Appendix E
Hydrology Study

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CONSULTING

PLANNING ■ DESIGN ■ CONSTRUCTION

Hydrology Study

Heritage Fields Project 2012 - General Plan Amendment and Zone Change

Prepared For:

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Great Park Neighborhoods

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June 15, 2012

JN 10-105001

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1. Introduction

This study analyzes the Heritage Fields Project 2012 - General Plan Amendment and Zone Change (the "2012 Modified Project"), more specifically the Average Ap (average perviousness) factor, peak discharge amount, and drainage boundaries were compared to the 2011 Approved Project. As part of the 2011 SEIR, the County of Orange and the City approved, the *Amendment to PA 51 and PA 30 Watershed Update: Bee Canyon Channel, Agua Chinon Channel, Borrego Canyon Channel, Serrano Creek Channel, and Upper San Diego Creek*, dated July 26, 2011 and the *Amendment to Planning Area 51 Marshburn Watershed Update,* dated August 4, 2011 (the "Master Plans").

The watersheds analyzed in this study include: Agua Chinon Channel (County of Orange Flood Control Facility number -F18), Borrego Canyon Channel (F20), Serrano Creek Channel (F19), and Upper San Diego Creek (F05).

1.1 Background/Purpose

In September 2011 Heritage Fields El Toro, LLC ("Heritage Fields") and the City of Irvine (the "City") completed an *Amendment to PA 51 and PA 30 Watershed Update* approved by the Orange County Public Works Department.

Heritage Fields will be developing the Great Park Neighborhoods, which consists of separate districts surrounding the Orange County Great Park. District 1 North, 1 South, District 2, 3 and 6 formerly the Transit Oriented Development District (TOD), District 4, District 5 include residential, commercial, and mixed land uses. The OCGP, City of Irvine and the County of Orange make up the remainder of the proposed redevelopment. Figure 1 shows the approximate locations of the different development areas and the Proposed Project Site.

The Master Plan established the drainage patterns of the 2011 Approved Project. The Master Plan set the design discharges at various points along the storm drain facilities and studied affects in downstream systems, such as San Diego Creek (F05).

This report shows that the changes proposed in the 2012 Modified Project comply with the Master Plans. There are portions of the 2012 Modified Project that do not impact hydrology. The combining of the portion of the project formerly known as PA 30 to be part of one Planning Area (Combined Planning Area 51) and the revisions to the County Master Plan of Arterial Highways do not require a hydrology study. The addition of the 11 acre of TCA property to PA 51 is consistent with and was analyzed for the approved Master Plans for the Approved Project. In addition, the land uses within District 1 for the “Main Street” options are both consistent with the in the Master Plan. The Wildlife Corridor analyzed as part of the 2011 Approved Project and the Wildlife Corridor proposed as part of the 2012 Modified Project are within the same watershed (Borrego Channel), and would have the same acreage. Therefore, the Wildlife Corridor in the 2012 Modified Project is consistent with the drainage patterns as approved in the Master

Plans. Lastly, implementation of the recreational facilities in the Great Park are consistent with the Master Plans and do not impact hydrology.

Therefore, this study focuses primarily on the changes to land use intensities as proposed by the 2012 Modified Project, including potential Density Bonus Units, (i.e. up to 4,606 dwelling units) and the inclusion of a 2600 student High School was analyzed as part of the 2012 Modified Project (See figure 3.2)

In order to compare the 2012 Modified Project to the 2011 Approved Project, several nodes (from the Master Plans) were chosen that demonstrate key discharge points along each of the watersheds. These nodes, at the downstream project boundary, demonstrate the extent of those changes. Table 1-1 describes the nodes which are to be compared for this Hydrology Study.

Table 1-1: Hydrologic Nodes

Master Plan Node	Tributary Watershed	Location
CP3B	Agua Chinon Channel (F18)	OCTA/Metrolink Railway and Agua Chinon Channel
CP4B	Borrego Canyon Channel (F20)	Upstream of Confluence with Agua Chinon Channel
421	Agua Chinon Channel (F18)	Agua Chinon/Borrego Channel Confluence

2. Hydrology Methodology

There are two methods of hydrologic calculations that are used to determine the design discharges in the regional facilities at the nodes listed in Table 1-1 for all master plan modeling. The "rational" method is used to calculate the design discharge for the local drainage areas when the tributary watershed area is less than one square mile (640 acres), whereas the unit hydrograph method is used when the tributary watershed area is in excess of 640 acres. All watersheds being studied within this report have drainage areas larger than 640 acres. Flow rate values to be compared were derived using unit hydrographs in accordance with the current Orange County Hydrology Manual, dated October, 1986. Hydrologic calculations were done using the 2004 Advanced Engineering Software (AES).

3. Refinements to Watershed Hydrology

The 2012 Modified Project proposes a change from non-residential land uses to residential land uses primarily within the area of District 5 and District 6 (tributary to Agua Chinon and Borrego Channel) when compared to the Master Plans. The areas that are south of the Railway (District 2 and 3) are consistent with the land use intensities approved in the Master Plans. At this time, site planning and tentative maps for these areas are not being processed for the 2012 Modified Project and would not require an update to this study. Therefore; the watershed boundaries and drainage patterns are the same as the 2011 Approved Project (See figure 3.1).

3.1 Watershed Boundary Update

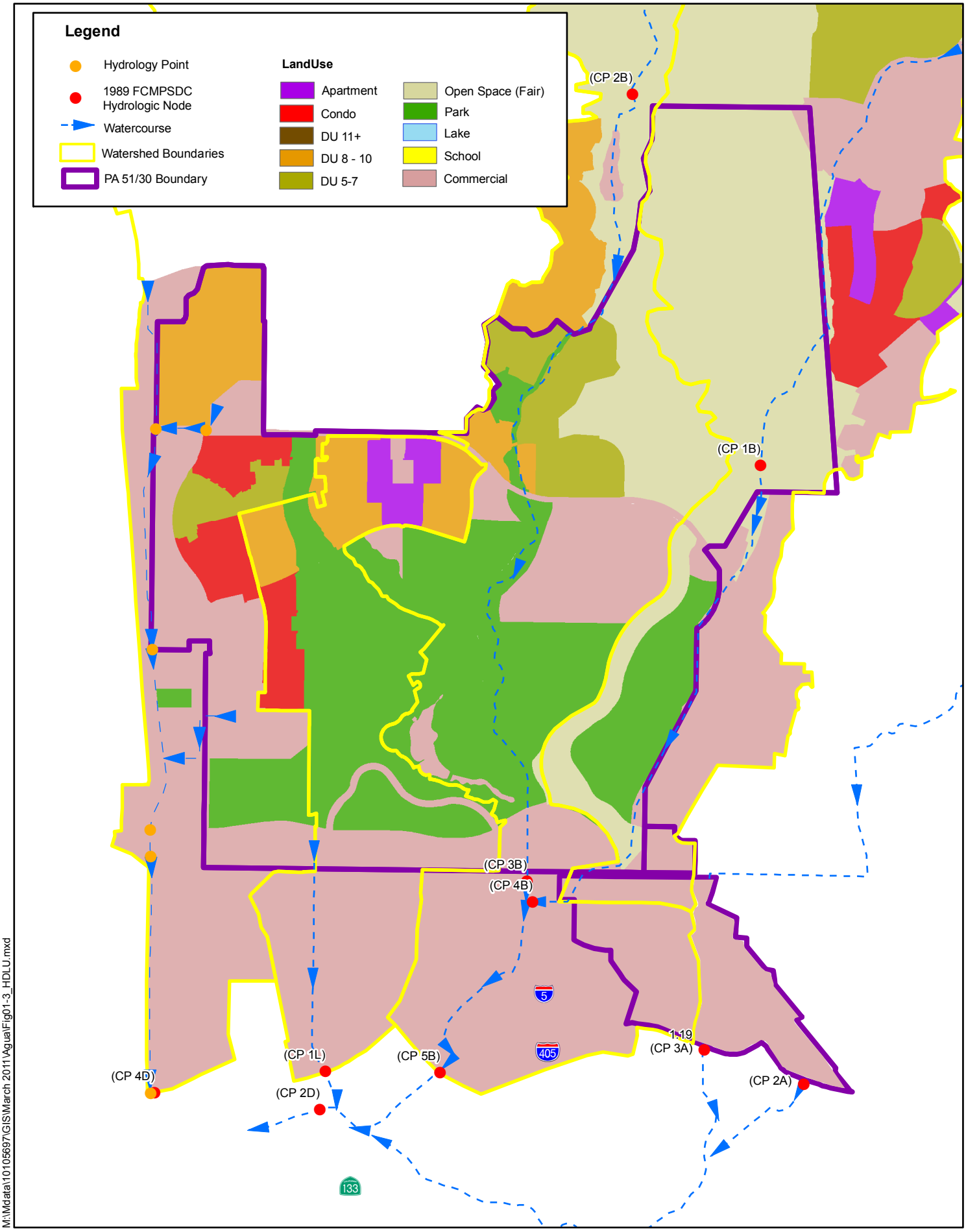
Tributary areas to Agua Chinon Channel, Borrego Creek Channel, Serrano Creek Channel and Upper San Diego Creek are still consistent with the Master Plans for the 2011 Approved Project. The watershed boundaries from the 2011 Approved Project were used for this analysis. See Figure 3.1

3.2 Conveyance Update

Tentative map level hydrology maps for Districts 2,3,5 and 6 are not being processed as part of the 2012 Modified Project and would not require an update to this study. The proposed drainage patterns are still consistent when compared with the Master Plans for the 2011 Approved Project. The drainage patterns from the 2011 Approved Project were, therefore, used for this analysis.

3.3 Land Use

Land uses for the 2012 Modified Project were adjusted from what was reflected in the Master Plans (See figure 1.3). For this analysis, subareas from the detailed hydrology in the Master Plan were assigned a land use based on the 2012 Modified Project. From this land use an average pervious area (Ap) was used for each of the subareas (See figure 3.2). This generalized breakdown allows for a land use representation that is more suitable for a regional hydrology analysis, while still accurately reflecting the 2012 Modified Project.



M:\Mdata\10105697\GIS\March 2011\AguaFig01-3_HDLU.mxd

RBF CONSULTING GIS

0 3,000 6,000 Feet

PA 51 and PA 30

Flood Control Master Plan Update

2011 Approved Master Plan Land Use Plan

Figure 1-3

TTM 17364
(DISTRICT 8)

MARSHBURN
BASIN

IRVINE BLVD

TTM 17202
(DISTRICT 7)

TTM 17366
(DISTRICT 4)

MARSHBURN WATERSHED

MARSHBURN CHANNEL

SR 133

TTM 17283
(DISTRICT 1 NORTH)

(DISTRICT 5)

AGUA CHINON WATERSHED

AGUA CHINON CHANNEL

TRABUCO RD

PA 40

TTM 17368
(DISTRICT 1 SOUTH)

BEE CANYON WATERSHED

BORREGO WATERSHED

BEE CANYON CHANNEL

OCGP

(DISTRICT 6)

BORREGO CHANNEL

MARINE WAY

NODE CP 3B
MPD Q=2194 cfs
REVISED Q=2184 cfs

(DISTRICT 6)

OCTA / METROLINK

(DISTRICT 6)

NODE 421
MPD Q=6477 cfs
REVISED Q=6506 cfs

NODE CP 4B
MPD Q=4521 cfs
REVISED Q=4559 cfs

(DISTRICT 3)

(DISTRICT 2)

I-5

I-5

LEGEND

- APPROVED 2011 MASTER PLAN / 2012 MODIFIED PROJECT DRAIANGE BOUNDARY
- PROJECT BOUNDARY

SCALE: 1"=800'

800 400 0 800 1600 2400

SCALE: 1"=800'

FIGURE 3.1
Heritage Fields 2012- GPA/ZC
Watershed Boundary Map

Heritage Fields El Toro, LLC
Great Park NEIGHBORHOODS

RBF CONSULTING

May 21, 2012

H:\PDATA\10105001\ADMIN\REPORTS\SSEIR_2012\FIGURE 3.1-WATERSHED_BOUNDARY.DWG JLEONARD 5/21/12 2:23 pm

TTM 17364
(DISTRICT 8)

MARSHBURN BASIN

IRVINE BLVD

TTM 17202
(DISTRICT 7)

TTM 17366
(DISTRICT 4)

MARSHBURN WATERSHED

MARSHBURN CHANNEL

SR 133

TTM 17283
(DISTRICT 1 NORTH)

(DISTRICT 5)

AGUA CHINON WATERSHED

AGUA CHINON CHANNEL

TRABUCO RD

PA 40

TTM 17368
(DISTRICT 1 SOUTH)

BEE CANYON WATERSHED

BORREGO WATERSHED

BEE CANYON CHANNEL

OCGP

(DISTRICT 6)

MARINE WAY

(DISTRICT 6)

OCTA / METROLINK

(DISTRICT 6)

(DISTRICT 3)

(DISTRICT 2)

I-5

I-5

LEGEND

- APPROVED 2011 MASTER PLAN / 2012 MODIFIED PROJECT DRAIANGE BOUNDARY
- PROJECT BOUNDARY
- WATERSHED FACILITY
- 8-10 DU/AC LAND USE
- COMMERCIAL LAND USE
- CONDOMINIUM LAND USE
- OPEN SPACE LAND USE (Includes Wildlife Corridor)
- SCHOOL LAND USE

FIGURE 3.2
Heritage Fields 2012- GPA/ZC
Proposed Hydrology Land Use

Heritage Fields El Toro, LLC
Great Park NEIGHBORHOODS

UPDATED:
June 13, 2012

H:\PDATA\10105001\ADMIN\REPORTS\SSEIR_2012\FIGURE 3.2-LANDUSE-MP.DWG JLEONARD 6/14/12 9:05 am

4. Results and Summary

Since the drainage patterns and watershed boundaries of Agua Chinon Channel, Borrego Creek Channel, Serrano Creek Channel and Upper San Diego Creek watersheds are not changed by the 2012 Modified Project, the only changes to the hydrology relate to the land uses within a few of the subareas within the Proposed Project Site. For this reason, only the modified subareas of those Watersheds were analyzed and are shown on Exhibit "A" (see appendix). The results of the revised Unit Hydrograph Analysis for each node have been summarized below in Table 4.1. The updated peak discharge amounts for all watersheds are consistent with or slightly above values established in the Master Plans. The slight increase at Node 421 and CP 4B is less than 1.0 % of the overall peak discharge amount.

Table 4.1: Modified Hydrologic Node Summary

Node	Tributary Watershed	Tributary Area (Ac)		Average Ap		Peak Flow Rate, Q (cfs)		
		Master Plan		Master Plan	Revised	Master Plan	Revised	Delta
CP 3B	Agua Chinon Channel	2,969		0.770	0.608	2,194	2,184	-10
421	Agua/Borrego Confluence	7,049		0.732	0.694	6,477	6,506	+29
CP 4B	Borrego Channel	4,025		0.716	0.694	4,521	4,559	+38

4.1.1 Agua Chinon Channel

Although the change in land use resulted in a change to the pervious area (imperviousness), when compared to the entire watershed, the peak discharge amount is consistent with the values from the Master Plans. This is due to the fact that the initial area and the majority of the watershed are much further upstream of the Combined PA 51 development area. This allows the 2012 Modified Project to drain prior to the peak event arriving.

4.1.2 Borrego Channel Creek

Similar to Agua Chinon watershed, the change in land uses proposed by the 2012 Modified Project tributary to Borrego Creek Channel resulted in a change to the pervious area (imperviousness), but when compared to the entire watershed, the peak discharge amount is slightly above the values from the Master Plans. The slight increase of discharge amounts at hydrologic node CP 4B (0.8% increase) and 421 (0.4% increase) are consistent with the Master Plans.

The Wildlife Corridor was analyzed within this tributary area for the 2012 Modified Project. The drainage characteristics remain the same as the 2011 Approved Project.

4.1.3 Serrano Creek Channel

The 2012 Modified Project for this tributary area is consistent with the land use, watershed boundary and controlling flow paths in the Master Plans for the 2011 Approved Project. Therefore, there are no changes to discharge amounts at hydrologic nodes.

4.1.4 Upper San Diego Creek

Similar to Serrano Creek Channel, the 2012 Modified Project for this Upper San Diego Creek tributary area is consistent with the land use, watershed boundary and controlling flow paths in the Master Plan for the 2011 Approved Project. Therefore, there are no changes to discharge amounts at the appropriate hydrologic nodes.

APPENDIX A: Agua Chinon & Borrego Canyon Channel Watershed Hydrology

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TTM 17364
(DISTRICT 8)

MARSHBURN BASIN

IRVINE BLVD

TTM 17366
(DISTRICT 4)

TTM 17202
(DISTRICT 7)

MARSHBURN WATERSHED

MARSHBURN CHANNEL

SR 133

TTM 17283
(DISTRICT 1 NORTH)

CP2B
Q100 = 1,347 CFS
AT = 2,287 AC

AGUA CHINON WATERSHED

(DISTRICT 5)

CP1B
Q100 = 3,956 CFS
AT = 3,153 AC

Q100= 3,987 CFS
AT=3,292 AC

TRABUCO RD

PA 40

TTM 17368
(DISTRICT 1 SOUTH)

BEE CANYON WATERSHED

AGUA CHINON CHANNEL

BORREGO WATERSHED

BORREGO CHANNEL

BEE CANYON CHANNEL

OCGP

(DISTRICT 6)

MARINE WAY

OCTA / METROLINK

CP3B
Q100 = 2,194 CFS
A = 2,969 AC

CP4B
Q100 = 4,521 CFS
AT = 4,025 AC

AGUA/BORREGO
CONFLUENCE
Q100 = 6,477 CFS
AT = 7,049 AC

(DISTRICT 3)

(DISTRICT 2)

I-5

CP5B
Q100 = 6,828 CFS
AT = 7,661 AC

CP1L
Q100 = 2,297 CFS
AT = 1,183 AC

CP-2D
Q100 = 14,834 CFS
AT = 17,888 AC

LEGEND

- APPROVED 2011 MASTER PLAN / 2012 MODIFIED PROJECT DRAIANGE BOUNDARY
- PROJECT BOUNDARY
- WATERSHED FACILITY
- SUBAREA BOUNDARY

EXHIBIT A
Heritage Fields 2012- GPA/ZC Hydrology Map

Heritage Fields El Toro, LLC
Great Park NEIGHBORHOODS

May 21, 2012

H:\PDATA\10105001\ADMIN\REPORTS\SSEIR_2012\FIGURE X.DWG JLEONARD 5/21/12 2:30 pm

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

             F L O O D    R O U T I N G    A N A L Y S I S
             USING COUNTY HYDROLOGY MANUAL OF ORANGE(1986)
          (c) Copyright 1989-2004 Advanced Engineering Software (aes)
              Ver. 10.0  Release Date: 01/01/2004  License ID 1264

                          Analysis prepared by:

                              RBF Consulting
                            14725 Alton Parkway
                          Irvine, California  92618


--------------------------------------------------------------------------
  FILE NAME: G:\AES2004\BH003BCC.DAT
  TIME/DATE OF STUDY: 16:03 04/25/2012


**************************************************************************
  FLOW PROCESS FROM NODE     300.00 TO NODE     318.00 IS CODE =   1
--------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS)<<<<<
==========================================================================

      (UNIT-HYDROGRAPH ADDED TO STREAM #3)

        WATERSHED AREA =    1346.870 ACRES
        BASEFLOW =    0.000 CFS/SQUARE-MILE
        *USER ENTERED "LAG" TIME =    0.454 HOURS
        VALLEY(DEVELOPED):
                 "S"-CURVE PERCENTAGE(DECIMAL NOTATION) =  0.040
        FOOTHILL "S"-CURVE PERCENTAGE(DECIMAL NOTATION) =  0.410
        MOUNTAIN "S"-CURVE PERCENTAGE(DECIMAL NOTATION) =  0.000
        VALLEY(UNDEVELOPED)/DESERT:
                 "S"-CURVE PERCENTAGE(DECIMAL NOTATION) =  0.550
        DESERT(UNDEVELOPED) "S"-CURVE PERCENTAGE(DECIMAL NOTATION) =  0.000
        MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.236
        LOW LOSS FRACTION = 0.166
        *HYDROGRAPH MODEL #7 SPECIFIED*

        SPECIFIED PEAK  5-MINUTES RAINFALL(INCH)=  0.53
        SPECIFIED PEAK 30-MINUTES RAINFALL(INCH)=  1.11
        SPECIFIED PEAK  1-HOUR RAINFALL(INCH) =  1.48
        SPECIFIED PEAK  3-HOUR RAINFALL(INCH) =  2.68
        SPECIFIED PEAK  6-HOUR RAINFALL(INCH) =  3.43
        SPECIFIED PEAK 24-HOUR RAINFALL(INCH) =  5.74

        *USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
          5-MINUTE FACTOR = 0.867
         30-MINUTE FACTOR = 0.867
          1-HOUR FACTOR = 0.867
          3-HOUR FACTOR = 0.980
          6-HOUR FACTOR = 0.990
         24-HOUR FACTOR = 0.994

        UNIT HYDROGRAPH TIME UNIT =    1.000 MINUTES
        UNIT INTERVAL PERCENTAGE OF LAG-TIME =    3.671


        RUNOFF HYDROGRAPH LISTING LIMITS:
        MODEL TIME(HOURS) FOR BEGINNING OF RESULTS =  15.00
        MODEL TIME(HOURS) FOR END OF RESULTS =  17.00
```


UNIT HYDROGRAPH DETERMINATION

INTERVAL NUMBER	"S" GRAPH MEAN VALUES	UNIT HYDROGRAPH ORDINATES(CFS)
1	0.274	223.548
2	0.823	447.097
3	1.372	447.097
4	1.939	461.750
5	2.616	551.181
6	3.389	629.798
7	4.193	654.378
8	5.144	774.677
9	6.190	851.659
10	7.356	949.472
11	8.660	1062.413
12	9.978	1073.472
13	11.343	1111.721
14	13.002	1351.168
15	14.693	1377.426
16	16.526	1492.268
17	18.585	1677.028
18	20.831	1829.740
19	22.982	1751.525
20	25.168	1780.046
21	27.723	2081.278
22	30.324	2118.044
23	33.293	2418.166
24	36.218	2382.251
25	39.321	2527.486
26	43.637	3514.586
27	47.517	3160.638
28	50.622	2528.539
29	52.945	1891.929
30	55.077	1736.324
31	57.051	1607.623
32	58.852	1466.931
33	60.669	1479.489
34	62.194	1242.335
35	63.515	1075.673
36	64.680	948.890
37	65.901	994.339
38	67.183	1044.601
39	68.422	1008.929
40	69.245	669.701
41	70.493	1017.112
42	71.317	670.882
43	72.112	647.003
44	72.985	711.736
45	73.855	708.586
46	74.799	768.610
47	75.491	563.516
48	76.204	580.734
49	76.821	502.287
50	77.435	499.838
51	78.048	499.751
52	78.644	484.907
53	79.233	480.315
54	79.817	475.437
55	80.444	510.781

56	80.974	431.345
57	81.462	397.885
58	81.949	395.971
59	82.440	399.942
60	82.887	364.288
61	83.323	355.383
62	83.766	360.211
63	84.214	364.890
64	84.650	355.079
65	85.026	306.109
66	85.389	295.993
67	85.734	280.888
68	86.065	269.846
69	86.427	294.465
70	86.803	306.227
71	87.122	259.650
72	87.435	255.598
73	87.739	247.527
74	88.042	246.843
75	88.345	246.831
76	88.641	241.009
77	88.929	234.168
78	89.207	226.854
79	89.468	211.948
80	89.726	210.369
81	89.985	210.581
82	90.242	209.301
83	90.477	191.430
84	90.703	184.272
85	90.930	184.875
86	91.141	172.056
87	91.344	165.003
88	91.546	165.059
89	91.749	165.240
90	91.952	165.246
91	92.155	165.240
92	92.358	165.240
93	92.561	165.246
94	92.759	161.095
95	92.936	144.082
96	93.088	124.466
97	93.231	116.183
98	93.373	115.934
99	93.516	115.878
100	93.659	116.531
101	93.801	115.704
102	93.943	116.114
103	94.086	116.177
104	94.228	115.704
105	94.371	116.114
106	94.506	110.640
107	94.630	100.208
108	94.753	100.630
109	94.877	100.624
110	95.000	100.208
111	95.123	100.450
112	95.244	98.791
113	95.337	75.222
114	95.419	67.225
115	95.502	67.163
116	95.584	67.350
117	95.667	67.288
118	95.749	66.747
119	95.832	67.822

120	95.914	66.989
121	95.987	59.067
122	96.055	55.009
123	96.121	54.363
124	96.189	55.009
125	96.256	54.357
126	96.323	54.954
127	96.390	54.655
128	96.457	54.537
129	96.525	54.885
130	96.592	54.898
131	96.658	54.183
132	96.726	54.891
133	96.793	55.016
134	96.861	55.003
135	96.927	53.835
136	96.995	55.246
137	97.062	54.301
138	97.129	55.246
139	97.192	50.964
140	97.240	39.283
141	97.288	38.810
142	97.334	37.854
143	97.382	38.804
144	97.428	37.854
145	97.476	38.810
146	97.523	37.847
147	97.570	38.450
148	97.617	38.332
149	97.664	38.332
150	97.710	37.854

TOTAL SOIL-LOSS VOLUME(ACRE-FEET) = 99.3043
TOTAL STORM RUNOFF VOLUME(ACRE-FEET) = 528.4367

---

2 4 - H O U R S T O R M
R U N O F F H Y D R O G R A P H

HYDROGRAPH IN ONE-MINUTE UNIT INTERVALS(CFS)
(Notes: Time indicated is at END of Each Unit Intervals.
Peak 5-minute rainfall intensity is modeled as
a constant value for entire 5-minute period.)

TIME(HRS)	VOLUME(AF)	Q(CFS)	0. 550.0 1100.0 1650.0 2200.0
15.000	212.1882	649.79	.Q V
15.017	213.0886	653.71	.Q V
15.033	213.9945	657.70	.Q V
15.050	214.9060	661.74	. Q V
15.067	215.8231	665.80	. Q V
15.083	216.7456	669.74	. Q V
15.100	217.6736	673.70	. Q V
15.117	218.6070	677.65	. Q V
15.133	219.5459	681.62	. Q V
15.150	220.4904	685.73	. Q V
15.167	221.4407	689.93	. Q V
15.183	222.3967	694.03	. Q V
15.200	223.3584	698.18	. Q V
15.217	224.3258	702.36	. Q V
15.233	225.2991	706.60	. Q V
15.250	226.2783	710.91	. Q V
15.267	227.2635	715.26	. Q V
15.283	228.2548	719.66	. Q V
15.300	229.2522	724.12	. Q V
15.317	230.2558	728.59	. Q V
15.333	231.2656	733.14	. Q V
15.350	232.2805	736.83	. Q V
15.367	233.2993	739.66	. Q V
15.383	234.3221	742.52	. Q V
15.400	235.3488	745.39	. Q V
15.417	236.3791	747.98	. Q V
15.433	237.4126	750.31	. Q V
15.450	238.4492	752.62	. Q V
15.467	239.4886	754.55	. Q V
15.483	240.5302	756.27	. Q V
15.500	241.5739	757.71	. Q V
15.517	242.6191	758.82	. Q V
15.533	243.6660	760.03	. Q V
15.550	244.7145	761.23	. Q V
15.567	245.7635	761.58	. Q V
15.583	246.8130	761.94	. Q V
15.600	247.8625	761.94	. Q V
15.617	248.9112	761.34	. Q V
15.633	249.9585	760.31	. Q V
15.650	251.0051	759.85	. Q V
15.667	252.0513	759.53	. Q V
15.683	253.0956	758.19	. Q V
15.700	254.1383	756.99	. Q V
15.717	255.1780	754.83	. Q V
15.733	256.2155	753.19	. Q V
15.750	257.2503	751.31	. Q V
15.767	258.2774	745.67	. Q V
15.783	259.2994	741.94	. Q V
15.800	260.3206	741.42	. Q V
15.817	261.3456	744.14	. Q V

15.833	262.3761	748.16	. Q V
15.850	263.4139	753.42	. Q V
15.867	264.4609	760.11	. Q V
15.883	265.5182	767.60	. Q V
15.900	266.5887	777.20	. Q V
15.917	267.6755	788.99	. Q V
15.933	268.7817	803.13	. Q V
15.950	269.9106	819.55	. Q V
15.967	271.0820	850.46	. Q V
15.983	272.3148	895.05	. Q V
16.000	273.6129	942.36	. Q V
16.017	274.9772	990.49	. Q V
16.033	276.4189	1046.73	. QV
16.050	277.9279	1095.48	. Q.V
16.067	279.4878	1132.49	. QV
16.083	281.1069	1175.49	. .Q
16.100	282.7900	1221.94	. .VQ
16.117	284.5393	1269.98	. .V Q
16.133	286.3571	1319.76	. .V Q
16.150	288.2429	1369.06	. .V Q
16.167	290.1914	1414.61	. .V Q
16.183	292.2143	1468.67	. . V Q
16.200	294.3060	1518.54	. . V Q
16.217	296.4657	1567.98	. . V Q
16.233	298.7060	1626.40	. . V Q.
16.250	301.0338	1690.05	. . V Q
16.267	303.4238	1735.13	. . V .Q
16.283	305.8755	1779.90	. . V . Q
16.300	308.4010	1833.51	. . V . Q
16.317	310.9866	1877.20	. . V . Q
16.333	313.6404	1926.60	. . V . Q
16.350	316.3623	1976.17	. . V . Q
16.367	319.1626	2033.02	. . . V . Q
16.383	322.0822	2119.58	. . . V . Q
16.400	325.0772	2174.43	. . . V . Q.
16.417	328.0651	2169.19	. . . V . Q.
16.433	330.9916	2124.64	. . . V . Q
16.450	333.8278	2059.09	. . . V . Q
16.467	336.4771	1923.38	. . . V . Q
16.483	338.9449	1791.60	. . . V . Q
16.500	341.2770	1693.12	. . . V Q
16.517	343.5091	1620.52	. . . V Q.
16.533	345.6458	1551.19	. . . V Q .
16.550	347.6923	1485.81	. . . VQ .
16.567	349.6672	1433.76	. . . Q .
16.583	351.5760	1385.81	. . . QV .
16.600	353.4348	1349.44	. . . Q V .
16.617	355.2367	1308.22	. . . Q V .
16.633	357.0207	1295.17	. . . Q V .
16.650	358.7585	1261.68	. . . Q V .
16.667	360.4465	1225.46	. . . Q V .
16.683	362.0940	1196.11	. . .Q V .
16.700	363.7296	1187.44	. . .Q V .
16.717	365.3331	1164.12	. . .Q V .
16.733	366.9157	1148.96	. . Q V .
16.750	368.4836	1138.33	. . Q V .
16.767	370.0331	1124.95	. . Q V .
16.783	371.5628	1110.56	. . Q V .
16.800	373.0644	1090.16	. . Q. V .
16.817	374.5497	1078.31	. . Q. V .
16.833	376.0175	1065.64	. . Q. V .
16.850	377.4741	1057.47	. . Q. V .
16.867	378.9220	1051.21	. . Q. V .
16.883	380.3559	1040.97	. . Q . V .

16.900	381.7733	1029.09	.	.	Q	.	V	.
16.917	383.1743	1017.09	.	.	Q	.	V.	.
16.933	384.5590	1005.28	.	.	Q	.	V.	.
16.950	385.9223	989.77	.	.	Q	.	V.	.
16.967	387.2703	978.66	.	.	Q	.	V.	.
16.983	388.6065	970.06	.	.	Q	.	V.	.
17.000	389.9299	960.80	.	.	Q	.	V.	.

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FLOW PROCESS FROM NODE 318.00 TO NODE 318.00 IS CODE = 3.2

>>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #3<<<<<
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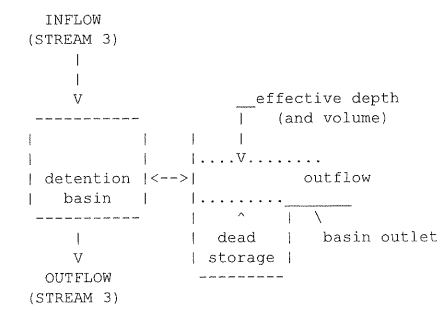

ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 3
THROUGH A FLOW-THROUGH DETENTION BASIN
SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
DEAD STORAGE(AF) = 0.000
SPECIFIED DEAD STORAGE(AF) FILLED = 0.000
SPECIFIED EFFECTIVE VOLUME(AF) FILLED ABOVE OUTLET = 0.000
DETENTION BASIN CONSTANT LOSS RATE(CFS) = 0.00

BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

INTERVAL NUMBER	DEPTH (FT)	OUTFLOW (CFS)	STORAGE (AF)
1	0.00	0.00	0.000
2	3.50	125.00	10.000
3	8.50	195.00	15.000
4	13.50	222.50	50.000
5	18.50	242.50	100.000
6	23.50	262.50	160.000
7	28.50	280.00	230.000
8	33.50	1647.50	310.000
9	38.50	5312.50	405.000
10	43.50	6000.00	512.000

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MODIFIED-PULS BASIN ROUTING MODEL RESULTS(1-MINUTE COMPUTATION INTERVALS):
(Note: Computed EFFECTIVE DEPTH and VOLUME are estimated at the clock time;
MEAN OUTFLOW is the average value during the unit interval.)

CLOCK MEAN

TIME (HRS)	DEAD-STORAGE FILLED(AF)	INFLOW (CFS)	LOSS (CFS)	EFFECTIVE DEPTH(FT)	OUTFLOW (CFS)	EFFECTIVE VOLUME(AF)
15.017	0.000	653.71	0.00	13.20	220.6	47.881
15.033	0.000	657.70	0.00	13.28	221.1	48.482
15.050	0.000	661.74	0.00	13.37	221.5	49.089
15.067	0.000	665.80	0.00	13.46	222.0	49.700
15.083	0.000	669.74	0.00	13.53	222.4	50.316
15.100	0.000	673.70	0.00	13.59	222.8	50.937
15.117	0.000	677.65	0.00	13.66	223.0	51.563
15.133	0.000	681.62	0.00	13.72	223.3	52.195
15.150	0.000	685.73	0.00	13.78	223.5	52.831
15.167	0.000	689.93	0.00	13.85	223.8	53.474
15.183	0.000	694.03	0.00	13.91	224.0	54.121
15.200	0.000	698.18	0.00	13.98	224.3	54.774
15.217	0.000	702.36	0.00	14.04	224.5	55.432
15.233	0.000	706.60	0.00	14.11	224.8	56.095
15.250	0.000	710.91	0.00	14.18	225.1	56.765
15.267	0.000	715.26	0.00	14.24	225.3	57.439
15.283	0.000	719.66	0.00	14.31	225.6	58.120
15.300	0.000	724.12	0.00	14.38	225.9	58.806
15.317	0.000	728.59	0.00	14.45	226.2	59.498
15.333	0.000	733.14	0.00	14.52	226.4	60.196
15.350	0.000	736.83	0.00	14.59	226.7	60.899
15.367	0.000	739.66	0.00	14.66	227.0	61.605
15.383	0.000	742.52	0.00	14.73	227.3	62.315
15.400	0.000	745.39	0.00	14.80	227.6	63.028
15.417	0.000	747.98	0.00	14.87	227.9	63.744
15.433	0.000	750.31	0.00	14.95	228.1	64.464
15.450	0.000	752.62	0.00	15.02	228.4	65.186
15.467	0.000	754.55	0.00	15.09	228.7	65.910
15.483	0.000	756.27	0.00	15.16	229.0	66.636
15.500	0.000	757.71	0.00	15.24	229.3	67.364
15.517	0.000	758.82	0.00	15.31	229.6	68.093
15.533	0.000	760.03	0.00	15.38	229.9	68.823
15.550	0.000	761.23	0.00	15.46	230.2	69.555
15.567	0.000	761.58	0.00	15.53	230.5	70.286
15.583	0.000	761.94	0.00	15.60	230.8	71.018
15.600	0.000	761.94	0.00	15.67	231.1	71.749
15.617	0.000	761.34	0.00	15.75	231.3	72.479
15.633	0.000	760.31	0.00	15.82	231.6	73.207
15.650	0.000	759.85	0.00	15.89	231.9	73.935
15.667	0.000	759.53	0.00	15.97	232.2	74.661
15.683	0.000	758.19	0.00	16.04	232.5	75.385
15.700	0.000	756.99	0.00	16.11	232.8	76.107
15.717	0.000	754.83	0.00	16.18	233.1	76.826
15.733	0.000	753.19	0.00	16.25	233.4	77.542
15.750	0.000	751.31	0.00	16.33	233.7	78.255
15.767	0.000	745.67	0.00	16.40	233.9	78.960
15.783	0.000	741.94	0.00	16.47	234.2	79.659
15.800	0.000	741.42	0.00	16.54	234.5	80.357
15.817	0.000	744.14	0.00	16.61	234.8	81.059
15.833	0.000	748.16	0.00	16.68	235.1	81.765
15.850	0.000	753.42	0.00	16.75	235.3	82.479
15.867	0.000	760.11	0.00	16.82	235.6	83.201
15.883	0.000	767.60	0.00	16.89	235.9	83.934
15.900	0.000	777.20	0.00	16.97	236.2	84.679
15.917	0.000	788.99	0.00	17.04	236.5	85.440
15.933	0.000	803.13	0.00	17.12	236.8	86.220
15.950	0.000	819.55	0.00	17.20	237.1	87.022
15.967	0.000	850.46	0.00	17.29	237.5	87.867
15.983	0.000	895.05	0.00	17.38	237.8	88.772
16.000	0.000	942.36	0.00	17.47	238.2	89.742
16.017	0.000	990.49	0.00	17.58	238.6	90.777

16.033	0.000	1046.73	0.00	17.69	239.0	91.890
16.050	0.000	1095.48	0.00	17.81	239.5	93.069
16.067	0.000	1132.49	0.00	17.93	240.0	94.298
16.083	0.000	1175.49	0.00	18.06	240.5	95.586
16.100	0.000	1221.94	0.00	18.19	241.0	96.937
16.117	0.000	1269.98	0.00	18.34	241.6	98.354
16.133	0.000	1319.76	0.00	18.48	242.1	99.838
16.150	0.000	1369.06	0.00	18.62	242.7	101.390
16.167	0.000	1414.61	0.00	18.75	243.2	103.003
16.183	0.000	1468.67	0.00	18.89	243.8	104.690
16.200	0.000	1518.54	0.00	19.04	244.4	106.445
16.217	0.000	1567.98	0.00	19.19	245.0	108.268
16.233	0.000	1626.40	0.00	19.35	245.6	110.170
16.250	0.000	1690.05	0.00	19.51	246.2	112.159
16.267	0.000	1735.13	0.00	19.68	246.9	114.208
16.283	0.000	1779.90	0.00	19.86	247.6	116.319
16.300	0.000	1833.51	0.00	20.04	248.3	118.503
16.317	0.000	1877.20	0.00	20.23	249.0	120.745
16.333	0.000	1926.60	0.00	20.42	249.8	123.055
16.350	0.000	1976.17	0.00	20.62	250.6	125.432
16.367	0.000	2033.02	0.00	20.82	251.4	127.886
16.383	0.000	2119.58	0.00	21.04	252.2	130.458
16.400	0.000	2174.43	0.00	21.26	253.1	133.104
16.417	0.000	2169.19	0.00	21.48	254.0	135.742
16.433	0.000	2124.64	0.00	21.69	254.8	138.318
16.450	0.000	2059.09	0.00	21.90	255.7	140.802
16.467	0.000	1923.38	0.00	22.09	256.5	143.098
16.483	0.000	1791.60	0.00	22.27	257.2	145.211
16.500	0.000	1693.12	0.00	22.43	257.9	147.188
16.517	0.000	1620.52	0.00	22.59	258.5	149.064
16.533	0.000	1551.19	0.00	22.74	259.2	150.844
16.550	0.000	1485.81	0.00	22.88	259.7	152.533
16.567	0.000	1433.76	0.00	23.01	260.3	154.149
16.583	0.000	1385.81	0.00	23.14	260.8	155.699
16.600	0.000	1349.44	0.00	23.27	261.3	157.197
16.617	0.000	1308.22	0.00	23.39	261.8	158.639
16.633	0.000	1295.17	0.00	23.50	262.3	160.062
16.650	0.000	1261.68	0.00	23.60	262.7	161.438
16.667	0.000	1225.46	0.00	23.70	263.0	162.763
16.683	0.000	1196.11	0.00	23.79	263.4	164.048
16.700	0.000	1187.44	0.00	23.88	263.7	165.320
16.717	0.000	1164.12	0.00	23.97	264.0	166.560
16.733	0.000	1148.96	0.00	24.06	264.3	167.779
16.750	0.000	1138.33	0.00	24.14	264.6	168.982
16.767	0.000	1124.95	0.00	24.23	264.9	170.167
16.783	0.000	1110.56	0.00	24.31	265.2	171.331
16.800	0.000	1090.16	0.00	24.39	265.5	172.467
16.817	0.000	1078.31	0.00	24.47	265.8	173.587
16.833	0.000	1065.64	0.00	24.55	266.0	174.688
16.850	0.000	1057.47	0.00	24.63	266.3	175.778
16.867	0.000	1051.21	0.00	24.70	266.6	176.858
16.883	0.000	1040.97	0.00	24.78	266.8	177.925
16.900	0.000	1029.09	0.00	24.86	267.1	178.974
16.917	0.000	1017.09	0.00	24.93	267.4	180.007
16.933	0.000	1005.28	0.00	25.00	267.6	181.023
16.950	0.000	989.77	0.00	25.07	267.9	182.017
16.967	0.000	978.66	0.00	25.14	268.1	182.996
16.983	0.000	970.06	0.00	25.21	268.4	183.963
17.000	0.000	960.80	0.00	25.28	268.6	184.916
17.017	0.000	951.47	0.00	25.35	268.8	185.856
17.033	0.000	939.45	0.00	25.41	269.1	186.780
17.050	0.000	927.63	0.00	25.48	269.3	187.686
17.067	0.000	915.22	0.00	25.54	269.5	188.576
17.083	0.000	901.83	0.00	25.60	269.8	189.446

17.100	0.000	890.49	0.00	25.66	270.0	190.301
17.117	0.000	881.69	0.00	25.72	270.2	191.143
17.133	0.000	870.96	0.00	25.78	270.4	191.971
17.150	0.000	860.58	0.00	25.84	270.6	192.783
17.167	0.000	850.35	0.00	25.90	270.8	193.582
17.183	0.000	838.48	0.00	25.95	271.0	194.363
17.200	0.000	825.79	0.00	26.01	271.2	195.127
17.217	0.000	815.38	0.00	26.06	271.4	195.876
17.233	0.000	804.28	0.00	26.12	271.6	196.610
17.250	0.000	793.43	0.00	26.17	271.7	197.329
17.267	0.000	781.24	0.00	26.22	271.9	198.030
17.283	0.000	768.28	0.00	26.27	272.1	198.714
17.300	0.000	755.20	0.00	26.31	272.3	199.379
17.317	0.000	742.73	0.00	26.36	272.4	200.027
17.333	0.000	729.53	0.00	26.40	272.6	200.656
17.350	0.000	715.90	0.00	26.45	272.7	201.267
17.367	0.000	702.42	0.00	26.49	272.9	201.858
17.383	0.000	687.32	0.00	26.53	273.0	202.429
17.400	0.000	672.09	0.00	26.57	273.2	202.978
17.417	0.000	657.29	0.00	26.61	273.3	203.507
17.433	0.000	639.69	0.00	26.64	273.4	204.012
17.450	0.000	623.34	0.00	26.68	273.6	204.493
17.467	0.000	609.93	0.00	26.71	273.7	204.957
17.483	0.000	599.31	0.00	26.74	273.8	205.405
17.500	0.000	589.32	0.00	26.77	273.9	205.839
17.517	0.000	579.30	0.00	26.80	274.0	206.260
17.533	0.000	568.76	0.00	26.83	274.1	206.666
17.550	0.000	557.07	0.00	26.86	274.2	207.055
17.567	0.000	545.81	0.00	26.89	274.3	207.429
17.583	0.000	535.16	0.00	26.91	274.4	207.789
17.600	0.000	525.22	0.00	26.94	274.5	208.134
17.617	0.000	516.20	0.00	26.96	274.6	208.467
17.633	0.000	508.25	0.00	26.98	274.7	208.788
17.650	0.000	501.11	0.00	27.01	274.7	209.100
17.667	0.000	495.37	0.00	27.03	274.8	209.404
17.683	0.000	488.51	0.00	27.05	274.9	209.698
17.700	0.000	482.87	0.00	27.07	275.0	209.985
17.717	0.000	476.97	0.00	27.09	275.0	210.263
17.733	0.000	470.27	0.00	27.11	275.1	210.532
17.750	0.000	463.63	0.00	27.13	275.2	210.791
17.767	0.000	456.78	0.00	27.15	275.2	211.041
17.783	0.000	450.52	0.00	27.16	275.3	211.283
17.800	0.000	444.51	0.00	27.18	275.3	211.516
17.817	0.000	439.22	0.00	27.20	275.4	211.741
17.833	0.000	432.67	0.00	27.21	275.5	211.958
17.850	0.000	425.92	0.00	27.23	275.5	212.165
17.867	0.000	419.31	0.00	27.24	275.6	212.363
17.883	0.000	412.75	0.00	27.25	275.6	212.552
17.900	0.000	406.33	0.00	27.27	275.7	212.732
17.917	0.000	401.11	0.00	27.28	275.7	212.905
17.933	0.000	396.79	0.00	27.29	275.7	213.071
17.950	0.000	392.63	0.00	27.30	275.8	213.232
17.967	0.000	388.11	0.00	27.31	275.8	213.387
17.983	0.000	383.44	0.00	27.32	275.9	213.535
18.000	0.000	378.98	0.00	27.33	275.9	213.677
18.017	0.000	374.58	0.00	27.34	275.9	213.813
18.033	0.000	370.24	0.00	27.35	276.0	213.943
18.050	0.000	366.43	0.00	27.36	276.0	214.067
18.067	0.000	362.97	0.00	27.37	276.0	214.187
18.083	0.000	359.80	0.00	27.38	276.1	214.302
18.100	0.000	356.70	0.00	27.39	276.1	214.413
18.117	0.000	353.68	0.00	27.39	276.1	214.520
18.133	0.000	350.68	0.00	27.40	276.1	214.623
18.150	0.000	347.67	0.00	27.41	276.2	214.721

18.167	0.000	344.67	0.00	27.42	276.2	214.816
18.183	0.000	341.82	0.00	27.42	276.2	214.906
18.200	0.000	338.92	0.00	27.43	276.2	214.992
18.217	0.000	336.06	0.00	27.43	276.3	215.075
18.233	0.000	333.07	0.00	27.44	276.3	215.153
18.250	0.000	330.08	0.00	27.44	276.3	215.227
18.267	0.000	326.82	0.00	27.45	276.3	215.297
18.283	0.000	323.00	0.00	27.45	276.3	215.361
18.300	0.000	319.12	0.00	27.46	276.3	215.420
18.317	0.000	315.28	0.00	27.46	276.4	215.473
18.333	0.000	311.45	0.00	27.47	276.4	215.522
18.350	0.000	307.78	0.00	27.47	276.4	215.565
18.367	0.000	304.86	0.00	27.47	276.4	215.604
18.383	0.000	302.03	0.00	27.47	276.4	215.640
18.400	0.000	299.35	0.00	27.48	276.4	215.671
18.417	0.000	296.54	0.00	27.48	276.4	215.699
18.433	0.000	293.83	0.00	27.48	276.4	215.723
18.450	0.000	290.87	0.00	27.48	276.4	215.743
18.467	0.000	285.85	0.00	27.48	276.4	215.756
18.483	0.000	280.82	0.00	27.48	276.4	215.762
18.500	0.000	275.82	0.00	27.48	276.4	215.761
18.517	0.000	270.84	0.00	27.48	276.4	215.753
18.533	0.000	265.91	0.00	27.48	276.4	215.739
18.550	0.000	263.26	0.00	27.48	276.4	215.720
18.567	0.000	260.90	0.00	27.48	276.4	215.699
18.583	0.000	258.74	0.00	27.48	276.4	215.675
18.600	0.000	256.75	0.00	27.47	276.4	215.648
18.617	0.000	254.88	0.00	27.47	276.4	215.618
18.633	0.000	253.08	0.00	27.47	276.4	215.586
18.650	0.000	251.32	0.00	27.47	276.4	215.551
18.667	0.000	249.54	0.00	27.47	276.4	215.514
18.683	0.000	247.82	0.00	27.46	276.4	215.475
18.700	0.000	246.12	0.00	27.46	276.4	215.433
18.717	0.000	244.47	0.00	27.46	276.4	215.389
18.733	0.000	242.84	0.00	27.45	276.3	215.343
18.750	0.000	241.25	0.00	27.45	276.3	215.295
18.767	0.000	239.71	0.00	27.45	276.3	215.245
18.783	0.000	238.22	0.00	27.44	276.3	215.192
18.800	0.000	236.76	0.00	27.44	276.3	215.138
18.817	0.000	235.32	0.00	27.43	276.3	215.081
18.833	0.000	233.91	0.00	27.43	276.3	215.023
18.850	0.000	232.35	0.00	27.43	276.2	214.962
18.867	0.000	230.82	0.00	27.42	276.2	214.900
18.883	0.000	229.39	0.00	27.42	276.2	214.835
18.900	0.000	228.01	0.00	27.41	276.2	214.769
18.917	0.000	226.65	0.00	27.41	276.2	214.701
18.933	0.000	225.30	0.00	27.40	276.2	214.631
18.950	0.000	223.97	0.00	27.40	276.1	214.559
18.967	0.000	222.66	0.00	27.39	276.1	214.485
18.983	0.000	221.36	0.00	27.39	276.1	214.410
19.000	0.000	220.08	0.00	27.38	276.1	214.332

PROCESS SUMMARY OF STORAGE:
INFLOW VOLUME = 528.436 AF
BASIN STORAGE = 0.000 AF (WITH 0.000 AF INITIALLY FILLED)
OUTFLOW VOLUME = 528.436 AF
LOSS VOLUME = 0.000 AF

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FLOW PROCESS FROM NODE 318.00 TO NODE 405.00 IS CODE = 5.2

>>>>>MODEL CHANNEL ROUTING OF STREAM #3 BY THE CONVEX METHOD<<<<<

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THE MODIFIED C-ROUTING COEFFICIENT IS ESTIMATED IN ORDER
TO ROUTE THE STREAM 3 INFLOW HYDROGRAPH BY 1-MINUTE
INTERVALS(Reference: the National Engineering Handbook,
Hydrology, Chapter 17, page 17-52, August,1972,
U.S. Department of Commerce).

ASSUMED REGULAR CHANNEL INFORMATION:
BASEWIDTH(FT) = 6.00 CHANNEL Z = 2.00
UPSTREAM ELEVATION(FT) = 596.80
DOWNSTREAM ELEVATION(FT) = 581.32
CHANNEL LENGTH(FT) = 935.00 MANNING'S FACTOR = 0.030
CONSTANT LOSS RATE(CFS) = 0.00

CHANNEL ROUTING COEFFICIENT ESTIMATED:
MAXIMUM INFLOW(CFS) = 276.44
AVERAGE FLOWRATE IN EXCESS OF 50% MAXIMUM INFLOW = 229.36
CHANNEL NORMAL VELOCITY FOR Q = 229.36 CFS = 8.59 FPS
ESTIMATED CHANNEL ROUTING COEFFICIENT = 0.835

MODIFIED CHANNEL ROUTING COEFFICIENT FOR 1-MINUTE
UNIT INTERVALS IS CSTAR = 0.752

CONVEX METHOD CHANNEL ROUTING RESULTS:

MODEL TIME (HRS)	INFLOW (STREAM 3) (CFS)	ROUTED FLOW (CFS)	OUTFLOW LESS LOSS (STREAM 3) (CFS)
15.000	220.13	219.28	219.28
15.017	220.60	219.74	219.74
15.033	221.07	220.21	220.21
15.050	221.55	220.68	220.68
15.067	222.02	221.15	221.15
15.083	222.45	221.62	221.62
15.100	222.75	222.08	222.08
15.117	223.00	222.47	222.47
15.133	223.25	222.77	222.77
15.150	223.51	223.04	223.04
15.167	223.76	223.29	223.29
15.183	224.02	223.55	223.55
15.200	224.28	223.80	223.80
15.217	224.54	224.06	224.06
15.233	224.81	224.32	224.32
15.250	225.07	224.58	224.58
15.267	225.34	224.85	224.85
15.283	225.61	225.11	225.11
15.300	225.89	225.38	225.38
15.317	226.16	225.66	225.66
15.333	226.44	225.93	225.93
15.350	226.72	226.20	226.20
15.367	227.00	226.48	226.48
15.383	227.28	226.76	226.76
15.400	227.57	227.05	227.05
15.417	227.85	227.33	227.33
15.433	228.14	227.61	227.61
15.450	228.43	227.90	227.90
15.467	228.72	228.19	228.19
15.483	229.01	228.48	228.48
15.500	229.30	228.76	228.76
15.517	229.59	229.05	229.05
15.533	229.88	229.35	229.35

15.550	230.18	229.64	229.64
15.567	230.47	229.93	229.93
15.583	230.76	230.22	230.22
15.600	231.05	230.51	230.51
15.617	231.35	230.81	230.81
15.633	231.64	231.10	231.10
15.650	231.93	231.39	231.39
15.667	232.22	231.68	231.68
15.683	232.51	231.97	231.97
15.700	232.80	232.26	232.26
15.717	233.09	232.55	232.55
15.733	233.37	232.84	232.84
15.750	233.66	233.13	233.13
15.767	233.94	233.42	233.42
15.783	234.22	233.70	233.70
15.800	234.50	233.99	233.99
15.817	234.78	234.27	234.27
15.833	235.06	234.55	234.55
15.850	235.35	234.83	234.83
15.867	235.64	235.11	235.11
15.883	235.93	235.39	235.39
15.900	236.22	235.68	235.68
15.917	236.52	235.97	235.97
15.933	236.83	236.27	236.27
15.950	237.15	236.57	236.57
15.967	237.48	236.88	236.88
15.983	237.83	237.20	237.20
16.000	238.20	237.54	237.54
16.017	238.60	237.89	237.89
16.033	239.03	238.27	238.27
16.050	239.49	238.68	238.68
16.067	239.97	239.11	239.11
16.083	240.48	239.57	239.57
16.100	241.00	240.06	240.06
16.117	241.56	240.57	240.57
16.133	242.14	241.10	241.10
16.150	242.70	241.66	241.66
16.167	243.23	242.22	242.22
16.183	243.78	242.78	242.78
16.200	244.36	243.32	243.32
16.217	244.95	243.88	243.88
16.233	245.57	244.45	244.45
16.250	246.22	245.06	245.06
16.267	246.89	245.68	245.68
16.283	247.59	246.33	246.33
16.300	248.30	247.01	247.01
16.317	249.04	247.71	247.71
16.333	249.80	248.42	248.42
16.350	250.58	249.17	249.17
16.367	251.39	249.93	249.93
16.383	252.22	250.71	250.71
16.400	253.09	251.53	251.53
16.417	253.97	252.37	252.37
16.433	254.84	253.24	253.24
16.450	255.69	254.11	254.11
16.467	256.48	254.97	254.97
16.483	257.22	255.80	255.80
16.500	257.90	256.58	256.58
16.517	258.54	257.31	257.31
16.533	259.15	257.99	257.99
16.550	259.73	258.63	258.63
16.567	260.28	259.23	259.23
16.583	260.81	259.81	259.81
16.600	261.32	260.36	260.36

16.617	261.81	260.88	260.88
16.633	262.28	261.39	261.39
16.650	262.69	261.88	261.88
16.667	263.03	262.33	262.33
16.683	263.35	262.72	262.72
16.700	263.67	263.07	263.07
16.717	263.99	263.40	263.40
16.733	264.29	263.72	263.72
16.750	264.60	264.03	264.03
16.767	264.89	264.34	264.34
16.783	265.19	264.64	264.64
16.800	265.47	264.94	264.94
16.817	265.76	265.23	265.23
16.833	266.03	265.52	265.52
16.850	266.31	265.80	265.80
16.867	266.58	266.08	266.08
16.883	266.85	266.35	266.35
16.900	267.11	266.62	266.62
16.917	267.37	266.89	266.89
16.933	267.63	267.15	267.15
16.950	267.88	267.41	267.41
16.967	268.13	267.67	267.67
16.983	268.37	267.92	267.92
17.000	268.61	268.16	268.16

PROCESS SUMMARY OF STORAGE:
INFLOW VOLUME = 528.436 AF
OUTFLOW VOLUME = 528.435 AF
LOSS VOLUME = 0.000 AF

FLOW PROCESS FROM NODE 405.00 TO NODE 406.00 IS CODE = 5.2

>>>>>MODEL CHANNEL ROUTING OF STREAM #3 BY THE CONVEX METHOD<<<<<

THE MODIFIED C-ROUTING COEFFICIENT IS ESTIMATED IN ORDER
TO ROUTE THE STREAM 3 INFLOW HYDROGRAPH BY 1-MINUTE
INTERVALS(Reference: the National Engineering Handbook,
Hydrology, Chapter 17, page 17-52, August,1972,
U.S. Department of Commerce).

ASSUMED REGULAR CHANNEL INFORMATION:
BASEWIDTH(FT) = 6.00 CHANNEL Z = 2.00
UPSTREAM ELEVATION(FT) = 581.32
DOWNSTREAM ELEVATION(FT) = 550.00
CHANNEL LENGTH(FT) = 1419.00 MANNING'S FACTOR = 0.030
CONSTANT LOSS RATE(CFS) = 0.00

CHANNEL ROUTING COEFFICIENT ESTIMATED:
MAXIMUM INFLOW(CFS) = 276.44
AVERAGE FLOWRATE IN EXCESS OF 50% MAXIMUM INFLOW = 229.36
CHANNEL NORMAL VELOCITY FOR Q = 229.36 CFS = 9.61 FPS
ESTIMATED CHANNEL ROUTING COEFFICIENT = 0.850

MODIFIED CHANNEL ROUTING COEFFICIENT FOR 1-MINUTE
UNIT INTERVALS IS CSTAR = 0.709

CONVEX METHOD CHANNEL ROUTING RESULTS:
OUTFLOW LESS

MODEL TIME (HRS)	INFLOW (STREAM 3) (CFS)	ROUTED FLOW (CFS)	LOSS (STREAM 3) (CFS)
15.000	219.28	218.15	218.15
15.017	219.74	218.60	218.60
15.033	220.21	219.06	219.06
15.050	220.68	219.51	219.51
15.067	221.15	219.98	219.98
15.083	221.62	220.44	220.44
15.100	222.08	220.91	220.91
15.117	222.47	221.38	221.38
15.133	222.77	221.85	221.85
15.150	223.04	222.26	222.26
15.167	223.29	222.60	222.60
15.183	223.55	222.89	222.89
15.200	223.80	223.16	223.16
15.217	224.06	223.42	223.42
15.233	224.32	223.67	223.67
15.250	224.58	223.93	223.93
15.267	224.85	224.19	224.19
15.283	225.11	224.45	224.45
15.300	225.38	224.72	224.72
15.317	225.66	224.98	224.98
15.333	225.93	225.25	225.25
15.350	226.20	225.52	225.52
15.367	226.48	225.79	225.79
15.383	226.76	226.07	226.07
15.400	227.05	226.34	226.34
15.417	227.33	226.62	226.62
15.433	227.61	226.90	226.90
15.450	227.90	227.19	227.19
15.467	228.19	227.47	227.47
15.483	228.48	227.76	227.76
15.500	228.76	228.04	228.04
15.517	229.05	228.33	228.33
15.533	229.35	228.62	228.62
15.550	229.64	228.91	228.91
15.567	229.93	229.20	229.20
15.583	230.22	229.49	229.49
15.600	230.51	229.78	229.78
15.617	230.81	230.08	230.08
15.633	231.10	230.37	230.37
15.650	231.39	230.66	230.66
15.667	231.68	230.95	230.95
15.683	231.97	231.24	231.24
15.700	232.26	231.54	231.54
15.717	232.55	231.83	231.83
15.733	232.84	232.12	232.12
15.750	233.13	232.41	232.41
15.767	233.42	232.70	232.70
15.783	233.70	232.99	232.99
15.800	233.99	233.27	233.27
15.817	234.27	233.56	233.56
15.833	234.55	233.84	233.84
15.850	234.83	234.13	234.13
15.867	235.11	234.41	234.41
15.883	235.39	234.69	234.69
15.900	235.68	234.97	234.97
15.917	235.97	235.25	235.25
15.933	236.27	235.54	235.54
15.950	236.57	235.83	235.83
15.967	236.88	236.12	236.12
15.983	237.20	236.42	236.42
16.000	237.54	236.73	236.73

16.017	237.89	237.04	237.04
16.033	238.27	237.37	237.37
16.050	238.68	237.72	237.72
16.067	239.11	238.09	238.09
16.083	239.57	238.48	238.48
16.100	240.06	238.90	238.90
16.117	240.57	239.35	239.35
16.133	241.10	239.82	239.82
16.150	241.66	240.32	240.32
16.167	242.22	240.84	240.84
16.183	242.78	241.38	241.38
16.200	243.32	241.94	241.94
16.217	243.88	242.50	242.50
16.233	244.45	243.05	243.05
16.250	245.06	243.60	243.60
16.267	245.68	244.17	244.17
16.283	246.33	244.76	244.76
16.300	247.01	245.37	245.37
16.317	247.71	246.01	246.01
16.333	248.42	246.68	246.68
16.350	249.17	247.36	247.36
16.367	249.93	248.07	248.07
16.383	250.71	248.80	248.80
16.400	251.53	249.55	249.55
16.417	252.37	250.32	250.32
16.433	253.24	251.12	251.12
16.450	254.11	251.95	251.95
16.467	254.97	252.81	252.81
16.483	255.80	253.67	253.67
16.500	256.58	254.54	254.54
16.517	257.31	255.38	255.38
16.533	257.99	256.18	256.18
16.550	258.63	256.94	256.94
16.567	259.23	257.64	257.64
16.583	259.81	258.30	258.30
16.600	260.36	258.92	258.92
16.617	260.88	259.51	259.51
16.633	261.39	260.08	260.08
16.650	261.88	260.61	260.61
16.667	262.33	261.13	261.13
16.683	262.72	261.63	261.63
16.700	263.07	262.10	262.10
16.717	263.40	262.51	262.51
16.733	263.72	262.89	262.89
16.750	264.03	263.23	263.23
16.767	264.34	263.56	263.56
16.783	264.64	263.87	263.87
16.800	264.94	264.18	264.18
16.817	265.23	264.49	264.49
16.833	265.52	264.79	264.79
16.850	265.80	265.08	265.08
16.867	266.08	265.37	265.37
16.883	266.35	265.66	265.66
16.900	266.62	265.94	265.94
16.917	266.89	266.21	266.21
16.933	267.15	266.48	266.48
16.950	267.41	266.75	266.75
16.967	267.67	267.02	267.02
16.983	267.92	267.28	267.28
17.000	268.16	267.54	267.54

PROCESS SUMMARY OF STORAGE:
INFLOW VOLUME = 528.435 AF
OUTFLOW VOLUME = 528.436 AF

LOSS VOLUME = 0.000 AF

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FLOW PROCESS FROM NODE 406.00 TO NODE 407.00 IS CODE = 5.2

>>>>>MODEL CHANNEL ROUTING OF STREAM #3 BY THE CONVEX METHOD<<<<<
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THE MODIFIED C-ROUTING COEFFICIENT IS ESTIMATED IN ORDER
TO ROUTE THE STREAM 3 INFLOW HYDROGRAPH BY 1-MINUTE
INTERVALS(Reference: the National Engineering Handbook,
Hydrology, Chapter 17, page 17-52, August,1972,
U.S. Department of Commerce).

ASSUMED REGULAR CHANNEL INFORMATION:
BASEWIDTH(FT) = 40.00 CHANNEL Z = 2.00
UPSTREAM ELEVATION(FT) = 550.00
DOWNSTREAM ELEVATION(FT) = 506.00
CHANNEL LENGTH(FT) = 1412.00 MANNING'S FACTOR = 0.030
CONSTANT LOSS RATE(CFS) = 0.00

CHANNEL ROUTING COEFFICIENT ESTIMATED:
MAXIMUM INFLOW(CFS) = 276.44
AVERAGE FLOWRATE IN EXCESS OF 50% MAXIMUM INFLOW = 229.36
CHANNEL NORMAL VELOCITY FOR Q = 229.36 CFS = 7.17 FPS
ESTIMATED CHANNEL ROUTING COEFFICIENT = 0.808

MODIFIED CHANNEL ROUTING COEFFICIENT FOR 1-MINUTE
UNIT INTERVALS IS CSTAR = 0.619

CONVEX METHOD CHANNEL ROUTING RESULTS:

MODEL TIME (HRS)	INFLOW (STREAM 3) (CFS)	ROUTED FLOW (CFS)	OUTFLOW LESS LOSS (STREAM 3) (CFS)
15.000	218.15	216.71	216.71
15.017	218.60	217.15	217.15
15.033	219.06	217.59	217.59
15.050	219.51	218.03	218.03
15.067	219.98	218.48	218.48
15.083	220.44	218.94	218.94
15.100	220.91	219.39	219.39
15.117	221.38	219.85	219.85
15.133	221.85	220.32	220.32
15.150	222.26	220.79	220.79
15.167	222.60	221.26	221.26
15.183	222.89	221.71	221.71
15.200	223.16	222.12	222.12
15.217	223.42	222.48	222.48
15.233	223.67	222.79	222.79
15.250	223.93	223.07	223.07
15.267	224.19	223.34	223.34
15.283	224.45	223.60	223.60
15.300	224.72	223.86	223.86
15.317	224.98	224.12	224.12
15.333	225.25	224.38	224.38
15.350	225.52	224.65	224.65
15.367	225.79	224.91	224.91
15.383	226.07	225.18	225.18
15.400	226.34	225.45	225.45

15.417	226.62	225.72	225.72
15.433	226.90	225.99	225.99
15.450	227.19	226.27	226.27
15.467	227.47	226.55	226.55
15.483	227.76	226.83	226.83
15.500	228.04	227.11	227.11
15.517	228.33	227.40	227.40
15.533	228.62	227.68	227.68
15.550	228.91	227.97	227.97
15.567	229.20	228.25	228.25
15.583	229.49	228.54	228.54
15.600	229.78	228.83	228.83
15.617	230.08	229.12	229.12
15.633	230.37	229.41	229.41
15.650	230.66	229.70	229.70
15.667	230.95	230.00	230.00
15.683	231.24	230.29	230.29
15.700	231.54	230.58	230.58
15.717	231.83	230.87	230.87
15.733	232.12	231.17	231.17
15.750	232.41	231.46	231.46
15.767	232.70	231.75	231.75
15.783	232.99	232.04	232.04
15.800	233.27	232.33	232.33
15.817	233.56	232.62	232.62
15.833	233.84	232.91	232.91
15.850	234.13	233.20	233.20
15.867	234.41	233.48	233.48
15.883	234.69	233.77	233.77
15.900	234.97	234.05	234.05
15.917	235.25	234.33	234.33
15.933	235.54	234.61	234.61
15.950	235.83	234.89	234.89
15.967	236.12	235.18	235.18
15.983	236.42	235.46	235.46
16.000	236.73	235.75	235.75
16.017	237.04	236.05	236.05
16.033	237.37	236.35	236.35
16.050	237.72	236.65	236.65
16.067	238.09	236.96	236.96
16.083	238.48	237.29	237.29
16.100	238.90	237.63	237.63
16.117	239.35	238.00	238.00
16.133	239.82	238.39	238.39
16.150	240.32	238.80	238.80
16.167	240.84	239.24	239.24
16.183	241.38	239.71	239.71
16.200	241.94	240.20	240.20
16.217	242.50	240.71	240.71
16.233	243.05	241.25	241.25
16.250	243.60	241.80	241.80
16.267	244.17	242.35	242.35
16.283	244.76	242.90	242.90
16.300	245.37	243.45	243.45
16.317	246.01	244.02	244.02
16.333	246.68	244.61	244.61
16.350	247.36	245.22	245.22
16.367	248.07	245.85	245.85
16.383	248.80	246.51	246.51
16.400	249.55	247.19	247.19
16.417	250.32	247.89	247.89
16.433	251.12	248.61	248.61
16.450	251.95	249.36	249.36
16.467	252.81	250.13	250.13

16.483	253.67	250.92	250.92
16.500	254.54	251.74	251.74
16.517	255.38	252.59	252.59
16.533	256.18	253.44	253.44
16.550	256.94	254.30	254.30
16.567	257.64	255.14	255.14
16.583	258.30	255.95	255.95
16.600	258.92	256.71	256.71
16.617	259.51	257.43	257.43
16.633	260.08	258.10	258.10
16.650	260.61	258.74	258.74
16.667	261.13	259.34	259.34
16.683	261.63	259.91	259.91
16.700	262.10	260.46	260.46
16.717	262.51	260.98	260.98
16.733	262.89	261.48	261.48
16.750	263.23	261.95	261.95
16.767	263.56	262.38	262.38
16.783	263.87	262.77	262.77
16.800	264.18	263.12	263.12
16.817	264.49	263.46	263.46
16.833	264.79	263.78	263.78
16.850	265.08	264.10	264.10
16.867	265.37	264.40	264.40
16.883	265.66	264.70	264.70
16.900	265.94	265.00	265.00
16.917	266.21	265.29	265.29
16.933	266.48	265.58	265.58
16.950	266.75	265.86	265.86
16.967	267.02	266.14	266.14
16.983	267.28	266.41	266.41
17.000	267.54	266.68	266.68

PROCESS SUMMARY OF STORAGE:
INFLOW VOLUME = 528.436 AF
OUTFLOW VOLUME = 528.437 AF
LOSS VOLUME = 0.000 AF

FLOW PROCESS FROM NODE 407.00 TO NODE 408.00 IS CODE = 4

>>>>>MODEL PIPEFLOW ROUTING OF STREAM #3<<<<<

MODEL PIPEFLOW ROUTING OF STREAM 3 WHERE
STORAGE EFFECTS ARE NEGLECTED WITHIN THE PIPE, FLOW
VELOCITIES ARE ESTIMATED BY ASSUMING STEADY FLOW FOR
EACH UNIT INTERVAL(NORMAL DEPTH, Dn), AND FLOWS IN EXCESS
OF (.82)(DIAMETER) ARE PONDED AT THE UPSTREAM INLET:
UNIT INTERVAL FLOW VELOCITY COMPUTED USING Dn UP TO
(0.938)(DIAMETER):

PIPELENGTH(FT) = 1194.00 MANNINGS FACTOR = 0.013
UPSTREAM ELEVATION(FT) = 523.00
DOWNSTREAM ELEVATION(FT) = 500.00
PIPE DIAMETER(FT) = 10.50

NORMAL DEPTH VELOCITY PIPE ROUTING RESULTS:

TIME (HRS)	INFLOW (CFS)	VELOCITY (FPS)	OUTFLOW (CFS)	UPSTREAM PONDING(AF)
15.000	216.71	17.88	216.37	0.000
15.017	217.15	17.90	216.81	0.000
15.033	217.59	17.91	217.25	0.000
15.050	218.03	17.92	217.69	0.000
15.067	218.48	17.93	218.14	0.000
15.083	218.94	17.94	218.59	0.000
15.100	219.39	17.95	219.04	0.000
15.117	219.85	17.96	219.50	0.000
15.133	220.32	17.98	219.96	0.000
15.150	220.79	17.99	220.43	0.000
15.167	221.26	18.00	220.90	0.000
15.183	221.71	18.01	221.37	0.000
15.200	222.12	18.02	221.82	0.000
15.217	222.48	18.03	222.22	0.000
15.233	222.79	18.04	222.57	0.000
15.250	223.07	18.05	222.87	0.000
15.267	223.34	18.05	223.14	0.000
15.283	223.60	18.06	223.41	0.000
15.300	223.86	18.07	223.67	0.000
15.317	224.12	18.07	223.92	0.000
15.333	224.38	18.08	224.18	0.000
15.350	224.65	18.09	224.45	0.000
15.367	224.91	18.09	224.71	0.000
15.383	225.18	18.10	224.98	0.000
15.400	225.45	18.11	225.24	0.000
15.417	225.72	18.11	225.52	0.000
15.433	225.99	18.12	225.79	0.000
15.450	226.27	18.13	226.06	0.000
15.467	226.55	18.13	226.34	0.000
15.483	226.83	18.14	226.62	0.000
15.500	227.11	18.15	226.90	0.000
15.517	227.40	18.16	227.18	0.000
15.533	227.68	18.16	227.47	0.000
15.550	227.97	18.17	227.75	0.000
15.567	228.25	18.18	228.04	0.000
15.583	228.54	18.19	228.33	0.000
15.600	228.83	18.19	228.62	0.000
15.617	229.12	18.20	228.91	0.000
15.633	229.41	18.21	229.20	0.000
15.650	229.70	18.21	229.49	0.000
15.667	230.00	18.22	229.78	0.000
15.683	230.29	18.23	230.07	0.000
15.700	230.58	18.24	230.36	0.000
15.717	230.87	18.24	230.66	0.000
15.733	231.17	18.25	230.95	0.000
15.750	231.46	18.26	231.24	0.000
15.767	231.75	18.27	231.53	0.000
15.783	232.04	18.27	231.83	0.000
15.800	232.33	18.28	232.12	0.000
15.817	232.62	18.29	232.41	0.000
15.833	232.91	18.30	232.70	0.000
15.850	233.20	18.30	232.98	0.000
15.867	233.48	18.31	233.27	0.000
15.883	233.77	18.32	233.56	0.000
15.900	234.05	18.33	233.84	0.000
15.917	234.33	18.33	234.12	0.000
15.933	234.61	18.34	234.41	0.000
15.950	234.89	18.35	234.69	0.000
15.967	235.18	18.35	234.97	0.000
15.983	235.46	18.36	235.25	0.000
16.000	235.75	18.37	235.54	0.000
16.017	236.05	18.38	235.83	0.000

16.033	236.35	18.38	236.13	0.000
16.050	236.65	18.39	236.43	0.000
16.067	236.96	18.40	236.73	0.000
16.083	237.29	18.41	237.05	0.000
16.100	237.63	18.42	237.38	0.000
16.117	238.00	18.43	237.73	0.000
16.133	238.39	18.44	238.10	0.000
16.150	238.80	18.45	238.49	0.000
16.167	239.24	18.46	238.92	0.000
16.183	239.71	18.47	239.36	0.000
16.200	240.20	18.48	239.83	0.000
16.217	240.71	18.49	240.33	0.000
16.233	241.25	18.51	240.85	0.000
16.250	241.80	18.52	241.40	0.000
16.267	242.35	18.54	241.95	0.000
16.283	242.90	18.55	242.50	0.000
16.300	243.45	18.56	243.05	0.000
16.317	244.02	18.58	243.61	0.000
16.333	244.61	18.59	244.19	0.000
16.350	245.22	18.61	244.78	0.000
16.367	245.85	18.63	245.39	0.000
16.383	246.51	18.64	246.04	0.000
16.400	247.19	18.66	246.70	0.000
16.417	247.89	18.68	247.39	0.000
16.433	248.61	18.70	248.10	0.000
16.450	249.36	18.71	248.83	0.000
16.467	250.13	18.73	249.58	0.000
16.483	250.92	18.75	250.36	0.000
16.500	251.74	18.77	251.16	0.000
16.517	252.59	18.80	251.99	0.000
16.533	253.44	18.82	252.84	0.000
16.550	254.30	18.84	253.70	0.000
16.567	255.14	18.86	254.56	0.000
16.583	255.95	18.88	255.40	0.000
16.600	256.71	18.90	256.19	0.000
16.617	257.43	18.92	256.95	0.000
16.633	258.10	18.94	257.65	0.000
16.650	258.74	18.95	258.31	0.000
16.667	259.34	18.97	258.93	0.000
16.683	259.91	18.98	259.53	0.000
16.700	260.46	19.00	260.09	0.000
16.717	260.98	19.01	260.63	0.000
16.733	261.48	19.02	261.15	0.000
16.750	261.95	19.03	261.64	0.000
16.767	262.38	19.04	262.06	0.000
16.783	262.77	19.05	262.48	0.000
16.800	263.12	19.05	262.86	0.000
16.817	263.46	19.06	263.21	0.000
16.833	263.78	19.07	263.54	0.000
16.850	264.10	19.07	263.86	0.000
16.867	264.40	19.08	264.17	0.000
16.883	264.70	19.09	264.48	0.000
16.900	265.00	19.09	264.78	0.000
16.917	265.29	19.10	265.07	0.000
16.933	265.58	19.10	265.36	0.000
16.950	265.86	19.11	265.65	0.000
16.967	266.14	19.11	265.93	0.000
16.983	266.41	19.12	266.20	0.000
17.000	266.68	19.12	266.48	0.000

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FLOW PROCESS FROM NODE 408.00 TO NODE 409.00 IS CODE = 5.2

>>>>>MODEL CHANNEL ROUTING OF STREAM #3 BY THE CONVEX METHOD<<<<<

THE MODIFIED C-ROUTING COEFFICIENT IS ESTIMATED IN ORDER
TO ROUTE THE STREAM 3 INFLOW HYDROGRAPH BY 1-MINUTE
INTERVALS(Reference: the National Engineering Handbook,
Hydrology, Chapter 17, page 17-52, August,1972,
U.S. Department of Commerce).

ASSUMED REGULAR CHANNEL INFORMATION:
BASEWIDTH(FT) = 80.00 CHANNEL Z = 3.00
UPSTREAM ELEVATION(FT) = 500.00
DOWNSTREAM ELEVATION(FT) = 493.46
CHANNEL LENGTH(FT) = 1634.00 MANNING'S FACTOR = 0.030
CONSTANT LOSS RATE(CFS) = 0.00

CHANNEL ROUTING COEFFICIENT ESTIMATED:
MAXIMUM INFLOW(CFS) = 276.44
AVERAGE FLOWRATE IN EXCESS OF 50% MAXIMUM INFLOW = 229.36
CHANNEL NORMAL VELOCITY FOR Q = 229.36 CFS = 2.95 FPS
ESTIMATED CHANNEL ROUTING COEFFICIENT = 0.635

MODIFIED CHANNEL ROUTING COEFFICIENT FOR 1-MINUTE
UNIT INTERVALS IS CSTAR = 0.362

CONVEX METHOD CHANNEL ROUTING RESULTS:

MODEL TIME (HRS)	INFLOW (STREAM 3) (CFS)	ROUTED FLOW (CFS)	OUTFLOW LESS LOSS (STREAM 3) (CFS)
15.000	216.37	213.20	213.20
15.017	216.81	213.61	213.61
15.033	217.25	214.02	214.02
15.050	217.69	214.43	214.43
15.067	218.14	214.84	214.84
15.083	218.59	215.26	215.26
15.100	219.04	215.69	215.69
15.117	219.50	216.12	216.12
15.133	219.96	216.55	216.55
15.150	220.43	216.99	216.99
15.167	220.90	217.43	217.43
15.183	221.37	217.87	217.87
15.200	221.82	218.32	218.32
15.217	222.22	218.77	218.77
15.233	222.57	219.23	219.23
15.250	222.87	219.69	219.69
15.267	223.14	220.15	220.15
15.283	223.41	220.62	220.62
15.300	223.67	221.07	221.07
15.317	223.92	221.51	221.51
15.333	224.18	221.91	221.91
15.350	224.45	222.27	222.27
15.367	224.71	222.60	222.60
15.383	224.98	222.91	222.91
15.400	225.24	223.20	223.20
15.417	225.52	223.47	223.47
15.433	225.79	223.74	223.74
15.450	226.06	224.01	224.01
15.467	226.34	224.28	224.28
15.483	226.62	224.55	224.55
15.500	226.90	224.81	224.81

15.517	227.18	225.08	225.08
15.533	227.47	225.35	225.35
15.550	227.75	225.62	225.62
15.567	228.04	225.90	225.90
15.583	228.33	226.17	226.17
15.600	228.62	226.45	226.45
15.617	228.91	226.73	226.73
15.633	229.20	227.01	227.01
15.650	229.49	227.30	227.30
15.667	229.78	227.58	227.58
15.683	230.07	227.87	227.87
15.700	230.36	228.15	228.15
15.717	230.66	228.44	228.44
15.733	230.95	228.73	228.73
15.750	231.24	229.02	229.02
15.767	231.53	229.31	229.31
15.783	231.83	229.60	229.60
15.800	232.12	229.89	229.89
15.817	232.41	230.19	230.19
15.833	232.70	230.48	230.48
15.850	232.98	230.77	230.77
15.867	233.27	231.06	231.06
15.883	233.56	231.35	231.35
15.900	233.84	231.65	231.65
15.917	234.12	231.94	231.94
15.933	234.41	232.23	232.23
15.950	234.69	232.52	232.52
15.967	234.97	232.81	232.81
15.983	235.25	233.09	233.09
16.000	235.54	233.38	233.38
16.017	235.83	233.66	233.66
16.033	236.13	233.95	233.95
16.050	236.43	234.23	234.23
16.067	236.73	234.51	234.51
16.083	237.05	234.80	234.80
16.100	237.38	235.08	235.08
16.117	237.73	235.37	235.37
16.133	238.10	235.66	235.66
16.150	238.49	235.95	235.95
16.167	238.92	236.25	236.25
16.183	239.36	236.56	236.56
16.200	239.83	236.88	236.88
16.217	240.33	237.20	237.20
16.233	240.85	237.55	237.55
16.250	241.40	237.91	237.91
16.267	241.95	238.30	238.30
16.283	242.50	238.71	238.71
16.300	243.05	239.14	239.14
16.317	243.61	239.60	239.60
16.333	244.19	240.08	240.08
16.350	244.78	240.59	240.59
16.367	245.39	241.11	241.11
16.383	246.04	241.64	241.64
16.400	246.70	242.19	242.19
16.417	247.39	242.73	242.73
16.433	248.10	243.29	243.29
16.450	248.83	243.86	243.86
16.467	249.58	244.45	244.45
16.483	250.36	245.06	245.06
16.500	251.16	245.69	245.69
16.517	251.99	246.34	246.34
16.533	252.84	247.02	247.02
16.550	253.70	247.71	247.71
16.567	254.56	248.43	248.43

16.583	255.40	249.17	249.17
16.600	256.19	249.93	249.93
16.617	256.95	250.72	250.72
16.633	257.65	251.54	251.54
16.650	258.31	252.37	252.37
16.667	258.93	253.21	253.21
16.683	259.53	254.04	254.04
16.700	260.09	254.86	254.86
16.717	260.63	255.65	255.65
16.733	261.15	256.41	256.41
16.750	261.64	257.13	257.13
16.767	262.06	257.82	257.82
16.783	262.48	258.47	258.47
16.800	262.86	259.08	259.08
16.817	263.21	259.67	259.67
16.833	263.54	260.23	260.23
16.850	263.86	260.76	260.76
16.867	264.17	261.26	261.26
16.883	264.48	261.72	261.72
16.900	264.78	262.15	262.15
16.917	265.07	262.55	262.55
16.933	265.36	262.93	262.93
16.950	265.65	263.28	263.28
16.967	265.93	263.62	263.62
16.983	266.20	263.95	263.95
17.000	266.48	264.26	264.26

PROCESS SUMMARY OF STORAGE:
INFLOW VOLUME = 528.438 AF
OUTFLOW VOLUME = 528.437 AF
LOSS VOLUME = 0.000 AF

FLOW PROCESS FROM NODE 409.00 TO NODE 410.00 IS CODE = 5.2

>>>>>MODEL CHANNEL ROUTING OF STREAM #3 BY THE CONVEX METHOD<<<<<

THE MODIFIED C-ROUTING COEFFICIENT IS ESTIMATED IN ORDER
TO ROUTE THE STREAM 3 INFLOW HYDROGRAPH BY 1-MINUTE
INTERVALS(Reference: the National Engineering Handbook,
Hydrology, Chapter 17, page 17-52, August,1972,
U.S. Department of Commerce).

ASSUMED REGULAR CHANNEL INFORMATION:
BASEWIDTH(FT) = 80.00 CHANNEL Z = 3.00
UPSTREAM ELEVATION(FT) = 448.50
DOWNSTREAM ELEVATION(FT) = 442.80
CHANNEL LENGTH(FT) = 1426.00 MANNING'S FACTOR = 0.030
CONSTANT LOSS RATE(CFS) = 0.00

CHANNEL ROUTING COEFFICIENT ESTIMATED:
MAXIMUM INFLOW(CFS) = 276.43
AVERAGE FLOWRATE IN EXCESS OF 50% MAXIMUM INFLOW = 229.42
CHANNEL NORMAL VELOCITY FOR Q = 229.42 CFS = 2.95 FPS
ESTIMATED CHANNEL ROUTING COEFFICIENT = 0.635

MODIFIED CHANNEL ROUTING COEFFICIENT FOR 1-MINUTE
UNIT INTERVALS IS CSTAR = 0.373

CONVEX METHOD CHANNEL ROUTING RESULTS:

MODEL TIME (HRS)	INFLOW (STREAM 3) (CFS)	ROUTED FLOW (CFS)	OUTFLOW LESS LOSS (STREAM 3) (CFS)
15.000	213.20	210.60	210.60
15.017	213.61	210.97	210.97
15.033	214.02	211.35	211.35
15.050	214.43	211.73	211.73
15.067	214.84	212.11	212.11
15.083	215.26	212.50	212.50
15.100	215.69	212.90	212.90
15.117	216.12	213.30	213.30
15.133	216.55	213.70	213.70
15.150	216.99	214.11	214.11
15.167	217.43	214.52	214.52
15.183	217.87	214.94	214.94
15.200	218.32	215.36	215.36
15.217	218.77	215.79	215.79
15.233	219.23	216.22	216.22
15.250	219.69	216.65	216.65
15.267	220.15	217.09	217.09
15.283	220.62	217.53	217.53
15.300	221.07	217.97	217.97
15.317	221.51	218.42	218.42
15.333	221.91	218.88	218.88
15.350	222.27	219.33	219.33
15.367	222.60	219.79	219.79
15.383	222.91	220.25	220.25
15.400	223.20	220.70	220.70
15.417	223.47	221.14	221.14
15.433	223.74	221.55	221.55
15.450	224.01	221.93	221.93
15.467	224.28	222.28	222.28
15.483	224.55	222.61	222.61
15.500	224.81	222.92	222.92
15.517	225.08	223.22	223.22
15.533	225.35	223.50	223.50
15.550	225.62	223.78	223.78
15.567	225.90	224.06	224.06
15.583	226.17	224.33	224.33
15.600	226.45	224.60	224.60
15.617	226.73	224.87	224.87
15.633	227.01	225.14	225.14
15.650	227.30	225.41	225.41
15.667	227.58	225.68	225.68
15.683	227.87	225.96	225.96
15.700	228.15	226.24	226.24
15.717	228.44	226.51	226.51
15.733	228.73	226.79	226.79
15.750	229.02	227.08	227.08
15.767	229.31	227.36	227.36
15.783	229.60	227.64	227.64
15.800	229.89	227.93	227.93
15.817	230.19	228.22	228.22
15.833	230.48	228.50	228.50
15.850	230.77	228.79	228.79
15.867	231.06	229.08	229.08
15.883	231.35	229.37	229.37
15.900	231.65	229.66	229.66
15.917	231.94	229.96	229.96
15.933	232.23	230.25	230.25
15.950	232.52	230.54	230.54
15.967	232.81	230.83	230.83

15.983	233.09	231.12	231.12
16.000	233.38	231.42	231.42
16.017	233.66	231.71	231.71
16.033	233.95	232.00	232.00
16.050	234.23	232.29	232.29
16.067	234.51	232.58	232.58
16.083	234.80	232.86	232.86
16.100	235.08	233.15	233.15
16.117	235.37	233.44	233.44
16.133	235.66	233.72	233.72
16.150	235.95	234.01	234.01
16.167	236.25	234.29	234.29
16.183	236.56	234.57	234.57
16.200	236.88	234.86	234.86
16.217	237.20	235.14	235.14
16.233	237.55	235.43	235.43
16.250	237.91	235.73	235.73
16.267	238.30	236.03	236.03
16.283	238.71	236.33	236.33
16.300	239.14	236.64	236.64
16.317	239.60	236.97	236.97
16.333	240.08	237.31	237.31
16.350	240.59	237.66	237.66
16.367	241.11	238.04	238.04
16.383	241.64	238.43	238.43
16.400	242.19	238.85	238.85
16.417	242.73	239.29	239.29
16.433	243.29	239.75	239.75
16.450	243.86	240.24	240.24
16.467	244.45	240.74	240.74
16.483	245.06	241.26	241.26
16.500	245.69	241.79	241.79
16.517	246.34	242.32	242.32
16.533	247.02	242.88	242.88
16.550	247.71	243.44	243.44
16.567	248.43	244.02	244.02
16.583	249.17	244.62	244.62
16.600	249.93	245.23	245.23
16.617	250.72	245.87	245.87
16.633	251.54	246.53	246.53
16.650	252.37	247.21	247.21
16.667	253.21	247.91	247.91
16.683	254.04	248.64	248.64
16.700	254.86	249.38	249.38
16.717	255.65	250.15	250.15
16.733	256.41	250.95	250.95
16.750	257.13	251.76	251.76
16.767	257.82	252.57	252.57
16.783	258.47	253.40	253.40
16.800	259.08	254.21	254.21
16.817	259.67	255.00	255.00
16.833	260.23	255.77	255.77
16.850	260.76	256.50	256.50
16.867	261.26	257.21	257.21
16.883	261.72	257.88	257.88
16.900	262.15	258.53	258.53
16.917	262.55	259.14	259.14
16.933	262.93	259.72	259.72
16.950	263.28	260.28	260.28
16.967	263.62	260.80	260.80
16.983	263.95	261.28	261.28
17.000	264.26	261.74	261.74

PROCESS SUMMARY OF STORAGE:

INFLOW VOLUME = 528.437 AF
OUTFLOW VOLUME = 528.762 AF
LOSS VOLUME = 0.000 AF

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FLOW PROCESS FROM NODE 410.00 TO NODE 410.50 IS CODE = 5.2

>>>>>MODEL CHANNEL ROUTING OF STREAM #3 BY THE CONVEX METHOD<<<<<
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THE MODIFIED C-ROUTING COEFFICIENT IS ESTIMATED IN ORDER
TO ROUTE THE STREAM 3 INFLOW HYDROGRAPH BY 1-MINUTE
INTERVALS(Reference: the National Engineering Handbook,
Hydrology, Chapter 17, page 17-52, August,1972,
U.S. Department of Commerce).

ASSUMED REGULAR CHANNEL INFORMATION:
BASEWIDTH(FT) = 9.00 CHANNEL Z = 2.00
UPSTREAM ELEVATION(FT) = 417.20
DOWNSTREAM ELEVATION(FT) = 416.90
CHANNEL LENGTH(FT) = 246.00 MANNING'S FACTOR = 0.015
CONSTANT LOSS RATE(CFS) = 0.00

CHANNEL ROUTING COEFFICIENT ESTIMATED:
MAXIMUM INFLOW(CFS) = 276.43
AVERAGE FLOWRATE IN EXCESS OF 50% MAXIMUM INFLOW = 229.35
CHANNEL NORMAL VELOCITY FOR Q = 229.35 CFS = 5.41 FPS
ESTIMATED CHANNEL ROUTING COEFFICIENT = 0.761

MODIFIED CHANNEL ROUTING COEFFICIENT FOR 1-MINUTE
UNIT INTERVALS IS CSTAR = 0.881

CONVEX METHOD CHANNEL ROUTING RESULTS:

MODEL TIME (HRS)	INFLOW (STREAM 3) (CFS)	ROUTED FLOW (CFS)	OUTFLOW LESS LOSS (STREAM 3) (CFS)
15.000	210.60	210.34	210.34
15.017	210.97	210.71	210.71
15.033	211.35	211.08	211.08
15.050	211.73	211.46	211.46
15.067	212.11	211.84	211.84
15.083	212.50	212.23	212.23
15.100	212.90	212.62	212.62
15.117	213.30	213.01	213.01
15.133	213.70	213.42	213.42
15.150	214.11	213.82	213.82
15.167	214.52	214.23	214.23
15.183	214.94	214.65	214.65
15.200	215.36	215.06	215.06
15.217	215.79	215.49	215.49
15.233	216.22	215.91	215.91
15.250	216.65	216.34	216.34
15.267	217.09	216.78	216.78
15.283	217.53	217.22	217.22
15.300	217.97	217.66	217.66
15.317	218.42	218.10	218.10
15.333	218.88	218.55	218.55
15.350	219.33	219.01	219.01
15.367	219.79	219.47	219.47

15.383	220.25	219.93	219.93
15.400	220.70	220.38	220.38
15.417	221.14	220.83	220.83
15.433	221.55	221.25	221.25
15.450	221.93	221.65	221.65
15.467	222.28	222.02	222.02
15.483	222.61	222.37	222.37
15.500	222.92	222.70	222.70
15.517	223.22	223.00	223.00
15.533	223.50	223.30	223.30
15.550	223.78	223.58	223.58
15.567	224.06	223.86	223.86
15.583	224.33	224.13	224.13
15.600	224.60	224.41	224.41
15.617	224.87	224.68	224.68
15.633	225.14	224.95	224.95
15.650	225.41	225.22	225.22
15.667	225.68	225.49	225.49
15.683	225.96	225.76	225.76
15.700	226.24	226.04	226.04
15.717	226.51	226.32	226.32
15.733	226.79	226.60	226.60
15.750	227.08	226.88	226.88
15.767	227.36	227.16	227.16
15.783	227.64	227.44	227.44
15.800	227.93	227.73	227.73
15.817	228.22	228.01	228.01
15.833	228.50	228.30	228.30
15.850	228.79	228.59	228.59
15.867	229.08	228.88	228.88
15.883	229.37	229.17	229.17
15.900	229.66	229.46	229.46
15.917	229.96	229.75	229.75
15.933	230.25	230.04	230.04
15.950	230.54	230.33	230.33
15.967	230.83	230.62	230.62
15.983	231.12	230.92	230.92
16.000	231.42	231.21	231.21
16.017	231.71	231.50	231.50
16.033	232.00	231.79	231.79
16.050	232.29	232.08	232.08
16.067	232.58	232.37	232.37
16.083	232.86	232.66	232.66
16.100	233.15	232.95	232.95
16.117	233.44	233.23	233.23
16.133	233.72	233.52	233.52
16.150	234.01	233.80	233.80
16.167	234.29	234.09	234.09
16.183	234.57	234.37	234.37
16.200	234.86	234.65	234.65
16.217	235.14	234.94	234.94
16.233	235.43	235.23	235.23
16.250	235.73	235.52	235.52
16.267	236.03	235.81	235.81
16.283	236.33	236.11	236.11
16.300	236.64	236.42	236.42
16.317	236.97	236.74	236.74
16.333	237.31	237.07	237.07
16.350	237.66	237.41	237.41
16.367	238.04	237.77	237.77
16.383	238.43	238.15	238.15
16.400	238.85	238.55	238.55
16.417	239.29	238.98	238.98
16.433	239.75	239.43	239.43

16.450	240.24	239.90	239.90
16.467	240.74	240.39	240.39
16.483	241.26	240.89	240.89
16.500	241.79	241.41	241.41
16.517	242.32	241.94	241.94
16.533	242.88	242.48	242.48
16.550	243.44	243.04	243.04
16.567	244.02	243.61	243.61
16.583	244.62	244.19	244.19
16.600	245.23	244.80	244.80
16.617	245.87	245.42	245.42
16.633	246.53	246.06	246.06
16.650	247.21	246.73	246.73
16.667	247.91	247.41	247.41
16.683	248.64	248.12	248.12
16.700	249.38	248.85	248.85
16.717	250.15	249.61	249.61
16.733	250.95	250.38	250.38
16.750	251.76	251.18	251.18
16.767	252.57	251.99	251.99
16.783	253.40	252.81	252.81
16.800	254.21	253.63	253.63
16.817	255.00	254.43	254.43
16.833	255.77	255.22	255.22
16.850	256.50	255.97	255.97
16.867	257.21	256.70	256.70
16.883	257.88	257.40	257.40
16.900	258.53	258.07	258.07
16.917	259.14	258.70	258.70
16.933	259.72	259.30	259.30
16.950	260.28	259.88	259.88
16.967	260.80	260.42	260.42
16.983	261.28	260.93	260.93
17.000	261.74	261.41	261.41

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PROCESS SUMMARY OF STORAGE:
INFLOW VOLUME = 528.762 AF
OUTFLOW VOLUME = 528.760 AF
LOSS VOLUME = 0.000 AF

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FLOW PROCESS FROM NODE 410.50 TO NODE 411.00 IS CODE = 5.2

>>>>>MODEL CHANNEL ROUTING OF STREAM #3 BY THE CONVEX METHOD<<<<<

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THE MODIFIED C-ROUTING COEFFICIENT IS ESTIMATED IN ORDER
TO ROUTE THE STREAM 3 INFLOW HYDROGRAPH BY 1-MINUTE
INTERVALS(Reference: the National Engineering Handbook,
Hydrology, Chapter 17, page 17-52, August,1972,
U.S. Department of Commerce).

ASSUMED REGULAR CHANNEL INFORMATION:
BASEWIDTH(FT) = 80.00 CHANNEL Z = 3.00
UPSTREAM ELEVATION(FT) = 407.80
DOWNSTREAM ELEVATION(FT) = 400.57
CHANNEL LENGTH(FT) = 1807.63 MANNING'S FACTOR = 0.030
CONSTANT LOSS RATE(CFS) = 0.00

CHANNEL ROUTING COEFFICIENT ESTIMATED:
MAXIMUM INFLOW(CFS) = 276.43

AVERAGE FLOWRATE IN EXCESS OF 50% MAXIMUM INFLOW = 229.35
CHANNEL NORMAL VELOCITY FOR Q = 229.35 CFS = 2.95 FPS
ESTIMATED CHANNEL ROUTING COEFFICIENT = 0.635

MODIFIED CHANNEL ROUTING COEFFICIENT FOR 1-MINUTE
UNIT INTERVALS IS CSTAR = 0.355

CONVEX METHOD CHANNEL ROUTING RESULTS:

MODEL TIME (HRS)	INFLOW (STREAM 3) (CFS)	ROUTED FLOW (CFS)	OUTFLOW LESS LOSS (STREAM 3) (CFS)
15.000	210.34	207.58	207.58
15.017	210.71	207.89	207.89
15.033	211.08	208.20	208.20
15.050	211.46	208.53	208.53
15.067	211.84	208.86	208.86
15.083	212.23	209.20	209.20
15.100	212.62	209.54	209.54
15.117	213.01	209.90	209.90
15.133	213.42	210.25	210.25
15.150	213.82	210.62	210.62
15.167	214.23	210.99	210.99
15.183	214.65	211.36	211.36
15.200	215.06	211.74	211.74
15.217	215.49	212.13	212.13
15.233	215.91	212.52	212.52
15.250	216.34	212.91	212.91
15.267	216.78	213.31	213.31
15.283	217.22	213.71	213.71
15.300	217.66	214.12	214.12
15.317	218.10	214.54	214.54
15.333	218.55	214.95	214.95
15.350	219.01	215.37	215.37
15.367	219.47	215.80	215.80
15.383	219.93	216.23	216.23
15.400	220.38	216.66	216.66
15.417	220.83	217.10	217.10
15.433	221.25	217.54	217.54
15.450	221.65	217.98	217.98
15.467	222.02	218.43	218.43
15.483	222.37	218.89	218.89
15.500	222.70	219.34	219.34
15.517	223.00	219.79	219.79
15.533	223.30	220.24	220.24
15.550	223.58	220.67	220.67
15.567	223.86	221.09	221.09
15.583	224.13	221.49	221.49
15.600	224.41	221.86	221.86
15.617	224.68	222.22	222.22
15.633	224.95	222.55	222.55
15.650	225.22	222.87	222.87
15.667	225.49	223.17	223.17
15.683	225.76	223.47	223.47
15.700	226.04	223.76	223.76
15.717	226.32	224.04	224.04
15.733	226.60	224.31	224.31
15.750	226.88	224.59	224.59
15.767	227.16	224.86	224.86
15.783	227.44	225.14	225.14
15.800	227.73	225.41	225.41
15.817	228.01	225.69	225.69
15.833	228.30	225.96	225.96

15.850	228.59	226.24	226.24
15.867	228.88	226.52	226.52
15.883	229.17	226.80	226.80
15.900	229.46	227.08	227.08
15.917	229.75	227.36	227.36
15.933	230.04	227.65	227.65
15.950	230.33	227.93	227.93
15.967	230.62	228.22	228.22
15.983	230.92	228.51	228.51
16.000	231.21	228.80	228.80
16.017	231.50	229.08	229.08
16.033	231.79	229.38	229.38
16.050	232.08	229.67	229.67
16.067	232.37	229.96	229.96
16.083	232.66	230.25	230.25
16.100	232.95	230.54	230.54
16.117	233.23	230.83	230.83
16.133	233.52	231.12	231.12
16.150	233.80	231.41	231.41
16.167	234.09	231.70	231.70
16.183	234.37	231.99	231.99
16.200	234.65	232.28	232.28
16.217	234.94	232.57	232.57
16.233	235.23	232.86	232.86
16.250	235.52	233.15	233.15
16.267	235.81	233.43	233.43
16.283	236.11	233.72	233.72
16.300	236.42	234.00	234.00
16.317	236.74	234.29	234.29
16.333	237.07	234.57	234.57
16.350	237.41	234.86	234.86
16.367	237.77	235.15	235.15
16.383	238.15	235.44	235.44
16.400	238.55	235.74	235.74
16.417	238.98	236.04	236.04
16.433	239.43	236.35	236.35
16.450	239.90	236.67	236.67
16.467	240.39	237.00	237.00
16.483	240.89	237.34	237.34
16.500	241.41	237.70	237.70
16.517	241.94	238.09	238.09
16.533	242.48	238.49	238.49
16.550	243.04	238.91	238.91
16.567	243.61	239.35	239.35
16.583	244.19	239.81	239.81
16.600	244.80	240.29	240.29
16.617	245.42	240.79	240.79
16.633	246.06	241.30	241.30
16.650	246.73	241.82	241.82
16.667	247.41	242.36	242.36
16.683	248.12	242.91	242.91
16.700	248.85	243.48	243.48
16.717	249.61	244.06	244.06
16.733	250.38	244.67	244.67
16.750	251.18	245.29	245.29
16.767	251.99	245.93	245.93
16.783	252.81	246.59	246.59
16.800	253.63	247.27	247.27
16.817	254.43	247.97	247.97
16.833	255.22	248.70	248.70
16.850	255.97	249.44	249.44
16.867	256.70	250.21	250.21
16.883	257.40	251.00	251.00
16.900	258.07	251.79	251.79

16.917	258.70	252.59	252.59
16.933	259.30	253.39	253.39
16.950	259.88	254.18	254.18
16.967	260.42	254.95	254.95
16.983	260.93	255.71	255.71
17.000	261.41	256.43	256.43

PROCESS SUMMARY OF STORAGE:
INFLOW VOLUME = 528.760 AF
OUTFLOW VOLUME = 528.761 AF
LOSS VOLUME = 0.000 AF

FLOW PROCESS FROM NODE 411.00 TO NODE 415.00 IS CODE = 5.2

>>>>>MODEL CHANNEL ROUTING OF STREAM #3 BY THE CONVEX METHOD<<<<<

THE MODIFIED C-ROUTING COEFFICIENT IS ESTIMATED IN ORDER
TO ROUTE THE STREAM 3 INFLOW HYDROGRAPH BY 1-MINUTE
INTERVALS(Reference: the National Engineering Handbook,
Hydrology, Chapter 17, page 17-52, August,1972,
U.S. Department of Commerce).

ASSUMED REGULAR CHANNEL INFORMATION:
BASEWIDTH(FT) = 80.00 CHANNEL Z = 3.00
UPSTREAM ELEVATION(FT) = 400.57
DOWNSTREAM ELEVATION(FT) = 391.09
CHANNEL LENGTH(FT) = 2613.00 MANNING'S FACTOR = 0.030
CONSTANT LOSS RATE(CFS) = 0.00

CHANNEL ROUTING COEFFICIENT ESTIMATED:
MAXIMUM INFLOW(CFS) = 276.43
AVERAGE FLOWRATE IN EXCESS OF 50% MAXIMUM INFLOW = 229.35
CHANNEL NORMAL VELOCITY FOR Q = 229.35 CFS = 2.86 FPS
ESTIMATED CHANNEL ROUTING COEFFICIENT = 0.627

MODIFIED CHANNEL ROUTING COEFFICIENT FOR 1-MINUTE
UNIT INTERVALS IS CSTAR = 0.328

CONVEX METHOD CHANNEL ROUTING RESULTS:

MODEL TIME (HRS)	INFLOW (STREAM 3) (CFS)	ROUTED FLOW (CFS)	OUTFLOW LESS LOSS (STREAM 3) (CFS)
15.000	207.58	204.75	204.75
15.017	207.89	204.95	204.95
15.033	208.20	205.15	205.15
15.050	208.53	205.37	205.37
15.067	208.86	205.59	205.59
15.083	209.20	205.82	205.82
15.100	209.54	206.07	206.07
15.117	209.90	206.32	206.32
15.133	210.25	206.58	206.58
15.150	210.62	206.86	206.86
15.167	210.99	207.14	207.14
15.183	211.36	207.43	207.43
15.200	211.74	207.73	207.73
15.217	212.13	208.04	208.04
15.233	212.52	208.36	208.36

15.250	212.91	208.68	208.68
15.267	213.31	209.02	209.02
15.283	213.71	209.36	209.36
15.300	214.12	209.70	209.70
15.317	214.54	210.06	210.06
15.333	214.95	210.41	210.41
15.350	215.37	210.78	210.78
15.367	215.80	211.15	211.15
15.383	216.23	211.53	211.53
15.400	216.66	211.91	211.91
15.417	217.10	212.29	212.29
15.433	217.54	212.69	212.69
15.450	217.98	213.08	213.08
15.467	218.43	213.48	213.48
15.483	218.89	213.89	213.89
15.500	219.34	214.30	214.30
15.517	219.79	214.71	214.71
15.533	220.24	215.13	215.13
15.550	220.67	215.55	215.55
15.567	221.09	215.98	215.98
15.583	221.49	216.41	216.41
15.600	221.86	216.84	216.84
15.617	222.22	217.28	217.28
15.633	222.55	217.72	217.72
15.650	222.87	218.17	218.17
15.667	223.17	218.62	218.62
15.683	223.47	219.07	219.07
15.700	223.76	219.51	219.51
15.717	224.04	219.95	219.95
15.733	224.31	220.38	220.38
15.750	224.59	220.80	220.80
15.767	224.86	221.20	221.20
15.783	225.14	221.58	221.58
15.800	225.41	221.94	221.94
15.817	225.69	222.29	222.29
15.833	225.96	222.62	222.62
15.850	226.24	222.94	222.94
15.867	226.52	223.25	223.25
15.883	226.80	223.55	223.55
15.900	227.08	223.84	223.84
15.917	227.36	224.12	224.12
15.933	227.65	224.41	224.41
15.950	227.93	224.69	224.69
15.967	228.22	224.96	224.96
15.983	228.51	225.24	225.24
16.000	228.80	225.52	225.52
16.017	229.08	225.79	225.79
16.033	229.38	226.07	226.07
16.050	229.67	226.35	226.35
16.067	229.96	226.63	226.63
16.083	230.25	226.91	226.91
16.100	230.54	227.19	227.19
16.117	230.83	227.48	227.48
16.133	231.12	227.76	227.76
16.150	231.41	228.05	228.05
16.167	231.70	228.33	228.33
16.183	231.99	228.62	228.62
16.200	232.28	228.91	228.91
16.217	232.57	229.20	229.20
16.233	232.86	229.49	229.49
16.250	233.15	229.78	229.78
16.267	233.43	230.07	230.07
16.283	233.72	230.36	230.36
16.300	234.00	230.65	230.65

16.317	234.29	230.94	230.94
16.333	234.57	231.24	231.24
16.350	234.86	231.53	231.53
16.367	235.15	231.82	231.82
16.383	235.44	232.11	232.11
16.400	235.74	232.39	232.39
16.417	236.04	232.68	232.68
16.433	236.35	232.97	232.97
16.450	236.67	233.26	233.26
16.467	237.00	233.54	233.54
16.483	237.34	233.83	233.83
16.500	237.70	234.11	234.11
16.517	238.09	234.40	234.40
16.533	238.49	234.69	234.69
16.550	238.91	234.98	234.98
16.567	239.35	235.27	235.27
16.583	239.81	235.57	235.57
16.600	240.29	235.87	235.87
16.617	240.79	236.18	236.18
16.633	241.30	236.50	236.50
16.650	241.82	236.83	236.83
16.667	242.36	237.17	237.17
16.683	242.91	237.53	237.53
16.700	243.48	237.90	237.90
16.717	244.06	238.30	238.30
16.733	244.67	238.71	238.71
16.750	245.29	239.14	239.14
16.767	245.93	239.59	239.59
16.783	246.59	240.06	240.06
16.800	247.27	240.54	240.54
16.817	247.97	241.04	241.04
16.833	248.70	241.55	241.55
16.850	249.44	242.08	242.08
16.867	250.21	242.62	242.62
16.883	251.00	243.18	243.18
16.900	251.79	243.76	243.76
16.917	252.59	244.35	244.35
16.933	253.39	244.96	244.96
16.950	254.18	245.59	245.59
16.967	254.95	246.24	246.24
16.983	255.71	246.91	246.91
17.000	256.43	247.61	247.61

PROCESS SUMMARY OF STORAGE:
INFLOW VOLUME = 528.761 AF
OUTFLOW VOLUME = 528.760 AF
LOSS VOLUME = 0.000 AF

FLOW PROCESS FROM NODE 415.00 TO NODE 416.00 IS CODE = 5.2

>>>>>MODEL CHANNEL ROUTING OF STREAM #3 BY THE CONVEX METHOD<<<<<

THE MODIFIED C-ROUTING COEFFICIENT IS ESTIMATED IN ORDER
TO ROUTE THE STREAM 3 INFLOW HYDROGRAPH BY 1-MINUTE
INTERVALS(Reference: the National Engineering Handbook,
Hydrology, Chapter 17, page 17-52, August,1972,
U.S. Department of Commerce).

ASSUMED REGULAR CHANNEL INFORMATION:
BASEWIDTH(FT) = 80.00 CHANNEL Z = 3.00

UPSTREAM ELEVATION(FT) = 391.09
DOWNSTREAM ELEVATION(FT) = 388.50
CHANNEL LENGTH(FT) = 646.00 MANNING'S FACTOR = 0.030
CONSTANT LOSS RATE(CFS) = 0.00

CHANNEL ROUTING COEFFICIENT ESTIMATED:
MAXIMUM INFLOW(CFS) = 276.42
AVERAGE FLOWRATE IN EXCESS OF 50% MAXIMUM INFLOW = 229.34
CHANNEL NORMAL VELOCITY FOR Q = 229.34 CFS = 2.95 FPS
ESTIMATED CHANNEL ROUTING COEFFICIENT = 0.634

MODIFIED CHANNEL ROUTING COEFFICIENT FOR 1-MINUTE
UNIT INTERVALS IS CSTAR = 0.465

CONVEX METHOD CHANNEL ROUTING RESULTS:

MODEL TIME (HRS)	INFLOW (STREAM 3) (CFS)	ROUTED FLOW (CFS)	OUTFLOW LESS LOSS (STREAM 3) (CFS)
15.000	204.75	204.12	204.12
15.017	204.95	204.30	204.30
15.033	205.15	204.48	204.48
15.050	205.37	204.67	204.67
15.067	205.59	204.86	204.86
15.083	205.82	205.07	205.07
15.100	206.07	205.28	205.28
15.117	206.32	205.50	205.50
15.133	206.58	205.73	205.73
15.150	206.86	205.97	205.97
15.167	207.14	206.21	206.21
15.183	207.43	206.47	206.47
15.200	207.73	206.74	206.74
15.217	208.04	207.02	207.02
15.233	208.36	207.31	207.31
15.250	208.68	207.60	207.60
15.267	209.02	207.91	207.91
15.283	209.36	208.22	208.22
15.300	209.70	208.54	208.54
15.317	210.06	208.87	208.87
15.333	210.41	209.21	209.21
15.350	210.78	209.55	209.55
15.367	211.15	209.90	209.90
15.383	211.53	210.25	210.25
15.400	211.91	210.62	210.62
15.417	212.29	210.98	210.98
15.433	212.69	211.36	211.36
15.450	213.08	211.74	211.74
15.467	213.48	212.12	212.12
15.483	213.89	212.51	212.51
15.500	214.30	212.90	212.90
15.517	214.71	213.30	213.30
15.533	215.13	213.70	213.70
15.550	215.55	214.11	214.11
15.567	215.98	214.52	214.52
15.583	216.41	214.94	214.94
15.600	216.84	215.36	215.36
15.617	217.28	215.79	215.79
15.633	217.72	216.21	216.21
15.650	218.17	216.65	216.65
15.667	218.62	217.08	217.08
15.683	219.07	217.52	217.52
15.700	219.51	217.97	217.97

15.717	219.95	218.41	218.41
15.733	220.38	218.86	218.86
15.750	220.80	219.30	219.30
15.767	221.20	219.74	219.74
15.783	221.58	220.17	220.17
15.800	221.94	220.59	220.59
15.817	222.29	221.00	221.00
15.833	222.62	221.38	221.38
15.850	222.94	221.75	221.75
15.867	223.25	222.11	222.11
15.883	223.55	222.45	222.45
15.900	223.84	222.78	222.78
15.917	224.12	223.09	223.09
15.933	224.41	223.40	223.40
15.950	224.69	223.69	223.69
15.967	224.96	223.98	223.98
15.983	225.24	224.27	224.27
16.000	225.52	224.55	224.55
16.017	225.79	224.83	224.83
16.033	226.07	225.11	225.11
16.050	226.35	225.39	225.39
16.067	226.63	225.66	225.66
16.083	226.91	225.94	225.94
16.100	227.19	226.22	226.22
16.117	227.48	226.50	226.50
16.133	227.76	226.78	226.78
16.150	228.05	227.06	227.06
16.167	228.33	227.35	227.35
16.183	228.62	227.63	227.63
16.200	228.91	227.92	227.92
16.217	229.20	228.20	228.20
16.233	229.49	228.49	228.49
16.250	229.78	228.78	228.78
16.267	230.07	229.07	229.07
16.283	230.36	229.36	229.36
16.300	230.65	229.65	229.65
16.317	230.94	229.94	229.94
16.333	231.24	230.23	230.23
16.350	231.53	230.52	230.52
16.367	231.82	230.81	230.81
16.383	232.11	231.10	231.10
16.400	232.39	231.39	231.39
16.417	232.68	231.68	231.68
16.433	232.97	231.97	231.97
16.450	233.26	232.26	232.26
16.467	233.54	232.55	232.55
16.483	233.83	232.83	232.83
16.500	234.11	233.12	233.12
16.517	234.40	233.41	233.41
16.533	234.69	233.69	233.69
16.550	234.98	233.98	233.98
16.567	235.27	234.27	234.27
16.583	235.57	234.55	234.55
16.600	235.87	234.84	234.84
16.617	236.18	235.14	235.14
16.633	236.50	235.43	235.43
16.650	236.83	235.73	235.73
16.667	237.17	236.04	236.04
16.683	237.53	236.36	236.36
16.700	237.90	236.68	236.68
16.717	238.30	237.02	237.02
16.733	238.71	237.38	237.38
16.750	239.14	237.75	237.75
16.767	239.59	238.13	238.13

16.783	240.06	238.54	238.54
16.800	240.54	238.96	238.96
16.817	241.04	239.40	239.40
16.833	241.55	239.86	239.86
16.850	242.08	240.33	240.33
16.867	242.62	240.82	240.82
16.883	243.18	241.33	241.33
16.900	243.76	241.85	241.85
16.917	244.35	242.39	242.39
16.933	244.96	242.94	242.94
16.950	245.59	243.51	243.51
16.967	246.24	244.09	244.09
16.983	246.91	244.70	244.70
17.000	247.61	245.32	245.32

PROCESS SUMMARY OF STORAGE:
INFLOW VOLUME = 528.760 AF
OUTFLOW VOLUME = 528.760 AF
LOSS VOLUME = 0.000 AF

FLOW PROCESS FROM NODE 416.00 TO NODE 417.00 IS CODE = 5.2

>>>>>MODEL CHANNEL ROUTING OF STREAM #3 BY THE CONVEX METHOD<<<<<

THE MODIFIED C-ROUTING COEFFICIENT IS ESTIMATED IN ORDER
TO ROUTE THE STREAM 3 INFLOW HYDROGRAPH BY 1-MINUTE
INTERVALS(Reference: the National Engineering Handbook,
Hydrology, Chapter 17, page 17-52, August,1972,
U.S. Department of Commerce).

ASSUMED REGULAR CHANNEL INFORMATION:
BASEWIDTH(FT) = 80.00 CHANNEL Z = 3.00
UPSTREAM ELEVATION(FT) = 388.50
DOWNSTREAM ELEVATION(FT) = 384.20
CHANNEL LENGTH(FT) = 1075.00 MANNING'S FACTOR = 0.030
CONSTANT LOSS RATE(CFS) = 0.00

CHANNEL ROUTING COEFFICIENT ESTIMATED:
MAXIMUM INFLOW(CFS) = 276.42
AVERAGE FLOWRATE IN EXCESS OF 50% MAXIMUM INFLOW = 229.34
CHANNEL NORMAL VELOCITY FOR Q = 229.34 CFS = 2.95 FPS
ESTIMATED CHANNEL ROUTING COEFFICIENT = 0.634

MODIFIED CHANNEL ROUTING COEFFICIENT FOR 1-MINUTE
UNIT INTERVALS IS CSTAR = 0.399

CONVEX METHOD CHANNEL ROUTING RESULTS:

MODEL TIME (HRS)	INFLOW (STREAM 3) (CFS)	ROUTED FLOW (CFS)	OUTFLOW LESS LOSS (STREAM 3) (CFS)
15.000	204.12	203.29	203.29
15.017	204.30	203.44	203.44
15.033	204.48	203.59	203.59
15.050	204.67	203.74	203.74
15.067	204.86	203.91	203.91
15.083	205.07	204.07	204.07
15.100	205.28	204.25	204.25

15.117	205.50	204.42	204.42
15.133	205.73	204.61	204.61
15.150	205.97	204.80	204.80
15.167	206.21	205.01	205.01
15.183	206.47	205.22	205.22
15.200	206.74	205.43	205.43
15.217	207.02	205.66	205.66
15.233	207.31	205.90	205.90
15.250	207.60	206.14	206.14
15.267	207.91	206.40	206.40
15.283	208.22	206.66	206.66
15.300	208.54	206.94	206.94
15.317	208.87	207.22	207.22
15.333	209.21	207.51	207.51
15.350	209.55	207.81	207.81
15.367	209.90	208.12	208.12
15.383	210.25	208.44	208.44
15.400	210.62	208.77	208.77
15.417	210.98	209.10	209.10
15.433	211.36	209.44	209.44
15.450	211.74	209.79	209.79
15.467	212.12	210.14	210.14
15.483	212.51	210.50	210.50
15.500	212.90	210.86	210.86
15.517	213.30	211.24	211.24
15.533	213.70	211.61	211.61
15.550	214.11	211.99	211.99
15.567	214.52	212.38	212.38
15.583	214.94	212.77	212.77
15.600	215.36	213.17	213.17
15.617	215.79	213.57	213.57
15.633	216.21	213.98	213.98
15.650	216.65	214.39	214.39
15.667	217.08	214.80	214.80
15.683	217.52	215.22	215.22
15.700	217.97	215.64	215.64
15.717	218.41	216.07	216.07
15.733	218.86	216.50	216.50
15.750	219.30	216.93	216.93
15.767	219.74	217.37	217.37
15.783	220.17	217.81	217.81
15.800	220.59	218.26	218.26
15.817	221.00	218.70	218.70
15.833	221.38	219.14	219.14
15.850	221.75	219.58	219.58
15.867	222.11	220.01	220.01
15.883	222.45	220.42	220.42
15.900	222.78	220.83	220.83
15.917	223.09	221.22	221.22
15.933	223.40	221.60	221.60
15.950	223.69	221.96	221.96
15.967	223.98	222.30	222.30
15.983	224.27	222.64	222.64
16.000	224.55	222.96	222.96
16.017	224.83	223.27	223.27
16.033	225.11	223.57	223.57
16.050	225.39	223.87	223.87
16.067	225.66	224.16	224.16
16.083	225.94	224.44	224.44
16.100	226.22	224.72	224.72
16.117	226.50	225.01	225.01
16.133	226.78	225.28	225.28
16.150	227.06	225.56	225.56
16.167	227.35	225.84	225.84

16.183	227.63	226.12	226.12
16.200	227.92	226.40	226.40
16.217	228.20	226.68	226.68
16.233	228.49	226.96	226.96
16.250	228.78	227.25	227.25
16.267	229.07	227.53	227.53
16.283	229.36	227.82	227.82
16.300	229.65	228.10	228.10
16.317	229.94	228.39	228.39
16.333	230.23	228.68	228.68
16.350	230.52	228.96	228.96
16.367	230.81	229.25	229.25
16.383	231.10	229.54	229.54
16.400	231.39	229.83	229.83
16.417	231.68	230.12	230.12
16.433	231.97	230.41	230.41
16.450	232.26	230.71	230.71
16.467	232.55	231.00	231.00
16.483	232.83	231.29	231.29
16.500	233.12	231.58	231.58
16.517	233.41	231.87	231.87
16.533	233.69	232.15	232.15
16.550	233.98	232.44	232.44
16.567	234.27	232.73	232.73
16.583	234.55	233.02	233.02
16.600	234.84	233.30	233.30
16.617	235.14	233.59	233.59
16.633	235.43	233.88	233.88
16.650	235.73	234.17	234.17
16.667	236.04	234.45	234.45
16.683	236.36	234.74	234.74
16.700	236.68	235.04	235.04
16.717	237.02	235.33	235.33
16.733	237.38	235.63	235.63
16.750	237.75	235.94	235.94
16.767	238.13	236.26	236.26
16.783	238.54	236.59	236.59
16.800	238.96	236.92	236.92
16.817	239.40	237.27	237.27
16.833	239.86	237.64	237.64
16.850	240.33	238.02	238.02
16.867	240.82	238.42	238.42
16.883	241.33	238.84	238.84
16.900	241.85	239.28	239.28
16.917	242.39	239.73	239.73
16.933	242.94	240.20	240.20
16.950	243.51	240.68	240.68
16.967	244.09	241.18	241.18
16.983	244.70	241.69	241.69
17.000	245.32	242.23	242.23

PROCESS SUMMARY OF STORAGE:
INFLOW VOLUME = 528.760 AF
OUTFLOW VOLUME = 528.759 AF
LOSS VOLUME = 0.000 AF

FLOW PROCESS FROM NODE 417.00 TO NODE 417.50 IS CODE = 5.2

>>>>>MODEL CHANNEL ROUTING OF STREAM #3 BY THE CONVEX METHOD<<<<<

THE MODIFIED C-ROUTING COEFFICIENT IS ESTIMATED IN ORDER

TO ROUTE THE STREAM 3 INFLOW HYDROGRAPH BY 1-MINUTE
INTERVALS(Reference: the National Engineering Handbook,
Hydrology, Chapter 17, page 17-52, August,1972,
U.S. Department of Commerce).

ASSUMED REGULAR CHANNEL INFORMATION:
BASEWIDTH(FT) = 80.00 CHANNEL Z = 3.00
UPSTREAM ELEVATION(FT) = 384.20
DOWNSTREAM ELEVATION(FT) = 380.62
CHANNEL LENGTH(FT) = 895.00 MANNING'S FACTOR = 0.030
CONSTANT LOSS RATE(CFS) = 0.00

CHANNEL ROUTING COEFFICIENT ESTIMATED:
MAXIMUM INFLOW(CFS) = 276.42
AVERAGE FLOWRATE IN EXCESS OF 50% MAXIMUM INFLOW = 229.33
CHANNEL NORMAL VELOCITY FOR Q = 229.33 CFS = 2.95 FPS
ESTIMATED CHANNEL ROUTING COEFFICIENT = 0.634

MODIFIED CHANNEL ROUTING COEFFICIENT FOR 1-MINUTE
UNIT INTERVALS IS CSTAR = 0.420

CONVEX METHOD CHANNEL ROUTING RESULTS:

MODEL TIME (HRS)	INFLOW (STREAM 3) (CFS)	ROUTED FLOW (CFS)	OUTFLOW LESS LOSS (STREAM 3) (CFS)
15.000	203.29	202.68	202.68
15.017	203.44	202.81	202.81
15.033	203.59	202.94	202.94
15.050	203.74	203.08	203.08
15.067	203.91	203.22	203.22
15.083	204.07	203.36	203.36
15.100	204.25	203.51	203.51
15.117	204.42	203.66	203.66
15.133	204.61	203.82	203.82
15.150	204.80	203.98	203.98
15.167	205.01	204.15	204.15
15.183	205.22	204.33	204.33
15.200	205.43	204.51	204.51
15.217	205.66	204.70	204.70
15.233	205.90	204.90	204.90
15.250	206.14	205.11	205.11
15.267	206.40	205.32	205.32
15.283	206.66	205.54	205.54
15.300	206.94	205.77	205.77
15.317	207.22	206.01	206.01
15.333	207.51	206.26	206.26
15.350	207.81	206.52	206.52
15.367	208.12	206.79	206.79
15.383	208.44	207.07	207.07
15.400	208.77	207.35	207.35
15.417	209.10	207.65	207.65
15.433	209.44	207.95	207.95
15.450	209.79	208.27	208.27
15.467	210.14	208.59	208.59
15.483	210.50	208.92	208.92
15.500	210.86	209.25	209.25
15.517	211.24	209.59	209.59
15.533	211.61	209.94	209.94
15.550	211.99	210.30	210.30
15.567	212.38	210.66	210.66

15.583	212.77	211.03	211.03
15.600	213.17	211.40	211.40
15.617	213.57	211.78	211.78
15.633	213.98	212.16	212.16
15.650	214.39	212.55	212.55
15.667	214.80	212.94	212.94
15.683	215.22	213.34	213.34
15.700	215.64	213.74	213.74
15.717	216.07	214.15	214.15
15.733	216.50	214.56	214.56
15.750	216.93	214.98	214.98
15.767	217.37	215.40	215.40
15.783	217.81	215.82	215.82
15.800	218.26	216.25	216.25
15.817	218.70	216.69	216.69
15.833	219.14	217.12	217.12
15.850	219.58	217.56	217.56
15.867	220.01	218.00	218.00
15.883	220.42	218.44	218.44
15.900	220.83	218.88	218.88
15.917	221.22	219.32	219.32
15.933	221.60	219.75	219.75
15.950	221.96	220.17	220.17
15.967	222.30	220.57	220.57
15.983	222.64	220.97	220.97
16.000	222.96	221.35	221.35
16.017	223.27	221.72	221.72
16.033	223.57	222.08	222.08
16.050	223.87	222.42	222.42
16.067	224.16	222.75	222.75
16.083	224.44	223.07	223.07
16.100	224.72	223.38	223.38
16.117	225.01	223.68	223.68
16.133	225.28	223.97	223.97
16.150	225.56	224.26	224.26
16.167	225.84	224.55	224.55
16.183	226.12	224.83	224.83
16.200	226.40	225.12	225.12
16.217	226.68	225.40	225.40
16.233	226.96	225.68	225.68
16.250	227.25	225.96	225.96
16.267	227.53	226.24	226.24
16.283	227.82	226.52	226.52
16.300	228.10	226.80	226.80
16.317	228.39	227.08	227.08
16.333	228.68	227.37	227.37
16.350	228.96	227.65	227.65
16.367	229.25	227.94	227.94
16.383	229.54	228.22	228.22
16.400	229.83	228.51	228.51
16.417	230.12	228.80	228.80
16.433	230.41	229.08	229.08
16.450	230.71	229.37	229.37
16.467	231.00	229.66	229.66
16.483	231.29	229.95	229.95
16.500	231.58	230.24	230.24
16.517	231.87	230.53	230.53
16.533	232.15	230.83	230.83
16.550	232.44	231.12	231.12
16.567	232.73	231.41	231.41
16.583	233.02	231.69	231.69
16.600	233.30	231.98	231.98
16.617	233.59	232.27	232.27
16.633	233.88	232.56	232.56

16.650	234.17	232.85	232.85
16.667	234.45	233.14	233.14
16.683	234.74	233.42	233.42
16.700	235.04	233.71	233.71
16.717	235.33	234.00	234.00
16.733	235.63	234.29	234.29
16.750	235.94	234.58	234.58
16.767	236.26	234.87	234.87
16.783	236.59	235.16	235.16
16.800	236.92	235.46	235.46
16.817	237.27	235.77	235.77
16.833	237.64	236.08	236.08
16.850	238.02	236.41	236.41
16.867	238.42	236.74	236.74
16.883	238.84	237.09	237.09
16.900	239.28	237.45	237.45
16.917	239.73	237.82	237.82
16.933	240.20	238.21	238.21
16.950	240.68	238.62	238.62
16.967	241.18	239.05	239.05
16.983	241.69	239.49	239.49
17.000	242.23	239.95	239.95

PROCESS SUMMARY OF STORAGE:
INFLOW VOLUME = 528.759 AF
OUTFLOW VOLUME = 528.760 AF
LOSS VOLUME = 0.000 AF

FLOW PROCESS FROM NODE 417.50 TO NODE 419.00 IS CODE = 5.2

>>>>>MODEL CHANNEL ROUTING OF STREAM #3 BY THE CONVEX METHOD<<<<<

THE MODIFIED C-ROUTING COEFFICIENT IS ESTIMATED IN ORDER
TO ROUTE THE STREAM 3 INFLOW HYDROGRAPH BY 1-MINUTE
INTERVALS(Reference: the National Engineering Handbook,
Hydrology, Chapter 17, page 17-52, August,1972,
U.S. Department of Commerce).

ASSUMED REGULAR CHANNEL INFORMATION:
BASEWIDTH(FT) = 80.00 CHANNEL Z = 3.00
UPSTREAM ELEVATION(FT) = 380.62
DOWNSTREAM ELEVATION(FT) = 374.92
CHANNEL LENGTH(FT) = 1425.00 MANNING'S FACTOR = 0.030
CONSTANT LOSS RATE(CFS) = 0.00

CHANNEL ROUTING COEFFICIENT ESTIMATED:
MAXIMUM INFLOW(CFS) = 276.42
AVERAGE FLOWRATE IN EXCESS OF 50% MAXIMUM INFLOW = 229.33
CHANNEL NORMAL VELOCITY FOR Q = 229.33 CFS = 2.95 FPS
ESTIMATED CHANNEL ROUTING COEFFICIENT = 0.634

MODIFIED CHANNEL ROUTING COEFFICIENT FOR 1-MINUTE
UNIT INTERVALS IS CSTAR = 0.373

CONVEX METHOD CHANNEL ROUTING RESULTS:

MODEL TIME	INFLOW (STREAM 3)	ROUTED FLOW	OUTFLOW LESS LOSS (STREAM 3)

(HRS)	(CFS)	(CFS)	(CFS)
15.000	202.68	201.88	201.88
15.017	202.81	201.99	201.99
15.033	202.94	202.11	202.11
15.050	203.08	202.22	202.22
15.067	203.22	202.34	202.34
15.083	203.36	202.46	202.46
15.100	203.51	202.59	202.59
15.117	203.66	202.71	202.71
15.133	203.82	202.84	202.84
15.150	203.98	202.98	202.98
15.167	204.15	203.11	203.11
15.183	204.33	203.25	203.25
15.200	204.51	203.40	203.40
15.217	204.70	203.55	203.55
15.233	204.90	203.71	203.71
15.250	205.11	203.87	203.87
15.267	205.32	204.03	204.03
15.283	205.54	204.20	204.20
15.300	205.77	204.38	204.38
15.317	206.01	204.57	204.57
15.333	206.26	204.76	204.76
15.350	206.52	204.96	204.96
15.367	206.79	205.17	205.17
15.383	207.07	205.38	205.38
15.400	207.35	205.61	205.61
15.417	207.65	205.84	205.84
15.433	207.95	206.09	206.09
15.450	208.27	206.34	206.34
15.467	208.59	206.60	206.60
15.483	208.92	206.87	206.87
15.500	209.25	207.15	207.15
15.517	209.59	207.44	207.44
15.533	209.94	207.73	207.73
15.550	210.30	208.04	208.04
15.567	210.66	208.35	208.35
15.583	211.03	208.68	208.68
15.600	211.40	209.00	209.00
15.617	211.78	209.34	209.34
15.633	212.16	209.68	209.68
15.650	212.55	210.03	210.03
15.667	212.94	210.39	210.39
15.683	213.34	210.75	210.75
15.700	213.74	211.12	211.12
15.717	214.15	211.49	211.49
15.733	214.56	211.87	211.87
15.750	214.98	212.26	212.26
15.767	215.40	212.64	212.64
15.783	215.82	213.04	213.04
15.800	216.25	213.44	213.44
15.817	216.69	213.84	213.84
15.833	217.12	214.25	214.25
15.850	217.56	214.66	214.66
15.867	218.00	215.08	215.08
15.883	218.44	215.50	215.50
15.900	218.88	215.92	215.92
15.917	219.32	216.35	216.35
15.933	219.75	216.79	216.79
15.950	220.17	217.22	217.22
15.967	220.57	217.66	217.66
15.983	220.97	218.10	218.10
16.000	221.35	218.54	218.54
16.017	221.72	218.97	218.97
16.033	222.08	219.40	219.40

16.050	222.42	219.82	219.82
16.067	222.75	220.23	220.23
16.083	223.07	220.64	220.64
16.100	223.38	221.03	221.03
16.117	223.68	221.40	221.40
16.133	223.97	221.77	221.77
16.150	224.26	222.12	222.12
16.167	224.55	222.46	222.46
16.183	224.83	222.79	222.79
16.200	225.12	223.11	223.11
16.217	225.40	223.42	223.42
16.233	225.68	223.72	223.72
16.250	225.96	224.02	224.02
16.267	226.24	224.31	224.31
16.283	226.52	224.60	224.60
16.300	226.80	224.89	224.89
16.317	227.08	225.17	225.17
16.333	227.37	225.45	225.45
16.350	227.65	225.73	225.73
16.367	227.94	226.02	226.02
16.383	228.22	226.30	226.30
16.400	228.51	226.58	226.58
16.417	228.80	226.86	226.86
16.433	229.08	227.14	227.14
16.450	229.37	227.43	227.43
16.467	229.66	227.71	227.71
16.483	229.95	228.00	228.00
16.500	230.24	228.28	228.28
16.517	230.53	228.57	228.57
16.533	230.83	228.86	228.86
16.550	231.12	229.15	229.15
16.567	231.41	229.44	229.44
16.583	231.69	229.73	229.73
16.600	231.98	230.02	230.02
16.617	232.27	230.31	230.31
16.633	232.56	230.60	230.60
16.650	232.85	230.89	230.89
16.667	233.14	231.18	231.18
16.683	233.42	231.47	231.47
16.700	233.71	231.76	231.76
16.717	234.00	232.04	232.04
16.733	234.29	232.33	232.33
16.750	234.58	232.62	232.62
16.767	234.87	232.91	232.91
16.783	235.16	233.20	233.20
16.800	235.46	233.48	233.48
16.817	235.77	233.77	233.77
16.833	236.08	234.06	234.06
16.850	236.41	234.35	234.35
16.867	236.74	234.64	234.64
16.883	237.09	234.94	234.94
16.900	237.45	235.24	235.24
16.917	237.82	235.54	235.54
16.933	238.21	235.85	235.85
16.950	238.62	236.17	236.17
16.967	239.05	236.50	236.50
16.983	239.49	236.84	236.84
17.000	239.95	237.19	237.19

PROCESS SUMMARY OF STORAGE:
INFLOW VOLUME = 528.760 AF
OUTFLOW VOLUME = 528.759 AF
LOSS VOLUME = 0.000 AF

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  FLOW PROCESS FROM NODE     419.00 TO NODE     420.00 IS CODE = 5.2
--------------------------------------------------------------------------
  >>>>>MODEL CHANNEL ROUTING OF STREAM #3 BY THE CONVEX METHOD<<<<<
==========================================================================

        THE MODIFIED C-ROUTING COEFFICIENT IS ESTIMATED IN ORDER
        TO ROUTE THE STREAM 3 INFLOW HYDROGRAPH BY 1-MINUTE
        INTERVALS(Reference: the National Engineering Handbook,
        Hydrology, Chapter 17, page 17-52, August,1972,
        U.S. Department of Commerce).


        ASSUMED REGULAR CHANNEL INFORMATION:
          BASEWIDTH(FT) =     9.77     CHANNEL Z =  0.00
          UPSTREAM ELEVATION(FT) =      381.90
          DOWNSTREAM ELEVATION(FT) =     262.60
          CHANNEL LENGTH(FT) =    2465.00     MANNING'S FACTOR = 0.013
          CONSTANT LOSS RATE(CFS) =    0.00


        CHANNEL ROUTING COEFFICIENT ESTIMATED:
          MAXIMUM INFLOW(CFS) =    276.41
          AVERAGE FLOWRATE IN EXCESS OF 50% MAXIMUM INFLOW =   229.32
          CHANNEL NORMAL VELOCITY FOR Q =   229.32 CFS =  22.79 FPS
          ESTIMATED CHANNEL ROUTING COEFFICIENT = 0.931

        MODIFIED CHANNEL ROUTING COEFFICIENT FOR 1-MINUTE
        UNIT INTERVALS IS CSTAR = 0.858


        CONVEX METHOD CHANNEL ROUTING RESULTS:
                                          OUTFLOW LESS
         MODEL        INFLOW     ROUTED      LOSS
          TIME      (STREAM 3)    FLOW     (STREAM 3)
         (HRS)        (CFS)       (CFS)      (CFS)
         15.000       201.88      201.68     201.68
         15.017       201.99      201.79     201.79
         15.033       202.11      201.90     201.90
         15.050       202.22      202.01     202.01
         15.067       202.34      202.13     202.13
         15.083       202.46      202.24     202.24
         15.100       202.59      202.36     202.36
         15.117       202.71      202.48     202.48
         15.133       202.84      202.61     202.61
         15.150       202.98      202.73     202.73
         15.167       203.11      202.86     202.86
         15.183       203.25      203.00     203.00
         15.200       203.40      203.14     203.14
         15.217       203.55      203.28     203.28
         15.233       203.71      203.42     203.42
         15.250       203.87      203.57     203.57
         15.267       204.03      203.73     203.73
         15.283       204.20      203.89     203.89
         15.300       204.38      204.06     204.06
         15.317       204.57      204.23     204.23
         15.333       204.76      204.41     204.41
         15.350       204.96      204.60     204.60
         15.367       205.17      204.79     204.79
         15.383       205.38      204.99     204.99
         15.400       205.61      205.20     205.20
         15.417       205.84      205.42     205.42
         15.433       206.09      205.65     205.65
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         15.450       206.34      205.88     205.88
         15.467       206.60      206.13     206.13
         15.483       206.87      206.38     206.38
         15.500       207.15      206.64     206.64
         15.517       207.44      206.91     206.91
         15.533       207.73      207.20     207.20
         15.550       208.04      207.49     207.49
         15.567       208.35      207.78     207.78
         15.583       208.68      208.09     208.09
         15.600       209.00      208.41     208.41
         15.617       209.34      208.73     208.73
         15.633       209.68      209.06     209.06
         15.650       210.03      209.40     209.40
         15.667       210.39      209.74     209.74
         15.683       210.75      210.09     210.09
         15.700       211.12      210.45     210.45
         15.717       211.49      210.81     210.81
         15.733       211.87      211.18     211.18
         15.750       212.26      211.55     211.55
         15.767       212.64      211.93     211.93
         15.783       213.04      212.32     212.32
         15.800       213.44      212.71     212.71
         15.817       213.84      213.10     213.10
         15.833       214.25      213.50     213.50
         15.850       214.66      213.91     213.91
         15.867       215.08      214.31     214.31
         15.883       215.50      214.73     214.73
         15.900       215.92      215.14     215.14
         15.917       216.35      215.57     215.57
         15.933       216.79      215.99     215.99
         15.950       217.22      216.42     216.42
         15.967       217.66      216.85     216.85
         15.983       218.10      217.29     217.29
         16.000       218.54      217.73     217.73
         16.017       218.97      218.17     218.17
         16.033       219.40      218.60     218.60
         16.050       219.82      219.04     219.04
         16.067       220.23      219.46     219.46
         16.083       220.64      219.88     219.88
         16.100       221.03      220.30     220.30
         16.117       221.40      220.70     220.70
         16.133       221.77      221.08     221.08
         16.150       222.12      221.46     221.46
         16.167       222.46      221.82     221.82
         16.183       222.79      222.17     222.17
         16.200       223.11      222.51     222.51
         16.217       223.42      222.84     222.84
         16.233       223.72      223.16     223.16
         16.250       224.02      223.47     223.47
         16.267       224.31      223.77     223.77
         16.283       224.60      224.07     224.07
         16.300       224.89      224.36     224.36
         16.317       225.17      224.65     224.65
         16.333       225.45      224.93     224.93
         16.350       225.73      225.21     225.21
         16.367       226.02      225.50     225.50
         16.383       226.30      225.78     225.78
         16.400       226.58      226.06     226.06
         16.417       226.86      226.34     226.34
         16.433       227.14      226.62     226.62
         16.450       227.43      226.91     226.91
         16.467       227.71      227.19     227.19
         16.483       228.00      227.47     227.47
         16.500       228.28      227.76     227.76
```

16.517	228.57	228.04	228.04
16.533	228.86	228.33	228.33
16.550	229.15	228.62	228.62
16.567	229.44	228.90	228.90
16.583	229.73	229.19	229.19
16.600	230.02	229.48	229.48
16.617	230.31	229.77	229.77
16.633	230.60	230.06	230.06
16.650	230.89	230.35	230.35
16.667	231.18	230.64	230.64
16.683	231.47	230.93	230.93
16.700	231.76	231.22	231.22
16.717	232.04	231.51	231.51
16.733	232.33	231.80	231.80
16.750	232.62	232.09	232.09
16.767	232.91	232.38	232.38
16.783	233.20	232.67	232.67
16.800	233.48	232.95	232.95
16.817	233.77	233.24	233.24
16.833	234.06	233.53	233.53
16.850	234.35	233.82	233.82
16.867	234.64	234.10	234.10
16.883	234.94	234.40	234.40
16.900	235.24	234.69	234.69
16.917	235.54	234.98	234.98
16.933	235.85	235.28	235.28
16.950	236.17	235.59	235.59
16.967	236.50	235.90	235.90
16.983	236.84	236.22	236.22
17.000	237.19	236.55	236.55

PROCESS SUMMARY OF STORAGE:
INFLOW VOLUME = 528.759 AF
OUTFLOW VOLUME = 528.759 AF
LOSS VOLUME = 0.000 AF

FLOW PROCESS FROM NODE 400.00 TO NODE 420.00 IS CODE = 1

>>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS)<<<<<

(UNIT-HYDROGRAPH ADDED TO STREAM #4)

WATERSHED AREA = 1622.060 ACRES
BASEFLOW = 0.000 CFS/SQUARE-MILE
*USER ENTERED "LAG" TIME = 0.757 HOURS
VALLEY(DEVELOPED):
"S"-CURVE PERCENTAGE(DECIMAL NOTATION) = 0.800
FOOTHILL "S"-CURVE PERCENTAGE(DECIMAL NOTATION) = 0.000
MOUNTAIN "S"-CURVE PERCENTAGE(DECIMAL NOTATION) = 0.000
VALLEY(UNDEVELOPED)/DESERT:
"S"-CURVE PERCENTAGE(DECIMAL NOTATION) = 0.200
DESERT(UNDEVELOPED) "S"-CURVE PERCENTAGE(DECIMAL NOTATION) = 0.000
MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) = 0.180
LOW LOSS FRACTION = 0.261
HYDROGRAPH MODEL #7 SPECIFIED

SPECIFIED PEAK 5-MINUTES RAINFALL(INCH)= 0.53
SPECIFIED PEAK 30-MINUTES RAINFALL(INCH)= 1.11
SPECIFIED PEAK 1-HOUR RAINFALL(INCH) = 1.48
SPECIFIED PEAK 3-HOUR RAINFALL(INCH) = 2.68
SPECIFIED PEAK 6-HOUR RAINFALL(INCH) = 3.43

SPECIFIED PEAK 24-HOUR RAINFALL(INCH) = 5.74

*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE FACTOR = 0.867
30-MINUTE FACTOR = 0.867
1-HOUR FACTOR = 0.867
3-HOUR FACTOR = 0.980
6-HOUR FACTOR = 0.990
24-HOUR FACTOR = 0.994

UNIT HYDROGRAPH TIME UNIT = 1.000 MINUTES
UNIT INTERVAL PERCENTAGE OF LAG-TIME = 2.202

RUNOFF HYDROGRAPH LISTING LIMITS:
MODEL TIME(HOURS) FOR BEGINNING OF RESULTS = 15.00
MODEL TIME(HOURS) FOR END OF RESULTS = 17.00

UNIT HYDROGRAPH DETERMINATION

INTERVAL NUMBER	"S" GRAPH MEAN VALUES	UNIT HYDROGRAPH ORDINATES(CFS)
1	0.137	134.711
2	0.412	269.422
3	0.687	269.422
4	0.961	269.422
5	1.236	269.422
6	1.513	271.596
7	1.801	282.610
8	2.100	293.593
9	2.462	354.891
10	2.872	401.994
11	3.287	407.384
12	3.711	415.910
13	4.162	442.149
14	4.704	530.973
15	5.410	693.070
16	6.138	714.094
17	6.976	821.599
18	7.873	879.441
19	8.853	961.804
20	9.965	1090.925
21	11.067	1080.653
22	12.170	1081.871
23	13.341	1148.487
24	14.534	1170.487
25	16.066	1502.199
26	17.360	1269.113
27	18.593	1209.326
28	19.826	1209.313
29	21.165	1313.923
30	22.712	1517.461
31	24.322	1578.677
32	25.675	1327.060
33	26.975	1275.111
34	28.343	1341.362
35	30.018	1643.411
36	31.573	1525.133
37	33.221	1616.905
38	35.223	1963.232

39	36.838	1584.114
40	38.088	1226.214
41	39.946	1821.732
42	41.900	1916.544
43	43.889	1951.184
44	45.787	1861.905
45	47.821	1995.357
46	50.048	2184.252
47	51.699	1618.753
48	53.222	1494.154
49	54.661	1411.760
50	56.117	1427.265
51	57.763	1615.146
52	59.606	1807.480
53	61.628	1983.575
54	63.244	1584.319
55	64.648	1377.742
56	65.975	1301.682
57	67.431	1427.505
58	68.859	1401.276
59	70.031	1149.062
60	71.287	1231.841
61	72.548	1237.319
62	73.748	1176.526
63	74.724	956.998
64	75.668	926.466
65	76.554	869.115
66	77.429	857.494
67	78.354	908.005
68	79.336	962.910
69	80.215	862.283
70	81.010	779.571
71	81.772	747.737
72	82.532	744.767
73	83.239	693.656
74	83.869	618.562
75	84.522	640.323
76	85.142	607.637
77	85.625	474.031
78	86.108	473.560
79	86.591	473.515
80	87.070	469.953
81	87.516	437.798
82	87.955	430.434
83	88.394	430.487
84	88.822	420.182
85	89.226	395.989
86	89.625	391.499
87	90.024	390.990
88	90.422	390.294
89	90.764	336.251
90	91.051	281.092
91	91.338	281.137
92	91.621	278.338
93	91.904	276.871
94	92.186	276.879
95	92.469	277.133
96	92.720	247.013
97	92.918	193.942
98	93.114	192.476
99	93.300	181.677
100	93.482	178.549
101	93.664	178.549
102	93.846	178.983

103	94.032	182.022
104	94.225	189.243
105	94.418	189.699
106	94.611	189.071
107	94.790	175.504
108	94.890	98.314
109	94.962	70.911
110	95.034	70.050
111	95.106	70.484
112	95.178	70.821
113	95.249	70.215
114	95.323	72.303
115	95.409	84.059
116	95.493	82.495
117	95.562	68.127
118	95.631	67.341
119	95.700	67.259
120	95.768	67.087
121	95.837	67.693
122	95.906	67.267
123	95.975	67.686
124	96.043	66.653
125	96.112	67.693
126	96.179	66.219
127	96.245	64.393
128	96.310	63.944
129	96.374	62.739
130	96.439	63.607
131	96.503	62.822
132	96.568	63.607
133	96.632	62.911
134	96.696	62.822
135	96.760	62.994
136	96.824	62.657
137	96.886	61.085
138	96.944	56.379
139	97.001	55.862
140	97.058	56.042
141	97.115	56.386
142	97.174	57.254
143	97.232	57.434
144	97.291	57.426
145	97.349	57.426
146	97.408	57.613
147	97.466	57.247
148	97.525	57.434
149	97.583	57.426
150	97.642	57.426

TOTAL SOIL-LOSS VOLUME(ACRE-FEET) = 177.5534
TOTAL STORM RUNOFF VOLUME(ACRE-FEET) = 579.3964

24-HOUR STORM RUNOFF HYDROGRAPH

HYDROGRAPH IN ONE-MINUTE UNIT INTERVALS(CFS)

(Notes: Time indicated is at END of Each Unit Intervals.
Peak 5-minute rainfall intensity is modeled as
a constant value for entire 5-minute period.)

TIME(HRS)	VOLUME(AF)	Q(CFS)	0.	500.0	1000.0	1500.0	2000.0
15.000	214.1535	625.73	.	. Q V	.	.	.
15.017	215.0239	631.94	.	. Q V	.	.	.
15.033	215.9027	638.00	.	. Q V	.	.	.
15.050	216.7890	643.45	.	. Q V	.	.	.
15.067	217.6827	648.84	.	. Q V	.	.	.
15.083	218.5837	654.11	.	. Q V	.	.	.
15.100	219.4920	659.39	.	. Q V	.	.	.
15.117	220.4078	664.88	.	. Q V	.	.	.
15.133	221.3314	670.58	.	. Q V	.	.	.
15.150	222.2626	676.05	.	. Q V	.	.	.
15.167	223.2011	681.31	.	. Q V	.	.	.
15.183	224.1467	686.55	.	. Q V	.	.	.
15.200	225.0997	691.84	.	. Q V	.	.	.
15.217	226.0598	697.05	.	. Q V	.	.	.
15.233	227.0269	702.08	.	. QV	.	.	.
15.250	228.0011	707.27	.	. QV	.	.	.
15.267	228.9824	712.43	.	. QV	.	.	.
15.283	229.9704	717.27	.	. QV	.	.	.
15.300	230.9651	722.18	.	. QV	.	.	.
15.317	231.9667	727.18	.	. Q V	.	.	.
15.333	232.9753	732.24	.	. Q V	.	.	.
15.350	233.9901	736.72	.	. Q V	.	.	.
15.367	235.0103	740.67	.	. Q V	.	.	.
15.383	236.0361	744.72	.	. Q V	.	.	.
15.400	237.0675	748.81	.	. Q V	.	.	.
15.417	238.1046	752.94	.	. QV	.	.	.
15.433	239.1475	757.13	.	. QV	.	.	.
15.450	240.1962	761.40	.	. QV	.	.	.
15.467	241.2509	765.70	.	. QV	.	.	.
15.483	242.3111	769.71	.	. QV	.	.	.
15.500	243.3765	773.44	.	. QV	.	.	.
15.517	244.4471	777.29	.	. QV	.	.	.
15.533	245.5231	781.19	.	. QV	.	.	.
15.550	246.6046	785.13	.	. Q V	.	.	.
15.567	247.6911	788.80	.	. Q V	.	.	.
15.583	248.7819	791.93	.	. Q V	.	.	.
15.600	249.8770	795.01	.	. Q V	.	.	.
15.617	250.9756	797.66	.	. Q V	.	.	.
15.633	252.0778	800.19	.	. QV	.	.	.
15.650	253.1833	802.55	.	. QV	.	.	.
15.667	254.2914	804.49	.	. QV	.	.	.
15.683	255.4026	806.71	.	. QV	.	.	.
15.700	256.5170	809.08	.	. QV	.	.	.
15.717	257.6347	811.45	.	. QV	.	.	.
15.733	258.7559	813.96	.	. QV	.	.	.
15.750	259.8789	815.33	.	. QV	.	.	.
15.767	261.0056	817.98	.	. Q V	.	.	.
15.783	262.1367	821.20	.	. Q V	.	.	.
15.800	263.2724	824.50	.	. Q V	.	.	.
15.817	264.4125	827.69	.	. Q V	.	.	.

15.833	265.5562	830.38	.	. Q V	.	.	.
15.850	266.7041	833.34	.	. Q V	.	.	.
15.867	267.8582	837.91	.	. Q V	.	.	.
15.883	269.0200	843.43	.	. Q V	.	.	.
15.900	270.1899	849.35	.	. Q V	.	.	.
15.917	271.3675	854.95	.	. QV	.	.	.
15.933	272.5549	862.09	.	. QV	.	.	.
15.950	273.7537	870.32	.	. QV	.	.	.
15.967	274.9738	885.74	.	. QV	.	.	.
15.983	276.2285	910.93	.	. QV.	.	.	.
16.000	277.5207	938.15	.	. QV.	.	.	.
16.017	278.8479	963.52	.	. Q.	.	.	.
16.033	280.2103	989.09	.	. Q.	.	.	.
16.050	281.5981	1007.60	.	. VQ	.	.	.
16.067	283.0018	1019.07	.	. VQ	.	.	.
16.083	284.4212	1030.45	.	. VQ	.	.	.
16.100	285.8600	1044.55	.	. VQ	.	.	.
16.117	287.3259	1064.28	.	. V.Q	.	.	.
16.133	288.8207	1085.26	.	. V.Q	.	.	.
16.150	290.3464	1107.65	.	. V Q	.	.	.
16.167	291.9055	1131.86	.	. V Q	.	.	.
16.183	293.5009	1158.28	.	. V Q	.	.	.
16.200	295.1406	1190.40	.	. V Q	.	.	.
16.217	296.8258	1223.48	.	. V Q	.	.	.
16.233	298.5672	1264.22	.	. V Q	.	.	.
16.250	300.3694	1308.36	.	. V Q	.	.	.
16.267	302.2324	1352.53	.	. V Q	.	.	.
16.283	304.1519	1393.63	.	. V Q	.	.	.
16.300	306.1237	1431.50	.	. .V Q	.	.	.
16.317	308.1408	1464.38	.	. .V Q.	.	.	.
16.333	310.2011	1495.83	.	. .V Q.	.	.	.
16.350	312.3010	1524.48	.	. .V Q	.	.	.
16.367	314.4526	1562.07	.	. .V .Q	.	.	.
16.383	316.6379	1586.53	.	. .V .Q	.	.	.
16.400	318.8513	1606.95	.	. . V . Q	.	.	.
16.417	321.0881	1623.88	.	. . V . Q	.	.	.
16.433	323.3538	1644.88	.	. . V . Q	.	.	.
16.450	325.6357	1656.69	.	. . V . Q	.	.	.
16.467	327.9518	1681.46	.	. . V . Q	.	.	.
16.483	330.2889	1696.72	.	. . V . Q	.	.	.
16.500	332.6447	1710.35	.	. . V . Q	.	.	.
16.517	335.0179	1722.93	.	. . V . Q	.	.	.
16.533	337.4134	1739.10	.	. . V . Q	.	.	.
16.550	339.8153	1743.80	.	. . V . Q	.	.	.
16.567	342.2510	1768.29	.	. . V . Q	.	.	.
16.583	344.7507	1814.81	.	. . V . Q	.	.	.
16.600	347.2792	1835.70	.	. . V . Q	.	.	.
16.617	349.7895	1822.41	.	. . V . Q	.	.	.
16.633	352.3343	1847.53	.	. . V . Q	.	.	.
16.650	354.9120	1871.45	.	. . V . Q	.	.	.
16.667	357.4950	1875.25	.	. . V . Q	.	.	.
16.683	360.1018	1892.51	.	. . V . Q	.	.	.
16.700	362.7715	1938.19	.	. . V . Q	.	.	.
16.717	365.4682	1957.81	.	. . V . Q.	.	.	.
16.733	368.1356	1936.54	.	. . V . Q	.	.	.
16.750	370.7600	1905.35	.	. . V . Q	.	.	.
16.767	373.3387	1872.08	.	. . V . Q	.	.	.
16.783	375.8614	1831.51	.	. . V . Q	.	.	.
16.800	378.3246	1788.32	.	. . V . Q	.	.	.
16.817	380.7859	1786.85	.	. . V . Q	.	.	.
16.833	383.2686	1802.45	.	. . V . Q	.	.	.
16.850	385.7490	1800.75	.	. . V . Q	.	.	.
16.867	388.2093	1786.20	.	. . V . Q	.	.	.
16.883	390.6283	1756.18	.	. . V . Q	.	.	.

```
  16.900    392.9980   1720.40  .         .         .      V  .   Q     .
  16.917    395.2986   1670.27  .         .         .      V  .  Q      .
  16.933    397.5396   1626.98  .         .         .      V  . Q       .
  16.950    399.7452   1601.25  .         .         .      V  . Q       .
  16.967    401.9250   1582.54  .         .         .      V  .Q        .
  16.983    404.0615   1551.08  .         .         .      V  .Q        .
  17.000    406.1372   1506.94  .         .         .       V Q         .


****************************************************************************
  FLOW PROCESS FROM NODE    420.00 TO NODE    420.00 IS CODE =   7
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 4 ADDED TO STREAM NUMBER 3<<<<<
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    420.00 TO NODE    420.00 IS CODE =   6
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 4 CLEARED AND SET TO ZERO<<<<<
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    420.00 TO NODE    420.00 IS CODE =  11
----------------------------------------------------------------------------
  >>>>>VIEW STREAM NUMBER 3 HYDROGRAPH<<<<<
============================================================================

           STREAM HYDROGRAPH IN  ONE-MINUTE UNIT INTERVALS(CFS)
        (Notes: Time indicated is at END of Each Unit Intervals.
                Peak 5-minute rainfall intensity is modeled as
                a constant value for entire 5-minute period.)
----------------------------------------------------------------------------
 TIME(HRS) VOLUME(AF)    Q(CFS) 0.       550.0     1100.0    1650.0    2200.0
----------------------------------------------------------------------------
  15.000    360.1422    827.41  .         .  V Q     .         .         .
  15.017    361.2905    833.73  .         .  V Q     .         .         .
  15.033    362.4474    839.90  .         .  V Q     .         .         .
  15.050    363.6120    845.46  .         .  V Q     .         .         .
  15.067    364.7841    850.97  .         .  V Q     .         .         .
  15.083    365.9637    856.36  .         .  V Q     .         .         .
  15.100    367.1506    861.75  .         .  V Q     .         .         .
  15.117    368.3454    867.36  .         .  V Q     .         .         .
  15.133    369.5481    873.19  .         .  V Q     .         .         .
  15.150    370.7585    878.78  .         .  V Q     .         .         .
  15.167    371.9764    884.18  .         .  V  Q    .         .         .
  15.183    373.2017    889.55  .         .  V  Q    .         .         .
  15.200    374.4344    894.97  .         .  V  Q    .         .         .
  15.217    375.6746    900.32  .         .  V  Q    .         .         .
  15.233    376.9218    905.51  .         .  V  Q    .         .         .
  15.250    378.1764    910.85  .         .  V  Q    .         .         .
  15.267    379.4384    916.16  .         .  V  Q    .         .         .
  15.283    380.7072    921.16  .         .  V  Q    .         .         .
  15.300    381.9830    926.24  .         .  V  Q    .         .         .
  15.317    383.2659    931.41  .         .  V  Q    .         .         .
  15.333    384.5561    936.65  .         .  V   Q   .         .         .
  15.350    385.8527    941.32  .         .  V   Q   .         .         .
  15.367    387.1550    945.46  .         .  V   Q   .         .         .
  15.383    388.4631    949.71  .         .   V  Q   .         .         .
  15.400    389.7772    954.01  .         .   V  Q   .         .         .
  15.417    391.0972    958.36  .         .   V  Q   .         .         .
  15.433    392.4234    962.78  .         .   V  Q   .         .         .
  15.450    393.7557    967.28  .         .   V  Q   .         .         .
```



```
  15.467    395.0943    971.82  .         .   V  Q   .         .         .
  15.483    396.4388    976.09  .         .   V  Q   .         .         .
  15.500    397.7888    980.08  .         .   V  Q   .         .         .
  15.517    399.1444    984.20  .         .   V  Q   .         .         .
  15.533    400.5058    988.38  .         .   V  Q   .         .         .
  15.550    401.8731    992.62  .         .   V   Q  .         .         .
  15.567    403.2458    996.58  .         .   V   Q  .         .         .
  15.583    404.6232   1000.02  .         .   V   Q  .         .         .
  15.600    406.0053   1003.41  .         .   V   Q  .         .         .
  15.617    407.3915   1006.38  .         .   V   Q  .         .         .
  15.633    408.7817   1009.25  .         .   V   Q  .         .         .
  15.650    410.1756   1011.95  .         .   V   Q  .         .         .
  15.667    411.5726   1014.23  .         .   V   Q  .         .         .
  15.683    412.9731   1016.79  .         .   V   Q  .         .         .
  15.700    414.3774   1019.53  .         .   V   Q  .         .         .
  15.717    415.7855   1022.26  .         .    V  Q  .         .         .
  15.733    417.1975   1025.14  .         .    V  Q  .         .         .
  15.750    418.6120   1026.89  .         .    V  Q  .         .         .
  15.767    420.0306   1029.91  .         .    V  Q  .         .         .
  15.783    421.4542   1033.52  .         .    V  Q  .         .         .
  15.800    422.8828   1037.20  .         .    V  Q  .         .         .
  15.817    424.3164   1040.79  .         .    V  Q  .         .         .
  15.833    425.7543   1043.88  .         .    V  Q  .         .         .
  15.850    427.1968   1047.25  .         .    V   Q.         .         .
  15.867    428.6461   1052.23  .         .    V   Q.         .         .
  15.883    430.1036   1058.16  .         .    V   Q.         .         .
  15.900    431.5699   1064.49  .         .    V   Q.         .         .
  15.917    433.0444   1070.52  .         .    V   Q.         .         .
  15.933    434.5294   1078.08  .         .    V   Q.         .         .
  15.950    436.0263   1086.74  .         .    V   Q.         .         .
  15.967    437.5450   1102.59  .         .    V    Q         .         .
  15.983    439.0990   1128.22  .         .    V    Q         .         .
  16.000    440.6912   1155.88  .         .    V    .Q        .         .
  16.017    442.3188   1181.69  .         .    V    .Q        .         .
  16.033    443.9823   1207.69  .         .     V   .Q        .         .
  16.050    445.6719   1226.63  .         .     V   . Q       .         .
  16.067    447.3778   1238.53  .         .     V   . Q       .         .
  16.083    449.1001   1250.33  .         .     V   . Q       .         .
  16.100    450.8423   1264.84  .         .     V   . Q       .         .
  16.117    452.6122   1284.98  .         .     V   .  Q      .         .
  16.133    454.4116   1306.34  .         .     V   .  Q      .         .
  16.150    456.2423   1329.10  .         .     V   .   Q     .         .
  16.167    458.1069   1353.68  .         .     V   .   Q     .         .
  16.183    460.0083   1380.45  .         .     V   .    Q    .         .
  16.200    461.9545   1412.92  .         .     V   .    Q    .         .
  16.217    463.9467   1446.32  .         .     V   .     Q   .         .
  16.233    465.9954   1487.38  .         .     V   .      Q  .         .
  16.250    468.1053   1531.83  .         .     V   .      Q  .         .
  16.267    470.2766   1576.30  .         .     V   .       Q .         .
  16.283    472.5048   1617.70  .         .      V  .        Q.         .
  16.300    474.7856   1655.85  .         .      V  .         Q         .
  16.317    477.1121   1689.02  .         .      V  .         Q         .
  16.333    479.4823   1720.77  .         .      V  .          Q        .
  16.350    481.8923   1749.69  .         .      V  .          Q        .
  16.367    484.3545   1787.56  .         .      V  .           Q       .
  16.383    486.8508   1812.31  .         .      V  .           Q       .
  16.400    489.3756   1833.01  .         .      V  .            Q      .
  16.417    491.9242   1850.22  .         .      V  .            Q      .
  16.433    494.5020   1871.50  .         .      V  .             Q     .
  16.450    497.0965   1883.60  .         .      V  .             Q     .
  16.467    499.7255   1908.65  .         .       V .             Q     .
  16.483    502.3759   1924.20  .         .       V .             Q     .
  16.500    505.0455   1938.11  .         .       V .              Q    .
  16.517    507.7328   1950.97  .         .       V .              Q    .
```

16.533	510.4427	1967.43	. . V . . Q .
16.550	513.1595	1972.42	. . V . . Q .
16.567	515.9105	1997.20	. . V . . Q .
16.583	518.7260	2044.01	. . V . . Q .
16.600	521.5706	2065.19	. . V . . Q .
16.617	524.3973	2052.18	. . V . . Q .
16.633	527.2590	2077.59	. . V. . Q .
16.650	530.1540	2101.81	. . V. . Q .
16.667	533.0547	2105.89	. . V. . Q .
16.683	535.9796	2123.44	. . V. . Q .
16.700	538.9677	2169.41	. . V. . Q.
16.717	541.9833	2189.32	. . V. . Q.
16.733	544.9700	2168.34	. . V. . Q.
16.750	547.9141	2137.44	. . V. . Q .
16.767	550.8128	2104.45	. . V. . Q .
16.783	553.6560	2064.18	. . V. . Q .
16.800	556.4401	2021.27	. . V . Q .
16.817	559.2226	2020.09	. . V . Q .
16.833	562.0270	2035.98	. . V . Q .
16.850	564.8294	2034.57	. . V . Q .
16.867	567.6122	2020.30	. . V . Q .
16.883	570.3540	1990.57	. . V . Q .
16.900	573.0469	1955.09	. . V . Q .
16.917	575.6713	1905.25	. . V . Q .
16.933	578.2364	1862.27	. . V . Q .
16.950	580.7665	1836.84	. . V . Q .
16.967	583.2712	1818.45	. . .V . Q .
16.983	585.7331	1787.30	. . .V . Q .
17.000	588.1346	1743.49	. . .V .Q .
17.017	590.4966	1714.83	. . .V .Q .
17.033	592.8100	1679.55	. . .V Q .
17.050	595.0740	1643.64	. . .V Q. .
17.067	597.2966	1613.62	. . .V Q. .
17.083	599.5001	1599.76	. . .V Q. .
17.100	601.6817	1583.85	. . .V Q . .
17.117	603.8373	1564.98	. . .V Q . .
17.133	605.9661	1545.50	. . .V Q . .
17.150	608.0634	1522.58	. . .V Q . .
17.167	610.1200	1493.10	. . . V Q . .
17.183	612.1389	1465.72	. . . V Q . .
17.200	614.1299	1445.43	. . . V Q . .
17.217	616.0940	1425.92	. . . V Q . .
17.233	618.0193	1397.80	. . . V Q . .
17.250	619.9086	1371.63	. . . V Q . .
17.267	621.7683	1350.11	. . . V Q . .
17.283	623.5976	1328.07	. . . V Q . .
17.300	625.3969	1306.25	. . . VQ . .
17.317	627.1751	1291.02	. . . VQ . .
17.333	628.9339	1276.88	. . . VQ . .
17.350	630.6733	1262.79	. . . Q . .
17.367	632.3919	1247.74	. . . Q . .
17.383	634.0908	1233.41	. . . Q . .
17.400	635.7707	1219.57	. . . Q . .
17.417	637.4297	1204.43	. . .Q V . .
17.433	639.0654	1187.52	. . .Q V . .
17.450	640.6765	1169.63	. . .Q V . .
17.467	642.2640	1152.60	. . Q V . .
17.483	643.8273	1134.89	. . Q V . .
17.500	645.3648	1116.25	. . Q V . .
17.517	646.8806	1100.45	. . Q V . .
17.533	648.3804	1088.88	. . Q. V . .
17.550	649.8624	1075.91	. . Q. V . .
17.567	651.3224	1060.01	. . Q. V . .
17.583	652.7598	1043.55	. . Q . V . .

17.600	654.1743	1026.94	. . Q . V . .
17.617	655.5648	1009.46	. . Q . V . .
17.633	656.9323	992.86	. . Q . V . .
17.650	658.2834	980.86	. . Q . V . .
17.667	659.6204	970.65	. . Q . V . .
17.683	660.9424	959.77	. . Q . V . .
17.700	662.2494	948.87	. . Q . V . .
17.717	663.5411	937.81	. . Q . V . .
17.733	664.8165	925.92	. . Q . V . .
17.750	666.0687	909.06	. . Q . V . .
17.767	667.2943	889.79	. . Q . V . .
17.783	668.4957	872.26	. . Q . V . .
17.800	669.6738	855.27	. . Q . V . .
17.817	670.8297	839.22	. . Q . V . .
17.833	671.9697	827.63	. . Q . V . .
17.850	673.0966	818.12	. . Q . V . .
17.867	674.2113	809.28	. . Q . V . .
17.883	675.3134	800.10	. . Q . V . .
17.900	676.4037	791.61	. . Q . V . .
17.917	677.4836	783.98	. . Q . V . .
17.933	678.5532	776.53	. . Q . V . .
17.950	679.6110	767.92	. . Q . V . .
17.967	680.6572	759.56	. . Q . V . .
17.983	681.6942	752.85	. . Q . V . .
18.000	682.7219	746.12	. . Q . V . .

===

END OF FLOODSCx ROUTING ANALYSIS

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

              F L O O D    R O U T I N G    A N A L Y S I S
              USING COUNTY HYDROLOGY MANUAL OF ORANGE(1986)
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              Ver. 10.0  Release Date: 01/01/2004  License ID 1264

                          Analysis prepared by:

                              RBF Consulting
                            14725 Alton Parkway
                          Irvine, California  92618


--------------------------------------------------------------------------
  FILE NAME: G:\AES2004\BOH00212.DAT
  TIME/DATE OF STUDY: 16:33 03/29/2012


**************************************************************************
  FLOW PROCESS FROM NODE     100.00 TO NODE     212.00 IS CODE =   1
--------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS)<<<<<
==========================================================================

      (UNIT-HYDROGRAPH ADDED TO STREAM #1)

        WATERSHED AREA =     4025.190 ACRES
        BASEFLOW =    0.000 CFS/SQUARE-MILE
        *USER ENTERED "LAG" TIME =     0.711 HOURS
        VALLEY(DEVELOPED):
                "S"-CURVE PERCENTAGE(DECIMAL NOTATION) =  0.410
        FOOTHILL "S"-CURVE PERCENTAGE(DECIMAL NOTATION) =  0.110
        MOUNTAIN "S"-CURVE PERCENTAGE(DECIMAL NOTATION) =  0.000
        VALLEY(UNDEVELOPED)/DESERT:
                "S"-CURVE PERCENTAGE(DECIMAL NOTATION) =  0.480
        DESERT(UNDEVELOPED) "S"-CURVE PERCENTAGE(DECIMAL NOTATION) =  0.000
        MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.181
        LOW LOSS FRACTION = 0.179
        *HYDROGRAPH MODEL #7 SPECIFIED*

        SPECIFIED PEAK  5-MINUTES RAINFALL(INCH)=  0.52
        SPECIFIED PEAK 30-MINUTES RAINFALL(INCH)=  1.09
        SPECIFIED PEAK  1-HOUR RAINFALL(INCH) =  1.45
        SPECIFIED PEAK  3-HOUR RAINFALL(INCH) =  2.43
        SPECIFIED PEAK  6-HOUR RAINFALL(INCH) =  3.36
        SPECIFIED PEAK 24-HOUR RAINFALL(INCH) =  5.63

        *USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
          5-MINUTE FACTOR = 0.820
         30-MINUTE FACTOR = 0.820
          1-HOUR FACTOR = 0.820
          3-HOUR FACTOR = 0.973
          6-HOUR FACTOR = 0.987
         24-HOUR FACTOR = 0.992

        UNIT HYDROGRAPH TIME UNIT =    1.000 MINUTES
        UNIT INTERVAL PERCENTAGE OF LAG-TIME =    2.344


        RUNOFF HYDROGRAPH LISTING LIMITS:
        MODEL TIME(HOURS) FOR BEGINNING OF RESULTS =  15.00
        MODEL TIME(HOURS) FOR END OF RESULTS =  17.00
```


UNIT HYDROGRAPH DETERMINATION

INTERVAL NUMBER	"S" GRAPH MEAN VALUES	UNIT HYDROGRAPH ORDINATES(CFS)
1	0.165	402.689
2	0.496	805.376
3	0.827	805.378
4	1.158	805.376
5	1.489	805.377
6	1.834	840.789
7	2.212	918.739
8	2.636	1032.382
9	3.107	1146.885
10	3.595	1186.627
11	4.096	1220.937
12	4.671	1398.450
13	5.298	1526.640
14	6.028	1777.355
15	6.805	1889.145
16	7.708	2199.361
17	8.596	2161.512
18	9.570	2370.090
19	10.601	2508.526
20	11.682	2631.778
21	12.828	2789.721
22	14.132	3173.248
23	15.400	3087.486
24	16.754	3294.256
25	18.100	3277.845
26	19.468	3329.571
27	20.883	3443.418
28	22.475	3874.883
29	24.049	3830.204
30	25.497	3525.877
31	26.926	3477.958
32	28.517	3871.865
33	30.305	4352.210
34	31.939	3977.073
35	33.702	4290.536
36	35.787	5075.630
37	37.390	3902.130
38	39.057	4057.243
39	41.010	4752.775
40	43.179	5278.356
41	45.486	5615.928
42	47.484	4863.386
43	49.617	5192.573
44	51.361	4244.743
45	52.878	3690.824
46	54.282	3418.795
47	55.697	3444.356
48	57.187	3626.842
49	58.762	3832.762
50	60.362	3895.203
51	61.716	3294.915
52	62.959	3024.613
53	64.110	2803.075
54	65.351	3018.262
55	66.392	2535.039

56	67.402	2458.457
57	68.454	2561.408
58	69.505	2556.803
59	70.447	2293.483
60	71.397	2311.607
61	72.180	1906.005
62	72.886	1718.469
63	73.689	1955.624
64	74.647	2329.861
65	75.390	1809.832
66	75.986	1450.785
67	76.635	1579.214
68	77.297	1611.525
69	77.904	1476.671
70	78.489	1425.140
71	79.214	1764.020
72	79.724	1241.503
73	80.184	1118.292
74	80.643	1117.958
75	81.130	1184.364
76	81.572	1077.068
77	81.992	1023.122
78	82.416	1029.752
79	82.832	1014.394
80	83.233	976.401
81	83.625	952.965
82	84.016	950.997
83	84.403	941.898
84	84.745	833.617
85	85.075	803.497
86	85.421	840.414
87	85.731	755.568
88	86.038	746.079
89	86.344	745.931
90	86.641	723.090
91	86.905	641.995
92	87.166	636.814
93	87.402	574.346
94	87.629	550.205
95	87.854	549.871
96	88.081	550.725
97	88.319	580.047
98	88.566	602.423
99	88.814	601.588
100	89.054	583.872
101	89.246	469.612
102	89.397	365.695
103	89.545	362.037
104	89.693	358.249
105	89.836	347.683
106	89.979	348.704
107	90.124	354.665
108	90.300	427.198
109	90.474	424.023
110	90.612	335.761
111	90.747	328.797
112	90.882	328.129
113	91.015	323.765
114	91.147	322.223
115	91.280	323.133
116	91.413	323.412
117	91.545	321.870
118	91.676	319.122
119	91.803	307.553

120	91.927	301.592
121	92.049	296.838
122	92.169	291.732
123	92.286	286.718
124	92.403	285.047
125	92.521	285.195
126	92.638	285.492
127	92.755	285.307
128	92.872	285.529
129	92.980	262.911
130	93.080	241.723
131	93.179	241.259
132	93.279	242.930
133	93.380	246.440
134	93.479	240.888
135	93.577	239.476
136	93.675	237.025
137	93.773	238.511
138	93.871	238.733
139	93.969	237.991
140	94.067	238.733
141	94.164	237.768
142	94.262	237.768
143	94.360	238.733
144	94.458	238.733
145	94.556	237.991
146	94.654	237.545
147	94.741	213.256
148	94.808	162.634
149	94.874	160.165
150	94.935	148.410

TOTAL SOIL-LOSS VOLUME(ACRE-FEET) = 310.0439
TOTAL STORM RUNOFF VOLUME(ACRE-FEET) = 1483.2018

24-HOUR STORM RUNOFF HYDROGRAPH

HYDROGRAPH IN ONE-MINUTE UNIT INTERVALS(CFS)

(Notes: Time indicated is at END of Each Unit Intervals.
Peak 5-minute rainfall intensity is modeled as
a constant value for entire 5-minute period.)

TIME(HRS)	VOLUME(AF)	Q(CFS)	0. 1150.0 2300.0 3450.0 4600.0
15.000	594.4076	1559.44	. . Q V . . .
15.017	596.5681	1568.52	. . Q V . . .
15.033	598.7409	1577.44	. . Q V . . .
15.050	600.9266	1586.78	. . Q V . . .
15.067	603.1260	1596.80	. . Q V . . .
15.083	605.3383	1606.12	. . Q V . . .
15.100	607.5629	1615.03	. . Q V . . .
15.117	609.8000	1624.21	. . Q V . . .
15.133	612.0501	1633.56	. . Q V . . .
15.150	614.3129	1642.81	. . Q V . . .
15.167	616.5886	1652.11	. . Q V . . .
15.183	618.8779	1662.02	. . Q V . . .
15.200	621.1799	1671.28	. . Q V . . .
15.217	623.4946	1680.47	. . Q V . . .
15.233	625.8222	1689.81	. . Q V . . .
15.250	628.1629	1699.36	. . Q V . . .
15.267	630.5168	1708.91	. . Q V . . .
15.283	632.8839	1718.49	. . Q V . . .
15.300	635.2643	1728.26	. . Q V . . .
15.317	637.6584	1738.13	. . Q V . . .
15.333	640.0663	1748.13	. . Q V . . .
15.350	642.4862	1756.83	. . Q V . . .
15.367	644.9164	1764.32	. . Q V . . .
15.383	647.3571	1771.95	. . Q V . . .
15.400	649.8083	1779.64	. . Q V . . .
15.417	652.2704	1787.44	. . Q V . . .
15.433	654.7434	1795.41	. . Q V . . .
15.450	657.2271	1803.15	. . Q V . . .
15.467	659.7213	1810.75	. . Q V . . .
15.483	662.2256	1818.14	. . Q V . . .
15.500	664.7402	1825.63	. . Q V . . .
15.517	667.2652	1833.11	. . Q V . . .
15.533	669.8000	1840.26	. . Q V . . .
15.550	672.3442	1847.12	. . Q V . . .
15.567	674.8972	1853.40	. . Q V . . .
15.583	677.4586	1859.57	. . Q V . . .
15.600	680.0275	1865.04	. . Q V . . .
15.617	682.6046	1870.99	. . Q V . . .
15.633	685.1896	1876.67	. . Q V . . .
15.650	687.7822	1882.21	. . Q V . . .
15.667	690.3824	1887.78	. . Q V . . .
15.683	692.9899	1893.04	. . Q V . . .
15.700	695.6033	1897.37	. . Q V . . .
15.717	698.2238	1902.46	. . Q V . . .
15.733	700.8511	1907.46	. . Q V . . .
15.750	703.4862	1913.05	. . Q V . . .
15.767	706.1297	1919.19	. . Q V. . . .
15.783	708.7820	1925.61	. . Q V. . . .
15.800	711.4425	1931.51	. . Q V. . . .
15.817	714.1125	1938.39	. . Q V. . . .

15.833	716.7947	1947.29	. . Q V. . . .
15.850	719.4911	1957.54	. . Q V. . . .
15.867	722.2017	1967.89	. . Q V. . . .
15.883	724.9264	1978.14	. . Q V. . . .
15.900	727.6697	1991.67	. . Q V. . . .
15.917	730.4333	2006.39	. . Q V. . . .
15.933	733.2175	2021.27	. . Q V. . . .
15.950	736.0329	2044.01	. . Q V. . . .
15.967	738.9124	2090.51	. . QV. . . .
15.983	741.8828	2156.49	. . Q V . . .
16.000	744.9435	2222.12	. . QV . . .
16.017	748.0950	2287.98	. . QV . . .
16.033	751.3438	2358.58	. . Q . . .
16.050	754.6629	2409.72	. . Q . . .
16.067	758.0323	2446.24	. . VQ . . .
16.083	761.4604	2488.82	. . VQ . . .
16.100	764.9570	2538.47	. . V Q . . .
16.117	768.5252	2590.54	. . V Q . . .
16.133	772.1675	2644.27	. . V Q . . .
16.150	775.8915	2703.69	. . V Q . . .
16.167	779.7011	2765.75	. . .V Q . . .
16.183	783.6091	2837.18	. . .V Q . . .
16.200	787.6241	2914.92	. . .V Q . . .
16.217	791.7668	3007.58	. . .V Q . . .
16.233	796.0223	3089.55	. . .V Q . . .
16.250	800.3984	3176.99	. . .V Q . . .
16.267	804.8869	3258.67	. . .V Q . . .
16.283	809.4861	3339.05	. . .V Q. . . .
16.300	814.1844	3410.98	. . .V Q. . . .
16.317	819.0087	3502.38	. . . V Q . . .
16.333	823.9363	3577.43	. . . V .Q . . .
16.350	828.9722	3656.12	. . . V .Q . . .
16.367	834.1070	3727.86	. . . V . Q . . .
16.383	839.3292	3791.34	. . . V . Q . . .
16.400	844.6147	3837.30	. . . V . Q . . .
16.417	849.9973	3907.72	. . . V . Q . . .
16.433	855.4556	3962.79	. . . V . Q . . .
16.450	860.9664	4000.80	. . . V . Q . . .
16.467	866.5231	4034.22	. . . V . Q . . .
16.483	872.1467	4082.75	. . . V . Q . . .
16.500	877.8354	4130.03	. . . V . Q . . .
16.517	883.5591	4155.36	. . . V . Q . . .
16.533	889.3659	4215.77	. . . V . Q . . .
16.550	895.3102	4315.53	. . . V . Q . . .
16.567	901.2800	4334.10	. . . V . Q . . .
16.583	907.2511	4334.99	. . . V . Q . . .
16.600	913.2952	4387.97	. . . V . Q . . .
16.617	919.4223	4448.29	. . . V . Q . . .
16.633	925.5831	4472.73	. . . V . Q . . .
16.650	931.8002	4513.64	. . . V . Q. . . .
16.667	938.0797	4558.84	. . . V . Q. . . .
16.683	944.2952	4512.47	. . . V . Q. . . .
16.700	950.3605	4403.46	. . . V . Q . . .
16.717	956.2205	4254.30	. . . V . Q . . .
16.733	961.9266	4142.65	. . . V . Q . . .
16.750	967.4644	4020.44	. . . V . Q . . .
16.767	972.9140	3956.45	. . . V . Q . . .
16.783	978.3206	3925.22	. . . V . Q . . .
16.800	983.6680	3882.17	. . . V . Q . . .
16.817	988.9366	3825.07	. . . V . Q . . .
16.833	994.0984	3747.47	. . . V . Q . . .
16.850	999.1487	3666.45	. . . V .Q . . .
16.867	1004.0469	3556.09	. . . V Q . . .
16.883	1008.8328	3474.54	. . . V Q . . .

16.900	1013.5347	3413.59	.	.	.	V	Q.	.
16.917	1018.1711	3366.04	.	.	.	V	Q.	.
16.933	1022.7134	3297.73	.	.	.	VQ	.	.
16.950	1027.1913	3250.94	.	.	.	VQ	.	.
16.967	1031.5856	3190.24	.	.	.	Q	.	.
16.983	1035.8821	3119.26	.	.	.	Q	.	.
17.000	1040.1018	3063.53	.	.	.	Q	V .	.

END OF FLOODSCx ROUTING ANALYSIS

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

          F L O O D   R O U T I N G   A N A L Y S I S
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                      Analysis prepared by:

                          RBF Consulting
                        14725 Alton Parkway
                      Irvine, California  92618


----------------------------------------------------------------------
  FILE NAME: G:\AES2004\BH0021AC.DAT
  TIME/DATE OF STUDY: 16:35 03/29/2012


**********************************************************************
  FLOW PROCESS FROM NODE    100.00 TO NODE    421.00 IS CODE =   1
----------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS)<<<<<
======================================================================

      (UNIT-HYDROGRAPH ADDED TO STREAM #1)

         WATERSHED AREA =    4025.180 ACRES
         BASEFLOW =   0.000 CFS/SQUARE-MILE
         *USER ENTERED "LAG" TIME =    0.717 HOURS
         VALLEY(DEVELOPED):
                 "S"-CURVE PERCENTAGE(DECIMAL NOTATION) =  0.410
         FOOTHILL "S"-CURVE PERCENTAGE(DECIMAL NOTATION) =  0.110
         MOUNTAIN "S"-CURVE PERCENTAGE(DECIMAL NOTATION) =  0.000
         VALLEY(UNDEVELOPED)/DESERT:
                 "S"-CURVE PERCENTAGE(DECIMAL NOTATION) =  0.480
         DESERT(UNDEVELOPED) "S"-CURVE PERCENTAGE(DECIMAL NOTATION) =  0.000
         MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.187
         LOW LOSS FRACTION = 0.181
         *HYDROGRAPH MODEL #7 SPECIFIED*

         SPECIFIED PEAK  5-MINUTES RAINFALL(INCH)=  0.56
         SPECIFIED PEAK 30-MINUTES RAINFALL(INCH)=  1.17
         SPECIFIED PEAK  1-HOUR RAINFALL(INCH) =  1.55
         SPECIFIED PEAK  3-HOUR RAINFALL(INCH) =  2.81
         SPECIFIED PEAK  6-HOUR RAINFALL(INCH) =  3.60
         SPECIFIED PEAK 24-HOUR RAINFALL(INCH) =  6.02

         *USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
           5-MINUTE FACTOR = 0.733
          30-MINUTE FACTOR = 0.733
           1-HOUR FACTOR = 0.733
           3-HOUR FACTOR = 0.957
           6-HOUR FACTOR = 0.977
          24-HOUR FACTOR = 0.986

         UNIT HYDROGRAPH TIME UNIT =   1.000 MINUTES
         UNIT INTERVAL PERCENTAGE OF LAG-TIME =   2.325


         RUNOFF HYDROGRAPH LISTING LIMITS:
         MODEL TIME(HOURS) FOR BEGINNING OF RESULTS =  15.00
         MODEL TIME(HOURS) FOR END OF RESULTS =  17.00
```


UNIT HYDROGRAPH DETERMINATION

INTERVAL NUMBER	"S" GRAPH MEAN VALUES	UNIT HYDROGRAPH ORDINATES(CFS)
1	0.164	399.318
2	0.492	798.636
3	0.820	798.636
4	1.148	798.636
5	1.477	798.636
6	1.818	830.390
7	2.190	906.630
8	2.608	1016.492
9	3.073	1132.915
10	3.555	1173.341
11	4.050	1204.542
12	4.613	1370.567
13	5.227	1493.298
14	5.945	1747.473
15	6.699	1836.295
16	7.594	2178.457
17	8.472	2135.844
18	9.420	2307.683
19	10.440	2483.434
20	11.501	2582.232
21	12.617	2714.971
22	13.908	3143.654
23	15.142	3003.353
24	16.495	3293.914
25	17.820	3224.988
26	19.175	3297.693
27	20.559	3367.608
28	22.087	3719.886
29	23.697	3918.554
30	25.145	3523.538
31	26.561	3447.198
32	28.053	3630.342
33	29.838	4345.547
34	31.498	4041.017
35	33.127	3964.900
36	35.207	5061.830
37	36.928	4188.912
38	38.494	3812.725
39	40.375	4577.837
40	42.401	4931.563
41	44.767	5757.797
42	46.764	4860.886
43	48.878	5146.889
44	50.771	4607.521
45	52.335	3805.195
46	53.754	3455.137
47	55.129	3346.680
48	56.598	3575.199
49	58.092	3636.257
50	59.743	4017.782
51	61.157	3441.247
52	62.441	3125.319
53	63.599	2819.642
54	64.796	2913.373
55	65.942	2789.383

56	66.925	2391.507
57	67.956	2508.849
58	69.001	2545.785
59	70.004	2440.940
60	70.915	2217.285
61	71.816	2191.882
62	72.521	1717.313
63	73.240	1750.070
64	74.137	2181.854
65	75.037	2191.028
66	75.653	1498.246
67	76.268	1496.983
68	76.924	1598.262
69	77.565	1558.467
70	78.149	1421.478
71	78.773	1520.938
72	79.447	1639.432
73	79.905	1114.353
74	80.360	1108.559
75	80.817	1110.528
76	81.307	1194.760
77	81.722	1008.078
78	82.141	1020.669
79	82.560	1020.186
80	82.967	991.310
81	83.361	958.887
82	83.749	943.827
83	84.136	942.620
84	84.511	911.534
85	84.842	805.594
86	85.173	805.631
87	85.509	817.515
88	85.813	739.968
89	86.117	739.987
90	86.420	739.058
91	86.707	697.592
92	86.966	630.091
93	87.223	624.780
94	87.451	556.907
95	87.675	545.505
96	87.900	545.728
97	88.124	546.545
98	88.365	584.836
99	88.609	596.182
100	88.855	596.999
101	89.088	567.585
102	89.270	443.836
103	89.418	358.898
104	89.565	358.601
105	89.710	353.327
106	89.852	345.398
107	89.994	345.435
108	90.140	355.741
109	90.317	429.222
110	90.487	414.087
111	90.623	330.709
112	90.756	324.284
113	90.889	324.952
114	91.022	322.055
115	91.153	319.623
116	91.285	320.607
117	91.416	319.456
118	91.548	320.570
119	91.677	314.906

120	91.803	305.584
121	91.925	299.122
122	92.046	293.179
123	92.165	290.951
124	92.282	284.192
125	92.399	283.115
126	92.515	284.080
127	92.632	283.096
128	92.748	284.080
129	92.865	284.080
130	92.974	264.433
131	93.072	239.680
132	93.172	242.113
133	93.270	239.680
134	93.371	244.582
135	93.470	242.150
136	93.567	236.356
137	93.665	237.136
138	93.762	237.117
139	93.859	236.597
140	93.957	237.879
141	94.054	235.613
142	94.151	236.894
143	94.249	238.566
144	94.346	236.152
145	94.443	237.117
146	94.541	236.356
147	94.639	238.343
148	94.724	207.777
149	94.792	165.828
150	94.857	158.939

TOTAL SOIL-LOSS VOLUME(ACRE-FEET) = 336.7590
TOTAL STORM RUNOFF VOLUME(ACRE-FEET) = 1567.6908

24-HOUR STORM RUNOFF HYDROGRAPH

HYDROGRAPH IN ONE-MINUTE UNIT INTERVALS(CFS)
(Notes: Time indicated is at END of Each Unit Intervals.
Peak 5-minute rainfall intensity is modeled as
a constant value for entire 5-minute period.)

TIME(HRS)	VOLUME(AF)	Q(CFS)	0.	1125.0	2250.0	3375.0	4500.0
15.000	614.2390	1990.96	.	.	V Q .	.	.
15.017	617.0031	2006.74	.	.	V Q .	.	.
15.033	619.7858	2020.28	.	.	V Q .	.	.
15.050	622.5875	2034.03	.	.	V Q .	.	.
15.067	625.4111	2049.94	.	.	V Q .	.	.
15.083	628.2568	2065.95	.	.	V Q .	.	.
15.100	631.1199	2078.66	.	.	V Q .	.	.
15.117	634.0007	2091.43	.	.	V Q .	.	.
15.133	636.8998	2104.76	.	.	V Q .	.	.
15.150	639.8171	2117.96	.	.	V Q .	.	.
15.167	642.7518	2130.58	.	.	V Q .	.	.
15.183	645.7046	2143.75	.	.	V Q.	.	.
15.200	648.6765	2157.57	.	.	V Q.	.	.
15.217	651.6639	2168.92	.	.	V Q.	.	.
15.233	654.6672	2180.33	.	.	V Q.	.	.
15.250	657.6862	2191.83	.	.	V Q.	.	.
15.267	660.7218	2203.83	.	.	V Q.	.	.
15.283	663.7728	2215.01	.	.	V Q.	.	.
15.300	666.8394	2226.35	.	.	V Q.	.	.
15.317	669.9217	2237.79	.	.	V Q.	.	.
15.333	673.0197	2249.19	.	.	V Q.	.	.
15.350	676.1302	2258.19	.	.	V Q	.	.
15.367	679.2499	2264.90	.	.	V Q	.	.
15.383	682.3790	2271.74	.	.	V Q	.	.
15.400	685.5175	2278.57	.	.	V Q	.	.
15.417	688.6649	2285.03	.	.	V Q	.	.
15.433	691.8212	2291.47	.	.	V Q	.	.
15.450	694.9861	2297.67	.	.	V Q	.	.
15.467	698.1583	2303.04	.	.	V Q	.	.
15.483	701.3372	2307.89	.	.	V Q	.	.
15.500	704.5228	2312.71	.	.	V Q	.	.
15.517	707.7147	2317.34	.	.	V Q	.	.
15.533	710.9115	2320.89	.	.	V Q	.	.
15.550	714.1125	2323.93	.	.	V Q	.	.
15.567	717.3156	2325.41	.	.	V Q	.	.
15.583	720.5202	2326.57	.	.	V Q	.	.
15.600	723.7241	2326.03	.	.	V Q	.	.
15.617	726.9280	2326.04	.	.	V Q	.	.
15.633	730.1313	2325.59	.	.	V Q	.	.
15.650	733.3331	2324.50	.	.	V Q	.	.
15.667	736.5332	2323.25	.	.	V Q	.	.
15.683	739.7309	2321.53	.	.	V Q	.	.
15.700	742.9227	2317.23	.	.	V Q	.	.
15.717	746.1097	2313.80	.	.	VQ	.	.
15.733	749.2905	2309.25	.	.	VQ	.	.
15.750	752.4663	2305.62	.	.	VQ	.	.
15.767	755.6374	2302.21	.	.	VQ	.	.
15.783	758.8041	2299.06	.	.	VQ	.	.
15.800	761.9649	2294.71	.	.	VQ	.	.
15.817	765.1197	2290.38	.	.	VQ	.	.

15.833	768.2730	2289.30	.	.	VQ	.	.
15.850	771.4264	2289.34	.	.	VQ	.	.
15.867	774.5802	2289.66	.	.	VQ	.	.
15.883	777.7308	2287.33	.	.	VQ	.	.
15.900	780.8832	2288.68	.	.	VQ	.	.
15.917	784.0412	2292.68	.	.	Q	.	.
15.933	787.1996	2293.03	.	.	Q	.	.
15.950	790.3706	2302.13	.	.	Q	.	.
15.967	793.5892	2336.69	.	.	Q	.	.
15.983	796.8781	2387.76	.	.	VQ	.	.
16.000	800.2364	2438.13	.	.	VQ	.	.
16.017	803.6593	2485.02	.	.	V Q	.	.
16.033	807.1568	2539.20	.	.	V Q	.	.
16.050	810.7023	2574.02	.	.	V Q	.	.
16.067	814.2763	2594.77	.	.	V Q	.	.
16.083	817.8907	2624.09	.	.	V Q	.	.
16.100	821.5566	2661.43	.	.	V Q	.	.
16.117	825.2783	2701.96	.	.	.V Q	.	.
16.133	829.0571	2743.41	.	.	.V Q	.	.
16.150	832.9005	2790.28	.	.	.V Q	.	.
16.167	836.8089	2837.50	.	.	.V Q	.	.
16.183	840.7966	2895.05	.	.	.V Q	.	.
16.200	844.8716	2958.49	.	.	.V Q	.	.
16.217	849.0580	3039.29	.	.	.V Q	.	.
16.233	853.3420	3110.16	.	.	.V Q	.	.
16.250	857.7278	3184.15	.	.	.V Q	.	.
16.267	862.2133	3256.44	.	.	.V Q	.	.
16.283	866.7960	3327.01	.	.	. V Q.	.	.
16.300	871.4606	3386.54	.	.	. V Q	.	.
16.317	876.2363	3467.13	.	.	. V Q	.	.
16.333	881.1024	3532.82	.	.	. V .Q	.	.
16.350	886.0671	3604.35	.	.	. V . Q	.	.
16.367	891.1229	3670.53	.	.	. V . Q	.	.
16.383	896.2637	3732.22	.	.	. V . Q	.	.
16.400	901.4578	3770.86	.	.	. V . Q	.	.
16.417	906.7350	3831.24	.	.	. V . Q	.	.
16.433	912.0889	3886.91	.	.	. V . Q	.	.
16.450	917.4951	3924.92	.	.	. V . Q	.	.
16.467	922.9429	3955.13	.	.	. V . Q	.	.
16.483	928.4423	3992.49	.	.	. V . Q	.	.
16.500	934.0148	4045.63	.	.	. V . Q	.	.
16.517	939.6183	4068.14	.	.	. V . Q	.	.
16.533	945.2761	4107.54	.	.	. V . Q	.	.
16.550	951.0701	4206.44	.	.	. V . Q	.	.
16.567	956.9263	4251.60	.	.	. V . Q	.	.
16.583	962.7714	4243.57	.	.	. V . Q	.	.
16.600	968.6737	4285.07	.	.	. V . Q	.	.
16.617	974.6627	4348.01	.	.	. V . Q	.	.
16.633	980.7044	4386.28	.	.	. V . Q	.	.
16.650	986.7881	4416.79	.	.	. V . Q.	.	.
16.667	992.9551	4477.23	.	.	. V . Q.	.	.
16.683	999.1077	4466.75	.	.	. V . Q.	.	.
16.700	1005.1603	4394.26	.	.	. V . Q.	.	.
16.717	1011.0190	4253.37	.	.	. V . Q	.	.
16.733	1016.7341	4149.16	.	.	. V . Q	.	.
16.750	1022.2983	4039.64	.	.	. V . Q	.	.
16.767	1027.7513	3958.86	.	.	. V . Q	.	.
16.783	1033.1740	3936.79	.	.	. V . Q	.	.
16.800	1038.5579	3908.75	.	.	. V . Q	.	.
16.817	1043.8940	3874.05	.	.	. V . Q	.	.
16.833	1049.1440	3811.47	.	.	. V . Q	.	.
16.850	1054.3079	3748.91	.	.	. V . Q	.	.
16.867	1059.3472	3658.52	.	.	. V . Q	.	.
16.883	1064.2788	3580.39	.	.	. V .Q	.	.

16.900	1069.1331	3524.19	.	.	.	V	.Q	.
16.917	1073.9363	3487.14	.	.	.	V	Q	.
16.933	1078.6847	3447.39	.	.	.	V	Q	.
16.950	1083.3656	3398.37	.	.	.	V	Q	.
16.967	1088.0021	3366.04	.	.	.	V	Q.	.
16.983	1092.5634	3311.46	.	.	.	V	Q.	.
17.000	1097.0543	3260.41	.	.	.	V	Q .	.

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FLOW PROCESS FROM NODE 300.00 TO NODE 318.00 IS CODE = 1

>>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS)<<<<<
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(UNIT-HYDROGRAPH ADDED TO STREAM #3)

WATERSHED AREA = 1346.870 ACRES
BASEFLOW = 0.000 CFS/SQUARE-MILE
*USER ENTERED "LAG" TIME = 0.454 HOURS
VALLEY(DEVELOPED):
"S"-CURVE PERCENTAGE(DECIMAL NOTATION) = 0.040
FOOTHILL "S"-CURVE PERCENTAGE(DECIMAL NOTATION) = 0.410
MOUNTAIN "S"-CURVE PERCENTAGE(DECIMAL NOTATION) = 0.000
VALLEY(UNDEVELOPED)/DESERT:
"S"-CURVE PERCENTAGE(DECIMAL NOTATION) = 0.550
DESERT(UNDEVELOPED) "S"-CURVE PERCENTAGE(DECIMAL NOTATION) = 0.000
MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) = 0.236
LOW LOSS FRACTION = 0.166
HYDROGRAPH MODEL #7 SPECIFIED

SPECIFIED PEAK 5-MINUTES RAINFALL(INCH)= 0.56
SPECIFIED PEAK 30-MINUTES RAINFALL(INCH)= 1.17
SPECIFIED PEAK 1-HOUR RAINFALL(INCH) = 1.55
SPECIFIED PEAK 3-HOUR RAINFALL(INCH) = 2.81
SPECIFIED PEAK 6-HOUR RAINFALL(INCH) = 3.60
SPECIFIED PEAK 24-HOUR RAINFALL(INCH) = 6.02

*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE FACTOR = 0.733
30-MINUTE FACTOR = 0.733
1-HOUR FACTOR = 0.733
3-HOUR FACTOR = 0.957
6-HOUR FACTOR = 0.977
24-HOUR FACTOR = 0.986

UNIT HYDROGRAPH TIME UNIT = 1.000 MINUTES
UNIT INTERVAL PERCENTAGE OF LAG-TIME = 3.671

RUNOFF HYDROGRAPH LISTING LIMITS:
MODEL TIME(HOURS) FOR BEGINNING OF RESULTS = 15.00
MODEL TIME(HOURS) FOR END OF RESULTS = 17.00

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UNIT HYDROGRAPH DETERMINATION

INTERVAL NUMBER	"S" GRAPH MEAN VALUES	UNIT HYDROGRAPH ORDINATES(CFS)
1	0.274	223.548
2	0.823	447.097

3	1.372	447.097
4	1.939	461.750
5	2.616	551.181
6	3.389	629.798
7	4.193	654.378
8	5.144	774.677
9	6.190	851.659
10	7.356	949.472
11	8.660	1062.413
12	9.978	1073.472
13	11.343	1111.721
14	13.002	1351.168
15	14.693	1377.426
16	16.526	1492.268
17	18.585	1677.028
18	20.831	1829.740
19	22.982	1751.525
20	25.168	1780.046
21	27.723	2081.278
22	30.324	2118.044
23	33.293	2418.166
24	36.218	2382.251
25	39.321	2527.486
26	43.637	3514.586
27	47.517	3160.638
28	50.622	2528.539
29	52.945	1891.929
30	55.077	1736.324
31	57.051	1607.623
32	58.852	1466.931
33	60.669	1479.489
34	62.194	1242.335
35	63.515	1075.673
36	64.680	948.890
37	65.901	994.339
38	67.183	1044.601
39	68.422	1008.929
40	69.245	669.701
41	70.493	1017.112
42	71.317	670.882
43	72.112	647.003
44	72.985	711.736
45	73.855	708.586
46	74.799	768.610
47	75.491	563.516
48	76.204	580.734
49	76.821	502.287
50	77.435	499.838
51	78.048	499.751
52	78.644	484.907
53	79.233	480.315
54	79.817	475.437
55	80.444	510.781
56	80.974	431.345
57	81.462	397.885
58	81.949	395.971
59	82.440	399.942
60	82.887	364.288
61	83.323	355.383
62	83.766	360.211
63	84.214	364.890
64	84.650	355.079
65	85.026	306.109
66	85.389	295.993

67	85.734	280.888
68	86.065	269.846
69	86.427	294.465
70	86.803	306.227
71	87.122	259.650
72	87.435	255.598
73	87.739	247.527
74	88.042	246.843
75	88.345	246.831
76	88.641	241.009
77	88.929	234.168
78	89.207	226.854
79	89.468	211.948
80	89.726	210.369
81	89.985	210.581
82	90.242	209.301
83	90.477	191.430
84	90.703	184.272
85	90.930	184.875
86	91.141	172.056
87	91.344	165.003
88	91.546	165.059
89	91.749	165.240
90	91.952	165.246
91	92.155	165.240
92	92.358	165.240
93	92.561	165.246
94	92.759	161.095
95	92.936	144.082
96	93.088	124.466
97	93.231	116.183
98	93.373	115.934
99	93.516	115.878
100	93.659	116.531
101	93.801	115.704
102	93.943	116.114
103	94.086	116.177
104	94.228	115.704
105	94.371	116.114
106	94.506	110.640
107	94.630	100.208
108	94.753	100.630
109	94.877	100.624
110	95.000	100.208
111	95.123	100.450
112	95.244	98.791
113	95.337	75.222
114	95.419	67.225
115	95.502	67.163
116	95.584	67.350
117	95.667	67.288
118	95.749	66.747
119	95.832	67.822
120	95.914	66.989
121	95.987	59.067
122	96.055	55.009
123	96.121	54.363
124	96.189	55.009
125	96.256	54.357
126	96.323	54.954
127	96.390	54.655
128	96.457	54.537
129	96.525	54.885
130	96.592	54.898

131	96.658	54.183
132	96.726	54.891
133	96.793	55.016
134	96.861	55.003
135	96.927	53.835
136	96.995	55.246
137	97.062	54.301
138	97.129	55.246
139	97.192	50.964
140	97.240	39.283
141	97.288	38.810
142	97.334	37.854
143	97.382	38.804
144	97.428	37.854
145	97.476	38.810
146	97.523	37.847
147	97.570	38.450
148	97.617	38.332
149	97.664	38.332
150	97.710	37.854

TOTAL SOIL-LOSS VOLUME(ACRE-FEET) = 104.7848

TOTAL STORM RUNOFF VOLUME(ACRE-FEET) = 548.0582

24-HOUR STORM RUNOFF HYDROGRAPH

HYDROGRAPH IN ONE-MINUTE UNIT INTERVALS(CFS)

(Notes: Time indicated is at END of Each Unit Intervals.
Peak 5-minute rainfall intensity is modeled as
a constant value for entire 5-minute period.)

TIME(HRS)	VOLUME(AF)	Q(CFS)	0. 500.0 1000.0 1500.0 2000.0
15.000	227.5209	760.00	. . QV . . .
15.017	228.5730	763.79	. . QV . . .
15.033	229.6303	767.63	. . QV . . .
15.050	230.6930	771.53	. . QV . . .
15.067	231.7611	775.40	. . QV . . .
15.083	232.8342	779.07	. . QV . . .
15.100	233.9123	782.71	. . Q V . . .
15.117	234.9953	786.31	. . Q V . . .
15.133	236.0833	789.89	. . Q V . . .
15.150	237.1765	793.62	. . Q V . . .
15.167	238.2749	797.45	. . Q V . . .
15.183	239.3783	801.09	. . QV . . .
15.200	240.4868	804.74	. . QV . . .
15.217	241.6003	808.39	. . QV . . .
15.233	242.7188	812.07	. . QV . . .
15.250	243.8425	815.80	. . QV . . .
15.267	244.9713	819.54	. . QV . . .
15.283	246.1053	823.29	. . QV . . .
15.300	247.2445	827.05	. . Q V . . .
15.317	248.3889	830.78	. . Q V . . .
15.333	249.5384	834.56	. . Q V . . .
15.350	250.6914	837.05	. . Q V . . .
15.367	251.8460	838.27	. . Q V . . .
15.383	253.0023	839.46	. . Q V . . .
15.400	254.1602	840.61	. . Q V . . .
15.417	255.3190	841.29	. . Q V . . .
15.433	256.4781	841.53	. . Q V . . .
15.450	257.6375	841.67	. . Q V . . .
15.467	258.7961	841.20	. . Q V . . .
15.483	259.9536	840.36	. . Q V . . .
15.500	261.1093	839.05	. . Q V. . . .
15.517	262.2625	837.18	. . Q V. . . .
15.533	263.4131	835.37	. . Q V. . . .
15.550	264.5612	833.47	. . Q V. . . .
15.567	265.7048	830.27	. . Q V. . . .
15.583	266.8439	826.99	. . Q V. . . .
15.600	267.9777	823.10	. . Q V. . . .
15.617	269.1047	818.25	. . Q V. . . .
15.633	270.2242	812.70	. . Q V. . . .
15.650	271.3369	807.82	. . Q V. . . .
15.667	272.4430	803.03	. . Q V. . . .
15.683	273.5404	796.71	. . Q V. . . .
15.700	274.6292	790.50	. . Q V . . .
15.717	275.7074	782.79	. . Q V . . .
15.733	276.7758	775.65	. . Q V . . .
15.750	277.8337	768.03	. . Q V . . .
15.767	278.8735	754.91	. . Q V . . .
15.783	279.8988	744.32	. . Q V . . .
15.800	280.9154	738.05	. . Q V . . .
15.817	281.9293	736.12	. . Q V . . .

15.833	282.9427	735.74	. . Q V . .
15.850	283.9576	736.80	. . Q V . .
15.867	284.9761	739.46	. . Q V . .
15.883	285.9992	742.78	. . Q V . .
15.900	287.0303	748.53	. . Q V . .
15.917	288.0723	756.52	. . Q .V . .
15.933	289.1286	766.86	. . Q .V . .
15.950	290.2018	779.16	. . Q .V . .
15.967	291.3098	804.36	. . Q .V . .
15.983	292.4693	841.81	. . Q .V . .
16.000	293.6848	882.44	. . Q .V . .
16.017	294.9562	923.06	. . Q .V . .
16.033	296.2946	971.67	. . Q.V . .
16.050	297.6908	1013.64	. . QV . .
16.067	299.1301	1044.94	. . QV . .
16.083	300.6201	1081.72	. . .Q . .
16.100	302.1652	1121.72	. . . Q . .
16.117	303.7678	1163.49	. . . VQ . .
16.133	305.4298	1206.62	. . . V Q . .
16.150	307.1507	1249.39	. . . V Q . .
16.167	308.9258	1288.75	. . . V Q . .
16.183	310.7655	1335.62	. . . V Q . .
16.200	312.6646	1378.72	. . . V Q . .
16.217	314.6227	1421.53	. . . V Q . .
16.233	316.6507	1472.33	. . . V Q. .
16.250	318.7549	1527.64	. . . V Q .
16.267	320.9125	1566.45	. . . V .Q .
16.283	323.1233	1605.01	. . . V . Q .
16.300	325.3982	1651.57	. . . V . Q .
16.317	327.7247	1689.08	. . . V . Q .
16.333	330.1097	1731.49	. . . V . Q .
16.350	332.5544	1774.89	. . . V . Q .
16.367	335.0690	1825.56	. . . V . Q .
16.383	337.6903	1903.05	. . . V . Q .
16.400	340.3795	1952.33	. . . V . Q.
16.417	343.0632	1948.37	. . . V . Q .
16.433	345.6934	1909.54	. . . V . Q .
16.450	348.2445	1852.10	. . . V . Q .
16.467	350.6306	1732.28	. . . V . Q .
16.483	352.8570	1616.38	. . . V . Q .
16.500	354.9656	1530.84	. . . V Q .
16.517	356.9884	1468.52	. . . V Q. .
16.533	358.9290	1408.88	. . . V Q . .
16.550	360.7921	1352.66	. . . VQ . .
16.567	362.5951	1308.94	. . . Q . .
16.583	364.3428	1268.84	. . . QV . .
16.600	366.0498	1239.28	. . . Q V . .
16.617	367.7108	1205.87	. . . Q V . .
16.633	369.3610	1198.07	. . Q V . .
16.650	370.9753	1171.94	. . Q V . .
16.667	372.5503	1143.45	. . Q V . .
16.683	374.0956	1121.93	. . Q V . .
16.700	375.6371	1119.08	. . Q V . .
16.717	377.1576	1103.86	. . Q V . .
16.733	378.6671	1095.89	. . .Q V . .
16.750	380.1718	1092.44	. . .Q V . .
16.767	381.6714	1088.70	. . .Q V . .
16.783	383.1636	1083.37	. . .Q V . .
16.800	384.6393	1071.34	. . .Q V . .
16.817	386.1071	1065.61	. . .Q V . .
16.833	387.5656	1058.92	. . .Q V . .
16.850	389.0200	1055.84	. . .Q V . .
16.867	390.4720	1054.23	. . .Q V . .
16.883	391.9170	1049.04	. . Q V . .

```
  16.900    393.3521   1041.88  .         .        Q       V .        .
  16.917    394.7767   1034.26  .         .        Q       V .        .
  16.933    396.1906   1026.54  .         .        Q       V .        .
  16.950    397.5896   1015.65  .         .        Q        V.        .
  16.967    398.9791   1008.79  .         .        Q        V.        .
  16.983    400.3622   1004.11  .         .        Q        V.        .
  17.000    401.7369    998.06  .         .       Q.        V.        .


****************************************************************************
  FLOW PROCESS FROM NODE     318.00 TO NODE     318.00 IS CODE = 3.2
----------------------------------------------------------------------------
  >>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #3<<<<<
============================================================================

                    INFLOW
                   (STREAM 3)
                        |
                        |
                        V                  __effective depth
                   -----------             |   (and volume)
                  |           |    |    |
                  |           |    |....V........
                  | detention |<-->|           outflow
                  |   basin   |    |.........________
                   -----------     |    ^    |  \
                        |          |  dead   |   basin outlet
                        V          | storage |
                    OUTFLOW         ---------
                   (STREAM 3)



        ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 3
        THROUGH A FLOW-THROUGH DETENTION BASIN
        SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
          DEAD STORAGE(AF) =       0.000
          SPECIFIED DEAD STORAGE(AF) FILLED =       0.000
          SPECIFIED EFFECTIVE VOLUME(AF) FILLED ABOVE OUTLET =       0.000
          DETENTION BASIN CONSTANT LOSS RATE(CFS) =     0.00


        BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

         INTERVAL     DEPTH      OUTFLOW      STORAGE
          NUMBER       (FT)       (CFS)        (AF)
              1         0.00         0.00       0.000
              2         3.50       125.00      10.000
              3         8.50       195.00      15.000
              4        13.50       222.50      50.000
              5        18.50       242.50     100.000
              6        23.50       262.50     160.000
              7        28.50       280.00     230.000
              8        33.50      1647.50     310.000
              9        38.50      5312.50     405.000
             10        43.50      6000.00     512.000


============================================================================
 MODIFIED-PULS BASIN ROUTING MODEL RESULTS(1-MINUTE COMPUTATION INTERVALS):
 (Note: Computed EFFECTIVE DEPTH and VOLUME are estimated at the clock time;
       MEAN OUTFLOW is the average value during the unit interval.)

          CLOCK                                                  MEAN
```


TIME (HRS)	DEAD-STORAGE FILLED(AF)	INFLOW (CFS)	LOSS (CFS)	EFFECTIVE DEPTH(FT)	OUTFLOW (CFS)	EFFECTIVE VOLUME(AF)
15.017	0.000	763.79	0.00	14.25	225.3	57.492
15.033	0.000	767.63	0.00	14.32	225.6	58.238
15.050	0.000	771.53	0.00	14.40	225.9	58.990
15.067	0.000	775.40	0.00	14.47	226.2	59.746
15.083	0.000	779.07	0.00	14.55	226.6	60.507
15.100	0.000	782.71	0.00	14.63	226.9	61.273
15.117	0.000	786.31	0.00	14.70	227.2	62.043
15.133	0.000	789.89	0.00	14.78	227.5	62.818
15.150	0.000	793.62	0.00	14.86	227.8	63.597
15.167	0.000	797.45	0.00	14.94	228.1	64.382
15.183	0.000	801.09	0.00	15.02	228.4	65.170
15.200	0.000	804.74	0.00	15.10	228.7	65.964
15.217	0.000	808.39	0.00	15.18	229.0	66.762
15.233	0.000	812.07	0.00	15.26	229.4	67.564
15.250	0.000	815.80	0.00	15.34	229.7	68.372
15.267	0.000	819.54	0.00	15.42	230.0	69.184
15.283	0.000	823.29	0.00	15.50	230.3	70.001
15.300	0.000	827.05	0.00	15.58	230.7	70.822
15.317	0.000	830.78	0.00	15.66	231.0	71.648
15.333	0.000	834.56	0.00	15.75	231.3	72.479
15.350	0.000	837.05	0.00	15.83	231.7	73.313
15.367	0.000	838.27	0.00	15.91	232.0	74.148
15.383	0.000	839.46	0.00	16.00	232.3	74.984
15.400	0.000	840.61	0.00	16.08	232.7	75.822
15.417	0.000	841.29	0.00	16.17	233.0	76.660
15.433	0.000	841.53	0.00	16.25	233.3	77.497
15.450	0.000	841.67	0.00	16.33	233.7	78.335
15.467	0.000	841.20	0.00	16.42	234.0	79.171
15.483	0.000	840.36	0.00	16.50	234.3	80.006
15.500	0.000	839.05	0.00	16.58	234.7	80.838
15.517	0.000	837.18	0.00	16.67	235.0	81.668
15.533	0.000	835.37	0.00	16.75	235.3	82.494
15.550	0.000	833.47	0.00	16.83	235.7	83.318
15.567	0.000	830.27	0.00	16.91	236.0	84.136
15.583	0.000	826.99	0.00	16.99	236.3	84.950
15.600	0.000	823.10	0.00	17.08	236.6	85.758
15.617	0.000	818.25	0.00	17.16	237.0	86.558
15.633	0.000	812.70	0.00	17.24	237.3	87.351
15.650	0.000	807.82	0.00	17.31	237.6	88.136
15.667	0.000	803.03	0.00	17.39	237.9	88.915
15.683	0.000	796.71	0.00	17.47	238.2	89.684
15.700	0.000	790.50	0.00	17.54	238.5	90.444
15.717	0.000	782.79	0.00	17.62	238.8	91.194
15.733	0.000	775.65	0.00	17.69	239.1	91.933
15.750	0.000	768.03	0.00	17.77	239.4	92.661
15.767	0.000	754.91	0.00	17.84	239.7	93.370
15.783	0.000	744.32	0.00	17.91	240.0	94.065
15.800	0.000	738.05	0.00	17.98	240.3	94.751
15.817	0.000	736.12	0.00	18.04	240.5	95.433
15.833	0.000	735.74	0.00	18.11	240.8	96.115
15.850	0.000	736.80	0.00	18.18	241.1	96.798
15.867	0.000	739.46	0.00	18.25	241.4	97.484
15.883	0.000	742.78	0.00	18.32	241.6	98.174
15.900	0.000	748.53	0.00	18.39	241.9	98.872
15.917	0.000	756.52	0.00	18.46	242.2	99.581
15.933	0.000	766.86	0.00	18.53	242.5	100.303
15.950	0.000	779.16	0.00	18.59	242.7	101.042
15.967	0.000	804.36	0.00	18.65	243.0	101.815
15.983	0.000	841.81	0.00	18.72	243.2	102.640
16.000	0.000	882.44	0.00	18.79	243.5	103.520
16.017	0.000	923.06	0.00	18.87	243.8	104.455

16.033	0.000	971.67	0.00	18.95	244.2	105.457
16.050	0.000	1013.64	0.00	19.04	244.5	106.517
16.067	0.000	1044.94	0.00	19.13	244.9	107.619
16.083	0.000	1081.72	0.00	19.23	245.2	108.771
16.100	0.000	1121.72	0.00	19.33	245.6	109.978
16.117	0.000	1163.49	0.00	19.44	246.0	111.241
16.133	0.000	1206.62	0.00	19.55	246.5	112.564
16.150	0.000	1249.39	0.00	19.66	246.9	113.945
16.167	0.000	1288.75	0.00	19.78	247.4	115.379
16.183	0.000	1335.62	0.00	19.91	247.9	116.877
16.200	0.000	1378.72	0.00	20.04	248.4	118.434
16.217	0.000	1421.53	0.00	20.17	248.9	120.050
16.233	0.000	1472.33	0.00	20.31	249.5	121.734
16.250	0.000	1527.64	0.00	20.46	250.0	123.494
16.267	0.000	1566.45	0.00	20.61	250.6	125.306
16.283	0.000	1605.01	0.00	20.76	251.2	127.171
16.300	0.000	1651.57	0.00	20.92	251.9	129.099
16.317	0.000	1689.08	0.00	21.09	252.5	131.077
16.333	0.000	1731.49	0.00	21.26	253.2	133.114
16.350	0.000	1774.89	0.00	21.43	253.9	135.209
16.367	0.000	1825.56	0.00	21.61	254.6	137.373
16.383	0.000	1903.05	0.00	21.80	255.3	139.642
16.400	0.000	1952.33	0.00	22.00	256.1	141.979
16.417	0.000	1948.37	0.00	22.19	256.9	144.308
16.433	0.000	1909.54	0.00	22.38	257.6	146.584
16.450	0.000	1852.10	0.00	22.56	258.4	148.779
16.467	0.000	1732.28	0.00	22.73	259.1	150.808
16.483	0.000	1616.38	0.00	22.89	259.7	152.677
16.500	0.000	1530.84	0.00	23.04	260.4	154.427
16.517	0.000	1468.52	0.00	23.17	260.9	156.090
16.533	0.000	1408.88	0.00	23.31	261.5	157.671
16.550	0.000	1352.66	0.00	23.43	262.0	159.173
16.567	0.000	1308.94	0.00	23.54	262.4	160.614
16.583	0.000	1268.84	0.00	23.64	262.8	162.000
16.600	0.000	1239.28	0.00	23.74	263.2	163.344
16.617	0.000	1205.87	0.00	23.83	263.5	164.643
16.633	0.000	1198.07	0.00	23.92	263.8	165.929
16.650	0.000	1171.94	0.00	24.01	264.1	167.180
16.667	0.000	1143.45	0.00	24.10	264.4	168.391
16.683	0.000	1121.93	0.00	24.18	264.7	169.571
16.700	0.000	1119.08	0.00	24.27	265.0	170.748
16.717	0.000	1103.86	0.00	24.35	265.3	171.903
16.733	0.000	1095.89	0.00	24.43	265.6	173.046
16.750	0.000	1092.44	0.00	24.51	265.9	174.185
16.767	0.000	1088.70	0.00	24.59	266.2	175.318
16.783	0.000	1083.37	0.00	24.67	266.5	176.443
16.800	0.000	1071.34	0.00	24.75	266.7	177.551
16.817	0.000	1065.61	0.00	24.83	267.0	178.651
16.833	0.000	1058.92	0.00	24.91	267.3	179.741
16.850	0.000	1055.84	0.00	24.99	267.6	180.827
16.867	0.000	1054.23	0.00	25.07	267.8	181.910
16.883	0.000	1049.04	0.00	25.14	268.1	182.986
16.900	0.000	1041.88	0.00	25.22	268.4	184.051
16.917	0.000	1034.26	0.00	25.29	268.6	185.106
16.933	0.000	1026.54	0.00	25.37	268.9	186.150
16.950	0.000	1015.65	0.00	25.44	269.2	187.178
16.967	0.000	1008.79	0.00	25.51	269.4	188.196
16.983	0.000	1004.11	0.00	25.59	269.7	189.208
17.000	0.000	998.06	0.00	25.66	269.9	190.211
17.017	0.000	992.26	0.00	25.73	270.2	191.205
17.033	0.000	982.86	0.00	25.80	270.4	192.187
17.050	0.000	973.54	0.00	25.87	270.7	193.155
17.067	0.000	963.78	0.00	25.94	270.9	194.109
17.083	0.000	952.93	0.00	26.00	271.1	195.048

17.100	0.000	943.93	0.00	26.07	271.4	195.975
17.117	0.000	936.70	0.00	26.14	271.6	196.891
17.133	0.000	927.52	0.00	26.20	271.8	197.794
17.150	0.000	918.29	0.00	26.26	272.1	198.684
17.167	0.000	908.99	0.00	26.33	272.3	199.561
17.183	0.000	897.97	0.00	26.39	272.5	200.423
17.200	0.000	886.15	0.00	26.45	272.7	201.268
17.217	0.000	876.32	0.00	26.51	272.9	202.099
17.233	0.000	865.40	0.00	26.57	273.1	202.914
17.250	0.000	854.69	0.00	26.62	273.3	203.715
17.267	0.000	842.37	0.00	26.68	273.5	204.499
17.283	0.000	828.91	0.00	26.73	273.7	205.264
17.300	0.000	815.02	0.00	26.79	273.9	206.009
17.317	0.000	801.81	0.00	26.84	274.1	206.736
17.333	0.000	787.77	0.00	26.89	274.3	207.443
17.350	0.000	772.76	0.00	26.94	274.4	208.129
17.367	0.000	757.80	0.00	26.99	274.6	208.795
17.383	0.000	740.79	0.00	27.03	274.8	209.437
17.400	0.000	723.68	0.00	27.08	274.9	210.055
17.417	0.000	706.54	0.00	27.12	275.1	210.649
17.433	0.000	684.98	0.00	27.16	275.2	211.214
17.450	0.000	665.12	0.00	27.20	275.4	211.750
17.467	0.000	649.00	0.00	27.23	275.5	212.265
17.483	0.000	636.61	0.00	27.27	275.6	212.762
17.500	0.000	625.08	0.00	27.30	275.8	213.243
17.517	0.000	613.63	0.00	27.34	275.9	213.709
17.533	0.000	601.96	0.00	27.37	276.0	214.158
17.550	0.000	589.20	0.00	27.40	276.1	214.589
17.567	0.000	577.24	0.00	27.43	276.2	215.003
17.583	0.000	566.13	0.00	27.46	276.3	215.403
17.600	0.000	555.87	0.00	27.48	276.4	215.788
17.617	0.000	546.33	0.00	27.51	276.5	216.159
17.633	0.000	537.63	0.00	27.54	276.6	216.519
17.650	0.000	529.67	0.00	27.56	276.7	216.867
17.667	0.000	523.60	0.00	27.59	276.8	217.207
17.683	0.000	515.88	0.00	27.61	276.8	217.537
17.700	0.000	509.88	0.00	27.63	276.9	217.857
17.717	0.000	503.65	0.00	27.65	277.0	218.170
17.733	0.000	496.58	0.00	27.68	277.1	218.472
17.750	0.000	489.55	0.00	27.70	277.2	218.764
17.767	0.000	482.20	0.00	27.72	277.2	219.047
17.783	0.000	475.75	0.00	27.74	277.3	219.320
17.800	0.000	469.49	0.00	27.76	277.4	219.585
17.817	0.000	464.01	0.00	27.77	277.4	219.842
17.833	0.000	457.42	0.00	27.79	277.5	220.090
17.850	0.000	450.72	0.00	27.81	277.6	220.328
17.867	0.000	444.16	0.00	27.83	277.6	220.558
17.883	0.000	437.66	0.00	27.84	277.7	220.778
17.900	0.000	431.28	0.00	27.86	277.7	220.989
17.917	0.000	425.88	0.00	27.87	277.8	221.193
17.933	0.000	421.38	0.00	27.89	277.8	221.391
17.950	0.000	417.05	0.00	27.90	277.9	221.583
17.967	0.000	412.41	0.00	27.91	277.9	221.768
17.983	0.000	407.62	0.00	27.92	278.0	221.947
18.000	0.000	403.07	0.00	27.94	278.0	222.119
18.017	0.000	398.57	0.00	27.95	278.1	222.285
18.033	0.000	394.09	0.00	27.96	278.1	222.445
18.050	0.000	390.07	0.00	27.97	278.1	222.599
18.067	0.000	386.39	0.00	27.98	278.2	222.748
18.083	0.000	383.04	0.00	27.99	278.2	222.892
18.100	0.000	379.75	0.00	28.00	278.2	223.032
18.117	0.000	376.54	0.00	28.01	278.3	223.168
18.133	0.000	373.35	0.00	28.02	278.3	223.298
18.150	0.000	370.10	0.00	28.03	278.3	223.425

18.167	0.000	366.81	0.00	28.04	278.4	223.547
18.183	0.000	363.73	0.00	28.05	278.4	223.664
18.200	0.000	360.62	0.00	28.06	278.4	223.777
18.217	0.000	357.50	0.00	28.06	278.5	223.886
18.233	0.000	354.22	0.00	28.07	278.5	223.991
18.250	0.000	350.94	0.00	28.08	278.5	224.090
18.267	0.000	347.41	0.00	28.08	278.5	224.185
18.283	0.000	343.38	0.00	28.09	278.6	224.274
18.300	0.000	339.28	0.00	28.10	278.6	224.358
18.317	0.000	335.27	0.00	28.10	278.6	224.436
18.333	0.000	331.25	0.00	28.11	278.6	224.509
18.350	0.000	327.33	0.00	28.11	278.6	224.576
18.367	0.000	324.07	0.00	28.12	278.7	224.638
18.383	0.000	320.89	0.00	28.12	278.7	224.696
18.400	0.000	317.86	0.00	28.13	278.7	224.750
18.417	0.000	314.71	0.00	28.13	278.7	224.800
18.433	0.000	311.56	0.00	28.13	278.7	224.845
18.450	0.000	308.23	0.00	28.13	278.7	224.886
18.467	0.000	303.15	0.00	28.14	278.7	224.919
18.483	0.000	298.12	0.00	28.14	278.7	224.946
18.500	0.000	293.14	0.00	28.14	278.7	224.966
18.517	0.000	288.19	0.00	28.14	278.7	224.979
18.533	0.000	283.31	0.00	28.14	278.7	224.985
18.550	0.000	280.46	0.00	28.14	278.7	224.988
18.567	0.000	277.90	0.00	28.14	278.7	224.986
18.583	0.000	275.56	0.00	28.14	278.7	224.982
18.600	0.000	273.43	0.00	28.14	278.7	224.975
18.617	0.000	271.41	0.00	28.14	278.7	224.965
18.633	0.000	269.45	0.00	28.14	278.7	224.952
18.650	0.000	267.52	0.00	28.14	278.7	224.936
18.667	0.000	265.60	0.00	28.14	278.7	224.918
18.683	0.000	263.69	0.00	28.14	278.7	224.898
18.700	0.000	261.83	0.00	28.13	278.7	224.874
18.717	0.000	260.02	0.00	28.13	278.7	224.849
18.733	0.000	258.23	0.00	28.13	278.7	224.820
18.750	0.000	256.47	0.00	28.13	278.7	224.790
18.767	0.000	254.75	0.00	28.13	278.7	224.757
18.783	0.000	253.13	0.00	28.12	278.7	224.722
18.800	0.000	251.54	0.00	28.12	278.7	224.684
18.817	0.000	249.97	0.00	28.12	278.7	224.645
18.833	0.000	248.42	0.00	28.11	278.7	224.603
18.850	0.000	246.66	0.00	28.11	278.6	224.559
18.867	0.000	244.93	0.00	28.11	278.6	224.513
18.883	0.000	243.33	0.00	28.10	278.6	224.464
18.900	0.000	241.79	0.00	28.10	278.6	224.413
18.917	0.000	240.27	0.00	28.10	278.6	224.360
18.933	0.000	238.77	0.00	28.09	278.6	224.306
18.950	0.000	237.28	0.00	28.09	278.6	224.249
18.967	0.000	235.81	0.00	28.08	278.6	224.190
18.983	0.000	234.35	0.00	28.08	278.5	224.129
19.000	0.000	232.92	0.00	28.08	278.5	224.066

PROCESS SUMMARY OF STORAGE:
INFLOW VOLUME = 548.058 AF
BASIN STORAGE = 0.000 AF (WITH 0.000 AF INITIALLY FILLED)
OUTFLOW VOLUME = 548.056 AF
LOSS VOLUME = 0.000 AF

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FLOW PROCESS FROM NODE 318.00 TO NODE 405.00 IS CODE = 5.2

>>>>>MODEL CHANNEL ROUTING OF STREAM #3 BY THE CONVEX METHOD<<<<<

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THE MODIFIED C-ROUTING COEFFICIENT IS ESTIMATED IN ORDER
TO ROUTE THE STREAM 3 INFLOW HYDROGRAPH BY 1-MINUTE
INTERVALS(Reference: the National Engineering Handbook,
Hydrology, Chapter 17, page 17-52, August,1972,
U.S. Department of Commerce).

ASSUMED REGULAR CHANNEL INFORMATION:
BASEWIDTH(FT) = 6.00 CHANNEL Z = 2.00
UPSTREAM ELEVATION(FT) = 596.80
DOWNSTREAM ELEVATION(FT) = 581.32
CHANNEL LENGTH(FT) = 935.00 MANNING'S FACTOR = 0.030
CONSTANT LOSS RATE(CFS) = 0.00

CHANNEL ROUTING COEFFICIENT ESTIMATED:
MAXIMUM INFLOW(CFS) = 278.75
AVERAGE FLOWRATE IN EXCESS OF 50% MAXIMUM INFLOW = 230.54
CHANNEL NORMAL VELOCITY FOR Q = 230.54 CFS = 8.64 FPS
ESTIMATED CHANNEL ROUTING COEFFICIENT = 0.836

MODIFIED CHANNEL ROUTING COEFFICIENT FOR 1-MINUTE
UNIT INTERVALS IS CSTAR = 0.753

CONVEX METHOD CHANNEL ROUTING RESULTS:

MODEL TIME (HRS)	INFLOW (STREAM 3) (CFS)	ROUTED FLOW (CFS)	OUTFLOW LESS LOSS (STREAM 3) (CFS)
15.000	225.05	224.52	224.52
15.017	225.35	224.81	224.81
15.033	225.65	225.10	225.10
15.050	225.95	225.40	225.40
15.067	226.25	225.70	225.70
15.083	226.55	226.00	226.00
15.100	226.86	226.30	226.30
15.117	227.16	226.60	226.60
15.133	227.47	226.91	226.91
15.150	227.78	227.21	227.21
15.167	228.10	227.52	227.52
15.183	228.41	227.84	227.84
15.200	228.73	228.15	228.15
15.217	229.05	228.46	228.46
15.233	229.37	228.78	228.78
15.250	229.69	229.10	229.10
15.267	230.01	229.42	229.42
15.283	230.34	229.74	229.74
15.300	230.66	230.07	230.07
15.317	230.99	230.39	230.39
15.333	231.33	230.72	230.72
15.350	231.66	231.05	231.05
15.367	231.99	231.38	231.38
15.383	232.33	231.71	231.71
15.400	232.66	232.05	232.05
15.417	233.00	232.38	232.38
15.433	233.33	232.72	232.72
15.450	233.67	233.05	233.05
15.467	234.00	233.39	233.39
15.483	234.34	233.72	233.72
15.500	234.67	234.06	234.06
15.517	235.00	234.39	234.39
15.533	235.33	234.72	234.72

15.550	235.66	235.06	235.06
15.567	235.99	235.39	235.39
15.583	236.32	235.72	235.72
15.600	236.64	236.04	236.04
15.617	236.96	236.37	236.37
15.633	237.28	236.69	236.69
15.650	237.60	237.02	237.02
15.667	237.91	237.33	237.33
15.683	238.22	237.65	237.65
15.700	238.53	237.96	237.96
15.717	238.83	238.27	238.27
15.733	239.13	238.57	238.57
15.750	239.42	238.88	238.88
15.767	239.71	239.17	239.17
15.783	239.99	239.46	239.46
15.800	240.26	239.75	239.75
15.817	240.54	240.03	240.03
15.833	240.81	240.31	240.31
15.850	241.08	240.58	240.58
15.867	241.36	240.85	240.85
15.883	241.63	241.13	241.13
15.900	241.91	241.40	241.40
15.917	242.19	241.68	241.68
15.933	242.47	241.96	241.96
15.950	242.72	242.24	242.24
15.967	242.98	242.51	242.51
15.983	243.24	242.76	242.76
16.000	243.53	243.02	243.02
16.017	243.83	243.29	243.29
16.033	244.15	243.58	243.58
16.050	244.50	243.89	243.89
16.067	244.86	244.21	244.21
16.083	245.23	244.56	244.56
16.100	245.62	244.92	244.92
16.117	246.04	245.30	245.30
16.133	246.47	245.70	245.70
16.150	246.92	246.11	246.11
16.167	247.39	246.55	246.55
16.183	247.88	247.00	247.00
16.200	248.39	247.47	247.47
16.217	248.91	247.97	247.97
16.233	249.46	248.48	248.48
16.250	250.04	249.01	249.01
16.267	250.63	249.57	249.57
16.283	251.25	250.14	250.14
16.300	251.88	250.74	250.74
16.317	252.53	251.36	251.36
16.333	253.20	251.99	251.99
16.350	253.89	252.64	252.64
16.367	254.60	253.32	253.32
16.383	255.34	254.01	254.01
16.400	256.10	254.73	254.73
16.417	256.88	255.47	255.47
16.433	257.65	256.24	256.24
16.450	258.39	257.01	257.01
16.467	259.10	257.77	257.77
16.483	259.75	258.50	258.50
16.500	260.35	259.19	259.19
16.517	260.92	259.83	259.83
16.533	261.46	260.43	260.43
16.550	261.97	261.00	261.00
16.567	262.44	261.54	261.54
16.583	262.83	262.04	262.04
16.600	263.17	262.48	262.48

16.617	263.50	262.87	262.87
16.633	263.82	263.22	263.22
16.650	264.14	263.55	263.55
16.667	264.45	263.87	263.87
16.683	264.75	264.19	264.19
16.700	265.04	264.49	264.49
16.717	265.33	264.79	264.79
16.733	265.62	265.09	265.09
16.750	265.90	265.38	265.38
16.767	266.19	265.67	265.67
16.783	266.47	265.95	265.95
16.800	266.75	266.23	266.23
16.817	267.03	266.52	266.52
16.833	267.30	266.79	266.79
16.850	267.57	267.07	267.07
16.867	267.84	267.34	267.34
16.883	268.11	267.62	267.62
16.900	268.38	267.89	267.89
16.917	268.64	268.16	268.16
16.933	268.91	268.42	268.42
16.950	269.17	268.69	268.69
16.967	269.42	268.95	268.95
16.983	269.68	269.21	269.21
17.000	269.93	269.46	269.46

PROCESS SUMMARY OF STORAGE:
INFLOW VOLUME = 548.057 AF
OUTFLOW VOLUME = 548.056 AF
LOSS VOLUME = 0.000 AF

FLOW PROCESS FROM NODE 405.00 TO NODE 406.00 IS CODE = 5.2

>>>>>MODEL CHANNEL ROUTING OF STREAM #3 BY THE CONVEX METHOD<<<<<

THE MODIFIED C-ROUTING COEFFICIENT IS ESTIMATED IN ORDER
TO ROUTE THE STREAM 3 INFLOW HYDROGRAPH BY 1-MINUTE
INTERVALS(Reference: the National Engineering Handbook,
Hydrology, Chapter 17, page 17-52, August,1972,
U.S. Department of Commerce).

ASSUMED REGULAR CHANNEL INFORMATION:
BASEWIDTH(FT) = 6.00 CHANNEL Z = 2.00
UPSTREAM ELEVATION(FT) = 581.32
DOWNSTREAM ELEVATION(FT) = 550.00
CHANNEL LENGTH(FT) = 1419.00 MANNING'S FACTOR = 0.030
CONSTANT LOSS RATE(CFS) = 0.00

CHANNEL ROUTING COEFFICIENT ESTIMATED:
MAXIMUM INFLOW(CFS) = 278.75
AVERAGE FLOWRATE IN EXCESS OF 50% MAXIMUM INFLOW = 230.60
CHANNEL NORMAL VELOCITY FOR Q = 230.60 CFS = 9.57 FPS
ESTIMATED CHANNEL ROUTING COEFFICIENT = 0.849

MODIFIED CHANNEL ROUTING COEFFICIENT FOR 1-MINUTE
UNIT INTERVALS IS CSTAR = 0.708

CONVEX METHOD CHANNEL ROUTING RESULTS:
OUTFLOW LESS

MODEL TIME (HRS)	INFLOW (STREAM 3) (CFS)	ROUTED FLOW (CFS)	LOSS (STREAM 3) (CFS)
15.000	224.52	223.79	223.79
15.017	224.81	224.08	224.08
15.033	225.10	224.37	224.37
15.050	225.40	224.66	224.66
15.067	225.70	224.95	224.95
15.083	226.00	225.25	225.25
15.100	226.30	225.54	225.54
15.117	226.60	225.84	225.84
15.133	226.91	226.14	226.14
15.150	227.21	226.45	226.45
15.167	227.52	226.75	226.75
15.183	227.84	227.06	227.06
15.200	228.15	227.37	227.37
15.217	228.46	227.68	227.68
15.233	228.78	227.99	227.99
15.250	229.10	228.30	228.30
15.267	229.42	228.62	228.62
15.283	229.74	228.94	228.94
15.300	230.07	229.26	229.26
15.317	230.39	229.58	229.58
15.333	230.72	229.90	229.90
15.350	231.05	230.23	230.23
15.367	231.38	230.55	230.55
15.383	231.71	230.88	230.88
15.400	232.05	231.21	231.21
15.417	232.38	231.54	231.54
15.433	232.72	231.88	231.88
15.450	233.05	232.21	232.21
15.467	233.39	232.55	232.55
15.483	233.72	232.88	232.88
15.500	234.06	233.22	233.22
15.517	234.39	233.55	233.55
15.533	234.72	233.89	233.89
15.550	235.06	234.22	234.22
15.567	235.39	234.55	234.55
15.583	235.72	234.89	234.89
15.600	236.04	235.22	235.22
15.617	236.37	235.55	235.55
15.633	236.69	235.88	235.88
15.650	237.02	236.20	236.20
15.667	237.33	236.53	236.53
15.683	237.65	236.85	236.85
15.700	237.96	237.17	237.17
15.717	238.27	237.49	237.49
15.733	238.57	237.80	237.80
15.750	238.88	238.11	238.11
15.767	239.17	238.42	238.42
15.783	239.46	238.72	238.72
15.800	239.75	239.02	239.02
15.817	240.03	239.31	239.31
15.833	240.31	239.60	239.60
15.850	240.58	239.89	239.89
15.867	240.85	240.17	240.17
15.883	241.13	240.44	240.44
15.900	241.40	240.71	240.71
15.917	241.68	240.99	240.99
15.933	241.96	241.26	241.26
15.950	242.24	241.54	241.54
15.967	242.51	241.81	241.81
15.983	242.76	242.09	242.09
16.000	243.02	242.37	242.37

16.017	243.29	242.63	242.63
16.033	243.58	242.89	242.89
16.050	243.89	243.16	243.16
16.067	244.21	243.44	243.44
16.083	244.56	243.74	243.74
16.100	244.92	244.05	244.05
16.117	245.30	244.39	244.39
16.133	245.70	244.74	244.74
16.150	246.11	245.11	245.11
16.167	246.55	245.50	245.50
16.183	247.00	245.90	245.90
16.200	247.47	246.33	246.33
16.217	247.97	246.77	246.77
16.233	248.48	247.24	247.24
16.250	249.01	247.72	247.72
16.267	249.57	248.22	248.22
16.283	250.14	248.74	248.74
16.300	250.74	249.29	249.29
16.317	251.36	249.85	249.85
16.333	251.99	250.44	250.44
16.350	252.64	251.05	251.05
16.367	253.32	251.67	251.67
16.383	254.01	252.32	252.32
16.400	254.73	252.98	252.98
16.417	255.47	253.66	253.66
16.433	256.24	254.37	254.37
16.450	257.01	255.10	255.10
16.467	257.77	255.85	255.85
16.483	258.50	256.62	256.62
16.500	259.19	257.38	257.38
16.517	259.83	258.12	258.12
16.533	260.43	258.83	258.83
16.550	261.00	259.50	259.50
16.567	261.54	260.12	260.12
16.583	262.04	260.70	260.70
16.600	262.48	261.26	261.26
16.617	262.87	261.78	261.78
16.633	263.22	262.25	262.25
16.650	263.55	262.66	262.66
16.667	263.87	263.03	263.03
16.683	264.19	263.37	263.37
16.700	264.49	263.70	263.70
16.717	264.79	264.02	264.02
16.733	265.09	264.34	264.34
16.750	265.38	264.64	264.64
16.767	265.67	264.94	264.94
16.783	265.95	265.23	265.23
16.800	266.23	265.52	265.52
16.817	266.52	265.80	265.80
16.833	266.79	266.09	266.09
16.850	267.07	266.37	266.37
16.867	267.34	266.65	266.65
16.883	267.62	266.93	266.93
16.900	267.89	267.20	267.20
16.917	268.16	267.48	267.48
16.933	268.42	267.75	267.75
16.950	268.69	268.02	268.02
16.967	268.95	268.29	268.29
16.983	269.21	268.55	268.55
17.000	269.46	268.81	268.81

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PROCESS SUMMARY OF STORAGE:

INFLOW VOLUME = 548.056 AF

OUTFLOW VOLUME = 548.058 AF

LOSS VOLUME = 0.000 AF

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FLOW PROCESS FROM NODE 406.00 TO NODE 407.00 IS CODE = 5.2

>>>>>MODEL CHANNEL ROUTING OF STREAM #3 BY THE CONVEX METHOD<<<<<
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THE MODIFIED C-ROUTING COEFFICIENT IS ESTIMATED IN ORDER
TO ROUTE THE STREAM 3 INFLOW HYDROGRAPH BY 1-MINUTE
INTERVALS(Reference: the National Engineering Handbook,
Hydrology, Chapter 17, page 17-52, August,1972,
U.S. Department of Commerce).

ASSUMED REGULAR CHANNEL INFORMATION:
BASEWIDTH(FT) = 40.00 CHANNEL Z = 2.00
UPSTREAM ELEVATION(FT) = 550.00
DOWNSTREAM ELEVATION(FT) = 506.00
CHANNEL LENGTH(FT) = 1412.00 MANNING'S FACTOR = 0.030
CONSTANT LOSS RATE(CFS) = 0.00

CHANNEL ROUTING COEFFICIENT ESTIMATED:
MAXIMUM INFLOW(CFS) = 278.75
AVERAGE FLOWRATE IN EXCESS OF 50% MAXIMUM INFLOW = 230.60
CHANNEL NORMAL VELOCITY FOR Q = 230.60 CFS = 7.20 FPS
ESTIMATED CHANNEL ROUTING COEFFICIENT = 0.809

MODIFIED CHANNEL ROUTING COEFFICIENT FOR 1-MINUTE
UNIT INTERVALS IS CSTAR = 0.621

CONVEX METHOD CHANNEL ROUTING RESULTS:

MODEL TIME (HRS)	INFLOW (STREAM 3) (CFS)	ROUTED FLOW (CFS)	OUTFLOW LESS LOSS (STREAM 3) (CFS)
15.000	223.79	222.81	222.81
15.017	224.08	223.13	223.13
15.033	224.37	223.42	223.42
15.050	224.66	223.72	223.72
15.067	224.95	224.01	224.01
15.083	225.25	224.30	224.30
15.100	225.54	224.59	224.59
15.117	225.84	224.88	224.88
15.133	226.14	225.17	225.17
15.150	226.45	225.47	225.47
15.167	226.75	225.77	225.77
15.183	227.06	226.07	226.07
15.200	227.37	226.37	226.37
15.217	227.68	226.68	226.68
15.233	227.99	226.98	226.98
15.250	228.30	227.29	227.29
15.267	228.62	227.60	227.60
15.283	228.94	227.91	227.91
15.300	229.26	228.22	228.22
15.317	229.58	228.54	228.54
15.333	229.90	228.86	228.86
15.350	230.23	229.18	229.18
15.367	230.55	229.50	229.50
15.383	230.88	229.82	229.82
15.400	231.21	230.14	230.14

15.417	231.54	230.47	230.47
15.433	231.88	230.80	230.80
15.450	232.21	231.13	231.13
15.467	232.55	231.46	231.46
15.483	232.88	231.79	231.79
15.500	233.22	232.13	232.13
15.517	233.55	232.46	232.46
15.533	233.89	232.80	232.80
15.550	234.22	233.13	233.13
15.567	234.55	233.47	233.47
15.583	234.89	233.80	233.80
15.600	235.22	234.13	234.13
15.617	235.55	234.47	234.47
15.633	235.88	234.80	234.80
15.650	236.20	235.13	235.13
15.667	236.53	235.46	235.46
15.683	236.85	235.79	235.79
15.700	237.17	236.12	236.12
15.717	237.49	236.44	236.44
15.733	237.80	236.77	236.77
15.750	238.11	237.09	237.09
15.767	238.42	237.40	237.40
15.783	238.72	237.72	237.72
15.800	239.02	238.03	238.03
15.817	239.31	238.34	238.34
15.833	239.60	238.64	238.64
15.850	239.89	238.94	238.94
15.867	240.17	239.24	239.24
15.883	240.44	239.53	239.53
15.900	240.71	239.81	239.81
15.917	240.99	240.09	240.09
15.933	241.26	240.37	240.37
15.950	241.54	240.64	240.64
15.967	241.81	240.92	240.92
15.983	242.09	241.19	241.19
16.000	242.37	241.47	241.47
16.017	242.63	241.75	241.75
16.033	242.89	242.02	242.02
16.050	243.16	242.29	242.29
16.067	243.44	242.56	242.56
16.083	243.74	242.82	242.82
16.100	244.05	243.09	243.09
16.117	244.39	243.37	243.37
16.133	244.74	243.67	243.67
16.150	245.11	243.98	243.98
16.167	245.50	244.31	244.31
16.183	245.90	244.66	244.66
16.200	246.33	245.03	245.03
16.217	246.77	245.41	245.41
16.233	247.24	245.81	245.81
16.250	247.72	246.23	246.23
16.267	248.22	246.67	246.67
16.283	248.74	247.13	247.13
16.300	249.29	247.61	247.61
16.317	249.85	248.10	248.10
16.333	250.44	248.62	248.62
16.350	251.05	249.16	249.16
16.367	251.67	249.72	249.72
16.383	252.32	250.30	250.30
16.400	252.98	250.90	250.90
16.417	253.66	251.52	251.52
16.433	254.37	252.16	252.16
16.450	255.10	252.82	252.82
16.467	255.85	253.50	253.50

16.483	256.62	254.20	254.20
16.500	257.38	254.92	254.92
16.517	258.12	255.67	255.67
16.533	258.83	256.43	256.43
16.550	259.50	257.18	257.18
16.567	260.12	257.92	257.92
16.583	260.70	258.63	258.63
16.600	261.26	259.31	259.31
16.617	261.78	259.94	259.94
16.633	262.25	260.54	260.54
16.650	262.66	261.10	261.10
16.667	263.03	261.62	261.62
16.683	263.37	262.10	262.10
16.700	263.70	262.53	262.53
16.717	264.02	262.92	262.92
16.733	264.34	263.27	263.27
16.750	264.64	263.61	263.61
16.767	264.94	263.94	263.94
16.783	265.23	264.25	264.25
16.800	265.52	264.56	264.56
16.817	265.80	264.86	264.86
16.833	266.09	265.15	265.15
16.850	266.37	265.44	265.44
16.867	266.65	265.73	265.73
16.883	266.93	266.02	266.02
16.900	267.20	266.30	266.30
16.917	267.48	266.58	266.58
16.933	267.75	266.86	266.86
16.950	268.02	267.13	267.13
16.967	268.29	267.41	267.41
16.983	268.55	267.68	267.68
17.000	268.81	267.95	267.95

PROCESS SUMMARY OF STORAGE:
INFLOW VOLUME = 548.058 AF
OUTFLOW VOLUME = 548.058 AF
LOSS VOLUME = 0.000 AF

FLOW PROCESS FROM NODE 407.00 TO NODE 408.00 IS CODE = 4

>>>>>MODEL PIPEFLOW ROUTING OF STREAM #3<<<<<

MODEL PIPEFLOW ROUTING OF STREAM 3 WHERE
STORAGE EFFECTS ARE NEGLECTED WITHIN THE PIPE, FLOW
VELOCITIES ARE ESTIMATED BY ASSUMING STEADY FLOW FOR
EACH UNIT INTERVAL(NORMAL DEPTH, Dn), AND FLOWS IN EXCESS
OF (.82)(DIAMETER) ARE PONDED AT THE UPSTREAM INLET:
UNIT INTERVAL FLOW VELOCITY COMPUTED USING Dn UP TO
(0.938)(DIAMETER):

PIPELENGTH(FT) = 1194.00 MANNINGS FACTOR = 0.013
UPSTREAM ELEVATION(FT) = 523.00
DOWNSTREAM ELEVATION(FT) = 500.00
PIPE DIAMETER(FT) = 10.50

NORMAL DEPTH VELOCITY PIPE ROUTING RESULTS:

TIME (HRS)	INFLOW (CFS)	VELOCITY (FPS)	OUTFLOW (CFS)	UPSTREAM PONDING(AF)
15.000	222.81	18.04	222.56	0.000
15.017	223.13	18.05	222.89	0.000
15.033	223.42	18.06	223.20	0.000
15.050	223.72	18.06	223.50	0.000
15.067	224.01	18.07	223.79	0.000
15.083	224.30	18.08	224.08	0.000
15.100	224.59	18.08	224.37	0.000
15.117	224.88	18.09	224.66	0.000
15.133	225.17	18.10	224.95	0.000
15.150	225.47	18.11	225.25	0.000
15.167	225.77	18.11	225.54	0.000
15.183	226.07	18.12	225.84	0.000
15.200	226.37	18.13	226.14	0.000
15.217	226.68	18.14	226.45	0.000
15.233	226.98	18.15	226.75	0.000
15.250	227.29	18.15	227.06	0.000
15.267	227.60	18.16	227.37	0.000
15.283	227.91	18.17	227.68	0.000
15.300	228.22	18.18	227.99	0.000
15.317	228.54	18.19	228.30	0.000
15.333	228.86	18.19	228.62	0.000
15.350	229.18	18.20	228.94	0.000
15.367	229.50	18.21	229.26	0.000
15.383	229.82	18.22	229.58	0.000
15.400	230.14	18.23	229.90	0.000
15.417	230.47	18.23	230.23	0.000
15.433	230.80	18.24	230.55	0.000
15.450	231.13	18.25	230.88	0.000
15.467	231.46	18.26	231.21	0.000
15.483	231.79	18.27	231.55	0.000
15.500	232.13	18.28	231.88	0.000
15.517	232.46	18.28	232.21	0.000
15.533	232.80	18.29	232.55	0.000
15.550	233.13	18.30	232.88	0.000
15.567	233.47	18.31	233.22	0.000
15.583	233.80	18.32	233.55	0.000
15.600	234.13	18.33	233.89	0.000
15.617	234.47	18.34	234.22	0.000
15.633	234.80	18.34	234.56	0.000
15.650	235.13	18.35	234.89	0.000
15.667	235.46	18.36	235.22	0.000
15.683	235.79	18.37	235.55	0.000
15.700	236.12	18.38	235.88	0.000
15.717	236.44	18.39	236.21	0.000
15.733	236.77	18.39	236.53	0.000
15.750	237.09	18.40	236.86	0.000
15.767	237.40	18.41	237.17	0.000
15.783	237.72	18.42	237.49	0.000
15.800	238.03	18.43	237.81	0.000
15.817	238.34	18.43	238.12	0.000
15.833	238.64	18.44	238.42	0.000
15.850	238.94	18.45	238.73	0.000
15.867	239.24	18.46	239.02	0.000
15.883	239.53	18.46	239.32	0.000
15.900	239.81	18.47	239.61	0.000
15.917	240.09	18.48	239.89	0.000
15.933	240.37	18.49	240.17	0.000
15.950	240.64	18.49	240.45	0.000
15.967	240.92	18.50	240.72	0.000
15.983	241.19	18.51	241.00	0.000
16.000	241.47	18.51	241.27	0.000
16.017	241.75	18.52	241.55	0.000

16.033	242.02	18.53	241.82	0.000
16.050	242.29	18.53	242.10	0.000
16.067	242.56	18.54	242.37	0.000
16.083	242.82	18.55	242.64	0.000
16.100	243.09	18.55	242.90	0.000
16.117	243.37	18.56	243.17	0.000
16.133	243.67	18.57	243.45	0.000
16.150	243.98	18.58	243.75	0.000
16.167	244.31	18.59	244.07	0.000
16.183	244.66	18.59	244.41	0.000
16.200	245.03	18.60	244.76	0.000
16.217	245.41	18.61	245.13	0.000
16.233	245.81	18.62	245.52	0.000
16.250	246.23	18.63	245.93	0.000
16.267	246.67	18.65	246.35	0.000
16.283	247.13	18.66	246.80	0.000
16.300	247.61	18.67	247.26	0.000
16.317	248.10	18.68	247.75	0.000
16.333	248.62	18.70	248.25	0.000
16.350	249.16	18.71	248.77	0.000
16.367	249.72	18.72	249.32	0.000
16.383	250.30	18.74	249.89	0.000
16.400	250.90	18.75	250.47	0.000
16.417	251.52	18.77	251.08	0.000
16.433	252.16	18.79	251.71	0.000
16.450	252.82	18.80	252.35	0.000
16.467	253.50	18.82	253.02	0.000
16.483	254.20	18.84	253.70	0.000
16.500	254.92	18.86	254.41	0.000
16.517	255.67	18.87	255.14	0.000
16.533	256.43	18.89	255.90	0.000
16.550	257.18	18.91	256.66	0.000
16.567	257.92	18.93	257.42	0.000
16.583	258.63	18.95	258.15	0.000
16.600	259.31	18.97	258.86	0.000
16.617	259.94	18.98	259.52	0.000
16.633	260.54	19.00	260.14	0.000
16.650	261.10	19.01	260.73	0.000
16.667	261.62	19.02	261.28	0.000
16.683	262.10	19.03	261.77	0.000
16.700	262.53	19.04	262.22	0.000
16.717	262.92	19.05	262.63	0.000
16.733	263.27	19.06	263.01	0.000
16.750	263.61	19.06	263.36	0.000
16.767	263.94	19.07	263.69	0.000
16.783	264.25	19.08	264.01	0.000
16.800	264.56	19.08	264.33	0.000
16.817	264.86	19.09	264.63	0.000
16.833	265.15	19.09	264.93	0.000
16.850	265.44	19.10	265.22	0.000
16.867	265.73	19.11	265.51	0.000
16.883	266.02	19.11	265.80	0.000
16.900	266.30	19.12	266.08	0.000
16.917	266.58	19.12	266.37	0.000
16.933	266.86	19.13	266.65	0.000
16.950	267.13	19.13	266.92	0.000
16.967	267.41	19.14	267.20	0.000
16.983	267.68	19.14	267.47	0.000
17.000	267.95	19.15	267.74	0.000

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FLOW PROCESS FROM NODE 408.00 TO NODE 409.00 IS CODE = 5.2

>>>>>MODEL CHANNEL ROUTING OF STREAM #3 BY THE CONVEX METHOD<<<<<

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THE MODIFIED C-ROUTING COEFFICIENT IS ESTIMATED IN ORDER
TO ROUTE THE STREAM 3 INFLOW HYDROGRAPH BY 1-MINUTE
INTERVALS(Reference: the National Engineering Handbook,
Hydrology, Chapter 17, page 17-52, August,1972,
U.S. Department of Commerce).

ASSUMED REGULAR CHANNEL INFORMATION:
BASEWIDTH(FT) = 80.00 CHANNEL Z = 3.00
UPSTREAM ELEVATION(FT) = 500.00
DOWNSTREAM ELEVATION(FT) = 493.46
CHANNEL LENGTH(FT) = 1634.00 MANNING'S FACTOR = 0.030
CONSTANT LOSS RATE(CFS) = 0.00

CHANNEL ROUTING COEFFICIENT ESTIMATED:
MAXIMUM INFLOW(CFS) = 278.75
AVERAGE FLOWRATE IN EXCESS OF 50% MAXIMUM INFLOW = 230.60
CHANNEL NORMAL VELOCITY FOR Q = 230.60 CFS = 2.97 FPS
ESTIMATED CHANNEL ROUTING COEFFICIENT = 0.636

MODIFIED CHANNEL ROUTING COEFFICIENT FOR 1-MINUTE
UNIT INTERVALS IS CSTAR = 0.364

CONVEX METHOD CHANNEL ROUTING RESULTS:

MODEL TIME (HRS)	INFLOW (STREAM 3) (CFS)	ROUTED FLOW (CFS)	OUTFLOW LESS LOSS (STREAM 3) (CFS)
15.000	222.56	218.82	218.82
15.017	222.89	219.33	219.33
15.033	223.20	219.85	219.85
15.050	223.50	220.37	220.37
15.067	223.79	220.89	220.89
15.083	224.08	221.37	221.37
15.100	224.37	221.82	221.82
15.117	224.66	222.23	222.23
15.133	224.95	222.60	222.60
15.150	225.25	222.95	222.95
15.167	225.54	223.27	223.27
15.183	225.84	223.58	223.58
15.200	226.14	223.88	223.88
15.217	226.45	224.18	224.18
15.233	226.75	224.48	224.48
15.250	227.06	224.78	224.78
15.267	227.37	225.07	225.07
15.283	227.68	225.37	225.37
15.300	227.99	225.67	225.67
15.317	228.30	225.97	225.97
15.333	228.62	226.27	226.27
15.350	228.94	226.58	226.58
15.367	229.26	226.88	226.88
15.383	229.58	227.19	227.19
15.400	229.90	227.50	227.50
15.417	230.23	227.81	227.81
15.433	230.55	228.12	228.12
15.450	230.88	228.44	228.44
15.467	231.21	228.76	228.76
15.483	231.55	229.07	229.07
15.500	231.88	229.40	229.40

15.517	232.21	229.72	229.72
15.533	232.55	230.04	230.04
15.550	232.88	230.37	230.37
15.567	233.22	230.70	230.70
15.583	233.55	231.03	231.03
15.600	233.89	231.36	231.36
15.617	234.22	231.69	231.69
15.633	234.56	232.02	232.02
15.650	234.89	232.36	232.36
15.667	235.22	232.69	232.69
15.683	235.55	233.02	233.02
15.700	235.88	233.36	233.36
15.717	236.21	233.69	233.69
15.733	236.53	234.03	234.03
15.750	236.86	234.36	234.36
15.767	237.17	234.69	234.69
15.783	237.49	235.03	235.03
15.800	237.81	235.36	235.36
15.817	238.12	235.69	235.69
15.833	238.42	236.01	236.01
15.850	238.73	236.34	236.34
15.867	239.02	236.66	236.66
15.883	239.32	236.98	236.98
15.900	239.61	237.30	237.30
15.917	239.89	237.62	237.62
15.933	240.17	237.93	237.93
15.950	240.45	238.24	238.24
15.967	240.72	238.54	238.54
15.983	241.00	238.84	238.84
16.000	241.27	239.14	239.14
16.017	241.55	239.43	239.43
16.033	241.82	239.71	239.71
16.050	242.10	240.00	240.00
16.067	242.37	240.28	240.28
16.083	242.64	240.55	240.55
16.100	242.90	240.83	240.83
16.117	243.17	241.11	241.11
16.133	243.45	241.38	241.38
16.150	243.75	241.66	241.66
16.167	244.07	241.93	241.93
16.183	244.41	242.21	242.21
16.200	244.76	242.47	242.47
16.217	245.13	242.74	242.74
16.233	245.52	243.02	243.02
16.250	245.93	243.30	243.30
16.267	246.35	243.60	243.60
16.283	246.80	243.92	243.92
16.300	247.26	244.25	244.25
16.317	247.75	244.59	244.59
16.333	248.25	244.95	244.95
16.350	248.77	245.33	245.33
16.367	249.32	245.73	245.73
16.383	249.89	246.15	246.15
16.400	250.47	246.58	246.58
16.417	251.08	247.04	247.04
16.433	251.71	247.51	247.51
16.450	252.35	248.00	248.00
16.467	253.02	248.51	248.51
16.483	253.70	249.05	249.05
16.500	254.41	249.60	249.60
16.517	255.14	250.18	250.18
16.533	255.90	250.77	250.77
16.550	256.66	251.39	251.39
16.567	257.42	252.02	252.02

16.583	258.15	252.68	252.68
16.600	258.86	253.35	253.35
16.617	259.52	254.05	254.05
16.633	260.14	254.77	254.77
16.650	260.73	255.50	255.50
16.667	261.28	256.24	256.24
16.683	261.77	256.98	256.98
16.700	262.22	257.70	257.70
16.717	262.63	258.40	258.40
16.733	263.01	259.07	259.07
16.750	263.36	259.70	259.70
16.767	263.69	260.31	260.31
16.783	264.01	260.87	260.87
16.800	264.33	261.38	261.38
16.817	264.63	261.86	261.86
16.833	264.93	262.30	262.30
16.850	265.22	262.70	262.70
16.867	265.51	263.08	263.08
16.883	265.80	263.44	263.44
16.900	266.08	263.78	263.78
16.917	266.37	264.11	264.11
16.933	266.65	264.42	264.42
16.950	266.92	264.73	264.73
16.967	267.20	265.03	265.03
16.983	267.47	265.33	265.33
17.000	267.74	265.62	265.62

PROCESS SUMMARY OF STORAGE:
INFLOW VOLUME = 548.058 AF
OUTFLOW VOLUME = 548.060 AF
LOSS VOLUME = 0.000 AF

FLOW PROCESS FROM NODE 409.00 TO NODE 410.00 IS CODE = 5.2

>>>>>MODEL CHANNEL ROUTING OF STREAM #3 BY THE CONVEX METHOD<<<<<

THE MODIFIED C-ROUTING COEFFICIENT IS ESTIMATED IN ORDER
TO ROUTE THE STREAM 3 INFLOW HYDROGRAPH BY 1-MINUTE
INTERVALS(Reference: the National Engineering Handbook,
Hydrology, Chapter 17, page 17-52, August,1972,
U.S. Department of Commerce).

ASSUMED REGULAR CHANNEL INFORMATION:
BASEWIDTH(FT) = 80.00 CHANNEL Z = 3.00
UPSTREAM ELEVATION(FT) = 448.50
DOWNSTREAM ELEVATION(FT) = 442.80
CHANNEL LENGTH(FT) = 1426.00 MANNING'S FACTOR = 0.030
CONSTANT LOSS RATE(CFS) = 0.00

CHANNEL ROUTING COEFFICIENT ESTIMATED:
MAXIMUM INFLOW(CFS) = 278.74
AVERAGE FLOWRATE IN EXCESS OF 50% MAXIMUM INFLOW = 230.60
CHANNEL NORMAL VELOCITY FOR Q = 230.60 CFS = 2.97 FPS
ESTIMATED CHANNEL ROUTING COEFFICIENT = 0.636

MODIFIED CHANNEL ROUTING COEFFICIENT FOR 1-MINUTE
UNIT INTERVALS IS CSTAR = 0.374

CONVEX METHOD CHANNEL ROUTING RESULTS:

MODEL TIME (HRS)	INFLOW (STREAM 3) (CFS)	ROUTED FLOW (CFS)	OUTFLOW LESS LOSS (STREAM 3) (CFS)
15.000	218.82	215.50	215.50
15.017	219.33	215.98	215.98
15.033	219.85	216.46	216.46
15.050	220.37	216.95	216.95
15.067	220.89	217.44	217.44
15.083	221.37	217.94	217.94
15.100	221.82	218.44	218.44
15.117	222.23	218.95	218.95
15.133	222.60	219.47	219.47
15.150	222.95	219.98	219.98
15.167	223.27	220.48	220.48
15.183	223.58	220.97	220.97
15.200	223.88	221.43	221.43
15.217	224.18	221.86	221.86
15.233	224.48	222.25	222.25
15.250	224.78	222.62	222.62
15.267	225.07	222.97	222.97
15.283	225.37	223.30	223.30
15.300	225.67	223.62	223.62
15.317	225.97	223.93	223.93
15.333	226.27	224.24	224.24
15.350	226.58	224.54	224.54
15.367	226.88	224.84	224.84
15.383	227.19	225.14	225.14
15.400	227.50	225.44	225.44
15.417	227.81	225.74	225.74
15.433	228.12	226.04	226.04
15.450	228.44	226.35	226.35
15.467	228.76	226.65	226.65
15.483	229.07	226.96	226.96
15.500	229.40	227.27	227.27
15.517	229.72	227.58	227.58
15.533	230.04	227.89	227.89
15.550	230.37	228.20	228.20
15.567	230.70	228.52	228.52
15.583	231.03	228.84	228.84
15.600	231.36	229.15	229.15
15.617	231.69	229.48	229.48
15.633	232.02	229.80	229.80
15.650	232.36	230.12	230.12
15.667	232.69	230.45	230.45
15.683	233.02	230.78	230.78
15.700	233.36	231.11	231.11
15.717	233.69	231.44	231.44
15.733	234.03	231.77	231.77
15.750	234.36	232.10	232.10
15.767	234.69	232.44	232.44
15.783	235.03	232.77	232.77
15.800	235.36	233.10	233.10
15.817	235.69	233.44	233.44
15.833	236.01	233.77	233.77
15.850	236.34	234.11	234.11
15.867	236.66	234.44	234.44
15.883	236.98	234.77	234.77
15.900	237.30	235.10	235.10
15.917	237.62	235.43	235.43
15.933	237.93	235.76	235.76
15.950	238.24	236.09	236.09
15.967	238.54	236.41	236.41

15.983	238.84	236.73	236.73
16.000	239.14	237.05	237.05
16.017	239.43	237.37	237.37
16.033	239.71	237.68	237.68
16.050	240.00	237.99	237.99
16.067	240.28	238.30	238.30
16.083	240.55	238.60	238.60
16.100	240.83	238.90	238.90
16.117	241.11	239.20	239.20
16.133	241.38	239.49	239.49
16.150	241.66	239.77	239.77
16.167	241.93	240.06	240.06
16.183	242.21	240.34	240.34
16.200	242.47	240.62	240.62
16.217	242.74	240.89	240.89
16.233	243.02	241.17	241.17
16.250	243.30	241.45	241.45
16.267	243.60	241.72	241.72
16.283	243.92	241.99	241.99
16.300	244.25	242.27	242.27
16.317	244.59	242.54	242.54
16.333	244.95	242.82	242.82
16.350	245.33	243.10	243.10
16.367	245.73	243.39	243.39
16.383	246.15	243.70	243.70
16.400	246.58	244.02	244.02
16.417	247.04	244.36	244.36
16.433	247.51	244.71	244.71
16.450	248.00	245.08	245.08
16.467	248.51	245.46	245.46
16.483	249.05	245.87	245.87
16.500	249.60	246.29	246.29
16.517	250.18	246.73	246.73
16.533	250.77	247.19	247.19
16.550	251.39	247.67	247.67
16.567	252.02	248.17	248.17
16.583	252.68	248.68	248.68
16.600	253.35	249.22	249.22
16.617	254.05	249.78	249.78
16.633	254.77	250.36	250.36
16.650	255.50	250.96	250.96
16.667	256.24	251.58	251.58
16.683	256.98	252.22	252.22
16.700	257.70	252.88	252.88
16.717	258.40	253.56	253.56
16.733	259.07	254.26	254.26
16.750	259.70	254.98	254.98
16.767	260.31	255.70	255.70
16.783	260.87	256.42	256.42
16.800	261.38	257.14	257.14
16.817	261.86	257.84	257.84
16.833	262.30	258.51	258.51
16.850	262.70	259.16	259.16
16.867	263.08	259.78	259.78
16.883	263.44	260.36	260.36
16.900	263.78	260.91	260.91
16.917	264.11	261.41	261.41
16.933	264.42	261.88	261.88
16.950	264.73	262.32	262.32
16.967	265.03	262.73	262.73
16.983	265.33	263.11	263.11
17.000	265.62	263.47	263.47

PROCESS SUMMARY OF STORAGE:

INFLOW VOLUME = 548.060 AF
OUTFLOW VOLUME = 548.059 AF
LOSS VOLUME = 0.000 AF

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FLOW PROCESS FROM NODE 410.00 TO NODE 410.50 IS CODE = 5.2

>>>>>MODEL CHANNEL ROUTING OF STREAM #3 BY THE CONVEX METHOD<<<<<
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THE MODIFIED C-ROUTING COEFFICIENT IS ESTIMATED IN ORDER
TO ROUTE THE STREAM 3 INFLOW HYDROGRAPH BY 1-MINUTE
INTERVALS(Reference: the National Engineering Handbook,
Hydrology, Chapter 17, page 17-52, August,1972,
U.S. Department of Commerce).

ASSUMED REGULAR CHANNEL INFORMATION:
BASEWIDTH(FT) = 9.00 CHANNEL Z = 2.00
UPSTREAM ELEVATION(FT) = 417.20
DOWNSTREAM ELEVATION(FT) = 416.90
CHANNEL LENGTH(FT) = 246.00 MANNING'S FACTOR = 0.015
CONSTANT LOSS RATE(CFS) = 0.00

CHANNEL ROUTING COEFFICIENT ESTIMATED:
MAXIMUM INFLOW(CFS) = 278.74
AVERAGE FLOWRATE IN EXCESS OF 50% MAXIMUM INFLOW = 230.53
CHANNEL NORMAL VELOCITY FOR Q = 230.53 CFS = 5.39 FPS
ESTIMATED CHANNEL ROUTING COEFFICIENT = 0.760

MODIFIED CHANNEL ROUTING COEFFICIENT FOR 1-MINUTE
UNIT INTERVALS IS CSTAR = 0.880

CONVEX METHOD CHANNEL ROUTING RESULTS:

MODEL TIME (HRS)	INFLOW (STREAM 3) (CFS)	ROUTED FLOW (CFS)	OUTFLOW LESS LOSS (STREAM 3) (CFS)
15.000	215.50	215.17	215.17
15.017	215.98	215.64	215.64
15.033	216.46	216.12	216.12
15.050	216.95	216.60	216.60
15.067	217.44	217.09	217.09
15.083	217.94	217.58	217.58
15.100	218.44	218.08	218.08
15.117	218.95	218.59	218.59
15.133	219.47	219.10	219.10
15.150	219.98	219.61	219.61
15.167	220.48	220.12	220.12
15.183	220.97	220.62	220.62
15.200	221.43	221.10	221.10
15.217	221.86	221.55	221.55
15.233	222.25	221.97	221.97
15.250	222.62	222.35	222.35
15.267	222.97	222.72	222.72
15.283	223.30	223.06	223.06
15.300	223.62	223.39	223.39
15.317	223.93	223.71	223.71
15.333	224.24	224.02	224.02
15.350	224.54	224.32	224.32
15.367	224.84	224.63	224.63

15.383	225.14	224.93	224.93
15.400	225.44	225.23	225.23
15.417	225.74	225.53	225.53
15.433	226.04	225.83	225.83
15.450	226.35	226.13	226.13
15.467	226.65	226.44	226.44
15.483	226.96	226.74	226.74
15.500	227.27	227.05	227.05
15.517	227.58	227.36	227.36
15.533	227.89	227.67	227.67
15.550	228.20	227.98	227.98
15.567	228.52	228.29	228.29
15.583	228.84	228.61	228.61
15.600	229.15	228.93	228.93
15.617	229.48	229.25	229.25
15.633	229.80	229.57	229.57
15.650	230.12	229.89	229.89
15.667	230.45	230.22	230.22
15.683	230.78	230.54	230.54
15.700	231.11	230.87	230.87
15.717	231.44	231.20	231.20
15.733	231.77	231.53	231.53
15.750	232.10	231.86	231.86
15.767	232.44	232.20	232.20
15.783	232.77	232.53	232.53
15.800	233.10	232.87	232.87
15.817	233.44	233.20	233.20
15.833	233.77	233.53	233.53
15.850	234.11	233.87	233.87
15.867	234.44	234.20	234.20
15.883	234.77	234.53	234.53
15.900	235.10	234.87	234.87
15.917	235.43	235.20	235.20
15.933	235.76	235.53	235.53
15.950	236.09	235.85	235.85
15.967	236.41	236.18	236.18
15.983	236.73	236.50	236.50
16.000	237.05	236.82	236.82
16.017	237.37	237.14	237.14
16.033	237.68	237.46	237.46
16.050	237.99	237.77	237.77
16.067	238.30	238.08	238.08
16.083	238.60	238.39	238.39
16.100	238.90	238.69	238.69
16.117	239.20	238.99	238.99
16.133	239.49	239.28	239.28
16.150	239.77	239.57	239.57
16.167	240.06	239.85	239.85
16.183	240.34	240.14	240.14
16.200	240.62	240.42	240.42
16.217	240.89	240.70	240.70
16.233	241.17	240.97	240.97
16.250	241.45	241.25	241.25
16.267	241.72	241.53	241.53
16.283	241.99	241.80	241.80
16.300	242.27	242.07	242.07
16.317	242.54	242.34	242.34
16.333	242.82	242.62	242.62
16.350	243.10	242.90	242.90
16.367	243.39	243.19	243.19
16.383	243.70	243.48	243.48
16.400	244.02	243.80	243.80
16.417	244.36	244.12	244.12
16.433	244.71	244.46	244.46

16.450	245.08	244.82	244.82
16.467	245.46	245.19	245.19
16.483	245.87	245.58	245.58
16.500	246.29	245.99	245.99
16.517	246.73	246.42	246.42
16.533	247.19	246.86	246.86
16.550	247.67	247.33	247.33
16.567	248.17	247.81	247.81
16.583	248.68	248.32	248.32
16.600	249.22	248.84	248.84
16.617	249.78	249.39	249.39
16.633	250.36	249.95	249.95
16.650	250.96	250.54	250.54
16.667	251.58	251.14	251.14
16.683	252.22	251.77	251.77
16.700	252.88	252.41	252.41
16.717	253.56	253.08	253.08
16.733	254.26	253.76	253.76
16.750	254.98	254.47	254.47
16.767	255.70	255.19	255.19
16.783	256.42	255.91	255.91
16.800	257.14	256.63	256.63
16.817	257.84	257.34	257.34
16.833	258.51	258.03	258.03
16.850	259.16	258.70	258.70
16.867	259.78	259.34	259.34
16.883	260.36	259.95	259.95
16.900	260.91	260.52	260.52
16.917	261.41	261.05	261.05
16.933	261.88	261.54	261.54
16.950	262.32	262.00	262.00
16.967	262.73	262.43	262.43
16.983	263.11	262.83	262.83
17.000	263.47	263.21	263.21

PROCESS SUMMARY OF STORAGE:
INFLOW VOLUME = 548.059 AF
OUTFLOW VOLUME = 548.059 AF
LOSS VOLUME = 0.000 AF

FLOW PROCESS FROM NODE 410.50 TO NODE 411.00 IS CODE = 5.2

>>>>>MODEL CHANNEL ROUTING OF STREAM #3 BY THE CONVEX METHOD<<<<<

THE MODIFIED C-ROUTING COEFFICIENT IS ESTIMATED IN ORDER
TO ROUTE THE STREAM 3 INFLOW HYDROGRAPH BY 1-MINUTE
INTERVALS(Reference: the National Engineering Handbook,
Hydrology, Chapter 17, page 17-52, August,1972,
U.S. Department of Commerce).

ASSUMED REGULAR CHANNEL INFORMATION:
BASEWIDTH(FT) = 80.00 CHANNEL Z = 3.00
UPSTREAM ELEVATION(FT) = 407.80
DOWNSTREAM ELEVATION(FT) = 400.57
CHANNEL LENGTH(FT) = 1807.63 MANNING'S FACTOR = 0.030
CONSTANT LOSS RATE(CFS) = 0.00

CHANNEL ROUTING COEFFICIENT ESTIMATED:
MAXIMUM INFLOW(CFS) = 278.74

AVERAGE FLOWRATE IN EXCESS OF 50% MAXIMUM INFLOW = 230.59
CHANNEL NORMAL VELOCITY FOR Q = 230.59 CFS = 2.97 FPS
ESTIMATED CHANNEL ROUTING COEFFICIENT = 0.636

MODIFIED CHANNEL ROUTING COEFFICIENT FOR 1-MINUTE
UNIT INTERVALS IS CSTAR = 0.357

CONVEX METHOD CHANNEL ROUTING RESULTS:

MODEL TIME (HRS)	INFLOW (STREAM 3) (CFS)	ROUTED FLOW (CFS)	OUTFLOW LESS LOSS (STREAM 3) (CFS)
15.000	215.17	211.63	211.63
15.017	215.64	212.03	212.03
15.033	216.12	212.43	212.43
15.050	216.60	212.85	212.85
15.067	217.09	213.28	213.28
15.083	217.58	213.71	213.71
15.100	218.08	214.16	214.16
15.117	218.59	214.61	214.61
15.133	219.10	215.07	215.07
15.150	219.61	215.54	215.54
15.167	220.12	216.01	216.01
15.183	220.62	216.49	216.49
15.200	221.10	216.98	216.98
15.217	221.55	217.47	217.47
15.233	221.97	217.97	217.97
15.250	222.35	218.47	218.47
15.267	222.72	218.98	218.98
15.283	223.06	219.48	219.48
15.300	223.39	219.98	219.98
15.317	223.71	220.47	220.47
15.333	224.02	220.93	220.93
15.350	224.32	221.38	221.38
15.367	224.63	221.80	221.80
15.383	224.93	222.19	222.19
15.400	225.23	222.57	222.57
15.417	225.53	222.92	222.92
15.433	225.83	223.26	223.26
15.450	226.13	223.59	223.59
15.467	226.44	223.91	223.91
15.483	226.74	224.22	224.22
15.500	227.05	224.53	224.53
15.517	227.36	224.84	224.84
15.533	227.67	225.14	225.14
15.550	227.98	225.45	225.45
15.567	228.29	225.75	225.75
15.583	228.61	226.05	226.05
15.600	228.93	226.36	226.36
15.617	229.25	226.66	226.66
15.633	229.57	226.97	226.97
15.650	229.89	227.28	227.28
15.667	230.22	227.59	227.59
15.683	230.54	227.90	227.90
15.700	230.87	228.22	228.22
15.717	231.20	228.53	228.53
15.733	231.53	228.85	228.85
15.750	231.86	229.17	229.17
15.767	232.20	229.49	229.49
15.783	232.53	229.81	229.81
15.800	232.87	230.14	230.14
15.817	233.20	230.46	230.46
15.833	233.53	230.79	230.79

15.850	233.87	231.12	231.12
15.867	234.20	231.45	231.45
15.883	234.53	231.78	231.78
15.900	234.87	232.11	232.11
15.917	235.20	232.45	232.45
15.933	235.53	232.78	232.78
15.950	235.85	233.11	233.11
15.967	236.18	233.45	233.45
15.983	236.50	233.78	233.78
16.000	236.82	234.11	234.11
16.017	237.14	234.45	234.45
16.033	237.46	234.78	234.78
16.050	237.77	235.11	235.11
16.067	238.08	235.44	235.44
16.083	238.39	235.76	235.76
16.100	238.69	236.09	236.09
16.117	238.99	236.41	236.41
16.133	239.28	236.73	236.73
16.150	239.57	237.05	237.05
16.167	239.85	237.37	237.37
16.183	240.14	237.68	237.68
16.200	240.42	237.99	237.99
16.217	240.70	238.30	238.30
16.233	240.97	238.60	238.60
16.250	241.25	238.90	238.90
16.267	241.53	239.19	239.19
16.283	241.80	239.48	239.48
16.300	242.07	239.77	239.77
16.317	242.34	240.05	240.05
16.333	242.62	240.34	240.34
16.350	242.90	240.62	240.62
16.367	243.19	240.90	240.90
16.383	243.48	241.17	241.17
16.400	243.80	241.45	241.45
16.417	244.12	241.72	241.72
16.433	244.46	242.00	242.00
16.450	244.82	242.27	242.27
16.467	245.19	242.55	242.55
16.483	245.58	242.84	242.84
16.500	245.99	243.13	243.13
16.517	246.42	243.43	243.43
16.533	246.86	243.74	243.74
16.550	247.33	244.07	244.07
16.567	247.81	244.41	244.41
16.583	248.32	244.76	244.76
16.600	248.84	245.13	245.13
16.617	249.39	245.52	245.52
16.633	249.95	245.93	245.93
16.650	250.54	246.35	246.35
16.667	251.14	246.79	246.79
16.683	251.77	247.25	247.25
16.700	252.41	247.73	247.73
16.717	253.08	248.23	248.23
16.733	253.76	248.76	248.76
16.750	254.47	249.30	249.30
16.767	255.19	249.86	249.86
16.783	255.91	250.43	250.43
16.800	256.63	251.03	251.03
16.817	257.34	251.66	251.66
16.833	258.03	252.30	252.30
16.850	258.70	252.96	252.96
16.867	259.34	253.63	253.63
16.883	259.95	254.33	254.33
16.900	260.52	255.03	255.03

16.917	261.05	255.74	255.74
16.933	261.54	256.44	256.44
16.950	262.00	257.14	257.14
16.967	262.43	257.82	257.82
16.983	262.83	258.48	258.48
17.000	263.21	259.11	259.11

PROCESS SUMMARY OF STORAGE:
INFLOW VOLUME = 548.059 AF
OUTFLOW VOLUME = 548.059 AF
LOSS VOLUME = 0.000 AF

FLOW PROCESS FROM NODE 411.00 TO NODE 415.00 IS CODE = 5.2

>>>>>MODEL CHANNEL ROUTING OF STREAM #3 BY THE CONVEX METHOD<<<<<

THE MODIFIED C-ROUTING COEFFICIENT IS ESTIMATED IN ORDER
TO ROUTE THE STREAM 3 INFLOW HYDROGRAPH BY 1-MINUTE
INTERVALS(Reference: the National Engineering Handbook,
Hydrology, Chapter 17, page 17-52, August,1972,
U.S. Department of Commerce).

ASSUMED REGULAR CHANNEL INFORMATION:
BASEWIDTH(FT) = 80.00 CHANNEL Z = 3.00
UPSTREAM ELEVATION(FT) = 400.57
DOWNSTREAM ELEVATION(FT) = 391.09
CHANNEL LENGTH(FT) = 2371.00 MANNING'S FACTOR = 0.030
CONSTANT LOSS RATE(CFS) = 0.00

CHANNEL ROUTING COEFFICIENT ESTIMATED:
MAXIMUM INFLOW(CFS) = 278.74
AVERAGE FLOWRATE IN EXCESS OF 50% MAXIMUM INFLOW = 230.52
CHANNEL NORMAL VELOCITY FOR Q = 230.52 CFS = 2.97 FPS
ESTIMATED CHANNEL ROUTING COEFFICIENT = 0.636

MODIFIED CHANNEL ROUTING COEFFICIENT FOR 1-MINUTE
UNIT INTERVALS IS CSTAR = 0.340

CONVEX METHOD CHANNEL ROUTING RESULTS:

MODEL TIME (HRS)	INFLOW (STREAM 3) (CFS)	ROUTED FLOW (CFS)	OUTFLOW LESS LOSS (STREAM 3) (CFS)
15.000	211.63	208.33	208.33
15.017	212.03	208.59	208.59
15.033	212.43	208.86	208.86
15.050	212.85	209.15	209.15
15.067	213.28	209.45	209.45
15.083	213.71	209.76	209.76
15.100	214.16	210.08	210.08
15.117	214.61	210.42	210.42
15.133	215.07	210.77	210.77
15.150	215.54	211.14	211.14
15.167	216.01	211.51	211.51
15.183	216.49	211.90	211.90
15.200	216.98	212.30	212.30
15.217	217.47	212.71	212.71
15.233	217.97	213.13	213.13

15.250	218.47	213.56	213.56
15.267	218.98	214.00	214.00
15.283	219.48	214.45	214.45
15.300	219.98	214.91	214.91
15.317	220.47	215.37	215.37
15.333	220.93	215.84	215.84
15.350	221.38	216.32	216.32
15.367	221.80	216.80	216.80
15.383	222.19	217.29	217.29
15.400	222.57	217.78	217.78
15.417	222.92	218.28	218.28
15.433	223.26	218.78	218.78
15.450	223.59	219.28	219.28
15.467	223.91	219.77	219.77
15.483	224.22	220.24	220.24
15.500	224.53	220.71	220.71
15.517	224.84	221.15	221.15
15.533	225.14	221.57	221.57
15.550	225.45	221.97	221.97
15.567	225.75	222.36	222.36
15.583	226.05	222.73	222.73
15.600	226.36	223.08	223.08
15.617	226.66	223.42	223.42
15.633	226.97	223.75	223.75
15.650	227.28	224.07	224.07
15.667	227.59	224.39	224.39
15.683	227.90	224.70	224.70
15.700	228.22	225.01	225.01
15.717	228.53	225.32	225.32
15.733	228.85	225.62	225.62
15.750	229.17	225.93	225.93
15.767	229.49	226.23	226.23
15.783	229.81	226.54	226.54
15.800	230.14	226.85	226.85
15.817	230.46	227.16	227.16
15.833	230.79	227.47	227.47
15.850	231.12	227.78	227.78
15.867	231.45	228.09	228.09
15.883	231.78	228.41	228.41
15.900	232.11	228.72	228.72
15.917	232.45	229.04	229.04
15.933	232.78	229.36	229.36
15.950	233.11	229.69	229.69
15.967	233.45	230.01	230.01
15.983	233.78	230.33	230.33
16.000	234.11	230.66	230.66
16.017	234.45	230.99	230.99
16.033	234.78	231.32	231.32
16.050	235.11	231.65	231.65
16.067	235.44	231.98	231.98
16.083	235.76	232.31	232.31
16.100	236.09	232.65	232.65
16.117	236.41	232.98	232.98
16.133	236.73	233.31	233.31
16.150	237.05	233.64	233.64
16.167	237.37	233.98	233.98
16.183	237.68	234.31	234.31
16.200	237.99	234.64	234.64
16.217	238.30	234.97	234.97
16.233	238.60	235.30	235.30
16.250	238.90	235.63	235.63
16.267	239.19	235.95	235.95
16.283	239.48	236.28	236.28
16.300	239.77	236.60	236.60

16.317	240.05	236.92	236.92
16.333	240.34	237.23	237.23
16.350	240.62	237.55	237.55
16.367	240.90	237.86	237.86
16.383	241.17	238.16	238.16
16.400	241.45	238.47	238.47
16.417	241.72	238.77	238.77
16.433	242.00	239.06	239.06
16.450	242.27	239.35	239.35
16.467	242.55	239.64	239.64
16.483	242.84	239.93	239.93
16.500	243.13	240.22	240.22
16.517	243.43	240.50	240.50
16.533	243.74	240.78	240.78
16.550	244.07	241.06	241.06
16.567	244.41	241.33	241.33
16.583	244.76	241.61	241.61
16.600	245.13	241.89	241.89
16.617	245.52	242.16	242.16
16.633	245.93	242.45	242.45
16.650	246.35	242.73	242.73
16.667	246.79	243.03	243.03
16.683	247.25	243.33	243.33
16.700	247.73	243.64	243.64
16.717	248.23	243.97	243.97
16.733	248.76	244.30	244.30
16.750	249.30	244.66	244.66
16.767	249.86	245.02	245.02
16.783	250.43	245.41	245.41
16.800	251.03	245.81	245.81
16.817	251.66	246.23	246.23
16.833	252.30	246.66	246.66
16.850	252.96	247.12	247.12
16.867	253.63	247.59	247.59
16.883	254.33	248.09	248.09
16.900	255.03	248.60	248.60
16.917	255.74	249.13	249.13
16.933	256.44	249.68	249.68
16.950	257.14	250.26	250.26
16.967	257.82	250.85	250.85
16.983	258.48	251.46	251.46
17.000	259.11	252.09	252.09

PROCESS SUMMARY OF STORAGE:
INFLOW VOLUME = 548.059 AF
OUTFLOW VOLUME = 548.059 AF
LOSS VOLUME = 0.000 AF

FLOW PROCESS FROM NODE 415.00 TO NODE 416.00 IS CODE = 5.2

>>>>>MODEL CHANNEL ROUTING OF STREAM #3 BY THE CONVEX METHOD<<<<<

THE MODIFIED C-ROUTING COEFFICIENT IS ESTIMATED IN ORDER
TO ROUTE THE STREAM 3 INFLOW HYDROGRAPH BY 1-MINUTE
INTERVALS(Reference: the National Engineering Handbook,
Hydrology, Chapter 17, page 17-52, August,1972,
U.S. Department of Commerce).

ASSUMED REGULAR CHANNEL INFORMATION:
BASEWIDTH(FT) = 80.00 CHANNEL Z = 3.00

UPSTREAM ELEVATION(FT) = 391.09
DOWNSTREAM ELEVATION(FT) = 388.50
CHANNEL LENGTH(FT) = 646.00 MANNING'S FACTOR = 0.030
CONSTANT LOSS RATE(CFS) = 0.00

CHANNEL ROUTING COEFFICIENT ESTIMATED:
MAXIMUM INFLOW(CFS) = 278.73
AVERAGE FLOWRATE IN EXCESS OF 50% MAXIMUM INFLOW = 230.58
CHANNEL NORMAL VELOCITY FOR Q = 230.58 CFS = 2.97 FPS
ESTIMATED CHANNEL ROUTING COEFFICIENT = 0.636

MODIFIED CHANNEL ROUTING COEFFICIENT FOR 1-MINUTE
UNIT INTERVALS IS CSTAR = 0.467

CONVEX METHOD CHANNEL ROUTING RESULTS:

MODEL TIME (HRS)	INFLOW (STREAM 3) (CFS)	ROUTED FLOW (CFS)	OUTFLOW LESS LOSS (STREAM 3) (CFS)
15.000	208.33	207.52	207.52
15.017	208.59	207.74	207.74
15.033	208.86	207.98	207.98
15.050	209.15	208.23	208.23
15.067	209.45	208.48	208.48
15.083	209.76	208.75	208.75
15.100	210.08	209.03	209.03
15.117	210.42	209.33	209.33
15.133	210.77	209.63	209.63
15.150	211.14	209.95	209.95
15.167	211.51	210.28	210.28
15.183	211.90	210.63	210.63
15.200	212.30	210.99	210.99
15.217	212.71	211.36	211.36
15.233	213.13	211.74	211.74
15.250	213.56	212.14	212.14
15.267	214.00	212.54	212.54
15.283	214.45	212.96	212.96
15.300	214.91	213.38	213.38
15.317	215.37	213.82	213.82
15.333	215.84	214.26	214.26
15.350	216.32	214.71	214.71
15.367	216.80	215.17	215.17
15.383	217.29	215.64	215.64
15.400	217.78	216.11	216.11
15.417	218.28	216.59	216.59
15.433	218.78	217.07	217.07
15.450	219.28	217.57	217.57
15.467	219.77	218.06	218.06
15.483	220.24	218.56	218.56
15.500	220.71	219.05	219.05
15.517	221.15	219.54	219.54
15.533	221.57	220.02	220.02
15.550	221.97	220.48	220.48
15.567	222.36	220.93	220.93
15.583	222.73	221.36	221.36
15.600	223.08	221.77	221.77
15.617	223.42	222.16	222.16
15.633	223.75	222.54	222.54
15.650	224.07	222.90	222.90
15.667	224.39	223.25	223.25
15.683	224.70	223.59	223.59
15.700	225.01	223.91	223.91

15.717	225.32	224.24	224.24
15.733	225.62	224.55	224.55
15.750	225.93	224.86	224.86
15.767	226.23	225.17	225.17
15.783	226.54	225.48	225.48
15.800	226.85	225.79	225.79
15.817	227.16	226.10	226.10
15.833	227.47	226.40	226.40
15.850	227.78	226.71	226.71
15.867	228.09	227.02	227.02
15.883	228.41	227.33	227.33
15.900	228.72	227.64	227.64
15.917	229.04	227.95	227.95
15.933	229.36	228.27	228.27
15.950	229.69	228.58	228.58
15.967	230.01	228.90	228.90
15.983	230.33	229.22	229.22
16.000	230.66	229.54	229.54
16.017	230.99	229.87	229.87
16.033	231.32	230.19	230.19
16.050	231.65	230.52	230.52
16.067	231.98	230.84	230.84
16.083	232.31	231.17	231.17
16.100	232.65	231.50	231.50
16.117	232.98	231.83	231.83
16.133	233.31	232.17	232.17
16.150	233.64	232.50	232.50
16.167	233.98	232.83	232.83
16.183	234.31	233.16	233.16
16.200	234.64	233.50	233.50
16.217	234.97	233.83	233.83
16.233	235.30	234.16	234.16
16.250	235.63	234.49	234.49
16.267	235.95	234.82	234.82
16.283	236.28	235.15	235.15
16.300	236.60	235.48	235.48
16.317	236.92	235.80	235.80
16.333	237.23	236.13	236.13
16.350	237.55	236.45	236.45
16.367	237.86	236.77	236.77
16.383	238.16	237.09	237.09
16.400	238.47	237.40	237.40
16.417	238.77	237.71	237.71
16.433	239.06	238.02	238.02
16.450	239.35	238.33	238.33
16.467	239.64	238.63	238.63
16.483	239.93	238.92	238.92
16.500	240.22	239.22	239.22
16.517	240.50	239.51	239.51
16.533	240.78	239.80	239.80
16.550	241.06	240.08	240.08
16.567	241.33	240.37	240.37
16.583	241.61	240.65	240.65
16.600	241.89	240.93	240.93
16.617	242.16	241.21	241.21
16.633	242.45	241.48	241.48
16.650	242.73	241.76	241.76
16.667	243.03	242.04	242.04
16.683	243.33	242.32	242.32
16.700	243.64	242.61	242.61
16.717	243.97	242.90	242.90
16.733	244.30	243.20	243.20
16.750	244.66	243.51	243.51
16.767	245.02	243.83	243.83

16.783	245.41	244.17	244.17
16.800	245.81	244.51	244.51
16.817	246.23	244.88	244.88
16.833	246.66	245.25	245.25
16.850	247.12	245.65	245.65
16.867	247.59	246.06	246.06
16.883	248.09	246.49	246.49
16.900	248.60	246.94	246.94
16.917	249.13	247.40	247.40
16.933	249.68	247.89	247.89
16.950	250.26	248.39	248.39
16.967	250.85	248.92	248.92
16.983	251.46	249.46	249.46
17.000	252.09	250.02	250.02

PROCESS SUMMARY OF STORAGE:
INFLOW VOLUME = 548.059 AF
OUTFLOW VOLUME = 548.380 AF
LOSS VOLUME = 0.000 AF

FLOW PROCESS FROM NODE 416.00 TO NODE 417.00 IS CODE = 5.2

>>>>>MODEL CHANNEL ROUTING OF STREAM #3 BY THE CONVEX METHOD<<<<<

THE MODIFIED C-ROUTING COEFFICIENT IS ESTIMATED IN ORDER
TO ROUTE THE STREAM 3 INFLOW HYDROGRAPH BY 1-MINUTE
INTERVALS(Reference: the National Engineering Handbook,
Hydrology, Chapter 17, page 17-52, August,1972,
U.S. Department of Commerce).

ASSUMED REGULAR CHANNEL INFORMATION:
BASEWIDTH(FT) = 80.00 CHANNEL Z = 3.00
UPSTREAM ELEVATION(FT) = 388.50
DOWNSTREAM ELEVATION(FT) = 384.20
CHANNEL LENGTH(FT) = 1075.00 MANNING'S FACTOR = 0.030
CONSTANT LOSS RATE(CFS) = 0.00

CHANNEL ROUTING COEFFICIENT ESTIMATED:
MAXIMUM INFLOW(CFS) = 278.73
AVERAGE FLOWRATE IN EXCESS OF 50% MAXIMUM INFLOW = 230.58
CHANNEL NORMAL VELOCITY FOR Q = 230.58 CFS = 2.97 FPS
ESTIMATED CHANNEL ROUTING COEFFICIENT = 0.636

MODIFIED CHANNEL ROUTING COEFFICIENT FOR 1-MINUTE
UNIT INTERVALS IS CSTAR = 0.401

CONVEX METHOD CHANNEL ROUTING RESULTS:

MODEL TIME (HRS)	INFLOW (STREAM 3) (CFS)	ROUTED FLOW (CFS)	OUTFLOW LESS LOSS (STREAM 3) (CFS)
15.000	207.52	206.46	206.46
15.017	207.74	206.64	206.64
15.033	207.98	206.83	206.83
15.050	208.23	207.03	207.03
15.067	208.48	207.24	207.24
15.083	208.75	207.46	207.46
15.100	209.03	207.68	207.68

15.117	209.33	207.92	207.92
15.133	209.63	208.16	208.16
15.150	209.95	208.42	208.42
15.167	210.28	208.68	208.68
15.183	210.63	208.96	208.96
15.200	210.99	209.25	209.25
15.217	211.36	209.55	209.55
15.233	211.74	209.87	209.87
15.250	212.14	210.20	210.20
15.267	212.54	210.54	210.54
15.283	212.96	210.89	210.89
15.300	213.38	211.26	211.26
15.317	213.82	211.64	211.64
15.333	214.26	212.02	212.02
15.350	214.71	212.43	212.43
15.367	215.17	212.84	212.84
15.383	215.64	213.26	213.26
15.400	216.11	213.69	213.69
15.417	216.59	214.13	214.13
15.433	217.07	214.57	214.57
15.450	217.57	215.03	215.03
15.467	218.06	215.49	215.49
15.483	218.56	215.96	215.96
15.500	219.05	216.44	216.44
15.517	219.54	216.92	216.92
15.533	220.02	217.41	217.41
15.550	220.48	217.90	217.90
15.567	220.93	218.39	218.39
15.583	221.36	218.88	218.88
15.600	221.77	219.37	219.37
15.617	222.16	219.84	219.84
15.633	222.54	220.31	220.31
15.650	222.90	220.75	220.75
15.667	223.25	221.19	221.19
15.683	223.59	221.60	221.60
15.700	223.91	222.00	222.00
15.717	224.24	222.38	222.38
15.733	224.55	222.75	222.75
15.750	224.86	223.11	223.11
15.767	225.17	223.45	223.45
15.783	225.48	223.79	223.79
15.800	225.79	224.11	224.11
15.817	226.10	224.43	224.43
15.833	226.40	224.75	224.75
15.850	226.71	225.06	225.06
15.867	227.02	225.37	225.37
15.883	227.33	225.68	225.68
15.900	227.64	225.99	225.99
15.917	227.95	226.30	226.30
15.933	228.27	226.61	226.61
15.950	228.58	226.92	226.92
15.967	228.90	227.23	227.23
15.983	229.22	227.54	227.54
16.000	229.54	227.85	227.85
16.017	229.87	228.17	228.17
16.033	230.19	228.48	228.48
16.050	230.52	228.80	228.80
16.067	230.84	229.12	229.12
16.083	231.17	229.44	229.44
16.100	231.50	229.76	229.76
16.117	231.83	230.08	230.08
16.133	232.17	230.41	230.41
16.150	232.50	230.74	230.74
16.167	232.83	231.07	231.07

16.183	233.16	231.39	231.39
16.200	233.50	231.72	231.72
16.217	233.83	232.06	232.06
16.233	234.16	232.39	232.39
16.250	234.49	232.72	232.72
16.267	234.82	233.05	233.05
16.283	235.15	233.38	233.38
16.300	235.48	233.72	233.72
16.317	235.80	234.05	234.05
16.333	236.13	234.38	234.38
16.350	236.45	234.71	234.71
16.367	236.77	235.04	235.04
16.383	237.09	235.37	235.37
16.400	237.40	235.69	235.69
16.417	237.71	236.02	236.02
16.433	238.02	236.34	236.34
16.450	238.33	236.66	236.66
16.467	238.63	236.98	236.98
16.483	238.92	237.29	237.29
16.500	239.22	237.60	237.60
16.517	239.51	237.91	237.91
16.533	239.80	238.22	238.22
16.550	240.08	238.52	238.52
16.567	240.37	238.82	238.82
16.583	240.65	239.11	239.11
16.600	240.93	239.41	239.41
16.617	241.21	239.70	239.70
16.633	241.48	239.98	239.98
16.650	241.76	240.27	240.27
16.667	242.04	240.55	240.55
16.683	242.32	240.83	240.83
16.700	242.61	241.11	241.11
16.717	242.90	241.39	241.39
16.733	243.20	241.67	241.67
16.750	243.51	241.95	241.95
16.767	243.83	242.23	242.23
16.783	244.17	242.52	242.52
16.800	244.51	242.81	242.81
16.817	244.88	243.11	243.11
16.833	245.25	243.42	243.42
16.850	245.65	243.74	243.74
16.867	246.06	244.08	244.08
16.883	246.49	244.42	244.42
16.900	246.94	244.78	244.78
16.917	247.40	245.15	245.15
16.933	247.89	245.55	245.55
16.950	248.39	245.95	245.95
16.967	248.92	246.38	246.38
16.983	249.46	246.82	246.82
17.000	250.02	247.28	247.28

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PROCESS SUMMARY OF STORAGE:
INFLOW VOLUME = 548.380 AF
OUTFLOW VOLUME = 548.380 AF
LOSS VOLUME = 0.000 AF

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FLOW PROCESS FROM NODE 417.00 TO NODE 417.50 IS CODE = 5.2

>>>>>MODEL CHANNEL ROUTING OF STREAM #3 BY THE CONVEX METHOD<<<<<

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THE MODIFIED C-ROUTING COEFFICIENT IS ESTIMATED IN ORDER

TO ROUTE THE STREAM 3 INFLOW HYDROGRAPH BY 1-MINUTE
INTERVALS(Reference: the National Engineering Handbook,
Hydrology, Chapter 17, page 17-52, August,1972,
U.S. Department of Commerce).

ASSUMED REGULAR CHANNEL INFORMATION:
BASEWIDTH(FT) = 80.00 CHANNEL Z = 3.00
UPSTREAM ELEVATION(FT) = 384.20
DOWNSTREAM ELEVATION(FT) = 380.62
CHANNEL LENGTH(FT) = 895.00 MANNING'S FACTOR = 0.030
CONSTANT LOSS RATE(CFS) = 0.00

CHANNEL ROUTING COEFFICIENT ESTIMATED:
MAXIMUM INFLOW(CFS) = 278.73
AVERAGE FLOWRATE IN EXCESS OF 50% MAXIMUM INFLOW = 230.51
CHANNEL NORMAL VELOCITY FOR Q = 230.51 CFS = 2.97 FPS
ESTIMATED CHANNEL ROUTING COEFFICIENT = 0.636

MODIFIED CHANNEL ROUTING COEFFICIENT FOR 1-MINUTE
UNIT INTERVALS IS CSTAR = 0.421

CONVEX METHOD CHANNEL ROUTING RESULTS:

MODEL TIME (HRS)	INFLOW (STREAM 3) (CFS)	ROUTED FLOW (CFS)	OUTFLOW LESS LOSS (STREAM 3) (CFS)
15.000	206.46	205.69	205.69
15.017	206.64	205.85	205.85
15.033	206.83	206.02	206.02
15.050	207.03	206.19	206.19
15.067	207.24	206.36	206.36
15.083	207.46	206.55	206.55
15.100	207.68	206.74	206.74
15.117	207.92	206.93	206.93
15.133	208.16	207.14	207.14
15.150	208.42	207.35	207.35
15.167	208.68	207.57	207.57
15.183	208.96	207.80	207.80
15.200	209.25	208.04	208.04
15.217	209.55	208.29	208.29
15.233	209.87	208.55	208.55
15.250	210.20	208.82	208.82
15.267	210.54	209.10	209.10
15.283	210.89	209.40	209.40
15.300	211.26	209.71	209.71
15.317	211.64	210.03	210.03
15.333	212.02	210.36	210.36
15.350	212.43	210.71	210.71
15.367	212.84	211.07	211.07
15.383	213.26	211.44	211.44
15.400	213.69	211.82	211.82
15.417	214.13	212.21	212.21
15.433	214.57	212.62	212.62
15.450	215.03	213.03	213.03
15.467	215.49	213.46	213.46
15.483	215.96	213.89	213.89
15.500	216.44	214.33	214.33
15.517	216.92	214.78	214.78
15.533	217.41	215.24	215.24
15.550	217.90	215.71	215.71
15.567	218.39	216.18	216.18

15.583	218.88	216.66	216.66
15.600	219.37	217.14	217.14
15.617	219.84	217.63	217.63
15.633	220.31	218.12	218.12
15.650	220.75	218.60	218.60
15.667	221.19	219.09	219.09
15.683	221.60	219.56	219.56
15.700	222.00	220.03	220.03
15.717	222.38	220.48	220.48
15.733	222.75	220.92	220.92
15.750	223.11	221.34	221.34
15.767	223.45	221.75	221.75
15.783	223.79	222.14	222.14
15.800	224.11	222.52	222.52
15.817	224.43	222.88	222.88
15.833	224.75	223.24	223.24
15.850	225.06	223.58	223.58
15.867	225.37	223.91	223.91
15.883	225.68	224.24	224.24
15.900	225.99	224.56	224.56
15.917	226.30	224.88	224.88
15.933	226.61	225.19	225.19
15.950	226.92	225.50	225.50
15.967	227.23	225.81	225.81
15.983	227.54	226.12	226.12
16.000	227.85	226.43	226.43
16.017	228.17	226.74	226.74
16.033	228.48	227.05	227.05
16.050	228.80	227.36	227.36
16.067	229.12	227.67	227.67
16.083	229.44	227.99	227.99
16.100	229.76	228.30	228.30
16.117	230.08	228.62	228.62
16.133	230.41	228.94	228.94
16.150	230.74	229.26	229.26
16.167	231.07	229.58	229.58
16.183	231.39	229.90	229.90
16.200	231.72	230.23	230.23
16.217	232.06	230.55	230.55
16.233	232.39	230.88	230.88
16.250	232.72	231.21	231.21
16.267	233.05	231.54	231.54
16.283	233.38	231.87	231.87
16.300	233.72	232.20	232.20
16.317	234.05	232.53	232.53
16.333	234.38	232.86	232.86
16.350	234.71	233.19	233.19
16.367	235.04	233.53	233.53
16.383	235.37	233.86	233.86
16.400	235.69	234.19	234.19
16.417	236.02	234.52	234.52
16.433	236.34	234.85	234.85
16.450	236.66	235.18	235.18
16.467	236.98	235.50	235.50
16.483	237.29	235.83	235.83
16.500	237.60	236.15	236.15
16.517	237.91	236.47	236.47
16.533	238.22	236.79	236.79
16.550	238.52	237.11	237.11
16.567	238.82	237.42	237.42
16.583	239.11	237.73	237.73
16.600	239.41	238.04	238.04
16.617	239.70	238.34	238.34
16.633	239.98	238.64	238.64

16.650	240.27	238.94	238.94
16.667	240.55	239.24	239.24
16.683	240.83	239.53	239.53
16.700	241.11	239.82	239.82
16.717	241.39	240.10	240.10
16.733	241.67	240.39	240.39
16.750	241.95	240.67	240.67
16.767	242.23	240.95	240.95
16.783	242.52	241.23	241.23
16.800	242.81	241.51	241.51
16.817	243.11	241.79	241.79
16.833	243.42	242.07	242.07
16.850	243.74	242.36	242.36
16.867	244.08	242.65	242.65
16.883	244.42	242.95	242.95
16.900	244.78	243.26	243.26
16.917	245.15	243.58	243.58
16.933	245.55	243.90	243.90
16.950	245.95	244.24	244.24
16.967	246.38	244.60	244.60
16.983	246.82	244.96	244.96
17.000	247.28	245.35	245.35

PROCESS SUMMARY OF STORAGE:
INFLOW VOLUME = 548.380 AF
OUTFLOW VOLUME = 548.380 AF
LOSS VOLUME = 0.000 AF

FLOW PROCESS FROM NODE 417.50 TO NODE 419.00 IS CODE = 5.2

>>>>>MODEL CHANNEL ROUTING OF STREAM #3 BY THE CONVEX METHOD<<<<<

THE MODIFIED C-ROUTING COEFFICIENT IS ESTIMATED IN ORDER
TO ROUTE THE STREAM 3 INFLOW HYDROGRAPH BY 1-MINUTE
INTERVALS(Reference: the National Engineering Handbook,
Hydrology, Chapter 17, page 17-52, August,1972,
U.S. Department of Commerce).

ASSUMED REGULAR CHANNEL INFORMATION:
BASEWIDTH(FT) = 80.00 CHANNEL Z = 3.00
UPSTREAM ELEVATION(FT) = 380.62
DOWNSTREAM ELEVATION(FT) = 374.92
CHANNEL LENGTH(FT) = 1425.00 MANNING'S FACTOR = 0.030
CONSTANT LOSS RATE(CFS) = 0.00

CHANNEL ROUTING COEFFICIENT ESTIMATED:
MAXIMUM INFLOW(CFS) = 278.73
AVERAGE FLOWRATE IN EXCESS OF 50% MAXIMUM INFLOW = 230.57
CHANNEL NORMAL VELOCITY FOR Q = 230.57 CFS = 2.97 FPS
ESTIMATED CHANNEL ROUTING COEFFICIENT = 0.636

MODIFIED CHANNEL ROUTING COEFFICIENT FOR 1-MINUTE
UNIT INTERVALS IS CSTAR = 0.374

CONVEX METHOD CHANNEL ROUTING RESULTS:

MODEL TIME	INFLOW (STREAM 3)	ROUTED FLOW	OUTFLOW LESS LOSS (STREAM 3)

(HRS)	(CFS)	(CFS)	(CFS)
15.000	205.69	204.71	204.71
15.017	205.85	204.85	204.85
15.033	206.02	204.99	204.99
15.050	206.19	205.13	205.13
15.067	206.36	205.28	205.28
15.083	206.55	205.43	205.43
15.100	206.74	205.58	205.58
15.117	206.93	205.74	205.74
15.133	207.14	205.90	205.90
15.150	207.35	206.07	206.07
15.167	207.57	206.24	206.24
15.183	207.80	206.42	206.42
15.200	208.04	206.60	206.60
15.217	208.29	206.80	206.80
15.233	208.55	207.00	207.00
15.250	208.82	207.20	207.20
15.267	209.10	207.42	207.42
15.283	209.40	207.64	207.64
15.300	209.71	207.87	207.87
15.317	210.03	208.12	208.12
15.333	210.36	208.37	208.37
15.350	210.71	208.64	208.64
15.367	211.07	208.91	208.91
15.383	211.44	209.20	209.20
15.400	211.82	209.50	209.50
15.417	212.21	209.81	209.81
15.433	212.62	210.14	210.14
15.450	213.03	210.47	210.47
15.467	213.46	210.82	210.82
15.483	213.89	211.18	211.18
15.500	214.33	211.56	211.56
15.517	214.78	211.94	211.94
15.533	215.24	212.34	212.34
15.550	215.71	212.74	212.74
15.567	216.18	213.16	213.16
15.583	216.66	213.58	213.58
15.600	217.14	214.02	214.02
15.617	217.63	214.46	214.46
15.633	218.12	214.91	214.91
15.650	218.60	215.37	215.37
15.667	219.09	215.84	215.84
15.683	219.56	216.31	216.31
15.700	220.03	216.79	216.79
15.717	220.48	217.27	217.27
15.733	220.92	217.75	217.75
15.750	221.34	218.24	218.24
15.767	221.75	218.72	218.72
15.783	222.14	219.19	219.19
15.800	222.52	219.66	219.66
15.817	222.88	220.12	220.12
15.833	223.24	220.56	220.56
15.850	223.58	220.99	220.99
15.867	223.91	221.41	221.41
15.883	224.24	221.81	221.81
15.900	224.56	222.20	222.20
15.917	224.88	222.58	222.58
15.933	225.19	222.94	222.94
15.950	225.50	223.29	223.29
15.967	225.81	223.64	223.64
15.983	226.12	223.97	223.97
16.000	226.43	224.30	224.30
16.017	226.74	224.62	224.62
16.033	227.05	224.94	224.94

16.050	227.36	225.26	225.26
16.067	227.67	225.57	225.57
16.083	227.99	225.88	225.88
16.100	228.30	226.19	226.19
16.117	228.62	226.50	226.50
16.133	228.94	226.82	226.82
16.150	229.26	227.13	227.13
16.167	229.58	227.44	227.44
16.183	229.90	227.75	227.75
16.200	230.23	228.07	228.07
16.217	230.55	228.38	228.38
16.233	230.88	228.70	228.70
16.250	231.21	229.02	229.02
16.267	231.54	229.34	229.34
16.283	231.87	229.66	229.66
16.300	232.20	229.98	229.98
16.317	232.53	230.31	230.31
16.333	232.86	230.63	230.63
16.350	233.19	230.96	230.96
16.367	233.53	231.29	231.29
16.383	233.86	231.62	231.62
16.400	234.19	231.95	231.95
16.417	234.52	232.28	232.28
16.433	234.85	232.61	232.61
16.450	235.18	232.94	232.94
16.467	235.50	233.27	233.27
16.483	235.83	233.61	233.61
16.500	236.15	233.94	233.94
16.517	236.47	234.27	234.27
16.533	236.79	234.60	234.60
16.550	237.11	234.93	234.93
16.567	237.42	235.25	235.25
16.583	237.73	235.58	235.58
16.600	238.04	235.90	235.90
16.617	238.34	236.23	236.23
16.633	238.64	236.55	236.55
16.650	238.94	236.86	236.86
16.667	239.24	237.18	237.18
16.683	239.53	237.49	237.49
16.700	239.82	237.80	237.80
16.717	240.10	238.11	238.11
16.733	240.39	238.41	238.41
16.750	240.67	238.71	238.71
16.767	240.95	239.00	239.00
16.783	241.23	239.30	239.30
16.800	241.51	239.59	239.59
16.817	241.79	239.88	239.88
16.833	242.07	240.16	240.16
16.850	242.36	240.45	240.45
16.867	242.65	240.73	240.73
16.883	242.95	241.01	241.01
16.900	243.26	241.29	241.29
16.917	243.58	241.58	241.58
16.933	243.90	241.86	241.86
16.950	244.24	242.15	242.15
16.967	244.60	242.44	242.44
16.983	244.96	242.74	242.74
17.000	245.35	243.04	243.04

PROCESS SUMMARY OF STORAGE:

INFLOW VOLUME = 548.380 AF

OUTFLOW VOLUME = 548.380 AF

LOSS VOLUME = 0.000 AF

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  FLOW PROCESS FROM NODE     419.00 TO NODE     420.00 IS CODE = 5.2
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  >>>>>MODEL CHANNEL ROUTING OF STREAM #3 BY THE CONVEX METHOD<<<<<
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        THE MODIFIED C-ROUTING COEFFICIENT IS ESTIMATED IN ORDER
        TO ROUTE THE STREAM 3 INFLOW HYDROGRAPH BY 1-MINUTE
        INTERVALS(Reference: the National Engineering Handbook,
        Hydrology, Chapter 17, page 17-52, August,1972,
        U.S. Department of Commerce).


        ASSUMED REGULAR CHANNEL INFORMATION:
          BASEWIDTH(FT) =    9.77     CHANNEL Z =  0.00
          UPSTREAM ELEVATION(FT) =     381.90
          DOWNSTREAM ELEVATION(FT) =     262.60
          CHANNEL LENGTH(FT) =    2465.00     MANNING'S FACTOR = 0.013
          CONSTANT LOSS RATE(CFS) =    0.00


        CHANNEL ROUTING COEFFICIENT ESTIMATED:
          MAXIMUM INFLOW(CFS) =   278.73
          AVERAGE FLOWRATE IN EXCESS OF 50% MAXIMUM INFLOW =   230.56
          CHANNEL NORMAL VELOCITY FOR Q =   230.56 CFS =  22.58 FPS
          ESTIMATED CHANNEL ROUTING COEFFICIENT = 0.930

        MODIFIED CHANNEL ROUTING COEFFICIENT FOR 1-MINUTE
        UNIT INTERVALS IS CSTAR = 0.855


        CONVEX METHOD CHANNEL ROUTING RESULTS:
                                        OUTFLOW LESS
         MODEL        INFLOW     ROUTED      LOSS
          TIME      (STREAM 3)    FLOW     (STREAM 3)
         (HRS)        (CFS)       (CFS)      (CFS)
         15.000       204.71      204.46      204.46
         15.017       204.85      204.59      204.59
         15.033       204.99      204.73      204.73
         15.050       205.13      204.87      204.87
         15.067       205.28      205.01      205.01
         15.083       205.43      205.15      205.15
         15.100       205.58      205.30      205.30
         15.117       205.74      205.45      205.45
         15.133       205.90      205.60      205.60
         15.150       206.07      205.76      205.76
         15.167       206.24      205.92      205.92
         15.183       206.42      206.09      206.09
         15.200       206.60      206.27      206.27
         15.217       206.80      206.45      206.45
         15.233       207.00      206.63      206.63
         15.250       207.20      206.83      206.83
         15.267       207.42      207.03      207.03
         15.283       207.64      207.23      207.23
         15.300       207.87      207.45      207.45
         15.317       208.12      207.68      207.68
         15.333       208.37      207.91      207.91
         15.350       208.64      208.15      208.15
         15.367       208.91      208.41      208.41
         15.383       209.20      208.68      208.68
         15.400       209.50      208.95      208.95
         15.417       209.81      209.24      209.24
         15.433       210.14      209.54      209.54
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         15.450       210.47      209.86      209.86
         15.467       210.82      210.18      210.18
         15.483       211.18      210.52      210.52
         15.500       211.56      210.87      210.87
         15.517       211.94      211.24      211.24
         15.533       212.34      211.61      211.61
         15.550       212.74      212.00      212.00
         15.567       213.16      212.39      212.39
         15.583       213.58      212.80      212.80
         15.600       214.02      213.22      213.22
         15.617       214.46      213.64      213.64
         15.633       214.91      214.08      214.08
         15.650       215.37      214.52      214.52
         15.667       215.84      214.98      214.98
         15.683       216.31      215.44      215.44
         15.700       216.79      215.90      215.90
         15.717       217.27      216.38      216.38
         15.733       217.75      216.85      216.85
         15.750       218.24      217.34      217.34
         15.767       218.72      217.82      217.82
         15.783       219.19      218.30      218.30
         15.800       219.66      218.78      218.78
         15.817       220.12      219.26      219.26
         15.833       220.56      219.72      219.72
         15.850       220.99      220.18      220.18
         15.867       221.41      220.62      220.62
         15.883       221.81      221.05      221.05
         15.900       222.20      221.46      221.46
         15.917       222.58      221.86      221.86
         15.933       222.94      222.25      222.25
         15.950       223.29      222.63      222.63
         15.967       223.64      222.99      222.99
         15.983       223.97      223.34      223.34
         16.000       224.30      223.68      223.68
         16.017       224.62      224.02      224.02
         16.033       224.94      224.34      224.34
         16.050       225.26      224.67      224.67
         16.067       225.57      224.99      224.99
         16.083       225.88      225.30      225.30
         16.100       226.19      225.61      225.61
         16.117       226.50      225.93      225.93
         16.133       226.82      226.24      226.24
         16.150       227.13      226.55      226.55
         16.167       227.44      226.86      226.86
         16.183       227.75      227.17      227.17
         16.200       228.07      227.48      227.48
         16.217       228.38      227.80      227.80
         16.233       228.70      228.11      228.11
         16.250       229.02      228.43      228.43
         16.267       229.34      228.74      228.74
         16.283       229.66      229.06      229.06
         16.300       229.98      229.38      229.38
         16.317       230.31      229.71      229.71
         16.333       230.63      230.03      230.03
         16.350       230.96      230.35      230.35
         16.367       231.29      230.68      230.68
         16.383       231.62      231.01      231.01
         16.400       231.95      231.34      231.34
         16.417       232.28      231.67      231.67
         16.433       232.61      232.00      232.00
         16.450       232.94      232.33      232.33
         16.467       233.27      232.66      232.66
         16.483       233.61      232.99      232.99
         16.500       233.94      233.32      233.32
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16.517	234.27	233.65	233.65
16.533	234.60	233.98	233.98
16.550	234.93	234.31	234.31
16.567	235.25	234.64	234.64
16.583	235.58	234.97	234.97
16.600	235.90	235.30	235.30
16.617	236.23	235.62	235.62
16.633	236.55	235.95	235.95
16.650	236.86	236.27	236.27
16.667	237.18	236.59	236.59
16.683	237.49	236.91	236.91
16.700	237.80	237.22	237.22
16.717	238.11	237.53	237.53
16.733	238.41	237.84	237.84
16.750	238.71	238.15	238.15
16.767	239.00	238.45	238.45
16.783	239.30	238.75	238.75
16.800	239.59	239.05	239.05
16.817	239.88	239.34	239.34
16.833	240.16	239.63	239.63
16.850	240.45	239.92	239.92
16.867	240.73	240.20	240.20
16.883	241.01	240.49	240.49
16.900	241.29	240.77	240.77
16.917	241.58	241.05	241.05
16.933	241.86	241.33	241.33
16.950	242.15	241.62	241.62
16.967	242.44	241.90	241.90
16.983	242.74	242.19	242.19
17.000	243.04	242.48	242.48

PROCESS SUMMARY OF STORAGE:
INFLOW VOLUME = 548.380 AF
OUTFLOW VOLUME = 548.379 AF
LOSS VOLUME = 0.000 AF

FLOW PROCESS FROM NODE 420.00 TO NODE 421.00 IS CODE = 5.2

>>>>>MODEL CHANNEL ROUTING OF STREAM #3 BY THE CONVEX METHOD<<<<<

THE MODIFIED C-ROUTING COEFFICIENT IS ESTIMATED IN ORDER
TO ROUTE THE STREAM 3 INFLOW HYDROGRAPH BY 1-MINUTE
INTERVALS(Reference: the National Engineering Handbook,
Hydrology, Chapter 17, page 17-52, August,1972,
U.S. Department of Commerce).

ASSUMED REGULAR CHANNEL INFORMATION:
BASEWIDTH(FT) = 10.34 CHANNEL Z = 0.00
UPSTREAM ELEVATION(FT) = 262.60
DOWNSTREAM ELEVATION(FT) = 233.00
CHANNEL LENGTH(FT) = 741.00 MANNING'S FACTOR = 0.013
CONSTANT LOSS RATE(CFS) = 0.00

CHANNEL ROUTING COEFFICIENT ESTIMATED:
MAXIMUM INFLOW(CFS) = 278.73
AVERAGE FLOWRATE IN EXCESS OF 50% MAXIMUM INFLOW = 230.56
CHANNEL NORMAL VELOCITY FOR Q = 230.56 CFS = 21.03 FPS
ESTIMATED CHANNEL ROUTING COEFFICIENT = 0.925

MODIFIED CHANNEL ROUTING COEFFICIENT FOR 1-MINUTE
UNIT INTERVALS IS CSTAR = 0.982

CONVEX METHOD CHANNEL ROUTING RESULTS:

MODEL TIME (HRS)	INFLOW (STREAM 3) (CFS)	ROUTED FLOW (CFS)	OUTFLOW LESS LOSS (STREAM 3) (CFS)
15.000	204.46	204.38	204.38
15.017	204.59	204.52	204.52
15.033	204.73	204.65	204.65
15.050	204.87	204.79	204.79
15.067	205.01	204.93	204.93
15.083	205.15	205.07	205.07
15.100	205.30	205.21	205.21
15.117	205.45	205.36	205.36
15.133	205.60	205.52	205.52
15.150	205.76	205.67	205.67
15.167	205.92	205.83	205.83
15.183	206.09	206.00	206.00
15.200	206.27	206.17	206.17
15.217	206.45	206.35	206.35
15.233	206.63	206.53	206.53
15.250	206.83	206.72	206.72
15.267	207.03	206.91	206.91
15.283	207.23	207.12	207.12
15.300	207.45	207.33	207.33
15.317	207.68	207.55	207.55
15.333	207.91	207.78	207.78
15.350	208.15	208.02	208.02
15.367	208.41	208.27	208.27
15.383	208.68	208.53	208.53
15.400	208.95	208.80	208.80
15.417	209.24	209.08	209.08
15.433	209.54	209.38	209.38
15.450	209.86	209.68	209.68
15.467	210.18	210.00	210.00
15.483	210.52	210.33	210.33
15.500	210.87	210.68	210.68
15.517	211.24	211.03	211.03
15.533	211.61	211.40	211.40
15.550	212.00	211.78	211.78
15.567	212.39	212.17	212.17
15.583	212.80	212.57	212.57
15.600	213.22	212.98	212.98
15.617	213.64	213.41	213.41
15.633	214.08	213.84	213.84
15.650	214.52	214.28	214.28
15.667	214.98	214.72	214.72
15.683	215.44	215.18	215.18
15.700	215.90	215.64	215.64
15.717	216.38	216.11	216.11
15.733	216.85	216.59	216.59
15.750	217.34	217.07	217.07
15.767	217.82	217.55	217.55
15.783	218.30	218.03	218.03
15.800	218.78	218.51	218.51
15.817	219.26	218.99	218.99
15.833	219.72	219.46	219.46
15.850	220.18	219.92	219.92
15.867	220.62	220.37	220.37
15.883	221.05	220.81	220.81
15.900	221.46	221.23	221.23

15.917	221.86	221.64	221.64
15.933	222.25	222.03	222.03
15.950	222.63	222.42	222.42
15.967	222.99	222.78	222.78
15.983	223.34	223.14	223.14
16.000	223.68	223.49	223.49
16.017	224.02	223.83	223.83
16.033	224.34	224.16	224.16
16.050	224.67	224.49	224.49
16.067	224.99	224.81	224.81
16.083	225.30	225.12	225.12
16.100	225.61	225.44	225.44
16.117	225.93	225.75	225.75
16.133	226.24	226.06	226.06
16.150	226.55	226.37	226.37
16.167	226.86	226.68	226.68
16.183	227.17	227.00	227.00
16.200	227.48	227.31	227.31
16.217	227.80	227.62	227.62
16.233	228.11	227.93	227.93
16.250	228.43	228.25	228.25
16.267	228.74	228.57	228.57
16.283	229.06	228.88	228.88
16.300	229.38	229.20	229.20
16.317	229.71	229.52	229.52
16.333	230.03	229.85	229.85
16.350	230.35	230.17	230.17
16.367	230.68	230.50	230.50
16.383	231.01	230.82	230.82
16.400	231.34	231.15	231.15
16.417	231.67	231.48	231.48
16.433	232.00	231.81	231.81
16.450	232.33	232.14	232.14
16.467	232.66	232.47	232.47
16.483	232.99	232.80	232.80
16.500	233.32	233.13	233.13
16.517	233.65	233.47	233.47
16.533	233.98	233.80	233.80
16.550	234.31	234.13	234.13
16.567	234.64	234.46	234.46
16.583	234.97	234.79	234.79
16.600	235.30	235.11	235.11
16.617	235.62	235.44	235.44
16.633	235.95	235.77	235.77
16.650	236.27	236.09	236.09
16.667	236.59	236.41	236.41
16.683	236.91	236.73	236.73
16.700	237.22	237.04	237.04
16.717	237.53	237.36	237.36
16.733	237.84	237.67	237.67
16.750	238.15	237.98	237.98
16.767	238.45	238.28	238.28
16.783	238.75	238.58	238.58
16.800	239.05	238.88	238.88
16.817	239.34	239.17	239.17
16.833	239.63	239.47	239.47
16.850	239.92	239.76	239.76
16.867	240.20	240.04	240.04
16.883	240.49	240.33	240.33
16.900	240.77	240.61	240.61
16.917	241.05	240.89	240.89
16.933	241.33	241.18	241.18
16.950	241.62	241.46	241.46
16.967	241.90	241.74	241.74

16.983	242.19	242.03	242.03
17.000	242.48	242.32	242.32

PROCESS SUMMARY OF STORAGE:
INFLOW VOLUME = 548.379 AF
OUTFLOW VOLUME = 548.380 AF
LOSS VOLUME = 0.000 AF

FLOW PROCESS FROM NODE 400.00 TO NODE 421.00 IS CODE = 1

>>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS)<<<<<

(UNIT-HYDROGRAPH ADDED TO STREAM #4)

WATERSHED AREA = 1676.880 ACRES
BASEFLOW = 0.000 CFS/SQUARE-MILE
*USER ENTERED "LAG" TIME = 0.762 HOURS
VALLEY(DEVELOPED):
"S"-CURVE PERCENTAGE(DECIMAL NOTATION) = 0.810
FOOTHILL "S"-CURVE PERCENTAGE(DECIMAL NOTATION) = 0.000
MOUNTAIN "S"-CURVE PERCENTAGE(DECIMAL NOTATION) = 0.000
VALLEY(UNDEVELOPED)/DESERT:
"S"-CURVE PERCENTAGE(DECIMAL NOTATION) = 0.190
DESERT(UNDEVELOPED) "S"-CURVE PERCENTAGE(DECIMAL NOTATION) = 0.000
MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) = 0.181
LOW LOSS FRACTION = 0.179
HYDROGRAPH MODEL #7 SPECIFIED

SPECIFIED PEAK 5-MINUTES RAINFALL(INCH)= 0.56
SPECIFIED PEAK 30-MINUTES RAINFALL(INCH)= 1.17
SPECIFIED PEAK 1-HOUR RAINFALL(INCH) = 1.55
SPECIFIED PEAK 3-HOUR RAINFALL(INCH) = 2.81
SPECIFIED PEAK 6-HOUR RAINFALL(INCH) = 3.60
SPECIFIED PEAK 24-HOUR RAINFALL(INCH) = 6.02

*USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
5-MINUTE FACTOR = 0.733
30-MINUTE FACTOR = 0.733
1-HOUR FACTOR = 0.733
3-HOUR FACTOR = 0.957
6-HOUR FACTOR = 0.977
24-HOUR FACTOR = 0.986

UNIT HYDROGRAPH TIME UNIT = 1.000 MINUTES
UNIT INTERVAL PERCENTAGE OF LAG-TIME = 2.187

RUNOFF HYDROGRAPH LISTING LIMITS:
MODEL TIME(HOURS) FOR BEGINNING OF RESULTS = 15.00
MODEL TIME(HOURS) FOR END OF RESULTS = 17.00

UNIT HYDROGRAPH DETERMINATION

INTERVAL NUMBER	"S" GRAPH MEAN VALUES	UNIT HYDROGRAPH ORDINATES(CFS)
1	0.136	137.769
2	0.408	275.538

3	0.679	275.537
4	0.951	275.538
5	1.223	275.538
6	1.496	277.391
7	1.780	288.063
8	2.075	298.463
9	2.427	357.081
10	2.833	411.306
11	3.243	416.501
12	3.661	423.477
13	4.104	449.637
14	4.622	524.975
15	5.319	706.536
16	6.036	726.956
17	6.854	829.436
18	7.744	902.951
19	8.700	968.800
20	9.803	1118.288
21	10.901	1113.306
22	11.994	1108.766
23	13.144	1166.130
24	14.307	1179.011
25	15.807	1521.129
26	17.137	1348.880
27	18.358	1238.282
28	19.580	1239.024
29	20.872	1309.640
30	22.372	1520.899
31	23.995	1645.302
32	25.383	1407.880
33	26.672	1307.462
34	27.989	1335.397
35	29.596	1629.079
36	31.198	1624.819
37	32.743	1566.274
38	34.724	2009.046
39	36.451	1751.078
40	37.737	1303.536
41	39.323	1608.741
42	41.387	2092.299
43	43.294	1933.642
44	45.243	1976.690
45	47.176	1959.860
46	49.426	2281.516
47	51.221	1820.061
48	52.758	1558.495
49	54.223	1485.578
50	55.633	1429.971
51	57.220	1608.675
52	58.969	1774.089
53	61.015	2074.045
54	62.756	1765.923
55	64.211	1474.651
56	65.560	1368.264
57	66.926	1385.206
58	68.450	1545.282
59	69.664	1230.731
60	70.878	1231.087
61	72.153	1292.806
62	73.388	1251.828
63	74.450	1077.602
64	75.388	950.397
65	76.300	925.286
66	77.171	882.815

67	78.064	905.590
68	79.033	982.324
69	79.970	950.359
70	80.785	826.890
71	81.565	790.368
72	82.321	767.021
73	83.068	757.165
74	83.718	659.311
75	84.346	636.930
76	85.019	681.799
77	85.538	526.149
78	86.019	488.180
79	86.501	488.366
80	86.981	487.275
81	87.444	469.381
82	87.881	443.396
83	88.319	443.372
84	88.755	442.459
85	89.168	418.447
86	89.567	404.831
87	89.964	402.363
88	90.361	402.719
89	90.748	391.997
90	91.051	307.836
91	91.336	288.580
92	91.619	287.335
93	91.900	284.983
94	92.180	283.985
95	92.461	284.542
96	92.739	282.152
97	92.960	223.759
98	93.154	197.441
99	93.345	193.550
100	93.526	183.477
101	93.707	182.959
102	93.887	182.975
103	94.068	183.416
104	94.255	189.512
105	94.446	193.534
106	94.637	193.372
107	94.826	191.840
108	94.987	163.611
109	95.068	81.632
110	95.138	70.894
111	95.207	70.445
112	95.277	71.064
113	95.347	70.816
114	95.417	70.979
115	95.491	74.684
116	95.575	85.329
117	95.653	79.775
118	95.720	67.614
119	95.787	67.799
120	95.854	67.884
121	95.921	67.884
122	95.988	67.799
123	96.054	67.529
124	96.121	67.799
125	96.188	68.163
126	96.255	67.799
127	96.320	65.347
128	96.384	65.223
129	96.448	64.744
130	96.510	63.111

131	96.573	63.846
132	96.636	63.846
133	96.699	63.838
134	96.762	63.761
135	96.825	63.854
136	96.888	63.838
137	96.951	63.846
138	97.011	61.433
139	97.068	57.309
140	97.124	57.131
141	97.181	57.309
142	97.237	57.309
143	97.295	58.508
144	97.353	58.508
145	97.411	58.686
146	97.468	58.338
147	97.526	58.678
148	97.583	58.338
149	97.641	58.686
150	97.699	58.338

TOTAL SOIL-LOSS VOLUME(ACRE-FEET) = 138.5961
TOTAL STORM RUNOFF VOLUME(ACRE-FEET) = 674.3163

2 4 - H O U R S T O R M
R U N O F F H Y D R O G R A P H

HYDROGRAPH IN ONE-MINUTE UNIT INTERVALS(CFS)
(Notes: Time indicated is at END of Each Unit Intervals.
Peak 5-minute rainfall intensity is modeled as
a constant value for entire 5-minute period.)

TIME(HRS)	VOLUME(AF)	Q(CFS)	0. 475.0 950.0 1425.0 1900.0
15.000	262.0035	842.73	V Q
15.017	263.1760	851.20	V Q
15.033	264.3599	859.49	V Q
15.050	265.5540	866.96	V Q
15.067	266.7576	873.83	V Q
15.083	267.9706	880.60	V Q
15.100	269.1926	887.20	V Q
15.117	270.4239	893.92	V Q
15.133	271.6650	901.05	V Q
15.150	272.9158	908.04	V Q.
15.167	274.1754	914.47	V Q.
15.183	275.4437	920.74	V Q.
15.200	276.7204	926.94	V Q.
15.217	278.0057	933.11	V Q.
15.233	279.2989	938.84	V Q.
15.250	280.5999	944.50	V Q.
15.267	281.9090	950.41	V Q
15.283	283.2252	955.60	V Q
15.300	284.5484	960.64	V Q
15.317	285.8786	965.72	V Q
15.333	287.2159	970.84	V Q
15.350	288.5590	975.10	V Q
15.367	289.9067	978.47	V Q
15.383	291.2592	981.90	V Q
15.400	292.6165	985.37	V Q
15.417	293.9784	988.79	V Q
15.433	295.3451	992.19	V Q
15.450	296.7164	995.58	V Q
15.467	298.0924	998.97	V .Q
15.483	299.4726	1002.04	V .Q
15.500	300.8562	1004.45	V .Q
15.517	302.2430	1006.82	V .Q
15.533	303.6331	1009.22	V .Q
15.550	305.0264	1011.55	V .Q
15.567	306.4224	1013.52	V .Q
15.583	307.8198	1014.52	V .Q
15.600	309.2186	1015.51	V .Q
15.617	310.6177	1015.72	V .Q
15.633	312.0164	1015.51	V .Q
15.650	313.4146	1015.03	V .Q
15.667	314.8109	1013.76	V .Q
15.683	316.2058	1012.71	V .Q
15.700	317.5996	1011.87	V .Q
15.717	318.9920	1010.89	V .Q
15.733	320.3833	1010.06	V.Q
15.750	321.7710	1007.46	V.Q
15.767	323.1568	1006.11	V.Q
15.783	324.5420	1005.67	V.Q
15.800	325.9268	1005.37	V.Q
15.817	327.3105	1004.58	V.Q

15.833	328.6919	1002.84	.	.	V.Q	.	.					
15.850	330.0704	1000.81	.	.	V.Q	.	.					
15.867	331.4487	1000.65	.	.	V.Q	.	.					
15.883	332.8284	1001.68	.	.	V.Q	.	.					
15.900	334.2102	1003.17	.	.	V.Q	.	.					
15.917	335.5929	1003.81	.	.	V.Q	.	.					
15.933	336.9778	1005.44	.	.	V.Q	.	.					
15.950	338.3672	1008.74	.	.	VQ	.	.					
15.967	339.7685	1017.35	.	.	VQ	.	.					
15.983	341.1939	1034.83	.	.	VQ	.	.					
16.000	342.6476	1055.39	.	.	V Q	.	.					
16.017	344.1279	1074.71	.	.	V Q	.	.					
16.033	345.6317	1091.76	.	.	V Q	.	.					
16.050	347.1514	1103.29	.	.	V Q	.	.					
16.067	348.6772	1107.78	.	.	V Q	.	.					
16.083	350.2099	1112.74	.	.	V Q	.	.					
16.100	351.7511	1118.86	.	.	V Q	.	.					
16.117	353.3087	1130.82	.	.	V Q	.	.					
16.133	354.8859	1145.06	.	.	.V Q	.	.					
16.150	356.4845	1160.61	.	.	.V Q	.	.					
16.167	358.1076	1178.35	.	.	.V Q	.	.					
16.183	359.7567	1197.24	.	.	.V Q	.	.					
16.200	361.4395	1221.73	.	.	.V Q	.	.					
16.217	363.1555	1245.82	.	.	.V Q	.	.					
16.233	364.9146	1277.09	.	.	.V Q	.	.					
16.250	366.7232	1313.08	.	.	.V Q	.	.					
16.267	368.5821	1349.55	.	.	.V Q	.	.					
16.283	370.4879	1383.60	.	.	.V Q.	.	.					
16.300	372.4357	1414.13	.	.	. V Q.	.	.					
16.317	374.4202	1440.73	.	.	. V Q	.	.					
16.333	376.4384	1465.25	.	.	. V Q	.	.					
16.350	378.4874	1487.56	.	.	. V .Q	.	.					
16.367	380.5786	1518.17	.	.	. V .Q	.	.					
16.383	382.6991	1539.49	.	.	. V . Q	.	.					
16.400	384.8419	1555.73	.	.	. V . Q	.	.					
16.417	387.0033	1569.14	.	.	. V . Q	.	.					
16.433	389.1875	1585.70	.	.	. V . Q	.	.					
16.450	391.3831	1594.01	.	.	. V . Q	.	.					
16.467	393.6061	1613.89	.	.	. V . Q	.	.					
16.483	395.8481	1627.68	.	.	. V . Q	.	.					
16.500	398.1049	1638.43	.	.	. V . Q	.	.					
16.517	400.3748	1647.96	.	.	. V . Q	.	.					
16.533	402.6630	1661.25	.	.	. V . Q	.	.					
16.550	404.9576	1665.87	.	.	. V . Q	.	.					
16.567	407.2728	1680.84	.	.	. V . Q	.	.					
16.583	409.6462	1723.07	.	.	. V . Q	.	.					
16.600	412.0574	1750.54	.	.	. V . Q	.	.					
16.617	414.4583	1743.06	.	.	. V . Q	.	.					
16.633	416.8717	1752.13	.	.	. V . Q	.	.					
16.650	419.3319	1786.09	.	.	. V . Q	.	.					
16.667	421.7958	1788.82	.	.	. V . Q	.	.					
16.683	424.2797	1803.28	.	.	. V . Q	.	.					
16.700	426.8146	1840.35	.	.	. V . Q	.	.					
16.717	429.3996	1876.76	.	.	. V . Q.	.	.					
16.733	431.9645	1862.11	.	.	. V . Q.	.	.					
16.750	434.5011	1841.55	.	.	. V . Q	.	.					
16.767	436.9980	1812.77	.	.	. V . Q	.	.					
16.783	439.4514	1781.17	.	.	. V . Q	.	.					
16.800	441.8490	1740.66	.	.	. V . Q	.	.					
16.817	444.2328	1730.66	.	.	. V . Q	.	.					
16.833	446.6430	1749.80	.	.	. V . Q	.	.					
16.850	449.0642	1757.76	.	.	. V . Q	.	.					
16.867	451.4794	1753.44	.	.	. V . Q	.	.					
16.883	453.8679	1734.06	.	.	. V . Q	.	.					

16.900	456.2182	1706.33	.	.	.	V . Q	.					
16.917	458.5172	1669.09	.	.	.	V . Q	.					
16.933	460.7614	1629.32	.	.	.	V . Q	.					
16.950	462.9718	1604.75	.	.	.	V . Q	.					
16.967	465.1651	1592.31	.	.	.	V . Q	.					
16.983	467.3354	1575.63	.	.	.	V . Q	.					
17.000	469.4552	1538.99	.	.	.	V . Q	.					

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FLOW PROCESS FROM NODE 421.00 TO NODE 421.00 IS CODE = 7

>>>>>STREAM NUMBER 4 ADDED TO STREAM NUMBER 3<<<<<

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FLOW PROCESS FROM NODE 421.00 TO NODE 421.00 IS CODE = 6

>>>>>STREAM NUMBER 4 CLEARED AND SET TO ZERO<<<<<

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FLOW PROCESS FROM NODE 421.00 TO NODE 421.00 IS CODE = 11

>>>>>VIEW STREAM NUMBER 3 HYDROGRAPH<<<<<

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STREAM HYDROGRAPH IN ONE-MINUTE UNIT INTERVALS(CFS)

(Notes: Time indicated is at END of Each Unit Intervals.
Peak 5-minute rainfall intensity is modeled as
a constant value for entire 5-minute period.)

TIME(HRS)	VOLUME(AF)	Q(CFS)	0.	550.0	1100.0	1650.0	2200.0
15.000	413.7102	1047.12	.	. V	Q.	.	.
15.017	415.1644	1055.72	.	. V	Q.	.	.
15.033	416.6302	1064.15	.	. V	Q.	.	.
15.050	418.1064	1071.75	.	. V	Q.	.	.
15.067	419.5923	1078.76	.	. V	Q.	.	.
15.083	421.0877	1085.67	.	. V	Q.	.	.
15.100	422.5924	1092.41	.	. V	Q.	.	.
15.117	424.1066	1099.28	.	. V	Q.	.	.
15.133	425.6308	1106.56	.	. V	Q	.	.
15.150	427.1648	1113.71	.	. V	Q	.	.
15.167	428.7079	1120.30	.	. V	Q	.	.
15.183	430.2599	1126.74	.	. V	Q	.	.
15.200	431.8207	1133.10	.	. V	Q	.	.
15.217	433.3902	1139.46	.	. V	Q	.	.
15.233	434.9678	1145.37	.	. V	Q	.	.
15.250	436.5535	1151.21	.	. V	Q	.	.
15.267	438.1476	1157.32	.	. V	.Q	.	.
15.283	439.7491	1162.71	.	. V	.Q	.	.
15.300	441.3579	1167.97	.	. V	.Q	.	.
15.317	442.9740	1173.27	.	. V	.Q	.	.
15.333	444.5974	1178.61	.	. V	.Q	.	.
15.350	446.2271	1183.12	.	. V	.Q	.	.
15.367	447.8617	1186.74	.	. V	.Q	.	.
15.383	449.5014	1190.42	.	. V	.Q	.	.
15.400	451.1462	1194.17	.	. V	.Q	.	.
15.417	452.7962	1197.87	.	. V	.Q	.	.
15.433	454.4513	1201.57	.	. V	.Q	.	.
15.450	456.1114	1205.26	.	. V	.Q	.	.

15.467	457.7766	1208.97	. . V .Q . .
15.483	459.4466	1212.37	. . V . Q . .
15.500	461.1203	1215.13	. . V . Q . .
15.517	462.7978	1217.85	. . V . Q . .
15.533	464.4791	1220.62	. . V . Q . .
15.550	466.1641	1223.33	. . V . Q . .
15.567	467.8524	1225.69	. . V . Q . .
15.583	469.5426	1227.10	. . V . Q . .
15.600	471.2347	1228.49	. . V . Q . .
15.617	472.9278	1229.13	. . V . Q . .
15.633	474.6211	1229.34	. . V . Q . .
15.650	476.3143	1229.30	. . V . Q . .
15.667	478.0065	1228.49	. . V . Q . .
15.683	479.6978	1227.89	. . V . Q . .
15.700	481.3886	1227.51	. . V . Q . .
15.717	483.0787	1227.00	. . V . Q . .
15.733	484.7682	1226.64	. . V . Q . .
15.750	486.4549	1224.52	. . V . Q . .
15.767	488.1404	1223.65	. . V . Q . .
15.783	489.8260	1223.70	. . V . Q . .
15.800	491.5117	1223.88	. . V . Q . .
15.817	493.1971	1223.57	. . V . Q . .
15.833	494.8807	1222.30	. . V . Q . .
15.850	496.5622	1220.73	. . V . Q . .
15.867	498.2440	1221.02	. . V . Q . .
15.883	499.9279	1222.48	. . V . Q . .
15.900	501.6144	1224.40	. . V . Q . .
15.917	503.3023	1225.45	. . V . Q . .
15.933	504.9931	1227.47	. . V . Q . .
15.950	506.6889	1231.15	. . V . Q . .
15.967	508.3970	1240.13	. . V . Q . .
15.983	510.1298	1257.97	. . V . Q . .
16.000	511.8913	1278.88	. . V . Q . .
16.017	513.6799	1298.54	. . V . Q . .
16.033	515.4925	1315.92	. . V . Q . .
16.050	517.3214	1327.78	. . V . Q . .
16.067	519.1569	1332.59	. . V . Q . .
16.083	520.9997	1337.86	. . V . Q . .
16.100	522.8513	1344.30	. . V . Q . .
16.117	524.7198	1356.57	. . V . Q . .
16.133	526.6085	1371.12	. . V . Q . .
16.150	528.5189	1386.98	. . V . Q . .
16.167	530.4542	1405.04	. . V . Q . .
16.183	532.4160	1424.23	. . V . Q . .
16.200	534.4119	1449.04	. . V . Q . .
16.217	536.4414	1473.44	. . V . Q . .
16.233	538.5145	1505.02	. . V . Q . .
16.250	540.6375	1541.33	. . V . Q . .
16.267	542.8112	1578.11	. . V . Q . .
16.283	545.0323	1612.48	. . V . Q. .
16.300	547.2958	1643.33	. . V . Q. .
16.317	549.5964	1670.26	. . V . Q . .
16.333	551.9313	1695.10	. . V . Q . .
16.350	554.2973	1717.73	. . V . .Q . .
16.367	556.7059	1748.66	. . V . .Q . .
16.383	559.1444	1770.32	. . V . . Q . .
16.400	561.6057	1786.88	. . V . . Q . .
16.417	564.0859	1800.62	. . V . . Q . .
16.433	566.5894	1817.51	. . V . . Q . .
16.450	569.1047	1826.15	. . V . . Q . .
16.467	571.6479	1846.37	. . V . . Q . .
16.483	574.2106	1860.49	. . V . . Q . .
16.500	576.7885	1871.56	. . V . . Q . .
16.517	579.3800	1881.43	. . V . . Q . .

16.533	581.9902	1895.04	. . V. . Q .
16.550	584.6073	1900.00	. . V. . Q .
16.567	587.2455	1915.30	. . V. . Q .
16.583	589.9423	1957.85	. . V. . Q .
16.600	592.6773	1985.65	. . V. . Q .
16.617	595.4025	1978.50	. . V. . Q .
16.633	598.1407	1987.89	. . V. . Q .
16.650	600.9261	2022.18	. . V. . Q .
16.667	603.7156	2025.23	. . V. . Q .
16.683	606.5256	2040.01	. . V. . Q .
16.700	609.3870	2077.40	. . V. . Q .
16.717	612.2990	2114.11	. . V . Q .
16.733	615.1913	2099.78	. . V . Q .
16.750	618.0557	2079.53	. . V . Q .
16.767	620.8808	2051.05	. . V . Q .
16.783	623.6628	2019.75	. . V . Q .
16.800	626.3895	1979.54	. . V . Q .
16.817	629.1027	1969.84	. . V . Q .
16.833	631.8428	1989.26	. . V . Q .
16.850	634.5942	1997.51	. . V . Q .
16.867	637.3400	1993.48	. . V . Q .
16.883	640.0596	1974.39	. . V . Q .
16.900	642.7413	1946.95	. . .V . Q .
16.917	645.3722	1909.99	. . .V . Q .
16.933	647.9486	1870.50	. . .V . Q .
16.950	650.4916	1846.21	. . .V . Q .
16.967	653.0178	1834.05	. . .V . Q .
16.983	655.5215	1817.66	. . .V . Q .
17.000	657.9751	1781.31	. . .V . Q .
17.017	660.3932	1755.53	. . .V .Q .
17.033	662.7786	1731.77	. . .V .Q .
17.050	665.1234	1702.33	. . .V Q .
17.067	667.4326	1676.46	. . .V Q .
17.083	669.7235	1663.25	. . .V Q .
17.100	672.0063	1657.31	. . .V Q .
17.117	674.2717	1644.68	. . . V Q. .
17.133	676.5190	1631.61	. . . V Q. .
17.150	678.7454	1616.33	. . . V Q. .
17.167	680.9433	1595.71	. . . V Q. .
17.183	683.1089	1572.26	. . . V Q . .
17.200	685.2510	1555.16	. . . V Q . .
17.217	687.3775	1543.81	. . . V Q . .
17.233	689.4770	1524.24	. . . V Q . .
17.250	691.5447	1501.20	. . . V Q . .
17.267	693.5873	1482.89	. . . V Q . .
17.283	695.6066	1466.01	. . . V Q . .
17.300	697.5996	1446.95	. . . V Q . .
17.317	699.5731	1432.79	. . . V Q . .
17.333	701.5302	1420.82	. . . V Q . .
17.350	703.4720	1409.82	. . . V Q . .
17.367	705.3975	1397.83	. . . V Q . .
17.383	707.3052	1385.06	. . . V Q . .
17.400	709.1962	1372.86	. . . VQ . .
17.417	711.0682	1359.01	. . . VQ . .
17.433	712.9209	1345.06	. . . VQ . .
17.450	714.7513	1328.92	. . . VQ . .
17.467	716.5602	1313.22	. . . Q . .
17.483	718.3470	1297.23	. . . Q . .
17.500	720.1093	1279.47	. . . Q . .
17.517	721.8467	1261.35	. . . QV . .
17.533	723.5667	1248.71	. . . QV . .
17.550	725.2714	1237.63	. . . QV . .
17.567	726.9564	1223.30	. . . QV . .
17.583	728.6182	1206.49	. . . .Q V . .

17.600	730.2573	1189.99	.	.	.	.Q	V	.	.	
17.617	731.8723	1172.47	.	.	.	.Q	V	.	.	
17.633	733.4601	1152.78	.	.	.	Q	V	.	.	
17.650	735.0269	1137.50	.	.	.	Q	V	.	.	
17.667	736.5781	1126.18	.	.	.	Q	V	.	.	
17.683	738.1127	1114.07	.	.	.	Q	V	.	.	
17.700	739.6283	1100.33	.	.	.	Q	V	.	.	
17.717	741.1260	1087.35	.	.	.	Q.	V	.	.	
17.733	742.6053	1073.96	.	.	.	Q.	V	.	.	
17.750	744.0637	1058.78	.	.	.	Q.	V	.	.	
17.767	745.4929	1037.60	.	.	.	Q .	V	.	.	
17.783	746.8951	1017.98	.	.	.	Q .	V	.	.	
17.800	748.2720	999.68	.	.	.	Q .	V	.	.	
17.817	749.6245	981.86	.	.	.	Q .	V	.	.	
17.833	750.9542	965.39	.	.	.	Q .	V	.	.	
17.850	752.2667	952.88	.	.	.	Q .	V	.	.	
17.867	753.5627	940.97	.	.	.	Q .	V	.	.	
17.883	754.8417	928.54	.	.	.	Q .	V	.	.	
17.900	756.1056	917.55	.	.	.	Q .	V	.	.	
17.917	757.3557	907.60	.	.	.	Q .	V	.	.	
17.933	758.5931	898.32	.	.	.	Q .	V	.	.	
17.950	759.8170	888.56	.	.	.	Q .	V	.	.	
17.967	761.0256	877.40	.	.	.	Q .	V	.	.	
17.983	762.2213	868.07	.	.	.	Q .	V	.	.	
18.000	763.4050	859.39	.	.	.	Q .	V	.	.	

****

FLOW PROCESS FROM NODE 421.00 TO NODE 421.00 IS CODE = 7

>>>>>STREAM NUMBER 3 ADDED TO STREAM NUMBER 1<<<<<

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****

FLOW PROCESS FROM NODE 421.00 TO NODE 421.00 IS CODE = 6

>>>>>STREAM NUMBER 3 CLEARED AND SET TO ZERO<<<<<

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****

FLOW PROCESS FROM NODE 421.00 TO NODE 421.00 IS CODE = 11

>>>>>VIEW STREAM NUMBER 1 HYDROGRAPH<<<<<

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STREAM HYDROGRAPH IN ONE-MINUTE UNIT INTERVALS(CFS)

(Notes: Time indicated is at END of Each Unit Intervals.
Peak 5-minute rainfall intensity is modeled as
a constant value for entire 5-minute period.)

TIME(HRS)	VOLUME(AF)	Q(CFS)	0.	1650.0	3300.0	4950.0	6600.0
15.000	1027.9492	3038.08	.	. V	Q .	.	.
15.017	1032.1675	3062.46	.	. V	Q .	.	.
15.033	1036.4160	3084.43	.	. V	Q .	.	.
15.050	1040.6940	3105.78	.	. V	Q .	.	.
15.067	1045.0034	3128.70	.	. V	Q .	.	.
15.083	1049.3445	3151.62	.	. V	Q.	.	.
15.100	1053.7124	3171.07	.	. V	Q.	.	.
15.117	1058.1073	3190.71	.	. V	Q.	.	.
15.133	1062.5306	3211.33	.	. V	Q.	.	.
15.150	1066.9819	3231.68	.	. V	Q.	.	.

15.167	1071.4597	3250.88	.	.	V	Q.	.	.		
15.183	1075.9645	3270.49	.	.	V	Q.	.	.		
15.200	1080.4971	3290.67	.	.	V	Q.	.	.		
15.217	1085.0541	3308.37	.	.	V	Q	.	.		
15.233	1089.6349	3325.70	.	.	V	Q	.	.		
15.250	1094.2396	3343.04	.	.	V	Q	.	.		
15.267	1098.8693	3361.15	.	.	V	Q	.	.		
15.283	1103.5217	3377.72	.	.	V	Q	.	.		
15.300	1108.1971	3394.32	.	.	V	Q	.	.		
15.317	1112.8955	3411.05	.	.	V	Q	.	.		
15.333	1117.6169	3427.80	.	.	V	Q	.	.		
15.350	1122.3571	3441.30	.	.	V	Q	.	.		
15.367	1127.1113	3451.64	.	.	V	Q	.	.		
15.383	1131.8801	3462.16	.	.	V	Q	.	.		
15.400	1136.6636	3472.75	.	.	V	.Q	.	.		
15.417	1141.4609	3482.91	.	.	V	.Q	.	.		
15.433	1146.2723	3493.04	.	.	V	.Q	.	.		
15.450	1151.0973	3502.93	.	.	V	.Q	.	.		
15.467	1155.9348	3512.01	.	.	V	.Q	.	.		
15.483	1160.7837	3520.26	.	.	V	.Q	.	.		
15.500	1165.6429	3527.84	.	.	V	.Q	.	.		
15.517	1170.5123	3535.19	.	.	V	.Q	.	.		
15.533	1175.3905	3541.52	.	.	V	.Q	.	.		
15.550	1180.2765	3547.25	.	.	V	.Q	.	.		
15.567	1185.1678	3551.09	.	.	V	.Q	.	.		
15.583	1190.0627	3553.66	.	.	V	.Q	.	.		
15.600	1194.9587	3554.52	.	.	V	.Q	.	.		
15.617	1199.8557	3555.17	.	.	V	.Q	.	.		
15.633	1204.7523	3554.94	.	.	V	.Q	.	.		
15.650	1209.6473	3553.81	.	.	V	.Q	.	.		
15.667	1214.5396	3551.74	.	.	V	.Q	.	.		
15.683	1219.4286	3549.42	.	.	V	.Q	.	.		
15.700	1224.3112	3544.74	.	.	V	.Q	.	.		
15.717	1229.1884	3540.80	.	.	V	.Q	.	.		
15.733	1234.0587	3535.89	.	.	V	.Q	.	.		
15.750	1238.9211	3530.14	.	.	V	.Q	.	.		
15.767	1243.7777	3525.86	.	.	V	.Q	.	.		
15.783	1248.6300	3522.76	.	.	V	.Q	.	.		
15.800	1253.4766	3518.59	.	.	V	.Q	.	.		
15.817	1258.3168	3513.96	.	.	V	.Q	.	.		
15.833	1263.1537	3511.61	.	.	V	.Q	.	.		
15.850	1267.9885	3510.08	.	.	V	.Q	.	.		
15.867	1272.8242	3510.68	.	.	V	.Q	.	.		
15.883	1277.6587	3509.81	.	.	V	.Q	.	.		
15.900	1282.4977	3513.08	.	.	V	.Q	.	.		
15.917	1287.3436	3518.13	.	.	V	.Q	.	.		
15.933	1292.1927	3520.50	.	.	V	.Q	.	.		
15.950	1297.0596	3533.29	.	.	V	.Q	.	.		
15.967	1301.9863	3576.83	.	.	V	.Q	.	.		
15.983	1307.0081	3645.73	.	.	V	. Q	.	.		
16.000	1312.1279	3717.01	.	.	V	. Q	.	.		
16.017	1317.3395	3783.56	.	.	V	. Q	.	.		
16.033	1322.6495	3855.11	.	.	V	. Q	.	.		
16.050	1328.0239	3901.80	.	.	V.	Q	.	.		
16.067	1333.4335	3927.36	.	.	V.	Q	.	.		
16.083	1338.8907	3961.96	.	.	V.	Q	.	.		
16.100	1344.4083	4005.73	.	.	V.	Q	.	.		
16.117	1349.9985	4058.53	.	.	V.	Q	.	.		
16.133	1355.6659	4114.53	.	.	V.	Q	.	.		
16.150	1361.4197	4177.26	.	.	V.	Q	.	.		
16.167	1367.2634	4242.54	.	.	V.	Q	.	.		
16.183	1373.2129	4319.29	.	.	V.	Q	.	.		
16.200	1379.2838	4407.53	.	.	V.	Q	.	.		
16.217	1385.4996	4512.73	.	.	V.	Q	.	.		

16.233	1391.8567	4615.18	. . V. Q . .
16.250	1398.3656	4725.48	. . V Q . .
16.267	1405.0248	4834.55	. . V Q. .
16.283	1411.8285	4939.49	. . V Q. .
16.300	1418.7567	5029.87	. . V Q .
16.317	1425.8330	5137.39	. . V .Q .
16.333	1433.0341	5227.92	. . V .Q .
16.350	1440.3647	5322.08	. . V . Q .
16.367	1447.8292	5419.19	. . V . Q .
16.383	1455.4084	5502.54	. . V . Q .
16.400	1463.0637	5557.75	. . V . Q .
16.417	1470.8212	5631.86	. . .V . Q .
16.433	1478.6785	5704.42	. . .V . Q .
16.450	1486.6001	5751.07	. . .V . Q .
16.467	1494.5912	5801.50	. . .V . Q .
16.483	1502.6532	5852.98	. . .V . Q .
16.500	1510.8036	5917.20	. . .V . Q .
16.517	1518.9985	5949.57	. . .V . Q .
16.533	1527.2666	6002.58	. . .V . Q .
16.550	1535.6776	6106.44	. . . V . Q .
16.567	1544.1720	6166.90	. . . V . Q .
16.583	1552.7139	6201.43	. . . V . Q .
16.600	1561.3512	6270.73	. . . V . Q .
16.617	1570.0654	6326.51	. . . V . Q .
16.633	1578.8453	6374.17	. . . V . Q .
16.650	1587.7145	6438.97	. . . V . Q.
16.667	1596.6710	6502.46	. . . V . Q.
16.683	1605.6335	6506.76	. . . V . Q.
16.700	1614.5477	6471.66	. . . V . Q.
16.717	1623.3184	6367.48	. . . V . Q .
16.733	1631.9257	6248.94	. . . V . Q .
16.750	1640.3542	6119.17	. . . V . Q .
16.767	1648.6323	6009.91	. . . V . Q .
16.783	1656.8369	5956.54	. . . V . Q .
16.800	1664.9475	5888.29	. . . V . Q .
16.817	1672.9969	5843.88	. . . V . Q .
16.833	1680.9869	5800.73	. . . V . Q .
16.850	1688.9021	5746.42	. . . V . Q .
16.867	1696.6873	5652.00	. . . V . Q .
16.883	1704.3385	5554.78	. . . V . Q .
16.900	1711.8745	5471.14	. . . V . Q .
16.917	1719.3086	5397.13	. . . V . Q .
16.933	1726.6335	5317.89	. . . V . Q .
16.950	1733.8575	5244.58	. . . V .Q .
16.967	1741.0201	5200.09	. . . V .Q .
16.983	1748.0851	5129.12	. . . V .Q .
17.000	1755.0295	5041.72	. . . V Q .
17.017	1761.9092	4994.58	. . . V Q .
17.033	1768.7313	4952.91	. . . V Q .
17.050	1775.4476	4876.04	. . . V Q. .
17.067	1782.0955	4826.31	. . . V Q. .
17.083	1788.6941	4790.57	. . . V Q. .
17.100	1795.2180	4736.39	. . . V Q . .
17.117	1801.6439	4665.17	. . . V Q . .
17.133	1808.0283	4635.09	. . . V Q . .
17.150	1814.3766	4608.82	. . . VQ . .
17.167	1820.6438	4549.98	. . . VQ . .
17.183	1826.8252	4487.67	. . . VQ . .
17.200	1832.9373	4437.39	. . . Q . .
17.217	1838.9836	4389.67	. . . Q . .
17.233	1844.9307	4317.54	. . . Q . .
17.250	1850.8104	4268.71	. . . QV . .
17.267	1856.6278	4223.45	. . . QV . .
17.283	1862.3859	4180.31	. . . QV . .

17.300	1868.0734	4129.14	. . . QV . .
17.317	1873.7076	4090.47	. . . Q V . .
17.333	1879.2894	4052.38	. . . Q V . .
17.350	1884.8171	4013.12	. . . Q V . .
17.367	1890.2780	3964.55	. . . Q V . .
17.383	1895.6749	3918.24	. . . Q V . .
17.400	1901.0125	3875.05	. . . Q V . .
17.417	1906.2839	3827.11	. . . Q V . .
17.433	1911.4855	3776.31	. . Q V . .
17.450	1916.6213	3728.60	. . Q V . .
17.467	1921.6882	3678.54	. . Q V . .
17.483	1926.6792	3623.41	. .Q V . .
17.500	1931.5988	3571.59	. .Q V . .
17.517	1936.4441	3517.73	. .Q V . .
17.533	1941.2224	3469.09	. .Q V . .
17.550	1945.9304	3417.99	. Q V . .
17.567	1950.5710	3369.12	. Q V . .
17.583	1955.1453	3320.84	. Q V . .
17.600	1959.6526	3272.34	. Q. V . .
17.617	1964.0972	3226.73	. Q. V . .
17.633	1968.4762	3179.16	. Q. V . .
17.650	1972.7820	3126.03	. Q . V . .
17.667	1977.0093	3068.99	. Q . V . .
17.683	1981.1503	3006.40	. Q . V . .
17.700	1985.2083	2946.11	. Q . V . .
17.717	1989.1841	2886.45	. Q . V . .
17.733	1993.0900	2835.69	. Q . V . .
17.750	1996.9363	2792.45	. Q . V . .
17.767	2000.7234	2749.44	. Q . V . .
17.783	2004.4539	2708.32	. Q . V . .
17.800	2008.1230	2663.85	. Q . V . .
17.817	2011.7317	2619.87	. Q . V . .
17.833	2015.2788	2575.21	. Q . V . .
17.850	2018.7693	2534.09	. Q . V . .
17.867	2022.2061	2495.12	. Q . V . .
17.883	2025.5966	2461.52	. Q . V. .
17.900	2028.9426	2429.24	. Q . V. .
17.917	2032.2468	2398.85	. Q . V. .
17.933	2035.5128	2371.12	. Q . V. .
17.950	2038.7389	2342.14	. Q . V. .
17.967	2041.9229	2311.56	. Q . V. .
17.983	2045.0677	2283.21	. Q . V. .
18.000	2048.1760	2256.52	. Q . V. .

END OF FLOODSCx ROUTING ANALYSIS