.5754
8          0.5989     0.6224     0.6356     0.6488     0.6620
8          0.6752     0.6862     0.6972     0.7082     0.7192
```

```
8          0.7267     0.7342     0.7417     0.7492     0.7558
8          0.7625     0.7692     0.7758     0.7825     0.7892
8          0.7958     0.8025     0.8083     0.8142     0.8200
8          0.8258     0.8308     0.8358     0.8408     0.8458
8          0.8508     0.8558     0.8608     0.8658     0.8683
8          0.8708     0.8733     0.8758     0.8783     0.8808
8          0.8833     0.8858     0.8875     0.8892     0.8908
8          0.8925     0.8942     0.8958     0.8975     0.8992
8          0.9008     0.9025     0.9042     0.9058     0.9075
8          0.9092     0.9108     0.9125     0.9140     0.9154
8          0.9169     0.9183     0.9198     0.9213     0.9227
8          0.9242     0.9256     0.9271     0.9285     0.9300
8          0.9315     0.9329     0.9344     0.9358     0.9373
8          0.9388     0.9402     0.9417     0.9431     0.9446
8          0.9460     0.9475     0.9490     0.9504     0.9519
8          0.9533     0.9548     0.9563     0.9577     0.9592
8          0.9606     0.9621     0.9635     0.9650     0.9665
8          0.9679     0.9694     0.9708     0.9723     0.9737
8          0.9752     0.9767     0.9781     0.9796     0.9810
8          0.9825     0.9840     0.9854     0.9869     0.9883
8          0.9898     0.9912     0.9927     0.9942     0.9956
8          0.9971     0.9985     1.0000     1.0000     1.0
9 ENDTBL
5 RAINFL 7            .25                                          72HRGEN
8          0.0000     0.0005     0.0009     0.0014     0.0019
8          0.0025     0.0032     0.0038     0.0044     0.0051
8          0.0057     0.0063     0.0070     0.0076     0.0082
8          0.0089     0.0095     0.0103     0.0111     0.0119
8          0.0127     0.0134     0.0142     0.0150     0.0158
8          0.0171     0.0184     0.0196     0.0209     0.0222
8          0.0234     0.0247     0.0259     0.0272     0.0285
8          0.0297     0.0310     0.0323     0.0335     0.0348
8          0.0361     0.0375     0.0389     0.0403     0.0418
8          0.0432     0.0446     0.0460     0.0475     0.0489
8          0.0503     0.0517     0.0532     0.0546     0.0560
8          0.0574     0.0589     0.0604     0.0620     0.0636
8          0.0652     0.0668     0.0684     0.0699     0.0715
8          0.0731     0.0747     0.0763     0.0778     0.0797
8          0.0816     0.0835     0.0854     0.0877     0.0899
8          0.0921     0.0943     0.0968     0.0994     0.1019
8          0.1044     0.1073     0.1101     0.1130     0.1158
8          0.1193     0.1228     0.1263     0.1297     0.1335
8          0.1373     0.1411     0.1449     0.1491     0.1532
8          0.1573     0.1614     0.1725     0.1837     0.1948
8          0.2059     0.2241     0.2422     0.2603     0.2784
8          0.3431     0.4078     0.4726     0.5373     0.5596
8          0.5819     0.6042     0.6265     0.6390     0.6515
8          0.6641     0.6766     0.6870     0.6975     0.7079
8          0.7184     0.7255     0.7326     0.7397     0.7468
8          0.7535     0.7601     0.7668     0.7734     0.7794
8          0.7854     0.7915     0.7975     0.8030     0.8085
8          0.8141     0.8196     0.8247     0.8297     0.8348
8          0.8399     0.8443     0.8487     0.8532     0.8576
8          0.8598     0.8620     0.8642     0.8665     0.8685
8          0.8706     0.8726     0.8747     0.8766     0.8785
8          0.8804     0.8823     0.8840     0.8858     0.8875
```

```
8          0.8892     0.8908     0.8924     0.8940     0.8956
8          0.8972     0.8987     0.9003     0.9019     0.9035
8          0.9051     0.9066     0.9082     0.9098     0.9114
8          0.9130     0.9146     0.9160     0.9174     0.9188
8          0.9203     0.9217     0.9231     0.9245     0.9259
8          0.9274     0.9288     0.9302     0.9316     0.9329
8          0.9342     0.9354     0.9367     0.9380     0.9392
8          0.9405     0.9418     0.9430     0.9443     0.9456
8          0.9468     0.9481     0.9494     0.9506     0.9519
8          0.9530     0.9541     0.9552     0.9563     0.9574
8          0.9585     0.9597     0.9608     0.9619     0.9630
8          0.9641     0.9652     0.9661     0.9671     0.9680
8          0.9690     0.9699     0.9709     0.9718     0.9728
8          0.9736     0.9744     0.9752     0.9759     0.9767
8          0.9775     0.9783     0.9791     0.9797     0.9804
8          0.9810     0.9816     0.9823     0.9829     0.9835
8          0.9842     0.9847     0.9851     0.9856     0.9861
8          0.9866     0.9870     0.9875     0.9880     0.9884
8          0.9889     0.9894     0.9899     0.9902     0.9905
8          0.9908     0.9911     0.9915     0.9918     0.9921
8          0.9924     0.9927     0.9930     0.9934     0.9937
8          0.9940     0.9943     0.9946     0.9949     0.9953
8          0.9956     0.9959     0.9962     0.9965     0.9968
8          0.9972     0.9975     0.9978     0.9981     0.9984
8          0.9987     0.9989     0.9991     0.9992     0.9994
8          0.9995     0.9997     0.9998     1.0000     1.0000
9 ENDTBL
5 RAINFL 8     1      2.4                                          10-DAY
8          .0000      .0024      .0048      .0073      .0097
8          .0121      .0148      .0174      .0201      .0228
8          .0254      .0284      .0314      .0344      .0374
8          .0404      .0437      .0471      .0505      .0539
8          .0572      .0612      .0651      .0690      .0729
8          .0768      .0815      .0862      .0909      .0955
8          .1002      .1061      .1120      .1179      .1238
8          .1297      .1377      .1458      .1538      .1618
8          .1699      .1832      .1966      .2099      .2232
8          .2366      .2548      .2778      .3093      .3614
8          1.092      1.174      1.213      1.240      1.260
8          1.276      1.286      1.296      1.306      1.316
8          1.326      1.333      1.340      1.347      1.354
8          1.360      1.365      1.371      1.376      1.381
8          1.386      1.391      1.395      1.399      1.403
8          1.408      1.411      1.415      1.418      1.422
8          1.426      1.429      1.432      1.435      1.438
8          1.442      1.444      1.447      1.450      1.453
8          1.456      1.458      1.461      1.463      1.466
8          1.468      1.471      1.473      1.475      1.477
8          1.48       1.48       1.48       1.48       1.48
9 ENDTBL
4 DIMHYD              .0556                                         WT3
8          0.0        .03        .10        .19        .31
8          .47        .66        .82        .93        .99
8          1.0        .99        .93        .82        .66
8          .47        .31        .03        .00        .00
9 ENDTBL
```

```
2 XSECTN   005        1.0        8.77                          BOSSCS#5
8                     0.         0.0        0.0
8                     0.35       5.         5.56
8                     1.03       50.        30.95
8                     1.39       100.       52.16
8                     1.94       200.       88.72
8                     2.63       400.       148.61
8                     3.51       800.       260.63
8                     4.62       1600.      459.66
8                     6.04       3200.      929.36
8                     7.38       6400.      1811.51
8                     8.77       12800.     3374.20
8                     10.17      25600.     6398.87
8                     11.89      51200.     10982.51
9 ENDTBL
2 XSECTN   010        1.0        8.94                          BOSSCS#4
8                     0.         0.0        0.0
8                     0.91       5.         4.95
8                     2.03       50.        24.80
8                     2.63       100.       41.32
8                     3.34       200.       74.14
8                     4.15       400.       130.28
8                     5.23       800.       223.37
8                     6.41       1600.      447.51
8                     7.65       3200.      898.64
8                     8.94       6400.      1690.88
8                     10.29      12800.     3331.95
8                     11.64      25600.     6185.81
8                     13.14      51200.     10661.04
9 ENDTBL
2 XSECTN   020        1.0        7.3                           REACHC
8                     0.         0.0        0.0
8                     1.01       100.       57.78
8                     1.49       200.       86.81
8                     1.88       300.       110.25
8                     2.49       500.       149.47
8                     3.68       1000.      226.31
8                     5.40       2000.      346.26
8                     7.85       4000.      533.39
8                     9.64       6000.      688.07
8                     11.16      8000.      838.10
8                     12.46      10000.     985.31
8                     13.61      12000.     1122.03
8                     14.56      14000.     1236.94
8                     15.43      16000.     1345.18
8                     16.31      18000.     1456.68
9 ENDTBL
2 XSECTN   025        1.0        7.3                           REACHB
8                     0.         0.0        0.0
8                     0.63       100.       80.89
8                     0.93       200.       120.32
8                     1.17       300.       151.77
8                     1.56       500.       203.28
8                     2.30       1000.      302.00
8                     3.38       2000.      449.24
8                     4.97       4000.      673.73
```

```
8                       6.23        6000.       855.96
8                       7.31        8000.       1016.35
8                       8.24        10000.      1158.51
8                       9.09        12000.      1293.31
8                       9.90        14000.      1425.57
8                       10.64       16000.      1549.17
8                       11.36       18000.      1673.11
9 ENDTBL
2 XSECTN    030         1.0         9.45                                BOSSCS#6
8                       0.          0.0         0.0
8                       0.77        5.          4.67
8                       1.54        50.         32.06
8                       1.78        100.        56.64
8                       2.10        200.        100.59
8                       2.50        400.        179.97
8                       3.01        800.        320.25
8                       3.63        1600.       589.66
8                       4.35        3200.       1110.72
8                       5.21        6400.       2084.48
8                       6.03        12800.      4119.83
8                       6.99        25600.      6856.75
8                       8.28        51200.      11085.87
9 ENDTBL
2 XSECTN    045         1.0         4.87                                REACHA
8                       0.          0.0         0.0
8                       0.60        100.        85.69
8                       0.90        200.        127.94
8                       1.13        300.        161.93
8                       1.52        500.        217.27
8                       2.25        1000.       324.03
8                       3.31        2000.       483.02
8                       4.87        4000.       722.17
8                       6.09        6000.       914.99
8                       7.15        8000.       1084.61
8                       8.05        10000.      1234.17
8                       8.87        12000.      1373.80
8                       9.64        14000.      1507.84
8                       10.34       16000.      1633.45
8                       11.00       18000.      1753.12
9 ENDTBL
2 XSECTN    060         1.0         4.7                                 2CP6CP7
8                       0.          0.0         0.0
8                       2.36        100.        45.12
8                       2.88        200.        83.75
8                       3.18        300.        114.33
8                       3.64        500.        172.72
8                       4.42        1000.       289.04
8                       5.40        2000.       470.72
8                       6.87        4000.       782.74
8                       7.91        6000.       1020.12
8                       8.79        8000.       1231.25
8                       9.60        10000.      1435.05
8                       10.26       12000.      1618.34
8                       10.94       14000.      1812.58
8                       11.47       16000.      1983.46
8                       11.96       18000.      2150.12
```

```
**********************80-80 LIST OF INPUT DATA (CONTINUED)**********************

 9 ENDTBL
 2 XSECTN   067          1.0         8.77                                BOSSCS#5
 8                       0.          0.0         0.0
 8                       0.35        5.          5.56
 8                       1.03        50.         30.95
 8                       1.39        100.        52.16
 8                       1.94        200.        88.72
 8                       2.63        400.        148.61
 8                       3.51        800.        260.63
 8                       4.62        1600.       459.66
 8                       6.04        3200.       929.36
 8                       7.38        6400.       1811.51
 8                       8.77        12800.      3374.20
 8                       10.17       25600.      6398.87
 8                       11.89       51200.      10982.51
 9 ENDTBL
 3 STRUCT       01                                                           95/11/6
 8                       1178.0      0.00        0.0
 8                       1188.0      2.71        44.8
 8                       1193.0      7.29        129.0
 8                       1199.2      26.75       500.0
 8                       1202.0      38.68       845.55
 8                       1204.0      48.00       1176.28
 8                       1206.0      56.80       1575.25
 8                       1208.0      66.40       2044.97
 8                       1210.0      77.10       2593.40
 8                       1212.0      85.95       3218.00
 8                       1213.0      2685.00     3556.67
 8                       1214.0      8231.00     3916.02
 8                       1215.0      15545.0     4294.13
 8                       1216.0      24272.0     4692.68
 8                       1217.0      34212.0     5113.19
 8                       1218.0      45232.0     5556.01
 8                       1219.0      57233.0     6021.50
 8                       1220.0      70142.0     6509.75
 9 ENDTBL
 6 RUNOFF 1 001       1 2.46         87.2        0.85        1 1
 6 REACH  3 005   1   7 9100.                                1           BOSS#6
 6 REACH  3 010   7   2 9100.                                1           BOSS#4
 6 RUNOFF 1 002       3 2.38         79.9        0.73        1 1
 6 ADDHYD 4 012   2 3 1                                      1 1
 6 DIVERT 6 012   1 4 7 4100.        1.00        200.        1 1         OLIVE
 6 REACH  3 020   4   7 3332.                                1           REACH C
 6 REACH  3 025   7   5 1950.                                1           REACH B
 6 RUNOFF 1 003       6 3.94         87.2        0.88        1 1
 6 REACH  3 030   6   7 8865.                                1           BOSS#6
 6 REACH  3 005   7   1 8865.                                1           BOSS#5
 6 REACH  3 025   1   7 1950.                                1           REACH B
 6 RUNOFF 1 004       1 2.06         77.3        0.79        1 1
 6 ADDHYD 4 034   7 1 2                                      1 1
 6 ADDHYD 4 035   5 2 3                                      1 1
 6 DIVERT 6 035   3 4 7 11000.       1.00        199.        1 1         NORTHERN
 6 REACH  3 045   4   5 4200.                                1           REACH A
 6 RUNOFF 1 006       2 1.47         87.7        0.47        1 1
 6 REACH  3 060   2   3 7540.                                1           CP6CP7
 6 REACH  3 067   3   4 5140.                                1           BOSS#5
```

```
**********************80-80 LIST OF INPUT DATA (CONTINUED)**********************

 6 ADDHYD 4 064   5 4 3                                          1 1
 6 RUNOFF 1 005       6 4.78        78.8        0.78            1 1
 6 RUNOFF 1 007       7 3.48        81.7        1.01            1 1
 6 ADDHYD 4 075   6 7 1                                          1 1
 6 ADDHYD 4 076   1 3 2                                          1 1     1
 6 RESVOR 2    01 2   1 1201.42                                  1 1     1
   ENDATA
 7 LIST                 1.0                       1.
 7 INCREM 6             0.20
 7 COMPUT 7 001      01 0.         15.8          1.0            7 2  01  07
   ENDCMP 1
   ENDJOB 2

*******************************END OF 80-80 LIST******************************
```

RUNOFF OPTION USED WITH RAINTABLE NO. 8, RUNOFF CURVE NO. = 100.

COMPUTED DIMHYD PEAK RATE FACTOR = 664.607

```
EXECUTIVE CONTROL  LIST          1.          0.          1.

          LISTING OF CURRENT DATA


                     COMPUTED TIME INCREMENT
DIMHYD                         .0556

                  .0000       .0300       .1000       .1900       .3100
                  .4700       .6600       .8200       .9300       .9900
                 1.0000       .9900       .9300       .8200       .6600
                  .4700       .3100       .0300       .0000       .0000
ENDTBL

   COMPUTED PEAK RATE FACTOR =  664.607
```

TABLE NO.	TIME INCREMENT				
RAINFL 1	.1000				
.0000	.0030	.0060	.0090	.0130	
.0160	.0200	.0250	.0300	.0350	
.0390	.0460	.0520	.0580	.0650	
.0710	.0800	.0900	.0990	.1090	
.1180	.2830	.4490	.5670	.6220	
.6690	.7010	.7320	.7560	.7800	
.7950	.8090	.8240	.8380	.8520	
.8660	.8760	.8850	.8940	.9040	
.9130	.9200	.9260	.9320	.9390	
.9450	.9500	.9540	.9590	.9640	
.9690	.9720	.9760	.9800	.9840	
.9880	.9910	.9930	.9950	.9980	
1.0000	1.0000	1.0000	1.0000	1.0000	

ENDTBL

STANDARD CONTROL INSTRUCTIONS

```
RUNOFF      1       1      2.4600     87.2000      .85001 1 0 0 0 1
REACH       5   1   7   9100.0000       .0000      .00001 0 0 0 0 1
REACH      10   7   2   9100.0000       .0000      .00001 0 0 0 0 1
RUNOFF      2       3      2.3800     79.9000      .73001 1 0 0 0 1
ADDHYD     12   2 3 1                                   1 1 0 0 0 1
DIVERT     12   1 4 7   4100.0000      1.0000   200.00001 1 0 0 0 1
REACH      20   4   7   3332.0000       .0000      .00001 0 0 0 0 1
REACH      25   7   5   1950.0000       .0000      .00001 0 0 0 0 1
RUNOFF      3       6      3.9400     87.2000      .88001 1 0 0 0 1
REACH      30   6   7   8865.0000       .0000      .00001 0 0 0 0 1
REACH       5   7   1   8865.0000       .0000      .00001 0 0 0 0 1
REACH      25   1   7   1950.0000       .0000      .00001 0 0 0 0 1
RUNOFF      4       1      2.0600     77.3000      .79001 1 0 0 0 1
ADDHYD     34   7 1 2                                   1 1 0 0 0 1
ADDHYD     35   5 2 3                                   1 1 0 0 0 1
DIVERT     35   3 4 7  11000.0000      1.0000   199.00001 1 0 0 0 1
REACH      45   4   5   4200.0000       .0000      .00001 0 0 0 0 1
RUNOFF      6       2      1.4700     87.7000      .47001 1 0 0 0 1
REACH      60   2   3   7540.0000       .0000      .00001 0 0 0 0 1
REACH      67   3   4   5140.0000       .0000      .00001 0 0 0 0 1
ADDHYD     64   5 4 3                                   1 1 0 0 0 1
RUNOFF      5       6      4.7800     78.8000      .78001 1 0 0 0 1
RUNOFF      7       7      3.4800     81.7000     1.01001 1 0 0 0 1
ADDHYD     75   6 7 1                                   1 1 0 0 0 1
ADDHYD     76   1 3 2                                   1 1 0 0 1 1
RESVOR        1 2   1   1201.4200                       1 1 0 0 1 1
ENDATA
```

END OF LISTING

EXECUTIVE CONTROL INCREM MAIN TIME INCREMENT = .200 HOURS

EXECUTIVE CONTROL COMPUT FROM XSECTION 1 TO STRUCTURE 1
STARTING TIME = .00 RAIN DEPTH = 15.80 RAIN DURATION = 1.00
ANT. RUNOFF COND. = 2 MAIN TIME INCREMENT = .200 HOURS
ALTERNATE NO. = 1 STORM NO. = 7 RAIN TABLE NO. = 7

OPERATION RUNOFF XSECTION 1

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
27.01	6290.9	(RUNOFF)
37.14	222.8	(RUNOFF)
42.48	160.6	(RUNOFF)
43.88	160.6	(RUNOFF)
45.39	144.8	(RUNOFF)
46.63	144.8	(RUNOFF)
48.53	128.1	(RUNOFF)
49.25	128.1	(RUNOFF)
50.01	128.2	(RUNOFF)
50.78	128.3	(RUNOFF)

HYDROGRAPH POINTS FOR ALTERNATE = 1, STORM = 7
MAIN TIME INCREMENT = .200 hr, DRAINAGE AREA = 2.46 SQ.MI.

HRS								
6.80 CFS	.23	.99	2.60	4.92	7.41	9.80	12.16	14.48
8.40 CFS	16.85	19.25	21.48	23.29	25.31	27.59	29.55	31.06
10.00 CFS	32.94	35.51	38.49	41.46	44.22	46.72	49.35	51.53
11.60 CFS	52.88	53.84	55.72	58.23	60.26	61.25	61.85	63.48
13.20 CFS	65.94	67.81	68.54	68.83	70.26	73.02	76.35	79.85
14.80 CFS	83.14	86.13	88.09	89.48	90.66	91.14	91.12	92.08
16.40 CFS	94	97	98	98	100	105	113	121
18.00 CFS	124	127	135	144	151	152	154	162
19.60 CFS	172	180	184	186	193	204	212	215
21.20 CFS	220	234	253	270	275	277	284	296
22.80 CFS	306	311	315	325	337	345	350	394
24.40 CFS	545	760	926	983	1033	1205	1437	1616
26.00 CFS	1680	1996	3130	4708	5958	6290	6037	5038
27.60 CFS	3598	2474	2209	2138	1905	1567	1316	1248
29.20 CFS	1233	1182	1109	1057	1041	1019	937	822
30.80 CFS	735	709	707	696	681	669	665	660
32.40 CFS	643	621	606	604	601	587	568	556
34.00 CFS	554	552	540	522	510	507	504	489
35.60 CFS	465	448	444	429	373	294	237	222
37.20 CFS	223	219	212	207	206	205	202	197
38.80 CFS	192	190	189	185	179	176	174	172
40.40 CFS	167	164	161	161	161	160	158	156
42.00 CFS	157	159	160	160	159	157	156	158
43.60 CFS	160	161	161	159	154	147	142	142

45.20 CFS	144	145	144	141	141	141	143	145
46.80 CFS	144	142	140	137	134	130	127	126
48.40 CFS	128	128	126	127	128	128	126	127
50.00 CFS	128	127	126	127	128	127	125	122
51.60 CFS	117	112	110	110	110	111	112	114
53.20 CFS	115	113	111	110	110	109	104	99
54.80 CFS	95.92	95.49	95.53	95.31	95.58	95.24	95.48	94.73
56.40 CFS	91.62	86.71	81.65	79.19	77.09	76.07	77.39	79.64
58.00 CFS	80.28	78.85	74.36	69.21	65.85	64.21	62.73	63.19
59.60 CFS	64.51	63.90	62.57	63.01	60.90	54.36	47.42	46.33
61.20 CFS	48.46	49.63	48.07	46.12	46.28	47.66	47.31	45.89
62.80 CFS	46.76	48.96	48.66	43.81	36.83	31.65	30.19	30.89
64.40 CFS	32.94	34.37	33.62	31.35	30.17	30.15	30.41	31.81
66.00 CFS	33.98	34.30	32.52	30.50	30.15	30.18	30.92	32.95
67.60 CFS	34.48	33.68	31.30	30.16	30.15	30.33	31.78	33.88
69.20 CFS	34.35	32.60	30.51	30.15	30.11	29.43	26.91	23.19
70.80 CFS	19.16	16.26	15.21	14.96	15.26	14.90	15.12	14.45
72.40 CFS	11.29	6.32	1.19	.00				

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
14.29 WATERSHED INCHES; 22681 CFS-HRS; 1874.3 ACRE-FEET.

OPERATION REACH XSECTION 5

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
27.54	4816.3	6.72
42.76	160.0	1.72
44.25	159.6	1.72
46.94	143.7	1.63
51.01	127.5	1.54
53.42	113.7	1.47
63.33	48.1	1.00
66.47	32.9	.77
68.00	32.7	.77
69.50	32.6	.77

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
14.29 WATERSHED INCHES; 22692 CFS-HRS; 1875.3 ACRE-FEET.

OPERATION REACH XSECTION 10

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
28.12	3932.3	7.95
44.51	159.4	3.05
68.36	32.2	1.59
69.88	32.1	1.58

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
14.29 WATERSHED INCHES; 22690 CFS-HRS; 1875.1 ACRE-FEET.

OPERATION RUNOFF XSECTION 2

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
26.97	5804.6	(RUNOFF)
27.91	2083.0	(RUNOFF)
32.95	574.5	(RUNOFF)
33.97	527.8	(RUNOFF)
34.96	482.6	(RUNOFF)
35.91	425.5	(RUNOFF)
37.12	212.6	(RUNOFF)
41.10	153.0	(RUNOFF)
42.43	153.0	(RUNOFF)
43.72	153.1	(RUNOFF)

HYDROGRAPH POINTS FOR ALTERNATE = 1, STORM = 7
MAIN TIME INCREMENT = .200 hr, DRAINAGE AREA = 2.38 SQ.MI.

HRS								
9.40 CFS	.14	.63	1.68	3.16	4.81	6.60	8.47	10.27
11.00 CFS	12.14	14.12	15.84	17.19	18.61	20.39	22.36	23.92
12.60 CFS	24.94	26.12	27.84	29.82	31.23	32.00	32.96	34.62
14.20 CFS	36.86	39.25	41.70	44.25	46.40	47.92	49.37	50.69
15.80 CFS	51.39	51.89	53.40	55.71	57.36	58.57	59.27	60.59
17.40 CFS	65.67	72.65	76.93	78.70	82.05	89.12	96.33	99.53
19.00 CFS	101	104	111	119	125	127	129	138
20.60 CFS	147	152	155	161	174	192	201	204
22.20 CFS	207	216	228	235	239	244	255	267
23.80 CFS	272	274	324	491	691	792	812	882
25.40 CFS	1076	1303	1422	1470	1892	3231	4839	5662
27.00 CFS	5799	5531	4259	2748	2071	2073	1988	1688
28.60 CFS	1339	1182	1177	1158	1092	1019	987	985
30.20 CFS	955	852	729	672	672	669	656	639
31.80 CFS	630	630	624	603	580	573	574	569
33.40 CFS	551	532	526	528	524	508	489	481
35.00 CFS	482	479	457	432	422	423	401	330
36.60 CFS	249	212	211	212	207	199	196	196
38.20 CFS	195	191	185	181	181	180	174	169
39.80 CFS	167	166	162	158	155	153	153	153
41.40 CFS	152	150	148	150	152	153	153	151
43.00 CFS	149	149	152	153	153	153	151	145
44.60 CFS	137	134	136	138	138	136	134	134
46.20 CFS	135	138	139	137	134	133	130	126
47.80 CFS	122	120	121	123	122	120	121	123
49.40 CFS	121	120	122	123	120	120	123	122
51.00 CFS	120	119	115	109	106	105	105	105
52.60 CFS	106	108	110	109	107	105	105	105
54.20 CFS	103	98	93	91	91	91	91	91
55.80 CFS	91.23	91.13	90.16	86.63	80.12	76.62	75.20	72.57

57.40 CFS	72.39	75.00	76.69	76.65	74.70	68.97	64.00	62.46
59.00 CFS	60.92	59.14	61.17	62.23	60.18	59.29	60.96	57.31
60.60 CFS	48.43	43.26	44.74	47.42	47.41	45.10	43.32	44.67
62.20 CFS	46.36	44.37	43.36	45.53	47.73	46.08	39.71	32.21
63.80 CFS	28.79	28.81	29.70	32.36	33.49	31.36	29.05	28.80
65.40 CFS	28.79	29.11	31.05	33.35	32.66	29.83	28.80	28.80
67.00 CFS	28.82	29.71	32.40	33.52	31.37	29.04	28.80	28.80
68.60 CFS	29.10	31.02	33.34	32.68	29.88	28.80	28.80	28.77
70.20 CFS	27.82	24.66	20.68	17.06	14.62	14.36	14.56	14.23
71.80 CFS	14.45	14.35	13.29	9.79	3.54	.17		

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
13.26 WATERSHED INCHES; 20363 CFS-HRS; 1682.8 ACRE-FEET.

OPERATION ADDHYD XSECTION 12

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
27.15	7758.9	(NULL)
28.05	5991.2	(NULL)
42.16	319.5	(NULL)
43.60	313.0	(NULL)
45.17	294.5	(NULL)
46.50	285.0	(NULL)
48.33	261.8	(NULL)
49.13	256.0	(NULL)
49.92	252.4	(NULL)
50.66	250.9	(NULL)

HYDROGRAPH POINTS FOR ALTERNATE = 1, STORM = 7
MAIN TIME INCREMENT = .200 hr, DRAINAGE AREA = 4.84 SQ.MI.

HRS								
7.60 CFS	.31	.76	1.47	2.44	3.66	5.08	6.68	8.43
9.20 CFS	10.32	12.37	14.83	17.89	21.39	25.05	28.81	32.69
10.80 CFS	36.59	40.66	44.94	49.03	52.79	56.64	60.79	64.98
12.40 CFS	68.67	71.80	75.05	78.77	82.60	85.76	88.29	91.01
14.00 CFS	94	98	102	106	110	114	118	122
15.60 CFS	125	128	131	135	139	142	145	147
17.20 CFS	150	156	165	171	175	181	192	202
18.80 CFS	210	215	223	235	249	260	266	275
20.40 CFS	289	304	314	323	335	355	379	395
22.00 CFS	406	418	436	457	473	486	500	520
23.60 CFS	540	553	564	622	797	1008	1131	1193
25.20 CFS	1323	1589	1892	2095	2242	2778	4235	5976
26.80 CFS	7013	7503	7727	7011	6032	5765	5982	5910
28.40 CFS	5496	4966	4590	4337	4052	3727	3415	3168
30.00 CFS	2974	2775	2526	2277	2110	2006	1905	1801
31.60 CFS	1705	1627	1568	1510	1446	1387	1348	1322
33.20 CFS	1292	1252	1214	1191	1177	1158	1128	1097
34.80 CFS	1077	1067	1052	1020	984	965	955	921
36.40 CFS	838	745	693	671	644	609	573	543
38.00 CFS	519	497	475	454	437	426	414	400

39.60 CFS	388	380	373	364	355	347	341	337
41.20 CFS	334	330	324	320	319	319	318	316
42.80 CFS	313	310	310	313	313	313	312	310
44.40 CFS	304	297	293	294	294	293	288	285
46.00 CFS	284	283	285	285	282	279	278	274
47.60 CFS	270	265	262	261	262	258	255	255
49.20 CFS	256	252	250	252	252	249	249	251
50.80 CFS	250	248	246	243	236	232	231	230
52.40 CFS	228	226	227	227	226	222	220	220
54.00 CFS	220	217	211	205	203	201	200	198
55.60 CFS	196	194	193	191	186	179	174	172
57.20 CFS	167	165	165	165	163	159	153	147
58.80 CFS	144	141	137	137	137	133	130	130
60.40 CFS	126	116	110	110	110	108	104	100
62.00 CFS	99.93	100.12	96.80	94.73	96.04	97.46	95.17	88.45
63.60 CFS	80.75	76.90	75.87	75.11	75.80	74.97	71.19	67.60
65.20 CFS	66.31	65.31	64.63	65.66	67.17	65.92	62.83	61.76
66.80 CFS	61.70	61.52	62.12	64.50	65.36	63.16	60.98	60.96
68.40 CFS	61.01	61.18	62.91	65.00	64.23	61.54	60.71	60.90
70.00 CFS	60.84	59.75	56.38	52.13	48.04	44.79	43.32	41.96
71.60 CFS	39.92	38.46	36.84	34.42	29.76	22.49	18.03	16.46
73.20 CFS	14.61	12.59	10.60	8.78	7.18	5.80	4.65	3.70
74.80 CFS	2.93	2.30	1.80	1.41	1.09	.85	.65	.50
76.40 CFS	.38							

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
13.78 WATERSHED INCHES; 43053 CFS-HRS; 3557.9 ACRE-FEET.

OPERATION DIVERT XSECTION 12
OUTPUT #1 HYDROGRAPH

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
26.40	4100.0 *	(DIVERT)
42.16	319.5	(DIVERT)
43.60	313.0	(DIVERT)
45.17	294.5	(DIVERT)
46.50	285.0	(DIVERT)
48.33	261.8	(DIVERT)
49.13	256.0	(DIVERT)
49.92	252.4	(DIVERT)
50.66	250.9	(DIVERT)
52.97	227.5	(DIVERT)

* FIRST POINT OF FLAT PEAK

HYDROGRAPH POINTS FOR ALTERNATE = 1, STORM = 7
MAIN TIME INCREMENT = .200 hr, DRAINAGE AREA = 4.84 SQ.MI.

HRS								
7.60 CFS	.31	.76	1.47	2.44	3.66	5.08	6.68	8.43
9.20 CFS	10.32	12.37	14.83	17.89	21.39	25.05	28.81	32.69
10.80 CFS	36.59	40.66	44.94	49.03	52.79	56.64	60.79	64.98

12.40 CFS	68.67	71.80	75.05	78.77	82.60	85.76	88.29	91.01
14.00 CFS	94	98	102	106	110	114	118	122
15.60 CFS	125	128	131	135	139	142	145	147
17.20 CFS	150	156	165	171	175	181	192	202
18.80 CFS	210	215	223	235	249	260	266	275
20.40 CFS	289	304	314	323	335	355	379	395
22.00 CFS	406	418	436	457	473	486	500	520
23.60 CFS	540	553	564	622	797	1008	1131	1193
25.20 CFS	1323	1589	1892	2095	2242	2778	4100	4100
26.80 CFS	4100	4100	4100	4100	4100	4100	4100	4100
28.40 CFS	4100	4100	4100	4100	4052	3727	3415	3168
30.00 CFS	2974	2775	2526	2277	2110	2006	1905	1801
31.60 CFS	1705	1627	1568	1510	1446	1387	1348	1322
33.20 CFS	1292	1252	1214	1191	1177	1158	1128	1097
34.80 CFS	1077	1067	1052	1020	984	965	955	921
36.40 CFS	838	745	693	671	644	609	573	543
38.00 CFS	519	497	475	454	437	426	414	400
39.60 CFS	388	380	373	364	355	347	341	337
41.20 CFS	334	330	324	320	319	319	318	316
42.80 CFS	313	310	310	313	313	313	312	310
44.40 CFS	304	297	293	294	294	293	288	285
46.00 CFS	284	283	285	285	282	279	278	274
47.60 CFS	270	265	262	261	262	258	255	255
49.20 CFS	256	252	250	252	252	249	249	251
50.80 CFS	250	248	246	243	236	232	231	230
52.40 CFS	228	226	227	227	226	222	220	220
54.00 CFS	220	217	211	205	203	201	200	198
55.60 CFS	196	194	193	191	186	179	174	172
57.20 CFS	167	165	165	165	163	159	153	147
58.80 CFS	144	141	137	137	137	133	130	130
60.40 CFS	126	116	110	110	110	108	104	100
62.00 CFS	99.93	100.12	96.80	94.73	96.04	97.46	95.17	88.45
63.60 CFS	80.75	76.90	75.87	75.11	75.80	74.97	71.19	67.60
65.20 CFS	66.31	65.31	64.63	65.66	67.17	65.92	62.83	61.76
66.80 CFS	61.70	61.52	62.12	64.50	65.36	63.16	60.98	60.96
68.40 CFS	61.01	61.18	62.91	65.00	64.23	61.54	60.71	60.90
70.00 CFS	60.84	59.75	56.38	52.13	48.04	44.79	43.32	41.96
71.60 CFS	39.92	38.46	36.84	34.42	29.76	22.49	18.03	16.46
73.20 CFS	14.61	12.59	10.60	8.78	7.18	5.80	4.65	3.70
74.80 CFS	2.93	2.30	1.80	1.41	1.09	.85	.65	.50
76.40 CFS	.38							

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
12.16 WATERSHED INCHES; 37998 CFS-HRS; 3140.2 ACRE-FEET.

OUTPUT #2 DIVERTED HYDROGRAPH (XSECTION 200)

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
27.15	3658.9	(DIVERT)
28.05	1891.2	(DIVERT)

HYDROGRAPH POINTS FOR ALTERNATE = 1, STORM = 7
MAIN TIME INCREMENT = .200 hr, DRAINAGE AREA = .00 SQ.MI.

HRS								
26.20 CFS	0	135	1876	2913	3403	3627	2911	1932
27.80 CFS	1665	1882	1810	1396	866	490	237	0

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
5055 CFS-HRS; 417.7 ACRE-FEET.

*** WARNING - ROUTING COEFFICIENT (C) EQUALS 1.0,
CONSIDER SMALLER MAIN TIME INCREMENT FOR XSECTION 20. ***

OPERATION REACH XSECTION 20

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
26.40	4100.0 *	7.94
42.16	319.5	1.94
43.60	313.0	1.92
45.17	294.5	1.86
46.50	285.0	1.82
48.33	261.8	1.73
49.13	256.0	1.71
49.92	252.4	1.69
50.66	250.9	1.69
52.97	227.5	1.60

* FIRST POINT OF FLAT PEAK

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
12.16 WATERSHED INCHES; 37998 CFS-HRS; 3140.2 ACRE-FEET.

*** WARNING - ROUTING COEFFICIENT (C) EQUALS 1.0,
CONSIDER SMALLER MAIN TIME INCREMENT FOR XSECTION 25. ***

OPERATION REACH XSECTION 25

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
26.40	4100.0 *	5.03
42.16	319.5	1.21
43.60	313.0	1.20
45.17	294.5	1.16
46.50	285.0	1.13
48.33	261.8	1.08
49.13	256.0	1.06
49.92	252.4	1.06
50.66	250.9	1.05
52.97	227.5	1.00

* FIRST POINT OF FLAT PEAK

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
12.16 WATERSHED INCHES; 37998 CFS-HRS; 3140.2 ACRE-FEET.

OPERATION RUNOFF XSECTION 3

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
27.03	10040.5	(RUNOFF)
37.12	356.5	(RUNOFF)
41.10	257.2	(RUNOFF)
42.50	257.2	(RUNOFF)
43.87	257.2	(RUNOFF)
45.40	231.7	(RUNOFF)
46.65	231.7	(RUNOFF)
48.55	205.0	(RUNOFF)
50.03	205.0	(RUNOFF)
50.79	205.1	(RUNOFF)

HYDROGRAPH POINTS FOR ALTERNATE = 1, STORM = 7
MAIN TIME INCREMENT = .200 hr, DRAINAGE AREA = 3.94 SQ.MI.

HRS								
6.80 CFS	.34	1.45	3.89	7.54	11.53	15.39	19.17	22.84
8.40 CFS	26.59	30.43	34.07	37.14	40.32	43.87	47.03	49.53
10.00 CFS	52.51	56.50	61.23	65.95	70.39	74.49	78.70	82.25
11.60 CFS	85	86	89	93	96	98	99	101
13.20 CFS	105	108	110	110	112	117	122	127
14.80 CFS	133	138	141	143	145	146	146	147
16.40 CFS	151	154	157	158	159	167	180	192
18.00 CFS	198	203	215	230	241	244	247	258
19.60 CFS	274	287	294	297	308	325	339	345
21.20 CFS	353	373	403	429	440	443	454	472
22.80 CFS	489	497	504	519	538	551	558	621
24.40 CFS	852	1184	1469	1571	1659	1902	2263	2558
26.00 CFS	2703	3170	4869	7282	9355	10029	9667	8221
27.60 CFS	5995	4199	3538	3445	3081	2567	2137	2004
29.20 CFS	1977	1901	1788	1701	1668	1637	1511	1335
30.80 CFS	1187	1138	1132	1117	1093	1073	1065	1058

32.40 CFS	1033	998	973	967	963	942	912	892
34.00 CFS	887	884	867	840	818	812	807	785
35.60 CFS	748	719	710	688	605	485	388	355
37.20 CFS	356	351	341	332	329	328	323	316
38.80 CFS	308	305	303	296	288	282	279	275
40.40 CFS	269	263	259	257	257	256	254	251
42.00 CFS	251	254	257	257	255	251	251	253
43.60 CFS	256	257	257	255	248	237	228	227
45.20 CFS	230	232	230	226	225	226	229	232
46.80 CFS	231	227	224	220	215	208	203	203
48.40 CFS	204	205	203	203	205	205	203	203
50.00 CFS	205	204	202	204	205	203	200	195
51.60 CFS	188	180	177	177	177	177	179	183
53.20 CFS	184	181	178	177	177	175	168	160
54.80 CFS	154	153	153	153	153	153	153	152
56.40 CFS	147	140	132	127	124	122	124	127
58.00 CFS	129	127	120	112	106	103	101	101
59.60 CFS	103	102	101	101	98	88	77	74
61.20 CFS	77.10	79.45	77.17	74.29	74.14	76.15	75.93	73.85
62.80 CFS	74.62	77.92	78.02	70.90	60.16	51.49	48.30	49.34
64.40 CFS	52.39	54.88	54.13	50.67	48.42	48.28	48.64	50.74
66.00 CFS	54.08	54.91	52.48	49.07	48.29	48.36	49.44	52.43
67.60 CFS	54.81	53.98	50.67	48.40	48.29	48.68	50.71	53.91
69.20 CFS	54.79	52.53	49.19	48.29	48.24	47.24	43.47	37.73
70.80 CFS	31.21	26.55	24.54	23.82	24.43	24.09	23.99	23.32
72.40 CFS	18.27	11.03	2.94	.12				

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
14.29 WATERSHED INCHES; 36347 CFS-HRS; 3003.7 ACRE-FEET.

OPERATION REACH XSECTION 30

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
27.78	7435.3	5.34
42.91	256.8	2.21
44.45	255.5	2.21
47.13	230.4	2.16
50.38	204.6	2.11
51.21	204.2	2.11
53.62	182.4	2.04
63.53	77.1	1.67
66.69	52.7	1.55
68.22	52.2	1.55

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
14.30 WATERSHED INCHES; 36355 CFS-HRS; 3004.3 ACRE-FEET.

OPERATION REACH XSECTION 5

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
28.39	6138.2	7.27
44.55	255.5	2.13
68.57	51.6	1.04
70.11	51.4	1.04

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
14.30 WATERSHED INCHES; 36353 CFS-HRS; 3004.2 ACRE-FEET.

*** WARNING - ROUTING COEFFICIENT (C) EQUALS 1.0,
CONSIDER SMALLER MAIN TIME INCREMENT FOR XSECTION 25. ***

OPERATION REACH XSECTION 25

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
28.39	6138.2	6.30
44.55	255.5	1.06
68.57	51.6	.32
70.11	51.4	.32

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
14.30 WATERSHED INCHES; 36353 CFS-HRS; 3004.2 ACRE-FEET.

OPERATION RUNOFF XSECTION 4

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
27.01	4861.6	(RUNOFF)
32.92	492.2	(RUNOFF)
33.95	452.3	(RUNOFF)
37.13	182.2	(RUNOFF)
42.46	131.5	(RUNOFF)
43.75	131.5	(RUNOFF)
45.36	118.9	(RUNOFF)
46.60	118.9	(RUNOFF)
49.22	105.4	(RUNOFF)
49.98	105.4	(RUNOFF)

HYDROGRAPH POINTS FOR ALTERNATE = 1, STORM = 7
MAIN TIME INCREMENT = .200 hr, DRAINAGE AREA = 2.06 SQ.MI.

HRS								
10.60 CFS	.44	1.24	2.48	3.94	5.36	6.65	7.89	9.27
12.20 CFS	10.74	12.07	13.16	14.21	15.50	16.98	18.25	19.14
13.80 CFS	19.98	21.24	22.86	24.65	26.54	28.44	30.17	31.57
15.40 CFS	32.82	33.98	34.79	35.41	36.53	38.22	39.73	40.82
17.00 CFS	41.60	42.73	45.98	50.80	54.70	56.41	58.79	63.74
18.60 CFS	69.28	72.69	73.87	76.25	81.12	87.59	92.71	94.71

20.20 CFS	97	103	110	115	117	122	132	145
21.80 CFS	154	158	160	167	176	183	187	191
23.40 CFS	200	209	215	217	251	368	521	625
25.00 CFS	653	705	846	1029	1155	1197	1491	2480
26.60 CFS	3780	4657	4861	4677	3805	2608	1849	1768
28.20 CFS	1709	1489	1203	1026	1006	993	945	883
29.80 CFS	847	843	822	746	646	583	575	573
31.40 CFS	564	550	541	540	536	520	501	492
33.00 CFS	492	489	475	459	451	452	450	438
34.60 CFS	423	414	414	411	396	375	363	363
36.20 CFS	348	295	227	186	181	182	178	172
37.80 CFS	168	168	167	165	160	156	156	154
39.40 CFS	150	146	144	143	140	136	133	132
41.00 CFS	131	131	131	129	128	128	131	131
42.60 CFS	131	130	128	128	130	131	131	131
44.20 CFS	130	125	119	116	116	118	119	117
45.80 CFS	115	115	116	118	119	118	116	114
47.40 CFS	112	109	106	104	104	105	105	103
49.00 CFS	104	105	104	103	104	105	104	103
50.60 CFS	105	105	104	102	100	95	91	91
52.20 CFS	90.63	90.64	90.88	92.26	94.14	94.12	92.10	90.69
53.80 CFS	90.67	90.60	89.19	84.94	80.60	78.49	78.43	78.29
55.40 CFS	78.35	78.44	78.27	78.37	77.50	74.80	70.18	66.39
57.00 CFS	64.88	62.84	62.23	63.93	65.76	65.92	64.49	60.24
58.60 CFS	55.90	53.70	52.67	51.12	52.17	53.31	52.22	51.16
60.20 CFS	51.85	49.69	43.38	38.08	38.11	40.32	40.86	39.10
61.80 CFS	37.54	38.17	39.57	38.58	37.50	38.68	40.75	39.92
63.40 CFS	35.14	28.96	25.22	24.80	25.52	27.45	28.54	27.35
65.00 CFS	25.23	24.76	24.76	24.95	26.35	28.23	28.22	26.27
66.60 CFS	24.86	24.76	24.78	25.42	27.43	28.56	27.40	25.33
68.20 CFS	24.77	24.77	25.00	26.37	28.27	28.27	26.22	24.84
69.80 CFS	24.77	24.73	24.01	21.69	18.44	15.17	12.99	12.36
71.40 CFS	12.40	12.44	12.29	12.40	11.54	8.86	4.23	.50
73.00 CFS	.00							

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
12.87 WATERSHED INCHES; 17108 CFS-HRS; 1413.8 ACRE-FEET.

OPERATION ADDHYD XSECTION 34

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
27.24	7273.8	(NULL)
28.25	7762.8	(NULL)
43.54	389.7	(NULL)
45.15	371.8	(NULL)
50.68	311.1	(NULL)
61.10	145.4	(NULL)
62.94	122.6	(NULL)
65.94	84.5	(NULL)
67.56	80.3	(NULL)
69.07	79.5	(NULL)

HYDROGRAPH POINTS FOR ALTERNATE = 1, STORM = 7
MAIN TIME INCREMENT = .200 hr, DRAINAGE AREA = 6.00 SQ.MI.

HRS								
7.80 CFS	.43	1.07	2.10	3.54	5.35	7.50	9.93	12.62
9.40 CFS	15.50	18.51	21.60	24.76	27.97	31.23	34.74	38.74
11.00 CFS	43.30	48.23	53.28	58.30	63.39	68.64	73.89	78.81
12.60 CFS	83	88	92	97	101	105	109	113
14.20 CFS	117	122	126	130	135	139	144	148
15.80 CFS	153	157	162	167	171	175	178	182
17.40 CFS	188	195	201	206	211	221	232	241
19.00 CFS	248	257	270	284	297	307	317	332
20.60 CFS	349	362	374	388	408	430	450	464
22.20 CFS	479	499	523	545	562	581	604	627
23.80 CFS	646	662	709	839	1006	1125	1186	1298
25.40 CFS	1529	1820	2063	2234	2680	3842	5325	6410
27.00 CFS	6933	7265	7120	6765	6830	7417	7751	7627
28.60 CFS	7224	6815	6489	6116	5675	5217	4808	4463
30.20 CFS	4134	3782	3440	3168	2974	2800	2627	2463
31.80 CFS	2320	2201	2095	1991	1896	1823	1769	1717
33.40 CFS	1660	1606	1565	1536	1506	1468	1430	1400
35.00 CFS	1380	1358	1324	1285	1257	1240	1208	1136
36.60 CFS	1049	988	960	929	884	832	783	741
38.20 CFS	701	664	629	600	577	557	536	517
39.80 CFS	502	490	477	465	454	444	437	430
41.40 CFS	424	416	409	406	404	401	397	393
43.00 CFS	390	388	389	390	388	388	386	381
44.60 CFS	375	371	371	372	370	365	361	358
46.20 CFS	357	356	355	352	349	347	344	340
47.80 CFS	336	333	331	331	328	324	321	321
49.40 CFS	318	315	314	314	312	310	311	311
51.00 CFS	309	307	304	299	295	294	293	290
52.60 CFS	288	286	286	283	279	276	275	275
54.20 CFS	272	267	262	259	258	256	253	250
55.80 CFS	247	245	242	237	230	225	222	218
57.40 CFS	215	213	212	208	204	197	191	187
59.00 CFS	184	180	179	177	172	168	166	162
60.60 CFS	154	147	145	145	143	137	133	130
62.20 CFS	129	126	123	122	123	120	114	108
63.80 CFS	103	102	101	101	99	95	90	87

65.40 CFS	85.71	84.27	84.05	84.42	83.09	80.13	78.18	77.89
67.00 CFS	77.76	78.06	79.59	80.22	78.63	76.40	75.99	76.26
68.60 CFS	76.59	77.80	79.41	79.08	76.85	75.58	75.84	76.07
70.20 CFS	75.37	72.85	69.30	65.63	62.78	60.98	59.24	56.97
71.80 CFS	54.23	51.74	48.46	43.59	37.07	31.66	29.39	27.21
73.40 CFS	24.42	21.29	18.17	15.25	12.65	10.38	8.44	6.82
75.00 CFS	5.48	4.38	3.48	2.76	2.18	1.72	1.35	1.05
76.60 CFS	.82	.64	.50					

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
13.81 WATERSHED INCHES; 53461 CFS-HRS; 4418.0 ACRE-FEET.

OPERATION ADDHYD XSECTION 35

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
27.24	11373.8	(NULL)
28.25	11862.8	(NULL)
43.56	702.7	(NULL)
45.16	666.3	(NULL)
46.41	641.0	(NULL)
49.91	566.9	(NULL)
50.66	562.0	(NULL)
52.91	513.5	(NULL)
61.13	255.8	(NULL)
62.96	220.1	(NULL)

HYDROGRAPH POINTS FOR ALTERNATE = 1, STORM = 7
MAIN TIME INCREMENT = .200 hr, DRAINAGE AREA = 10.84 SQ.MI.

HRS								
7.60 CFS	.44	1.19	2.53	4.54	7.19	10.43	14.18	18.37
9.20 CFS	22.93	27.87	33.34	39.49	46.16	53.02	60.04	67.44
10.80 CFS	75	84	93	102	111	120	129	139
12.40 CFS	147	155	163	171	180	187	193	200
14.00 CFS	207	215	224	232	241	249	257	265
15.60 CFS	274	281	288	296	306	313	320	325
17.20 CFS	332	344	360	372	380	393	413	434
18.80 CFS	450	463	481	505	533	557	573	592
20.40 CFS	621	652	677	697	723	763	809	845
22.00 CFS	870	897	936	980	1018	1048	1081	1124
23.60 CFS	1167	1199	1226	1331	1636	2013	2256	2378
25.20 CFS	2621	3118	3712	4157	4477	5458	7942	9425
26.80 CFS	10510	11033	11365	11220	10865	10930	11517	11851
28.40 CFS	11727	11324	10915	10589	10169	9402	8633	7976
30.00 CFS	7438	6909	6308	5718	5278	4980	4704	4429
31.60 CFS	4168	3947	3769	3605	3436	3284	3171	3091
33.20 CFS	3009	2912	2820	2756	2713	2664	2596	2527
34.80 CFS	2477	2447	2410	2344	2269	2221	2195	2129
36.40 CFS	1974	1794	1681	1631	1573	1493	1405	1326
38.00 CFS	1260	1199	1140	1083	1037	1003	971	936
39.60 CFS	905	882	863	841	820	801	786	774
41.20 CFS	764	753	740	729	724	723	719	714

42.80 CFS	707	700	699	702	703	701	700	696
44.40 CFS	685	672	664	665	666	663	654	646
46.00 CFS	642	640	641	640	634	628	624	618
47.60 CFS	610	601	595	592	592	586	579	577
49.20 CFS	576	570	565	566	566	561	559	562
50.80 CFS	561	557	554	547	536	528	525	522
52.40 CFS	518	514	513	513	509	501	497	496
54.00 CFS	494	490	478	467	462	459	455	451
55.60 CFS	446	442	438	432	423	409	399	394
57.20 CFS	385	380	379	377	371	363	350	337
58.80 CFS	331	325	318	316	313	305	298	297
60.40 CFS	288	269	256	255	255	251	241	233
62.00 CFS	230	229	223	217	218	220	216	203
63.60 CFS	188	180	178	177	177	174	166	158
65.20 CFS	154	151	149	150	152	149	143	140
66.80 CFS	140	139	140	144	146	142	137	137
68.40 CFS	137	138	141	144	143	138	136	137
70.00 CFS	137	135	129	121	114	108	104	101
71.60 CFS	96.90	92.69	88.57	82.87	73.36	59.56	49.69	45.85
73.20 CFS	41.82	37.01	31.89	26.95	22.43	18.45	15.03	12.14
74.80 CFS	9.75	7.78	6.18	4.89	3.85	3.03	2.37	1.85
76.40 CFS	1.44	1.12	.87	.67	.52	.40		

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
13.07 WATERSHED INCHES; 91445 CFS-HRS; 7557.0 ACRE-FEET.

OPERATION DIVERT XSECTION 35
OUTPUT #1 HYDROGRAPH

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
27.00	11000.0 *	(DIVERT)
28.00	11000.0 *	(DIVERT)
43.56	702.7	(DIVERT)
45.16	666.3	(DIVERT)
46.41	641.0	(DIVERT)
49.91	566.9	(DIVERT)
50.66	562.0	(DIVERT)
52.91	513.5	(DIVERT)
61.13	255.8	(DIVERT)
62.96	220.1	(DIVERT)

* FIRST POINT OF FLAT PEAK

HYDROGRAPH POINTS FOR ALTERNATE = 1, STORM = 7
MAIN TIME INCREMENT = .200 hr, DRAINAGE AREA = 10.84 SQ.MI.

HRS								
7.60 CFS	.44	1.19	2.53	4.54	7.19	10.43	14.18	18.37
9.20 CFS	22.93	27.87	33.34	39.49	46.16	53.02	60.04	67.44
10.80 CFS	75	84	93	102	111	120	129	139
12.40 CFS	147	155	163	171	180	187	193	200
14.00 CFS	207	215	224	232	241	249	257	265

15.60 CFS	274	281	288	296	306	313	320	325
17.20 CFS	332	344	360	372	380	393	413	434
18.80 CFS	450	463	481	505	533	557	573	592
20.40 CFS	621	652	677	697	723	763	809	845
22.00 CFS	870	897	936	980	1018	1048	1081	1124
23.60 CFS	1167	1199	1226	1331	1636	2013	2256	2378
25.20 CFS	2621	3118	3712	4157	4477	5458	7942	9425
26.80 CFS	10510	11000	11000	11000	10865	10930	11000	11000
28.40 CFS	11000	11000	10915	10589	10169	9402	8633	7976
30.00 CFS	7438	6909	6308	5718	5278	4980	4704	4429
31.60 CFS	4168	3947	3769	3605	3436	3284	3171	3091
33.20 CFS	3009	2912	2820	2756	2713	2664	2596	2527
34.80 CFS	2477	2447	2410	2344	2269	2221	2195	2129
36.40 CFS	1974	1794	1681	1631	1573	1493	1405	1326
38.00 CFS	1260	1199	1140	1083	1037	1003	971	936
39.60 CFS	905	882	863	841	820	801	786	774
41.20 CFS	764	753	740	729	724	723	719	714
42.80 CFS	707	700	699	702	703	701	700	696
44.40 CFS	685	672	664	665	666	663	654	646
46.00 CFS	642	640	641	640	634	628	624	618
47.60 CFS	610	601	595	592	592	586	579	577
49.20 CFS	576	570	565	566	566	561	559	562
50.80 CFS	561	557	554	547	536	528	525	522
52.40 CFS	518	514	513	513	509	501	497	496
54.00 CFS	494	490	478	467	462	459	455	451
55.60 CFS	446	442	438	432	423	409	399	394
57.20 CFS	385	380	379	377	371	363	350	337
58.80 CFS	331	325	318	316	313	305	298	297
60.40 CFS	288	269	256	255	255	251	241	233
62.00 CFS	230	229	223	217	218	220	216	203
63.60 CFS	188	180	178	177	177	174	166	158
65.20 CFS	154	151	149	150	152	149	143	140
66.80 CFS	140	139	140	144	146	142	137	137
68.40 CFS	137	138	141	144	143	138	136	137
70.00 CFS	137	135	129	121	114	108	104	101
71.60 CFS	96.90	92.69	88.57	82.87	73.36	59.56	49.69	45.85
73.20 CFS	41.82	37.01	31.89	26.95	22.43	18.45	15.03	12.14
74.80 CFS	9.75	7.78	6.18	4.89	3.85	3.03	2.37	1.85
76.40 CFS	1.44	1.12	.87	.67	.52	.40		

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
12.99 WATERSHED INCHES; 90850 CFS-HRS; 7507.8 ACRE-FEET.

OUTPUT #2 DIVERTED HYDROGRAPH (XSECTION 199)

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
27.24	373.8	(DIVERT)
28.25	862.8	(DIVERT)

HYDROGRAPH POINTS FOR ALTERNATE = 1, STORM = 7

HRS	MAIN TIME INCREMENT = .200 hr,				DRAINAGE AREA =			.00 SQ.MI.
26.80 CFS	0	33	365	220	0	0	517	851
28.40 CFS	727	324	0					

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
595 CFS-HRS; 49.2 ACRE-FEET.

*** WARNING - ROUTING COEFFICIENT (C) EQUALS 1.0,
CONSIDER SMALLER MAIN TIME INCREMENT FOR XSECTION 45. ***

OPERATION REACH XSECTION 45

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
27.00	11000.0 *	8.46
28.00	11000.0 *	8.46
43.56	702.7	1.82
45.16	666.3	1.76
46.41	641.0	1.73
49.91	566.9	1.62
50.66	562.0	1.61
52.91	513.5	1.54
61.13	255.8	1.03
62.96	220.1	.95

* FIRST POINT OF FLAT PEAK

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
12.99 WATERSHED INCHES; 90850 CFS-HRS; 7507.8 ACRE-FEET.

OPERATION RUNOFF XSECTION 6

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
21.84	167.4	(RUNOFF)
26.91	3876.1	(RUNOFF)
27.90	1343.4	(RUNOFF)
28.90	752.9	(RUNOFF)
30.90	425.2	(RUNOFF)
31.90	399.8	(RUNOFF)
32.90	363.9	(RUNOFF)
33.90	334.0	(RUNOFF)
34.94	306.1	(RUNOFF)
35.88	267.3	(RUNOFF)

HYDROGRAPH POINTS FOR ALTERNATE = 1, STORM = 7

HRS	MAIN TIME INCREMENT = .200 hr,				DRAINAGE AREA =			1.47 SQ.MI.
6.60 CFS	.30	1.29	2.91	4.65	6.19	7.39	9.02	10.41
8.20 CFS	11.55	13.39	14.79	15.46	16.67	18.57	19.60	19.88
9.80 CFS	21.35	23.15	24.75	27.00	28.43	29.62	31.63	33.39
11.40 CFS	33.22	33.89	34.93	36.91	38.61	38.11	38.59	39.51

13.00 CFS	41.48	43.13	42.35	42.67	43.49	45.46	47.91	49.32
14.60 CFS	52.03	53.78	54.61	55.40	56.16	56.67	55.66	56.24
16.20 CFS	58.78	59.66	60.31	60.86	60.06	62.65	72.28	75.36
17.80 CFS	76.15	77.01	82.04	91.96	92.94	92.70	93.65	97.87
19.40 CFS	107	112	112	111	117	128	129	131
21.00 CFS	133	140	160	166	167	167	171	183
22.60 CFS	187	188	190	196	208	210	209	212
24.20 CFS	307	524	588	593	597	703	936	1001
25.80 CFS	1008	1023	1718	3306	3746	3784	3805	3173
27.40 CFS	1696	1323	1325	1325	1177	831	745	748
29.00 CFS	749	714	640	625	624	623	575	454
30.60 CFS	424	424	424	418	403	397	398	398
32.20 CFS	386	364	359	362	363	352	334	330
33.80 CFS	333	333	324	308	302	303	305	295
35.40 CFS	270	264	267	267	230	152	132	132
37.00 CFS	134	133	123	124	123	122	122	116
38.60 CFS	114	114	114	111	105	106	105	102
40.20 CFS	100	97	96	96	96	96	95	92
41.80 CFS	93.41	95.91	96.01	96.01	95.65	92.75	92.58	95.64
43.40 CFS	96.02	96.03	96.03	95.97	92.86	85.84	84.03	84.16
45.00 CFS	86.47	88.07	84.94	84.04	84.04	84.07	85.63	88.28
46.60 CFS	85.71	84.05	84.02	82.47	78.95	77.69	74.74	74.58
48.20 CFS	77.68	77.20	74.07	75.48	77.98	76.49	73.81	76.40
49.80 CFS	77.96	75.63	73.98	77.17	77.71	74.75	74.53	74.61
51.40 CFS	67.84	66.06	66.06	66.06	66.06	66.07	66.42	69.39
53.00 CFS	69.62	66.38	66.07	66.07	66.07	66.06	63.00	56.65
54.60 CFS	58.04	56.76	56.53	58.22	55.78	58.03	56.77	56.53
56.20 CFS	56.68	49.83	48.06	47.94	45.62	43.90	47.17	48.06
57.80 CFS	48.06	48.02	44.98	38.67	39.99	38.64	36.14	37.60
59.40 CFS	40.33	37.73	36.19	38.46	38.60	30.97	26.10	27.45
61.00 CFS	29.96	30.04	29.21	26.10	27.45	29.92	28.47	25.74
62.60 CFS	28.37	30.04	29.98	26.87	19.78	18.02	18.03	18.06
64.20 CFS	19.62	22.31	19.70	18.02	18.03	18.03	18.02	18.39
65.80 CFS	21.31	21.47	18.41	18.03	18.03	18.03	18.06	19.62
67.40 CFS	22.27	19.68	18.03	18.03	18.03	18.03	18.38	21.33
69.00 CFS	21.48	18.40	18.03	18.03	18.03	18.01	16.44	12.92
70.60 CFS	11.66	8.70	8.53	10.07	7.77	10.00	8.69	8.50
72.20 CFS	8.50	1.80	.00					

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
14.39 WATERSHED INCHES; 13656 CFS-HRS; 1128.5 ACRE-FEET.

OPERATION REACH XSECTION 60

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
27.40	3596.1	6.57
42.89	95.7	2.26
44.31	96.1	2.27
45.60	87.1	2.05
46.86	86.7	2.05
48.73	77.1	1.82
49.48	76.8	1.81
50.23	76.9	1.81
50.98	76.9	1.82
53.39	68.7	1.62

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
14.36 WATERSHED INCHES; 13620 CFS-HRS; 1125.6 ACRE-FEET.

OPERATION REACH XSECTION 67

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
27.76	3220.8	6.05
43.15	95.5	1.36
44.56	95.6	1.36
47.18	85.9	1.29
49.73	76.5	1.22
50.49	76.3	1.22
51.23	76.4	1.22
53.67	67.9	1.16
58.55	47.6	.99
60.71	38.3	.85

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
14.37 WATERSHED INCHES; 13631 CFS-HRS; 1126.5 ACRE-FEET.

OPERATION ADDHYD XSECTION 64

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
27.80	14144.0	(NULL)
43.51	797.1	(NULL)
46.36	726.5	(NULL)
49.85	642.6	(NULL)
50.64	638.2	(NULL)
62.95	248.2	(NULL)
65.97	170.2	(NULL)
67.55	164.1	(NULL)
69.05	163.0	(NULL)
69.84	156.4	(NULL)

HYDROGRAPH POINTS FOR ALTERNATE = 1, STORM = 7
MAIN TIME INCREMENT = .200 hr, DRAINAGE AREA = 12.31 SQ.MI.

HRS								
7.40	CFS	.46	1.40	3.10	5.61	8.86	12.86	17.48	22.57
9.00	CFS	28.20	34.22	40.45	47.15	54.66	62.64	70.59	78.72
10.60	CFS	87	97	107	118	128	139	149	160
12.20	CFS	171	180	189	198	207	217	225	232
13.80	CFS	240	248	257	266	275	285	295	304
15.40	CFS	314	324	333	342	351	361	369	376
17.00	CFS	383	390	403	419	432	443	459	482
18.60	CFS	506	525	542	564	592	622	648	669
20.20	CFS	692	725	759	787	811	842	885	935
21.80	CFS	975	1007	1042	1088	1138	1180	1215	1254
23.40	CFS	1301	1348	1385	1417	1528	1838	2218	2483
25.00	CFS	2674	2998	3563	4209	4713	5128	6210	8777
26.60	CFS	10324	11598	12607	13205	13709	13950	14144	13935
28.20	CFS	13517	13146	12866	12555	11994	11368	10446	9570
29.80	CFS	8836	8228	7645	7004	6387	5920	5575	5250
31.40	CFS	4934	4645	4403	4208	4030	3852	3693	3574
33.00	CFS	3483	3391	3288	3191	3121	3070	3013	2940
34.60	CFS	2866	2812	2775	2731	2659	2580	2528	2493
36.20	CFS	2417	2254	2070	1946	1869	1781	1676	1571
37.80	CFS	1480	1404	1336	1272	1211	1163	1126	1091
39.40	CFS	1054	1022	997	975	951	929	908	891
41.00	CFS	877	865	852	838	826	821	819	814
42.60	CFS	809	802	795	794	797	797	795	795
44.20	CFS	791	780	767	759	758	757	751	741
45.80	CFS	733	728	726	726	725	719	714	710
47.40	CFS	704	695	686	678	674	672	664	656
49.00	CFS	654	653	646	641	643	642	637	635
50.60	CFS	638	637	632	630	623	611	603	599
52.20	CFS	594	588	583	581	580	576	568	565
53.80	CFS	563	562	556	545	534	528	523	517
55.40	CFS	511	505	500	495	490	480	466	456
57.00	CFS	449	439	431	429	425	419	411	397
58.60	CFS	385	378	370	361	358	354	344	338
60.20	CFS	336	326	308	294	291	289	283	272
61.80	CFS	263	260	258	251	246	247	248	243
63.40	CFS	231	217	209	205	201	199	195	186
65.00	CFS	178	174	171	168	169	170	167	162
66.60	CFS	160	159	159	159	163	164	160	157
68.20	CFS	157	157	157	159	163	162	157	156
69.80	CFS	156	156	154	148	140	132	124	120
71.40	CFS	115	109	104	99	93	83	69	59
73.00	CFS	53.25	47.22	40.69	34.30	28.48	23.39	19.04	15.39
74.60	CFS	12.36	9.88	7.86	6.22	4.91	3.87	3.03	2.37
76.20	CFS	1.85	1.44	1.12	.87	.67	.52	.40	

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
13.15 WATERSHED INCHES; 104481 CFS-HRS; 8634.3 ACRE-FEET.

OPERATION RUNOFF XSECTION 5

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
27.00	11470.2	(RUNOFF)
32.95	1148.8	(RUNOFF)
33.95	1055.1	(RUNOFF)
35.90	851.1	(RUNOFF)
37.13	424.7	(RUNOFF)
41.10	306.3	(RUNOFF)
42.46	306.5	(RUNOFF)
43.79	306.5	(RUNOFF)
45.35	277.2	(RUNOFF)
46.60	277.3	(RUNOFF)

HYDROGRAPH POINTS FOR ALTERNATE = 1, STORM = 7
MAIN TIME INCREMENT = .200 hr, DRAINAGE AREA = 4.78 SQ.MI.

HRS								
9.80 CFS	.17	.88	2.64	5.48	8.88	12.34	15.87	19.61
11.40 CFS	23.07	25.98	28.79	32.15	35.85	39.03	41.43	43.75
13.00 CFS	46.94	50.62	53.59	55.52	57.42	60.45	64.54	69.10
14.60 CFS	73.78	78.50	82.82	86.04	88.94	91.63	93.34	94.60
16.20 CFS	97	101	105	108	109	112	120	133
17.80 CFS	142	146	152	164	178	186	189	194
19.40 CFS	207	223	235	239	244	259	277	288
21.00 CFS	294	305	329	361	384	391	397	413
22.60 CFS	435	452	459	470	490	512	525	534
24.20 CFS	623	905	1277	1520	1577	1689	2044	2490
25.80 CFS	2775	2885	3634	5974	9027	11023	11470	11007
27.40 CFS	8865	5998	4286	4139	3998	3467	2789	2389
29.00 CFS	2351	2319	2204	2061	1978	1970	1922	1736
30.60 CFS	1497	1356	1343	1337	1315	1284	1263	1261
32.20 CFS	1250	1213	1168	1146	1149	1141	1108	1070
33.80 CFS	1053	1055	1048	1021	986	965	965	959
35.40 CFS	922	872	846	847	811	683	524	431
37.00 CFS	423	424	415	401	393	392	390	384
38.60 CFS	372	364	363	360	350	340	335	332
40.20 CFS	326	318	311	307	306	306	305	301
41.80 CFS	298	299	304	306	306	303	298	298
43.40 CFS	303	306	306	306	303	292	278	269
45.00 CFS	271	276	277	273	269	268	270	275
46.60 CFS	277	274	269	267	261	254	246	241
48.20 CFS	241	245	244	240	242	246	243	241
49.80 CFS	243	246	242	241	244	245	241	238
51.40 CFS	232	220	212	211	211	211	212	215
53.00 CFS	219	219	214	211	211	211	208	198
54.60 CFS	187	183	183	182	183	183	182	183
56.20 CFS	181	174	163	154	151	146	145	149
57.80 CFS	153	154	150	140	130	125	123	119
59.40 CFS	122	124	122	119	121	116	101	88
61.00 CFS	88.84	94.09	95.16	90.93	87.21	88.97	92.51	89.79

62.60 CFS	87.29	90.19	94.81	92.54	81.45	67.19	58.59	57.70
64.20 CFS	59.20	64.01	66.64	63.72	58.85	57.68	57.68	58.25
65.80 CFS	61.55	65.97	65.73	60.86	57.69	57.69	57.73	59.33
67.40 CFS	64.01	66.55	63.67	58.85	57.70	57.69	58.22	61.50
69.00 CFS	66.00	65.84	60.87	57.79	57.70	57.62	55.95	50.37
70.60 CFS	42.70	35.08	30.08	28.71	28.96	29.05	28.72	29.10
72.20 CFS	27.20	20.64	9.19	.81	.00			

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
13.10 WATERSHED INCHES; 40399 CFS-HRS; 3338.5 ACRE-FEET.

OPERATION RUNOFF XSECTION 7

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
27.12	8392.6	(RUNOFF)
42.60	224.5	(RUNOFF)
43.91	224.8	(RUNOFF)
45.48	201.9	(RUNOFF)
46.73	201.9	(RUNOFF)
48.62	178.6	(RUNOFF)
49.41	178.6	(RUNOFF)
50.13	178.5	(RUNOFF)
50.87	178.7	(RUNOFF)
53.23	159.9	(RUNOFF)

HYDROGRAPH POINTS FOR ALTERNATE = 1, STORM = 7
MAIN TIME INCREMENT = .200 hr, DRAINAGE AREA = 3.48 SQ.MI.

HRS								
8.80 CFS	.24	.95	2.29	4.33	6.65	9.00	11.37	13.93
10.40 CFS	16.73	19.73	22.74	25.72	28.67	31.47	33.95	36.07
12.00 CFS	38.28	41.00	43.70	45.92	47.72	49.59	52.14	54.64
13.60 CFS	56.59	58.06	59.73	62.40	65.81	69.63	73.54	77.11
15.20 CFS	80.23	82.71	84.69	86.26	87.33	88.70	90.88	93.63
16.80 CFS	96	98	99	104	111	120	126	131
18.40 CFS	138	147	156	161	165	171	181	192
20.00 CFS	200	205	212	222	233	242	249	262
21.60 CFS	281	301	316	322	330	342	356	367
23.20 CFS	374	385	399	412	421	463	591	813
24.80 CFS	1044	1197	1285	1448	1698	1953	2149	2524
26.40 CFS	3559	5276	7060	8232	8309	7435	5884	4292
28.00 CFS	3293	2991	2765	2398	2026	1783	1719	1673
29.60 CFS	1591	1509	1459	1428	1348	1221	1092	1007
31.20 CFS	986	976	959	941	930	922	906	882
32.80 CFS	858	845	839	827	806	786	775	771
34.40 CFS	761	742	722	711	705	691	666	640
36.00 CFS	624	606	554	464	373	321	310	308
37.60 CFS	301	294	288	287	284	278	272	268
39.20 CFS	265	261	255	249	245	242	237	232
40.80 CFS	228	225	225	224	223	220	220	221
42.40 CFS	223	224	223	221	220	220	223	225
44.00 CFS	225	223	218	211	203	199	200	202

45.60 CFS	202	200	197	198	200	202	202	200
47.20 CFS	197	194	190	184	180	178	178	179
48.80 CFS	178	178	178	179	178	178	178	178
50.40 CFS	178	178	179	178	176	172	167	161
52.00 CFS	156	155	155	155	156	159	160	159
53.60 CFS	157	155	155	153	149	143	137	134
55.20 CFS	134	134	134	134	134	133	130	124
56.80 CFS	118	113	109	108	108	110	112	111
58.40 CFS	107	101	95	91	89	89	89	90
60.00 CFS	89.06	88.07	85.84	80.03	71.88	66.46	66.43	68.48
61.60 CFS	68.33	66.16	65.30	65.78	66.19	65.53	65.34	66.92
63.20 CFS	68.11	64.03	56.32	48.50	43.31	42.97	44.89	46.96
64.80 CFS	47.39	45.74	43.20	42.27	42.48	43.85	46.20	47.42
66.40 CFS	46.73	44.40	42.46	42.33	43.03	44.98	47.00	47.28
68.00 CFS	45.63	43.22	42.31	42.54	43.90	46.13	47.33	46.71
69.60 CFS	44.40	42.49	42.21	41.55	39.07	35.00	29.68	24.77
71.20 CFS	22.38	21.11	21.09	21.33	20.80	20.64	17.41	11.87
72.80 CFS	5.89	1.17	.00					

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
13.52 WATERSHED INCHES; 30362 CFS-HRS; 2509.1 ACRE-FEET.

OPERATION ADDHYD XSECTION 75

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
27.06	19796.8	(NULL)
42.53	530.7	(NULL)
43.89	531.3	(NULL)
45.39	478.8	(NULL)
46.63	478.9	(NULL)
48.48	423.6	(NULL)
49.23	423.9	(NULL)
49.99	424.1	(NULL)
50.76	424.0	(NULL)
53.13	379.5	(NULL)

HYDROGRAPH POINTS FOR ALTERNATE = 1, STORM = 7
MAIN TIME INCREMENT = .200 hr, DRAINAGE AREA = 8.26 SQ.MI.

HRS								
8.80 CFS	.24	.95	2.29	4.33	6.66	9.17	12.25	16.57
10.40 CFS	22.21	28.61	35.07	41.59	48.28	54.54	59.93	64.86
12.00 CFS	70	77	83	87	91	97	103	108
13.60 CFS	112	115	120	127	135	143	152	160
15.20 CFS	166	172	176	180	182	186	192	199
16.80 CFS	204	207	211	224	244	262	273	283
18.40 CFS	302	325	342	350	359	378	404	427
20.00 CFS	439	449	471	499	522	536	553	591
21.60 CFS	642	685	706	719	743	777	808	826
23.20 CFS	844	876	911	937	955	1087	1496	2090
24.80 CFS	2564	2774	2975	3492	4188	4728	5034	6158
26.40 CFS	9533	14303	18083	19702	19317	16300	11881	8578

28.00 CFS	7432	6988	6231	5187	4415	4134	4038	3877
29.60 CFS	3652	3487	3429	3350	3084	2718	2448	2350
31.20 CFS	2323	2291	2243	2205	2190	2172	2119	2049
32.80 CFS	2004	1994	1981	1936	1876	1839	1830	1819
34.40 CFS	1782	1728	1687	1675	1664	1613	1538	1486
36.00 CFS	1471	1416	1238	989	804	744	734	723
37.60 CFS	703	686	680	677	668	651	636	631
39.20 CFS	625	611	594	584	577	567	555	542
40.80 CFS	534	531	531	529	524	518	519	525
42.40 CFS	530	530	526	519	518	524	529	531
44.00 CFS	531	526	510	489	473	470	476	479
45.60 CFS	475	468	466	467	474	479	476	470
47.20 CFS	464	455	443	430	421	419	423	423
48.80 CFS	419	420	424	422	419	421	424	421
50.40 CFS	419	422	424	420	415	404	387	373
52.00 CFS	367	366	366	367	371	378	379	374
53.60 CFS	368	366	366	361	347	330	320	317
55.20 CFS	316	316	316	316	316	314	304	287
56.80 CFS	273	264	256	253	257	263	266	261
58.40 CFS	247	230	220	213	208	210	213	211
60.00 CFS	208	209	201	181	160	155	161	164
61.60 CFS	159	153	154	158	156	153	156	162
63.20 CFS	161	145	124	107	101	102	109	114
64.80 CFS	111	105	101	100	101	105	112	113
66.40 CFS	108	102	100	100	102	109	114	111
68.00 CFS	104	101	100	101	105	112	113	108
69.60 CFS	102	100	100	97	89	78	65	55
71.20 CFS	51.09	50.07	50.14	50.05	49.90	47.84	38.06	21.05
72.80 CFS	6.70	1.17	.00					

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
13.27 WATERSHED INCHES; 70760 CFS-HRS; 5847.6 ACRE-FEET.

OPERATION ADDHYD (XSECTION 76) gnflow

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
27.12	32763.8	(NULL)
42.29	1343.9	(NULL)
43.78	1326.6	(NULL)
45.23	1232.4	(NULL)
46.56	1204.1	(NULL)
48.34	1095.7	(NULL)
49.15	1077.2	(NULL)
49.95	1066.8	(NULL)
50.71	1061.7	(NULL)
53.03	958.3	(NULL)

HYDROGRAPH POINTS FOR ALTERNATE = 1, STORM = 7
HRS MAIN TIME INCREMENT = .200 hr, DRAINAGE AREA = 20.57 SQ.MI.

7.40 CFS	.46	1.40	3.10	5.61	8.86	12.86	17.52	22.81

9.00 CFS	29	37	45	54	64	75	87	101
10.60 CFS	116	132	148	166	183	199	214	230
12.20 CFS	247	263	276	289	304	319	333	344
13.80 CFS	355	368	384	401	418	437	455	471
15.40 CFS	486	501	513	524	537	553	567	580
17.00 CFS	589	601	627	663	694	716	742	784
18.60 CFS	831	867	892	924	970	1027	1075	1108
20.20 CFS	1141	1196	1258	1308	1347	1395	1476	1577
21.80 CFS	1660	1713	1761	1831	1915	1987	2041	2098
23.40 CFS	2177	2260	2322	2372	2615	3334	4308	5047
25.00 CFS	5448	5972	7055	8397	9441	10163	12368	18311
26.60 CFS	24627	29682	32309	32521	30010	25831	22722	21367
28.20 CFS	20505	19377	18053	16970	16128	15406	14323	13222
29.80 CFS	12323	11657	10995	10088	9105	8368	7925	7573
31.40 CFS	7226	6888	6608	6398	6202	5971	5742	5578
33.00 CFS	5477	5372	5223	5067	4960	4901	4832	4721
34.60 CFS	4594	4499	4451	4395	4271	4118	4014	3963
36.20 CFS	3833	3492	3059	2751	2613	2515	2399	2274
37.80 CFS	2167	2084	2013	1939	1862	1800	1757	1716
39.40 CFS	1665	1616	1581	1552	1519	1484	1450	1425
41.00 CFS	1408	1395	1382	1362	1344	1340	1344	1343
42.60 CFS	1339	1328	1314	1312	1320	1326	1327	1326
44.20 CFS	1318	1291	1256	1232	1227	1232	1230	1216
45.80 CFS	1201	1194	1193	1201	1204	1195	1183	1174
47.40 CFS	1158	1138	1116	1098	1093	1095	1087	1075
49.00 CFS	1074	1077	1068	1060	1064	1066	1057	1054
50.60 CFS	1060	1061	1052	1044	1027	998	976	966
52.20 CFS	960	954	950	952	958	955	942	933
53.80 CFS	930	927	918	891	864	848	839	833
55.40 CFS	827	821	817	812	804	785	754	729
57.00 CFS	713	694	684	686	688	684	672	644
58.60 CFS	616	598	584	569	568	567	556	546
60.20 CFS	545	527	488	455	447	450	446	431
61.80 CFS	416	415	417	407	399	402	410	404
63.40 CFS	377	341	316	306	303	308	308	297
65.00 CFS	283	275	271	269	274	282	281	270
66.60 CFS	262	259	259	261	272	278	271	261
68.20 CFS	258	257	258	265	275	275	265	258
69.80 CFS	257	256	252	237	218	196	179	171
71.40 CFS	165	159	154	149	141	121	90	65
73.00 CFS	54.41	47.22	40.69	34.30	28.48	23.39	19.04	15.39
74.60 CFS	12.36	9.88	7.86	6.22	4.91	3.87	3.03	2.37
76.20 CFS	1.85	1.44	1.12	.87	.67	.52	.40	

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
13.20 WATERSHED INCHES; 175222 CFS-HRS; 14480.4 ACRE-FEET.

--- XSECTION 76, ALTERNATE 1, STORM 7, HYDROGRAPH ADDED TO READHD FILE ---

*** MESSAGE - STRUCTURE 1, USER ENTERED STARTING ELEVATION (1201.4 FEET) CAN ADD .705 INCHES OF RUNOFF TO THE OUTFLOW HYDROGRAPH VOLUME.***

*** MESSAGE - RESERVOIR ROUTING, STRUCTURE 1, TRUNCATED AT 400 POINTS WITH 3135.18 AC-FT (.24 WATERSHED INCHES) FLOOD STORAGE REMAINING IN RESERVOIR AT ELEV. 1211.73. ***

OPERATION RESVOR STRUCTURE 1 outflow Hydrographs for 72-hr General

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
6.40	36.2	1201.42
27.72	24182.6	1215.99
69.19	272.9	1212.07

HYDROGRAPH POINTS FOR ALTERNATE = 1, STORM = 7
MAIN TIME INCREMENT = .200 hr, DRAINAGE AREA = 20.57 SQ.MI.

HRS								
6.40 CFS	36.21	36.19	36.17	36.15	36.13	36.11	36.09	36.07
8.00 CFS	36.05	36.03	36.02	36.01	36.00	35.99	35.99	35.99
9.60 CFS	36.00	36.01	36.03	36.06	36.09	36.13	36.18	36.24
11.20 CFS	36.31	36.39	36.48	36.57	36.68	36.80	36.92	37.05
12.80 CFS	37.19	37.34	37.50	37.66	37.83	38.01	38.20	38.39
14.40 CFS	38.59	38.78	38.96	39.15	39.35	39.55	39.76	39.98
16.00 CFS	40.20	40.43	40.67	40.91	41.16	41.41	41.67	41.93
17.60 CFS	42.22	42.51	42.82	43.14	43.48	43.83	44.21	44.60
19.20 CFS	45.00	45.42	45.86	46.33	46.82	47.32	47.84	48.30
20.80 CFS	48.75	49.22	49.70	50.21	50.75	51.32	51.91	52.53
22.40 CFS	53.16	53.83	54.52	55.23	55.97	56.73	57.46	58.22
24.00 CFS	58.99	59.81	60.79	62.06	63.62	65.37	67.24	69.32
25.60 CFS	72	75	78	80	84	1534	6299	12684
27.20 CFS	18411	22351	24058	24125	23487	22705	21858	20895
28.80 CFS	19858	18844	17901	16970	15990	15058	14213	13417
30.40 CFS	12624	11790	10948	10176	9507	8926	8411	8002
32.00 CFS	7663	7355	7068	6794	6537	6309	6109	5925
33.60 CFS	5749	5582	5435	5306	5186	5067	4949	4842
35.20 CFS	4747	4653	4550	4440	4338	4239	4108	3920
36.80 CFS	3690	3462	3259	3078	2910	2754	2646	2575
38.40 CFS	2504	2432	2360	2291	2225	2161	2099	2039
40.00 CFS	1983	1929	1878	1829	1783	1739	1699	1662
41.60 CFS	1627	1594	1564	1538	1515	1494	1475	1456
43.20 CFS	1439	1425	1413	1402	1393	1385	1375	1363
44.80 CFS	1349	1335	1322	1311	1301	1290	1279	1269
46.40 CFS	1260	1253	1247	1240	1233	1225	1216	1205
48.00 CFS	1193	1182	1171	1162	1152	1143	1135	1127
49.60 CFS	1120	1113	1107	1102	1096	1092	1088	1084
51.20 CFS	1080	1075	1067	1058	1047	1037	1028	1019
52.80 CFS	1011	1004	998	992	986	979	973	967
54.40 CFS	960	950	939	927	916	906	896	887
56.00 CFS	879	870	861	850	837	823	809	795
57.60 CFS	782	770	760	750	739	726	712	698

59.20 CFS	683	670	657	646	635	624	613	601
60.80 CFS	585	569	555	542	530	517	505	494
62.40 CFS	485	475	466	459	453	445	435	422
64.00 CFS	409	396	386	376	368	358	349	340
65.60 CFS	331	324	319	314	310	304	299	294
67.20 CFS	290	287	286	285	282	280	277	275
68.80 CFS	273	273	273	273	271	270	268	266
70.40 CFS	264	259	253	245	237	229	221	213
72.00 CFS	206	198	190	180	168	155	143	131
73.60 CFS	120	109	99	90	86	86	86	86
75.20 CFS	85.87	85.85	85.83	85.81	85.79	85.77	85.75	85.73
76.80 CFS	85.71	85.69	85.67	85.65	85.63	85.61	85.59	85.57
78.40 CFS	85.55	85.53	85.51	85.49	85.47	85.45	85.43	85.41
80.00 CFS	85.39	85.37	85.35	85.33	85.31	85.29	85.27	85.25
81.60 CFS	85.23	85.21	85.19	85.17	85.15	85.13	85.11	85.10
83.20 CFS	85.08	85.06	85.04	85.02	85.00	84.98	84.96	84.94
84.80 CFS	84.92	84.90	84.88	84.86	84.84	84.82	84.80	84.78

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
11.05 WATERSHED INCHES; 146683 CFS-HRS; 12121.9 ACRE-FEET.

--- STRUCTURE 1, ALTERNATE 1, STORM 7, HYDROGRAPH ADDED TO READHD FILE ---

EXECUTIVE CONTROL ENDCMP COMPUTATIONS COMPLETED FOR PASS 1

SUMMARY TABLE 1

SELECTED RESULTS OF STANDARD AND EXECUTIVE CONTROL IN ORDER PERFORMED.
A CHARACTER FOLLOWING THE PEAK DISCHARGE TIME AND RATE (CFS) INDICATES:
F-FLAT TOP HYDROGRAPH T-TRUNCATED HYDROGRAPH R-RISING TRUNCATED HYDROGRAPH

RAINFALL OF 15.80 inches AND 72.00 hr DURATION, BEGINS AT .0 hrs.
RAINTABLE NUMBER 7, ARC 2
MAIN TIME INCREMENT .200 HOURS

ALTERNATE 1 STORM 7

XSECTION/ STRUCTURE ID	STANDARD CONTROL OPERATION	DRAINAGE AREA (SQ MI)	RUNOFF AMOUNT (IN)	PEAK DISCHARGE ELEVATION (FT)	TIME (HR)	RATE (CFS)	RATE (CSM)
XSECTION 1	RUNOFF	2.46	14.29	---	27.01	6291	2557.3
XSECTION 5	REACH	2.46	14.29	6.72	27.54	4816	1957.7
XSECTION 10	REACH	2.46	14.29	7.95	28.12	3932	1598.4
XSECTION 2	RUNOFF	2.38	13.26	---	26.97	5805	2439.1
XSECTION 12	ADDHYD	4.84	13.78	---	27.15	7759	1603.1
XSECTION 12	DIVERT	4.84	12.16	---	26.40F	4100F	847.1
XSECTION 200	DIVERT	.00	12.16	---	27.15	3659	********
XSECTION 20	REACH	4.84	12.16	7.94	26.40F	4100F	847.1
XSECTION 25	REACH	4.84	12.16	5.03	26.40F	4100F	847.1
XSECTION 3	RUNOFF	3.94	14.29	---	27.03	10041	2548.5
XSECTION 30	REACH	3.94	14.30	5.34	27.78	7435	1887.1
XSECTION 5	REACH	3.94	14.30	7.27	28.39	6138	1557.9
XSECTION 25	REACH	3.94	14.30	6.30	28.39	6138	1557.9
XSECTION 4	RUNOFF	2.06	12.87	---	27.01	4862	2360.2
XSECTION 34	ADDHYD	6.00	13.81	---	28.25	7763	1293.8
XSECTION 35	ADDHYD	10.84	13.07	---	28.25	11863	1094.4
XSECTION 35	DIVERT	10.84	12.99	---	27.00F	11000F	1014.8
XSECTION 199	DIVERT	.00	12.99	---	28.25	863	********
XSECTION 45	REACH	10.84	12.99	8.46	27.00F	11000F	1014.8
XSECTION 6	RUNOFF	1.47	14.39	---	26.91	3876	2636.7
XSECTION 60	REACH	1.47	14.36	6.57	27.40	3596	2446.3
XSECTION 67	REACH	1.47	14.37	6.05	27.76	3221	2191.2
XSECTION 64	ADDHYD	12.31	13.15	---	27.80	14144	1149.0
XSECTION 5	RUNOFF	4.78	13.10	---	27.00	11470	2399.6
XSECTION 7	RUNOFF	3.48	13.52	---	27.12	8393	2411.8
XSECTION 75	ADDHYD	8.26	13.27	---	27.06	19797	2396.7
XSECTION 76	ADDHYD	20.57	13.20	---	27.12	32764	1592.8
STRUCTURE 1	RESVOR	20.57	11.05	1215.99	27.72	24183	1175.6

SUMMARY TABLE 2

MODIFIED ATT-KIN REACH ROUTING IN ORDER PERFORMED.
QUESTION MARK (?) AFTER: OUTFLOW PEAK - MAX. NUMBER ROUTING ITERATIONS USED;
LENGTH FACTOR - VALUE k* GREATER THAN 1.0;
ATT-KIN COEFF - VALUE C GREATER THAN 0.667.

			HYDROGRAPH INFORMATION				ROUTING PARAMETERS				
		FLOOD	INFLOW		OUTFLOW		Q-A EQ.			PEAK	ATT-
XSEC ID	REACH LENGTH (FT)	PLAIN LENGTH (FT)	PEAK (CFS)	TIME (HR)	PEAK (CFS)	TIME (HR)	COEFF (X)	POWER (M)	LENGTH FACTOR (k*)	RATIO Q/I (Q*)	KIN COEFF (C)

BASEFLOW IS .0 CFS

ALTERNATE 1 STORM 7

5	9100	6290	27.0	4800	27.6	1.95	1.08	.175	.763	.26
10	9100	4800	27.6	3922	28.2	2.17	1.07	.126	.817	.27
20	3332	4100	26.4	4100	26.4	.14	1.63	.001	1.000	1.00?
25	1950	4100	26.4	4100	26.4	.052	1.73	.000	1.000	1.00?
30	8865	10029	27.0	7433	27.8	1.57	1.08	.193	.741	.24
5	8865	7433	27.8	6138	28.4	1.91	1.08	.119	.826	.27
25	1950	6138	28.4	6138	28.4	.056	1.72	.001	1.000	1.00?
45	4200	11000	27.0	11000	27.0	.049	1.72	.001	1.000	1.00?
60	7540	3805	27.0	3596	27.4	.48	1.36	.054	.945	.49
67	5140	3596	27.4	3214	27.8	1.59	1.11	.085	.894	.42

SUMMARY TABLE 3

STORM DISCHARGES (CFS) AT XSECTIONS AND STRUCTURES FOR ALL ALTERNATES
QUESTION MARK (?) AFTER: OUTFLOW PEAK - RISING TRUNCATED HYDROGRAPH.

XSECTION/ STRUCTURE ID	DRAINAGE AREA (SQ MI)	STORM NUMBERS..... 7
STRUCTURE 1	20.57	
ALTERNATE 1		24183
XSECTION 1	2.46	
ALTERNATE 1		6291
XSECTION 2	2.38	
ALTERNATE 1		5805
XSECTION 3	3.94	
ALTERNATE 1		10041
XSECTION 4	2.06	
ALTERNATE 1		4862
XSECTION 5	4.78	
ALTERNATE 1		11470
XSECTION 6	1.47	
ALTERNATE 1		3876
XSECTION 7	3.48	
ALTERNATE 1		8393
XSECTION 10	2.46	
ALTERNATE 1		3932
XSECTION 12	4.84	
ALTERNATE 1		4100
XSECTION 20	4.84	
ALTERNATE 1		4100
XSECTION 25	3.94	
ALTERNATE 1		6138
XSECTION 30	3.94	
ALTERNATE 1		7435
XSECTION 34	6.00	

SUMMARY TABLE 3

STORM DISCHARGES (CFS) AT XSECTIONS AND STRUCTURES FOR ALL ALTERNATES
QUESTION MARK (?) AFTER: OUTFLOW PEAK - RISING TRUNCATED HYDROGRAPH.

XSECTION/ STRUCTURE ID	DRAINAGE AREA (SQ MI)	STORM NUMBERS..... 7
XSECTION 34	6.00	
ALTERNATE 1		7763
XSECTION 35	10.84	
ALTERNATE 1		11000
XSECTION 45	10.84	
ALTERNATE 1		11000
XSECTION 60	1.47	
ALTERNATE 1		3596
XSECTION 64	12.31	
ALTERNATE 1		14144
XSECTION 67	1.47	
ALTERNATE 1		3221
XSECTION 75	8.26	
ALTERNATE 1		19797
XSECTION 76	20.57	
ALTERNATE 1		32764
XSECTION 199	.00	
ALTERNATE 1		863
XSECTION 200	.00	
ALTERNATE 1		3659

ECON2 DATA FILE

```
ECON2
TITLE        WHITE TANK FRS #3, WATERSHED DIVIDED INTO 7 SUB-BASINS
TITLE        72-HR PMP (MTI=.2), RESERVOIR INIT EMPTY W/100-YR SED
FLOW-FREQ    -1         24183.                                        ALT  1   1
FLOW-FREQ     1          6291.                                        ALT  1   2
FLOW-FREQ     2          5805.                                        ALT  1   3
FLOW-FREQ     3         10041.                                        ALT  1   4
FLOW-FREQ     4          4862.                                        ALT  1   5
FLOW-FREQ     5         11470.                                        ALT  1   6
FLOW-FREQ     6          3876.                                        ALT  1   7
FLOW-FREQ     7          8393.                                        ALT  1   8
FLOW-FREQ    10          3932.                                        ALT  1   9
FLOW-FREQ    12          4100.                                        ALT  1  10
FLOW-FREQ    20          4100.                                        ALT  1  11
FLOW-FREQ    25          6138.                                        ALT  1  12
FLOW-FREQ    30          7435.                                        ALT  1  13
FLOW-FREQ    34          7763.                                        ALT  1  14
FLOW-FREQ    35         11000.                                        ALT  1  15
FLOW-FREQ    45         11000.                                        ALT  1  16
FLOW-FREQ    60          3596.                                        ALT  1  17
FLOW-FREQ    64         14144.                                        ALT  1  18
FLOW-FREQ    67          3221.                                        ALT  1  19
FLOW-FREQ    75         19797.                                        ALT  1  20
FLOW-FREQ    76         32764.                                        ALT  1  21
FLOW-FREQ   199           863.                                        ALT  1  22
FLOW-FREQ   200          3659.                                        ALT  1  23
```

```
TR20 ------------------------------------------------------------------------ SCS -
WT3PMP72     WHITE TANK FRS #3, WATERSHED DIVIDED INTO 7 SUB-BASINS      VERSION
07/21/**     72-HR PMP (MTI=.2), RESERVOIR INIT EMPTY W/100-YR SED      2.04TEST


END OF  1 JOBS IN THIS RUN


                    SCS  TR-20,  VERSION 2.04TEST
                         WT3PMP72  FILES

     INPUT  = WT3PMP72.DAT                          , GIVEN DATA FILE
     OUTPUT = 72OUT.OUT                             , DATED 07/21/**,17:31:00

              FILES GENERATED - DATED 07/21/**,17:31:00

    FILE 72OUT.TEC CONTAINS ECON2 INFORMATION

    FILE 72OUT.TRD CONTAINS READHD INFORMATION


          TOTAL NUMBER OF WARNINGS =   4,  MESSAGES =   2

                     JOB ENDED AT 17:31:00
                  *** TR-20 RUN COMPLETED ***
```