Hydrologic and Hydraulic Analysis Report

Jones Point Park Drainage Study

Volume 2 of 2

City of Alexandria, Virginia

Prepared by:

POTOMAC CROSSING CONSULTANTS

September 2005

Prepared For:

NATIONAL PARK SERVICE

VDOT Virginia Department of Transportation

Federal Highway Administration

Appendix B

TR-55 WORKSHEETS

Page 1 /2
Made by: TH
Date: 7/21/2005
Checked by:
Date:

Project: Jones Point Park

Location: Drainage Area 1

Conditions: Existing Conditions

Composite Runoff Curve Number Determination:

Hydrologic Soil Group	Cover Description	Curve Number (CN)	Area, A (acres)	Product CN x A
D	Forested	77	5.960	458.90
D	Open Urban	80	5.681	454.50
D	Impervious	98	2.432	238.30
D	Wetlands	100	0.995	99.46
				0.00
				0.00
				0.00
		Totals =	**15.07**	**1251.15**

Composite Curve Number (CN)	**= (total product) (total area)**	**=**	**83.04**	**Use**	**83**

Calculate Runoff:

	Storm 1	Storm 2	Storm 3	Storm 4	Storm 5	Storm 6
Storm Frequency (Yrs)	2	5	10	25	50	100
Rainfall P (24-hour) (in)	3.11	4.00	4.78	5.99	7.05	8.26
Runoff, Q (in)	1.54	2.29	2.98	4.08	5.07	6.23

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Made by:	TH
Date:	7/21/2005
Checked by:	0
Date:	1/0/1900

TR-55 WORKSHEETS

Project: Jones Point Park

Location: Drainage Area 1

Conditions: Existing Conditions

Compute Time of Concentration (T_c) or Travel Time (T_t)

Sheet Flow: (Applicable to T_c only)

	Units			
Surface Description	(Table 3-1)	smooth		
Manning's 'n'		0.011		
Flow Length, L (< 300 ft)	(ft)	100.00		
2-Yr, 24-Hr Rainfall, P_2	(in)	3.11		
Land slope, s	(ft/ft)	0.0500		
Travel time	(hr)	0.01	0.00	0.01

Shallow Concentrated Flow:

	Units			
Surface Description (Paved=2 or Unpaved=3)		3	3	
Flow Length, L	(ft)	208.91	188.46	
Watercourse Slope (0.005 ft/ft min.)	(ft/ft)	0.0431	0.0053	
Average Velocity, V	(ft/s)	3.3	1.18	
Travel Time	(hr)	0.02	0.04	0.06

Channel Flow:

	Units					
Channel Shape (Trap = 1 or Triang = 2 or circular = 3)		1	1	1	1	
Cross Sectional Flow Area, A	(ft)	2.00				
Wetted Perimeter, P_w	(ft)	4.00	2.00	2.00	2.00	
Hydraulic Radius, R	(ft)	0.50	0.00	0.00	0.00	
Channel Slope, s	(ft/ft)	0.0033	0.0033	0.1129	0.0395	
Manning's 'n'		0.040	0.040	0.040	0.040	
Velocity	(ft/s)	1.35	0.00	0.00	0.00	
Flow Length, L	(ft)	607.71	142.00	124.00	177.00	
Travel time	(hr)	0.13	#DIV/0!	#DIV/0!	#DIV/0!	0.13

Watershed Time of Concentration or Travel Time (hrs) = **0.20**

TR-55 WORKSHEETS

Page	1 /1
Made by:	TH
Date:	5/6/2005
Checked by:	KEB
Date:	5/9/2005

Project: Jones Point Park

Location: Drainage Area 1

Conditions: Proposed Conditions

Composite Runoff Curve Number Determination:

Hydrologic Soil Group	Cover Description	Curve Number (CN)	Area, A (acres)	Product CN x A
D	Forested	77	3.573	275.15
D	Open Urban	80	8.704	696.35
D	Impervious	98	3.459	339.00
D	Wetlands	100	0.798	79.83
				0.00
				0.00
				0.00
		Totals =	**16.54**	**1390.34**

Composite Curve Number (CN)	**= (total product) (total area)**	**=**	**84.08**	**Use**	**84**

Calculate Runoff:

	Storm 1	Storm 2	Storm 3	Storm 4	Storm 5	Storm 6
Storm Frequency (Yrs)	2	5	10	25	50	100
Rainfall P (24-hour) (in)	2.28	2.88	3.37	6.17	7.27	8.52
Runoff, Q (in)	0.95	1.42	1.83	4.36	5.40	6.60

TR-55 WORKSHEETS

Page 1 /2
Made by: TH
Date: 7/21/2005
Checked by:
Date:

Project: Jones Point Park

Location: Drainage Area 2

Conditions: Existing Conditions

Composite Runoff Curve Number Determination:

Hydrologic Soil Group	Cover Description	Curve Number (CN)	Area, A (acres)	Product CN x A
D	Forested	77	9.086	699.59
D	Open Urban	80	4.316	345.27
D	Impervious	98	2.687	263.29
D	Wetlands	100	5.616	561.61
				0.00
				0.00
				0.00
		Totals =	**21.70**	**1869.75**

Composite Curve Number (CN)	**= (total product) (total area)**	**=**	**86.15**	**Use**	**86**

Calculate Runoff:

	Storm 1	Storm 2	Storm 3	Storm 4	Storm 5	Storm 6
Storm Frequency (Yrs)	2	5	10	25	50	100
Rainfall P (24-hour) (in)	3.11	4.00	4.78	5.99	7.05	8.26
Runoff, Q (in)	1.76	2.55	3.26	4.40	5.41	6.58

Page	2 /2
Made by:	TH
Date:	7/21/2005
Checked by:	0
Date:	1/0/1900

TR-55 WORKSHEETS

Project: Jones Point Park

Location: Drainage Area 2

Conditions: Existing Conditions

Compute Time of Concentration (T_c) or Travel Time (T_t)

Sheet Flow: (Applicable to T_c only)

	Units			
Surface Description	(Table 3-1)	smooth		
Manning's 'n'		0.011		
Flow Length, L (< 300 ft)	(ft)	100.00		
2-Yr, 24-Hr Rainfall, P_2	(in)	3.11		
Land slope, s	(ft/ft)	0.0600		
Travel time	(hr)	0.01	0.00	0.01

Shallow Concentrated Flow:

	Units			
Surface Description (Paved=2 or Unpaved=3)		3	2	
Flow Length, L	(ft)	386.32		
Watercourse Slope (0.005 ft/ft min.)	(ft/ft)	0.0544		
Average Velocity, V	(ft/s)	3.6	#N/A	
Travel Time	(hr)	0.03	0.00	0.03

Channel Flow:

	Units					
Channel Shape (Trap = 1 or Triang = 2 or circular = 3)		1				
Cross Sectional Flow Area, A	(ft)	2.00				
Wetted Perimeter, P_w	(ft)	4.00				
Hydraulic Radius, R	(ft)	0.50				
Channel Slope, s	(ft/ft)	0.0020				
Manning's 'n'		0.040				
Velocity	(ft/s)	1.05				
Flow Length, L	(ft)	767.58				
Travel time	(hr)	0.20				0.20

Watershed Time of Concentration or Travel Time (hrs) = **0.25**

TR-55 WORKSHEETS

Page	1 /1
Made by:	TH
Date:	5/6/2005
Checked by:	KEB
Date:	5/9/2005

Project: Jones Point Park

Location: Drainage Area 2

Conditions: Proposed Conditions

Composite Runoff Curve Number Determination:

Hydrologic Soil Group	Cover Description	Curve Number (CN)	Area, A (acres)	Product CN x A
D	Forested	77	7.511	578.36
D	Open Urban	80	6.067	485.34
D	Impervious	98	2.476	242.69
D	Wetlands	100	5.651	565.13
				0.00
				0.00
				0.00
		Totals =	**21.71**	**1871.52**

Composite Curve Number (CN)	**= (total product) (total area)**	**=**	**86.22**	**Use**	**86**

Calculate Runoff:

	Storm 1	Storm 2	Storm 3	Storm 4	Storm 5	Storm 6
Storm Frequency (Yrs)	2	5	10	25	50	100
Rainfall P (24-hour) (in)	2.28	2.88	3.37	6.17	7.27	8.52
Runoff, Q (in)	1.07	1.56	1.98	4.57	5.63	6.84

Appendix C

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

JOB TR-20           ECON                          SUMMARY   NOPLOTS
TITLE 004 JONES POINT PARK EXISTING CONDITIONS
TITLE 000 FILENAME: JPPEX16.dat     7/22/05   BY: TLH
 5 RAINFL 4             .1
 8          0.0000      0.0041      0.0083      0.0127      0.0173
 8          0.0220      0.0269      0.0319      0.0371      0.0425
 8          0.0480      0.0538      0.0598      0.0662      0.0730
 8          0.0800      0.0874      0.0950      0.1030      0.1114
 8          0.1200      0.1296      0.1408      0.1534      0.1663
 8          0.1810      0.1989      0.2214      0.2513      0.3068
 8          0.6630      0.7252      0.7588      0.7836      0.8036
 8          0.8200      0.8342      0.8474      0.8594      0.8702
 8          0.8800      0.8890      0.8976      0.9058      0.9136
 8          0.9210      0.9280      0.9346      0.9408      0.9466
 8          0.9520      0.9572      0.9622      0.9672      0.9722
 8          0.9770      0.9818      0.9864      0.9910      0.9956
 8          1.0000      1.0000      1.0000      1.0000      1.0000
 9 ENDTBL
 6 RUNOFF 1 001       6 0.0235      83.0        0.20        1 1 1 1 1 1  DA-1 D
 6 RUNOFF 1 001       6 0.0339      86.1        0.25        1 1 1 1 1 1  DA-2 D
   ENDATA
 7 INCREM 6             0.025
 7 COMPUT 7 001   001   0.00        2.23        1.00        4 2   1   2  2-YR
   ENDCMP 1
 7 COMPUT 7 001   001   0.00        2.81        1.00        4 2   1   5  5-YR
   ENDCMP 1
 7 COMPUT 7 001   001   0.00        3.29        1.00        4 2   1  10  10-YR
   ENDCMP 1
 7 COMPUT 7 001   001   0.00        5.99        1.00        2 2   1  25  25-YR
   ENDCMP 1
 7 COMPUT 7 001   001   0.00        7.05        1.00        2 2   1  50  50-YR
   ENDCMP 1
 7 COMPUT 7 001   001   0.00        8.26        1.00        2 2   1  99  100-YR
   ENDCMP 1
   ENDJOB 2

*******************************END OF 80-80 LIST******************************
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EXECUTIVE CONTROL  INCREM    MAIN TIME INCREMENT =   .025 HOURS


EXECUTIVE CONTROL  COMPUT    FROM XSECTION   1  TO XSECTION   1          2-YR
    STARTING TIME =   .00       RAIN DEPTH =  2.23       RAIN DURATION =  1.00
    ANT. RUNOFF COND. = 2       MAIN TIME INCREMENT =   .025 HOURS
    ALTERNATE NO. = 1           STORM NO. = 2            RAIN TABLE NO. = 4


OPERATION RUNOFF    XSECTION   1

    PEAK TIME(HRS)             PEAK DISCHARGE(CFS)          PEAK ELEVATION(FEET)
        3.09                          28.7                        (RUNOFF)

                    HYDROGRAPH POINTS FOR   ALTERNATE = 1,   STORM = 2
     HRS      MAIN TIME INCREMENT =  .025 hr,      DRAINAGE AREA =    .02 SQ.MI.
     2.78 CFS       .39     .51     .65     .85    1.13    1.48    2.51    4.82
     2.98 CFS      9.19   15.14   21.19   25.95   28.41   28.32   26.28   23.28
     3.18 CFS     20.06   17.11   14.67   12.70   11.05    9.67    8.60    7.72
     3.38 CFS      6.99    6.39    5.88    5.46    5.09    4.77    4.49    4.24
     3.58 CFS      4.01    3.81    3.64    3.50    3.39    3.28    3.20    3.12
     3.78 CFS      3.05    2.98    2.92    2.85    2.79    2.72    2.66    2.60
     3.98 CFS      2.54    2.48    2.42    2.37    2.32    2.27    2.22    2.18
     4.18 CFS      2.14    2.11    2.08    2.05    2.02    2.00    1.97    1.95
     4.38 CFS      1.93    1.91    1.89    1.86    1.84    1.82    1.80    1.78
     4.58 CFS      1.76    1.73    1.71    1.69    1.67    1.65    1.63    1.60
     4.78 CFS      1.58    1.56    1.54    1.52    1.49    1.47    1.45    1.43
     4.98 CFS      1.40    1.38    1.36    1.34    1.32    1.30    1.29    1.27
     5.18 CFS      1.26    1.25    1.23    1.22    1.22    1.21    1.21    1.20
     5.38 CFS      1.20    1.20    1.20    1.20    1.19    1.19    1.18    1.17
     5.58 CFS      1.17    1.17    1.16    1.16    1.15    1.15    1.14    1.13
     5.78 CFS      1.13    1.12    1.12    1.12    1.12    1.12    1.12    1.11
     5.98 CFS      1.11    1.10    1.08    1.03     .93     .80     .65     .50
     6.18 CFS       .37

    RUNOFF ABOVE BASEFLOW  (BASEFLOW =    .00 CFS)
                    .85 WATERSHED INCHES;      13 CFS-HRS;       1.1 ACRE-FEET.

    DURATION(HRS)   2      3
    FLOW(CFS)       1      0

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


OPERATION RUNOFF    XSECTION   1

    PEAK TIME(HRS)             PEAK DISCHARGE(CFS)          PEAK ELEVATION(FEET)
        3.12                          45.8                        (RUNOFF)
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HYDROGRAPH POINTS FOR ALTERNATE = 1, STORM = 2
HRS MAIN TIME INCREMENT = .025 hr, DRAINAGE AREA = .03 SQ.MI.

2.60 CFS	.46	.55	.65	.75	.88	1.02	1.18	1.36
2.80 CFS	1.56	1.83	2.16	2.59	3.26	4.64	7.34	12.00
3.00 CFS	18.91	27.20	35.29	41.69	45.24	45.62	43.57	39.83
3.20 CFS	35.32	30.78	26.73	23.36	20.53	18.12	16.08	14.40
3.40 CFS	12.98	11.79	10.78	9.92	9.19	8.54	7.98	7.49
3.60 CFS	7.06	6.68	6.35	6.06	5.80	5.57	5.37	5.20
3.80 CFS	5.06	4.93	4.81	4.69	4.58	4.47	4.36	4.26
4.00 CFS	4.15	4.06	3.96	3.87	3.79	3.70	3.63	3.55
4.20 CFS	3.49	3.43	3.38	3.33	3.28	3.24	3.20	3.16
4.40 CFS	3.12	3.08	3.04	3.01	2.97	2.94	2.90	2.87
4.60 CFS	2.83	2.79	2.76	2.72	2.69	2.65	2.62	2.58
4.80 CFS	2.55	2.51	2.47	2.44	2.40	2.37	2.33	2.29
5.00 CFS	2.26	2.22	2.19	2.15	2.12	2.09	2.07	2.04
5.20 CFS	2.02	2.00	1.98	1.96	1.95	1.94	1.93	1.92
5.40 CFS	1.92	1.91	1.91	1.91	1.90	1.89	1.88	1.87
5.60 CFS	1.86	1.86	1.85	1.84	1.83	1.82	1.81	1.80
5.80 CFS	1.80	1.79	1.78	1.78	1.78	1.77	1.77	1.76
6.00 CFS	1.76	1.73	1.68	1.59	1.46	1.28	1.08	.88
6.20 CFS	.70	.55	.42					

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
1.03 WATERSHED INCHES; 23 CFS-HRS; 1.9 ACRE-FEET.

DURATION(HRS) 2 4
FLOW(CFS) 2 0

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

EXECUTIVE CONTROL ENDCMP COMPUTATIONS COMPLETED FOR PASS 1

EXECUTIVE CONTROL COMPUT FROM XSECTION 1 TO XSECTION 1 5-YR
STARTING TIME = .00 RAIN DEPTH = 2.81 RAIN DURATION = 1.00
ANT. RUNOFF COND. = 2 MAIN TIME INCREMENT = .025 HOURS
ALTERNATE NO. = 1 STORM NO. = 5 RAIN TABLE NO. = 4

OPERATION RUNOFF XSECTION 1

PEAK TIME(HRS) PEAK DISCHARGE(CFS) PEAK ELEVATION(FEET)
3.08 45.1 (RUNOFF)

HYDROGRAPH POINTS FOR ALTERNATE = 1, STORM = 5
HRS MAIN TIME INCREMENT = .025 hr, DRAINAGE AREA = .02 SQ.MI.

2.60 CFS	.48	.56	.66	.77	.90	1.04	1.20	1.39
2.80 CFS	1.62	1.90	2.27	2.78	3.59	5.37	9.03	15.57
3.00 CFS	24.76	34.18	41.50	44.87	44.10	40.51	35.58	30.37

3.20 CFS	25.71	21.93	18.87	16.33	14.23	12.57	11.22	10.12
3.40 CFS	9.20	8.46	7.84	7.29	6.82	6.40	6.03	5.69
3.60 CFS	5.40	5.15	4.95	4.79	4.64	4.52	4.41	4.30
3.80 CFS	4.20	4.11	4.02	3.92	3.83	3.74	3.65	3.56
4.00 CFS	3.48	3.40	3.32	3.25	3.18	3.11	3.05	3.00
4.20 CFS	2.95	2.91	2.87	2.83	2.79	2.76	2.73	2.70
4.40 CFS	2.66	2.63	2.60	2.57	2.54	2.51	2.48	2.45
4.60 CFS	2.42	2.39	2.36	2.33	2.29	2.26	2.23	2.20
4.80 CFS	2.17	2.14	2.11	2.08	2.04	2.01	1.98	1.95
5.00 CFS	1.92	1.89	1.86	1.83	1.81	1.79	1.77	1.75
5.20 CFS	1.73	1.71	1.70	1.69	1.68	1.67	1.67	1.67
5.40 CFS	1.66	1.66	1.66	1.65	1.64	1.63	1.63	1.62
5.60 CFS	1.61	1.61	1.60	1.59	1.59	1.58	1.57	1.56
5.80 CFS	1.55	1.55	1.55	1.54	1.54	1.54	1.54	1.53
6.00 CFS	1.52	1.48	1.41	1.28	1.10	.89	.69	.52
6.20 CFS	.38							

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
1.29 WATERSHED INCHES; 20 CFS-HRS; 1.6 ACRE-FEET.

DURATION(HRS)	2	4
FLOW(CFS)	2	0

--- XSECTION 1, ALTERNATE 1, STORM 5, HYDROGRAPH ADDED TO READHD FILE ---

OPERATION RUNOFF XSECTION 1

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
3.11	68.1	(RUNOFF)

HYDROGRAPH POINTS FOR ALTERNATE = 1, STORM = 5
MAIN TIME INCREMENT = .025 hr, DRAINAGE AREA = .03 SQ.MI.

HRS								
2.33 CFS	.45	.52	.59	.66	.74	.82	.90	.99
2.53 CFS	1.09	1.20	1.32	1.46	1.61	1.78	1.97	2.18
2.72 CFS	2.42	2.69	2.99	3.34	3.77	4.32	5.02	6.09
2.92 CFS	8.21	12.26	19.16	29.34	41.48	53.29	62.52	67.49
3.13 CFS	67.73	64.39	58.59	51.71	44.83	38.74	33.70	29.49
3.33 CFS	25.92	22.91	20.43	18.35	16.61	15.14	13.90	12.83
3.53 CFS	11.90	11.09	10.39	9.78	9.24	8.77	8.36	7.98
3.73 CFS	7.66	7.38	7.15	6.95	6.76	6.59	6.43	6.27
3.92 CFS	6.11	5.97	5.82	5.68	5.55	5.41	5.29	5.17
4.13 CFS	5.06	4.95	4.85	4.76	4.68	4.60	4.54	4.47
4.32 CFS	4.41	4.36	4.30	4.25	4.20	4.14	4.09	4.04
4.53 CFS	3.99	3.94	3.90	3.85	3.80	3.75	3.70	3.65
4.72 CFS	3.60	3.55	3.50	3.45	3.40	3.36	3.31	3.26
4.93 CFS	3.21	3.16	3.11	3.06	3.01	2.96	2.92	2.88
5.13 CFS	2.84	2.80	2.77	2.74	2.71	2.68	2.66	2.64
5.33 CFS	2.62	2.61	2.60	2.60	2.59	2.58	2.58	2.57
5.53 CFS	2.55	2.54	2.53	2.52	2.51	2.50	2.49	2.48
5.72 CFS	2.46	2.45	2.44	2.42	2.41	2.41	2.40	2.40

5.93 CFS	2.39	2.39	2.38	2.37	2.34	2.27	2.15	1.96
6.13 CFS	1.72	1.45	1.19	.95	.74	.57	.44	

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
1.51 WATERSHED INCHES; 33 CFS-HRS; 2.7 ACRE-FEET.

DURATION(HRS)	2	4
FLOW(CFS)	3	0

--- XSECTION 1, ALTERNATE 1, STORM 5, HYDROGRAPH ADDED TO READHD FILE ---

EXECUTIVE CONTROL ENDCMP COMPUTATIONS COMPLETED FOR PASS 2

EXECUTIVE CONTROL COMPUT FROM XSECTION 1 TO XSECTION 1 10-YR
STARTING TIME = .00 RAIN DEPTH = 3.29 RAIN DURATION = 1.00
ANT. RUNOFF COND. = 2 MAIN TIME INCREMENT = .025 HOURS
ALTERNATE NO. = 1 STORM NO. =10 RAIN TABLE NO. = 4

OPERATION RUNOFF XSECTION 1

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
3.08	58.9	(RUNOFF)

HYDROGRAPH POINTS FOR ALTERNATE = 1, STORM =10
MAIN TIME INCREMENT = .025 hr, DRAINAGE AREA = .02 SQ.MI.

HRS								
2.42 CFS	.48	.54	.61	.69	.77	.86	.96	1.08
2.63 CFS	1.20	1.34	1.51	1.69	1.89	2.12	2.39	2.70
2.83 CFS	3.08	3.59	4.32	5.46	7.95	12.99	21.60	33.05
3.03 CFS	44.82	54.01	58.56	57.94	53.30	46.71	39.70	33.41
3.23 CFS	28.40	24.36	21.00	18.26	16.07	14.30	12.85	11.66
3.42 CFS	10.68	9.86	9.16	8.55	8.02	7.54	7.11	6.74
3.63 CFS	6.43	6.18	5.97	5.78	5.63	5.49	5.35	5.23
3.83 CFS	5.11	4.99	4.87	4.76	4.64	4.53	4.42	4.32
4.03 CFS	4.22	4.12	4.03	3.94	3.86	3.78	3.72	3.65
4.22 CFS	3.60	3.55	3.50	3.46	3.42	3.38	3.34	3.30
4.43 CFS	3.26	3.22	3.18	3.14	3.10	3.07	3.03	2.99
4.63 CFS	2.95	2.91	2.87	2.83	2.80	2.76	2.72	2.68
4.83 CFS	2.64	2.60	2.56	2.52	2.48	2.44	2.40	2.37
5.03 CFS	2.33	2.29	2.26	2.23	2.20	2.18	2.15	2.13
5.22 CFS	2.11	2.09	2.08	2.07	2.06	2.06	2.05	2.05
5.43 CFS	2.05	2.04	2.03	2.02	2.01	2.00	1.99	1.99
5.63 CFS	1.98	1.97	1.96	1.95	1.94	1.93	1.92	1.91
5.83 CFS	1.91	1.90	1.90	1.90	1.89	1.89	1.88	1.87
6.03 CFS	1.84	1.75	1.58	1.35	1.10	.85	.63	.46

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
1.68 WATERSHED INCHES; 26 CFS-HRS; 2.1 ACRE-FEET.

DURATION(HRS) 2 4
FLOW(CFS) 3 0

--- XSECTION 1, ALTERNATE 1, STORM 10, HYDROGRAPH ADDED TO READHD FILE ---

OPERATION RUNOFF XSECTION 1

PEAK TIME(HRS) PEAK DISCHARGE(CFS) PEAK ELEVATION(FEET)
3.11 87.1 (RUNOFF)

HYDROGRAPH POINTS FOR ALTERNATE = 1, STORM =10
HRS MAIN TIME INCREMENT = .025 hr, DRAINAGE AREA = .03 SQ.MI.

2.15 CFS	.47	.53	.61	.68	.77	.86	.95	1.05
2.35 CFS	1.15	1.25	1.36	1.47	1.57	1.69	1.81	1.95
2.55 CFS	2.09	2.26	2.44	2.65	2.88	3.14	3.43	3.76
2.75 CFS	4.13	4.55	5.04	5.63	6.37	7.30	8.49	11.11
2.95 CFS	16.19	24.94	38.06	53.69	68.70	80.22	86.26	86.73
3.15 CFS	82.45	74.82	65.84	56.83	49.01	42.57	37.18	32.62
3.35 CFS	28.78	25.60	22.94	20.69	18.81	17.23	15.88	14.71
3.55 CFS	13.70	12.82	12.06	11.39	10.80	10.28	9.81	9.40
3.75 CFS	9.05	8.76	8.51	8.28	8.07	7.87	7.68	7.49
3.95 CFS	7.30	7.12	6.95	6.78	6.62	6.47	6.32	6.18
4.15 CFS	6.05	5.93	5.82	5.72	5.62	5.54	5.46	5.39
4.35 CFS	5.32	5.25	5.18	5.12	5.06	4.99	4.93	4.87
4.55 CFS	4.81	4.75	4.69	4.63	4.57	4.51	4.45	4.39
4.75 CFS	4.33	4.27	4.21	4.15	4.09	4.03	3.97	3.90
4.95 CFS	3.84	3.78	3.72	3.66	3.61	3.55	3.50	3.45
5.15 CFS	3.41	3.37	3.33	3.29	3.26	3.23	3.21	3.19
5.35 CFS	3.18	3.16	3.16	3.15	3.14	3.13	3.12	3.10
5.55 CFS	3.09	3.07	3.06	3.05	3.04	3.02	3.01	2.99
5.75 CFS	2.98	2.96	2.94	2.93	2.92	2.92	2.91	2.91
5.95 CFS	2.90	2.89	2.88	2.84	2.75	2.60	2.38	2.08
6.15 CFS	1.76	1.44	1.14	.89	.69	.53	.41	

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
1.92 WATERSHED INCHES; 42 CFS-HRS; 3.5 ACRE-FEET.

DURATION(HRS) 2 4 4
FLOW(CFS) 4 1 0

--- XSECTION 1, ALTERNATE 1, STORM 10, HYDROGRAPH ADDED TO READHD FILE ---

EXECUTIVE CONTROL ENDCMP COMPUTATIONS COMPLETED FOR PASS 3

EXECUTIVE CONTROL COMPUT FROM XSECTION 1 TO XSECTION 1 25-YR
STARTING TIME = .00 RAIN DEPTH = 5.99 RAIN DURATION = 1.00
ANT. RUNOFF COND. = 2 MAIN TIME INCREMENT = .025 HOURS
ALTERNATE NO. = 1 STORM NO. =25 RAIN TABLE NO. = 2

OPERATION RUNOFF XSECTION 1

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
12.01	78.5	(RUNOFF)

HYDROGRAPH POINTS FOR ALTERNATE = 1, STORM =25
MAIN TIME INCREMENT = .025 hr, DRAINAGE AREA = .02 SQ.MI.

HRS								
8.15 CFS	.49	.50	.51	.52	.53	.54	.55	.56
8.35 CFS	.57	.58	.59	.60	.61	.62	.64	.65
8.55 CFS	.66	.67	.68	.70	.71	.72	.73	.75
8.75 CFS	.76	.77	.78	.80	.81	.82	.84	.85
8.95 CFS	.86	.88	.89	.91	.92	.93	.95	.96
9.15 CFS	.97	.98	.99	1.00	1.01	1.02	1.02	1.03
9.35 CFS	1.04	1.04	1.05	1.06	1.07	1.07	1.08	1.09
9.55 CFS	1.10	1.10	1.11	1.13	1.14	1.15	1.17	1.19
9.75 CFS	1.21	1.23	1.25	1.27	1.29	1.31	1.33	1.36
9.95 CFS	1.38	1.40	1.43	1.45	1.47	1.50	1.52	1.55
10.15 CFS	1.58	1.61	1.64	1.67	1.70	1.74	1.77	1.81
10.35 CFS	1.84	1.88	1.91	1.95	1.98	2.02	2.06	2.10
10.55 CFS	2.13	2.18	2.22	2.27	2.31	2.36	2.42	2.47
10.75 CFS	2.53	2.59	2.65	2.70	2.76	2.83	2.89	2.95
10.95 CFS	3.02	3.08	3.15	3.22	3.29	3.37	3.46	3.56
11.15 CFS	3.66	3.77	3.89	4.02	4.15	4.29	4.44	4.58
11.35 CFS	4.73	4.88	5.04	5.20	5.36	5.53	5.72	6.00
11.55 CFS	6.47	7.19	8.19	9.50	11.19	13.38	15.98	18.94
11.75 CFS	22.28	26.24	30.69	35.70	41.65	48.94	57.15	65.13
11.95 CFS	71.78	76.32	78.37	77.76	74.57	68.64	60.58	51.80
12.15 CFS	43.44	36.07	30.19	25.76	22.43	19.84	17.81	16.20
12.35 CFS	14.90	13.82	12.90	12.11	11.41	10.75	10.15	9.62
12.55 CFS	9.13	8.68	8.27	7.92	7.62	7.36	7.14	6.95
12.75 CFS	6.79	6.64	6.50	6.38	6.26	6.14	6.03	5.92
12.95 CFS	5.82	5.71	5.60	5.50	5.40	5.30	5.21	5.13
13.15 CFS	5.05	4.97	4.90	4.83	4.77	4.70	4.64	4.59
13.35 CFS	4.53	4.47	4.41	4.36	4.30	4.24	4.19	4.13
13.55 CFS	4.08	4.02	3.97	3.92	3.87	3.83	3.78	3.74
13.75 CFS	3.70	3.65	3.61	3.57	3.53	3.49	3.45	3.41
13.95 CFS	3.37	3.33	3.29	3.25	3.21	3.17	3.14	3.11
14.15 CFS	3.08	3.06	3.03	3.01	2.99	2.97	2.96	2.94
14.35 CFS	2.93	2.91	2.90	2.88	2.87	2.85	2.84	2.83
14.55 CFS	2.81	2.80	2.79	2.77	2.76	2.74	2.73	2.72
14.75 CFS	2.70	2.69	2.67	2.66	2.65	2.63	2.62	2.60
14.95 CFS	2.59	2.58	2.56	2.55	2.53	2.52	2.50	2.49
15.15 CFS	2.48	2.46	2.45	2.43	2.42	2.41		

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
3.29 WATERSHED INCHES; 50 CFS-HRS; 4.1 ACRE-FEET.

DURATION(HRS) 2 4 4
FLOW(CFS) 5 3 2 TRUNCATED

--- XSECTION 1, ALTERNATE 1, STORM 25, HYDROGRAPH ADDED TO READHD FILE ---

OPERATION RUNOFF XSECTION 1

PEAK TIME(HRS) PEAK DISCHARGE(CFS) PEAK ELEVATION(FEET)
12.03 113.7 (RUNOFF)

HYDROGRAPH POINTS FOR ALTERNATE = 1, STORM =25
HRS MAIN TIME INCREMENT = .025 hr, DRAINAGE AREA = .03 SQ.MI.

6.53 CFS	.49	.50	.51	.51	.52	.53	.54	.54
6.72 CFS	.55	.56	.57	.57	.58	.59	.60	.61
6.93 CFS	.61	.62	.63	.64	.64	.65	.66	.67
7.13 CFS	.67	.68	.69	.70	.71	.71	.72	.73
7.33 CFS	.74	.75	.75	.76	.77	.78	.79	.79
7.53 CFS	.80	.81	.82	.83	.83	.84	.85	.86
7.73 CFS	.87	.87	.88	.89	.90	.91	.92	.92
7.93 CFS	.93	.94	.95	.96	.97	.97	.98	.99
8.13 CFS	1.00	1.02	1.03	1.04	1.06	1.07	1.09	1.10
8.32 CFS	1.12	1.14	1.16	1.18	1.20	1.21	1.23	1.25
8.53 CFS	1.27	1.29	1.31	1.33	1.35	1.38	1.40	1.42
8.73 CFS	1.44	1.46	1.48	1.50	1.53	1.55	1.57	1.59
8.93 CFS	1.62	1.64	1.66	1.69	1.71	1.73	1.76	1.78
9.13 CFS	1.80	1.82	1.84	1.85	1.87	1.88	1.90	1.91
9.32 CFS	1.92	1.93	1.94	1.95	1.96	1.97	1.98	1.99
9.53 CFS	2.00	2.01	2.03	2.04	2.06	2.07	2.09	2.12
9.73 CFS	2.14	2.17	2.20	2.23	2.26	2.30	2.33	2.37
9.93 CFS	2.40	2.44	2.48	2.51	2.55	2.59	2.63	2.67
10.13 CFS	2.72	2.76	2.81	2.85	2.90	2.96	3.01	3.06
10.32 CFS	3.12	3.17	3.23	3.28	3.34	3.40	3.46	3.52
10.53 CFS	3.58	3.64	3.71	3.77	3.84	3.92	3.99	4.07
10.73 CFS	4.15	4.24	4.33	4.42	4.52	4.61	4.71	4.81
10.93 CFS	4.91	5.01	5.11	5.22	5.32	5.43	5.55	5.68
11.13 CFS	5.82	5.97	6.13	6.30	6.49	6.69	6.90	7.11
11.32 CFS	7.34	7.57	7.80	8.04	8.29	8.54	8.79	9.06
11.53 CFS	9.41	9.93	10.70	11.80	13.37	15.43	18.04	21.33
11.73 CFS	25.29	29.81	34.91	40.70	47.36	54.98	63.83	74.21
11.93 CFS	85	96	105	111	114	113	109	101
12.13 CFS	91.35	80.47	69.73	59.78	51.16	44.11	38.62	34.25
12.32 CFS	30.69	27.75	25.33	23.28	21.53	20.02	18.71	17.53
12.53 CFS	16.47	15.51	14.65	13.85	13.13	12.50	11.95	11.48
12.73 CFS	11.07	10.71	10.42	10.17	9.94	9.73	9.53	9.34
12.93 CFS	9.16	8.99	8.82	8.65	8.49	8.33	8.18	8.03
13.13 CFS	7.89	7.75	7.63	7.51	7.40	7.29	7.19	7.09

13.32 CFS	7.00	6.91	6.82	6.73	6.64	6.56	6.47	6.39
13.53 CFS	6.30	6.22	6.14	6.06	5.98	5.90	5.83	5.76
13.73 CFS	5.69	5.62	5.55	5.49	5.43	5.36	5.30	5.24
13.93 CFS	5.18	5.12	5.06	4.99	4.93	4.88	4.82	4.77
14.13 CFS	4.72	4.67	4.62	4.58	4.55	4.51	4.48	4.46
14.32 CFS	4.43	4.40	4.38					

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
3.43 WATERSHED INCHES; 75 CFS-HRS; 6.2 ACRE-FEET.

DURATION(HRS) 2 3
FLOW(CFS) 7 4 TRUNCATED

--- XSECTION 1, ALTERNATE 1, STORM 25, HYDROGRAPH ADDED TO READHD FILE ---

EXECUTIVE CONTROL ENDCMP COMPUTATIONS COMPLETED FOR PASS 4

EXECUTIVE CONTROL COMPUT FROM XSECTION 1 TO XSECTION 1 50-YR
STARTING TIME = .00 RAIN DEPTH = 7.05 RAIN DURATION = 1.00
ANT. RUNOFF COND. = 2 MAIN TIME INCREMENT = .025 HOURS
ALTERNATE NO. = 1 STORM NO. =50 RAIN TABLE NO. = 2

OPERATION RUNOFF XSECTION 1

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
12.00	96.7	(RUNOFF)

HYDROGRAPH POINTS FOR ALTERNATE = 1, STORM =50
MAIN TIME INCREMENT = .025 hr, DRAINAGE AREA = .02 SQ.MI.

HRS								
7.18 CFS	.50	.51	.51	.52	.52	.53	.54	.54
7.38 CFS	.55	.56	.56	.57	.57	.58	.59	.59
7.58 CFS	.60	.61	.61	.62	.63	.63	.64	.65
7.78 CFS	.65	.66	.66	.67	.68	.68	.69	.70
7.98 CFS	.70	.71	.72	.73	.73	.74	.75	.76
8.18 CFS	.77	.78	.79	.81	.82	.83	.85	.86
8.38 CFS	.88	.89	.91	.92	.94	.95	.97	.98
8.58 CFS	1.00	1.02	1.03	1.05	1.07	1.08	1.10	1.12
8.78 CFS	1.13	1.15	1.17	1.19	1.20	1.22	1.24	1.26
8.98 CFS	1.28	1.29	1.31	1.33	1.35	1.36	1.38	1.39
9.18 CFS	1.41	1.42	1.43	1.44	1.45	1.46	1.47	1.48
9.38 CFS	1.48	1.49	1.50	1.51	1.52	1.52	1.53	1.54
9.58 CFS	1.55	1.57	1.58	1.60	1.62	1.64	1.66	1.68
9.78 CFS	1.71	1.74	1.76	1.79	1.82	1.85	1.88	1.91
9.98 CFS	1.94	1.97	2.00	2.03	2.06	2.10	2.13	2.17
10.18 CFS	2.21	2.25	2.29	2.33	2.37	2.42	2.46	2.50
10.38 CFS	2.55	2.60	2.64	2.69	2.74	2.79	2.83	2.88

10.58 CFS	2.94	2.99	3.05	3.11	3.17	3.24	3.31	3.38
10.78 CFS	3.46	3.54	3.61	3.69	3.77	3.85	3.93	4.01
10.98 CFS	4.09	4.18	4.26	4.35	4.46	4.57	4.69	4.82
11.18 CFS	4.96	5.12	5.28	5.45	5.63	5.81	6.00	6.18
11.38 CFS	6.38	6.58	6.78	6.97	7.18	7.42	7.77	8.36
11.58 CFS	9.29	10.59	12.28	14.46	17.22	20.52	24.25	28.46
11.78 CFS	33.34	38.68	44.69	51.80	60.84	71.09	80.95	89.04
11.98 CFS	94.44	96.62	95.52	91.25	83.90	74.15	63.48	53.19
12.18 CFS	44.06	36.70	31.34	27.31	24.16	21.67	19.71	18.11
12.38 CFS	16.78	15.66	14.69	13.83	13.04	12.30	11.65	11.05
12.58 CFS	10.50	10.00	9.58	9.22	8.91	8.64	8.41	8.21
12.78 CFS	8.03	7.87	7.71	7.57	7.43	7.29	7.16	7.03
12.98 CFS	6.90	6.77	6.65	6.53	6.41	6.30	6.19	6.09
13.18 CFS	6.00	5.91	5.83	5.75	5.68	5.61	5.54	5.47
13.38 CFS	5.40	5.33	5.26	5.19	5.12	5.05	4.99	4.92
13.58 CFS	4.86	4.79	4.73	4.67	4.62	4.56	4.51	4.46
13.78 CFS	4.40	4.35	4.30	4.26	4.21	4.16	4.11	4.06
13.98 CFS	4.01	3.96	3.91	3.87	3.82	3.78	3.75	3.71
14.18 CFS	3.68	3.65	3.63	3.61	3.58	3.56	3.55	3.53
14.38 CFS	3.51	3.49	3.47	3.46	3.44	3.42	3.41	3.39

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
3.97 WATERSHED INCHES; 60 CFS-HRS; 5.0 ACRE-FEET.

DURATION(HRS)	2	4
FLOW(CFS)	6	3 TRUNCATED

--- XSECTION 1, ALTERNATE 1, STORM 50, HYDROGRAPH ADDED TO READHD FILE ---

OPERATION RUNOFF XSECTION 1

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
12.03	138.5	(RUNOFF)

HYDROGRAPH POINTS FOR ALTERNATE = 1, STORM =50
MAIN TIME INCREMENT = .025 hr, DRAINAGE AREA = .03 SQ.MI.

HRS								
5.70 CFS	.50	.51	.52	.53	.53	.54	.55	.56
5.90 CFS	.57	.58	.59	.59	.60	.61	.62	.63
6.10 CFS	.64	.65	.66	.67	.68	.68	.69	.70
6.30 CFS	.71	.72	.73	.74	.75	.76	.77	.78
6.50 CFS	.79	.80	.80	.81	.82	.83	.84	.85
6.70 CFS	.86	.87	.88	.89	.90	.91	.92	.93
6.90 CFS	.94	.95	.96	.97	.98	.99	1.00	1.01
7.10 CFS	1.01	1.02	1.03	1.04	1.05	1.06	1.07	1.08
7.30 CFS	1.09	1.10	1.11	1.12	1.13	1.14	1.15	1.16
7.50 CFS	1.17	1.18	1.19	1.20	1.21	1.22	1.23	1.24
7.70 CFS	1.25	1.26	1.27	1.28	1.29	1.30	1.31	1.32
7.90 CFS	1.33	1.35	1.36	1.37	1.38	1.39	1.40	1.41
8.10 CFS	1.42	1.43	1.45	1.47	1.48	1.50	1.52	1.54
8.30 CFS	1.57	1.59	1.61	1.63	1.66	1.68	1.71	1.73

8.50 CFS	1.76	1.79	1.81	1.84	1.87	1.89	1.92	1.95
8.70 CFS	1.97	2.00	2.03	2.06	2.09	2.12	2.14	2.17
8.90 CFS	2.20	2.23	2.26	2.29	2.32	2.35	2.38	2.41
9.10 CFS	2.43	2.46	2.49	2.51	2.53	2.55	2.56	2.58
9.30 CFS	2.59	2.61	2.62	2.63	2.65	2.66	2.67	2.68
9.50 CFS	2.69	2.70	2.72	2.73	2.75	2.76	2.79	2.81
9.70 CFS	2.84	2.87	2.91	2.94	2.98	3.03	3.07	3.11
9.90 CFS	3.16	3.20	3.25	3.30	3.34	3.39	3.44	3.49
10.10 CFS	3.54	3.60	3.65	3.71	3.77	3.84	3.90	3.97
10.30 CFS	4.03	4.10	4.17	4.24	4.32	4.39	4.46	4.53
10.50 CFS	4.61	4.69	4.76	4.84	4.93	5.02	5.11	5.20
10.70 CFS	5.30	5.41	5.51	5.63	5.74	5.86	5.98	6.10
10.90 CFS	6.23	6.35	6.48	6.60	6.73	6.86	7.00	7.15
11.10 CFS	7.30	7.48	7.66	7.86	8.08	8.32	8.56	8.82
11.30 CFS	9.09	9.37	9.66	9.95	10.24	10.55	10.86	11.17
11.50 CFS	11.50	11.94	12.58	13.55	14.92	16.88	19.44	22.69
11.70 CFS	26.78	31.68	37.26	43.55	50.66	58.80	68.08	78.82
11.90 CFS	91	105	117	128	135	138	138	132
12.10 CFS	123	111	98	84	72	62	53	47
12.30 CFS	41.36	37.04	33.48	30.53	28.05	25.93	24.10	22.51
12.50 CFS	21.09	19.81	18.65	17.60	16.64	15.77	15.01	14.35
12.70 CFS	13.78	13.28	12.86	12.50	12.20	11.92	11.67	11.44
12.90 CFS	11.21	10.99	10.78	10.57	10.37	10.18	9.98	9.80
13.10 CFS	9.63	9.45	9.29	9.14	9.00	8.87	8.74	8.62
13.30 CFS	8.50	8.39	8.28	8.17	8.07	7.96	7.86	7.76
13.50 CFS	7.65	7.55	7.45	7.35	7.25	7.16	7.07	6.98
13.70 CFS	6.89	6.81	6.73					

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
4.08 WATERSHED INCHES; 89 CFS-HRS; 7.4 ACRE-FEET.

DURATION(HRS)	2	3
FLOW(CFS)	9	7 TRUNCATED

--- XSECTION 1, ALTERNATE 1, STORM 50, HYDROGRAPH ADDED TO READHD FILE ---

EXECUTIVE CONTROL ENDCMP COMPUTATIONS COMPLETED FOR PASS 5

EXECUTIVE CONTROL COMPUT FROM XSECTION 1 TO XSECTION 1 100-YR
STARTING TIME = .00 RAIN DEPTH = 8.26 RAIN DURATION = 1.00
ANT. RUNOFF COND. = 2 MAIN TIME INCREMENT = .025 HOURS
ALTERNATE NO. = 1 STORM NO. =99 RAIN TABLE NO. = 2

OPERATION RUNOFF XSECTION 1

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
12.00	117.5	(RUNOFF)

HYDROGRAPH POINTS FOR ALTERNATE = 1, STORM =99
MAIN TIME INCREMENT = .025 hr, DRAINAGE AREA = .02 SQ.MI.

HRS								
6.28 CFS	.50	.51	.51	.52	.53	.53	.54	.55
6.48 CFS	.56	.56	.57	.58	.59	.59	.60	.61
6.68 CFS	.62	.62	.63	.64	.65	.65	.66	.67
6.88 CFS	.68	.68	.69	.70	.71	.71	.72	.73
7.08 CFS	.74	.74	.75	.76	.77	.78	.78	.79
7.28 CFS	.80	.81	.81	.82	.83	.84	.85	.85
7.48 CFS	.86	.87	.88	.89	.89	.90	.91	.92
7.68 CFS	.93	.93	.94	.95	.96	.97	.97	.98
7.88 CFS	.99	1.00	1.01	1.01	1.02	1.03	1.04	1.05
8.08 CFS	1.06	1.07	1.08	1.09	1.11	1.12	1.14	1.16
8.28 CFS	1.17	1.19	1.21	1.23	1.25	1.27	1.29	1.31
8.48 CFS	1.33	1.35	1.37	1.39	1.41	1.43	1.45	1.47
8.68 CFS	1.49	1.52	1.54	1.56	1.58	1.60	1.63	1.65
8.88 CFS	1.67	1.69	1.72	1.74	1.76	1.79	1.81	1.83
9.08 CFS	1.86	1.88	1.90	1.91	1.93	1.94	1.96	1.97
9.28 CFS	1.98	1.99	2.00	2.01	2.02	2.03	2.04	2.05
9.48 CFS	2.06	2.06	2.07	2.09	2.10	2.11	2.13	2.15
9.68 CFS	2.18	2.20	2.23	2.26	2.29	2.33	2.36	2.40
9.88 CFS	2.44	2.47	2.51	2.55	2.58	2.62	2.66	2.70
10.08 CFS	2.74	2.78	2.83	2.87	2.92	2.97	3.03	3.08
10.28 CFS	3.13	3.19	3.24	3.30	3.36	3.42	3.47	3.53
10.48 CFS	3.59	3.65	3.71	3.77	3.84	3.91	3.98	4.06
10.68 CFS	4.14	4.23	4.31	4.40	4.50	4.59	4.69	4.78
10.88 CFS	4.88	4.98	5.08	5.18	5.29	5.39	5.50	5.62
11.08 CFS	5.74	5.88	6.03	6.19	6.37	6.56	6.76	6.97
11.28 CFS	7.19	7.42	7.65	7.88	8.13	8.38	8.62	8.87
11.48 CFS	9.12	9.42	9.86	10.60	11.74	13.34	15.42	18.08
11.68 CFS	21.53	25.60	30.19	35.35	41.40	48.13	55.65	64.49
11.88 CFS	75	87	99	108	115	117	116	111
12.08 CFS	102	90	77	64	53	44	38	33
12.28 CFS	29.07	26.05	23.67	21.74	20.13	18.78	17.62	16.58
12.48 CFS	15.62	14.74	13.95	13.25	12.59	11.99	11.47	11.03
12.68 CFS	10.66	10.33	10.06	9.83	9.61	9.41	9.23	9.05
12.88 CFS	8.88	8.72	8.56	8.41	8.25	8.10	7.95	7.80
13.08 CFS	7.66	7.53	7.40	7.28	7.17	7.07	6.97	6.88
13.28 CFS	6.79	6.70	6.61	6.53	6.45	6.36	6.28	6.20
13.48 CFS	6.12	6.03	5.95	5.88	5.80	5.72	5.65	5.58
13.68 CFS	5.51	5.44	5.38	5.32	5.26	5.20	5.14	5.08
13.88 CFS	5.02	4.96	4.90	4.84	4.79	4.73	4.67	4.62

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
4.78 WATERSHED INCHES; 72 CFS-HRS; 6.0 ACRE-FEET.

DURATION(HRS)	2	3
FLOW(CFS)	7	5 TRUNCATED

--- XSECTION 1, ALTERNATE 1, STORM 99, HYDROGRAPH ADDED TO READHD FILE ---

OPERATION RUNOFF XSECTION 1

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
12.03	167.2	(RUNOFF)

HYDROGRAPH POINTS FOR ALTERNATE = 1, STORM =99
MAIN TIME INCREMENT = .025 hr, DRAINAGE AREA = .03 SQ.MI.

HRS								
4.95 CFS	.50	.51	.52	.53	.54	.55	.56	.57
5.15 CFS	.58	.59	.60	.61	.62	.63	.64	.65
5.35 CFS	.66	.67	.68	.69	.70	.71	.72	.73
5.55 CFS	.74	.75	.76	.78	.79	.80	.81	.82
5.75 CFS	.83	.84	.85	.86	.87	.88	.90	.91
5.95 CFS	.92	.93	.94	.95	.96	.97	.98	1.00
6.15 CFS	1.01	1.02	1.03	1.04	1.05	1.06	1.07	1.09
6.35 CFS	1.10	1.11	1.12	1.13	1.14	1.16	1.17	1.18
6.55 CFS	1.19	1.20	1.21	1.22	1.24	1.25	1.26	1.27
6.75 CFS	1.28	1.30	1.31	1.32	1.33	1.34	1.35	1.37
6.95 CFS	1.38	1.39	1.40	1.41	1.43	1.44	1.45	1.46
7.15 CFS	1.47	1.49	1.50	1.51	1.52	1.53	1.55	1.56
7.35 CFS	1.57	1.58	1.59	1.61	1.62	1.63	1.64	1.66
7.55 CFS	1.67	1.68	1.69	1.70	1.72	1.73	1.74	1.75
7.75 CFS	1.77	1.78	1.79	1.80	1.81	1.83	1.84	1.85
7.95 CFS	1.86	1.88	1.89	1.90	1.91	1.93	1.94	1.96
8.15 CFS	1.98	2.00	2.02	2.05	2.07	2.10	2.13	2.16
8.35 CFS	2.19	2.22	2.25	2.28	2.31	2.34	2.37	2.41
8.55 CFS	2.44	2.47	2.51	2.54	2.58	2.61	2.65	2.68
8.75 CFS	2.72	2.75	2.79	2.82	2.86	2.90	2.93	2.97
8.95 CFS	3.01	3.04	3.08	3.12	3.15	3.19	3.22	3.26
9.15 CFS	3.29	3.31	3.34	3.36	3.38	3.40	3.42	3.43
9.35 CFS	3.45	3.46	3.47	3.49	3.50	3.51	3.52	3.54
9.55 CFS	3.55	3.57	3.58	3.61	3.63	3.66	3.70	3.74
9.75 CFS	3.78	3.83	3.88	3.93	3.98	4.04	4.09	4.15
9.95 CFS	4.21	4.26	4.32	4.38	4.44	4.51	4.57	4.64
10.15 CFS	4.71	4.78	4.85	4.93	5.01	5.09	5.18	5.26
10.35 CFS	5.35	5.44	5.53	5.62	5.71	5.80	5.89	5.98
10.55 CFS	6.08	6.18	6.28	6.39	6.50	6.62	6.74	6.87
10.75 CFS	7.01	7.14	7.28	7.43	7.58	7.72	7.87	8.03
10.95 CFS	8.18	8.34	8.50	8.66	8.83	9.00	9.19	9.40
11.15 CFS	9.63	9.87	10.14	10.43	10.74	11.05	11.39	11.73
11.35 CFS	12.08	12.43	12.79	13.16	13.54	13.91	14.31	14.86
11.55 CFS	15.66	16.86	18.60	21.01	24.14	28.11	33.00	38.93
11.75 CFS	46	53	62	72	83	96	111	127
11.95 CFS	142	154	163	167	166	159	148	133
12.15 CFS	117	101	87	74	64	56	49	44
12.35 CFS	39.88	36.39	33.44	30.91	28.73	26.82	25.12	23.58
12.55 CFS	22.19	20.93	19.79	18.75	17.85	17.07	16.39	15.80
12.75 CFS	15.30	14.87	14.51	14.18	13.87	13.59	13.32	13.06

```
    12.95 CFS     12.81   12.57   12.33   12.10   11.87   11.65   11.44   11.23
    13.15 CFS     11.04   10.86   10.69   10.53   10.38

    RUNOFF ABOVE BASEFLOW  (BASEFLOW =    .00 CFS)
                   4.80 WATERSHED INCHES;     105 CFS-HRS;       8.7 ACRE-FEET.

    DURATION(HRS)   2      2
    FLOW(CFS)       7     10 TRUNCATED

 --- XSECTION   1, ALTERNATE  1, STORM 99, HYDROGRAPH ADDED TO READHD FILE ---


EXECUTIVE CONTROL  ENDCMP    COMPUTATIONS COMPLETED FOR PASS   6
```

SUMMARY TABLE 1

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

XSECTION/ STRUCTURE ID	STANDARD CONTROL OPERATION	DRAINAGE AREA (SQ MI)	RUNOFF AMOUNT (IN)	PEAK DISCHARGE ELEVATION (FT)	TIME (HR)	RATE (CFS)	RATE (CSM)
RAINFALL OF 2.23 inches AND 6.00 hr DURATION, BEGINS AT .0 hrs.							
RAINTABLE NUMBER 4, ARC 2							
MAIN TIME INCREMENT .025 HOURS							
ALTERNATE 1 STORM 2							
XSECTION 1	RUNOFF	.02	.85	---	3.09	29	1450.0
XSECTION 1	RUNOFF	.03	1.03	---	3.12	46	1533.3
RAINFALL OF 2.81 inches AND 6.00 hr DURATION, BEGINS AT .0 hrs.							
ALTERNATE 1 STORM 5							
XSECTION 1	RUNOFF	.02	1.29	---	3.08	45	2250.0
XSECTION 1	RUNOFF	.03	1.51	---	3.11	68	2266.7
RAINFALL OF 3.29 inches AND 6.00 hr DURATION, BEGINS AT .0 hrs.							
ALTERNATE 1 STORM 10							
XSECTION 1	RUNOFF	.02	1.68	---	3.08	59	2950.0
XSECTION 1	RUNOFF	.03	1.92	---	3.11	87	2900.0
RAINFALL OF 5.99 inches AND 24.00 hr DURATION, BEGINS AT .0 hrs.							
RAINTABLE NUMBER 2, ARC 2							
ALTERNATE 1 STORM 25							
XSECTION 1	RUNOFF	.02	3.29	---	12.01	78	3900.0
XSECTION 1	RUNOFF	.03	3.43	---	12.03	114	3800.0
RAINFALL OF 7.05 inches AND 24.00 hr DURATION, BEGINS AT .0 hrs.							
ALTERNATE 1 STORM 50							

SUMMARY TABLE 1

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

XSECTION/ STRUCTURE ID	STANDARD CONTROL OPERATION	DRAINAGE AREA (SQ MI)	RUNOFF AMOUNT (IN)	PEAK DISCHARGE ELEVATION (FT)	TIME (HR)	RATE (CFS)	RATE (CSM)
ALTERNATE 1 STORM 50							
XSECTION 1	RUNOFF	.02	3.97	---	12.00	97	4850.0
XSECTION 1	RUNOFF	.03	4.08	---	12.03	139	4633.3

RAINFALL OF 8.26 inches AND 24.00 hr DURATION, BEGINS AT .0 hrs.

ALTERNATE 1 STORM 99							
XSECTION 1	RUNOFF	.02	4.78	---	12.00	117	5850.0
XSECTION 1	RUNOFF	.03	4.80	---	12.03	167	5566.7

SUMMARY TABLE 3

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

XSECTION/ STRUCTURE ID	DRAINAGE AREA (SQ MI)	STORM NUMBERS..... 2	5	10	25	50
XSECTION 1	.03					
ALTERNATE 1		46	68	87	114	139

SUMMARY TABLE 3

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

XSECTION/ STRUCTURE ID	DRAINAGE AREA (SQ MI)	STORM NUMBERS..... 99
XSECTION 1	.03	
ALTERNATE 1		167

SUMMARY TABLE #3 / 3A DATA REORDERED IN DESCENDING ORDER FOR ECON2.

ECON2 DATA FILE

```
ECON2
TITLE                 JONES POINT PARK EXISTING CONDITIONS
TITLE             FILENAME: JPPEX16.dat     7/22/05   BY: TLH
FLOW-FREQ     1           167.      139.      114.       87.       68.ALT  1   1
FLOW-FREQ     1            46.                                        ALT  1   2
```

END OF 1 JOBS IN THIS RUN

SCS TR-20, VERSION 2.04TEST
FILES

INPUT = C:\JPPEX16.DAT , GIVEN DATA FILE
OUTPUT = C:\JPPEX16.OUT , DATED 10/03/**,16:20:18

FILES GENERATED - DATED 10/03/**,16:20:18

FILE C:\JPPEX16.TEC CONTAINS ECON2 INFORMATION

FILE C:\JPPEX16.TRD CONTAINS READHD INFORMATION

FILE C:\JPPEX16.TMG CONTAINS MESSAGE + WARNING INFORMATION

TOTAL NUMBER OF WARNINGS = 1, MESSAGES = 0

JOB ENDED AT 16:20:18
*** TR-20 RUN COMPLETED ***

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

JOB TR-20           ECON                          SUMMARY   NOPLOTS
TITLE 004 JONES POINT PARK PROPOSED CONDITIONS
TITLE 000 FILENAME: JPPPR26.dat     7/22/05   BY: TLH
 5 RAINFL 4             .1
 8          0.0000      0.0041      0.0083      0.0127      0.0173
 8          0.0220      0.0269      0.0319      0.0371      0.0425
 8          0.0480      0.0538      0.0598      0.0662      0.0730
 8          0.0800      0.0874      0.0950      0.1030      0.1114
 8          0.1200      0.1296      0.1408      0.1534      0.1663
 8          0.1810      0.1989      0.2214      0.2513      0.3068
 8          0.6630      0.7252      0.7588      0.7836      0.8036
 8          0.8200      0.8342      0.8474      0.8594      0.8702
 8          0.8800      0.8890      0.8976      0.9058      0.9136
 8          0.9210      0.9280      0.9346      0.9408      0.9466
 8          0.9520      0.9572      0.9622      0.9672      0.9722
 8          0.9770      0.9818      0.9864      0.9910      0.9956
 8          1.0000      1.0000      1.0000      1.0000      1.0000
 9 ENDTBL
 6 RUNOFF 1 001       6 0.0258      84.1        0.20        1 1 1 1 1 1  DA-1 D
 6 RUNOFF 1 001       6 0.0339      86.2        0.25        1 1 1 1 1 1  DA-2 D
   ENDATA
 7 INCREM 6             0.025
 7 COMPUT 7 001   001   0.00        2.23        1.00        4 2   1   2  2-YR
   ENDCMP 1
 7 COMPUT 7 001   001   0.00        2.81        1.00        4 2   1   5  5-YR
   ENDCMP 1
 7 COMPUT 7 001   001   0.00        3.29        1.00        4 2   1  10  10-YR
   ENDCMP 1
 7 COMPUT 7 001   001   0.00        5.99        1.00        2 2   1  25  25-YR
   ENDCMP 1
 7 COMPUT 7 001   001   0.00        7.05        1.00        2 2   1  50  50-YR
   ENDCMP 1
 7 COMPUT 7 001   001   0.00        8.26        1.00        2 2   1  99  100-YR
   ENDCMP 1
   ENDJOB 2

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

```
EXECUTIVE CONTROL  INCREM    MAIN TIME INCREMENT =   .025 HOURS


EXECUTIVE CONTROL  COMPUT    FROM XSECTION   1  TO XSECTION   1          2-YR
    STARTING TIME =   .00       RAIN DEPTH =  2.23       RAIN DURATION =  1.00
    ANT. RUNOFF COND. = 2       MAIN TIME INCREMENT =   .025 HOURS
    ALTERNATE NO. = 1           STORM NO. = 2            RAIN TABLE NO. = 4


OPERATION RUNOFF    XSECTION   1

    PEAK TIME(HRS)             PEAK DISCHARGE(CFS)          PEAK ELEVATION(FEET)
        3.09                          34.0                       (RUNOFF)

                    HYDROGRAPH POINTS FOR   ALTERNATE = 1,   STORM = 2
     HRS      MAIN TIME INCREMENT =  .025 hr,      DRAINAGE AREA =    .03 SQ.MI.
     2.73 CFS       .45     .55     .68     .83    1.02    1.27    1.63    2.23
     2.93 CFS      3.62    6.53   11.58   18.33   25.32   30.85   33.72   33.61
     3.13 CFS     31.16   27.54   23.62   20.06   17.19   14.87   12.91   11.30
     3.33 CFS     10.01    8.96    8.10    7.38    6.79    6.30    5.87    5.49
     3.53 CFS      5.16    4.87    4.60    4.37    4.18    4.02    3.88    3.77
     3.73 CFS      3.67    3.58    3.49    3.41    3.34    3.26    3.19    3.11
     3.93 CFS      3.04    2.97    2.90    2.83    2.77    2.71    2.65    2.59
     4.13 CFS      2.54    2.49    2.45    2.41    2.37    2.34    2.31    2.28
     4.33 CFS      2.25    2.23    2.20    2.18    2.15    2.13    2.10    2.08
     4.53 CFS      2.05    2.03    2.00    1.98    1.95    1.93    1.90    1.88
     4.72 CFS      1.85    1.83    1.80    1.78    1.75    1.73    1.70    1.68
     4.93 CFS      1.65    1.62    1.60    1.57    1.55    1.52    1.50    1.48
     5.13 CFS      1.47    1.45    1.43    1.42    1.41    1.39    1.39    1.38
     5.33 CFS      1.37    1.37    1.37    1.37    1.36    1.36    1.36    1.35
     5.53 CFS      1.34    1.34    1.33    1.33    1.32    1.32    1.31    1.30
     5.73 CFS      1.30    1.29    1.28    1.28    1.27    1.27    1.27    1.27
     5.93 CFS      1.27    1.26    1.26    1.25    1.23    1.17    1.06     .91
     6.13 CFS       .73     .57     .42

    RUNOFF ABOVE BASEFLOW  (BASEFLOW =    .00 CFS)
                    .92 WATERSHED INCHES;      15 CFS-HRS;       1.3 ACRE-FEET.

    DURATION(HRS)   2      3
    FLOW(CFS)       2      0

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


OPERATION RUNOFF    XSECTION   1

    PEAK TIME(HRS)             PEAK DISCHARGE(CFS)          PEAK ELEVATION(FEET)
        3.12                          46.1                       (RUNOFF)
```

HYDROGRAPH POINTS FOR ALTERNATE = 1, STORM = 2

HRS	MAIN TIME INCREMENT = .025 hr,				DRAINAGE AREA = .03 SQ.MI.			
2.60 CFS	.49	.57	.67	.78	.91	1.05	1.21	1.39
2.80 CFS	1.60	1.87	2.21	2.64	3.32	4.71	7.43	12.12
3.00 CFS	19.07	27.41	35.56	41.99	45.56	45.93	43.85	40.08
3.20 CFS	35.54	30.96	26.88	23.49	20.64	18.21	16.17	14.47
3.40 CFS	13.04	11.84	10.82	9.97	9.23	8.58	8.01	7.52
3.60 CFS	7.09	6.71	6.37	6.08	5.82	5.59	5.39	5.22
3.80 CFS	5.08	4.95	4.82	4.71	4.59	4.48	4.37	4.27
4.00 CFS	4.17	4.07	3.98	3.89	3.80	3.72	3.64	3.57
4.20 CFS	3.50	3.44	3.39	3.34	3.29	3.25	3.21	3.17
4.40 CFS	3.13	3.09	3.05	3.02	2.98	2.95	2.91	2.87
4.60 CFS	2.84	2.80	2.77	2.73	2.70	2.66	2.62	2.59
4.80 CFS	2.55	2.52	2.48	2.45	2.41	2.37	2.34	2.30
5.00 CFS	2.26	2.23	2.19	2.16	2.13	2.10	2.07	2.05
5.20 CFS	2.03	2.01	1.99	1.97	1.96	1.94	1.94	1.93
5.40 CFS	1.92	1.92	1.92	1.91	1.90	1.89	1.89	1.88
5.60 CFS	1.87	1.86	1.85	1.85	1.84	1.83	1.82	1.81
5.80 CFS	1.80	1.79	1.79	1.78	1.78	1.78	1.77	1.77
6.00 CFS	1.76	1.74	1.69	1.60	1.46	1.28	1.08	.88
6.20 CFS	.70	.55	.42					

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
1.04 WATERSHED INCHES; 23 CFS-HRS; 1.9 ACRE-FEET.

DURATION(HRS) 2 4
FLOW(CFS) 2 0

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

EXECUTIVE CONTROL ENDCMP COMPUTATIONS COMPLETED FOR PASS 1

EXECUTIVE CONTROL COMPUT FROM XSECTION 1 TO XSECTION 1 5-YR
STARTING TIME = .00 RAIN DEPTH = 2.81 RAIN DURATION = 1.00
ANT. RUNOFF COND. = 2 MAIN TIME INCREMENT = .025 HOURS
ALTERNATE NO. = 1 STORM NO. = 5 RAIN TABLE NO. = 4

OPERATION RUNOFF XSECTION 1

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
3.08	52.5	(RUNOFF)

HYDROGRAPH POINTS FOR ALTERNATE = 1, STORM = 5

HRS	MAIN TIME INCREMENT = .025 hr,				DRAINAGE AREA = .03 SQ.MI.			
2.50 CFS	.44	.51	.58	.67	.77	.87	.99	1.13
2.70 CFS	1.29	1.46	1.66	1.89	2.16	2.50	2.94	3.55
2.90 CFS	4.31	6.28	10.51	18.38	29.01	39.76	48.08	52.17

3.10 CFS	51.56	47.45	41.65	35.52	29.98	25.46	21.85	18.85
3.30 CFS	16.38	14.46	12.91	11.62	10.56	9.68	8.94	8.31
3.50 CFS	7.76	7.29	6.86	6.47	6.13	5.85	5.62	5.43
3.70 CFS	5.27	5.12	5.00	4.88	4.77	4.66	4.55	4.44
3.90 CFS	4.34	4.23	4.13	4.04	3.94	3.85	3.76	3.68
4.10 CFS	3.60	3.52	3.46	3.39	3.34	3.29	3.24	3.20
4.30 CFS	3.16	3.12	3.08	3.05	3.01	2.98	2.94	2.91
4.50 CFS	2.87	2.84	2.80	2.77	2.73	2.70	2.66	2.63
4.70 CFS	2.59	2.56	2.52	2.49	2.45	2.41	2.38	2.34
4.90 CFS	2.31	2.27	2.24	2.20	2.16	2.13	2.10	2.07
5.10 CFS	2.04	2.02	1.99	1.97	1.95	1.93	1.92	1.90
5.30 CFS	1.89	1.89	1.88	1.88	1.88	1.87	1.87	1.86
5.50 CFS	1.85	1.84	1.83	1.83	1.82	1.81	1.81	1.80
5.70 CFS	1.79	1.78	1.77	1.76	1.75	1.75	1.74	1.74
5.90 CFS	1.74	1.74	1.73	1.73	1.71	1.68	1.60	1.45
6.10 CFS	1.24	1.01	.78	.58	.43			

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
1.37 WATERSHED INCHES; 23 CFS-HRS; 1.9 ACRE-FEET.

DURATION(HRS)	2	4
FLOW(CFS)	2	0

--- XSECTION 1, ALTERNATE 1, STORM 5, HYDROGRAPH ADDED TO READHD FILE ---

OPERATION RUNOFF XSECTION 1

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
3.11	68.4	(RUNOFF)

HYDROGRAPH POINTS FOR ALTERNATE = 1, STORM = 5
MAIN TIME INCREMENT = .025 hr, DRAINAGE AREA = .03 SQ.MI.

HRS								
2.33 CFS	.47	.54	.61	.69	.77	.85	.93	1.02
2.53 CFS	1.12	1.23	1.35	1.49	1.64	1.81	2.00	2.22
2.72 CFS	2.46	2.73	3.04	3.39	3.82	4.38	5.08	6.16
2.92 CFS	8.30	12.36	19.31	29.53	41.73	53.60	62.86	67.85
3.13 CFS	68.09	64.72	58.88	51.96	45.04	38.91	33.84	29.61
3.33 CFS	26.02	23.00	20.51	18.42	16.67	15.19	13.94	12.87
3.53 CFS	11.94	11.13	10.42	9.81	9.27	8.79	8.38	8.01
3.73 CFS	7.68	7.40	7.17	6.96	6.78	6.61	6.44	6.29
3.92 CFS	6.13	5.98	5.84	5.70	5.56	5.43	5.30	5.18
4.13 CFS	5.07	4.96	4.86	4.77	4.69	4.62	4.55	4.48
4.32 CFS	4.42	4.37	4.31	4.26	4.21	4.15	4.10	4.05
4.53 CFS	4.00	3.95	3.90	3.86	3.81	3.76	3.71	3.66
4.72 CFS	3.61	3.56	3.51	3.46	3.41	3.36	3.31	3.27
4.93 CFS	3.22	3.17	3.12	3.07	3.02	2.97	2.92	2.88
5.13 CFS	2.84	2.81	2.77	2.74	2.71	2.69	2.66	2.65
5.33 CFS	2.63	2.62	2.61	2.60	2.60	2.59	2.58	2.57
5.53 CFS	2.56	2.55	2.54	2.52	2.51	2.50	2.49	2.48
5.72 CFS	2.47	2.45	2.44	2.43	2.42	2.41	2.41	2.40

5.93 CFS	2.40	2.39	2.39	2.37	2.34	2.28	2.16	1.97
6.13 CFS	1.72	1.46	1.19	.95	.74	.57	.44	

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
1.52 WATERSHED INCHES; 33 CFS-HRS; 2.7 ACRE-FEET.

DURATION(HRS)	2	4
FLOW(CFS)	3	0

--- XSECTION 1, ALTERNATE 1, STORM 5, HYDROGRAPH ADDED TO READHD FILE ---

EXECUTIVE CONTROL ENDCMP COMPUTATIONS COMPLETED FOR PASS 2

EXECUTIVE CONTROL COMPUT FROM XSECTION 1 TO XSECTION 1 10-YR
STARTING TIME = .00 RAIN DEPTH = 3.29 RAIN DURATION = 1.00
ANT. RUNOFF COND. = 2 MAIN TIME INCREMENT = .025 HOURS
ALTERNATE NO. = 1 STORM NO. =10 RAIN TABLE NO. = 4

OPERATION RUNOFF XSECTION 1

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
3.08	68.7	(RUNOFF)

HYDROGRAPH POINTS FOR ALTERNATE = 1, STORM =10
MAIN TIME INCREMENT = .025 hr, DRAINAGE AREA = .03 SQ.MI.

HRS								
2.33 CFS	.48	.55	.62	.69	.76	.83	.92	1.01
2.53 CFS	1.10	1.21	1.34	1.48	1.63	1.80	1.99	2.21
2.72 CFS	2.45	2.72	3.05	3.44	3.92	4.55	5.39	6.82
2.92 CFS	9.76	15.59	25.42	38.64	52.34	63.17	68.39	67.31
3.13 CFS	61.46	53.70	45.59	38.41	32.56	27.84	23.95	20.78
3.33 CFS	18.26	16.24	14.58	13.21	12.09	11.16	10.36	9.66
3.53 CFS	9.06	8.53	8.04	7.62	7.26	6.97	6.73	6.52
3.73 CFS	6.34	6.18	6.04	5.89	5.76	5.62	5.49	5.36
3.92 CFS	5.23	5.11	4.99	4.87	4.75	4.64	4.54	4.44
4.13 CFS	4.34	4.26	4.18	4.11	4.05	4.00	3.94	3.89
4.32 CFS	3.84	3.80	3.75	3.71	3.66	3.62	3.58	3.53
4.53 CFS	3.49	3.45	3.40	3.36	3.32	3.27	3.23	3.19
4.72 CFS	3.14	3.10	3.06	3.01	2.97	2.92	2.88	2.83
4.93 CFS	2.79	2.75	2.70	2.66	2.61	2.57	2.54	2.50
5.13 CFS	2.47	2.45	2.42	2.39	2.37	2.35	2.33	2.32
5.33 CFS	2.31	2.31	2.30	2.30	2.30	2.29	2.28	2.27
5.53 CFS	2.26	2.25	2.24	2.23	2.22	2.21	2.20	2.19
5.72 CFS	2.18	2.16	2.15	2.14	2.14	2.13	2.13	2.13
5.93 CFS	2.13	2.12	2.11	2.10	2.05	1.95	1.77	1.51
6.13 CFS	1.23	.96	.72	.52	.38			

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
1.77 WATERSHED INCHES; 29 CFS-HRS; 2.4 ACRE-FEET.

DURATION(HRS) 2 4
FLOW(CFS) 3 0

--- XSECTION 1, ALTERNATE 1, STORM 10, HYDROGRAPH ADDED TO READHD FILE ---

OPERATION RUNOFF XSECTION 1

PEAK TIME(HRS) PEAK DISCHARGE(CFS) PEAK ELEVATION(FEET)
3.11 87.5 (RUNOFF)

HYDROGRAPH POINTS FOR ALTERNATE = 1, STORM =10
HRS MAIN TIME INCREMENT = .025 hr, DRAINAGE AREA = .03 SQ.MI.

2.15 CFS	.49	.56	.63	.71	.79	.88	.98	1.08
2.35 CFS	1.18	1.29	1.39	1.50	1.61	1.72	1.85	1.98
2.55 CFS	2.13	2.30	2.48	2.69	2.92	3.18	3.48	3.81
2.75 CFS	4.19	4.61	5.10	5.69	6.43	7.38	8.58	11.21
2.95 CFS	16.31	25.10	38.27	53.96	69.03	80.59	86.65	87.11
3.15 CFS	82.80	75.13	66.10	57.05	49.19	42.72	37.31	32.73
3.35 CFS	28.88	25.68	23.01	20.76	18.86	17.27	15.92	14.75
3.55 CFS	13.73	12.85	12.09	11.41	10.82	10.30	9.83	9.42
3.75 CFS	9.07	8.78	8.53	8.30	8.09	7.89	7.69	7.50
3.95 CFS	7.32	7.14	6.96	6.79	6.63	6.48	6.33	6.19
4.15 CFS	6.06	5.94	5.83	5.73	5.63	5.55	5.47	5.40
4.35 CFS	5.33	5.26	5.19	5.13	5.07	5.00	4.94	4.88
4.55 CFS	4.82	4.76	4.70	4.64	4.58	4.52	4.46	4.40
4.75 CFS	4.34	4.28	4.22	4.16	4.09	4.03	3.97	3.91
4.95 CFS	3.85	3.79	3.73	3.67	3.61	3.56	3.51	3.46
5.15 CFS	3.41	3.37	3.33	3.30	3.27	3.24	3.22	3.20
5.35 CFS	3.18	3.17	3.16	3.15	3.15	3.14	3.12	3.11
5.55 CFS	3.09	3.08	3.07	3.05	3.04	3.03	3.01	3.00
5.75 CFS	2.98	2.96	2.95	2.94	2.93	2.92	2.92	2.91
5.95 CFS	2.90	2.90	2.88	2.84	2.76	2.61	2.38	2.09
6.15 CFS	1.77	1.44	1.15	.89	.69	.53	.41	

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
1.93 WATERSHED INCHES; 42 CFS-HRS; 3.5 ACRE-FEET.

DURATION(HRS) 2 4 4
FLOW(CFS) 4 1 0

--- XSECTION 1, ALTERNATE 1, STORM 10, HYDROGRAPH ADDED TO READHD FILE ---

EXECUTIVE CONTROL ENDCMP COMPUTATIONS COMPLETED FOR PASS 3

EXECUTIVE CONTROL COMPUT FROM XSECTION 1 TO XSECTION 1 25-YR
STARTING TIME = .00 RAIN DEPTH = 5.99 RAIN DURATION = 1.00
ANT. RUNOFF COND. = 2 MAIN TIME INCREMENT = .025 HOURS
ALTERNATE NO. = 1 STORM NO. =25 RAIN TABLE NO. = 2

OPERATION RUNOFF XSECTION 1

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
12.00	88.2	(RUNOFF)

HYDROGRAPH POINTS FOR ALTERNATE = 1, STORM =25
HRS MAIN TIME INCREMENT = .025 hr, DRAINAGE AREA = .03 SQ.MI.

7.65 CFS	.50	.50	.51	.52	.52	.53	.53	.54
7.85 CFS	.54	.55	.56	.56	.57	.57	.58	.59
8.05 CFS	.59	.60	.61	.62	.62	.63	.64	.65
8.25 CFS	.67	.68	.69	.70	.71	.73	.74	.75
8.45 CFS	.77	.78	.79	.81	.82	.83	.85	.86
8.65 CFS	.88	.89	.91	.92	.93	.95	.97	.98
8.85 CFS	1.00	1.01	1.03	1.04	1.06	1.08	1.09	1.11
9.05 CFS	1.12	1.14	1.15	1.17	1.18	1.19	1.20	1.21
9.25 CFS	1.22	1.23	1.24	1.25	1.26	1.26	1.27	1.28
9.45 CFS	1.29	1.29	1.30	1.31	1.32	1.33	1.34	1.35
9.65 CFS	1.37	1.39	1.41	1.43	1.45	1.47	1.49	1.52
9.85 CFS	1.54	1.57	1.59	1.62	1.65	1.67	1.70	1.73
10.05 CFS	1.75	1.78	1.81	1.84	1.88	1.91	1.95	1.98
10.25 CFS	2.02	2.06	2.10	2.14	2.18	2.22	2.26	2.30
10.45 CFS	2.34	2.38	2.43	2.47	2.52	2.56	2.61	2.66
10.65 CFS	2.72	2.78	2.84	2.90	2.97	3.03	3.10	3.17
10.85 CFS	3.24	3.31	3.38	3.46	3.53	3.60	3.68	3.76
11.05 CFS	3.84	3.93	4.03	4.14	4.25	4.38	4.52	4.67
11.25 CFS	4.82	4.98	5.15	5.31	5.48	5.66	5.84	6.02
11.45 CFS	6.20	6.38	6.60	6.91	7.44	8.28	9.45	10.97
11.65 CFS	12.93	15.42	18.39	21.76	25.56	29.99	34.85	40.33
11.85 CFS	46.83	55.11	64.51	73.57	81.03	86.05	88.13	87.21
12.05 CFS	83.39	76.72	67.85	58.11	48.71	40.37	33.64	28.74
12.25 CFS	25.05	22.17	19.90	18.10	16.64	15.42	14.40	13.51
12.45 CFS	12.72	11.99	11.32	10.71	10.17	9.67	9.21	8.82
12.65 CFS	8.49	8.20	7.95	7.74	7.56	7.40	7.24	7.10
12.85 CFS	6.97	6.84	6.71	6.59	6.47	6.36	6.24	6.12
13.05 CFS	6.01	5.91	5.80	5.70	5.61	5.53	5.45	5.37
13.25 CFS	5.30	5.23	5.17	5.10	5.04	4.97	4.91	4.85
13.45 CFS	4.79	4.72	4.66	4.60	4.54	4.48	4.42	4.36
13.65 CFS	4.31	4.25	4.20	4.16	4.11	4.06	4.01	3.97
13.85 CFS	3.92	3.88	3.83	3.79	3.74	3.70	3.65	3.61
14.05 CFS	3.57	3.53	3.49	3.46	3.42	3.40	3.37	3.35
14.25 CFS	3.33	3.31	3.29	3.27	3.25	3.24	3.22	3.20
14.45 CFS	3.19	3.17	3.16	3.14	3.13	3.11	3.10	3.08
14.65 CFS	3.06	3.05	3.03	3.02	3.00	2.99	2.97	2.95

14.85 CFS 2.94 2.92 2.91 2.89 2.88

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
3.34 WATERSHED INCHES; 56 CFS-HRS; 4.6 ACRE-FEET.

DURATION(HRS) 2 4 4
FLOW(CFS) 5 3 3 TRUNCATED

--- XSECTION 1, ALTERNATE 1, STORM 25, HYDROGRAPH ADDED TO READHD FILE ---

OPERATION RUNOFF XSECTION 1

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
12.03	114.2	(RUNOFF)

HYDROGRAPH POINTS FOR ALTERNATE = 1, STORM =25
MAIN TIME INCREMENT = .025 hr, DRAINAGE AREA = .03 SQ.MI.

HRS								
6.50 CFS	.49	.50	.51	.52	.52	.53	.54	.55
6.70 CFS	.55	.56	.57	.58	.58	.59	.60	.61
6.90 CFS	.62	.62	.63	.64	.65	.65	.66	.67
7.10 CFS	.68	.68	.69	.70	.71	.72	.72	.73
7.30 CFS	.74	.75	.76	.76	.77	.78	.79	.80
7.50 CFS	.80	.81	.82	.83	.84	.84	.85	.86
7.70 CFS	.87	.88	.89	.89	.90	.91	.92	.93
7.90 CFS	.93	.94	.95	.96	.97	.98	.99	.99
8.10 CFS	1.00	1.02	1.03	1.04	1.05	1.07	1.08	1.10
8.30 CFS	1.12	1.13	1.15	1.17	1.19	1.21	1.23	1.25
8.50 CFS	1.27	1.29	1.31	1.33	1.35	1.37	1.39	1.41
8.70 CFS	1.43	1.45	1.48	1.50	1.52	1.54	1.56	1.59
8.90 CFS	1.61	1.63	1.66	1.68	1.70	1.73	1.75	1.77
9.10 CFS	1.79	1.81	1.83	1.85	1.87	1.88	1.90	1.91
9.30 CFS	1.92	1.94	1.95	1.96	1.97	1.98	1.99	2.00
9.50 CFS	2.01	2.02	2.03	2.04	2.06	2.07	2.09	2.11
9.70 CFS	2.13	2.16	2.19	2.21	2.25	2.28	2.31	2.35
9.90 CFS	2.38	2.42	2.46	2.49	2.53	2.57	2.61	2.65
10.10 CFS	2.69	2.73	2.78	2.82	2.87	2.92	2.97	3.03
10.30 CFS	3.08	3.14	3.19	3.25	3.30	3.36	3.42	3.48
10.50 CFS	3.54	3.60	3.66	3.73	3.79	3.86	3.94	4.01
10.70 CFS	4.09	4.18	4.27	4.36	4.45	4.54	4.64	4.74
10.90 CFS	4.83	4.94	5.04	5.14	5.24	5.35	5.46	5.58
11.10 CFS	5.71	5.85	6.00	6.15	6.33	6.52	6.72	6.92
11.30 CFS	7.14	7.37	7.60	7.84	8.08	8.33	8.58	8.83
11.50 CFS	9.08	9.43	9.95	10.73	11.88	13.48	15.57	18.21
11.70 CFS	21.50	25.42	29.91	34.97	40.66	47.30	54.93	63.83
11.90 CFS	74	85	96	105	111	114	114	109
12.10 CFS	102	92	81	70	60	51	44	39
12.30 CFS	34.31	30.73	27.78	25.34	23.30	21.56	20.06	18.75
12.50 CFS	17.57	16.50	15.54	14.66	13.86	13.14	12.50	11.96
12.70 CFS	11.48	11.08	10.73	10.43	10.18	9.95	9.74	9.54
12.90 CFS	9.35	9.17	8.99	8.83	8.66	8.50	8.34	8.19

13.10 CFS	8.04	7.90	7.76	7.64	7.52	7.40	7.30	7.20
13.30 CFS	7.10	7.01	6.92	6.83	6.74	6.65	6.56	6.48
13.50 CFS	6.39	6.31	6.22	6.14	6.06	5.98	5.91	5.83
13.70 CFS	5.76	5.69	5.62	5.56	5.49	5.43	5.37	5.31
13.90 CFS	5.24	5.18	5.12	5.06	5.00	4.94	4.88	4.82
14.10 CFS	4.77	4.72	4.67	4.63	4.59	4.55	4.52	4.49

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
3.42 WATERSHED INCHES; 75 CFS-HRS; 6.2 ACRE-FEET.

DURATION(HRS)	2	3
FLOW(CFS)	7	4 TRUNCATED

--- XSECTION 1, ALTERNATE 1, STORM 25, HYDROGRAPH ADDED TO READHD FILE ---

EXECUTIVE CONTROL ENDCMP COMPUTATIONS COMPLETED FOR PASS 4

EXECUTIVE CONTROL COMPUT FROM XSECTION 1 TO XSECTION 1 50-YR
STARTING TIME = .00 RAIN DEPTH = 7.05 RAIN DURATION = 1.00
ANT. RUNOFF COND. = 2 MAIN TIME INCREMENT = .025 HOURS
ALTERNATE NO. = 1 STORM NO. =50 RAIN TABLE NO. = 2

OPERATION RUNOFF XSECTION 1

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
12.00	108.2	(RUNOFF)

HYDROGRAPH POINTS FOR ALTERNATE = 1, STORM =50
MAIN TIME INCREMENT = .025 hr, DRAINAGE AREA = .03 SQ.MI.

HRS								
6.68 CFS	.50	.50	.51	.52	.52	.53	.54	.54
6.88 CFS	.55	.56	.56	.57	.58	.59	.59	.60
7.08 CFS	.61	.61	.62	.63	.63	.64	.65	.66
7.28 CFS	.66	.67	.68	.68	.69	.70	.71	.71
7.48 CFS	.72	.73	.73	.74	.75	.76	.76	.77
7.68 CFS	.78	.79	.79	.80	.81	.82	.82	.83
7.88 CFS	.84	.84	.85	.86	.87	.87	.88	.89
8.07 CFS	.90	.91	.92	.93	.94	.96	.97	.99
8.28 CFS	1.00	1.02	1.03	1.05	1.07	1.09	1.10	1.12
8.48 CFS	1.14	1.16	1.17	1.19	1.21	1.23	1.25	1.27
8.68 CFS	1.29	1.31	1.33	1.34	1.36	1.39	1.41	1.43
8.88 CFS	1.45	1.47	1.49	1.51	1.53	1.55	1.57	1.59
9.07 CFS	1.61	1.63	1.65	1.66	1.68	1.69	1.70	1.71
9.28 CFS	1.73	1.74	1.74	1.75	1.76	1.77	1.78	1.79
9.48 CFS	1.80	1.81	1.82	1.83	1.84	1.85	1.87	1.89
9.68 CFS	1.91	1.93	1.96	1.99	2.02	2.05	2.08	2.11
9.88 CFS	2.14	2.18	2.21	2.24	2.28	2.31	2.35	2.38

10.07 CFS	2.42	2.46	2.50	2.54	2.59	2.63	2.68	2.72
10.28 CFS	2.77	2.82	2.87	2.92	2.98	3.03	3.08	3.14
10.48 CFS	3.19	3.25	3.30	3.36	3.42	3.48	3.55	3.61
10.68 CFS	3.69	3.77	3.84	3.92	4.01	4.10	4.19	4.27
10.88 CFS	4.36	4.46	4.55	4.64	4.73	4.83	4.93	5.03
11.08 CFS	5.15	5.27	5.40	5.55	5.71	5.89	6.08	6.27
11.28 CFS	6.47	6.68	6.89	7.10	7.32	7.55	7.77	8.00
11.48 CFS	8.23	8.47	8.83	9.47	10.55	12.06	13.99	16.47
11.68 CFS	19.62	23.38	27.63	32.43	37.88	43.96	50.76	58.76
11.88 CFS	69	80	91	100	106	108	107	102
12.08 CFS	93.58	82.64	70.75	59.32	49.20	41.00	34.89	30.33
12.28 CFS	26.81	24.02	21.88	20.13	18.66	17.41	16.33	15.37
12.48 CFS	14.48	13.67	12.94	12.27	11.67	11.12	10.64	10.23
12.68 CFS	9.89	9.59	9.34	9.12	8.92	8.73	8.56	8.40
12.88 CFS	8.24	8.09	7.94	7.80	7.66	7.51	7.38	7.24
13.08 CFS	7.11	6.99	6.87	6.76	6.66	6.56	6.47	6.39
13.28 CFS	6.30	6.22	6.14	6.06	5.99	5.91	5.83	5.76
13.48 CFS	5.68	5.60	5.53	5.46	5.39	5.32	5.25	5.18
13.68 CFS	5.12	5.06	5.00	4.94	4.88	4.83	4.77	4.72
13.88 CFS	4.66	4.61	4.55	4.50	4.45	4.39	4.34	4.29
14.08 CFS	4.24	4.19	4.15	4.12	4.08	4.05	4.02	4.00
14.28 CFS	3.97							

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
4.03 WATERSHED INCHES; 67 CFS-HRS; 5.5 ACRE-FEET.

DURATION(HRS) 2 4
FLOW(CFS) 6 4 TRUNCATED

--- XSECTION 1, ALTERNATE 1, STORM 50, HYDROGRAPH ADDED TO READHD FILE ---

OPERATION RUNOFF XSECTION 1

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
12.03	138.7	(RUNOFF)

HYDROGRAPH POINTS FOR ALTERNATE = 1, STORM =50
MAIN TIME INCREMENT = .025 hr, DRAINAGE AREA = .03 SQ.MI.

HRS								
5.65 CFS	.49	.50	.51	.52	.53	.54	.54	.55
5.85 CFS	.56	.57	.58	.59	.60	.61	.61	.62
6.05 CFS	.63	.64	.65	.66	.67	.68	.69	.70
6.25 CFS	.70	.71	.72	.73	.74	.75	.76	.77
6.45 CFS	.78	.79	.80	.81	.82	.82	.83	.84
6.65 CFS	.85	.86	.87	.88	.89	.90	.91	.92
6.85 CFS	.93	.94	.95	.96	.97	.98	.99	1.00
7.05 CFS	1.01	1.02	1.03	1.04	1.05	1.06	1.07	1.08
7.25 CFS	1.09	1.10	1.11	1.12	1.13	1.14	1.15	1.16
7.45 CFS	1.17	1.18	1.19	1.20	1.21	1.22	1.23	1.24
7.65 CFS	1.25	1.26	1.27	1.28	1.29	1.30	1.31	1.32
7.85 CFS	1.33	1.34	1.35	1.36	1.37	1.38	1.39	1.40

8.05 CFS	1.41	1.42	1.43	1.45	1.46	1.48	1.50	1.52
8.25 CFS	1.54	1.56	1.58	1.60	1.63	1.65	1.67	1.70
8.45 CFS	1.72	1.75	1.77	1.80	1.83	1.85	1.88	1.91
8.65 CFS	1.93	1.96	1.99	2.02	2.05	2.07	2.10	2.13
8.85 CFS	2.16	2.19	2.22	2.25	2.28	2.31	2.34	2.37
9.05 CFS	2.40	2.42	2.45	2.48	2.50	2.53	2.55	2.56
9.25 CFS	2.58	2.60	2.61	2.63	2.64	2.65	2.66	2.68
9.45 CFS	2.69	2.70	2.71	2.72	2.73	2.75	2.76	2.78
9.65 CFS	2.80	2.83	2.86	2.89	2.93	2.96	3.00	3.04
9.85 CFS	3.09	3.13	3.18	3.22	3.27	3.31	3.36	3.41
10.05 CFS	3.46	3.51	3.56	3.62	3.67	3.73	3.79	3.86
10.25 CFS	3.92	3.99	4.06	4.13	4.20	4.27	4.34	4.41
10.45 CFS	4.48	4.56	4.63	4.71	4.79	4.87	4.95	5.04
10.65 CFS	5.13	5.23	5.33	5.43	5.54	5.65	5.77	5.89
10.85 CFS	6.01	6.13	6.25	6.38	6.51	6.63	6.76	6.89
11.05 CFS	7.03	7.18	7.33	7.51	7.69	7.89	8.11	8.35
11.25 CFS	8.60	8.86	9.12	9.41	9.69	9.98	10.28	10.59
11.45 CFS	10.90	11.21	11.54	11.98	12.63	13.59	14.97	16.93
11.65 CFS	19.50	22.76	26.86	31.77	37.37	43.66	50.79	58.94
11.85 CFS	68	79	92	105	118	128	135	139
12.05 CFS	138	132	123	111	98	85	72	62
12.25 CFS	53.41	46.73	41.41	37.08	33.51	30.56	28.08	25.96
12.45 CFS	24.12	22.53	21.11	19.82	18.67	17.62	16.66	15.79
12.65 CFS	15.02	14.36	13.79	13.29	12.87	12.51	12.21	11.93
12.85 CFS	11.68	11.45	11.22	11.00	10.79	10.58	10.38	10.18
13.05 CFS	9.99	9.81	9.63	9.46	9.30	9.15	9.01	8.87
13.25 CFS	8.75	8.63	8.51	8.40	8.29	8.18	8.07	7.97
13.45 CFS	7.86	7.76	7.66	7.56	7.45	7.36	7.26	7.16
13.65 CFS	7.07	6.98	6.90	6.81	6.73			

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
4.09 WATERSHED INCHES; 90 CFS-HRS; 7.4 ACRE-FEET.

DURATION(HRS)	2	3
FLOW(CFS)	9	7 TRUNCATED

--- XSECTION 1, ALTERNATE 1, STORM 50, HYDROGRAPH ADDED TO READHD FILE ---

EXECUTIVE CONTROL ENDCMP COMPUTATIONS COMPLETED FOR PASS 5

EXECUTIVE CONTROL COMPUT FROM XSECTION 1 TO XSECTION 1 100-YR
STARTING TIME = .00 RAIN DEPTH = 8.26 RAIN DURATION = 1.00
ANT. RUNOFF COND. = 2 MAIN TIME INCREMENT = .025 HOURS
ALTERNATE NO. = 1 STORM NO. =99 RAIN TABLE NO. = 2

OPERATION RUNOFF XSECTION 1

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
12.00	131.0	(RUNOFF)

HYDROGRAPH POINTS FOR ALTERNATE = 1, STORM =99
MAIN TIME INCREMENT = .025 hr, DRAINAGE AREA = .03 SQ.MI.

HRS								
5.83 CFS	.50	.50	.51	.52	.53	.54	.54	.55
6.03 CFS	.56	.57	.57	.58	.59	.60	.61	.62
6.22 CFS	.62	.63	.64	.65	.66	.66	.67	.68
6.43 CFS	.69	.70	.71	.71	.72	.73	.74	.75
6.63 CFS	.76	.76	.77	.78	.79	.80	.81	.82
6.83 CFS	.82	.83	.84	.85	.86	.87	.88	.88
7.03 CFS	.89	.90	.91	.92	.93	.94	.95	.95
7.23 CFS	.96	.97	.98	.99	1.00	1.01	1.02	1.02
7.43 CFS	1.03	1.04	1.05	1.06	1.07	1.08	1.09	1.10
7.63 CFS	1.11	1.11	1.12	1.13	1.14	1.15	1.16	1.17
7.83 CFS	1.18	1.19	1.20	1.20	1.21	1.22	1.23	1.24
8.03 CFS	1.25	1.26	1.27	1.28	1.30	1.31	1.33	1.35
8.23 CFS	1.36	1.38	1.40	1.43	1.45	1.47	1.49	1.51
8.43 CFS	1.54	1.56	1.58	1.60	1.63	1.65	1.68	1.70
8.63 CFS	1.72	1.75	1.77	1.80	1.82	1.85	1.87	1.90
8.82 CFS	1.93	1.95	1.98	2.00	2.03	2.06	2.08	2.11
9.03 CFS	2.14	2.16	2.19	2.21	2.23	2.25	2.27	2.28
9.23 CFS	2.30	2.31	2.32	2.34	2.35	2.36	2.37	2.38
9.43 CFS	2.39	2.40	2.41	2.42	2.43	2.44	2.45	2.47
9.63 CFS	2.49	2.51	2.54	2.57	2.60	2.64	2.67	2.71
9.82 CFS	2.75	2.79	2.83	2.88	2.92	2.96	3.00	3.05
10.03 CFS	3.09	3.13	3.18	3.23	3.28	3.33	3.39	3.45
10.23 CFS	3.50	3.56	3.62	3.69	3.75	3.82	3.88	3.95
10.43 CFS	4.01	4.08	4.15	4.21	4.28	4.35	4.43	4.51
10.63 CFS	4.59	4.67	4.76	4.86	4.96	5.06	5.17	5.28
10.82 CFS	5.38	5.49	5.61	5.72	5.83	5.94	6.06	6.18
11.03 CFS	6.30	6.42	6.57	6.72	6.89	7.07	7.28	7.50
11.23 CFS	7.72	7.96	8.21	8.47	8.73	8.99	9.26	9.54
11.43 CFS	9.81	10.08	10.37	10.70	11.19	12.01	13.32	15.16
11.63 CFS	17.54	20.59	24.46	29.05	34.23	40.04	46.74	54.03
11.82 CFS	62	72	84	98	111	121	128	131
12.03 CFS	129	123	113	100	85	71	59	49
12.23 CFS	41.96	36.52	32.28	28.93	26.28	24.13	22.35	20.84
12.43 CFS	19.54	18.38	17.32	16.34	15.46	14.67	13.94	13.27
12.63 CFS	12.71	12.23	11.81	11.45	11.15	10.89	10.64	10.42
12.82 CFS	10.22	10.03	9.84	9.66	9.48	9.31	9.14	8.96
13.03 CFS	8.80	8.64	8.49	8.33	8.19	8.06	7.94	7.82
13.23 CFS	7.71	7.61	7.51	7.41	7.32	7.23	7.14	7.04
13.43 CFS	6.95	6.86	6.77	6.68	6.59	6.50	6.42	6.33
13.63 CFS	6.25	6.17	6.10	6.02	5.95	5.89		

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
4.80 WATERSHED INCHES; 80 CFS-HRS; 6.6 ACRE-FEET.

DURATION(HRS) 2 3
FLOW(CFS) 8 6 TRUNCATED

--- XSECTION 1, ALTERNATE 1, STORM 99, HYDROGRAPH ADDED TO READHD FILE ---

OPERATION RUNOFF XSECTION 1

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
12.03	167.4	(RUNOFF)

HYDROGRAPH POINTS FOR ALTERNATE = 1, STORM =99
MAIN TIME INCREMENT = .025 hr, DRAINAGE AREA = .03 SQ.MI.

HRS								
4.93 CFS	.50	.51	.52	.53	.54	.55	.56	.57
5.13 CFS	.58	.59	.60	.61	.62	.63	.64	.65
5.33 CFS	.66	.67	.68	.69	.70	.71	.72	.73
5.53 CFS	.74	.76	.77	.78	.79	.80	.81	.82
5.72 CFS	.83	.84	.85	.86	.87	.89	.90	.91
5.93 CFS	.92	.93	.94	.95	.96	.97	.99	1.00
6.13 CFS	1.01	1.02	1.03	1.04	1.05	1.07	1.08	1.09
6.33 CFS	1.10	1.11	1.12	1.13	1.15	1.16	1.17	1.18
6.53 CFS	1.19	1.20	1.21	1.23	1.24	1.25	1.26	1.27
6.73 CFS	1.29	1.30	1.31	1.32	1.33	1.34	1.36	1.37
6.93 CFS	1.38	1.39	1.40	1.42	1.43	1.44	1.45	1.46
7.13 CFS	1.48	1.49	1.50	1.51	1.52	1.54	1.55	1.56
7.33 CFS	1.57	1.58	1.60	1.61	1.62	1.63	1.64	1.66
7.53 CFS	1.67	1.68	1.69	1.71	1.72	1.73	1.74	1.75
7.73 CFS	1.77	1.78	1.79	1.80	1.82	1.83	1.84	1.85
7.93 CFS	1.87	1.88	1.89	1.90	1.92	1.93	1.94	1.96
8.13 CFS	1.97	1.99	2.01	2.04	2.06	2.09	2.11	2.14
8.32 CFS	2.17	2.20	2.23	2.26	2.29	2.33	2.36	2.39
8.53 CFS	2.42	2.46	2.49	2.53	2.56	2.59	2.63	2.66
8.73 CFS	2.70	2.73	2.77	2.80	2.84	2.88	2.91	2.95
8.93 CFS	2.99	3.03	3.06	3.10	3.14	3.17	3.21	3.24
9.13 CFS	3.27	3.30	3.33	3.36	3.38	3.40	3.42	3.43
9.32 CFS	3.45	3.46	3.48	3.49	3.51	3.52	3.53	3.54
9.53 CFS	3.56	3.57	3.59	3.60	3.63	3.65	3.68	3.72
9.73 CFS	3.76	3.80	3.85	3.90	3.95	4.00	4.06	4.11
9.93 CFS	4.17	4.23	4.28	4.34	4.40	4.47	4.53	4.59
10.13 CFS	4.66	4.73	4.80	4.88	4.95	5.03	5.12	5.20
10.32 CFS	5.29	5.37	5.46	5.55	5.64	5.73	5.82	5.91
10.53 CFS	6.01	6.10	6.20	6.30	6.41	6.53	6.64	6.77
10.73 CFS	6.90	7.03	7.17	7.31	7.46	7.60	7.75	7.90
10.93 CFS	8.06	8.21	8.37	8.53	8.69	8.86	9.04	9.23
11.13 CFS	9.44	9.66	9.90	10.17	10.47	10.77	11.09	11.42
11.32 CFS	11.77	12.12	12.47	12.83	13.20	13.58	13.95	14.36
11.53 CFS	14.90	15.70	16.91	18.65	21.06	24.20	28.18	33.08

11.73 CFS	39	46	53	62	72	83	96	111
11.93 CFS	127	142	155	163	167	166	160	148
12.13 CFS	133	117	101	87	74	64	56	49
12.32 CFS	44.16	39.92	36.42	33.47	30.94	28.75	26.84	25.14
12.53 CFS	23.59	22.20	20.95	19.80	18.77	17.86	17.08	16.40
12.73 CFS	15.81	15.31	14.88	14.52	14.19	13.88	13.60	13.33
12.93 CFS	13.07	12.82	12.58	12.34	12.10	11.88	11.66	11.44
13.13 CFS	11.24	11.05	10.87	10.70	10.54	10.39		

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
4.81 WATERSHED INCHES; 105 CFS-HRS; 8.7 ACRE-FEET.

DURATION(HRS)	2	2
FLOW(CFS)	8	10 TRUNCATED

--- XSECTION 1, ALTERNATE 1, STORM 99, HYDROGRAPH ADDED TO READHD FILE ---

EXECUTIVE CONTROL ENDCMP COMPUTATIONS COMPLETED FOR PASS 6

SUMMARY TABLE 1

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

XSECTION/ STRUCTURE ID	STANDARD CONTROL OPERATION	DRAINAGE AREA (SQ MI)	RUNOFF AMOUNT (IN)	PEAK DISCHARGE ELEVATION (FT)	TIME (HR)	RATE (CFS)	RATE (CSM)
RAINFALL OF 2.23 inches AND 6.00 hr DURATION, BEGINS AT .0 hrs.							
RAINTABLE NUMBER 4, ARC 2							
MAIN TIME INCREMENT .025 HOURS							
ALTERNATE 1 STORM 2							
XSECTION 1	RUNOFF	.03	.92	---	3.09	34	1133.3
XSECTION 1	RUNOFF	.03	1.04	---	3.12	46	1533.3
RAINFALL OF 2.81 inches AND 6.00 hr DURATION, BEGINS AT .0 hrs.							
ALTERNATE 1 STORM 5							
XSECTION 1	RUNOFF	.03	1.37	---	3.08	52	1733.3
XSECTION 1	RUNOFF	.03	1.52	---	3.11	68	2266.7
RAINFALL OF 3.29 inches AND 6.00 hr DURATION, BEGINS AT .0 hrs.							
ALTERNATE 1 STORM 10							
XSECTION 1	RUNOFF	.03	1.77	---	3.08	69	2300.0
XSECTION 1	RUNOFF	.03	1.93	---	3.11	87	2900.0
RAINFALL OF 5.99 inches AND 24.00 hr DURATION, BEGINS AT .0 hrs.							
RAINTABLE NUMBER 2, ARC 2							
ALTERNATE 1 STORM 25							
XSECTION 1	RUNOFF	.03	3.34	---	12.00	88	2933.3
XSECTION 1	RUNOFF	.03	3.42	---	12.03	114	3800.0
RAINFALL OF 7.05 inches AND 24.00 hr DURATION, BEGINS AT .0 hrs.							
ALTERNATE 1 STORM 50							

SUMMARY TABLE 1

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

XSECTION/ STRUCTURE ID	STANDARD CONTROL OPERATION	DRAINAGE AREA (SQ MI)	RUNOFF AMOUNT (IN)	PEAK DISCHARGE ELEVATION (FT)	TIME (HR)	RATE (CFS)	RATE (CSM)
ALTERNATE 1 STORM 50							
XSECTION 1	RUNOFF	.03	4.03	---	12.00	108	3600.0
XSECTION 1	RUNOFF	.03	4.09	---	12.03	139	4633.3

RAINFALL OF 8.26 inches AND 24.00 hr DURATION, BEGINS AT .0 hrs.

ALTERNATE 1 STORM 99							
XSECTION 1	RUNOFF	.03	4.80	---	12.00	131	4366.7
XSECTION 1	RUNOFF	.03	4.81	---	12.03	167	5566.7

SUMMARY TABLE 3

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

XSECTION/ STRUCTURE ID	DRAINAGE AREA (SQ MI)	STORM NUMBERS..... 2	5	10	25	50
XSECTION 1	.03					
ALTERNATE 1		46	68	87	114	139

SUMMARY TABLE 3

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

XSECTION/ STRUCTURE ID	DRAINAGE AREA (SQ MI)	STORM NUMBERS..... 99
XSECTION 1	.03	
ALTERNATE 1		167

SUMMARY TABLE #3 / 3A DATA REORDERED IN DESCENDING ORDER FOR ECON2.

ECON2 DATA FILE

```
ECON2
TITLE                 JONES POINT PARK PROPOSED CONDITIONS
TITLE             FILENAME: JPPPR26.dat     7/22/05   BY: TLH
FLOW-FREQ     1           167.      139.      114.       87.       68.ALT  1   1
FLOW-FREQ     1            46.                                        ALT  1   2
```

END OF 1 JOBS IN THIS RUN

SCS TR-20, VERSION 2.04TEST
FILES

```
INPUT  = C:\JPPPR26.DAT                          , GIVEN DATA FILE
OUTPUT = C:\JPPPR26.OUT                          , DATED 10/03/**,16:20:29
```

FILES GENERATED - DATED 10/03/**,16:20:29

FILE C:\JPPPR26.TEC CONTAINS ECON2 INFORMATION

FILE C:\JPPPR26.TRD CONTAINS READHD INFORMATION

FILE C:\JPPPR26.TMG CONTAINS MESSAGE + WARNING INFORMATION

TOTAL NUMBER OF WARNINGS = 2, MESSAGES = 0

JOB ENDED AT 16:20:29
*** TR-20 RUN COMPLETED ***

19.70 CFS	2.49	2.47	2.45	2.43	2.40	2.38	2.36	2.34
20.10 CFS	2.32	2.30	2.29	2.28	2.27	2.27	2.26	2.25
20.50 CFS	2.25	2.25	2.24	2.24	2.23	2.23	2.22	2.22
20.90 CFS	2.21	2.21	2.21	2.20	2.20	2.19	2.19	2.18
21.30 CFS	2.18	2.18	2.17	2.17	2.16	2.16	2.16	2.15
21.70 CFS	2.15	2.14	2.14	2.13	2.13	2.12	2.12	2.12
22.10 CFS	2.11	2.11	2.10	2.10	2.09	2.09	2.09	2.08
22.50 CFS	2.08	2.07	2.07	2.06	2.06	2.06	2.05	2.05
22.90 CFS	2.04	2.04	2.03	2.03	2.02	2.02	2.02	

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
6.51 WATERSHED INCHES; 142 CFS-HRS; 11.8 ACRE-FEET.

DURATION(HRS)	2	4	6	8	10	11
FLOW(CFS)	10	6	4	3	3	2 TRUNCATED

--- XSECTION 1, ALTERNATE 1, STORM 99, HYDROGRAPH ADDED TO READHD FILE ---

EXECUTIVE CONTROL ENDCMP COMPUTATIONS COMPLETED FOR PASS 6

SUMMARY TABLE 1

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

XSECTION/ STRUCTURE ID	STANDARD CONTROL OPERATION	DRAINAGE AREA (SQ MI)	RUNOFF AMOUNT (IN)	PEAK DISCHARGE ELEVATION (FT)	TIME (HR)	RATE (CFS)	RATE (CSM)
RAINFALL OF 3.11 inches AND 24.00 hr DURATION, BEGINS AT .0 hrs.							
RAINTABLE NUMBER 2, ARC 2							
MAIN TIME INCREMENT .050 HOURS							
ALTERNATE 1 STORM 2							
XSECTION 1	RUNOFF	.03	1.61	---	12.01	35	1166.7
XSECTION 1	RUNOFF	.03	1.77	---	12.04	46	1533.3
RAINFALL OF 4.00 inches AND 24.00 hr DURATION, BEGINS AT .0 hrs.							
ALTERNATE 1 STORM 5							
XSECTION 1	RUNOFF	.03	2.38	---	12.01	51	1700.0
XSECTION 1	RUNOFF	.03	2.56	---	12.04	67	2233.3
RAINFALL OF 4.78 inches AND 24.00 hr DURATION, BEGINS AT .0 hrs.							
ALTERNATE 1 STORM 10							
XSECTION 1	RUNOFF	.03	3.08	---	12.01	65	2166.7
XSECTION 1	RUNOFF	.03	3.28	---	12.03	85	2833.3
RAINFALL OF 5.99 inches AND 24.00 hr DURATION, BEGINS AT .0 hrs.							
ALTERNATE 1 STORM 25							
XSECTION 1	RUNOFF	.03	4.19	---	12.00	88	2933.3
XSECTION 1	RUNOFF	.03	4.42	---	12.03	113	3766.7
RAINFALL OF 7.05 inches AND 24.00 hr DURATION, BEGINS AT .0 hrs.							
ALTERNATE 1 STORM 50							
XSECTION 1	RUNOFF	.03	5.19	---	12.00	108	3600.0

SUMMARY TABLE 1

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

XSECTION/ STRUCTURE ID	STANDARD CONTROL OPERATION	DRAINAGE AREA (SQ MI)	RUNOFF AMOUNT (IN)	PEAK DISCHARGE ELEVATION (FT)	TIME (HR)	RATE (CFS)	RATE (CSM)
ALTERNATE 1 STORM 50							
XSECTION 1	RUNOFF	.03	5.39	---	12.03	137	4566.7
RAINFALL OF 8.26 inches AND 24.00 hr DURATION, BEGINS AT .0 hrs.							
ALTERNATE 1 STORM 99							
XSECTION 1	RUNOFF	.03	6.31	---	12.00	131	4366.7
XSECTION 1	RUNOFF	.03	6.51	---	12.03	165	5500.0

SUMMARY TABLE 3

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

XSECTION/ STRUCTURE ID	DRAINAGE AREA (SQ MI)	STORM NUMBERS..... 2	5	10	25	50
XSECTION 1	.03					
ALTERNATE 1		46	67	85	113	137

SUMMARY TABLE 3

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

XSECTION/ STRUCTURE ID	DRAINAGE AREA (SQ MI)	STORM NUMBERS..... 99
XSECTION 1	.03	
ALTERNATE 1		165

SUMMARY TABLE #3 / 3A DATA REORDERED IN DESCENDING ORDER FOR ECON2.

ECON2 DATA FILE

```
ECON2
TITLE                 JONES POINT PARK PROPOSED CONDITIONS
TITLE              FILENAME: JPPPR2.dat     7/22/05   BY: TLH
FLOW-FREQ     1           165.      137.      113.       85.       67.ALT  1   1
FLOW-FREQ     1            46.                                        ALT  1   2
```

END OF 1 JOBS IN THIS RUN

SCS TR-20, VERSION 2.04TEST
FILES

INPUT = C:\JPPPR2.DAT , GIVEN DATA FILE
OUTPUT = C:\JPPPR2.OUT , DATED 09/16/**,15:41:17

FILES GENERATED - DATED 09/16/**,15:41:17

FILE C:\JPPPR2.TEC CONTAINS ECON2 INFORMATION

FILE C:\JPPPR2.TRD CONTAINS READHD INFORMATION

FILE C:\JPPPR2.TMG CONTAINS MESSAGE + WARNING INFORMATION

TOTAL NUMBER OF WARNINGS = 1, MESSAGES = 0

JOB ENDED AT 15:41:17
*** TR-20 RUN COMPLETED ***

Appendix D

CURRENT DATE: 09-22-2005 FILE DATE: 09-22-2005
CURRENT TIME: 14:40:35 FILE NAME: JPP1

FHWA CULVERT ANALYSIS
HY-8, VERSION 6.1

CULVERT NO.	INLET ELEV. (ft)	OUTLET ELEV. (ft)	CULVERT LENGTH (ft)	BARRELS SHAPE MATERIAL	SPAN (ft)	RISE (ft)	MANNING n	INLET TYPE
1	2.05	1.28	54.01	1 RCP	2.00	2.00	.013	CONVENTIONAL
2								
3								
4								
5								
6								

SUMMARY OF CULVERT FLOWS (cfs) FILE: JPP1 DATE: 09-22-2005

ELEV (ft)	TOTAL	1	2	3	4	5	6	ROADWAY	ITR
2.61	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	1
3.89	2.9	2.9	0.0	0.0	0.0	0.0	0.0	0.00	1
4.44	5.8	5.8	0.0	0.0	0.0	0.0	0.0	0.00	1
4.91	8.7	8.7	0.0	0.0	0.0	0.0	0.0	0.00	1
5.36	11.6	11.6	0.0	0.0	0.0	0.0	0.0	0.00	1
5.83	14.5	14.5	0.0	0.0	0.0	0.0	0.0	0.00	1
5.91	15.0	15.0	0.0	0.0	0.0	0.0	0.0	0.00	1
6.04	20.3	12.1	0.0	0.0	0.0	0.0	0.0	8.09	22
6.06	23.2	9.5	0.0	0.0	0.0	0.0	0.0	13.48	10
6.08	26.1	6.4	0.0	0.0	0.0	0.0	0.0	19.49	9
6.08	29.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	3
6.00	15.5	15.5	0.0	0.0	0.0	0.0	0.0	OVERTOPPING	

SUMMARY OF ITERATIVE SOLUTION ERRORS FILE: JPP1 DATE: 09-22-2005

HEAD ELEV (ft)	HEAD ERROR (ft)	TOTAL FLOW (cfs)	FLOW ERROR (cfs)	% FLOW ERROR
2.61	0.000	0.00	0.00	0.00
3.89	0.000	2.90	0.00	0.00
4.44	0.000	5.80	0.00	0.00
4.91	0.000	8.70	0.00	0.00
5.36	0.000	11.60	0.00	0.00
5.83	0.000	14.50	0.00	0.00
5.91	0.000	15.00	0.00	0.00
6.04	0.000	20.30	0.15	0.74
6.06	0.000	23.20	0.18	0.78
6.08	0.000	26.10	0.18	0.69
6.08	0.000	29.00	29.00	100.00

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

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Existing Conditions,
Clogged Pipe

JPP1.LST

PERFORMANCE CURVE FOR CULVERT 1 - 1(2.00 (ft) BY 2.00 (ft)) RCP

DIS-CHARGE FLOW (cfs)	HEAD-WATER ELEV. (ft)	INLET CONTROL DEPTH (ft)	OUTLET CONTROL DEPTH (ft)	FLOW TYPE <F4>	NORMAL DEPTH (ft)	CRIT. DEPTH (ft)	OUTLET DEPTH (ft)	TW DEPTH (ft)	OUTLET VEL. (fps)	TW VEL. (fps)
0.00	2.61	0.00	0.56	0-NF	0.00	0.00	0.00	1.33	0.00	0.00
2.90	3.89	0.77	1.84	1-S1f	0.44	0.59	2.00	2.58	0.92	0.51
5.80	4.44	1.18	2.39	4-FFt	0.63	0.85	2.00	3.06	1.85	0.61
8.70	4.91	1.50	2.86	4-FFt	0.78	1.05	2.00	3.41	2.77	0.68
11.60	5.36	1.77	3.31	4-FFt	0.91	1.22	2.00	3.69	3.69	0.73
14.50	5.83	2.04	3.78	4-FFt	1.04	1.37	2.00	3.93	4.62	0.77
15.00	5.91	2.09	3.86	4-FFt	1.06	1.40	2.00	3.97	4.77	0.78
12.06	6.04	1.81	3.99	4-FFt	0.93	1.24	2.00	4.34	3.84	0.84
9.54	6.06	1.58	4.01	4-FFt	0.82	1.10	2.00	4.51	3.04	0.87
6.43	6.07	1.26	4.02	4-FFt	0.66	0.89	2.00	4.68	2.05	0.90
0.00	6.11	0.00	4.06	0-NF	0.00	0.00	0.00	4.83	2.05	0.92

El. inlet face invert 2.05 ft El. outlet invert 1.28 ft
El. inlet throat invert 0.00 ft El. inlet crest 0.00 ft

***** SITE DATA ***** CULVERT INVERT **********

INLET STATION	0.00 ft
INLET ELEVATION	2.05 ft
OUTLET STATION	54.00 ft
OUTLET ELEVATION	1.28 ft
NUMBER OF BARRELS	1
SLOPE (V/H)	0.0143
CULVERT LENGTH ALONG SLOPE	54.01 ft

***** CULVERT DATA SUMMARY **********

BARREL SHAPE	CIRCULAR
BARREL DIAMETER	2.00 ft
BARREL MATERIAL	CONCRETE
BARREL MANNING'S n	0.013
INLET TYPE	CONVENTIONAL
INLET EDGE AND WALL	GROOVED END PROJECTION
INLET DEPRESSION	NONE

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3

TAILWATER

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

BOTTOM WIDTH	2.00 ft
SIDE SLOPE H/V (X:1)	2.0
CHANNEL SLOPE V/H (ft/ft)	0.004
MANNING'S n (.01-0.1)	0.150
CHANNEL INVERT ELEVATION	2.61 ft
CULVERT NO.1 OUTLET INVERT ELEVATION	1.28 ft

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

FLOW (cfs)	W.S.E. (ft)	FROUDE NUMBER	DEPTH (ft)	VEL. (f/s)	SHEAR (psf)
0.00	2.61	0.000	0.00	0.00	0.00

2.90	3.86	0.081	1.25	0.51	0.31
5.80	4.34	0.082	1.73	0.61	0.43
8.70	4.69	0.083	2.08	0.68	0.52
11.60	4.97	0.084	2.36	0.73	0.59
14.50	5.21	0.085	2.60	0.77	0.65
15.00	5.25	0.085	2.64	0.78	0.66
20.30	5.62	0.086	3.01	0.84	0.75
23.20	5.79	0.086	3.18	0.87	0.79
26.10	5.96	0.086	3.35	0.90	0.83
29.00	6.11	0.087	3.50	0.92	0.87

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ROADWAY SURFACE	PAVED
EMBANKMENT TOP WIDTH	17.00 ft
CREST LENGTH	300.00 ft
OVERTOPPING CREST ELEVATION	6.00 ft

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CURRENT DATE: 09-22-2005 FILE DATE: 09-22-2005
CURRENT TIME: 14:45:50 FILE NAME: JPP1

FHWA CULVERT ANALYSIS
HY-8, VERSION 6.1

CULVERT NO.	INLET ELEV. (ft)	OUTLET ELEV. (ft)	CULVERT LENGTH (ft)	BARRELS SHAPE MATERIAL	SPAN (ft)	RISE (ft)	MANNING n	INLET TYPE
1	2.05	1.28	54.01	1 RCP	2.00	2.00	.013	CONVENTIONAL
2								
3								
4								
5								
6								

SUMMARY OF CULVERT FLOWS (cfs) FILE: JPP1 DATE: 09-22-2005

ELEV (ft)	TOTAL	1	2	3	4	5	6	ROADWAY	ITR
2.05	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	1
2.82	2.9	2.9	0.0	0.0	0.0	0.0	0.0	0.00	1
3.23	5.8	5.8	0.0	0.0	0.0	0.0	0.0	0.00	1
3.58	8.7	8.7	0.0	0.0	0.0	0.0	0.0	0.00	1
4.03	11.6	11.6	0.0	0.0	0.0	0.0	0.0	0.00	1
4.50	14.5	14.5	0.0	0.0	0.0	0.0	0.0	0.00	1
4.58	15.0	15.0	0.0	0.0	0.0	0.0	0.0	0.00	1
5.49	20.3	20.3	0.0	0.0	0.0	0.0	0.0	0.00	1
5.74	23.2	20.9	0.0	0.0	0.0	0.0	0.0	0.00	30
5.97	26.1	21.4	0.0	0.0	0.0	0.0	0.0	0.00	30
6.04	29.0	20.8	0.0	0.0	0.0	0.0	0.0	8.04	17
6.00	23.0	23.0	0.0	0.0	0.0	0.0	0.0	OVERTOPPING	

SUMMARY OF ITERATIVE SOLUTION ERRORS FILE: JPP1 DATE: 09-22-2005

HEAD ELEV (ft)	HEAD ERROR (ft)	TOTAL FLOW (cfs)	FLOW ERROR (cfs)	% FLOW ERROR
2.05	0.000	0.00	0.00	0.00
2.82	0.000	2.90	0.00	0.00
3.23	0.000	5.80	0.00	0.00
3.58	0.000	8.70	0.00	0.00
4.03	0.000	11.60	0.00	0.00
4.50	0.000	14.50	0.00	0.00
4.58	0.000	15.00	0.00	0.00
5.49	0.000	20.30	0.00	0.00
5.74	-0.006	23.20	2.35	10.13
5.97	-0.006	26.10	4.72	18.08
6.04	0.000	29.00	0.21	0.72

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

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2

PERFORMANCE CURVE FOR CULVERT 1 - 1(2.00 (ft) BY 2.00 (ft)) RCP

DIS-CHARGE FLOW (cfs)	HEAD-WATER ELEV. (ft)	INLET CONTROL DEPTH (ft)	OUTLET CONTROL DEPTH (ft)	FLOW TYPE <F4>	NORMAL DEPTH (ft)	CRIT. DEPTH (ft)	OUTLET DEPTH (ft)	TW DEPTH (ft)	OUTLET VEL. (fps)	TW VEL. (fps)
0.00	2.05	0.00	0.00	0-NF	0.00	0.00	0.00	0.00	0.00	0.00
2.90	2.82	0.77	0.77	1-S2n	0.44	0.59	0.45	1.25	5.60	0.51
5.80	3.23	1.18	1.18	1-S2n	0.63	0.85	0.55	1.73	8.27	0.61
8.70	3.58	1.50	1.53	1-S1f	0.78	1.05	2.00	2.08	2.77	0.68
11.60	4.03	1.77	1.98	1-S1f	0.91	1.22	2.00	2.36	3.69	0.73
14.50	4.50	2.04	2.45	4-FFt	1.04	1.37	2.00	2.60	4.62	0.77
15.00	4.58	2.09	2.53	4-FFt	1.06	1.40	2.00	2.64	4.77	0.78
20.30	5.49	2.69	3.44	4-FFt	1.29	1.61	2.00	3.01	6.46	0.84
20.85	5.74	2.76	3.69	4-FFt	1.32	1.63	2.00	3.18	6.64	0.87
21.38	5.97	2.83	3.92	4-FFt	1.34	1.65	2.00	3.35	6.80	0.90
20.75	6.04	2.74	3.99	4-FFt	1.31	1.63	2.00	3.50	6.61	0.92

El. inlet face invert 2.05 ft El. outlet invert 1.28 ft
El. inlet throat invert 0.00 ft El. inlet crest 0.00 ft

***** SITE DATA ***** CULVERT INVERT **********

INLET STATION	0.00 ft
INLET ELEVATION	2.05 ft
OUTLET STATION	54.00 ft
OUTLET ELEVATION	1.28 ft
NUMBER OF BARRELS	1
SLOPE (V/H)	0.0143
CULVERT LENGTH ALONG SLOPE	54.01 ft

***** CULVERT DATA SUMMARY **********

BARREL SHAPE	CIRCULAR
BARREL DIAMETER	2.00 ft
BARREL MATERIAL	CONCRETE
BARREL MANNING'S n	0.013
INLET TYPE	CONVENTIONAL
INLET EDGE AND WALL	GROOVED END PROJECTION
INLET DEPRESSION	NONE

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3

TAILWATER

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

BOTTOM WIDTH	2.00 ft
SIDE SLOPE H/V (X:1)	2.0
CHANNEL SLOPE V/H (ft/ft)	0.004
MANNING'S n (.01-0.1)	0.150
CHANNEL INVERT ELEVATION	1.28 ft
CULVERT NO.1 OUTLET INVERT ELEVATION	1.28 ft

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

FLOW (cfs)	W.S.E. (ft)	FROUDE NUMBER	DEPTH (ft)	VEL. (f/s)	SHEAR (psf)
0.00	1.28	0.000	0.00	0.00	0.00

2.90	2.53	0.081	1.25	0.51	0.31
5.80	3.01	0.082	1.73	0.61	0.43
8.70	3.36	0.083	2.08	0.68	0.52
11.60	3.64	0.084	2.36	0.73	0.59
14.50	3.88	0.085	2.60	0.77	0.65
15.00	3.92	0.085	2.64	0.78	0.66
20.30	4.29	0.086	3.01	0.84	0.75
23.20	4.46	0.086	3.18	0.87	0.79
26.10	4.63	0.086	3.35	0.90	0.83
29.00	4.78	0.087	3.50	0.92	0.87

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ÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄ ROADWAY OVERTOPPING DATA ÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄ
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ROADWAY SURFACE	PAVED
EMBANKMENT TOP WIDTH	17.00 ft
CREST LENGTH	300.00 ft
OVERTOPPING CREST ELEVATION	6.00 ft

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CURRENT DATE: 09-22-2005 FILE DATE: 09-22-2005
CURRENT TIME: 14:48:24 FILE NAME: JPP1

FHWA CULVERT ANALYSIS
HY-8, VERSION 6.1

CULVERT NO.	INLET ELEV. (ft)	OUTLET ELEV. (ft)	CULVERT LENGTH (ft)	BARRELS SHAPE MATERIAL	SPAN (ft)	RISE (ft)	MANNING n	INLET TYPE
1	2.05	1.28	54.01	1 RCP	2.00	2.00	.013	CONVENTIONAL
2								
3								
4								
5								
6								

SUMMARY OF CULVERT FLOWS (cfs) FILE: JPP1 DATE: 09-22-2005

ELEV (ft)	TOTAL	1	2	3	4	5	6	ROADWAY	ITR
2.05	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	1
2.89	3.3	3.3	0.0	0.0	0.0	0.0	0.0	0.00	1
3.33	6.6	6.6	0.0	0.0	0.0	0.0	0.0	0.00	1
3.77	9.9	9.9	0.0	0.0	0.0	0.0	0.0	0.00	1
4.29	13.2	13.2	0.0	0.0	0.0	0.0	0.0	0.00	1
4.83	16.5	16.5	0.0	0.0	0.0	0.0	0.0	0.00	1
4.91	17.0	17.0	0.0	0.0	0.0	0.0	0.0	0.00	1
5.94	23.1	22.5	0.0	0.0	0.0	0.0	0.0	0.00	30
6.03	26.4	21.8	0.0	0.0	0.0	0.0	0.0	4.45	25
6.05	29.7	20.5	0.0	0.0	0.0	0.0	0.0	8.94	10
6.06	33.0	19.3	0.0	0.0	0.0	0.0	0.0	13.52	9
6.00	23.0	23.0	0.0	0.0	0.0	0.0	0.0	OVERTOPPING	

SUMMARY OF ITERATIVE SOLUTION ERRORS FILE: JPP1 DATE: 09-22-2005

HEAD ELEV (ft)	HEAD ERROR (ft)	TOTAL FLOW (cfs)	FLOW ERROR (cfs)	% FLOW ERROR
2.05	0.000	0.00	0.00	0.00
2.89	0.000	3.30	0.00	0.00
3.33	0.000	6.60	0.00	0.00
3.77	0.000	9.90	0.00	0.00
4.29	0.000	13.20	0.00	0.00
4.83	0.000	16.50	0.00	0.00
4.91	0.000	17.00	0.00	0.00
5.94	-0.001	23.10	0.63	2.73
6.03	0.000	26.40	0.20	0.76
6.05	0.000	29.70	0.26	0.88
6.06	0.000	33.00	0.23	0.70

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

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2

PERFORMANCE CURVE FOR CULVERT 1 - 1(2.00 (ft) BY 2.00 (ft)) RCP

DIS-CHARGE FLOW (cfs)	HEAD-WATER ELEV. (ft)	INLET CONTROL DEPTH (ft)	OUTLET CONTROL DEPTH (ft)	FLOW TYPE <F4>	NORMAL DEPTH (ft)	CRIT. DEPTH (ft)	OUTLET DEPTH (ft)	TW DEPTH (ft)	OUTLET VEL. (fps)	TW VEL. (fps)
0.00	2.05	0.00	0.00	0-NF	0.00	0.00	0.00	0.00	0.00	0.00
3.30	2.89	0.84	0.84	1-S2n	0.46	0.63	0.47	1.33	5.79	0.53
6.60	3.33	1.28	1.28	1-S2n	0.67	0.91	0.61	1.84	8.23	0.63
9.90	3.77	1.61	1.72	1-S1f	0.83	1.12	2.00	2.20	3.15	0.70
13.20	4.29	1.92	2.24	4-FFt	0.98	1.30	2.00	2.50	4.20	0.76
16.50	4.83	2.24	2.78	4-FFt	1.13	1.46	2.00	2.75	5.25	0.80
17.00	4.91	2.30	2.86	4-FFt	1.15	1.48	2.00	2.79	5.41	0.81
22.47	5.94	2.98	3.89	4-FFt	1.39	1.68	2.00	3.18	7.15	0.87
21.75	6.03	2.88	3.98	4-FFt	1.36	1.66	2.00	3.36	6.92	0.90
20.50	6.05	2.71	4.00	4-FFt	1.30	1.62	2.00	3.53	6.53	0.93
19.26	6.06	2.56	4.01	4-FFt	1.25	1.58	2.00	3.69	6.13	0.95

El. inlet face invert 2.05 ft El. outlet invert 1.28 ft
El. inlet throat invert 0.00 ft El. inlet crest 0.00 ft

***** SITE DATA ***** CULVERT INVERT **********

INLET STATION	0.00 ft
INLET ELEVATION	2.05 ft
OUTLET STATION	54.00 ft
OUTLET ELEVATION	1.28 ft
NUMBER OF BARRELS	1
SLOPE (V/H)	0.0143
CULVERT LENGTH ALONG SLOPE	54.01 ft

***** CULVERT DATA SUMMARY **********

BARREL SHAPE	CIRCULAR
BARREL DIAMETER	2.00 ft
BARREL MATERIAL	CONCRETE
BARREL MANNING'S n	0.013
INLET TYPE	CONVENTIONAL
INLET EDGE AND WALL	GROOVED END PROJECTION
INLET DEPRESSION	NONE

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TAILWATER

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

BOTTOM WIDTH	2.00 ft
SIDE SLOPE H/V (X:1)	2.0
CHANNEL SLOPE V/H (ft/ft)	0.004
MANNING'S n (.01-0.1)	0.150
CHANNEL INVERT ELEVATION	1.28 ft
CULVERT NO.1 OUTLET INVERT ELEVATION	1.28 ft

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

FLOW (cfs)	W.S.E. (ft)	FROUDE NUMBER	DEPTH (ft)	VEL. (f/s)	SHEAR (psf)
0.00	1.28	0.000	0.00	0.00	0.00

3.30	2.61	0.081	1.33	0.53	0.33
6.60	3.12	0.083	1.84	0.63	0.46
9.90	3.48	0.084	2.20	0.70	0.55
13.20	3.78	0.084	2.50	0.76	0.62
16.50	4.03	0.085	2.75	0.80	0.69
17.00	4.07	0.085	2.79	0.81	0.70
23.10	4.46	0.086	3.18	0.87	0.79
26.40	4.64	0.087	3.36	0.90	0.84
29.70	4.81	0.087	3.53	0.93	0.88
33.00	4.97	0.087	3.69	0.95	0.92

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ÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄ ROADWAY OVERTOPPING DATA ÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄ
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ROADWAY SURFACE	PAVED
EMBANKMENT TOP WIDTH	17.00 ft
CREST LENGTH	300.00 ft
OVERTOPPING CREST ELEVATION	6.00 ft

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Existing Conditions,
Culvert 2

CURRENT DATE: 09-22-2005 FILE DATE: 09-22-2005
CURRENT TIME: 14:52:26 FILE NAME: JPP2

FHWA CULVERT ANALYSIS
HY-8, VERSION 6.1

C U L V NO.	SITE DATA: INLET ELEV. (ft)	OUTLET ELEV. (ft)	CULVERT LENGTH (ft)	CULVERT SHAPE, MATERIAL, INLET: BARRELS / SHAPE / MATERIAL	SPAN (ft)	RISE (ft)	MANNING n	INLET TYPE
1	2.42	1.35	414.00	1 CSP	1.75	1.75	.024	CONVENTIONAL
2	2.07	1.37	414.00	1 CSP	1.75	1.75	.024	CONVENTIONAL
3								
4								
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SUMMARY OF CULVERT FLOWS (cfs) FILE: JPP2 DATE: 09-22-2005

ELEV (ft)	TOTAL	1	2	3	4	5	6	ROADWAY	ITR
4.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0
4.24	5.8	3.8	2.0	0.0	0.0	0.0	0.0	0.00	4
4.56	11.6	8.7	3.0	0.0	0.0	0.0	0.0	0.00	4
5.14	17.4	13.1	4.3	0.0	0.0	0.0	0.0	0.00	5
5.96	23.2	16.2	5.7	0.0	0.0	0.0	0.0	0.00	30
6.04	29.0	16.5	5.8	0.0	0.0	0.0	0.0	6.49	23
6.07	34.8	16.5	5.8	0.0	0.0	0.0	0.0	12.12	12
6.09	40.6	16.6	5.8	0.0	0.0	0.0	0.0	17.76	10
6.10	46.4	16.6	5.9	0.0	0.0	0.0	0.0	23.46	9
6.12	52.2	16.7	5.9	0.0	0.0	0.0	0.0	29.12	8
6.13	58.0	16.7	5.9	0.0	0.0	0.0	0.0	34.93	8
6.00	22.0	16.3	5.7	0.0	0.0	0.0	0.0	OVERTOPPING	

SUMMARY OF ITERATIVE SOLUTION ERRORS FILE: JPP2 DATE: 09-22-2005

HEAD ELEV (ft)	HEAD ERROR (ft)	TOTAL FLOW (cfs)	FLOW ERROR (cfs)	% FLOW ERROR
4.00	0.000	0.00	0.00	0.00
4.24	0.000	5.80	0.01	0.17
4.56	0.006	11.60	-0.10	-0.86
5.14	0.004	17.40	-0.04	-0.23
5.96	-0.006	23.20	1.33	5.73
6.04	0.000	29.00	0.26	0.90
6.07	0.000	34.80	0.33	0.95
6.09	0.000	40.60	0.39	0.96
6.10	0.000	46.40	0.42	0.91
6.12	-0.001	52.20	0.49	0.94
6.13	0.000	58.00	0.43	0.74

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

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PERFORMANCE CURVE FOR CULVERT 1 - 1(1.75 (ft) BY 1.75 (ft)) CSP

DIS-CHARGE FLOW (cfs)	HEAD-WATER ELEV. (ft)	INLET CONTROL DEPTH (ft)	OUTLET CONTROL DEPTH (ft)	FLOW TYPE <F4>	NORMAL DEPTH (ft)	CRIT. DEPTH (ft)	OUTLET DEPTH (ft)	TW DEPTH (ft)	OUTLET VEL. (fps)	TW VEL. (fps)
0.00	4.00	0.00	1.58	0-NF	0.00	0.00	0.00	2.65	0.00	0.00
3.82	4.24	1.08	1.82	3-M1f	1.27	0.71	1.75	2.65	1.59	0.00
8.68	4.55	1.85	2.13	3-M1f	1.75	1.09	1.75	2.65	3.61	0.00
13.11	5.14	2.72	2.63	3-M1f	1.75	1.34	1.75	2.65	5.45	0.00
16.19	5.96	3.54	3.09	3-M1f	1.75	1.47	1.75	2.65	6.73	0.00
16.46	6.04	3.62	3.13	3-M1f	1.75	1.48	1.75	2.65	6.84	0.00
16.53	6.06	3.64	3.14	3-M1f	1.75	1.48	1.75	2.65	6.87	0.00
16.59	6.08	3.66	3.15	3-M1f	1.75	1.49	1.75	2.65	6.90	0.00
16.65	6.10	3.68	3.16	3-M1f	1.75	1.49	1.75	2.65	6.92	0.00
16.70	6.12	3.70	3.17	3-M1f	1.75	1.49	1.75	2.65	6.94	0.00
16.74	6.13	3.71	3.18	3-M1f	1.75	1.49	1.75	2.65	6.96	0.00

El. inlet face invert 2.42 ft El. outlet invert 1.35 ft
El. inlet throat invert 0.00 ft El. inlet crest 0.00 ft

***** SITE DATA ***** CULVERT INVERT **********

INLET STATION	0.00 ft
INLET ELEVATION	2.42 ft
OUTLET STATION	414.00 ft
OUTLET ELEVATION	1.35 ft
NUMBER OF BARRELS	1
SLOPE (V/H)	0.0026
CULVERT LENGTH ALONG SLOPE	414.00 ft

***** CULVERT DATA SUMMARY **********

BARREL SHAPE	CIRCULAR
BARREL DIAMETER	1.75 ft
BARREL MATERIAL	CORRUGATED STEEL
BARREL MANNING'S n	0.024
INLET TYPE	CONVENTIONAL
INLET EDGE AND WALL	THIN EDGE PROJECTING
INLET DEPRESSION	NONE

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PERFORMANCE CURVE FOR CULVERT 2 - 1(1.75 (ft) BY 1.75 (ft)) CSP

DIS-CHARGE FLOW (cfs)	HEAD-WATER ELEV. (ft)	INLET CONTROL DEPTH (ft)	OUTLET CONTROL DEPTH (ft)	FLOW TYPE <F4>	NORMAL DEPTH (ft)	CRIT. DEPTH (ft)	OUTLET DEPTH (ft)	TW DEPTH (ft)	OUTLET VEL. (fps)	TW VEL. (fps)
0.00	4.00	0.00	1.93	0-NF	0.00	0.00	0.00	2.63	0.00	0.00
1.97	4.23	0.75	2.16	4-FFt	0.93	0.50	1.75	2.63	0.82	0.00
3.02	4.55	0.95	2.48	4-FFt	1.24	0.63	1.75	2.63	1.26	0.00
4.33	5.14	1.16	3.07	4-FFt	1.75	0.76	1.75	2.63	1.80	0.00
5.68	5.96	1.37	3.89	4-FFt	1.75	0.88	1.75	2.63	2.36	0.00
5.79	6.04	1.39	3.97	4-FFt	1.75	0.88	1.75	2.63	2.41	0.00
5.82	6.06	1.40	3.99	4-FFt	1.75	0.89	1.75	2.63	2.42	0.00
5.85	6.08	1.40	4.01	4-FFt	1.75	0.89	1.75	2.63	2.43	0.00
5.87	6.10	1.40	4.03	4-FFt	1.75	0.89	1.75	2.63	2.44	0.00
5.89	6.11	1.41	4.04	4-FFt	1.75	0.89	1.75	2.63	2.45	0.00

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    5.90     6.12   1.41   4.05 4-FFt   1.75   0.89   1.75   2.63   2.45   0.00
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        El. inlet face invert       2.07 ft   El. outlet invert     1.37 ft
        El. inlet throat invert     0.00 ft   El. inlet crest       0.00 ft
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***** SITE DATA ***** CULVERT INVERT **************
      INLET STATION                             0.00 ft
      INLET ELEVATION                           2.07 ft
      OUTLET STATION                          414.00 ft
      OUTLET ELEVATION                          1.37 ft
      NUMBER OF BARRELS                         1
      SLOPE (V/H)                               0.0017
      CULVERT LENGTH ALONG SLOPE              414.00 ft

***** CULVERT DATA SUMMARY ************************
      BARREL SHAPE          CIRCULAR
      BARREL DIAMETER         1.75 ft
      BARREL MATERIAL       CORRUGATED STEEL
      BARREL MANNING'S n    0.024
      INLET TYPE            CONVENTIONAL
      INLET EDGE AND WALL   THIN EDGE PROJECTING
      INLET DEPRESSION      NONE

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ÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄ          TAILWATER          ÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄ
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           CONSTANT WATER SURFACE ELEVATION
                       4.00

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ÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄ  ROADWAY OVERTOPPING DATA  ÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄ
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      ROADWAY SURFACE                            PAVED
      EMBANKMENT TOP WIDTH                      300.00 ft
***** USER DEFINED ROADWAY PROFILE
      CROSS-SECTION      X          Y
      COORD. NO.         ft          ft
           1            0.00      12.00
           2          140.00       7.00
           3          260.00       6.00
           4          495.00       6.00
           5          690.00       7.00
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CURRENT DATE: 09-16-2005 FILE DATE: 09-16-2005
CURRENT TIME: 15:52:12 FILE NAME: JPP2

FHWA CULVERT ANALYSIS
HY-8, VERSION 6.1

CULVERT NO.	SITE DATA: INLET ELEV. (ft)	SITE DATA: OUTLET ELEV. (ft)	SITE DATA: CULVERT LENGTH (ft)	CULVERT SHAPE, MATERIAL, INLET: BARRELS	SHAPE	MATERIAL	SPAN (ft)	RISE (ft)	MANNING n	INLET TYPE
1	2.42	1.35	414.00	1	CSP		1.75	1.75	.024	CONVENTIONAL
2	2.07	1.37	414.00	1	CSP		1.75	1.75	.024	CONVENTIONAL
3										
4										
5										
6										

SUMMARY OF CULVERT FLOWS (cfs) FILE: JPP2 DATE: 09-16-2005

ELEV (ft)	TOTAL	1	2	3	4	5	6	ROADWAY	ITR
4.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0
4.27	6.5	4.5	2.1	0.0	0.0	0.0	0.0	0.00	4
4.67	13.0	9.8	3.3	0.0	0.0	0.0	0.0	0.00	4
5.50	19.5	14.6	5.0	0.0	0.0	0.0	0.0	0.00	4
5.88	26.0	15.9	5.6	0.0	0.0	0.0	0.0	0.00	30
6.06	32.5	16.5	5.8	0.0	0.0	0.0	0.0	9.86	25
6.07	35.0	16.5	5.8	0.0	0.0	0.0	0.0	12.31	9
6.10	45.5	16.6	5.9	0.0	0.0	0.0	0.0	22.59	11
6.12	52.0	16.7	5.9	0.0	0.0	0.0	0.0	29.03	9
6.13	58.5	16.8	5.9	0.0	0.0	0.0	0.0	35.38	8
6.15	65.0	16.8	5.9	0.0	0.0	0.0	0.0	41.67	7
6.00	22.0	16.3	5.7	0.0	0.0	0.0	0.0	OVERTOPPING	

SUMMARY OF ITERATIVE SOLUTION ERRORS FILE: JPP2 DATE: 09-16-2005

HEAD ELEV (ft)	HEAD ERROR (ft)	TOTAL FLOW (cfs)	FLOW ERROR (cfs)	% FLOW ERROR
4.00	0.000	0.00	0.00	0.00
4.27	0.002	6.50	-0.05	-0.77
4.67	0.007	13.00	-0.11	-0.85
5.50	0.003	19.50	-0.02	-0.10
5.88	-0.009	26.00	4.51	17.35
6.06	0.000	32.50	0.32	0.98
6.07	0.000	35.00	0.33	0.94
6.10	0.000	45.50	0.40	0.88
6.12	0.000	52.00	0.38	0.73
6.13	-0.001	58.50	0.46	0.79
6.15	-0.001	65.00	0.60	0.92

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

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PERFORMANCE CURVE FOR CULVERT 1 - 1(1.75 (ft) BY 1.75 (ft)) CSP

DIS-CHARGE FLOW (cfs)	HEAD-WATER ELEV. (ft)	INLET CONTROL DEPTH (ft)	OUTLET CONTROL DEPTH (ft)	FLOW TYPE <F4>	NORMAL DEPTH (ft)	CRIT. DEPTH (ft)	OUTLET DEPTH (ft)	TW DEPTH (ft)	OUTLET VEL. (fps)	TW VEL. (fps)
0.00	4.00	0.00	1.58	0-NF	0.00	0.00	0.00	2.65	0.00	0.00
4.49	4.27	1.19	1.85	3-M1f	1.49	0.77	1.75	2.65	1.86	0.00
9.81	4.66	2.04	2.24	3-M1f	1.75	1.16	1.75	2.65	4.08	0.00
14.56	5.50	3.08	2.83	3-M1f	1.75	1.41	1.75	2.65	6.05	0.00
15.93	5.88	3.46	3.04	3-M1f	1.75	1.46	1.75	2.65	6.62	0.00
16.51	6.06	3.64	3.14	3-M1f	1.75	1.48	1.75	2.65	6.86	0.00
16.54	6.07	3.65	3.14	3-M1f	1.75	1.48	1.75	2.65	6.88	0.00
16.64	6.10	3.68	3.16	3-M1f	1.75	1.49	1.75	2.65	6.92	0.00
16.70	6.12	3.70	3.17	3-M1f	1.75	1.49	1.75	2.65	6.94	0.00
16.75	6.13	3.71	3.18	3-M1f	1.75	1.49	1.75	2.65	6.96	0.00
16.79	6.15	3.73	3.19	3-M1f	1.75	1.49	1.75	2.65	6.98	0.00

El. inlet face invert 2.42 ft El. outlet invert 1.35 ft
El. inlet throat invert 0.00 ft El. inlet crest 0.00 ft

***** SITE DATA ***** CULVERT INVERT **********

INLET STATION	0.00 ft
INLET ELEVATION	2.42 ft
OUTLET STATION	414.00 ft
OUTLET ELEVATION	1.35 ft
NUMBER OF BARRELS	1
SLOPE (V/H)	0.0026
CULVERT LENGTH ALONG SLOPE	414.00 ft

***** CULVERT DATA SUMMARY **********

BARREL SHAPE	CIRCULAR
BARREL DIAMETER	1.75 ft
BARREL MATERIAL	CORRUGATED STEEL
BARREL MANNING'S n	0.024
INLET TYPE	CONVENTIONAL
INLET EDGE AND WALL	THIN EDGE PROJECTING
INLET DEPRESSION	NONE

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PERFORMANCE CURVE FOR CULVERT 2 - 1(1.75 (ft) BY 1.75 (ft)) CSP

DIS-CHARGE FLOW (cfs)	HEAD-WATER ELEV. (ft)	INLET CONTROL DEPTH (ft)	OUTLET CONTROL DEPTH (ft)	FLOW TYPE <F4>	NORMAL DEPTH (ft)	CRIT. DEPTH (ft)	OUTLET DEPTH (ft)	TW DEPTH (ft)	OUTLET VEL. (fps)	TW VEL. (fps)
0.00	4.00	0.00	1.93	0-NF	0.00	0.00	0.00	2.63	0.00	0.00
2.06	4.26	0.77	2.19	4-FFt	0.96	0.52	1.75	2.63	0.86	0.00
3.30	4.66	0.99	2.59	4-FFt	1.34	0.66	1.75	2.63	1.37	0.00
4.97	5.50	1.26	3.43	4-FFt	1.75	0.81	1.75	2.63	2.06	0.00
5.56	5.88	1.36	3.81	4-FFt	1.75	0.87	1.75	2.63	2.31	0.00
5.81	6.06	1.39	3.99	4-FFt	1.75	0.89	1.75	2.63	2.42	0.00
5.83	6.07	1.40	4.00	4-FFt	1.75	0.89	1.75	2.63	2.42	0.00
5.87	6.10	1.40	4.03	4-FFt	1.75	0.89	1.75	2.63	2.44	0.00
5.90	6.12	1.41	4.05	4-FFt	1.75	0.89	1.75	2.63	2.45	0.00
5.92	6.13	1.41	4.06	4-FFt	1.75	0.89	1.75	2.63	2.46	0.00

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    5.94     6.15   1.41   4.08 4-FFt   1.75   0.90   1.75   2.63   2.47   0.00
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        El. inlet face invert       2.07 ft   El. outlet invert     1.37 ft
        El. inlet throat invert     0.00 ft   El. inlet crest       0.00 ft
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***** SITE DATA ***** CULVERT INVERT **************
      INLET STATION                          0.00 ft
      INLET ELEVATION                        2.07 ft
      OUTLET STATION                       414.00 ft
      OUTLET ELEVATION                       1.37 ft
      NUMBER OF BARRELS                      1
      SLOPE (V/H)                            0.0017
      CULVERT LENGTH ALONG SLOPE           414.00 ft

***** CULVERT DATA SUMMARY ************************
      BARREL SHAPE          CIRCULAR
      BARREL DIAMETER         1.75 ft
      BARREL MATERIAL       CORRUGATED STEEL
      BARREL MANNING'S n    0.024
      INLET TYPE            CONVENTIONAL
      INLET EDGE AND WALL   THIN EDGE PROJECTING
      INLET DEPRESSION      NONE

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ÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄ          TAILWATER         ÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄ
ÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄ
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           CONSTANT WATER SURFACE ELEVATION
                       4.00

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ÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄ  ROADWAY OVERTOPPING DATA  ÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄ
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      ROADWAY SURFACE                          PAVED
      EMBANKMENT TOP WIDTH                   300.00 ft
***** USER DEFINED ROADWAY PROFILE
      CROSS-SECTION      X          Y
      COORD. NO.         ft          ft
           1            0.00      12.00
           2          140.00       7.00
           3          260.00       6.00
           4          495.00       6.00
           5          690.00       7.00
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Appendix E

Proposed culvert 2,
Twin 2' by 6' box culverts

CURRENT DATE: 10-04-2005 FILE DATE: 10-04-2005
CURRENT TIME: 08:00:09 FILE NAME: JPP3

FHWA CULVERT ANALYSIS
HY-8, VERSION 6.1

C U L V NO.	SITE DATA: INLET ELEV. (ft)	OUTLET ELEV. (ft)	CULVERT LENGTH (ft)	CULVERT SHAPE, MATERIAL, INLET: BARRELS SHAPE MATERIAL	SPAN (ft)	RISE (ft)	MANNING n	INLET TYPE
1	2.42	1.35	414.00	2 RCB	6.00	2.00	.013	CONVENTIONAL
2								
3								
4								
5								
6								

SUMMARY OF CULVERT FLOWS (cfs) FILE: JPP3 DATE: 10-04-2005

ELEV (ft)	TOTAL	1	2	3	4	5	6	ROADWAY	ITR
4.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	1
4.02	6.9	6.9	0.0	0.0	0.0	0.0	0.0	0.00	1
4.13	13.8	13.8	0.0	0.0	0.0	0.0	0.0	0.00	1
4.14	20.7	20.7	0.0	0.0	0.0	0.0	0.0	0.00	1
4.12	27.6	27.6	0.0	0.0	0.0	0.0	0.0	0.00	1
4.18	34.0	34.0	0.0	0.0	0.0	0.0	0.0	0.00	1
4.26	41.4	41.4	0.0	0.0	0.0	0.0	0.0	0.00	1
4.42	48.3	48.3	0.0	0.0	0.0	0.0	0.0	0.00	1
4.46	55.2	55.2	0.0	0.0	0.0	0.0	0.0	0.00	1
4.56	62.1	62.1	0.0	0.0	0.0	0.0	0.0	0.00	1
4.61	69.0	69.0	0.0	0.0	0.0	0.0	0.0	0.00	1
6.00	170.0	170.0	0.0	0.0	0.0	0.0	0.0	OVERTOPPING	

SUMMARY OF ITERATIVE SOLUTION ERRORS FILE: JPP3 DATE: 10-04-2005

HEAD ELEV (ft)	HEAD ERROR (ft)	TOTAL FLOW (cfs)	FLOW ERROR (cfs)	% FLOW ERROR
4.00	0.000	0.00	0.00	0.00
4.02	0.000	6.90	0.00	0.00
4.13	0.000	13.80	0.00	0.00
4.14	0.000	20.70	0.00	0.00
4.12	0.000	27.60	0.00	0.00
4.18	0.000	34.00	0.00	0.00
4.26	0.000	41.40	0.00	0.00
4.42	0.000	48.30	0.00	0.00
4.46	0.000	55.20	0.00	0.00
4.56	0.000	62.10	0.00	0.00
4.61	0.000	69.00	0.00	0.00

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

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PERFORMANCE CURVE FOR CULVERT 1 - 2(6.00 (ft) BY 2.00 (ft)) RCB

DIS-CHARGE FLOW (cfs)	HEAD-WATER ELEV. (ft)	INLET CONTROL DEPTH (ft)	OUTLET CONTROL DEPTH (ft)	FLOW TYPE <F4>	NORMAL DEPTH (ft)	CRIT. DEPTH (ft)	OUTLET DEPTH (ft)	TW DEPTH (ft)	OUTLET VEL. (fps)	TW VEL. (fps)
0.00	4.00	0.00	1.58	0-NF	0.00	0.00	0.00	2.65	0.00	0.00
6.90	4.02	0.37	1.60	3-M1f	0.25	0.22	2.00	2.65	0.29	0.00
13.80	4.13	0.59	1.71	3-M1f	0.40	0.35	2.00	2.65	0.57	0.00
20.70	4.14	0.78	1.72	3-M1f	0.51	0.45	2.00	2.65	0.86	0.00
27.60	4.12	0.94	1.70	3-M1f	0.62	0.55	2.00	2.65	1.15	0.00
34.00	4.18	1.08	1.76	3-M1f	0.70	0.63	2.00	2.65	1.42	0.00
41.40	4.26	1.22	1.84	3-M1f	0.80	0.72	2.00	2.65	1.73	0.00
48.30	4.42	1.35	2.00	3-M1f	0.88	0.80	2.00	2.65	2.01	0.00
55.20	4.46	1.47	2.04	3-M1f	0.97	0.87	2.00	2.65	2.30	0.00
62.10	4.56	1.59	2.14	3-M1f	1.05	0.94	2.00	2.65	2.59	0.00
69.00	4.61	1.70	2.19	3-M1f	1.12	1.01	2.00	2.65	2.88	0.00

El. inlet face invert 2.42 ft El. outlet invert 1.35 ft
El. inlet throat invert 0.00 ft El. inlet crest 0.00 ft

***** SITE DATA ***** CULVERT INVERT **********

INLET STATION	0.00 ft
INLET ELEVATION	2.42 ft
OUTLET STATION	414.00 ft
OUTLET ELEVATION	1.35 ft
NUMBER OF BARRELS	2
SLOPE (V/H)	0.0026
CULVERT LENGTH ALONG SLOPE	414.00 ft

***** CULVERT DATA SUMMARY **********

BARREL SHAPE	BOX
BARREL SPAN	6.00 ft
BARREL RISE	2.00 ft
BARREL MATERIAL	CONCRETE
BARREL MANNING'S n	0.013
INLET TYPE	CONVENTIONAL
INLET EDGE AND WALL	SQUARE EDGE (90-45 DEG.)
INLET DEPRESSION	NONE

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TAILWATER

CONSTANT WATER SURFACE ELEVATION
4.00

ROADWAY OVERTOPPING DATA

ROADWAY SURFACE	PAVED
EMBANKMENT TOP WIDTH	300.00 ft

***** USER DEFINED ROADWAY PROFILE

CROSS-SECTION	X	Y

COORD. NO.	ft	ft
1	0.00	12.00
2	140.00	7.00
3	260.00	6.00
4	495.00	6.00
5	690.00	7.00

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Proposed new culvert,
Twin 36" RCP culverts

CURRENT DATE: 10-04-2005 FILE DATE: 10-04-2005
CURRENT TIME: 08:13:22 FILE NAME: JPPNEW

FHWA CULVERT ANALYSIS
HY-8, VERSION 6.1

C U L V NO.	SITE DATA: INLET ELEV. (ft)	OUTLET ELEV. (ft)	CULVERT LENGTH (ft)	CULVERT SHAPE, MATERIAL, INLET: BARRELS / SHAPE / MATERIAL	SPAN (ft)	RISE (ft)	MANNING n	INLET TYPE
1	2.00	1.30	65.00	2 RCP	3.00	3.00	.013	CONVENTIONAL
2								
3								
4								
5								
6								

SUMMARY OF CULVERT FLOWS (cfs) FILE: JPPNEW DATE: 10-04-2005

ELEV (ft)	TOTAL	1	2	3	4	5	6	ROADWAY	ITR
4.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	1
4.13	5.2	5.2	0.0	0.0	0.0	0.0	0.0	0.00	1
4.25	10.4	10.4	0.0	0.0	0.0	0.0	0.0	0.00	1
4.28	15.6	15.6	0.0	0.0	0.0	0.0	0.0	0.00	1
4.30	20.8	20.8	0.0	0.0	0.0	0.0	0.0	0.00	1
4.40	26.0	26.0	0.0	0.0	0.0	0.0	0.0	0.00	1
4.52	31.2	31.2	0.0	0.0	0.0	0.0	0.0	0.00	1
4.62	36.4	36.4	0.0	0.0	0.0	0.0	0.0	0.00	1
4.72	41.6	41.6	0.0	0.0	0.0	0.0	0.0	0.00	1
4.89	46.8	46.8	0.0	0.0	0.0	0.0	0.0	0.00	1
5.02	52.0	52.0	0.0	0.0	0.0	0.0	0.0	0.00	1
8.00	131.3	131.3	0.0	0.0	0.0	0.0	0.0	OVERTOPPING	

SUMMARY OF ITERATIVE SOLUTION ERRORS FILE: JPPNEW DATE: 10-04-2005

HEAD ELEV (ft)	HEAD ERROR (ft)	TOTAL FLOW (cfs)	FLOW ERROR (cfs)	% FLOW ERROR
4.00	0.000	0.00	0.00	0.00
4.13	0.000	5.20	0.00	0.00
4.25	0.000	10.40	0.00	0.00
4.28	0.000	15.60	0.00	0.00
4.30	0.000	20.80	0.00	0.00
4.40	0.000	26.00	0.00	0.00
4.52	0.000	31.20	0.00	0.00
4.62	0.000	36.40	0.00	0.00
4.72	0.000	41.60	0.00	0.00
4.89	0.000	46.80	0.00	0.00
5.02	0.000	52.00	0.00	0.00

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

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PERFORMANCE CURVE FOR CULVERT 1 - 2(3.00 (ft) BY 3.00 (ft)) RCP

DIS-CHARGE FLOW (cfs)	HEAD-WATER ELEV. (ft)	INLET CONTROL DEPTH (ft)	OUTLET CONTROL DEPTH (ft)	FLOW TYPE <F4>	NORMAL DEPTH (ft)	CRIT. DEPTH (ft)	OUTLET DEPTH (ft)	TW DEPTH (ft)	OUTLET VEL. (fps)	TW VEL. (fps)
0.00	4.00	0.00	2.00	0-NF	0.00	0.00	0.00	2.70	0.00	0.00
5.20	4.13	0.58	2.13	3-M1t	0.37	0.48	2.72	2.72	0.39	0.00
10.40	4.25	0.88	2.25	3-M1t	0.54	0.70	2.83	2.83	0.76	0.00
15.60	4.28	1.14	2.28	3-M1t	0.67	0.88	2.84	2.84	1.13	0.00
20.80	4.30	1.38	2.30	3-M1t	0.77	1.01	2.82	2.82	1.52	0.00
26.00	4.40	1.59	2.40	3-M1t	0.88	1.14	2.88	2.88	1.88	0.00
31.20	4.52	1.79	2.52	3-M1t	0.96	1.26	2.96	2.96	2.22	0.00
36.40	4.62	1.97	2.62	1-S1f	1.04	1.36	3.00	3.12	2.57	0.00
41.60	4.72	2.14	2.72	1-S1f	1.12	1.46	3.00	3.16	2.94	0.00
46.80	4.89	2.30	2.89	1-S1f	1.20	1.55	3.00	3.26	3.31	0.00
52.00	5.02	2.45	3.02	4-FFt	1.27	1.64	3.00	3.31	3.68	0.00

El. inlet face invert 2.00 ft El. outlet invert 1.30 ft
El. inlet throat invert 0.00 ft El. inlet crest 0.00 ft

***** SITE DATA ***** CULVERT INVERT **********

INLET STATION	0.00 ft
INLET ELEVATION	2.00 ft
OUTLET STATION	65.00 ft
OUTLET ELEVATION	1.30 ft
NUMBER OF BARRELS	2
SLOPE (V/H)	0.0108
CULVERT LENGTH ALONG SLOPE	65.00 ft

***** CULVERT DATA SUMMARY **********

BARREL SHAPE	CIRCULAR
BARREL DIAMETER	3.00 ft
BARREL MATERIAL	CONCRETE
BARREL MANNING'S n	0.013
INLET TYPE	CONVENTIONAL
INLET EDGE AND WALL	SQUARE EDGE WITH HEADWALL
INLET DEPRESSION	NONE

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TAILWATER

TAILWATER RATING CURVE

FLOW (cfs)	W.S.E.(ft)	DEPTH (ft)
0	4.00	2.70
5	4.02	2.72
10	4.13	2.83
16	4.14	2.84
21	4.12	2.82
26	4.18	2.88
31	4.26	2.96
36	4.42	3.12
42	4.46	3.16

47	4.56	3.26
52	4.61	3.31

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ROADWAY SURFACE	PAVED
EMBANKMENT TOP WIDTH	20.00 ft
CREST LENGTH	400.00 ft
OVERTOPPING CREST ELEVATION	8.00 ft

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Proposed culvert 1,
Twin 24" RCP culverts

CURRENT DATE: 10-04-2005 FILE DATE: 10-04-2005
CURRENT TIME: 08:15:59 FILE NAME: JPP1

FHWA CULVERT ANALYSIS
HY-8, VERSION 6.1

CULVERT NO.	INLET ELEV. (ft)	OUTLET ELEV. (ft)	CULVERT LENGTH (ft)	BARRELS SHAPE MATERIAL	SPAN (ft)	RISE (ft)	MANNING n	INLET TYPE
1	2.05	1.28	54.01	2 RCP	2.00	2.00	.013	CONVENTIONAL
2								
3								
4								
5								
6								

SUMMARY OF CULVERT FLOWS (cfs) FILE: JPP1 DATE: 10-04-2005

ELEV (ft)	TOTAL	1	2	3	4	5	6	ROADWAY	ITR
4.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	1
4.14	3.4	3.4	0.0	0.0	0.0	0.0	0.0	0.00	1
4.28	6.8	6.8	0.0	0.0	0.0	0.0	0.0	0.00	1
4.35	10.2	10.2	0.0	0.0	0.0	0.0	0.0	0.00	1
4.43	13.6	13.6	0.0	0.0	0.0	0.0	0.0	0.00	1
4.61	17.0	17.0	0.0	0.0	0.0	0.0	0.0	0.00	1
4.82	20.4	20.4	0.0	0.0	0.0	0.0	0.0	0.00	1
5.03	23.8	23.8	0.0	0.0	0.0	0.0	0.0	0.00	1
5.26	27.2	27.2	0.0	0.0	0.0	0.0	0.0	0.00	1
5.58	30.6	30.6	0.0	0.0	0.0	0.0	0.0	0.00	1
5.87	34.0	34.0	0.0	0.0	0.0	0.0	0.0	0.00	1
6.00	35.5	35.5	0.0	0.0	0.0	0.0	0.0	OVERTOPPING	

SUMMARY OF ITERATIVE SOLUTION ERRORS FILE: JPP1 DATE: 10-04-2005

HEAD ELEV (ft)	HEAD ERROR (ft)	TOTAL FLOW (cfs)	FLOW ERROR (cfs)	% FLOW ERROR
4.00	0.000	0.00	0.00	0.00
4.14	0.000	3.40	0.00	0.00
4.28	0.000	6.80	0.00	0.00
4.35	0.000	10.20	0.00	0.00
4.43	0.000	13.60	0.00	0.00
4.61	0.000	17.00	0.00	0.00
4.82	0.000	20.40	0.00	0.00
5.03	0.000	23.80	0.00	0.00
5.26	0.000	27.20	0.00	0.00
5.58	0.000	30.60	0.00	0.00
5.87	0.000	34.00	0.00	0.00

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

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

DIS-CHARGE FLOW (cfs)	HEAD-WATER ELEV. (ft)	INLET CONTROL DEPTH (ft)	OUTLET CONTROL DEPTH (ft)	FLOW TYPE <F4>	NORMAL DEPTH (ft)	CRIT. DEPTH (ft)	OUTLET DEPTH (ft)	TW DEPTH (ft)	OUTLET VEL. (fps)	TW VEL. (fps)
0.00	4.00	0.00	1.95	0-NF	0.00	0.00	0.00	2.72	0.00	0.00
3.40	4.14	0.56	2.09	4-FFt	0.33	0.44	2.00	2.85	0.54	0.00
6.80	4.28	0.85	2.23	4-FFt	0.47	0.64	2.00	2.97	1.08	0.00
10.20	4.35	1.10	2.30	4-FFt	0.59	0.80	2.00	3.00	1.62	0.00
13.60	4.43	1.30	2.38	4-FFt	0.68	0.92	2.00	3.02	2.16	0.00
17.00	4.61	1.48	2.56	4-FFt	0.77	1.04	2.00	3.12	2.71	0.00
20.40	4.82	1.64	2.77	4-FFt	0.85	1.14	2.00	3.24	3.25	0.00
23.80	5.03	1.80	2.98	4-FFt	0.93	1.24	2.00	3.34	3.79	0.00
27.20	5.26	1.96	3.21	4-FFt	1.00	1.32	2.00	3.44	4.33	0.00
30.60	5.58	2.12	3.53	4-FFt	1.07	1.41	2.00	3.61	4.87	0.00
34.00	5.87	2.30	3.82	4-FFt	1.15	1.48	2.00	3.74	5.41	0.00

El. inlet face invert 2.05 ft El. outlet invert 1.28 ft
El. inlet throat invert 0.00 ft El. inlet crest 0.00 ft

***** SITE DATA ***** CULVERT INVERT **********

INLET STATION	0.00 ft
INLET ELEVATION	2.05 ft
OUTLET STATION	54.00 ft
OUTLET ELEVATION	1.28 ft
NUMBER OF BARRELS	2
SLOPE (V/H)	0.0143
CULVERT LENGTH ALONG SLOPE	54.01 ft

***** CULVERT DATA SUMMARY **********

BARREL SHAPE	CIRCULAR
BARREL DIAMETER	2.00 ft
BARREL MATERIAL	CONCRETE
BARREL MANNING'S n	0.013
INLET TYPE	CONVENTIONAL
INLET EDGE AND WALL	GROOVED END PROJECTION
INLET DEPRESSION	NONE

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3

TAILWATER

TAILWATER RATING CURVE

FLOW (cfs)	W.S.E.(ft)	DEPTH (ft)
0	4.00	2.72
3	4.13	2.85
7	4.25	2.97
10	4.28	3.00
14	4.30	3.02
17	4.40	3.12
20	4.52	3.24
24	4.62	3.34
27	4.72	3.44

31	4.89	3.61
34	5.02	3.74

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ROADWAY SURFACE	PAVED
EMBANKMENT TOP WIDTH	17.00 ft
CREST LENGTH	300.00 ft
OVERTOPPING CREST ELEVATION	6.00 ft

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Appendix F

Routing for existing culvert 1,
no fields, 1-24" RCP

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

JOB TR-20           ECON                          SUMMARY   NOPLOTS
TITLE 004 JONES POINT PARK EXISTING CONDITIONS
TITLE 000 FILENAME: JPPCLOG.dat     9/7/05   BY: TLH
 3 STRUCT      01
 8                      2.75        0.0         0.0000
 8                      3.00        4.1         0.0003
 8                      3.25        5.9         0.0088
 8                      3.50        8.0         0.0255
 8                      3.75        9.6         0.0504
 8                      4.00        11.2        0.0863
 8                      4.25        12.8        0.1669
 8                      4.50        14.3        0.3335
 8                      4.75        15.8        0.5501
 9 ENDTBL
 6 RUNOFF 1    01     1 0.0118      83.0        0.20        1 1 1 1 1 1  DA-1 D
 6 RESVOR 2    01 1   2 2.75                                1 1 1 1 1 1
 6 RUNOFF 1    01     3 0.0118      83.0        0.20        1 1 1 1 1 1  DA-1 D
 6 ADDHYD 4    01 2 3 4
   ENDATA
 7 INCREM 6             0.05
 7 COMPUT 7    01    01 0.00        3.11        1.00        2 2   1   2  2-YR
   ENDCMP 1
 7 COMPUT 7    01    01 0.00        4.00        1.00        2 2   1   5  5-YR
   ENDCMP 1
 7 COMPUT 7    01    01 0.00        4.78        1.00        2 2   1  10  10-YR
   ENDCMP 1
 7 COMPUT 7    01    01 0.00        5.99        1.00        2 2   1  25  25-YR
   ENDCMP 1
 7 COMPUT 7    01    01 0.00        7.05        1.00        2 2   1  50  50-YR
   ENDCMP 1
 7 COMPUT 7    01    01 0.00        8.26        1.00        2 2   1  99  100-YR
   ENDCMP 1
   ENDJOB 2

*******************************END OF 80-80 LIST******************************
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EXECUTIVE CONTROL  INCREM    MAIN TIME INCREMENT =   .050 HOURS


EXECUTIVE CONTROL  COMPUT    FROM STRUCTURE  1  TO STRUCTURE  1          2-YR
    STARTING TIME =   .00       RAIN DEPTH =  3.11       RAIN DURATION =  1.00
    ANT. RUNOFF COND. = 2       MAIN TIME INCREMENT =   .050 HOURS
    ALTERNATE NO. = 1           STORM NO. = 2            RAIN TABLE NO. = 2


OPERATION RUNOFF    STRUCTURE  1

    PEAK TIME(HRS)             PEAK DISCHARGE(CFS)          PEAK ELEVATION(FEET)
       12.02                          15.1                        (RUNOFF)

                     HYDROGRAPH POINTS FOR   ALTERNATE = 1,   STORM = 2
     HRS      MAIN TIME INCREMENT =  .050 hr,      DRAINAGE AREA =    .01 SQ.MI.
    11.20 CFS       .48     .52     .56     .61     .66     .71     .77     .89
    11.20 ELEV     2.78    2.78    2.78    2.79    2.79    2.79    2.80    2.80
    11.60 CFS      1.15    1.62    2.42    3.52    5.02    7.12   10.23   13.34
    11.60 ELEV     2.82    2.85    2.90    2.96    3.13    3.40    3.85    4.34
    12.00 CFS     15.02   14.62   12.02    8.71    6.09    4.58    3.67    3.10
    12.00 ELEV     4.62    4.55    4.13    3.61    3.27    3.07    2.97    2.94
    12.40 CFS      2.71    2.41    2.16    1.94    1.77    1.63    1.53    1.46
    12.40 ELEV     2.92    2.90    2.88    2.87    2.86    2.85    2.84    2.84
    12.80 CFS      1.40    1.35    1.30    1.26    1.21    1.17    1.13    1.09
    12.80 ELEV     2.84    2.83    2.83    2.83    2.82    2.82    2.82    2.82
    13.20 CFS      1.06    1.04    1.01     .99     .96     .94     .91     .89
    13.20 ELEV     2.81    2.81    2.81    2.81    2.81    2.81    2.81    2.80
    13.60 CFS       .87     .85     .83     .81     .79     .77     .76     .74
    13.60 ELEV     2.80    2.80    2.80    2.80    2.80    2.80    2.80    2.80
    14.00 CFS       .72     .70     .69     .68     .67     .66     .65     .65
    14.00 ELEV     2.79    2.79    2.79    2.79    2.79    2.79    2.79    2.79
    14.40 CFS       .64     .63     .63     .62     .61     .61     .60     .60
    14.40 ELEV     2.79    2.79    2.79    2.79    2.79    2.79    2.79    2.79
    14.80 CFS       .59     .59     .58     .57     .57     .56     .56     .55
    14.80 ELEV     2.79    2.79    2.79    2.78    2.78    2.78    2.78    2.78
    15.20 CFS       .54     .54     .53     .53     .52     .51     .51     .50
    15.20 ELEV     2.78    2.78    2.78    2.78    2.78    2.78    2.78    2.78
    15.60 CFS       .49
    15.60 ELEV     2.78

    RUNOFF ABOVE BASEFLOW  (BASEFLOW =    .00 CFS)
                   1.53 WATERSHED INCHES;      12 CFS-HRS;       1.0 ACRE-FEET.

    DURATION(HRS)   2      4      4
    FLOW(CFS)       1      1      0

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

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
12.11	11.1	3.99
12.50	2.9	2.93
12.60	2.4	2.90
12.70	2.1	2.88
12.80	1.9	2.86
12.90	1.7	2.85
13.00	1.6	2.85
13.10	1.4	2.84
13.20	1.3	2.83
13.30	1.2	2.83

HYDROGRAPH POINTS FOR ALTERNATE = 1, STORM = 2
MAIN TIME INCREMENT = .050 hr, DRAINAGE AREA = .01 SQ.MI.

HRS								
8.70	CFS	.00	.01	.01	.01	.02	.02	.02	.03
8.70	ELEV	2.75	2.75	2.75	2.75	2.75	2.75	2.75	2.75
9.10	CFS	.03	.03	.04	.04	.04	.05	.05	.05
9.10	ELEV	2.75	2.75	2.75	2.75	2.75	2.75	2.75	2.75
9.50	CFS	.06	.06	.06	.07	.07	.08	.08	.09
9.50	ELEV	2.75	2.75	2.75	2.75	2.75	2.75	2.76	2.76
9.90	CFS	.09	.10	.11	.11	.12	.13	.14	.14
9.90	ELEV	2.76	2.76	2.76	2.76	2.76	2.76	2.76	2.76
10.30	CFS	.15	.16	.17	.18	.19	.21	.22	.23
10.30	ELEV	2.76	2.76	2.76	2.76	2.76	2.76	2.76	2.76
10.70	CFS	.25	.26	.28	.30	.32	.34	.36	.38
10.70	ELEV	2.77	2.77	2.77	2.77	2.77	2.77	2.77	2.77
11.10	CFS	.41	.44	.48	.52	.56	.61	.66	.71
11.10	ELEV	2.77	2.78	2.78	2.78	2.78	2.79	2.79	2.79
11.50	CFS	.77	.89	1.15	1.61	2.40	3.49	4.38	5.41
11.50	ELEV	2.80	2.80	2.82	2.85	2.90	2.96	3.04	3.18
11.90	CFS	6.91	8.53	9.78	10.63	11.08	10.96	10.36	9.48
11.90	ELEV	3.37	3.58	3.78	3.91	3.98	3.96	3.87	3.73
12.30	CFS	8.22	6.40	4.51	1.64	2.89	1.27	2.40	1.04
12.30	ELEV	3.54	3.31	3.06	2.85	2.93	2.83	2.90	2.81
12.70	CFS	2.08	.95	1.87	.91	1.71	.87	1.57	.84
12.70	ELEV	2.88	2.81	2.86	2.81	2.85	2.80	2.85	2.80
13.10	CFS	1.44	.81	1.33	.78	1.24	.77	1.16	.75
13.10	ELEV	2.84	2.80	2.83	2.80	2.83	2.80	2.82	2.80
13.50	CFS	1.09	.73	1.02	.70	.96	.69	.91	.67
13.50	ELEV	2.82	2.79	2.81	2.79	2.81	2.79	2.81	2.79
13.90	CFS	.86	.65	.81	.62	.77	.61	.73	.60
13.90	ELEV	2.80	2.79	2.80	2.79	2.80	2.79	2.79	2.79
14.30	CFS	.71	.59	.69	.59	.67	.58	.65	.57
14.30	ELEV	2.79	2.79	2.79	2.79	2.79	2.79	2.79	2.79
14.70	CFS	.64	.57	.62	.56	.60	.55	.59	.54
14.70	ELEV	2.79	2.78	2.79	2.78	2.79	2.78	2.79	2.78
15.10	CFS	.57	.53	.56	.52	.54	.51	.53	.50

15.10 ELEV	2.78	2.78	2.78	2.78	2.78	2.78	2.78	2.78
15.50 CFS	.52	.49	.50	.48	.49	.47	.48	.46
15.50 ELEV	2.78	2.78	2.78	2.78	2.78	2.78	2.78	2.78
15.90 CFS	.46	.45	.45	.43	.44	.42	.43	.42
15.90 ELEV	2.78	2.78	2.78	2.78	2.78	2.78	2.78	2.78
16.30 CFS	.42	.41	.42	.41	.41	.41	.41	.40
16.30 ELEV	2.78	2.78	2.78	2.77	2.78	2.77	2.77	2.77
16.70 CFS	.40	.40	.40	.39	.39	.39	.39	.39
16.70 ELEV	2.77	2.77	2.77	2.77	2.77	2.77	2.77	2.77
17.10 CFS	.39	.38	.38	.38	.38	.37	.37	.37
17.10 ELEV	2.77	2.77	2.77	2.77	2.77	2.77	2.77	2.77
17.50 CFS	.37	.36	.36	.36	.36	.36	.35	.35
17.50 ELEV	2.77	2.77	2.77	2.77	2.77	2.77	2.77	2.77
17.90 CFS	.35	.35	.35	.34	.34	.34	.34	.33
17.90 ELEV	2.77	2.77	2.77	2.77	2.77	2.77	2.77	2.77
18.30 CFS	.33	.33	.33	.32	.32	.32	.32	.32
18.30 ELEV	2.77	2.77	2.77	2.77	2.77	2.77	2.77	2.77
18.70 CFS	.31	.31	.31	.31	.30	.30	.30	.30
18.70 ELEV	2.77	2.77	2.77	2.77	2.77	2.77	2.77	2.77
19.10 CFS	.30	.29	.29	.29	.29	.28	.28	.28
19.10 ELEV	2.77	2.77	2.77	2.77	2.77	2.77	2.77	2.77
19.50 CFS	.28	.27	.27	.27	.27	.27	.26	.26
19.50 ELEV	2.77	2.77	2.77	2.77	2.77	2.77	2.77	2.77
19.90 CFS	.26	.26	.25	.25	.25	.25	.25	.25
19.90 ELEV	2.77	2.77	2.77	2.77	2.77	2.77	2.77	2.77
20.30 CFS	.25	.25	.24	.24	.24	.24	.24	.24
20.30 ELEV	2.76	2.76	2.76	2.76	2.76	2.76	2.76	2.76
20.70 CFS	.24	.24	.24	.24	.24	.24	.24	.24
20.70 ELEV	2.76	2.76	2.76	2.76	2.76	2.76	2.76	2.76
21.10 CFS	.24	.24	.24	.24	.24	.24	.24	.24
21.10 ELEV	2.76	2.76	2.76	2.76	2.76	2.76	2.76	2.76
21.50 CFS	.24	.23	.23	.23	.23	.23	.23	.23
21.50 ELEV	2.76	2.76	2.76	2.76	2.76	2.76	2.76	2.76
21.90 CFS	.23	.23	.23	.23	.23	.23	.23	.23
21.90 ELEV	2.76	2.76	2.76	2.76	2.76	2.76	2.76	2.76
22.30 CFS	.23	.23	.23	.23	.23	.23	.23	.23
22.30 ELEV	2.76	2.76	2.76	2.76	2.76	2.76	2.76	2.76
22.70 CFS	.22	.22	.22	.22	.22	.22	.22	.22
22.70 ELEV	2.76	2.76	2.76	2.76	2.76	2.76	2.76	2.76
23.10 CFS	.22	.22	.22	.22	.22	.22	.22	.22
23.10 ELEV	2.76	2.76	2.76	2.76	2.76	2.76	2.76	2.76
23.50 CFS	.22	.22	.22	.22	.22	.22	.22	.21
23.50 ELEV	2.76	2.76	2.76	2.76	2.76	2.76	2.76	2.76
23.90 CFS	.21	.21	.21	.20	.16	.10	.05	.03
23.90 ELEV	2.76	2.76	2.76	2.76	2.76	2.76	2.75	2.75
24.30 CFS	.02	.01	.00					
24.30 ELEV	2.75	2.75	2.75					

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
1.51 WATERSHED INCHES; 11 CFS-HRS; .9 ACRE-FEET.

DURATION(HRS)	2	4	4
FLOW(CFS)	1	1	0

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

OPERATION RUNOFF STRUCTURE 1

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
12.02	15.1	(RUNOFF)

HYDROGRAPH POINTS FOR ALTERNATE = 1, STORM = 2
MAIN TIME INCREMENT = .050 hr, DRAINAGE AREA = .01 SQ.MI.

HRS								
11.20 CFS	.48	.52	.56	.61	.66	.71	.77	.89
11.20 ELEV	2.78	2.78	2.78	2.79	2.79	2.79	2.80	2.80
11.60 CFS	1.15	1.62	2.42	3.52	5.02	7.12	10.23	13.34
11.60 ELEV	2.82	2.85	2.90	2.96	3.13	3.40	3.85	4.34
12.00 CFS	15.02	14.62	12.02	8.71	6.09	4.58	3.67	3.10
12.00 ELEV	4.62	4.55	4.13	3.61	3.27	3.07	2.97	2.94
12.40 CFS	2.71	2.41	2.16	1.94	1.77	1.63	1.53	1.46
12.40 ELEV	2.92	2.90	2.88	2.87	2.86	2.85	2.84	2.84
12.80 CFS	1.40	1.35	1.30	1.26	1.21	1.17	1.13	1.09
12.80 ELEV	2.84	2.83	2.83	2.83	2.82	2.82	2.82	2.82
13.20 CFS	1.06	1.04	1.01	.99	.96	.94	.91	.89
13.20 ELEV	2.81	2.81	2.81	2.81	2.81	2.81	2.81	2.80
13.60 CFS	.87	.85	.83	.81	.79	.77	.76	.74
13.60 ELEV	2.80	2.80	2.80	2.80	2.80	2.80	2.80	2.80
14.00 CFS	.72	.70	.69	.68	.67	.66	.65	.65
14.00 ELEV	2.79	2.79	2.79	2.79	2.79	2.79	2.79	2.79
14.40 CFS	.64	.63	.63	.62	.61	.61	.60	.60
14.40 ELEV	2.79	2.79	2.79	2.79	2.79	2.79	2.79	2.79
14.80 CFS	.59	.59	.58	.57	.57	.56	.56	.55
14.80 ELEV	2.79	2.79	2.79	2.78	2.78	2.78	2.78	2.78
15.20 CFS	.54	.54	.53	.53	.52	.51	.51	.50
15.20 ELEV	2.78	2.78	2.78	2.78	2.78	2.78	2.78	2.78
15.60 CFS	.49							
15.60 ELEV	2.78							

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
1.53 WATERSHED INCHES; 12 CFS-HRS; 1.0 ACRE-FEET.

DURATION(HRS)	2	4	4
FLOW(CFS)	1	1	0

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

EXECUTIVE CONTROL ENDCMP COMPUTATIONS COMPLETED FOR PASS 1

EXECUTIVE CONTROL COMPUT FROM STRUCTURE 1 TO STRUCTURE 1 5-YR
STARTING TIME = .00 RAIN DEPTH = 4.00 RAIN DURATION = 1.00
ANT. RUNOFF COND. = 2 MAIN TIME INCREMENT = .050 HOURS
ALTERNATE NO. = 1 STORM NO. = 5 RAIN TABLE NO. = 2

OPERATION RUNOFF STRUCTURE 1

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
12.01	22.4	(RUNOFF)

HYDROGRAPH POINTS FOR ALTERNATE = 1, STORM = 5
MAIN TIME INCREMENT = .050 hr, DRAINAGE AREA = .01 SQ.MI.

HRS								
10.65	CFS	.48	.51	.54	.57	.60	.63	.66	.70
10.65	ELEV	2.78	2.78	2.78	2.78	2.79	2.79	2.79	2.79
11.05	CFS	.73	.78	.82	.89	.95	1.03	1.10	1.19
11.05	ELEV	2.79	2.80	2.80	2.80	2.81	2.81	2.82	2.82
11.45	CFS	1.27	1.36	1.54	2.00	2.79	4.05	5.77	8.05
11.45	ELEV	2.83	2.83	2.84	2.87	2.92	3.00	3.23	3.51
11.85	CFS	11.13	15.74	20.22	22.31	21.41	17.57	12.71	8.86
11.85	ELEV	3.99	4.74	5.49	5.84	5.68	5.04	4.24	3.63
12.25	CFS	6.61	5.28	4.45	3.87	3.43	3.06	2.76	2.50
12.25	ELEV	3.33	3.16	3.05	2.99	2.96	2.94	2.92	2.90
12.65	CFS	2.31	2.16	2.06	1.98	1.90	1.83	1.77	1.71
12.65	ELEV	2.89	2.88	2.88	2.87	2.87	2.86	2.86	2.85
13.05	CFS	1.65	1.59	1.54	1.49	1.45	1.42	1.38	1.35
13.05	ELEV	2.85	2.85	2.84	2.84	2.84	2.84	2.83	2.83
13.45	CFS	1.32	1.28	1.25	1.22	1.19	1.16	1.13	1.11
13.45	ELEV	2.83	2.83	2.83	2.82	2.82	2.82	2.82	2.82
13.85	CFS	1.08	1.06	1.03	1.01	.99	.96	.95	.93
13.85	ELEV	2.82	2.81	2.81	2.81	2.81	2.81	2.81	2.81
14.25	CFS	.92	.91	.90	.89	.88	.87	.87	.86
14.25	ELEV	2.81	2.81	2.80	2.80	2.80	2.80	2.80	2.80
14.65	CFS	.85	.84	.83	.82	.82	.81	.80	.79
14.65	ELEV	2.80	2.80	2.80	2.80	2.80	2.80	2.80	2.80
15.05	CFS	.78	.77	.76	.76	.75	.74	.73	.72
15.05	ELEV	2.80	2.80	2.80	2.80	2.80	2.80	2.79	2.79
15.45	CFS	.71	.70	.70	.69	.68	.67	.66	.65
15.45	ELEV	2.79	2.79	2.79	2.79	2.79	2.79	2.79	2.79
15.85	CFS	.64	.63	.63	.62	.61	.60	.59	.59
15.85	ELEV	2.79	2.79	2.79	2.79	2.79	2.79	2.79	2.79
16.25	CFS	.59	.58	.58	.58	.57	.57	.57	.56
16.25	ELEV	2.79	2.79	2.79	2.79	2.78	2.78	2.78	2.78
16.65	CFS	.56	.56	.55	.55	.55	.54	.54	.54

16.65 ELEV	2.78	2.78	2.78	2.78	2.78	2.78	2.78	2.78
17.05 CFS	.54	.53	.53	.53	.52	.52	.52	.51
17.05 ELEV	2.78	2.78	2.78	2.78	2.78	2.78	2.78	2.78
17.45 CFS	.51	.51	.50	.50	.50			
17.45 ELEV	2.78	2.78	2.78	2.78	2.78			

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
2.28 WATERSHED INCHES; 17 CFS-HRS; 1.4 ACRE-FEET.

DURATION(HRS)	2	4	6	7
FLOW(CFS)	1	1	1	0

--- STRUCTURE 1, ALTERNATE 1, STORM 5, HYDROGRAPH ADDED TO READHD FILE ---

OPERATION RESVOR STRUCTURE 1

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
12.15	13.0	4.29
12.70	3.5	2.96
12.80	3.1	2.94
12.90	2.8	2.92
13.00	2.6	2.91
13.10	2.3	2.89
13.20	2.1	2.88
13.30	2.0	2.87
13.40	1.8	2.86
13.50	1.7	2.85

HYDROGRAPH POINTS FOR ALTERNATE = 1, STORM = 5
HRS MAIN TIME INCREMENT = .050 hr, DRAINAGE AREA = .01 SQ.MI.

7.40 CFS	.00	.01	.01	.01	.01	.02	.02	.02
7.40 ELEV	2.75	2.75	2.75	2.75	2.75	2.75	2.75	2.75
7.80 CFS	.02	.03	.03	.03	.04	.04	.04	.04
7.80 ELEV	2.75	2.75	2.75	2.75	2.75	2.75	2.75	2.75
8.20 CFS	.05	.05	.05	.06	.06	.07	.07	.08
8.20 ELEV	2.75	2.75	2.75	2.75	2.75	2.75	2.75	2.75
8.60 CFS	.08	.09	.09	.10	.10	.11	.12	.12
8.60 ELEV	2.76	2.76	2.76	2.76	2.76	2.76	2.76	2.76
9.00 CFS	.13	.13	.14	.15	.15	.16	.16	.17
9.00 ELEV	2.76	2.76	2.76	2.76	2.76	2.76	2.76	2.76
9.40 CFS	.17	.18	.18	.19	.19	.20	.21	.21
9.40 ELEV	2.76	2.76	2.76	2.76	2.76	2.76	2.76	2.76
9.80 CFS	.22	.23	.24	.25	.27	.28	.29	.30
9.80 ELEV	2.76	2.76	2.76	2.77	2.77	2.77	2.77	2.77
10.20 CFS	.32	.33	.35	.37	.38	.40	.42	.44
10.20 ELEV	2.77	2.77	2.77	2.77	2.77	2.77	2.78	2.78
10.60 CFS	.46	.48	.51	.54	.57	.60	.63	.66
10.60 ELEV	2.78	2.78	2.78	2.78	2.78	2.79	2.79	2.79
11.00 CFS	.70	.73	.77	.82	.88	.95	1.03	1.10
11.00 ELEV	2.79	2.79	2.80	2.80	2.80	2.81	2.81	2.82

11.40	CFS	1.18	1.27	1.36	1.54	1.99	2.77	4.03	4.62
11.40	ELEV	2.82	2.83	2.83	2.84	2.87	2.92	3.00	3.07
11.80	CFS	5.98	7.47	9.10	10.73	11.81	12.60	12.96	13.04
11.80	ELEV	3.26	3.44	3.67	3.93	4.10	4.22	4.28	4.29
12.20	CFS	12.96	12.73	12.19	11.62	10.83	9.62	8.14	6.08
12.20	ELEV	4.28	4.24	4.16	4.07	3.94	3.75	3.52	3.27
12.60	CFS	4.00	.92	3.46	.85	3.10	.86	2.81	.86
12.60	ELEV	2.99	2.81	2.96	2.80	2.94	2.80	2.92	2.80
13.00	CFS	2.55	.86	2.32	.85	2.13	.86	1.97	.87
13.00	ELEV	2.91	2.80	2.89	2.80	2.88	2.80	2.87	2.80
13.40	CFS	1.83	.87	1.70	.86	1.58	.85	1.47	.84
13.40	ELEV	2.86	2.80	2.85	2.80	2.85	2.80	2.84	2.80
13.80	CFS	1.38	.83	1.29	.81	1.21	.79	1.14	.78
13.80	ELEV	2.83	2.80	2.83	2.80	2.82	2.80	2.82	2.80
14.20	CFS	1.09	.78	1.04	.78	1.01	.77	.98	.77
14.20	ELEV	2.82	2.80	2.81	2.80	2.81	2.80	2.81	2.80
14.60	CFS	.95	.77	.92	.76	.89	.75	.86	.75
14.60	ELEV	2.81	2.80	2.81	2.80	2.80	2.80	2.80	2.80
15.00	CFS	.84	.74	.82	.72	.79	.71	.77	.70
15.00	ELEV	2.80	2.79	2.80	2.79	2.80	2.79	2.80	2.79
15.40	CFS	.75	.69	.73	.67	.71	.66	.69	.64
15.40	ELEV	2.80	2.79	2.79	2.79	2.79	2.79	2.79	2.79
15.80	CFS	.67	.63	.65	.61	.63	.60	.61	.59
15.80	ELEV	2.79	2.79	2.79	2.79	2.79	2.79	2.79	2.79
16.20	CFS	.60	.58	.59	.57	.58	.57	.58	.56
16.20	ELEV	2.79	2.79	2.79	2.78	2.79	2.78	2.79	2.78
16.60	CFS	.57	.56	.56	.55	.55	.54	.55	.54
16.60	ELEV	2.78	2.78	2.78	2.78	2.78	2.78	2.78	2.78
17.00	CFS	.54	.53	.53	.53	.53	.52	.52	.52
17.00	ELEV	2.78	2.78	2.78	2.78	2.78	2.78	2.78	2.78
17.40	CFS	.52	.51	.51	.50	.50	.50	.50	.49
17.40	ELEV	2.78	2.78	2.78	2.78	2.78	2.78	2.78	2.78
17.80	CFS	.49	.49	.48	.48	.48	.47	.47	.47
17.80	ELEV	2.78	2.78	2.78	2.78	2.78	2.78	2.78	2.78
18.20	CFS	.46	.46	.46	.45	.45	.45	.45	.44
18.20	ELEV	2.78	2.78	2.78	2.78	2.78	2.78	2.78	2.78
18.60	CFS	.44	.44	.43	.43	.43	.42	.42	.42
18.60	ELEV	2.78	2.78	2.78	2.78	2.78	2.78	2.78	2.78
19.00	CFS	.41	.41	.41	.40	.40	.40	.39	.39
19.00	ELEV	2.78	2.78	2.77	2.77	2.77	2.77	2.77	2.77
19.40	CFS	.39	.38	.38	.38	.38	.37	.37	.37
19.40	ELEV	2.77	2.77	2.77	2.77	2.77	2.77	2.77	2.77
19.80	CFS	.36	.36	.36	.35	.35	.35	.34	.34
19.80	ELEV	2.77	2.77	2.77	2.77	2.77	2.77	2.77	2.77
20.20	CFS	.34	.34	.34	.34	.34	.34	.34	.34
20.20	ELEV	2.77	2.77	2.77	2.77	2.77	2.77	2.77	2.77
20.60	CFS	.33	.33	.33	.33	.33	.33	.33	.33
20.60	ELEV	2.77	2.77	2.77	2.77	2.77	2.77	2.77	2.77
21.00	CFS	.33	.33	.33	.33	.33	.33	.33	.33

21.00 ELEV	2.77	2.77	2.77	2.77	2.77	2.77	2.77	2.77
21.40 CFS	.32	.32	.32	.32	.32	.32	.32	.32
21.40 ELEV	2.77	2.77	2.77	2.77	2.77	2.77	2.77	2.77
21.80 CFS	.32	.32	.32	.32	.32	.32	.32	.32
21.80 ELEV	2.77	2.77	2.77	2.77	2.77	2.77	2.77	2.77
22.20 CFS	.31	.31	.31	.31	.31	.31	.31	.31
22.20 ELEV	2.77	2.77	2.77	2.77	2.77	2.77	2.77	2.77
22.60 CFS	.31	.31	.31	.31	.31	.31	.31	.31
22.60 ELEV	2.77	2.77	2.77	2.77	2.77	2.77	2.77	2.77
23.00 CFS	.31	.30	.30	.30	.30	.30	.30	.30
23.00 ELEV	2.77	2.77	2.77	2.77	2.77	2.77	2.77	2.77
23.40 CFS	.30	.30	.30	.30	.30	.30	.30	.30
23.40 ELEV	2.77	2.77	2.77	2.77	2.77	2.77	2.77	2.77
23.80 CFS	.30	.29	.29	.29	.29	.27	.22	.14
23.80 ELEV	2.77	2.77	2.77	2.77	2.77	2.77	2.76	2.76
24.20 CFS	.07	.04	.02	.01	.01	.00		
24.20 ELEV	2.75	2.75	2.75	2.75	2.75	2.75		

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
2.33 WATERSHED INCHES; 18 CFS-HRS; 1.5 ACRE-FEET.

DURATION(HRS)	2	4	6	7
FLOW(CFS)	1	1	1	0

--- STRUCTURE 1, ALTERNATE 1, STORM 5, HYDROGRAPH ADDED TO READHD FILE ---

OPERATION RUNOFF STRUCTURE 1

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET) (RUNOFF)
12.01	22.4	

HYDROGRAPH POINTS FOR ALTERNATE = 1, STORM = 5
MAIN TIME INCREMENT = .050 hr, DRAINAGE AREA = .01 SQ.MI.

HRS								
10.65 CFS	.48	.51	.54	.57	.60	.63	.66	.70
10.65 ELEV	2.78	2.78	2.78	2.78	2.79	2.79	2.79	2.79
11.05 CFS	.73	.78	.82	.89	.95	1.03	1.10	1.19
11.05 ELEV	2.79	2.80	2.80	2.80	2.81	2.81	2.82	2.82
11.45 CFS	1.27	1.36	1.54	2.00	2.79	4.05	5.77	8.05
11.45 ELEV	2.83	2.83	2.84	2.87	2.92	3.00	3.23	3.51
11.85 CFS	11.13	15.74	20.22	22.31	21.41	17.57	12.71	8.86
11.85 ELEV	3.99	4.74	5.49	5.84	5.68	5.04	4.24	3.63
12.25 CFS	6.61	5.28	4.45	3.87	3.43	3.06	2.76	2.50
12.25 ELEV	3.33	3.16	3.05	2.99	2.96	2.94	2.92	2.90
12.65 CFS	2.31	2.16	2.06	1.98	1.90	1.83	1.77	1.71
12.65 ELEV	2.89	2.88	2.88	2.87	2.87	2.86	2.86	2.85
13.05 CFS	1.65	1.59	1.54	1.49	1.45	1.42	1.38	1.35
13.05 ELEV	2.85	2.85	2.84	2.84	2.84	2.84	2.83	2.83
13.45 CFS	1.32	1.28	1.25	1.22	1.19	1.16	1.13	1.11
13.45 ELEV	2.83	2.83	2.83	2.82	2.82	2.82	2.82	2.82
13.85 CFS	1.08	1.06	1.03	1.01	.99	.96	.95	.93

13.85 ELEV	2.82	2.81	2.81	2.81	2.81	2.81	2.81	2.81
14.25 CFS	.92	.91	.90	.89	.88	.87	.87	.86
14.25 ELEV	2.81	2.81	2.80	2.80	2.80	2.80	2.80	2.80
14.65 CFS	.85	.84	.83	.82	.82	.81	.80	.79
14.65 ELEV	2.80	2.80	2.80	2.80	2.80	2.80	2.80	2.80
15.05 CFS	.78	.77	.76	.76	.75	.74	.73	.72
15.05 ELEV	2.80	2.80	2.80	2.80	2.80	2.80	2.79	2.79
15.45 CFS	.71	.70	.70	.69	.68	.67	.66	.65
15.45 ELEV	2.79	2.79	2.79	2.79	2.79	2.79	2.79	2.79
15.85 CFS	.64	.63	.63	.62	.61	.60	.59	.59
15.85 ELEV	2.79	2.79	2.79	2.79	2.79	2.79	2.79	2.79
16.25 CFS	.59	.58	.58	.58	.57	.57	.57	.56
16.25 ELEV	2.79	2.79	2.79	2.79	2.78	2.78	2.78	2.78
16.65 CFS	.56	.56	.55	.55	.55	.54	.54	.54
16.65 ELEV	2.78	2.78	2.78	2.78	2.78	2.78	2.78	2.78
17.05 CFS	.54	.53	.53	.53	.52	.52	.52	.51
17.05 ELEV	2.78	2.78	2.78	2.78	2.78	2.78	2.78	2.78
17.45 CFS	.51	.51	.50	.50	.50			
17.45 ELEV	2.78	2.78	2.78	2.78	2.78			

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
2.28 WATERSHED INCHES; 17 CFS-HRS; 1.4 ACRE-FEET.

DURATION(HRS)	2	4	6	7
FLOW(CFS)	1	1	1	0

--- STRUCTURE 1, ALTERNATE 1, STORM 5, HYDROGRAPH ADDED TO READHD FILE ---

EXECUTIVE CONTROL ENDCMP COMPUTATIONS COMPLETED FOR PASS 2

EXECUTIVE CONTROL COMPUT FROM STRUCTURE 1 TO STRUCTURE 1 10-YR
STARTING TIME = .00 RAIN DEPTH = 4.78 RAIN DURATION = 1.00
ANT. RUNOFF COND. = 2 MAIN TIME INCREMENT = .050 HOURS
ALTERNATE NO. = 1 STORM NO. =10 RAIN TABLE NO. = 2

OPERATION RUNOFF STRUCTURE 1

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET) (RUNOFF)
12.01	29.0	

HYDROGRAPH POINTS FOR ALTERNATE = 1, STORM =10
MAIN TIME INCREMENT = .050 hr, DRAINAGE AREA = .01 SQ.MI.

HRS								
10.15 CFS	.48	.50	.52	.55	.57	.60	.62	.65
10.15 ELEV	2.78	2.78	2.78	2.78	2.78	2.79	2.79	2.79
10.55 CFS	.67	.70	.73	.77	.81	.85	.89	.93
10.55 ELEV	2.79	2.79	2.79	2.80	2.80	2.80	2.80	2.81

10.95 CFS	.98	1.03	1.08	1.13	1.20	1.29	1.38	1.48
10.95 ELEV	2.81	2.81	2.82	2.82	2.82	2.83	2.83	2.84
11.35 CFS	1.58	1.69	1.81	1.93	2.17	2.80	3.87	5.59
11.35 ELEV	2.85	2.85	2.86	2.87	2.88	2.92	2.99	3.21
11.75 CFS	7.88	10.88	14.86	20.76	26.42	28.93	27.59	22.55
11.75 ELEV	3.49	3.95	4.59	5.58	6.52	6.94	6.72	5.87
12.15 CFS	16.27	11.30	8.41	6.70	5.64	4.89	4.33	3.86
12.15 ELEV	4.83	4.02	3.56	3.34	3.21	3.11	3.03	2.99
12.55 CFS	3.47	3.15	2.90	2.72	2.59	2.48	2.39	2.30
12.55 ELEV	2.96	2.94	2.93	2.92	2.91	2.90	2.90	2.89
12.95 CFS	2.22	2.14	2.06	1.99	1.93	1.87	1.82	1.78
12.95 ELEV	2.89	2.88	2.88	2.87	2.87	2.86	2.86	2.86
13.35 CFS	1.73	1.69	1.65	1.60	1.56	1.52	1.48	1.45
13.35 ELEV	2.86	2.85	2.85	2.85	2.85	2.84	2.84	2.84
13.75 CFS	1.42	1.38	1.35	1.32	1.29	1.26	1.23	1.20
13.75 ELEV	2.84	2.83	2.83	2.83	2.83	2.83	2.83	2.82
14.15 CFS	1.18	1.16	1.15	1.14	1.12	1.11	1.10	1.09
14.15 ELEV	2.82	2.82	2.82	2.82	2.82	2.82	2.82	2.82
14.55 CFS	1.08	1.07	1.06	1.05	1.04	1.03	1.02	1.01
14.55 ELEV	2.82	2.82	2.81	2.81	2.81	2.81	2.81	2.81
14.95 CFS	1.00	.99	.97	.96	.95	.94	.93	.92
14.95 ELEV	2.81	2.81	2.81	2.81	2.81	2.81	2.81	2.81
15.35 CFS	.91	.90	.89	.88	.87	.86	.84	.83
15.35 ELEV	2.81	2.80	2.80	2.80	2.80	2.80	2.80	2.80
15.75 CFS	.82	.81	.80	.79	.78	.77	.76	.75
15.75 ELEV	2.80	2.80	2.80	2.80	2.80	2.80	2.80	2.80
16.15 CFS	.74	.73	.73	.72	.72	.72	.71	.71
16.15 ELEV	2.80	2.79	2.79	2.79	2.79	2.79	2.79	2.79
16.55 CFS	.70	.70	.70	.69	.69	.68	.68	.68
16.55 ELEV	2.79	2.79	2.79	2.79	2.79	2.79	2.79	2.79
16.95 CFS	.67	.67	.67	.66	.66	.65	.65	.65
16.95 ELEV	2.79	2.79	2.79	2.79	2.79	2.79	2.79	2.79
17.35 CFS	.64	.64	.63	.63	.63	.62	.62	.62
17.35 ELEV	2.79	2.79	2.79	2.79	2.79	2.79	2.79	2.79
17.75 CFS	.61	.61	.60	.60	.60	.59	.59	.58
17.75 ELEV	2.79	2.79	2.79	2.79	2.79	2.79	2.79	2.79
18.15 CFS	.58	.58	.57	.57	.56	.56	.56	.55
18.15 ELEV	2.79	2.79	2.78	2.78	2.78	2.78	2.78	2.78
18.55 CFS	.55	.54	.54	.54	.53	.53	.52	.52
18.55 ELEV	2.78	2.78	2.78	2.78	2.78	2.78	2.78	2.78
18.95 CFS	.52	.51	.51	.51	.50	.50		
18.95 ELEV	2.78	2.78	2.78	2.78	2.78	2.78		

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
2.97 WATERSHED INCHES; 23 CFS-HRS; 1.9 ACRE-FEET.

DURATION(HRS)	2	4	6	8	9
FLOW(CFS)	2	1	1	1	0

--- STRUCTURE 1, ALTERNATE 1, STORM 10, HYDROGRAPH ADDED TO READHD FILE ---

OPERATION RESVOR STRUCTURE 1

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
12.17	14.2	4.48
13.09	2.1	2.88
14.78	1.0	2.81

HYDROGRAPH POINTS FOR ALTERNATE = 1, STORM =10
HRS MAIN TIME INCREMENT = .050 hr, DRAINAGE AREA = .01 SQ.MI.

6.50 CFS	.00	.01	.01	.01	.01	.02	.02	.02
6.50 ELEV	2.75	2.75	2.75	2.75	2.75	2.75	2.75	2.75
6.90 CFS	.03	.03	.03	.04	.04	.04	.05	.05
6.90 ELEV	2.75	2.75	2.75	2.75	2.75	2.75	2.75	2.75
7.30 CFS	.05	.06	.06	.06	.07	.07	.07	.08
7.30 ELEV	2.75	2.75	2.75	2.75	2.75	2.75	2.75	2.75
7.70 CFS	.08	.08	.09	.09	.09	.10	.10	.11
7.70 ELEV	2.75	2.76	2.76	2.76	2.76	2.76	2.76	2.76
8.10 CFS	.11	.12	.12	.13	.13	.14	.15	.15
8.10 ELEV	2.76	2.76	2.76	2.76	2.76	2.76	2.76	2.76
8.50 CFS	.16	.17	.17	.18	.19	.20	.21	.22
8.50 ELEV	2.76	2.76	2.76	2.76	2.76	2.76	2.76	2.76
8.90 CFS	.22	.23	.24	.25	.26	.27	.28	.28
8.90 ELEV	2.76	2.76	2.76	2.77	2.77	2.77	2.77	2.77
9.30 CFS	.29	.29	.30	.31	.31	.32	.32	.33
9.30 ELEV	2.77	2.77	2.77	2.77	2.77	2.77	2.77	2.77
9.70 CFS	.34	.36	.37	.38	.40	.41	.43	.45
9.70 ELEV	2.77	2.77	2.77	2.77	2.77	2.78	2.78	2.78
10.10 CFS	.46	.48	.50	.52	.55	.57	.59	.62
10.10 ELEV	2.78	2.78	2.78	2.78	2.78	2.78	2.79	2.79
10.50 CFS	.65	.67	.70	.73	.77	.81	.85	.89
10.50 ELEV	2.79	2.79	2.79	2.79	2.80	2.80	2.80	2.80
10.90 CFS	.93	.98	1.03	1.07	1.13	1.20	1.28	1.38
10.90 ELEV	2.81	2.81	2.81	2.82	2.82	2.82	2.83	2.83
11.30 CFS	1.48	1.58	1.69	1.80	1.92	2.17	2.78	3.85
11.30 ELEV	2.84	2.85	2.85	2.86	2.87	2.88	2.92	2.98
11.70 CFS	4.56	5.88	7.33	8.92	10.61	11.95	12.98	13.54
11.70 ELEV	3.06	3.25	3.42	3.64	3.91	4.12	4.28	4.37
12.10 CFS	13.96	14.16	14.14	13.99	13.75	13.48	13.18	12.86
12.10 ELEV	4.44	4.48	4.47	4.45	4.41	4.36	4.31	4.26
12.50 CFS	12.24	11.57	10.60	9.21	7.49	5.30	2.57	2.31
12.50 ELEV	4.16	4.06	3.91	3.69	3.44	3.17	2.91	2.89
12.90 CFS	2.38	2.15	2.21	2.00	2.05	1.88	1.92	1.78
12.90 ELEV	2.90	2.88	2.88	2.87	2.88	2.86	2.87	2.86
13.30 CFS	1.82	1.69	1.73	1.61	1.64	1.53	1.55	1.46
13.30 ELEV	2.86	2.85	2.86	2.85	2.85	2.84	2.84	2.84
13.70 CFS	1.47	1.39	1.41	1.33	1.34	1.27	1.28	1.22
13.70 ELEV	2.84	2.83	2.84	2.83	2.83	2.83	2.83	2.82

14.10	CFS	1.22	1.17	1.18	1.14	1.15	1.11	1.12	1.09
14.10	ELEV	2.82	2.82	2.82	2.82	2.82	2.82	2.82	2.82
14.50	CFS	1.10	1.07	1.08	1.05	1.06	1.03	1.03	1.01
14.50	ELEV	2.82	2.82	2.82	2.81	2.81	2.81	2.81	2.81
14.90	CFS	1.01	.99	.99	.97	.97	.95	.95	.93
14.90	ELEV	2.81	2.81	2.81	2.81	2.81	2.81	2.81	2.81
15.30	CFS	.92	.91	.90	.89	.88	.87	.86	.84
15.30	ELEV	2.81	2.81	2.80	2.80	2.80	2.80	2.80	2.80
15.70	CFS	.84	.82	.81	.80	.79	.78	.77	.76
15.70	ELEV	2.80	2.80	2.80	2.80	2.80	2.80	2.80	2.80
16.10	CFS	.75	.74	.73	.73	.72	.72	.72	.71
16.10	ELEV	2.80	2.80	2.79	2.79	2.79	2.79	2.79	2.79
16.50	CFS	.71	.70	.70	.70	.69	.69	.69	.68
16.50	ELEV	2.79	2.79	2.79	2.79	2.79	2.79	2.79	2.79
16.90	CFS	.68	.67	.67	.67	.66	.66	.65	.65
16.90	ELEV	2.79	2.79	2.79	2.79	2.79	2.79	2.79	2.79
17.30	CFS	.65	.64	.64	.63	.63	.63	.62	.62
17.30	ELEV	2.79	2.79	2.79	2.79	2.79	2.79	2.79	2.79
17.70	CFS	.62	.61	.61	.60	.60	.60	.59	.59
17.70	ELEV	2.79	2.79	2.79	2.79	2.79	2.79	2.79	2.79
18.10	CFS	.58	.58	.58	.57	.57	.56	.56	.56
18.10	ELEV	2.79	2.79	2.79	2.78	2.78	2.78	2.78	2.78
18.50	CFS	.55	.55	.54	.54	.54	.53	.53	.52
18.50	ELEV	2.78	2.78	2.78	2.78	2.78	2.78	2.78	2.78
18.90	CFS	.52	.52	.51	.51	.51	.50	.50	.49
18.90	ELEV	2.78	2.78	2.78	2.78	2.78	2.78	2.78	2.78
19.30	CFS	.49	.49	.48	.48	.47	.47	.47	.46
19.30	ELEV	2.78	2.78	2.78	2.78	2.78	2.78	2.78	2.78
19.70	CFS	.46	.45	.45	.45	.44	.44	.43	.43
19.70	ELEV	2.78	2.78	2.78	2.78	2.78	2.78	2.78	2.78
20.10	CFS	.43	.42	.42	.42	.42	.42	.42	.42
20.10	ELEV	2.78	2.78	2.78	2.78	2.78	2.78	2.78	2.78
20.50	CFS	.42	.42	.41	.41	.41	.41	.41	.41
20.50	ELEV	2.78	2.78	2.78	2.78	2.78	2.78	2.78	2.78
20.90	CFS	.41	.41	.41	.41	.41	.41	.41	.40
20.90	ELEV	2.77	2.77	2.77	2.77	2.77	2.77	2.77	2.77
21.30	CFS	.40	.40	.40	.40	.40	.40	.40	.40
21.30	ELEV	2.77	2.77	2.77	2.77	2.77	2.77	2.77	2.77
21.70	CFS	.40	.40	.40	.40	.39	.39	.39	.39
21.70	ELEV	2.77	2.77	2.77	2.77	2.77	2.77	2.77	2.77
22.10	CFS	.39	.39	.39	.39	.39	.39	.39	.39
22.10	ELEV	2.77	2.77	2.77	2.77	2.77	2.77	2.77	2.77
22.50	CFS	.39	.38	.38	.38	.38	.38	.38	.38
22.50	ELEV	2.77	2.77	2.77	2.77	2.77	2.77	2.77	2.77
22.90	CFS	.38	.38	.38	.38	.38	.38	.37	.37
22.90	ELEV	2.77	2.77	2.77	2.77	2.77	2.77	2.77	2.77
23.30	CFS	.37	.37	.37	.37	.37	.37	.37	.37
23.30	ELEV	2.77	2.77	2.77	2.77	2.77	2.77	2.77	2.77
23.70	CFS	.37	.37	.37	.36	.36	.36	.36	.34

23.70 ELEV	2.77	2.77	2.77	2.77	2.77	2.77	2.77	2.77
24.10 CFS	.27	.17	.09	.05	.03	.01	.01	.00
24.10 ELEV	2.77	2.76	2.76	2.75	2.75	2.75	2.75	2.75

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
2.97 WATERSHED INCHES; 23 CFS-HRS; 1.9 ACRE-FEET.

DURATION(HRS)	2	4	6	8	9
FLOW(CFS)	2	1	1	1	0

--- STRUCTURE 1, ALTERNATE 1, STORM 10, HYDROGRAPH ADDED TO READHD FILE ---

OPERATION RUNOFF STRUCTURE 1

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
12.01	29.0	(RUNOFF)

HYDROGRAPH POINTS FOR ALTERNATE = 1, STORM =10
HRS MAIN TIME INCREMENT = .050 hr, DRAINAGE AREA = .01 SQ.MI.

10.15 CFS	.48	.50	.52	.55	.57	.60	.62	.65
10.15 ELEV	2.78	2.78	2.78	2.78	2.78	2.79	2.79	2.79
10.55 CFS	.67	.70	.73	.77	.81	.85	.89	.93
10.55 ELEV	2.79	2.79	2.79	2.80	2.80	2.80	2.80	2.81
10.95 CFS	.98	1.03	1.08	1.13	1.20	1.29	1.38	1.48
10.95 ELEV	2.81	2.81	2.82	2.82	2.82	2.83	2.83	2.84
11.35 CFS	1.58	1.69	1.81	1.93	2.17	2.80	3.87	5.59
11.35 ELEV	2.85	2.85	2.86	2.87	2.88	2.92	2.99	3.21
11.75 CFS	7.88	10.88	14.86	20.76	26.42	28.93	27.59	22.55
11.75 ELEV	3.49	3.95	4.59	5.58	6.52	6.94	6.72	5.87
12.15 CFS	16.27	11.30	8.41	6.70	5.64	4.89	4.33	3.86
12.15 ELEV	4.83	4.02	3.56	3.34	3.21	3.11	3.03	2.99
12.55 CFS	3.47	3.15	2.90	2.72	2.59	2.48	2.39	2.30
12.55 ELEV	2.96	2.94	2.93	2.92	2.91	2.90	2.90	2.89
12.95 CFS	2.22	2.14	2.06	1.99	1.93	1.87	1.82	1.78
12.95 ELEV	2.89	2.88	2.88	2.87	2.87	2.86	2.86	2.86
13.35 CFS	1.73	1.69	1.65	1.60	1.56	1.52	1.48	1.45
13.35 ELEV	2.86	2.85	2.85	2.85	2.85	2.84	2.84	2.84
13.75 CFS	1.42	1.38	1.35	1.32	1.29	1.26	1.23	1.20
13.75 ELEV	2.84	2.83	2.83	2.83	2.83	2.83	2.83	2.82
14.15 CFS	1.18	1.16	1.15	1.14	1.12	1.11	1.10	1.09
14.15 ELEV	2.82	2.82	2.82	2.82	2.82	2.82	2.82	2.82
14.55 CFS	1.08	1.07	1.06	1.05	1.04	1.03	1.02	1.01
14.55 ELEV	2.82	2.82	2.81	2.81	2.81	2.81	2.81	2.81
14.95 CFS	1.00	.99	.97	.96	.95	.94	.93	.92
14.95 ELEV	2.81	2.81	2.81	2.81	2.81	2.81	2.81	2.81
15.35 CFS	.91	.90	.89	.88	.87	.86	.84	.83
15.35 ELEV	2.81	2.80	2.80	2.80	2.80	2.80	2.80	2.80
15.75 CFS	.82	.81	.80	.79	.78	.77	.76	.75
15.75 ELEV	2.80	2.80	2.80	2.80	2.80	2.80	2.80	2.80
16.15 CFS	.74	.73	.73	.72	.72	.72	.71	.71

16.15 ELEV	2.80	2.79	2.79	2.79	2.79	2.79	2.79	2.79
16.55 CFS	.70	.70	.70	.69	.69	.68	.68	.68
16.55 ELEV	2.79	2.79	2.79	2.79	2.79	2.79	2.79	2.79
16.95 CFS	.67	.67	.67	.66	.66	.65	.65	.65
16.95 ELEV	2.79	2.79	2.79	2.79	2.79	2.79	2.79	2.79
17.35 CFS	.64	.64	.63	.63	.63	.62	.62	.62
17.35 ELEV	2.79	2.79	2.79	2.79	2.79	2.79	2.79	2.79
17.75 CFS	.61	.61	.60	.60	.60	.59	.59	.58
17.75 ELEV	2.79	2.79	2.79	2.79	2.79	2.79	2.79	2.79
18.15 CFS	.58	.58	.57	.57	.56	.56	.56	.55
18.15 ELEV	2.79	2.79	2.78	2.78	2.78	2.78	2.78	2.78
18.55 CFS	.55	.54	.54	.54	.53	.53	.52	.52
18.55 ELEV	2.78	2.78	2.78	2.78	2.78	2.78	2.78	2.78
18.95 CFS	.52	.51	.51	.51	.50	.50		
18.95 ELEV	2.78	2.78	2.78	2.78	2.78	2.78		

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
2.97 WATERSHED INCHES; 23 CFS-HRS; 1.9 ACRE-FEET.

DURATION(HRS)	2	4	6	8	9
FLOW(CFS)	2	1	1	1	0

--- STRUCTURE 1, ALTERNATE 1, STORM 10, HYDROGRAPH ADDED TO READHD FILE ---

EXECUTIVE CONTROL ENDCMP COMPUTATIONS COMPLETED FOR PASS 3

EXECUTIVE CONTROL COMPUT FROM STRUCTURE 1 TO STRUCTURE 1 25-YR
STARTING TIME = .00 RAIN DEPTH = 5.99 RAIN DURATION = 1.00
ANT. RUNOFF COND. = 2 MAIN TIME INCREMENT = .050 HOURS
ALTERNATE NO. = 1 STORM NO. =25 RAIN TABLE NO. = 2

OPERATION RUNOFF STRUCTURE 1

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
12.01	39.4	(RUNOFF)

HYDROGRAPH POINTS FOR ALTERNATE = 1, STORM =25
MAIN TIME INCREMENT = .050 hr, DRAINAGE AREA = .01 SQ.MI.

HRS								
9.20 CFS	.50	.51	.51	.52	.53	.54	.54	.55
9.20 ELEV	2.78	2.78	2.78	2.78	2.78	2.78	2.78	2.78
9.60 CFS	.56	.57	.59	.61	.63	.65	.67	.69
9.60 ELEV	2.78	2.78	2.79	2.79	2.79	2.79	2.79	2.79
10.00 CFS	.72	.74	.77	.79	.82	.86	.89	.92
10.00 ELEV	2.79	2.80	2.80	2.80	2.80	2.80	2.80	2.81
10.40 CFS	.96	1.00	1.03	1.07	1.11	1.16	1.21	1.27
10.40 ELEV	2.81	2.81	2.81	2.82	2.82	2.82	2.82	2.83

10.80 CFS	1.33	1.39	1.45	1.51	1.58	1.65	1.74	1.84
10.80 ELEV	2.83	2.83	2.84	2.84	2.85	2.85	2.86	2.86
11.20 CFS	1.95	2.08	2.23	2.37	2.53	2.69	2.87	3.25
11.20 ELEV	2.87	2.88	2.89	2.89	2.90	2.91	2.93	2.95
11.60 CFS	4.12	5.62	8.03	11.19	15.42	20.92	28.71	36.05
11.60 ELEV	3.00	3.21	3.50	4.00	4.69	5.60	6.90	8.12
12.00 CFS	39.35	37.43	30.41	21.80	15.15	11.26	8.94	7.48
12.00 ELEV	8.68	8.36	7.18	5.75	4.64	4.01	3.65	3.44
12.40 CFS	6.48	5.73	5.10	4.58	4.15	3.82	3.58	3.41
12.40 ELEV	3.32	3.23	3.14	3.07	3.01	2.98	2.97	2.96
12.80 CFS	3.27	3.14	3.03	2.92	2.81	2.71	2.62	2.53
12.80 ELEV	2.95	2.94	2.93	2.93	2.92	2.92	2.91	2.90
13.20 CFS	2.46	2.39	2.33	2.27	2.22	2.16	2.10	2.05
13.20 ELEV	2.90	2.90	2.89	2.89	2.89	2.88	2.88	2.87
13.60 CFS	1.99	1.95	1.90	1.86	1.81	1.77	1.73	1.69
13.60 ELEV	2.87	2.87	2.87	2.86	2.86	2.86	2.86	2.85
14.00 CFS	1.65	1.61	1.58	1.55	1.52	1.50	1.49	1.47
14.00 ELEV	2.85	2.85	2.85	2.84	2.84	2.84	2.84	2.84
14.40 CFS	1.46	1.44	1.43	1.41	1.40	1.38	1.37	1.36
14.40 ELEV	2.84	2.84	2.84	2.84	2.84	2.83	2.83	2.83
14.80 CFS	1.34	1.33	1.31	1.30	1.29	1.27	1.26	1.24
14.80 ELEV	2.83	2.83	2.83	2.83	2.83	2.83	2.83	2.83
15.20 CFS	1.23	1.22	1.20	1.19	1.17	1.16	1.14	1.13
15.20 ELEV	2.82	2.82	2.82	2.82	2.82	2.82	2.82	2.82
15.60 CFS	1.12	1.10	1.09	1.07	1.06	1.04	1.03	1.02
15.60 ELEV	2.82	2.82	2.82	2.82	2.81	2.81	2.81	2.81
16.00 CFS	1.00	.99	.97	.96	.96	.95	.94	.94
16.00 ELEV	2.81	2.81	2.81	2.81	2.81	2.81	2.81	2.81
16.40 CFS	.93	.93	.92	.92	.91	.91	.90	.90
16.40 ELEV	2.81	2.81	2.81	2.81	2.81	2.81	2.80	2.80
16.80 CFS	.89	.89	.88	.88	.87	.87	.86	.86
16.80 ELEV	2.80	2.80	2.80	2.80	2.80	2.80	2.80	2.80
17.20 CFS	.85	.85	.84	.84	.83	.83	.82	.82
17.20 ELEV	2.80	2.80	2.80	2.80	2.80	2.80	2.80	2.80
17.60 CFS	.81	.81	.80	.80	.79	.78	.78	.77
17.60 ELEV	2.80	2.80	2.80	2.80	2.80	2.80	2.80	2.80
18.00 CFS	.77	.76	.76	.75	.75	.74	.74	.73
18.00 ELEV	2.80	2.80	2.80	2.80	2.80	2.80	2.80	2.79
18.40 CFS	.73	.72	.72	.71	.71	.70	.70	.69
18.40 ELEV	2.79	2.79	2.79	2.79	2.79	2.79	2.79	2.79
18.80 CFS	.69	.68	.68	.67	.67	.66	.66	.65
18.80 ELEV	2.79	2.79	2.79	2.79	2.79	2.79	2.79	2.79
19.20 CFS	.65	.64	.64	.63	.63	.62	.61	.61
19.20 ELEV	2.79	2.79	2.79	2.79	2.79	2.79	2.79	2.79
19.60 CFS	.60	.60	.59	.59	.58	.58	.57	.57
19.60 ELEV	2.79	2.79	2.79	2.79	2.79	2.79	2.78	2.78
20.00 CFS	.56	.56	.55	.55	.55	.55	.54	.54
20.00 ELEV	2.78	2.78	2.78	2.78	2.78	2.78	2.78	2.78
20.40 CFS	.54	.54	.54	.54	.54	.54	.54	.53

20.40 ELEV	2.78	2.78	2.78	2.78	2.78	2.78	2.78	2.78
20.80 CFS	.53	.53	.53	.53	.53	.53	.53	.53
20.80 ELEV	2.78	2.78	2.78	2.78	2.78	2.78	2.78	2.78
21.20 CFS	.53	.52	.52	.52	.52	.52	.52	.52
21.20 ELEV	2.78	2.78	2.78	2.78	2.78	2.78	2.78	2.78
21.60 CFS	.52	.52	.52	.51	.51	.51	.51	.51
21.60 ELEV	2.78	2.78	2.78	2.78	2.78	2.78	2.78	2.78
22.00 CFS	.51	.51	.51	.51	.51	.50	.50	.50
22.00 ELEV	2.78	2.78	2.78	2.78	2.78	2.78	2.78	2.78
22.40 CFS	.50	.50						
22.40 ELEV	2.78	2.78						

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
4.08 WATERSHED INCHES; 31 CFS-HRS; 2.6 ACRE-FEET.

DURATION(HRS)	2	4	6	8	10	12	13
FLOW(CFS)	2	1	1	1	1	1	0

--- STRUCTURE 1, ALTERNATE 1, STORM 25, HYDROGRAPH ADDED TO READHD FILE ---

OPERATION RESVOR STRUCTURE 1

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
12.20	15.8	4.74
13.54	2.1	2.88
13.64	2.0	2.87
15.23	1.2	2.82

HYDROGRAPH POINTS FOR ALTERNATE = 1, STORM =25
MAIN TIME INCREMENT = .050 hr, DRAINAGE AREA = .01 SQ.MI.

HRS								
5.50 CFS	.00	.01	.01	.01	.02	.02	.02	.03
5.50 ELEV	2.75	2.75	2.75	2.75	2.75	2.75	2.75	2.75
5.90 CFS	.03	.04	.04	.04	.05	.05	.06	.06
5.90 ELEV	2.75	2.75	2.75	2.75	2.75	2.75	2.75	2.75
6.30 CFS	.07	.07	.07	.08	.08	.09	.09	.10
6.30 ELEV	2.75	2.75	2.75	2.75	2.76	2.76	2.76	2.76
6.70 CFS	.10	.11	.11	.11	.12	.12	.13	.13
6.70 ELEV	2.76	2.76	2.76	2.76	2.76	2.76	2.76	2.76
7.10 CFS	.14	.14	.15	.15	.16	.16	.17	.17
7.10 ELEV	2.76	2.76	2.76	2.76	2.76	2.76	2.76	2.76
7.50 CFS	.18	.18	.19	.19	.20	.20	.21	.21
7.50 ELEV	2.76	2.76	2.76	2.76	2.76	2.76	2.76	2.76
7.90 CFS	.22	.22	.23	.23	.24	.25	.26	.27
7.90 ELEV	2.76	2.76	2.76	2.76	2.76	2.77	2.77	2.77
8.30 CFS	.28	.29	.30	.31	.32	.33	.34	.35
8.30 ELEV	2.77	2.77	2.77	2.77	2.77	2.77	2.77	2.77
8.70 CFS	.37	.38	.39	.41	.42	.43	.45	.46
8.70 ELEV	2.77	2.77	2.77	2.77	2.78	2.78	2.78	2.78
9.10 CFS	.47	.49	.50	.51	.51	.52	.53	.54
9.10 ELEV	2.78	2.78	2.78	2.78	2.78	2.78	2.78	2.78

9.50	CFS	.54	.55	.56	.57	.59	.61	.63	.65
9.50	ELEV	2.78	2.78	2.78	2.78	2.79	2.79	2.79	2.79
9.90	CFS	.67	.69	.72	.74	.76	.79	.82	.86
9.90	ELEV	2.79	2.79	2.79	2.80	2.80	2.80	2.80	2.80
10.30	CFS	.89	.92	.96	1.00	1.03	1.07	1.11	1.16
10.30	ELEV	2.80	2.81	2.81	2.81	2.81	2.82	2.82	2.82
10.70	CFS	1.21	1.27	1.33	1.39	1.45	1.51	1.58	1.65
10.70	ELEV	2.82	2.83	2.83	2.83	2.84	2.84	2.85	2.85
11.10	CFS	1.74	1.83	1.95	2.08	2.22	2.37	2.53	2.69
11.10	ELEV	2.86	2.86	2.87	2.88	2.89	2.89	2.90	2.91
11.50	CFS	2.87	3.24	4.09	4.57	5.93	7.45	9.06	10.75
11.50	ELEV	2.92	2.95	3.00	3.07	3.25	3.43	3.67	3.93
11.90	CFS	12.10	13.21	14.11	14.84	15.38	15.68	15.76	15.69
11.90	ELEV	4.14	4.32	4.47	4.59	4.68	4.73	4.74	4.73
12.30	CFS	15.53	15.32	15.09	14.83	14.57	14.29	13.93	13.56
12.30	ELEV	4.70	4.67	4.63	4.59	4.54	4.50	4.44	4.38
12.70	CFS	13.20	12.85	12.16	11.45	10.33	8.89	7.08	5.02
12.70	ELEV	4.32	4.26	4.15	4.04	3.86	3.64	3.39	3.13
13.10	CFS	2.46	2.68	2.33	2.52	2.22	2.38	2.12	2.25
13.10	ELEV	2.90	2.91	2.89	2.90	2.89	2.90	2.88	2.89
13.50	CFS	2.02	2.13	1.92	2.02	1.83	1.92	1.76	1.83
13.50	ELEV	2.87	2.88	2.87	2.87	2.86	2.87	2.86	2.86
13.90	CFS	1.68	1.74	1.61	1.65	1.54	1.58	1.49	1.53
13.90	ELEV	2.85	2.86	2.85	2.85	2.84	2.85	2.84	2.84
14.30	CFS	1.46	1.50	1.43	1.46	1.41	1.43	1.38	1.40
14.30	ELEV	2.84	2.84	2.84	2.84	2.84	2.84	2.83	2.84
14.70	CFS	1.35	1.37	1.33	1.34	1.30	1.31	1.28	1.28
14.70	ELEV	2.83	2.83	2.83	2.83	2.83	2.83	2.83	2.83
15.10	CFS	1.25	1.25	1.22	1.22	1.19	1.19	1.17	1.16
15.10	ELEV	2.83	2.83	2.82	2.82	2.82	2.82	2.82	2.82
15.50	CFS	1.14	1.14	1.11	1.11	1.08	1.08	1.06	1.05
15.50	ELEV	2.82	2.82	2.82	2.82	2.82	2.82	2.81	2.81
15.90	CFS	1.03	1.02	1.00	.99	.97	.97	.95	.95
15.90	ELEV	2.81	2.81	2.81	2.81	2.81	2.81	2.81	2.81
16.30	CFS	.94	.94	.93	.93	.92	.92	.91	.91
16.30	ELEV	2.81	2.81	2.81	2.81	2.81	2.81	2.81	2.81
16.70	CFS	.90	.90	.89	.89	.88	.88	.87	.87
16.70	ELEV	2.80	2.80	2.80	2.80	2.80	2.80	2.80	2.80
17.10	CFS	.86	.86	.85	.85	.84	.84	.83	.83
17.10	ELEV	2.80	2.80	2.80	2.80	2.80	2.80	2.80	2.80
17.50	CFS	.82	.82	.81	.81	.80	.80	.79	.78
17.50	ELEV	2.80	2.80	2.80	2.80	2.80	2.80	2.80	2.80
17.90	CFS	.78	.77	.77	.76	.76	.75	.75	.74
17.90	ELEV	2.80	2.80	2.80	2.80	2.80	2.80	2.80	2.80
18.30	CFS	.74	.73	.73	.72	.72	.71	.71	.70
18.30	ELEV	2.80	2.79	2.79	2.79	2.79	2.79	2.79	2.79
18.70	CFS	.70	.69	.69	.68	.68	.67	.67	.66
18.70	ELEV	2.79	2.79	2.79	2.79	2.79	2.79	2.79	2.79
19.10	CFS	.66	.65	.65	.64	.64	.63	.63	.62

19.10 ELEV	2.79	2.79	2.79	2.79	2.79	2.79	2.79	2.79
19.50 CFS	.61	.61	.60	.60	.59	.59	.58	.58
19.50 ELEV	2.79	2.79	2.79	2.79	2.79	2.79	2.79	2.79
19.90 CFS	.57	.57	.56	.56	.55	.55	.55	.55
19.90 ELEV	2.78	2.78	2.78	2.78	2.78	2.78	2.78	2.78
20.30 CFS	.54	.54	.54	.54	.54	.54	.54	.54
20.30 ELEV	2.78	2.78	2.78	2.78	2.78	2.78	2.78	2.78
20.70 CFS	.54	.53	.53	.53	.53	.53	.53	.53
20.70 ELEV	2.78	2.78	2.78	2.78	2.78	2.78	2.78	2.78
21.10 CFS	.53	.53	.53	.52	.52	.52	.52	.52
21.10 ELEV	2.78	2.78	2.78	2.78	2.78	2.78	2.78	2.78
21.50 CFS	.52	.52	.52	.52	.52	.51	.51	.51
21.50 ELEV	2.78	2.78	2.78	2.78	2.78	2.78	2.78	2.78
21.90 CFS	.51	.51	.51	.51	.51	.51	.51	.50
21.90 ELEV	2.78	2.78	2.78	2.78	2.78	2.78	2.78	2.78
22.30 CFS	.50	.50	.50	.50	.50	.50	.50	.50
22.30 ELEV	2.78	2.78	2.78	2.78	2.78	2.78	2.78	2.78
22.70 CFS	.49	.49	.49	.49	.49	.49	.49	.49
22.70 ELEV	2.78	2.78	2.78	2.78	2.78	2.78	2.78	2.78
23.10 CFS	.49	.49	.48	.48	.48	.48	.48	.48
23.10 ELEV	2.78	2.78	2.78	2.78	2.78	2.78	2.78	2.78
23.50 CFS	.48	.48	.48	.48	.47	.47	.47	.47
23.50 ELEV	2.78	2.78	2.78	2.78	2.78	2.78	2.78	2.78
23.90 CFS	.47	.47	.47	.44	.35	.22	.12	.06
23.90 ELEV	2.78	2.78	2.78	2.78	2.77	2.76	2.76	2.75
24.30 CFS	.04	.02	.01	.00				
24.30 ELEV	2.75	2.75	2.75	2.75				

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
4.08 WATERSHED INCHES; 31 CFS-HRS; 2.6 ACRE-FEET.

DURATION(HRS)	2	4	6	8	10	12	13
FLOW(CFS)	2	1	1	1	1	1	0

--- STRUCTURE 1, ALTERNATE 1, STORM 25, HYDROGRAPH ADDED TO READHD FILE ---

OPERATION RUNOFF STRUCTURE 1

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
12.01	39.4	(RUNOFF)

HYDROGRAPH POINTS FOR ALTERNATE = 1, STORM =25
HRS MAIN TIME INCREMENT = .050 hr, DRAINAGE AREA = .01 SQ.MI.

9.20 CFS	.50	.51	.51	.52	.53	.54	.54	.55
9.20 ELEV	2.78	2.78	2.78	2.78	2.78	2.78	2.78	2.78
9.60 CFS	.56	.57	.59	.61	.63	.65	.67	.69
9.60 ELEV	2.78	2.78	2.79	2.79	2.79	2.79	2.79	2.79
10.00 CFS	.72	.74	.77	.79	.82	.86	.89	.92
10.00 ELEV	2.79	2.80	2.80	2.80	2.80	2.80	2.80	2.81
10.40 CFS	.96	1.00	1.03	1.07	1.11	1.16	1.21	1.27

10.40	ELEV	2.81	2.81	2.81	2.82	2.82	2.82	2.82	2.83
10.80	CFS	1.33	1.39	1.45	1.51	1.58	1.65	1.74	1.84
10.80	ELEV	2.83	2.83	2.84	2.84	2.85	2.85	2.86	2.86
11.20	CFS	1.95	2.08	2.23	2.37	2.53	2.69	2.87	3.25
11.20	ELEV	2.87	2.88	2.89	2.89	2.90	2.91	2.93	2.95
11.60	CFS	4.12	5.62	8.03	11.19	15.42	20.92	28.71	36.05
11.60	ELEV	3.00	3.21	3.50	4.00	4.69	5.60	6.90	8.12
12.00	CFS	39.35	37.43	30.41	21.80	15.15	11.26	8.94	7.48
12.00	ELEV	8.68	8.36	7.18	5.75	4.64	4.01	3.65	3.44
12.40	CFS	6.48	5.73	5.10	4.58	4.15	3.82	3.58	3.41
12.40	ELEV	3.32	3.23	3.14	3.07	3.01	2.98	2.97	2.96
12.80	CFS	3.27	3.14	3.03	2.92	2.81	2.71	2.62	2.53
12.80	ELEV	2.95	2.94	2.93	2.93	2.92	2.92	2.91	2.90
13.20	CFS	2.46	2.39	2.33	2.27	2.22	2.16	2.10	2.05
13.20	ELEV	2.90	2.90	2.89	2.89	2.89	2.88	2.88	2.87
13.60	CFS	1.99	1.95	1.90	1.86	1.81	1.77	1.73	1.69
13.60	ELEV	2.87	2.87	2.87	2.86	2.86	2.86	2.86	2.85
14.00	CFS	1.65	1.61	1.58	1.55	1.52	1.50	1.49	1.47
14.00	ELEV	2.85	2.85	2.85	2.84	2.84	2.84	2.84	2.84
14.40	CFS	1.46	1.44	1.43	1.41	1.40	1.38	1.37	1.36
14.40	ELEV	2.84	2.84	2.84	2.84	2.84	2.83	2.83	2.83
14.80	CFS	1.34	1.33	1.31	1.30	1.29	1.27	1.26	1.24
14.80	ELEV	2.83	2.83	2.83	2.83	2.83	2.83	2.83	2.83
15.20	CFS	1.23	1.22	1.20	1.19	1.17	1.16	1.14	1.13
15.20	ELEV	2.82	2.82	2.82	2.82	2.82	2.82	2.82	2.82
15.60	CFS	1.12	1.10	1.09	1.07	1.06	1.04	1.03	1.02
15.60	ELEV	2.82	2.82	2.82	2.82	2.81	2.81	2.81	2.81
16.00	CFS	1.00	.99	.97	.96	.96	.95	.94	.94
16.00	ELEV	2.81	2.81	2.81	2.81	2.81	2.81	2.81	2.81
16.40	CFS	.93	.93	.92	.92	.91	.91	.90	.90
16.40	ELEV	2.81	2.81	2.81	2.81	2.81	2.81	2.80	2.80
16.80	CFS	.89	.89	.88	.88	.87	.87	.86	.86
16.80	ELEV	2.80	2.80	2.80	2.80	2.80	2.80	2.80	2.80
17.20	CFS	.85	.85	.84	.84	.83	.83	.82	.82
17.20	ELEV	2.80	2.80	2.80	2.80	2.80	2.80	2.80	2.80
17.60	CFS	.81	.81	.80	.80	.79	.78	.78	.77
17.60	ELEV	2.80	2.80	2.80	2.80	2.80	2.80	2.80	2.80
18.00	CFS	.77	.76	.76	.75	.75	.74	.74	.73
18.00	ELEV	2.80	2.80	2.80	2.80	2.80	2.80	2.80	2.79
18.40	CFS	.73	.72	.72	.71	.71	.70	.70	.69
18.40	ELEV	2.79	2.79	2.79	2.79	2.79	2.79	2.79	2.79
18.80	CFS	.69	.68	.68	.67	.67	.66	.66	.65
18.80	ELEV	2.79	2.79	2.79	2.79	2.79	2.79	2.79	2.79
19.20	CFS	.65	.64	.64	.63	.63	.62	.61	.61
19.20	ELEV	2.79	2.79	2.79	2.79	2.79	2.79	2.79	2.79
19.60	CFS	.60	.60	.59	.59	.58	.58	.57	.57
19.60	ELEV	2.79	2.79	2.79	2.79	2.79	2.79	2.78	2.78
20.00	CFS	.56	.56	.55	.55	.55	.55	.54	.54
20.00	ELEV	2.78	2.78	2.78	2.78	2.78	2.78	2.78	2.78

20.40 CFS	.54	.54	.54	.54	.54	.54	.54	.53
20.40 ELEV	2.78	2.78	2.78	2.78	2.78	2.78	2.78	2.78
20.80 CFS	.53	.53	.53	.53	.53	.53	.53	.53
20.80 ELEV	2.78	2.78	2.78	2.78	2.78	2.78	2.78	2.78
21.20 CFS	.53	.52	.52	.52	.52	.52	.52	.52
21.20 ELEV	2.78	2.78	2.78	2.78	2.78	2.78	2.78	2.78
21.60 CFS	.52	.52	.52	.51	.51	.51	.51	.51
21.60 ELEV	2.78	2.78	2.78	2.78	2.78	2.78	2.78	2.78
22.00 CFS	.51	.51	.51	.51	.51	.50	.50	.50
22.00 ELEV	2.78	2.78	2.78	2.78	2.78	2.78	2.78	2.78
22.40 CFS	.50	.50						
22.40 ELEV	2.78	2.78						

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
4.08 WATERSHED INCHES; 31 CFS-HRS; 2.6 ACRE-FEET.

DURATION(HRS)	2	4	6	8	10	12	13
FLOW(CFS)	2	1	1	1	1	1	0

--- STRUCTURE 1, ALTERNATE 1, STORM 25, HYDROGRAPH ADDED TO READHD FILE ---

EXECUTIVE CONTROL ENDCMP COMPUTATIONS COMPLETED FOR PASS 4

EXECUTIVE CONTROL COMPUT FROM STRUCTURE 1 TO STRUCTURE 1 50-YR
STARTING TIME = .00 RAIN DEPTH = 7.05 RAIN DURATION = 1.00
ANT. RUNOFF COND. = 2 MAIN TIME INCREMENT = .050 HOURS
ALTERNATE NO. = 1 STORM NO. =50 RAIN TABLE NO. = 2

OPERATION RUNOFF STRUCTURE 1

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
12.00	48.5	(RUNOFF)

HYDROGRAPH POINTS FOR ALTERNATE = 1, STORM =50
MAIN TIME INCREMENT = .050 hr, DRAINAGE AREA = .01 SQ.MI.

HRS								
8.55 CFS	.49	.51	.53	.54	.56	.58	.60	.61
8.55 ELEV	2.78	2.78	2.78	2.78	2.78	2.79	2.79	2.79
8.95 CFS	.63	.65	.67	.68	.70	.71	.72	.73
8.95 ELEV	2.79	2.79	2.79	2.79	2.79	2.79	2.79	2.79
9.35 CFS	.74	.75	.76	.77	.77	.79	.80	.82
9.35 ELEV	2.80	2.80	2.80	2.80	2.80	2.80	2.80	2.80
9.75 CFS	.85	.87	.90	.93	.96	.99	1.02	1.05
9.75 ELEV	2.80	2.80	2.80	2.81	2.81	2.81	2.81	2.81
10.15 CFS	1.09	1.13	1.17	1.21	1.26	1.30	1.35	1.40
10.15 ELEV	2.82	2.82	2.82	2.82	2.83	2.83	2.83	2.84
10.55 CFS	1.45	1.50	1.56	1.63	1.70	1.78	1.85	1.93

10.55 ELEV	2.84	2.84	2.85	2.85	2.85	2.86	2.86	2.87
10.95 CFS	2.01	2.10	2.19	2.30	2.42	2.57	2.74	2.92
10.95 ELEV	2.87	2.88	2.88	2.89	2.90	2.91	2.92	2.93
11.35 CFS	3.11	3.30	3.50	3.73	4.20	5.32	7.27	10.31
11.35 ELEV	2.94	2.95	2.96	2.98	3.01	3.17	3.41	3.86
11.75 CFS	14.30	19.43	26.02	35.71	44.72	48.52	45.81	37.22
11.75 ELEV	4.50	5.35	6.45	8.07	9.57	10.20	9.75	8.32
12.15 CFS	26.69	18.42	13.71	10.88	9.09	7.86	6.94	6.18
12.15 ELEV	6.57	5.19	4.40	3.95	3.67	3.48	3.37	3.28
12.55 CFS	5.55	5.02	4.63	4.34	4.12	3.95	3.80	3.66
12.55 ELEV	3.20	3.13	3.07	3.03	3.00	2.99	2.98	2.97
12.95 CFS	3.53	3.40	3.28	3.16	3.06	2.97	2.89	2.81
12.95 ELEV	2.97	2.96	2.95	2.94	2.94	2.93	2.93	2.92
13.35 CFS	2.74	2.67	2.61	2.54	2.47	2.41	2.35	2.29
13.35 ELEV	2.92	2.91	2.91	2.90	2.90	2.90	2.89	2.89
13.75 CFS	2.24	2.19	2.14	2.09	2.04	1.99	1.94	1.90
13.75 ELEV	2.89	2.88	2.88	2.88	2.87	2.87	2.87	2.87
14.15 CFS	1.86	1.83	1.81	1.79	1.77	1.75	1.74	1.72
14.15 ELEV	2.86	2.86	2.86	2.86	2.86	2.86	2.86	2.85
14.55 CFS	1.70	1.68	1.67	1.65	1.63	1.62	1.60	1.58
14.55 ELEV	2.85	2.85	2.85	2.85	2.85	2.85	2.85	2.85
14.95 CFS	1.57	1.55	1.53	1.51	1.50	1.48	1.46	1.45
14.95 ELEV	2.85	2.84	2.84	2.84	2.84	2.84	2.84	2.84
15.35 CFS	1.43	1.41	1.39	1.38	1.36	1.34	1.32	1.31
15.35 ELEV	2.84	2.84	2.83	2.83	2.83	2.83	2.83	2.83
15.75 CFS	1.29	1.27	1.26	1.24	1.22	1.20	1.19	1.17
15.75 ELEV	2.83	2.83	2.83	2.83	2.82	2.82	2.82	2.82
16.15 CFS	1.16	1.15	1.14	1.13	1.13	1.12	1.11	1.11
16.15 ELEV	2.82	2.82	2.82	2.82	2.82	2.82	2.82	2.82
16.55 CFS	1.10	1.10	1.09	1.08	1.08	1.07	1.07	1.06
16.55 ELEV	2.82	2.82	2.82	2.82	2.82	2.82	2.81	2.81
16.95 CFS	1.05	1.05	1.04	1.03	1.03	1.02	1.02	1.01
16.95 ELEV	2.81	2.81	2.81	2.81	2.81	2.81	2.81	2.81
17.35 CFS	1.00	1.00	.99	.99	.98	.97	.97	.96
17.35 ELEV	2.81	2.81	2.81	2.81	2.81	2.81	2.81	2.81
17.75 CFS	.95	.95	.94	.94	.93	.92	.92	.91
17.75 ELEV	2.81	2.81	2.81	2.81	2.81	2.81	2.81	2.81
18.15 CFS	.91	.90	.89	.89	.88	.87	.87	.86
18.15 ELEV	2.81	2.80	2.80	2.80	2.80	2.80	2.80	2.80
18.55 CFS	.86	.85	.84	.84	.83	.82	.82	.81
18.55 ELEV	2.80	2.80	2.80	2.80	2.80	2.80	2.80	2.80
18.95 CFS	.81	.80	.79	.79	.78	.78	.77	.76
18.95 ELEV	2.80	2.80	2.80	2.80	2.80	2.80	2.80	2.80
19.35 CFS	.76	.75	.74	.74	.73	.73	.72	.71
19.35 ELEV	2.80	2.80	2.80	2.79	2.79	2.79	2.79	2.79
19.75 CFS	.71	.70	.69	.69	.68	.68	.67	.66
19.75 ELEV	2.79	2.79	2.79	2.79	2.79	2.79	2.79	2.79
20.15 CFS	.66	.66	.65	.65	.65	.65	.65	.65
20.15 ELEV	2.79	2.79	2.79	2.79	2.79	2.79	2.79	2.79

20.55 CFS	.65	.64	.64	.64	.64	.64	.64	.64
20.55 ELEV	2.79	2.79	2.79	2.79	2.79	2.79	2.79	2.79
20.95 CFS	.64	.63	.63	.63	.63	.63	.63	.63
20.95 ELEV	2.79	2.79	2.79	2.79	2.79	2.79	2.79	2.79
21.35 CFS	.63	.63	.62	.62	.62	.62	.62	.62
21.35 ELEV	2.79	2.79	2.79	2.79	2.79	2.79	2.79	2.79
21.75 CFS	.62	.62	.61	.61	.61	.61	.61	.61
21.75 ELEV	2.79	2.79	2.79	2.79	2.79	2.79	2.79	2.79
22.15 CFS	.61	.61	.60	.60	.60	.60	.60	.60
22.15 ELEV	2.79	2.79	2.79	2.79	2.79	2.79	2.79	2.79
22.55 CFS	.60	.60	.59	.59	.59	.59	.59	.59
22.55 ELEV	2.79	2.79	2.79	2.79	2.79	2.79	2.79	2.79
22.95 CFS	.59	.59	.58	.58	.58	.58	.58	.58
22.95 ELEV	2.79	2.79	2.79	2.79	2.79	2.79	2.79	2.79
23.35 CFS	.58	.58	.57	.57	.57	.57	.57	.57
23.35 ELEV	2.79	2.79	2.79	2.78	2.78	2.78	2.78	2.78
23.75 CFS	.57	.57	.56	.56	.56	.56	.52	.41
23.75 ELEV	2.78	2.78	2.78	2.78	2.78	2.78	2.78	2.78

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
5.07 WATERSHED INCHES; 39 CFS-HRS; 3.2 ACRE-FEET.

DURATION(HRS)	2	4	6	8	10	12	14	16
FLOW(CFS)	3	2	1	1	1	1	1	0

--- STRUCTURE 1, ALTERNATE 1, STORM 50, HYDROGRAPH ADDED TO READHD FILE ---

OPERATION RESVOR STRUCTURE 1

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
12.22	17.2	4.99
13.89	2.2	2.88
13.99	2.1	2.88
15.38	1.4	2.84

HYDROGRAPH POINTS FOR ALTERNATE = 1, STORM =50
MAIN TIME INCREMENT = .050 hr, DRAINAGE AREA = .01 SQ.MI.

HRS								
4.85 CFS	.00	.01	.01	.01	.02	.02	.03	.03
4.85 ELEV	2.75	2.75	2.75	2.75	2.75	2.75	2.75	2.75
5.25 CFS	.04	.04	.05	.05	.06	.06	.07	.07
5.25 ELEV	2.75	2.75	2.75	2.75	2.75	2.75	2.75	2.75
5.65 CFS	.08	.08	.09	.09	.10	.10	.11	.11
5.65 ELEV	2.75	2.75	2.76	2.76	2.76	2.76	2.76	2.76
6.05 CFS	.12	.12	.13	.14	.14	.15	.15	.16
6.05 ELEV	2.76	2.76	2.76	2.76	2.76	2.76	2.76	2.76
6.45 CFS	.16	.17	.18	.18	.19	.19	.20	.20
6.45 ELEV	2.76	2.76	2.76	2.76	2.76	2.76	2.76	2.76
6.85 CFS	.21	.22	.22	.23	.23	.24	.25	.25
6.85 ELEV	2.76	2.76	2.76	2.76	2.76	2.76	2.77	2.77
7.25 CFS	.26	.27	.27	.28	.28	.29	.30	.30

7.25	ELEV	2.77	2.77	2.77	2.77	2.77	2.77	2.77	2.77
7.65	CFS	.31	.32	.32	.33	.34	.34	.35	.36
7.65	ELEV	2.77	2.77	2.77	2.77	2.77	2.77	2.77	2.77
8.05	CFS	.36	.37	.38	.39	.41	.42	.43	.45
8.05	ELEV	2.77	2.77	2.77	2.77	2.77	2.78	2.78	2.78
8.45	CFS	.46	.48	.49	.51	.53	.54	.56	.58
8.45	ELEV	2.78	2.78	2.78	2.78	2.78	2.78	2.78	2.79
8.85	CFS	.60	.61	.63	.65	.67	.68	.70	.71
8.85	ELEV	2.79	2.79	2.79	2.79	2.79	2.79	2.79	2.79
9.25	CFS	.72	.73	.74	.75	.76	.77	.77	.79
9.25	ELEV	2.79	2.79	2.80	2.80	2.80	2.80	2.80	2.80
9.65	CFS	.80	.82	.85	.87	.90	.93	.96	.99
9.65	ELEV	2.80	2.80	2.80	2.80	2.80	2.81	2.81	2.81
10.05	CFS	1.02	1.05	1.09	1.13	1.17	1.21	1.26	1.30
10.05	ELEV	2.81	2.81	2.82	2.82	2.82	2.82	2.83	2.83
10.45	CFS	1.35	1.40	1.45	1.50	1.56	1.63	1.70	1.77
10.45	ELEV	2.83	2.84	2.84	2.84	2.85	2.85	2.85	2.86
10.85	CFS	1.85	1.93	2.01	2.10	2.19	2.29	2.42	2.57
10.85	ELEV	2.86	2.87	2.87	2.88	2.88	2.89	2.90	2.91
11.25	CFS	2.73	2.92	3.10	3.30	3.50	3.72	4.13	4.51
11.25	ELEV	2.92	2.93	2.94	2.95	2.96	2.98	3.00	3.06
11.65	CFS	5.60	7.01	8.68	10.32	11.77	13.02	14.01	15.00
11.65	ELEV	3.21	3.38	3.61	3.86	4.09	4.29	4.45	4.62
12.05	CFS	15.90	16.63	17.06	17.21	17.18	17.04	16.84	16.61
12.05	ELEV	4.77	4.89	4.96	4.99	4.98	4.96	4.92	4.88
12.45	CFS	16.35	16.07	15.78	15.49	15.19	14.89	14.59	14.28
12.45	ELEV	4.84	4.80	4.75	4.70	4.65	4.60	4.55	4.50
12.85	CFS	13.90	13.53	13.17	12.81	12.09	11.39	10.20	8.75
12.85	ELEV	4.43	4.37	4.31	4.25	4.14	4.03	3.84	3.62
13.25	CFS	6.92	4.93	2.58	2.83	2.47	2.67	2.35	2.52
13.25	ELEV	3.37	3.12	2.91	2.92	2.90	2.91	2.89	2.90
13.65	CFS	2.24	2.39	2.15	2.27	2.06	2.16	1.97	2.05
13.65	ELEV	2.89	2.90	2.88	2.89	2.88	2.88	2.87	2.88
14.05	CFS	1.88	1.96	1.81	1.88	1.77	1.83	1.73	1.79
14.05	ELEV	2.86	2.87	2.86	2.86	2.86	2.86	2.86	2.86
14.45	CFS	1.70	1.75	1.67	1.71	1.64	1.67	1.61	1.64
14.45	ELEV	2.85	2.86	2.85	2.85	2.85	2.85	2.85	2.85
14.85	CFS	1.58	1.60	1.55	1.56	1.52	1.53	1.48	1.49
14.85	ELEV	2.85	2.85	2.84	2.85	2.84	2.84	2.84	2.84
15.25	CFS	1.45	1.46	1.42	1.42	1.39	1.38	1.35	1.35
15.25	ELEV	2.84	2.84	2.84	2.84	2.83	2.83	2.83	2.83
15.65	CFS	1.32	1.31	1.29	1.28	1.25	1.24	1.22	1.21
15.65	ELEV	2.83	2.83	2.83	2.83	2.83	2.83	2.82	2.82
16.05	CFS	1.18	1.18	1.16	1.15	1.14	1.14	1.12	1.12
16.05	ELEV	2.82	2.82	2.82	2.82	2.82	2.82	2.82	2.82
16.45	CFS	1.11	1.11	1.10	1.10	1.09	1.09	1.08	1.07
16.45	ELEV	2.82	2.82	2.82	2.82	2.82	2.82	2.82	2.82
16.85	CFS	1.06	1.06	1.05	1.05	1.04	1.04	1.03	1.02
16.85	ELEV	2.81	2.81	2.81	2.81	2.81	2.81	2.81	2.81

17.25 CFS	1.02	1.01	1.00	1.00	.99	.99	.98	.97
17.25 ELEV	2.81	2.81	2.81	2.81	2.81	2.81	2.81	2.81
17.65 CFS	.97	.96	.95	.95	.94	.94	.93	.92
17.65 ELEV	2.81	2.81	2.81	2.81	2.81	2.81	2.81	2.81
18.05 CFS	.92	.91	.91	.90	.89	.89	.88	.87
18.05 ELEV	2.81	2.81	2.81	2.80	2.80	2.80	2.80	2.80
18.45 CFS	.87	.86	.86	.85	.84	.84	.83	.83
18.45 ELEV	2.80	2.80	2.80	2.80	2.80	2.80	2.80	2.80
18.85 CFS	.82	.81	.81	.80	.79	.79	.78	.78
18.85 ELEV	2.80	2.80	2.80	2.80	2.80	2.80	2.80	2.80
19.25 CFS	.77	.76	.76	.75	.74	.74	.73	.73
19.25 ELEV	2.80	2.80	2.80	2.80	2.80	2.79	2.79	2.79
19.65 CFS	.72	.71	.71	.70	.69	.69	.68	.68
19.65 ELEV	2.79	2.79	2.79	2.79	2.79	2.79	2.79	2.79
20.05 CFS	.67	.66	.66	.66	.65	.65	.65	.65
20.05 ELEV	2.79	2.79	2.79	2.79	2.79	2.79	2.79	2.79
20.45 CFS	.65	.65	.65	.64	.64	.64	.64	.64
20.45 ELEV	2.79	2.79	2.79	2.79	2.79	2.79	2.79	2.79
20.85 CFS	.64	.64	.64	.64	.63	.63	.63	.63
20.85 ELEV	2.79	2.79	2.79	2.79	2.79	2.79	2.79	2.79
21.25 CFS	.63	.63	.63	.63	.62	.62	.62	.62
21.25 ELEV	2.79	2.79	2.79	2.79	2.79	2.79	2.79	2.79
21.65 CFS	.62	.62	.62	.62	.61	.61	.61	.61
21.65 ELEV	2.79	2.79	2.79	2.79	2.79	2.79	2.79	2.79
22.05 CFS	.61	.61	.61	.61	.60	.60	.60	.60
22.05 ELEV	2.79	2.79	2.79	2.79	2.79	2.79	2.79	2.79
22.45 CFS	.60	.60	.60	.60	.59	.59	.59	.59
22.45 ELEV	2.79	2.79	2.79	2.79	2.79	2.79	2.79	2.79
22.85 CFS	.59	.59	.59	.59	.58	.58	.58	.58
22.85 ELEV	2.79	2.79	2.79	2.79	2.79	2.79	2.79	2.79
23.25 CFS	.58	.58	.58	.58	.57	.57	.57	.57
23.25 ELEV	2.79	2.79	2.79	2.79	2.79	2.78	2.78	2.78
23.65 CFS	.57	.57	.57	.57	.56	.56	.56	.56
23.65 ELEV	2.78	2.78	2.78	2.78	2.78	2.78	2.78	2.78
24.05 CFS	.52	.41	.26	.14	.08	.04	.02	.01
24.05 ELEV	2.78	2.78	2.77	2.76	2.75	2.75	2.75	2.75

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
5.07 WATERSHED INCHES; 39 CFS-HRS; 3.2 ACRE-FEET.

DURATION(HRS)	2	4	6	8	10	12	14	16
FLOW(CFS)	3	2	1	1	1	1	1	0

--- STRUCTURE 1, ALTERNATE 1, STORM 50, HYDROGRAPH ADDED TO READHD FILE ---

OPERATION RUNOFF STRUCTURE 1

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
12.00	48.5	(RUNOFF)

HYDROGRAPH POINTS FOR ALTERNATE = 1, STORM =50
MAIN TIME INCREMENT = .050 hr, DRAINAGE AREA = .01 SQ.MI.

HRS								
8.55	CFS	.49	.51	.53	.54	.56	.58	.60	.61
8.55	ELEV	2.78	2.78	2.78	2.78	2.78	2.79	2.79	2.79
8.95	CFS	.63	.65	.67	.68	.70	.71	.72	.73
8.95	ELEV	2.79	2.79	2.79	2.79	2.79	2.79	2.79	2.79
9.35	CFS	.74	.75	.76	.77	.77	.79	.80	.82
9.35	ELEV	2.80	2.80	2.80	2.80	2.80	2.80	2.80	2.80
9.75	CFS	.85	.87	.90	.93	.96	.99	1.02	1.05
9.75	ELEV	2.80	2.80	2.80	2.81	2.81	2.81	2.81	2.81
10.15	CFS	1.09	1.13	1.17	1.21	1.26	1.30	1.35	1.40
10.15	ELEV	2.82	2.82	2.82	2.82	2.83	2.83	2.83	2.84
10.55	CFS	1.45	1.50	1.56	1.63	1.70	1.78	1.85	1.93
10.55	ELEV	2.84	2.84	2.85	2.85	2.85	2.86	2.86	2.87
10.95	CFS	2.01	2.10	2.19	2.30	2.42	2.57	2.74	2.92
10.95	ELEV	2.87	2.88	2.88	2.89	2.90	2.91	2.92	2.93
11.35	CFS	3.11	3.30	3.50	3.73	4.20	5.32	7.27	10.31
11.35	ELEV	2.94	2.95	2.96	2.98	3.01	3.17	3.41	3.86
11.75	CFS	14.30	19.43	26.02	35.71	44.72	48.52	45.81	37.22
11.75	ELEV	4.50	5.35	6.45	8.07	9.57	10.20	9.75	8.32
12.15	CFS	26.69	18.42	13.71	10.88	9.09	7.86	6.94	6.18
12.15	ELEV	6.57	5.19	4.40	3.95	3.67	3.48	3.37	3.28
12.55	CFS	5.55	5.02	4.63	4.34	4.12	3.95	3.80	3.66
12.55	ELEV	3.20	3.13	3.07	3.03	3.00	2.99	2.98	2.97
12.95	CFS	3.53	3.40	3.28	3.16	3.06	2.97	2.89	2.81
12.95	ELEV	2.97	2.96	2.95	2.94	2.94	2.93	2.93	2.92
13.35	CFS	2.74	2.67	2.61	2.54	2.47	2.41	2.35	2.29
13.35	ELEV	2.92	2.91	2.91	2.90	2.90	2.90	2.89	2.89
13.75	CFS	2.24	2.19	2.14	2.09	2.04	1.99	1.94	1.90
13.75	ELEV	2.89	2.88	2.88	2.88	2.87	2.87	2.87	2.87
14.15	CFS	1.86	1.83	1.81	1.79	1.77	1.75	1.74	1.72
14.15	ELEV	2.86	2.86	2.86	2.86	2.86	2.86	2.86	2.85
14.55	CFS	1.70	1.68	1.67	1.65	1.63	1.62	1.60	1.58
14.55	ELEV	2.85	2.85	2.85	2.85	2.85	2.85	2.85	2.85
14.95	CFS	1.57	1.55	1.53	1.51	1.50	1.48	1.46	1.45
14.95	ELEV	2.85	2.84	2.84	2.84	2.84	2.84	2.84	2.84
15.35	CFS	1.43	1.41	1.39	1.38	1.36	1.34	1.32	1.31
15.35	ELEV	2.84	2.84	2.83	2.83	2.83	2.83	2.83	2.83
15.75	CFS	1.29	1.27	1.26	1.24	1.22	1.20	1.19	1.17
15.75	ELEV	2.83	2.83	2.83	2.83	2.82	2.82	2.82	2.82
16.15	CFS	1.16	1.15	1.14	1.13	1.13	1.12	1.11	1.11
16.15	ELEV	2.82	2.82	2.82	2.82	2.82	2.82	2.82	2.82
16.55	CFS	1.10	1.10	1.09	1.08	1.08	1.07	1.07	1.06
16.55	ELEV	2.82	2.82	2.82	2.82	2.82	2.82	2.81	2.81
16.95	CFS	1.05	1.05	1.04	1.03	1.03	1.02	1.02	1.01
16.95	ELEV	2.81	2.81	2.81	2.81	2.81	2.81	2.81	2.81
17.35	CFS	1.00	1.00	.99	.99	.98	.97	.97	.96

17.35 ELEV	2.81	2.81	2.81	2.81	2.81	2.81	2.81	2.81
17.75 CFS	.95	.95	.94	.94	.93	.92	.92	.91
17.75 ELEV	2.81	2.81	2.81	2.81	2.81	2.81	2.81	2.81
18.15 CFS	.91	.90	.89	.89	.88	.87	.87	.86
18.15 ELEV	2.81	2.80	2.80	2.80	2.80	2.80	2.80	2.80
18.55 CFS	.86	.85	.84	.84	.83	.82	.82	.81
18.55 ELEV	2.80	2.80	2.80	2.80	2.80	2.80	2.80	2.80
18.95 CFS	.81	.80	.79	.79	.78	.78	.77	.76
18.95 ELEV	2.80	2.80	2.80	2.80	2.80	2.80	2.80	2.80
19.35 CFS	.76	.75	.74	.74	.73	.73	.72	.71
19.35 ELEV	2.80	2.80	2.80	2.79	2.79	2.79	2.79	2.79
19.75 CFS	.71	.70	.69	.69	.68	.68	.67	.66
19.75 ELEV	2.79	2.79	2.79	2.79	2.79	2.79	2.79	2.79
20.15 CFS	.66	.66	.65	.65	.65	.65	.65	.65
20.15 ELEV	2.79	2.79	2.79	2.79	2.79	2.79	2.79	2.79
20.55 CFS	.65	.64	.64	.64	.64	.64	.64	.64
20.55 ELEV	2.79	2.79	2.79	2.79	2.79	2.79	2.79	2.79
20.95 CFS	.64	.63	.63	.63	.63	.63	.63	.63
20.95 ELEV	2.79	2.79	2.79	2.79	2.79	2.79	2.79	2.79
21.35 CFS	.63	.63	.62	.62	.62	.62	.62	.62
21.35 ELEV	2.79	2.79	2.79	2.79	2.79	2.79	2.79	2.79
21.75 CFS	.62	.62	.61	.61	.61	.61	.61	.61
21.75 ELEV	2.79	2.79	2.79	2.79	2.79	2.79	2.79	2.79
22.15 CFS	.61	.61	.60	.60	.60	.60	.60	.60
22.15 ELEV	2.79	2.79	2.79	2.79	2.79	2.79	2.79	2.79
22.55 CFS	.60	.60	.59	.59	.59	.59	.59	.59
22.55 ELEV	2.79	2.79	2.79	2.79	2.79	2.79	2.79	2.79
22.95 CFS	.59	.59	.58	.58	.58	.58	.58	.58
22.95 ELEV	2.79	2.79	2.79	2.79	2.79	2.79	2.79	2.79
23.35 CFS	.58	.58	.57	.57	.57	.57	.57	.57
23.35 ELEV	2.79	2.79	2.79	2.78	2.78	2.78	2.78	2.78
23.75 CFS	.57	.57	.56	.56	.56	.56	.52	.41
23.75 ELEV	2.78	2.78	2.78	2.78	2.78	2.78	2.78	2.78

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
5.07 WATERSHED INCHES; 39 CFS-HRS; 3.2 ACRE-FEET.

DURATION(HRS)	2	4	6	8	10	12	14	16
FLOW(CFS)	3	2	1	1	1	1	1	0

--- STRUCTURE 1, ALTERNATE 1, STORM 50, HYDROGRAPH ADDED TO READHD FILE ---

EXECUTIVE CONTROL ENDCMP COMPUTATIONS COMPLETED FOR PASS 5

EXECUTIVE CONTROL COMPUT FROM STRUCTURE 1 TO STRUCTURE 1 100-YR
STARTING TIME = .00 RAIN DEPTH = 8.26 RAIN DURATION = 1.00
ANT. RUNOFF COND. = 2 MAIN TIME INCREMENT = .050 HOURS
ALTERNATE NO. = 1 STORM NO. =99 RAIN TABLE NO. = 2

OPERATION RUNOFF STRUCTURE 1

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET) (RUNOFF)
12.00	59.0	

HYDROGRAPH POINTS FOR ALTERNATE = 1, STORM =99
HRS MAIN TIME INCREMENT = .050 hr, DRAINAGE AREA = .01 SQ.MI.

7.85 CFS	.49	.50	.51	.52	.53	.54	.55	.56
7.85 ELEV	2.78	2.78	2.78	2.78	2.78	2.78	2.78	2.78
8.25 CFS	.58	.60	.62	.64	.66	.68	.70	.72
8.25 ELEV	2.79	2.79	2.79	2.79	2.79	2.79	2.79	2.79
8.65 CFS	.74	.76	.78	.81	.83	.85	.87	.90
8.65 ELEV	2.80	2.80	2.80	2.80	2.80	2.80	2.80	2.80
9.05 CFS	.92	.94	.96	.98	.99	1.00	1.01	1.02
9.05 ELEV	2.81	2.81	2.81	2.81	2.81	2.81	2.81	2.81
9.45 CFS	1.03	1.04	1.05	1.06	1.08	1.11	1.14	1.17
9.45 ELEV	2.81	2.81	2.81	2.81	2.82	2.82	2.82	2.82
9.85 CFS	1.20	1.24	1.28	1.32	1.36	1.40	1.44	1.49
9.85 ELEV	2.82	2.83	2.83	2.83	2.83	2.84	2.84	2.84
10.25 CFS	1.55	1.60	1.66	1.72	1.77	1.83	1.89	1.96
10.25 ELEV	2.84	2.85	2.85	2.85	2.86	2.86	2.87	2.87
10.65 CFS	2.04	2.12	2.21	2.31	2.40	2.50	2.60	2.71
10.65 ELEV	2.87	2.88	2.88	2.89	2.90	2.90	2.91	2.92
11.05 CFS	2.82	2.95	3.11	3.29	3.50	3.73	3.96	4.21
11.05 ELEV	2.92	2.93	2.94	2.95	2.96	2.98	2.99	3.01
11.45 CFS	4.45	4.73	5.32	6.70	9.08	12.86	17.76	24.18
11.45 ELEV	3.05	3.09	3.17	3.35	3.67	4.26	5.08	6.15
11.85 CFS	32.40	43.84	54.48	58.97	55.71	45.03	32.19	22.30
11.85 ELEV	7.52	9.42	11.20	11.95	11.40	9.62	7.48	5.83
12.25 CFS	16.52	13.08	10.91	9.43	8.32	7.40	6.65	6.02
12.25 ELEV	4.87	4.30	3.96	3.72	3.55	3.43	3.34	3.26
12.65 CFS	5.54	5.19	4.93	4.72	4.55	4.38	4.22	4.06
12.65 ELEV	3.20	3.15	3.12	3.09	3.06	3.04	3.02	3.00
13.05 CFS	3.92	3.78	3.66	3.55	3.45	3.36	3.28	3.19
13.05 ELEV	2.99	2.98	2.97	2.97	2.96	2.96	2.95	2.94
13.45 CFS	3.11	3.03	2.95	2.87	2.80	2.73	2.67	2.61
13.45 ELEV	2.94	2.93	2.93	2.93	2.92	2.92	2.91	2.91
13.85 CFS	2.55	2.49	2.43	2.37	2.32	2.27	2.22	2.19
13.85 ELEV	2.91	2.90	2.90	2.89	2.89	2.89	2.89	2.88
14.25 CFS	2.16	2.13	2.11	2.09	2.07	2.05	2.03	2.01
14.25 ELEV	2.88	2.88	2.88	2.88	2.88	2.87	2.87	2.87
14.65 CFS	1.99	1.97	1.95	1.93	1.91	1.89	1.87	1.85
14.65 ELEV	2.87	2.87	2.87	2.87	2.87	2.87	2.86	2.86

15.05 CFS	1.82	1.80	1.78	1.76	1.74	1.72	1.70	1.68
15.05 ELEV	2.86	2.86	2.86	2.86	2.86	2.86	2.85	2.85
15.45 CFS	1.66	1.64	1.62	1.60	1.58	1.56	1.54	1.52
15.45 ELEV	2.85	2.85	2.85	2.85	2.85	2.85	2.84	2.84
15.85 CFS	1.50	1.48	1.46	1.43	1.41	1.40	1.38	1.37
15.85 ELEV	2.84	2.84	2.84	2.84	2.84	2.84	2.83	2.83
16.25 CFS	1.36	1.35	1.34	1.33	1.33	1.32	1.31	1.30
16.25 ELEV	2.83	2.83	2.83	2.83	2.83	2.83	2.83	2.83
16.65 CFS	1.30	1.29	1.28	1.28	1.27	1.26	1.25	1.25
16.65 ELEV	2.83	2.83	2.83	2.83	2.83	2.83	2.83	2.83
17.05 CFS	1.24	1.23	1.22	1.22	1.21	1.20	1.20	1.19
17.05 ELEV	2.83	2.83	2.82	2.82	2.82	2.82	2.82	2.82
17.45 CFS	1.18	1.17	1.17	1.16	1.15	1.14	1.14	1.13
17.45 ELEV	2.82	2.82	2.82	2.82	2.82	2.82	2.82	2.82
17.85 CFS	1.12	1.11	1.11	1.10	1.09	1.08	1.08	1.07
17.85 ELEV	2.82	2.82	2.82	2.82	2.82	2.82	2.82	2.82
18.25 CFS	1.06	1.05	1.05	1.04	1.03	1.03	1.02	1.01
18.25 ELEV	2.81	2.81	2.81	2.81	2.81	2.81	2.81	2.81
18.65 CFS	1.00	1.00	.99	.98	.97	.97	.96	.95
18.65 ELEV	2.81	2.81	2.81	2.81	2.81	2.81	2.81	2.81
19.05 CFS	.94	.94	.93	.92	.91	.91	.90	.89
19.05 ELEV	2.81	2.81	2.81	2.81	2.81	2.81	2.80	2.80
19.45 CFS	.88	.88	.87	.86	.85	.85	.84	.83
19.45 ELEV	2.80	2.80	2.80	2.80	2.80	2.80	2.80	2.80
19.85 CFS	.82	.82	.81	.80	.80	.79	.78	.78
19.85 ELEV	2.80	2.80	2.80	2.80	2.80	2.80	2.80	2.80
20.25 CFS	.78	.78	.77	.77	.77	.77	.77	.77
20.25 ELEV	2.80	2.80	2.80	2.80	2.80	2.80	2.80	2.80
20.65 CFS	.76	.76	.76	.76	.76	.76	.76	.75
20.65 ELEV	2.80	2.80	2.80	2.80	2.80	2.80	2.80	2.80
21.05 CFS	.75	.75	.75	.75	.75	.75	.74	.74
21.05 ELEV	2.80	2.80	2.80	2.80	2.80	2.80	2.80	2.80
21.45 CFS	.74	.74	.74	.74	.74	.73	.73	.73
21.45 ELEV	2.80	2.80	2.80	2.79	2.79	2.79	2.79	2.79
21.85 CFS	.73	.73	.73	.73	.72	.72	.72	.72
21.85 ELEV	2.79	2.79	2.79	2.79	2.79	2.79	2.79	2.79
22.25 CFS	.72	.72	.72	.71	.71	.71	.71	.71
22.25 ELEV	2.79	2.79	2.79	2.79	2.79	2.79	2.79	2.79
22.65 CFS	.71	.70	.70	.70	.70	.70	.70	.70
22.65 ELEV	2.79	2.79	2.79	2.79	2.79	2.79	2.79	2.79
23.05 CFS	.69	.69	.69	.69	.69	.69	.69	.68
23.05 ELEV	2.79	2.79	2.79	2.79	2.79	2.79	2.79	2.79
23.45 CFS	.68	.68	.68	.68	.68	.68	.67	.67
23.45 ELEV	2.79	2.79	2.79	2.79	2.79	2.79	2.79	2.79
23.85 CFS	.67	.67	.67	.66				
23.85 ELEV	2.79	2.79	2.79	2.79				

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
6.21 WATERSHED INCHES; 47 CFS-HRS; 3.9 ACRE-FEET.

DURATION(HRS)	2	4	6	8	10	12	14	16
FLOW(CFS)	3	2	1	1	1	1	1	1

DURATION(HRS)	16
FLOW(CFS)	1 TRUNCATED

--- STRUCTURE 1, ALTERNATE 1, STORM 99, HYDROGRAPH ADDED TO READHD FILE ---

OPERATION RESVOR STRUCTURE 1

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
12.23	19.0	5.28
13.70	3.5	2.97
13.80	3.3	2.95
13.90	3.1	2.94
14.00	2.9	2.93
14.10	2.7	2.92
14.20	2.6	2.91
14.30	2.5	2.90
14.40	2.4	2.90
14.50	2.3	2.89

HYDROGRAPH POINTS FOR ALTERNATE = 1, STORM =99
HRS MAIN TIME INCREMENT = .050 hr, DRAINAGE AREA = .01 SQ.MI.

4.25 CFS	.00	.01	.01	.01	.02	.02	.03	.04
4.25 ELEV	2.75	2.75	2.75	2.75	2.75	2.75	2.75	2.75
4.65 CFS	.04	.05	.05	.06	.06	.07	.08	.08
4.65 ELEV	2.75	2.75	2.75	2.75	2.75	2.75	2.75	2.75
5.05 CFS	.09	.09	.10	.11	.11	.12	.12	.13
5.05 ELEV	2.76	2.76	2.76	2.76	2.76	2.76	2.76	2.76
5.45 CFS	.14	.14	.15	.16	.16	.17	.18	.18
5.45 ELEV	2.76	2.76	2.76	2.76	2.76	2.76	2.76	2.76
5.85 CFS	.19	.20	.20	.21	.22	.23	.23	.24
5.85 ELEV	2.76	2.76	2.76	2.76	2.76	2.76	2.76	2.76
6.25 CFS	.25	.25	.26	.27	.28	.28	.29	.30
6.25 ELEV	2.77	2.77	2.77	2.77	2.77	2.77	2.77	2.77
6.65 CFS	.31	.31	.32	.33	.34	.34	.35	.36
6.65 ELEV	2.77	2.77	2.77	2.77	2.77	2.77	2.77	2.77
7.05 CFS	.37	.37	.38	.39	.40	.40	.41	.42
7.05 ELEV	2.77	2.77	2.77	2.77	2.77	2.77	2.78	2.78
7.45 CFS	.43	.44	.44	.45	.46	.47	.48	.48
7.45 ELEV	2.78	2.78	2.78	2.78	2.78	2.78	2.78	2.78
7.85 CFS	.49	.50	.51	.52	.53	.54	.55	.56
7.85 ELEV	2.78	2.78	2.78	2.78	2.78	2.78	2.78	2.78
8.25 CFS	.58	.60	.62	.64	.66	.68	.70	.72
8.25 ELEV	2.79	2.79	2.79	2.79	2.79	2.79	2.79	2.79
8.65 CFS	.74	.76	.78	.80	.83	.85	.87	.90
8.65 ELEV	2.80	2.80	2.80	2.80	2.80	2.80	2.80	2.80
9.05 CFS	.92	.94	.96	.98	.99	1.00	1.01	1.02

9.05	ELEV	2.81	2.81	2.81	2.81	2.81	2.81	2.81	2.81
9.45	CFS	1.03	1.04	1.05	1.06	1.08	1.11	1.14	1.17
9.45	ELEV	2.81	2.81	2.81	2.81	2.82	2.82	2.82	2.82
9.85	CFS	1.20	1.24	1.28	1.32	1.35	1.40	1.44	1.49
9.85	ELEV	2.82	2.83	2.83	2.83	2.83	2.84	2.84	2.84
10.25	CFS	1.54	1.60	1.66	1.71	1.77	1.83	1.89	1.96
10.25	ELEV	2.84	2.85	2.85	2.85	2.86	2.86	2.87	2.87
10.65	CFS	2.04	2.12	2.21	2.30	2.40	2.50	2.60	2.71
10.65	ELEV	2.87	2.88	2.88	2.89	2.90	2.90	2.91	2.91
11.05	CFS	2.82	2.95	3.11	3.29	3.50	3.72	3.95	4.13
11.05	ELEV	2.92	2.93	2.94	2.95	2.96	2.98	2.99	3.00
11.45	CFS	4.25	4.46	4.80	5.54	6.63	8.24	9.81	11.43
11.45	ELEV	3.02	3.05	3.10	3.20	3.34	3.54	3.78	4.04
11.85	CFS	12.76	13.71	14.84	16.02	17.19	18.13	18.70	18.94
11.85	ELEV	4.24	4.40	4.59	4.79	4.98	5.14	5.23	5.27
12.25	CFS	18.96	18.84	18.65	18.41	18.14	17.85	17.54	17.23
12.25	ELEV	5.28	5.26	5.22	5.18	5.14	5.09	5.04	4.99
12.65	CFS	16.90	16.58	16.25	15.93	15.61	15.30	14.99	14.68
12.65	ELEV	4.93	4.88	4.83	4.77	4.72	4.67	4.61	4.56
13.05	CFS	14.38	14.02	13.64	13.28	12.92	12.31	11.60	10.64
13.05	ELEV	4.51	4.45	4.39	4.33	4.27	4.17	4.06	3.91
13.45	CFS	9.30	7.71	5.70	3.79	1.95	3.53	1.93	3.30
13.45	ELEV	3.70	3.47	3.22	2.98	2.87	2.97	2.87	2.95
13.85	CFS	1.91	3.09	1.87	2.89	1.83	2.72	1.80	2.58
13.85	ELEV	2.87	2.94	2.86	2.93	2.86	2.92	2.86	2.91
14.25	CFS	1.79	2.48	1.80	2.39	1.79	2.31	1.79	2.23
14.25	ELEV	2.86	2.90	2.86	2.90	2.86	2.89	2.86	2.89
14.65	CFS	1.78	2.16	1.77	2.10	1.75	2.03	1.73	1.97
14.65	ELEV	2.86	2.88	2.86	2.88	2.86	2.87	2.86	2.87
15.05	CFS	1.71	1.91	1.68	1.86	1.65	1.81	1.63	1.75
15.05	ELEV	2.85	2.87	2.85	2.86	2.85	2.86	2.85	2.86
15.45	CFS	1.59	1.70	1.56	1.65	1.53	1.61	1.50	1.56
15.45	ELEV	2.85	2.85	2.85	2.85	2.84	2.85	2.84	2.85
15.85	CFS	1.46	1.51	1.42	1.47	1.39	1.42	1.36	1.39
15.85	ELEV	2.84	2.84	2.84	2.84	2.83	2.84	2.83	2.83
16.25	CFS	1.34	1.37	1.32	1.35	1.31	1.33	1.30	1.32
16.25	ELEV	2.83	2.83	2.83	2.83	2.83	2.83	2.83	2.83
16.65	CFS	1.29	1.30	1.27	1.29	1.26	1.27	1.25	1.25
16.65	ELEV	2.83	2.83	2.83	2.83	2.83	2.83	2.83	2.83
17.05	CFS	1.23	1.24	1.22	1.22	1.20	1.21	1.19	1.19
17.05	ELEV	2.83	2.83	2.82	2.82	2.82	2.82	2.82	2.82
17.45	CFS	1.18	1.18	1.16	1.16	1.15	1.15	1.13	1.13
17.45	ELEV	2.82	2.82	2.82	2.82	2.82	2.82	2.82	2.82
17.85	CFS	1.12	1.12	1.10	1.10	1.09	1.09	1.08	1.07
17.85	ELEV	2.82	2.82	2.82	2.82	2.82	2.82	2.82	2.82
18.25	CFS	1.06	1.06	1.05	1.04	1.03	1.03	1.02	1.01
18.25	ELEV	2.81	2.81	2.81	2.81	2.81	2.81	2.81	2.81
18.65	CFS	1.00	1.00	.99	.98	.97	.97	.96	.95
18.65	ELEV	2.81	2.81	2.81	2.81	2.81	2.81	2.81	2.81

19.05 CFS	.94	.94	.93	.92	.91	.91	.90	.89
19.05 ELEV	2.81	2.81	2.81	2.81	2.81	2.81	2.80	2.80
19.45 CFS	.88	.88	.87	.86	.85	.85	.84	.83
19.45 ELEV	2.80	2.80	2.80	2.80	2.80	2.80	2.80	2.80
19.85 CFS	.82	.82	.81	.80	.80	.79	.78	.78
19.85 ELEV	2.80	2.80	2.80	2.80	2.80	2.80	2.80	2.80
20.25 CFS	.78	.78	.77	.77	.77	.77	.77	.77
20.25 ELEV	2.80	2.80	2.80	2.80	2.80	2.80	2.80	2.80
20.65 CFS	.76	.76	.76	.76	.76	.76	.76	.75
20.65 ELEV	2.80	2.80	2.80	2.80	2.80	2.80	2.80	2.80
21.05 CFS	.75	.75	.75	.75	.75	.75	.74	.74
21.05 ELEV	2.80	2.80	2.80	2.80	2.80	2.80	2.80	2.80
21.45 CFS	.74	.74	.74	.74	.74	.73	.73	.73
21.45 ELEV	2.80	2.80	2.80	2.79	2.79	2.79	2.79	2.79
21.85 CFS	.73	.73	.73	.73	.72	.72	.72	.72
21.85 ELEV	2.79	2.79	2.79	2.79	2.79	2.79	2.79	2.79
22.25 CFS	.72	.72	.72	.71	.71	.71	.71	.71
22.25 ELEV	2.79	2.79	2.79	2.79	2.79	2.79	2.79	2.79
22.65 CFS	.71	.70	.70	.70	.70	.70	.70	.70
22.65 ELEV	2.79	2.79	2.79	2.79	2.79	2.79	2.79	2.79
23.05 CFS	.69	.69	.69	.69	.69	.69	.69	.68
23.05 ELEV	2.79	2.79	2.79	2.79	2.79	2.79	2.79	2.79
23.45 CFS	.68	.68	.68	.68	.68	.68	.67	.67
23.45 ELEV	2.79	2.79	2.79	2.79	2.79	2.79	2.79	2.79
23.85 CFS	.67	.67	.67	.66				
23.85 ELEV	2.79	2.79	2.79	2.79				

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
6.23 WATERSHED INCHES; 47 CFS-HRS; 3.9 ACRE-FEET.

DURATION(HRS)	2	4	6	8	10	12	14	16
FLOW(CFS)	5	2	1	1	1	1	1	1

DURATION(HRS) 16
FLOW(CFS) 1 TRUNCATED

--- STRUCTURE 1, ALTERNATE 1, STORM 99, HYDROGRAPH ADDED TO READHD FILE ---

OPERATION RUNOFF STRUCTURE 1

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
12.00	59.0	(RUNOFF)

HYDROGRAPH POINTS FOR ALTERNATE = 1, STORM =99
HRS MAIN TIME INCREMENT = .050 hr, DRAINAGE AREA = .01 SQ.MI.

7.85 CFS	.49	.50	.51	.52	.53	.54	.55	.56
7.85 ELEV	2.78	2.78	2.78	2.78	2.78	2.78	2.78	2.78
8.25 CFS	.58	.60	.62	.64	.66	.68	.70	.72
8.25 ELEV	2.79	2.79	2.79	2.79	2.79	2.79	2.79	2.79
8.65 CFS	.74	.76	.78	.81	.83	.85	.87	.90

8.65 ELEV	2.80	2.80	2.80	2.80	2.80	2.80	2.80	2.80
9.05 CFS	.92	.94	.96	.98	.99	1.00	1.01	1.02
9.05 ELEV	2.81	2.81	2.81	2.81	2.81	2.81	2.81	2.81
9.45 CFS	1.03	1.04	1.05	1.06	1.08	1.11	1.14	1.17
9.45 ELEV	2.81	2.81	2.81	2.81	2.82	2.82	2.82	2.82
9.85 CFS	1.20	1.24	1.28	1.32	1.36	1.40	1.44	1.49
9.85 ELEV	2.82	2.83	2.83	2.83	2.83	2.84	2.84	2.84
10.25 CFS	1.55	1.60	1.66	1.72	1.77	1.83	1.89	1.96
10.25 ELEV	2.84	2.85	2.85	2.85	2.86	2.86	2.87	2.87
10.65 CFS	2.04	2.12	2.21	2.31	2.40	2.50	2.60	2.71
10.65 ELEV	2.87	2.88	2.88	2.89	2.90	2.90	2.91	2.92
11.05 CFS	2.82	2.95	3.11	3.29	3.50	3.73	3.96	4.21
11.05 ELEV	2.92	2.93	2.94	2.95	2.96	2.98	2.99	3.01
11.45 CFS	4.45	4.73	5.32	6.70	9.08	12.86	17.76	24.18
11.45 ELEV	3.05	3.09	3.17	3.35	3.67	4.26	5.08	6.15
11.85 CFS	32.40	43.84	54.48	58.97	55.71	45.03	32.19	22.30
11.85 ELEV	7.52	9.42	11.20	11.95	11.40	9.62	7.48	5.83
12.25 CFS	16.52	13.08	10.91	9.43	8.32	7.40	6.65	6.02
12.25 ELEV	4.87	4.30	3.96	3.72	3.55	3.43	3.34	3.26
12.65 CFS	5.54	5.19	4.93	4.72	4.55	4.38	4.22	4.06
12.65 ELEV	3.20	3.15	3.12	3.09	3.06	3.04	3.02	3.00
13.05 CFS	3.92	3.78	3.66	3.55	3.45	3.36	3.28	3.19
13.05 ELEV	2.99	2.98	2.97	2.97	2.96	2.96	2.95	2.94
13.45 CFS	3.11	3.03	2.95	2.87	2.80	2.73	2.67	2.61
13.45 ELEV	2.94	2.93	2.93	2.93	2.92	2.92	2.91	2.91
13.85 CFS	2.55	2.49	2.43	2.37	2.32	2.27	2.22	2.19
13.85 ELEV	2.91	2.90	2.90	2.89	2.89	2.89	2.89	2.88
14.25 CFS	2.16	2.13	2.11	2.09	2.07	2.05	2.03	2.01
14.25 ELEV	2.88	2.88	2.88	2.88	2.88	2.87	2.87	2.87
14.65 CFS	1.99	1.97	1.95	1.93	1.91	1.89	1.87	1.85
14.65 ELEV	2.87	2.87	2.87	2.87	2.87	2.87	2.86	2.86
15.05 CFS	1.82	1.80	1.78	1.76	1.74	1.72	1.70	1.68
15.05 ELEV	2.86	2.86	2.86	2.86	2.86	2.86	2.85	2.85
15.45 CFS	1.66	1.64	1.62	1.60	1.58	1.56	1.54	1.52
15.45 ELEV	2.85	2.85	2.85	2.85	2.85	2.85	2.84	2.84
15.85 CFS	1.50	1.48	1.46	1.43	1.41	1.40	1.38	1.37
15.85 ELEV	2.84	2.84	2.84	2.84	2.84	2.84	2.83	2.83
16.25 CFS	1.36	1.35	1.34	1.33	1.33	1.32	1.31	1.30
16.25 ELEV	2.83	2.83	2.83	2.83	2.83	2.83	2.83	2.83
16.65 CFS	1.30	1.29	1.28	1.28	1.27	1.26	1.25	1.25
16.65 ELEV	2.83	2.83	2.83	2.83	2.83	2.83	2.83	2.83
17.05 CFS	1.24	1.23	1.22	1.22	1.21	1.20	1.20	1.19
17.05 ELEV	2.83	2.83	2.82	2.82	2.82	2.82	2.82	2.82
17.45 CFS	1.18	1.17	1.17	1.16	1.15	1.14	1.14	1.13
17.45 ELEV	2.82	2.82	2.82	2.82	2.82	2.82	2.82	2.82
17.85 CFS	1.12	1.11	1.11	1.10	1.09	1.08	1.08	1.07
17.85 ELEV	2.82	2.82	2.82	2.82	2.82	2.82	2.82	2.82
18.25 CFS	1.06	1.05	1.05	1.04	1.03	1.03	1.02	1.01
18.25 ELEV	2.81	2.81	2.81	2.81	2.81	2.81	2.81	2.81

18.65 CFS	1.00	1.00	.99	.98	.97	.97	.96	.95
18.65 ELEV	2.81	2.81	2.81	2.81	2.81	2.81	2.81	2.81
19.05 CFS	.94	.94	.93	.92	.91	.91	.90	.89
19.05 ELEV	2.81	2.81	2.81	2.81	2.81	2.81	2.80	2.80
19.45 CFS	.88	.88	.87	.86	.85	.85	.84	.83
19.45 ELEV	2.80	2.80	2.80	2.80	2.80	2.80	2.80	2.80
19.85 CFS	.82	.82	.81	.80	.80	.79	.78	.78
19.85 ELEV	2.80	2.80	2.80	2.80	2.80	2.80	2.80	2.80
20.25 CFS	.78	.78	.77	.77	.77	.77	.77	.77
20.25 ELEV	2.80	2.80	2.80	2.80	2.80	2.80	2.80	2.80
20.65 CFS	.76	.76	.76	.76	.76	.76	.76	.75
20.65 ELEV	2.80	2.80	2.80	2.80	2.80	2.80	2.80	2.80
21.05 CFS	.75	.75	.75	.75	.75	.75	.74	.74
21.05 ELEV	2.80	2.80	2.80	2.80	2.80	2.80	2.80	2.80
21.45 CFS	.74	.74	.74	.74	.74	.73	.73	.73
21.45 ELEV	2.80	2.80	2.80	2.79	2.79	2.79	2.79	2.79
21.85 CFS	.73	.73	.73	.73	.72	.72	.72	.72
21.85 ELEV	2.79	2.79	2.79	2.79	2.79	2.79	2.79	2.79
22.25 CFS	.72	.72	.72	.71	.71	.71	.71	.71
22.25 ELEV	2.79	2.79	2.79	2.79	2.79	2.79	2.79	2.79
22.65 CFS	.71	.70	.70	.70	.70	.70	.70	.70
22.65 ELEV	2.79	2.79	2.79	2.79	2.79	2.79	2.79	2.79
23.05 CFS	.69	.69	.69	.69	.69	.69	.69	.68
23.05 ELEV	2.79	2.79	2.79	2.79	2.79	2.79	2.79	2.79
23.45 CFS	.68	.68	.68	.68	.68	.68	.67	.67
23.45 ELEV	2.79	2.79	2.79	2.79	2.79	2.79	2.79	2.79
23.85 CFS	.67	.67	.67	.66				
23.85 ELEV	2.79	2.79	2.79	2.79				

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
6.21 WATERSHED INCHES; 47 CFS-HRS; 3.9 ACRE-FEET.

DURATION(HRS)	2	4	6	8	10	12	14	16
FLOW(CFS)	3	2	1	1	1	1	1	1

DURATION(HRS)	16
FLOW(CFS)	1 TRUNCATED

--- STRUCTURE 1, ALTERNATE 1, STORM 99, HYDROGRAPH ADDED TO READHD FILE ---

EXECUTIVE CONTROL ENDCMP COMPUTATIONS COMPLETED FOR PASS 6

SUMMARY TABLE 1

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

XSECTION/ STRUCTURE ID	STANDARD CONTROL OPERATION	DRAINAGE AREA (SQ MI)	RUNOFF AMOUNT (IN)	PEAK DISCHARGE ELEVATION (FT)	TIME (HR)	RATE (CFS)	RATE (CSM)
RAINFALL OF 3.11 inches AND 24.00 hr DURATION, BEGINS AT .0 hrs.							
RAINTABLE NUMBER 2, ARC 2							
MAIN TIME INCREMENT .050 HOURS							
ALTERNATE 1 STORM 2							
STRUCTURE 1	RUNOFF	.01	1.53	---	12.02	15	1500.0
STRUCTURE 1	RESVOR	.01	1.51	3.99	12.11	11	1100.0
STRUCTURE 1	RUNOFF	.01	1.53	---	12.02	15	1500.0
STRUCTURE 1	ADDHYD	.02	1.52	6.35	12.03	25	1250.0
RAINFALL OF 4.00 inches AND 24.00 hr DURATION, BEGINS AT .0 hrs.							
ALTERNATE 1 STORM 5							
STRUCTURE 1	RUNOFF	.01	2.28	---	12.01	22	2200.0
STRUCTURE 1	RESVOR	.01	2.33	4.29	12.15	13	1300.0
STRUCTURE 1	RUNOFF	.01	2.28	---	12.01	22	2200.0
STRUCTURE 1	ADDHYD	.02	2.31	7.86	12.02	34	1700.0
RAINFALL OF 4.78 inches AND 24.00 hr DURATION, BEGINS AT .0 hrs.							
ALTERNATE 1 STORM 10							
STRUCTURE 1	RUNOFF	.01	2.97	---	12.01	29	2900.0
STRUCTURE 1	RESVOR	.01	2.97	4.48	12.17	14	1400.0
STRUCTURE 1	RUNOFF	.01	2.97	---	12.01	29	2900.0
STRUCTURE 1	ADDHYD	.02	2.97	9.14	12.02	42	2100.0
RAINFALL OF 5.99 inches AND 24.00 hr DURATION, BEGINS AT .0 hrs.							
ALTERNATE 1 STORM 25							
STRUCTURE 1	RUNOFF	.01	4.08	---	12.01	39	3900.0
STRUCTURE 1	RESVOR	.01	4.08	4.74	12.20	16	1600.0
STRUCTURE 1	RUNOFF	.01	4.08	---	12.01	39	3900.0

SUMMARY TABLE 1

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

XSECTION/ STRUCTURE ID	STANDARD CONTROL OPERATION	DRAINAGE AREA (SQ MI)	RUNOFF AMOUNT (IN)	PEAK DISCHARGE ELEVATION (FT)	TIME (HR)	RATE (CFS)	RATE (CSM)
ALTERNATE 1 STORM 25							
STRUCTURE 1	ADDHYD	.02	4.08	11.06	12.01	54	2700.0
RAINFALL OF 7.05 inches AND 24.00 hr DURATION, BEGINS AT .0 hrs.							
ALTERNATE 1 STORM 50							
STRUCTURE 1	RUNOFF	.01	5.07	---	12.00	49	4900.0
STRUCTURE 1	RESVOR	.01	5.07	4.99	12.22	17	1700.0
STRUCTURE 1	RUNOFF	.01	5.07	---	12.00	49	4900.0
STRUCTURE 1	ADDHYD	.02	5.07	12.73	12.01	64	3200.0
RAINFALL OF 8.26 inches AND 24.00 hr DURATION, BEGINS AT .0 hrs.							
ALTERNATE 1 STORM 99							
STRUCTURE 1	RUNOFF	.01	6.21	---	12.00	59	5900.0
STRUCTURE 1	RESVOR	.01	6.23	5.28	12.23	19	1900.0
STRUCTURE 1	RUNOFF	.01	6.21	---	12.00	59	5900.0
STRUCTURE 1	ADDHYD	.02	6.22	14.65	12.01	75	3750.0

SUMMARY TABLE 3

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

XSECTION/ STRUCTURE ID	DRAINAGE AREA (SQ MI)	STORM NUMBERS..... 2	5	10	25	50
STRUCTURE 1	.02					
ALTERNATE 1		25	34	42	54	64

SUMMARY TABLE 3

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

XSECTION/ STRUCTURE ID	DRAINAGE AREA (SQ MI)	STORM NUMBERS..... 99
STRUCTURE 1	.02	
ALTERNATE 1		75

SUMMARY TABLE #3 / 3A DATA REORDERED IN DESCENDING ORDER FOR ECON2.

ECON2 DATA FILE

```
ECON2
TITLE                 JONES POINT PARK EXISTING CONDITIONS
TITLE              FILENAME: JPPCLOG.dat     9/7/05   BY: TLH
FLOW-FREQ    -1            75.       64.       54.       42.       34.ALT  1   1
FLOW-FREQ    -1            25.                                          ALT  1   2
```

END OF 1 JOBS IN THIS RUN

SCS TR-20, VERSION 2.04TEST
FILES

INPUT = C:\JPPPROP.DAT , GIVEN DATA FILE
OUTPUT = C:\JPPPROP.OUT , DATED 09/08/**,11:52:48

FILES GENERATED - DATED 09/08/**,11:52:48

FILE C:\JPPPROP.TEC CONTAINS ECON2 INFORMATION

FILE C:\JPPPROP.TRD CONTAINS READHD INFORMATION

FILE C:\JPPPROP.TMG CONTAINS MESSAGE + WARNING INFORMATION

TOTAL NUMBER OF WARNINGS = 13, MESSAGES = 0

JOB ENDED AT 11:52:48
*** TR-20 RUN COMPLETED ***

Routing for proposed culvert 1,
fields, 2-24" RCPs

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

JOB TR-20           ECON                          SUMMARY   NOPLOTS
TITLE 004 JONES POINT PARK EXISTING CONDITIONS
TITLE 000 FILENAME: JPPCUL1P.dat     9/16/05   BY: TLH
 3 STRUCT      01
 8                      2.75        0.0         0.0000
 8                      3.00        4.8         0.0003
 8                      3.25        6.6         0.0088
 8                      3.50        9.5         0.0255
 8                      3.75        11.7        0.0504
 8                      4.00        14.2        0.0836
 8                      4.25        16.7        0.1669
 8                      4.50        19.4        0.3335
 8                      4.75        24.8        0.5501
 9 ENDTBL
 6 RUNOFF 1    01     1 0.0118      84.1        0.20        1 1 1 1 1 1  DA-1 D
 6 RESVOR 2    01 1   2 2.75                                1 1 1 1 1 1
 6 RUNOFF 1    01     3 0.0118      84.1        0.20        1 1 1 1 1 1  DA-1 D
 6 ADDHYD 4    01 2 3 4
   ENDATA
 7 INCREM 6             0.05
 7 COMPUT 7    01    01 0.00        3.11        1.00        2 2   1   2  2-YR
   ENDCMP 1
 7 COMPUT 7    01    01 0.00        4.00        1.00        2 2   1   5  5-YR
   ENDCMP 1
 7 COMPUT 7    01    01 0.00        4.78        1.00        2 2   1  10  10-YR
   ENDCMP 1
 7 COMPUT 7    01    01 0.00        5.99        1.00        2 2   1  25  25-YR
   ENDCMP 1
 7 COMPUT 7    01    01 0.00        7.05        1.00        2 2   1  50  50-YR
   ENDCMP 1
 7 COMPUT 7    01    01 0.00        8.26        1.00        2 2   1  99  100-YR
   ENDCMP 1
   ENDJOB 2

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

EXECUTIVE CONTROL INCREM MAIN TIME INCREMENT = .050 HOURS

EXECUTIVE CONTROL COMPUT FROM STRUCTURE 1 TO STRUCTURE 1 2-YR
STARTING TIME = .00 RAIN DEPTH = 3.11 RAIN DURATION = 1.00
ANT. RUNOFF COND. = 2 MAIN TIME INCREMENT = .050 HOURS
ALTERNATE NO. = 1 STORM NO. = 2 RAIN TABLE NO. = 2

OPERATION RUNOFF STRUCTURE 1

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
12.01	15.9	(RUNOFF)

HYDROGRAPH POINTS FOR ALTERNATE = 1, STORM = 2
MAIN TIME INCREMENT = .050 hr, DRAINAGE AREA = .01 SQ.MI.

HRS								
11.10	CFS	.47	.50	.54	.59	.64	.69	.74	.80
11.10	ELEV	2.77	2.78	2.78	2.78	2.78	2.79	2.79	2.79
11.50	CFS	.87	.99	1.28	1.79	2.65	3.83	5.43	7.64
11.50	ELEV	2.80	2.80	2.82	2.84	2.89	2.95	3.09	3.34
11.90	CFS	10.89	14.12	15.82	15.33	12.58	9.09	6.35	4.76
11.90	ELEV	3.66	3.99	4.16	4.11	3.84	3.47	3.22	3.00
12.30	CFS	3.82	3.22	2.81	2.50	2.23	2.01	1.83	1.69
12.30	ELEV	2.95	2.92	2.90	2.88	2.87	2.85	2.85	2.84
12.70	CFS	1.58	1.51	1.45	1.39	1.34	1.30	1.25	1.21
12.70	ELEV	2.83	2.83	2.83	2.82	2.82	2.82	2.82	2.81
13.10	CFS	1.17	1.13	1.10	1.07	1.04	1.02	.99	.97
13.10	ELEV	2.81	2.81	2.81	2.81	2.80	2.80	2.80	2.80
13.50	CFS	.94	.92	.89	.87	.85	.83	.81	.80
13.50	ELEV	2.80	2.80	2.80	2.80	2.79	2.79	2.79	2.79
13.90	CFS	.78	.76	.74	.73	.71	.70	.69	.68
13.90	ELEV	2.79	2.79	2.79	2.79	2.79	2.79	2.79	2.79
14.30	CFS	.67	.66	.66	.65	.64	.64	.63	.63
14.30	ELEV	2.78	2.78	2.78	2.78	2.78	2.78	2.78	2.78
14.70	CFS	.62	.61	.61	.60	.60	.59	.58	.58
14.70	ELEV	2.78	2.78	2.78	2.78	2.78	2.78	2.78	2.78
15.10	CFS	.57	.57	.56	.55	.55	.54	.53	.53
15.10	ELEV	2.78	2.78	2.78	2.78	2.78	2.78	2.78	2.78
15.50	CFS	.52	.51	.51	.50	.50			
15.50	ELEV	2.78	2.78	2.78	2.78	2.78			

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
1.61 WATERSHED INCHES; 12 CFS-HRS; 1.0 ACRE-FEET.

DURATION(HRS)	2	4	5
FLOW(CFS)	1	1	0

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

OPERATION RESVOR STRUCTURE 1

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
12.09	13.0	3.88
12.45	3.7	2.95
12.55	3.1	2.91
12.65	2.7	2.89
12.75	2.4	2.87
12.85	2.2	2.86
12.95	2.0	2.85
13.05	1.8	2.84
13.15	1.7	2.84
13.25	1.5	2.83

HYDROGRAPH POINTS FOR ALTERNATE = 1, STORM = 2
MAIN TIME INCREMENT = .050 hr, DRAINAGE AREA = .01 SQ.MI.

HRS								
8.30	CFS	.00	.01	.01	.01	.01	.02	.02	.02
8.30	ELEV	2.75	2.75	2.75	2.75	2.75	2.75	2.75	2.75
8.70	CFS	.02	.03	.03	.03	.04	.04	.05	.05
8.70	ELEV	2.75	2.75	2.75	2.75	2.75	2.75	2.75	2.75
9.10	CFS	.05	.06	.06	.07	.07	.07	.08	.08
9.10	ELEV	2.75	2.75	2.75	2.75	2.75	2.75	2.75	2.75
9.50	CFS	.08	.09	.09	.09	.10	.10	.11	.12
9.50	ELEV	2.75	2.75	2.75	2.75	2.76	2.76	2.76	2.76
9.90	CFS	.12	.13	.14	.14	.15	.16	.17	.18
9.90	ELEV	2.76	2.76	2.76	2.76	2.76	2.76	2.76	2.76
10.30	CFS	.19	.20	.21	.22	.24	.25	.26	.28
10.30	ELEV	2.76	2.76	2.76	2.76	2.76	2.76	2.76	2.76
10.70	CFS	.29	.31	.33	.35	.37	.39	.42	.44
10.70	ELEV	2.77	2.77	2.77	2.77	2.77	2.77	2.77	2.77
11.10	CFS	.47	.50	.54	.59	.64	.69	.74	.80
11.10	ELEV	2.77	2.78	2.78	2.78	2.78	2.79	2.79	2.79
11.50	CFS	.86	.99	1.27	1.78	2.64	3.81	4.99	5.93
11.50	ELEV	2.80	2.80	2.82	2.84	2.89	2.95	3.03	3.16
11.90	CFS	7.78	9.95	11.50	12.62	12.98	12.41	11.06	9.27
11.90	ELEV	3.35	3.55	3.73	3.84	3.88	3.82	3.68	3.48
12.30	CFS	6.64	4.63	1.50	3.74	1.07	3.11	.79	2.66
12.30	ELEV	3.25	2.99	2.83	2.95	2.81	2.91	2.79	2.89
12.70	CFS	.67	2.37	.63	2.16	.63	1.97	.61	1.81
12.70	ELEV	2.78	2.87	2.78	2.86	2.78	2.85	2.78	2.84
13.10	CFS	.60	1.66	.60	1.54	.60	1.43	.60	1.34
13.10	ELEV	2.78	2.84	2.78	2.83	2.78	2.82	2.78	2.82
13.50	CFS	.59	1.25	.59	1.16	.58	1.09	.57	1.02
13.50	ELEV	2.78	2.81	2.78	2.81	2.78	2.81	2.78	2.80
13.90	CFS	.56	.96	.55	.90	.54	.86	.54	.82
13.90	ELEV	2.78	2.80	2.78	2.80	2.78	2.79	2.78	2.79
14.30	CFS	.54	.79	.54	.76	.54	.74	.54	.71
14.30	ELEV	2.78	2.79	2.78	2.79	2.78	2.79	2.78	2.79
14.70	CFS	.54	.69	.54	.67	.53	.65	.53	.63

14.70	ELEV	2.78	2.79	2.78	2.78	2.78	2.78	2.78	2.78
15.10	CFS	.52	.61	.51	.59	.51	.58	.50	.56
15.10	ELEV	2.78	2.78	2.78	2.78	2.78	2.78	2.78	2.78
15.50	CFS	.49	.54	.48	.53	.47	.51	.46	.50
15.50	ELEV	2.78	2.78	2.78	2.78	2.77	2.78	2.77	2.78
15.90	CFS	.45	.48	.44	.47	.43	.45	.42	.45
15.90	ELEV	2.77	2.78	2.77	2.77	2.77	2.77	2.77	2.77
16.30	CFS	.42	.44	.42	.43	.41	.43	.41	.42
16.30	ELEV	2.77	2.77	2.77	2.77	2.77	2.77	2.77	2.77
16.70	CFS	.41	.42	.40	.41	.40	.41	.39	.40
16.70	ELEV	2.77	2.77	2.77	2.77	2.77	2.77	2.77	2.77
17.10	CFS	.39	.40	.39	.39	.38	.39	.38	.38
17.10	ELEV	2.77	2.77	2.77	2.77	2.77	2.77	2.77	2.77
17.50	CFS	.37	.38	.37	.37	.37	.37	.36	.36
17.50	ELEV	2.77	2.77	2.77	2.77	2.77	2.77	2.77	2.77
17.90	CFS	.36	.36	.35	.35	.35	.35	.34	.34
17.90	ELEV	2.77	2.77	2.77	2.77	2.77	2.77	2.77	2.77
18.30	CFS	.34	.34	.33	.33	.33	.33	.33	.32
18.30	ELEV	2.77	2.77	2.77	2.77	2.77	2.77	2.77	2.77
18.70	CFS	.32	.32	.32	.31	.31	.31	.31	.31
18.70	ELEV	2.77	2.77	2.77	2.77	2.77	2.77	2.77	2.77
19.10	CFS	.30	.30	.30	.30	.29	.29	.29	.29
19.10	ELEV	2.77	2.77	2.77	2.77	2.77	2.77	2.77	2.76
19.50	CFS	.28	.28	.28	.28	.27	.27	.27	.27
19.50	ELEV	2.76	2.76	2.76	2.76	2.76	2.76	2.76	2.76
19.90	CFS	.26	.26	.26	.26	.26	.25	.25	.25
19.90	ELEV	2.76	2.76	2.76	2.76	2.76	2.76	2.76	2.76
20.30	CFS	.25	.25	.25	.25	.25	.25	.25	.25
20.30	ELEV	2.76	2.76	2.76	2.76	2.76	2.76	2.76	2.76
20.70	CFS	.25	.25	.25	.25	.25	.25	.25	.24
20.70	ELEV	2.76	2.76	2.76	2.76	2.76	2.76	2.76	2.76
21.10	CFS	.24	.24	.24	.24	.24	.24	.24	.24
21.10	ELEV	2.76	2.76	2.76	2.76	2.76	2.76	2.76	2.76
21.50	CFS	.24	.24	.24	.24	.24	.24	.24	.24
21.50	ELEV	2.76	2.76	2.76	2.76	2.76	2.76	2.76	2.76
21.90	CFS	.24	.24	.24	.24	.24	.24	.23	.23
21.90	ELEV	2.76	2.76	2.76	2.76	2.76	2.76	2.76	2.76
22.30	CFS	.23	.23	.23	.23	.23	.23	.23	.23
22.30	ELEV	2.76	2.76	2.76	2.76	2.76	2.76	2.76	2.76
22.70	CFS	.23	.23	.23	.23	.23	.23	.23	.23
22.70	ELEV	2.76	2.76	2.76	2.76	2.76	2.76	2.76	2.76
23.10	CFS	.23	.23	.23	.23	.22	.22	.22	.22
23.10	ELEV	2.76	2.76	2.76	2.76	2.76	2.76	2.76	2.76
23.50	CFS	.22	.22	.22	.22	.22	.22	.22	.22
23.50	ELEV	2.76	2.76	2.76	2.76	2.76	2.76	2.76	2.76
23.90	CFS	.22	.22	.22	.21	.16	.10	.06	.03
23.90	ELEV	2.76	2.76	2.76	2.76	2.76	2.76	2.75	2.75
24.30	CFS	.02	.01	.00					
24.30	ELEV	2.75	2.75	2.75					

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
1.56 WATERSHED INCHES; 12 CFS-HRS; 1.0 ACRE-FEET.

DURATION(HRS) 2 4 4
FLOW(CFS) 1 1 0

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

OPERATION RUNOFF STRUCTURE 1

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
12.01	15.9	(RUNOFF)

HYDROGRAPH POINTS FOR ALTERNATE = 1, STORM = 2
MAIN TIME INCREMENT = .050 hr, DRAINAGE AREA = .01 SQ.MI.

HRS								
11.10 CFS	.47	.50	.54	.59	.64	.69	.74	.80
11.10 ELEV	2.77	2.78	2.78	2.78	2.78	2.79	2.79	2.79
11.50 CFS	.87	.99	1.28	1.79	2.65	3.83	5.43	7.64
11.50 ELEV	2.80	2.80	2.82	2.84	2.89	2.95	3.09	3.34
11.90 CFS	10.89	14.12	15.82	15.33	12.58	9.09	6.35	4.76
11.90 ELEV	3.66	3.99	4.16	4.11	3.84	3.47	3.22	3.00
12.30 CFS	3.82	3.22	2.81	2.50	2.23	2.01	1.83	1.69
12.30 ELEV	2.95	2.92	2.90	2.88	2.87	2.85	2.85	2.84
12.70 CFS	1.58	1.51	1.45	1.39	1.34	1.30	1.25	1.21
12.70 ELEV	2.83	2.83	2.83	2.82	2.82	2.82	2.82	2.81
13.10 CFS	1.17	1.13	1.10	1.07	1.04	1.02	.99	.97
13.10 ELEV	2.81	2.81	2.81	2.81	2.80	2.80	2.80	2.80
13.50 CFS	.94	.92	.89	.87	.85	.83	.81	.80
13.50 ELEV	2.80	2.80	2.80	2.80	2.79	2.79	2.79	2.79
13.90 CFS	.78	.76	.74	.73	.71	.70	.69	.68
13.90 ELEV	2.79	2.79	2.79	2.79	2.79	2.79	2.79	2.79
14.30 CFS	.67	.66	.66	.65	.64	.64	.63	.63
14.30 ELEV	2.78	2.78	2.78	2.78	2.78	2.78	2.78	2.78
14.70 CFS	.62	.61	.61	.60	.60	.59	.58	.58
14.70 ELEV	2.78	2.78	2.78	2.78	2.78	2.78	2.78	2.78
15.10 CFS	.57	.57	.56	.55	.55	.54	.53	.53
15.10 ELEV	2.78	2.78	2.78	2.78	2.78	2.78	2.78	2.78
15.50 CFS	.52	.51	.51	.50	.50			
15.50 ELEV	2.78	2.78	2.78	2.78	2.78			

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
1.61 WATERSHED INCHES; 12 CFS-HRS; 1.0 ACRE-FEET.

DURATION(HRS) 2 4 5
FLOW(CFS) 1 1 0

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

EXECUTIVE CONTROL ENDCMP COMPUTATIONS COMPLETED FOR PASS 1

EXECUTIVE CONTROL COMPUT FROM STRUCTURE 1 TO STRUCTURE 1 5-YR
STARTING TIME = .00 RAIN DEPTH = 4.00 RAIN DURATION = 1.00
ANT. RUNOFF COND. = 2 MAIN TIME INCREMENT = .050 HOURS
ALTERNATE NO. = 1 STORM NO. = 5 RAIN TABLE NO. = 2

OPERATION RUNOFF STRUCTURE 1

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
12.01	23.2	(RUNOFF)

HYDROGRAPH POINTS FOR ALTERNATE = 1, STORM = 5
MAIN TIME INCREMENT = .050 hr, DRAINAGE AREA = .01 SQ.MI.

HRS								
10.55	CFS	.49	.52	.54	.57	.60	.63	.66	.70
10.55	ELEV	2.78	2.78	2.78	2.78	2.78	2.78	2.78	2.79
10.95	CFS	.73	.77	.81	.85	.91	.97	1.04	1.12
10.95	ELEV	2.79	2.79	2.79	2.79	2.80	2.80	2.80	2.81
11.35	CFS	1.20	1.29	1.38	1.47	1.67	2.15	2.99	4.34
11.35	ELEV	2.81	2.82	2.82	2.83	2.84	2.86	2.91	2.98
11.75	CFS	6.15	8.54	11.73	16.49	21.09	23.19	22.19	18.18
11.75	ELEV	3.19	3.42	3.75	4.23	4.58	4.68	4.63	4.39
12.15	CFS	13.13	9.14	6.81	5.43	4.57	3.98	3.52	3.14
12.15	ELEV	3.89	3.47	3.27	3.09	2.99	2.96	2.93	2.91
12.55	CFS	2.83	2.56	2.36	2.22	2.11	2.02	1.95	1.88
12.55	ELEV	2.90	2.88	2.87	2.87	2.86	2.86	2.85	2.85
12.95	CFS	1.81	1.75	1.68	1.63	1.57	1.53	1.49	1.45
12.95	ELEV	2.84	2.84	2.84	2.83	2.83	2.83	2.83	2.83
13.35	CFS	1.41	1.38	1.34	1.31	1.28	1.24	1.21	1.18
13.35	ELEV	2.82	2.82	2.82	2.82	2.82	2.81	2.81	2.81
13.75	CFS	1.16	1.13	1.11	1.08	1.06	1.03	1.01	.98
13.75	ELEV	2.81	2.81	2.81	2.81	2.80	2.80	2.80	2.80
14.15	CFS	.97	.95	.94	.93	.92	.91	.90	.89
14.15	ELEV	2.80	2.80	2.80	2.80	2.80	2.80	2.80	2.80
14.55	CFS	.88	.88	.87	.86	.85	.84	.83	.82
14.55	ELEV	2.80	2.80	2.80	2.79	2.79	2.79	2.79	2.79
14.95	CFS	.82	.81	.80	.79	.78	.77	.76	.75
14.95	ELEV	2.79	2.79	2.79	2.79	2.79	2.79	2.79	2.79
15.35	CFS	.75	.74	.73	.72	.71	.70	.69	.68
15.35	ELEV	2.79	2.79	2.79	2.79	2.79	2.79	2.79	2.79
15.75	CFS	.67	.67	.66	.65	.64	.63	.62	.61
15.75	ELEV	2.79	2.78	2.78	2.78	2.78	2.78	2.78	2.78
16.15	CFS	.61	.60	.60	.59	.59	.59	.58	.58
16.15	ELEV	2.78	2.78	2.78	2.78	2.78	2.78	2.78	2.78
16.55	CFS	.58	.57	.57	.57	.56	.56	.56	.55

16.55 ELEV	2.78	2.78	2.78	2.78	2.78	2.78	2.78	2.78
16.95 CFS	.55	.55	.55	.54	.54	.54	.53	.53
16.95 ELEV	2.78	2.78	2.78	2.78	2.78	2.78	2.78	2.78
17.35 CFS	.53	.52	.52	.52	.51	.51	.51	.50
17.35 ELEV	2.78	2.78	2.78	2.78	2.78	2.78	2.78	2.78
17.75 CFS	.50	.50						
17.75 ELEV	2.78	2.78						

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
2.38 WATERSHED INCHES; 18 CFS-HRS; 1.5 ACRE-FEET.

DURATION(HRS)	2	4	6	7
FLOW(CFS)	1	1	1	0

--- STRUCTURE 1, ALTERNATE 1, STORM 5, HYDROGRAPH ADDED TO READHD FILE ---

OPERATION RESVOR STRUCTURE 1

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
12.12	16.2	4.20
13.83	1.1	2.81

HYDROGRAPH POINTS FOR ALTERNATE = 1, STORM = 5
MAIN TIME INCREMENT = .050 hr, DRAINAGE AREA = .01 SQ.MI.

HRS								
7.00 CFS	.00	.01	.01	.01	.01	.02	.02	.02
7.00 ELEV	2.75	2.75	2.75	2.75	2.75	2.75	2.75	2.75
7.40 CFS	.02	.03	.03	.03	.03	.04	.04	.04
7.40 ELEV	2.75	2.75	2.75	2.75	2.75	2.75	2.75	2.75
7.80 CFS	.05	.05	.05	.05	.06	.06	.06	.07
7.80 ELEV	2.75	2.75	2.75	2.75	2.75	2.75	2.75	2.75
8.20 CFS	.07	.08	.08	.08	.09	.09	.10	.10
8.20 ELEV	2.75	2.75	2.75	2.75	2.75	2.75	2.76	2.76
8.60 CFS	.11	.12	.12	.13	.13	.14	.15	.15
8.60 ELEV	2.76	2.76	2.76	2.76	2.76	2.76	2.76	2.76
9.00 CFS	.16	.17	.18	.18	.19	.19	.20	.20
9.00 ELEV	2.76	2.76	2.76	2.76	2.76	2.76	2.76	2.76
9.40 CFS	.21	.21	.22	.22	.23	.23	.24	.25
9.40 ELEV	2.76	2.76	2.76	2.76	2.76	2.76	2.76	2.76
9.80 CFS	.26	.27	.28	.30	.31	.32	.33	.35
9.80 ELEV	2.76	2.76	2.76	2.77	2.77	2.77	2.77	2.77
10.20 CFS	.36	.38	.40	.42	.43	.45	.47	.49
10.20 ELEV	2.77	2.77	2.77	2.77	2.77	2.77	2.77	2.78
10.60 CFS	.52	.54	.57	.60	.63	.66	.70	.73
10.60 ELEV	2.78	2.78	2.78	2.78	2.78	2.78	2.79	2.79
11.00 CFS	.77	.81	.85	.91	.97	1.04	1.12	1.20
11.00 ELEV	2.79	2.79	2.79	2.80	2.80	2.80	2.81	2.81
11.40 CFS	1.29	1.38	1.47	1.66	2.14	2.98	4.31	5.21
11.40 ELEV	2.82	2.82	2.83	2.84	2.86	2.91	2.97	3.06
11.80 CFS	6.51	8.43	10.63	12.97	14.74	15.67	16.19	16.13
11.80 ELEV	3.24	3.41	3.63	3.88	4.05	4.15	4.20	4.19

12.20 CFS	15.55	14.66	12.97	10.69	8.15	5.71	3.08	2.89
12.20 ELEV	4.13	4.05	3.88	3.64	3.38	3.13	2.91	2.90
12.60 CFS	2.51	2.42	2.17	2.16	1.98	1.99	1.84	1.85
12.60 ELEV	2.88	2.88	2.86	2.86	2.85	2.85	2.85	2.85
13.00 CFS	1.71	1.72	1.60	1.60	1.50	1.51	1.43	1.44
13.00 ELEV	2.84	2.84	2.83	2.83	2.83	2.83	2.82	2.82
13.40 CFS	1.36	1.37	1.29	1.29	1.23	1.23	1.17	1.17
13.40 ELEV	2.82	2.82	2.82	2.82	2.81	2.81	2.81	2.81
13.80 CFS	1.12	1.12	1.07	1.07	1.02	1.02	.98	.98
13.80 ELEV	2.81	2.81	2.81	2.81	2.80	2.80	2.80	2.80
14.20 CFS	.94	.95	.92	.93	.90	.91	.89	.89
14.20 ELEV	2.80	2.80	2.80	2.80	2.80	2.80	2.80	2.80
14.60 CFS	.87	.87	.85	.85	.84	.84	.82	.82
14.60 ELEV	2.80	2.80	2.79	2.79	2.79	2.79	2.79	2.79
15.00 CFS	.80	.80	.79	.78	.77	.76	.75	.75
15.00 ELEV	2.79	2.79	2.79	2.79	2.79	2.79	2.79	2.79
15.40 CFS	.73	.73	.72	.71	.70	.69	.68	.68
15.40 ELEV	2.79	2.79	2.79	2.79	2.79	2.79	2.79	2.79
15.80 CFS	.66	.66	.65	.64	.63	.62	.61	.61
15.80 ELEV	2.78	2.78	2.78	2.78	2.78	2.78	2.78	2.78
16.20 CFS	.60	.60	.59	.59	.59	.58	.58	.58
16.20 ELEV	2.78	2.78	2.78	2.78	2.78	2.78	2.78	2.78
16.60 CFS	.57	.57	.57	.57	.56	.56	.55	.55
16.60 ELEV	2.78	2.78	2.78	2.78	2.78	2.78	2.78	2.78
17.00 CFS	.55	.55	.54	.54	.54	.53	.53	.53
17.00 ELEV	2.78	2.78	2.78	2.78	2.78	2.78	2.78	2.78
17.40 CFS	.52	.52	.52	.51	.51	.51	.50	.50
17.40 ELEV	2.78	2.78	2.78	2.78	2.78	2.78	2.78	2.78
17.80 CFS	.50	.50	.49	.49	.49	.48	.48	.48
17.80 ELEV	2.78	2.78	2.78	2.78	2.78	2.78	2.77	2.77
18.20 CFS	.47	.47	.47	.46	.46	.46	.45	.45
18.20 ELEV	2.77	2.77	2.77	2.77	2.77	2.77	2.77	2.77
18.60 CFS	.45	.44	.44	.44	.43	.43	.43	.42
18.60 ELEV	2.77	2.77	2.77	2.77	2.77	2.77	2.77	2.77
19.00 CFS	.42	.42	.41	.41	.41	.40	.40	.40
19.00 ELEV	2.77	2.77	2.77	2.77	2.77	2.77	2.77	2.77
19.40 CFS	.40	.39	.39	.39	.38	.38	.38	.37
19.40 ELEV	2.77	2.77	2.77	2.77	2.77	2.77	2.77	2.77
19.80 CFS	.37	.37	.36	.36	.36	.35	.35	.35
19.80 ELEV	2.77	2.77	2.77	2.77	2.77	2.77	2.77	2.77
20.20 CFS	.35	.35	.34	.34	.34	.34	.34	.34
20.20 ELEV	2.77	2.77	2.77	2.77	2.77	2.77	2.77	2.77
20.60 CFS	.34	.34	.34	.34	.34	.34	.34	.34
20.60 ELEV	2.77	2.77	2.77	2.77	2.77	2.77	2.77	2.77
21.00 CFS	.34	.33	.33	.33	.33	.33	.33	.33
21.00 ELEV	2.77	2.77	2.77	2.77	2.77	2.77	2.77	2.77
21.40 CFS	.33	.33	.33	.33	.33	.33	.33	.33
21.40 ELEV	2.77	2.77	2.77	2.77	2.77	2.77	2.77	2.77
21.80 CFS	.33	.32	.32	.32	.32	.32	.32	.32

21.80 ELEV	2.77	2.77	2.77	2.77	2.77	2.77	2.77	2.77
22.20 CFS	.32	.32	.32	.32	.32	.32	.32	.32
22.20 ELEV	2.77	2.77	2.77	2.77	2.77	2.77	2.77	2.77
22.60 CFS	.32	.31	.31	.31	.31	.31	.31	.31
22.60 ELEV	2.77	2.77	2.77	2.77	2.77	2.77	2.77	2.77
23.00 CFS	.31	.31	.31	.31	.31	.31	.31	.31
23.00 ELEV	2.77	2.77	2.77	2.77	2.77	2.77	2.77	2.77
23.40 CFS	.31	.30	.30	.30	.30	.30	.30	.30
23.40 ELEV	2.77	2.77	2.77	2.77	2.77	2.77	2.77	2.77
23.80 CFS	.30	.30	.30	.30	.30	.28	.22	.14
23.80 ELEV	2.77	2.77	2.77	2.77	2.77	2.76	2.76	2.76
24.20 CFS	.08	.04	.02	.01	.01	.00		
24.20 ELEV	2.75	2.75	2.75	2.75	2.75	2.75		

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
2.38 WATERSHED INCHES; 18 CFS-HRS; 1.5 ACRE-FEET.

DURATION(HRS)	2	4	6	7
FLOW(CFS)	1	1	1	0

--- STRUCTURE 1, ALTERNATE 1, STORM 5, HYDROGRAPH ADDED TO READHD FILE ---

OPERATION RUNOFF STRUCTURE 1

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
12.01	23.2	(RUNOFF)

HYDROGRAPH POINTS FOR ALTERNATE = 1, STORM = 5
MAIN TIME INCREMENT = .050 hr, DRAINAGE AREA = .01 SQ.MI.

HRS								
10.55 CFS	.49	.52	.54	.57	.60	.63	.66	.70
10.55 ELEV	2.78	2.78	2.78	2.78	2.78	2.78	2.78	2.79
10.95 CFS	.73	.77	.81	.85	.91	.97	1.04	1.12
10.95 ELEV	2.79	2.79	2.79	2.79	2.80	2.80	2.80	2.81
11.35 CFS	1.20	1.29	1.38	1.47	1.67	2.15	2.99	4.34
11.35 ELEV	2.81	2.82	2.82	2.83	2.84	2.86	2.91	2.98
11.75 CFS	6.15	8.54	11.73	16.49	21.09	23.19	22.19	18.18
11.75 ELEV	3.19	3.42	3.75	4.23	4.58	4.68	4.63	4.39
12.15 CFS	13.13	9.14	6.81	5.43	4.57	3.98	3.52	3.14
12.15 ELEV	3.89	3.47	3.27	3.09	2.99	2.96	2.93	2.91
12.55 CFS	2.83	2.56	2.36	2.22	2.11	2.02	1.95	1.88
12.55 ELEV	2.90	2.88	2.87	2.87	2.86	2.86	2.85	2.85
12.95 CFS	1.81	1.75	1.68	1.63	1.57	1.53	1.49	1.45
12.95 ELEV	2.84	2.84	2.84	2.83	2.83	2.83	2.83	2.83
13.35 CFS	1.41	1.38	1.34	1.31	1.28	1.24	1.21	1.18
13.35 ELEV	2.82	2.82	2.82	2.82	2.82	2.81	2.81	2.81
13.75 CFS	1.16	1.13	1.11	1.08	1.06	1.03	1.01	.98
13.75 ELEV	2.81	2.81	2.81	2.81	2.80	2.80	2.80	2.80
14.15 CFS	.97	.95	.94	.93	.92	.91	.90	.89
14.15 ELEV	2.80	2.80	2.80	2.80	2.80	2.80	2.80	2.80
14.55 CFS	.88	.88	.87	.86	.85	.84	.83	.82

14.55 ELEV	2.80	2.80	2.80	2.79	2.79	2.79	2.79	2.79
14.95 CFS	.82	.81	.80	.79	.78	.77	.76	.75
14.95 ELEV	2.79	2.79	2.79	2.79	2.79	2.79	2.79	2.79
15.35 CFS	.75	.74	.73	.72	.71	.70	.69	.68
15.35 ELEV	2.79	2.79	2.79	2.79	2.79	2.79	2.79	2.79
15.75 CFS	.67	.67	.66	.65	.64	.63	.62	.61
15.75 ELEV	2.79	2.78	2.78	2.78	2.78	2.78	2.78	2.78
16.15 CFS	.61	.60	.60	.59	.59	.59	.58	.58
16.15 ELEV	2.78	2.78	2.78	2.78	2.78	2.78	2.78	2.78
16.55 CFS	.58	.57	.57	.57	.56	.56	.56	.55
16.55 ELEV	2.78	2.78	2.78	2.78	2.78	2.78	2.78	2.78
16.95 CFS	.55	.55	.55	.54	.54	.54	.53	.53
16.95 ELEV	2.78	2.78	2.78	2.78	2.78	2.78	2.78	2.78
17.35 CFS	.53	.52	.52	.52	.51	.51	.51	.50
17.35 ELEV	2.78	2.78	2.78	2.78	2.78	2.78	2.78	2.78
17.75 CFS	.50	.50						
17.75 ELEV	2.78	2.78						

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
2.38 WATERSHED INCHES; 18 CFS-HRS; 1.5 ACRE-FEET.

DURATION(HRS)	2	4	6	7
FLOW(CFS)	1	1	1	0

--- STRUCTURE 1, ALTERNATE 1, STORM 5, HYDROGRAPH ADDED TO READHD FILE ---

EXECUTIVE CONTROL ENDCMP COMPUTATIONS COMPLETED FOR PASS 2

EXECUTIVE CONTROL COMPUT FROM STRUCTURE 1 TO STRUCTURE 1 10-YR
STARTING TIME = .00 RAIN DEPTH = 4.78 RAIN DURATION = 1.00
ANT. RUNOFF COND. = 2 MAIN TIME INCREMENT = .050 HOURS
ALTERNATE NO. = 1 STORM NO. =10 RAIN TABLE NO. = 2

OPERATION RUNOFF STRUCTURE 1

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
12.01	29.9	(RUNOFF)

HYDROGRAPH POINTS FOR ALTERNATE = 1, STORM =10
HRS MAIN TIME INCREMENT = .050 hr, DRAINAGE AREA = .01 SQ.MI.

10.05 CFS	.50	.52	.54	.56	.58	.61	.63	.66
10.05 ELEV	2.78	2.78	2.78	2.78	2.78	2.78	2.78	2.78
10.45 CFS	.68	.71	.74	.77	.80	.84	.88	.92
10.45 ELEV	2.79	2.79	2.79	2.79	2.79	2.79	2.80	2.80
10.85 CFS	.97	1.02	1.06	1.11	1.16	1.23	1.30	1.38
10.85 ELEV	2.80	2.80	2.81	2.81	2.81	2.81	2.82	2.82

11.25 CFS	1.48	1.59	1.70	1.81	1.93	2.06	2.32	2.97
11.25 ELEV	2.83	2.83	2.84	2.84	2.85	2.86	2.87	2.90
11.65 CFS	4.11	5.90	8.29	11.41	15.52	21.57	27.35	29.86
11.65 ELEV	2.96	3.15	3.40	3.72	4.13	4.60	4.87	4.98
12.05 CFS	28.41	23.17	16.70	11.59	8.62	6.85	5.76	5.00
12.05 ELEV	4.92	4.67	4.25	3.74	3.42	3.27	3.13	3.03
12.45 CFS	4.42	3.94	3.54	3.21	2.96	2.77	2.64	2.53
12.45 ELEV	2.98	2.96	2.93	2.92	2.90	2.89	2.89	2.88
12.85 CFS	2.43	2.35	2.26	2.18	2.10	2.03	1.97	1.91
12.85 ELEV	2.88	2.87	2.87	2.86	2.86	2.86	2.85	2.85
13.25 CFS	1.86	1.81	1.76	1.72	1.68	1.63	1.59	1.55
13.25 ELEV	2.85	2.84	2.84	2.84	2.84	2.84	2.83	2.83
13.65 CFS	1.51	1.47	1.44	1.41	1.38	1.34	1.31	1.28
13.65 ELEV	2.83	2.83	2.83	2.82	2.82	2.82	2.82	2.82
14.05 CFS	1.25	1.23	1.20	1.18	1.17	1.15	1.14	1.13
14.05 ELEV	2.82	2.81	2.81	2.81	2.81	2.81	2.81	2.81
14.45 CFS	1.12	1.11	1.10	1.09	1.08	1.07	1.06	1.04
14.45 ELEV	2.81	2.81	2.81	2.81	2.81	2.81	2.80	2.80
14.85 CFS	1.03	1.02	1.01	1.00	.99	.98	.97	.96
14.85 ELEV	2.80	2.80	2.80	2.80	2.80	2.80	2.80	2.80
15.25 CFS	.95	.94	.92	.91	.90	.89	.88	.87
15.25 ELEV	2.80	2.80	2.80	2.80	2.80	2.80	2.80	2.80
15.65 CFS	.86	.85	.84	.82	.81	.80	.79	.78
15.65 ELEV	2.79	2.79	2.79	2.79	2.79	2.79	2.79	2.79
16.05 CFS	.77	.76	.75	.75	.74	.73	.73	.73
16.05 ELEV	2.79	2.79	2.79	2.79	2.79	2.79	2.79	2.79
16.45 CFS	.72	.72	.71	.71	.71	.70	.70	.70
16.45 ELEV	2.79	2.79	2.79	2.79	2.79	2.79	2.79	2.79
16.85 CFS	.69	.69	.68	.68	.68	.67	.67	.66
16.85 ELEV	2.79	2.79	2.79	2.79	2.79	2.78	2.78	2.78
17.25 CFS	.66	.66	.65	.65	.64	.64	.64	.63
17.25 ELEV	2.78	2.78	2.78	2.78	2.78	2.78	2.78	2.78
17.65 CFS	.63	.62	.62	.62	.61	.61	.60	.60
17.65 ELEV	2.78	2.78	2.78	2.78	2.78	2.78	2.78	2.78
18.05 CFS	.60	.59	.59	.58	.58	.58	.57	.57
18.05 ELEV	2.78	2.78	2.78	2.78	2.78	2.78	2.78	2.78
18.45 CFS	.56	.56	.56	.55	.55	.54	.54	.54
18.45 ELEV	2.78	2.78	2.78	2.78	2.78	2.78	2.78	2.78
18.85 CFS	.53	.53	.52	.52	.52	.51	.51	.50
18.85 ELEV	2.78	2.78	2.78	2.78	2.78	2.78	2.78	2.78
19.25 CFS	.50	.50						
19.25 ELEV	2.78	2.78						

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
3.08 WATERSHED INCHES; 23 CFS-HRS; 1.9 ACRE-FEET.

DURATION(HRS)	2	4	6	8	9
FLOW(CFS)	2	1	1	1	0

--- STRUCTURE 1, ALTERNATE 1, STORM 10, HYDROGRAPH ADDED TO READHD FILE ---

OPERATION RESVOR STRUCTURE 1

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
12.14	18.1	4.38
12.70	3.6	2.94
12.80	3.3	2.92
12.90	3.0	2.91
13.00	2.8	2.89
13.10	2.6	2.88
13.20	2.4	2.87
13.30	2.2	2.87
13.40	2.1	2.86
14.60	1.2	2.81

HYDROGRAPH POINTS FOR ALTERNATE = 1, STORM =10
HRS MAIN TIME INCREMENT = .050 hr, DRAINAGE AREA = .01 SQ.MI.

6.15 CFS	.00	.01	.01	.01	.01	.02	.02	.02
6.15 ELEV	2.75	2.75	2.75	2.75	2.75	2.75	2.75	2.75
6.55 CFS	.03	.03	.03	.04	.04	.04	.05	.05
6.55 ELEV	2.75	2.75	2.75	2.75	2.75	2.75	2.75	2.75
6.95 CFS	.05	.06	.06	.06	.07	.07	.07	.08
6.95 ELEV	2.75	2.75	2.75	2.75	2.75	2.75	2.75	2.75
7.35 CFS	.08	.09	.09	.09	.10	.10	.10	.11
7.35 ELEV	2.75	2.75	2.75	2.75	2.76	2.76	2.76	2.76
7.75 CFS	.11	.12	.12	.12	.13	.13	.13	.14
7.75 ELEV	2.76	2.76	2.76	2.76	2.76	2.76	2.76	2.76
8.15 CFS	.14	.15	.16	.16	.17	.18	.18	.19
8.15 ELEV	2.76	2.76	2.76	2.76	2.76	2.76	2.76	2.76
8.55 CFS	.20	.21	.22	.23	.24	.24	.25	.26
8.55 ELEV	2.76	2.76	2.76	2.76	2.76	2.76	2.76	2.76
8.95 CFS	.27	.28	.29	.30	.31	.32	.33	.33
8.95 ELEV	2.76	2.76	2.77	2.77	2.77	2.77	2.77	2.77
9.35 CFS	.34	.34	.35	.35	.36	.37	.38	.39
9.35 ELEV	2.77	2.77	2.77	2.77	2.77	2.77	2.77	2.77
9.75 CFS	.40	.42	.43	.45	.46	.48	.50	.52
9.75 ELEV	2.77	2.77	2.77	2.77	2.77	2.77	2.78	2.78
10.15 CFS	.54	.56	.58	.60	.63	.66	.68	.71
10.15 ELEV	2.78	2.78	2.78	2.78	2.78	2.78	2.79	2.79
10.55 CFS	.74	.77	.80	.84	.88	.92	.97	1.01
10.55 ELEV	2.79	2.79	2.79	2.79	2.80	2.80	2.80	2.80
10.95 CFS	1.06	1.11	1.16	1.22	1.30	1.38	1.48	1.59
10.95 ELEV	2.81	2.81	2.81	2.81	2.82	2.82	2.83	2.83
11.35 CFS	1.70	1.81	1.93	2.05	2.31	2.96	4.09	5.13
11.35 ELEV	2.84	2.84	2.85	2.86	2.87	2.90	2.96	3.05
11.75 CFS	6.33	8.23	10.37	12.74	14.94	16.53	17.42	17.97
11.75 ELEV	3.21	3.39	3.60	3.85	4.07	4.23	4.32	4.37
12.15 CFS	18.09	17.84	17.34	16.71	15.51	14.33	11.91	9.55

12.15 ELEV	4.38	4.36	4.31	4.25	4.13	4.01	3.77	3.51
12.55 CFS	6.51	4.17	2.07	3.62	1.85	3.28	1.73	3.01
12.55 ELEV	3.24	2.97	2.86	2.94	2.85	2.92	2.84	2.91
12.95 CFS	1.64	2.77	1.55	2.55	1.48	2.37	1.42	2.22
12.95 ELEV	2.84	2.89	2.83	2.88	2.83	2.87	2.82	2.87
13.35 CFS	1.38	2.08	1.34	1.95	1.29	1.83	1.24	1.73
13.35 ELEV	2.82	2.86	2.82	2.85	2.82	2.85	2.81	2.84
13.75 CFS	1.20	1.63	1.17	1.54	1.13	1.46	1.09	1.38
13.75 ELEV	2.81	2.83	2.81	2.83	2.81	2.83	2.81	2.82
14.15 CFS	1.06	1.32	1.04	1.28	1.03	1.24	1.02	1.21
14.15 ELEV	2.81	2.82	2.80	2.82	2.80	2.81	2.80	2.81
14.55 CFS	1.01	1.17	1.00	1.14	.99	1.11	.97	1.08
14.55 ELEV	2.80	2.81	2.80	2.81	2.80	2.81	2.80	2.81
14.95 CFS	.96	1.05	.94	1.03	.93	1.00	.91	.97
14.95 ELEV	2.80	2.80	2.80	2.80	2.80	2.80	2.80	2.80
15.35 CFS	.89	.95	.87	.92	.85	.89	.83	.87
15.35 ELEV	2.80	2.80	2.80	2.80	2.79	2.80	2.79	2.80
15.75 CFS	.82	.85	.80	.82	.78	.80	.75	.77
15.75 ELEV	2.79	2.79	2.79	2.79	2.79	2.79	2.79	2.79
16.15 CFS	.74	.76	.73	.75	.72	.74	.71	.73
16.15 ELEV	2.79	2.79	2.79	2.79	2.79	2.79	2.79	2.79
16.55 CFS	.71	.72	.70	.71	.69	.70	.69	.69
16.55 ELEV	2.79	2.79	2.79	2.79	2.79	2.79	2.79	2.79
16.95 CFS	.68	.68	.67	.68	.66	.67	.66	.66
16.95 ELEV	2.79	2.79	2.78	2.79	2.78	2.78	2.78	2.78
17.35 CFS	.65	.65	.64	.64	.63	.63	.63	.63
17.35 ELEV	2.78	2.78	2.78	2.78	2.78	2.78	2.78	2.78
17.75 CFS	.62	.62	.61	.61	.60	.60	.60	.59
17.75 ELEV	2.78	2.78	2.78	2.78	2.78	2.78	2.78	2.78
18.15 CFS	.59	.59	.58	.58	.57	.57	.56	.56
18.15 ELEV	2.78	2.78	2.78	2.78	2.78	2.78	2.78	2.78
18.55 CFS	.56	.55	.55	.55	.54	.54	.53	.53
18.55 ELEV	2.78	2.78	2.78	2.78	2.78	2.78	2.78	2.78
18.95 CFS	.52	.52	.52	.51	.51	.50	.50	.50
18.95 ELEV	2.78	2.78	2.78	2.78	2.78	2.78	2.78	2.78
19.35 CFS	.49	.49	.48	.48	.48	.47	.47	.46
19.35 ELEV	2.78	2.78	2.78	2.78	2.77	2.77	2.77	2.77
19.75 CFS	.46	.46	.45	.45	.44	.44	.44	.43
19.75 ELEV	2.77	2.77	2.77	2.77	2.77	2.77	2.77	2.77
20.15 CFS	.43	.43	.43	.43	.42	.42	.42	.42
20.15 ELEV	2.77	2.77	2.77	2.77	2.77	2.77	2.77	2.77
20.55 CFS	.42	.42	.42	.42	.42	.42	.42	.42
20.55 ELEV	2.77	2.77	2.77	2.77	2.77	2.77	2.77	2.77
20.95 CFS	.41	.41	.41	.41	.41	.41	.41	.41
20.95 ELEV	2.77	2.77	2.77	2.77	2.77	2.77	2.77	2.77
21.35 CFS	.41	.41	.41	.41	.41	.40	.40	.40
21.35 ELEV	2.77	2.77	2.77	2.77	2.77	2.77	2.77	2.77
21.75 CFS	.40	.40	.40	.40	.40	.40	.40	.40
21.75 ELEV	2.77	2.77	2.77	2.77	2.77	2.77	2.77	2.77

22.15 CFS	.40	.40	.39	.39	.39	.39	.39	.39
22.15 ELEV	2.77	2.77	2.77	2.77	2.77	2.77	2.77	2.77
22.55 CFS	.39	.39	.39	.39	.39	.39	.38	.38
22.55 ELEV	2.77	2.77	2.77	2.77	2.77	2.77	2.77	2.77
22.95 CFS	.38	.38	.38	.38	.38	.38	.38	.38
22.95 ELEV	2.77	2.77	2.77	2.77	2.77	2.77	2.77	2.77
23.35 CFS	.38	.38	.38	.37	.37	.37	.37	.37
23.35 ELEV	2.77	2.77	2.77	2.77	2.77	2.77	2.77	2.77
23.75 CFS	.37	.37	.37	.37	.37	.37	.34	.27
23.75 ELEV	2.77	2.77	2.77	2.77	2.77	2.77	2.77	2.76
24.15 CFS	.17	.09	.05	.03	.01	.01	.00	
24.15 ELEV	2.76	2.75	2.75	2.75	2.75	2.75	2.75	

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
3.04 WATERSHED INCHES; 23 CFS-HRS; 1.9 ACRE-FEET.

DURATION(HRS)	2	4	6	8	9
FLOW(CFS)	2	1	1	1	0

--- STRUCTURE 1, ALTERNATE 1, STORM 10, HYDROGRAPH ADDED TO READHD FILE ---

OPERATION RUNOFF STRUCTURE 1

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
12.01	29.9	(RUNOFF)

HYDROGRAPH POINTS FOR ALTERNATE = 1, STORM =10
MAIN TIME INCREMENT = .050 hr, DRAINAGE AREA = .01 SQ.MI.

HRS								
10.05 CFS	.50	.52	.54	.56	.58	.61	.63	.66
10.05 ELEV	2.78	2.78	2.78	2.78	2.78	2.78	2.78	2.78
10.45 CFS	.68	.71	.74	.77	.80	.84	.88	.92
10.45 ELEV	2.79	2.79	2.79	2.79	2.79	2.79	2.80	2.80
10.85 CFS	.97	1.02	1.06	1.11	1.16	1.23	1.30	1.38
10.85 ELEV	2.80	2.80	2.81	2.81	2.81	2.81	2.82	2.82
11.25 CFS	1.48	1.59	1.70	1.81	1.93	2.06	2.32	2.97
11.25 ELEV	2.83	2.83	2.84	2.84	2.85	2.86	2.87	2.90
11.65 CFS	4.11	5.90	8.29	11.41	15.52	21.57	27.35	29.86
11.65 ELEV	2.96	3.15	3.40	3.72	4.13	4.60	4.87	4.98
12.05 CFS	28.41	23.17	16.70	11.59	8.62	6.85	5.76	5.00
12.05 ELEV	4.92	4.67	4.25	3.74	3.42	3.27	3.13	3.03
12.45 CFS	4.42	3.94	3.54	3.21	2.96	2.77	2.64	2.53
12.45 ELEV	2.98	2.96	2.93	2.92	2.90	2.89	2.89	2.88
12.85 CFS	2.43	2.35	2.26	2.18	2.10	2.03	1.97	1.91
12.85 ELEV	2.88	2.87	2.87	2.86	2.86	2.86	2.85	2.85
13.25 CFS	1.86	1.81	1.76	1.72	1.68	1.63	1.59	1.55
13.25 ELEV	2.85	2.84	2.84	2.84	2.84	2.84	2.83	2.83
13.65 CFS	1.51	1.47	1.44	1.41	1.38	1.34	1.31	1.28
13.65 ELEV	2.83	2.83	2.83	2.82	2.82	2.82	2.82	2.82
14.05 CFS	1.25	1.23	1.20	1.18	1.17	1.15	1.14	1.13
14.05 ELEV	2.82	2.81	2.81	2.81	2.81	2.81	2.81	2.81

14.45 CFS	1.12	1.11	1.10	1.09	1.08	1.07	1.06	1.04
14.45 ELEV	2.81	2.81	2.81	2.81	2.81	2.81	2.80	2.80
14.85 CFS	1.03	1.02	1.01	1.00	.99	.98	.97	.96
14.85 ELEV	2.80	2.80	2.80	2.80	2.80	2.80	2.80	2.80
15.25 CFS	.95	.94	.92	.91	.90	.89	.88	.87
15.25 ELEV	2.80	2.80	2.80	2.80	2.80	2.80	2.80	2.80
15.65 CFS	.86	.85	.84	.82	.81	.80	.79	.78
15.65 ELEV	2.79	2.79	2.79	2.79	2.79	2.79	2.79	2.79
16.05 CFS	.77	.76	.75	.75	.74	.73	.73	.73
16.05 ELEV	2.79	2.79	2.79	2.79	2.79	2.79	2.79	2.79
16.45 CFS	.72	.72	.71	.71	.71	.70	.70	.70
16.45 ELEV	2.79	2.79	2.79	2.79	2.79	2.79	2.79	2.79
16.85 CFS	.69	.69	.68	.68	.68	.67	.67	.66
16.85 ELEV	2.79	2.79	2.79	2.79	2.79	2.78	2.78	2.78
17.25 CFS	.66	.66	.65	.65	.64	.64	.64	.63
17.25 ELEV	2.78	2.78	2.78	2.78	2.78	2.78	2.78	2.78
17.65 CFS	.63	.62	.62	.62	.61	.61	.60	.60
17.65 ELEV	2.78	2.78	2.78	2.78	2.78	2.78	2.78	2.78
18.05 CFS	.60	.59	.59	.58	.58	.58	.57	.57
18.05 ELEV	2.78	2.78	2.78	2.78	2.78	2.78	2.78	2.78
18.45 CFS	.56	.56	.56	.55	.55	.54	.54	.54
18.45 ELEV	2.78	2.78	2.78	2.78	2.78	2.78	2.78	2.78
18.85 CFS	.53	.53	.52	.52	.52	.51	.51	.50
18.85 ELEV	2.78	2.78	2.78	2.78	2.78	2.78	2.78	2.78
19.25 CFS	.50	.50						
19.25 ELEV	2.78	2.78						

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
3.08 WATERSHED INCHES; 23 CFS-HRS; 1.9 ACRE-FEET.

DURATION(HRS)	2	4	6	8	9
FLOW(CFS)	2	1	1	1	0

--- STRUCTURE 1, ALTERNATE 1, STORM 10, HYDROGRAPH ADDED TO READHD FILE ---

EXECUTIVE CONTROL ENDCMP COMPUTATIONS COMPLETED FOR PASS 3

EXECUTIVE CONTROL COMPUT FROM STRUCTURE 1 TO STRUCTURE 1 25-YR
STARTING TIME = .00 RAIN DEPTH = 5.99 RAIN DURATION = 1.00
ANT. RUNOFF COND. = 2 MAIN TIME INCREMENT = .050 HOURS
ALTERNATE NO. = 1 STORM NO. =25 RAIN TABLE NO. = 2

OPERATION RUNOFF STRUCTURE 1

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
12.00	40.3	(RUNOFF)

HYDROGRAPH POINTS FOR ALTERNATE = 1, STORM =25
MAIN TIME INCREMENT = .050 hr, DRAINAGE AREA = .01 SQ.MI.

HRS									
9.00	CFS	.50	.51	.53	.54	.55	.56	.57	.57
9.00	ELEV	2.78	2.78	2.78	2.78	2.78	2.78	2.78	2.78
9.40	CFS	.58	.59	.60	.60	.61	.63	.64	.66
9.40	ELEV	2.78	2.78	2.78	2.78	2.78	2.78	2.78	2.78
9.80	CFS	.68	.71	.73	.75	.78	.80	.83	.86
9.80	ELEV	2.79	2.79	2.79	2.79	2.79	2.79	2.79	2.79
10.20	CFS	.89	.92	.96	1.00	1.03	1.07	1.11	1.15
10.20	ELEV	2.80	2.80	2.80	2.80	2.80	2.81	2.81	2.81
10.60	CFS	1.20	1.24	1.30	1.36	1.42	1.48	1.55	1.61
10.60	ELEV	2.81	2.81	2.82	2.82	2.82	2.83	2.83	2.83
11.00	CFS	1.68	1.76	1.84	1.95	2.07	2.21	2.35	2.51
11.00	ELEV	2.84	2.84	2.85	2.85	2.86	2.86	2.87	2.88
11.40	CFS	2.67	2.83	3.02	3.41	4.32	5.92	8.41	11.70
11.40	ELEV	2.89	2.90	2.91	2.93	2.98	3.16	3.41	3.75
11.80	CFS	15.95	21.43	29.52	37.07	40.31	38.13	31.02	22.27
11.80	ELEV	4.17	4.59	4.97	5.32	5.47	5.37	5.04	4.63
12.20	CFS	15.38	11.45	9.10	7.61	6.58	5.82	5.18	4.65
12.20	ELEV	4.12	3.72	3.47	3.34	3.25	3.14	3.05	2.99
12.60	CFS	4.21	3.88	3.64	3.46	3.31	3.19	3.07	2.96
12.60	ELEV	2.97	2.95	2.94	2.93	2.92	2.92	2.91	2.90
13.00	CFS	2.85	2.75	2.65	2.57	2.49	2.43	2.36	2.30
13.00	ELEV	2.90	2.89	2.89	2.88	2.88	2.88	2.87	2.87
13.40	CFS	2.24	2.19	2.13	2.07	2.02	1.97	1.92	1.88
13.40	ELEV	2.87	2.86	2.86	2.86	2.86	2.85	2.85	2.85
13.80	CFS	1.84	1.79	1.75	1.71	1.67	1.63	1.60	1.57
13.80	ELEV	2.85	2.84	2.84	2.84	2.84	2.83	2.83	2.83
14.20	CFS	1.54	1.52	1.50	1.49	1.47	1.46	1.44	1.43
14.20	ELEV	2.83	2.83	2.83	2.83	2.83	2.83	2.83	2.82
14.60	CFS	1.42	1.40	1.39	1.37	1.36	1.34	1.33	1.32
14.60	ELEV	2.82	2.82	2.82	2.82	2.82	2.82	2.82	2.82
15.00	CFS	1.30	1.29	1.27	1.26	1.24	1.23	1.22	1.20
15.00	ELEV	2.82	2.82	2.82	2.82	2.81	2.81	2.81	2.81
15.40	CFS	1.19	1.17	1.16	1.14	1.13	1.11	1.10	1.09
15.40	ELEV	2.81	2.81	2.81	2.81	2.81	2.81	2.81	2.81
15.80	CFS	1.07	1.06	1.04	1.03	1.01	1.00	.99	.98
15.80	ELEV	2.81	2.81	2.80	2.80	2.80	2.80	2.80	2.80
16.20	CFS	.97	.96	.95	.95	.94	.94	.93	.93
16.20	ELEV	2.80	2.80	2.80	2.80	2.80	2.80	2.80	2.80
16.60	CFS	.92	.92	.91	.91	.90	.90	.89	.89
16.60	ELEV	2.80	2.80	2.80	2.80	2.80	2.80	2.80	2.80
17.00	CFS	.88	.88	.87	.87	.86	.85	.85	.84
17.00	ELEV	2.80	2.80	2.80	2.80	2.79	2.79	2.79	2.79
17.40	CFS	.84	.83	.83	.82	.82	.81	.81	.80
17.40	ELEV	2.79	2.79	2.79	2.79	2.79	2.79	2.79	2.79
17.80	CFS	.80	.79	.79	.78	.78	.77	.77	.76

17.80 ELEV	2.79	2.79	2.79	2.79	2.79	2.79	2.79	2.79
18.20 CFS	.76	.75	.75	.74	.74	.73	.73	.72
18.20 ELEV	2.79	2.79	2.79	2.79	2.79	2.79	2.79	2.79
18.60 CFS	.72	.71	.70	.70	.69	.69	.68	.68
18.60 ELEV	2.79	2.79	2.79	2.79	2.79	2.79	2.79	2.79
19.00 CFS	.67	.67	.66	.66	.65	.65	.64	.64
19.00 ELEV	2.79	2.78	2.78	2.78	2.78	2.78	2.78	2.78
19.40 CFS	.63	.63	.62	.62	.61	.61	.60	.59
19.40 ELEV	2.78	2.78	2.78	2.78	2.78	2.78	2.78	2.78
19.80 CFS	.59	.58	.58	.57	.57	.56	.56	.56
19.80 ELEV	2.78	2.78	2.78	2.78	2.78	2.78	2.78	2.78
20.20 CFS	.55	.55	.55	.55	.55	.55	.54	.54
20.20 ELEV	2.78	2.78	2.78	2.78	2.78	2.78	2.78	2.78
20.60 CFS	.54	.54	.54	.54	.54	.54	.54	.54
20.60 ELEV	2.78	2.78	2.78	2.78	2.78	2.78	2.78	2.78
21.00 CFS	.53	.53	.53	.53	.53	.53	.53	.53
21.00 ELEV	2.78	2.78	2.78	2.78	2.78	2.78	2.78	2.78
21.40 CFS	.53	.53	.52	.52	.52	.52	.52	.52
21.40 ELEV	2.78	2.78	2.78	2.78	2.78	2.78	2.78	2.78
21.80 CFS	.52	.52	.52	.52	.51	.51	.51	.51
21.80 ELEV	2.78	2.78	2.78	2.78	2.78	2.78	2.78	2.78
22.20 CFS	.51	.51	.51	.51	.51	.50	.50	.50
22.20 ELEV	2.78	2.78	2.78	2.78	2.78	2.78	2.78	2.78
22.60 CFS	.50	.50	.50					
22.60 ELEV	2.78	2.78	2.78					

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
4.19 WATERSHED INCHES; 32 CFS-HRS; 2.6 ACRE-FEET.

DURATION(HRS)	2	4	6	8	10	12	14
FLOW(CFS)	2	1	1	1	1	1	0

--- STRUCTURE 1, ALTERNATE 1, STORM 25, HYDROGRAPH ADDED TO READHD FILE ---

OPERATION RESVOR STRUCTURE 1

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
12.16	21.9	4.61
12.85	3.5	2.93
12.95	3.3	2.92
13.05	3.0	2.91
13.45	2.4	2.87
13.55	2.2	2.87
13.65	2.1	2.86
15.93	1.0	2.80

HYDROGRAPH POINTS FOR ALTERNATE = 1, STORM =25
HRS MAIN TIME INCREMENT = .050 hr, DRAINAGE AREA = .01 SQ.MI.

5.20 CFS	.00	.01	.01	.01	.02	.02	.03	.03
5.20 ELEV	2.75	2.75	2.75	2.75	2.75	2.75	2.75	2.75

5.60	CFS	.03	.04	.04	.05	.05	.05	.06	.06
5.60	ELEV	2.75	2.75	2.75	2.75	2.75	2.75	2.75	2.75
6.00	CFS	.07	.07	.08	.08	.08	.09	.09	.10
6.00	ELEV	2.75	2.75	2.75	2.75	2.75	2.75	2.75	2.76
6.40	CFS	.10	.11	.11	.12	.12	.13	.13	.14
6.40	ELEV	2.76	2.76	2.76	2.76	2.76	2.76	2.76	2.76
6.80	CFS	.14	.15	.15	.16	.16	.17	.17	.18
6.80	ELEV	2.76	2.76	2.76	2.76	2.76	2.76	2.76	2.76
7.20	CFS	.18	.19	.19	.20	.20	.21	.21	.22
7.20	ELEV	2.76	2.76	2.76	2.76	2.76	2.76	2.76	2.76
7.60	CFS	.22	.23	.23	.24	.24	.25	.25	.26
7.60	ELEV	2.76	2.76	2.76	2.76	2.76	2.76	2.76	2.76
8.00	CFS	.27	.27	.28	.29	.29	.30	.31	.33
8.00	ELEV	2.76	2.76	2.76	2.76	2.77	2.77	2.77	2.77
8.40	CFS	.34	.35	.36	.37	.39	.40	.41	.43
8.40	ELEV	2.77	2.77	2.77	2.77	2.77	2.77	2.77	2.77
8.80	CFS	.44	.46	.47	.48	.50	.51	.53	.54
8.80	ELEV	2.77	2.77	2.77	2.78	2.78	2.78	2.78	2.78
9.20	CFS	.55	.56	.57	.57	.58	.59	.60	.60
9.20	ELEV	2.78	2.78	2.78	2.78	2.78	2.78	2.78	2.78
9.60	CFS	.61	.63	.64	.66	.68	.70	.73	.75
9.60	ELEV	2.78	2.78	2.78	2.78	2.79	2.79	2.79	2.79
10.00	CFS	.78	.80	.83	.86	.89	.92	.96	1.00
10.00	ELEV	2.79	2.79	2.79	2.79	2.80	2.80	2.80	2.80
10.40	CFS	1.03	1.07	1.11	1.15	1.19	1.24	1.30	1.36
10.40	ELEV	2.80	2.81	2.81	2.81	2.81	2.81	2.82	2.82
10.80	CFS	1.42	1.48	1.55	1.61	1.68	1.75	1.84	1.94
10.80	ELEV	2.82	2.83	2.83	2.83	2.84	2.84	2.85	2.85
11.20	CFS	2.07	2.20	2.35	2.51	2.67	2.83	3.01	3.40
11.20	ELEV	2.86	2.86	2.87	2.88	2.89	2.90	2.91	2.93
11.60	CFS	4.30	5.14	6.37	8.35	10.52	12.87	15.09	16.99
11.60	ELEV	2.97	3.05	3.22	3.40	3.62	3.87	4.09	4.28
12.00	CFS	18.39	19.92	21.36	21.87	21.57	20.77	19.75	18.89
12.00	ELEV	4.41	4.52	4.59	4.61	4.60	4.56	4.52	4.45
12.40	CFS	18.13	17.35	16.49	15.14	13.49	10.83	8.04	5.53
12.40	ELEV	4.38	4.31	4.23	4.09	3.93	3.65	3.37	3.10
12.80	CFS	2.96	3.52	2.76	3.26	2.58	3.01	2.41	2.80
12.80	ELEV	2.90	2.93	2.89	2.92	2.88	2.91	2.88	2.90
13.20	CFS	2.27	2.63	2.17	2.49	2.08	2.35	1.98	2.22
13.20	ELEV	2.87	2.89	2.86	2.88	2.86	2.87	2.85	2.87
13.60	CFS	1.89	2.10	1.80	1.99	1.73	1.89	1.66	1.80
13.60	ELEV	2.85	2.86	2.84	2.85	2.84	2.85	2.84	2.84
14.00	CFS	1.59	1.71	1.52	1.64	1.48	1.58	1.45	1.54
14.00	ELEV	2.83	2.84	2.83	2.84	2.83	2.83	2.83	2.83
14.40	CFS	1.42	1.51	1.40	1.47	1.38	1.44	1.35	1.41
14.40	ELEV	2.82	2.83	2.82	2.83	2.82	2.82	2.82	2.82
14.80	CFS	1.33	1.37	1.30	1.34	1.28	1.31	1.25	1.28
14.80	ELEV	2.82	2.82	2.82	2.82	2.82	2.82	2.82	2.82
15.20	CFS	1.23	1.25	1.20	1.22	1.17	1.19	1.14	1.16

15.20	ELEV	2.81	2.81	2.81	2.81	2.81	2.81	2.81	2.81
15.60	CFS	1.12	1.13	1.09	1.10	1.06	1.07	1.03	1.04
15.60	ELEV	2.81	2.81	2.81	2.81	2.81	2.81	2.80	2.80
16.00	CFS	1.01	1.01	.98	.98	.96	.97	.95	.95
16.00	ELEV	2.80	2.80	2.80	2.80	2.80	2.80	2.80	2.80
16.40	CFS	.94	.94	.93	.93	.92	.92	.91	.91
16.40	ELEV	2.80	2.80	2.80	2.80	2.80	2.80	2.80	2.80
16.80	CFS	.90	.90	.89	.89	.88	.88	.87	.87
16.80	ELEV	2.80	2.80	2.80	2.80	2.80	2.80	2.80	2.80
17.20	CFS	.86	.86	.85	.85	.84	.84	.83	.83
17.20	ELEV	2.79	2.79	2.79	2.79	2.79	2.79	2.79	2.79
17.60	CFS	.82	.81	.81	.80	.80	.79	.79	.78
17.60	ELEV	2.79	2.79	2.79	2.79	2.79	2.79	2.79	2.79
18.00	CFS	.78	.77	.77	.76	.76	.75	.75	.74
18.00	ELEV	2.79	2.79	2.79	2.79	2.79	2.79	2.79	2.79
18.40	CFS	.74	.73	.73	.72	.71	.71	.70	.70
18.40	ELEV	2.79	2.79	2.79	2.79	2.79	2.79	2.79	2.79
18.80	CFS	.69	.69	.68	.68	.67	.67	.66	.66
18.80	ELEV	2.79	2.79	2.79	2.79	2.79	2.78	2.78	2.78
19.20	CFS	.65	.65	.64	.64	.63	.63	.62	.62
19.20	ELEV	2.78	2.78	2.78	2.78	2.78	2.78	2.78	2.78
19.60	CFS	.61	.61	.60	.60	.59	.58	.58	.57
19.60	ELEV	2.78	2.78	2.78	2.78	2.78	2.78	2.78	2.78
20.00	CFS	.57	.56	.56	.56	.55	.55	.55	.55
20.00	ELEV	2.78	2.78	2.78	2.78	2.78	2.78	2.78	2.78
20.40	CFS	.55	.55	.54	.54	.54	.54	.54	.54
20.40	ELEV	2.78	2.78	2.78	2.78	2.78	2.78	2.78	2.78
20.80	CFS	.54	.54	.54	.54	.53	.53	.53	.53
20.80	ELEV	2.78	2.78	2.78	2.78	2.78	2.78	2.78	2.78
21.20	CFS	.53	.53	.53	.53	.53	.53	.52	.52
21.20	ELEV	2.78	2.78	2.78	2.78	2.78	2.78	2.78	2.78
21.60	CFS	.52	.52	.52	.52	.52	.52	.52	.52
21.60	ELEV	2.78	2.78	2.78	2.78	2.78	2.78	2.78	2.78
22.00	CFS	.51	.51	.51	.51	.51	.51	.51	.51
22.00	ELEV	2.78	2.78	2.78	2.78	2.78	2.78	2.78	2.78
22.40	CFS	.51	.50	.50	.50	.50	.50	.50	.50
22.40	ELEV	2.78	2.78	2.78	2.78	2.78	2.78	2.78	2.78
22.80	CFS	.50	.50	.50	.49	.49	.49	.49	.49
22.80	ELEV	2.78	2.78	2.78	2.78	2.78	2.78	2.78	2.78
23.20	CFS	.49	.49	.49	.49	.49	.48	.48	.48
23.20	ELEV	2.78	2.78	2.78	2.78	2.78	2.78	2.78	2.78
23.60	CFS	.48	.48	.48	.48	.48	.48	.47	.47
23.60	ELEV	2.78	2.77	2.77	2.77	2.77	2.77	2.77	2.77
24.00	CFS	.47	.44	.35	.22	.12	.06	.04	.02
24.00	ELEV	2.77	2.77	2.77	2.76	2.76	2.75	2.75	2.75
24.40	CFS	.01	.01	.00					
24.40	ELEV	2.75	2.75	2.75					

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
4.18 WATERSHED INCHES; 32 CFS-HRS; 2.6 ACRE-FEET.

DURATION(HRS)	2	4	6	8	10	12	14
FLOW(CFS)	2	1	1	1	1	1	0

--- STRUCTURE 1, ALTERNATE 1, STORM 25, HYDROGRAPH ADDED TO READHD FILE ---

OPERATION RUNOFF STRUCTURE 1

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
12.00	40.3	(RUNOFF)

HYDROGRAPH POINTS FOR ALTERNATE = 1, STORM =25
MAIN TIME INCREMENT = .050 hr, DRAINAGE AREA = .01 SQ.MI.

HRS								
9.00 CFS	.50	.51	.53	.54	.55	.56	.57	.57
9.00 ELEV	2.78	2.78	2.78	2.78	2.78	2.78	2.78	2.78
9.40 CFS	.58	.59	.60	.60	.61	.63	.64	.66
9.40 ELEV	2.78	2.78	2.78	2.78	2.78	2.78	2.78	2.78
9.80 CFS	.68	.71	.73	.75	.78	.80	.83	.86
9.80 ELEV	2.79	2.79	2.79	2.79	2.79	2.79	2.79	2.79
10.20 CFS	.89	.92	.96	1.00	1.03	1.07	1.11	1.15
10.20 ELEV	2.80	2.80	2.80	2.80	2.80	2.81	2.81	2.81
10.60 CFS	1.20	1.24	1.30	1.36	1.42	1.48	1.55	1.61
10.60 ELEV	2.81	2.81	2.82	2.82	2.82	2.83	2.83	2.83
11.00 CFS	1.68	1.76	1.84	1.95	2.07	2.21	2.35	2.51
11.00 ELEV	2.84	2.84	2.85	2.85	2.86	2.86	2.87	2.88
11.40 CFS	2.67	2.83	3.02	3.41	4.32	5.92	8.41	11.70
11.40 ELEV	2.89	2.90	2.91	2.93	2.98	3.16	3.41	3.75
11.80 CFS	15.95	21.43	29.52	37.07	40.31	38.13	31.02	22.27
11.80 ELEV	4.17	4.59	4.97	5.32	5.47	5.37	5.04	4.63
12.20 CFS	15.38	11.45	9.10	7.61	6.58	5.82	5.18	4.65
12.20 ELEV	4.12	3.72	3.47	3.34	3.25	3.14	3.05	2.99
12.60 CFS	4.21	3.88	3.64	3.46	3.31	3.19	3.07	2.96
12.60 ELEV	2.97	2.95	2.94	2.93	2.92	2.92	2.91	2.90
13.00 CFS	2.85	2.75	2.65	2.57	2.49	2.43	2.36	2.30
13.00 ELEV	2.90	2.89	2.89	2.88	2.88	2.88	2.87	2.87
13.40 CFS	2.24	2.19	2.13	2.07	2.02	1.97	1.92	1.88
13.40 ELEV	2.87	2.86	2.86	2.86	2.86	2.85	2.85	2.85
13.80 CFS	1.84	1.79	1.75	1.71	1.67	1.63	1.60	1.57
13.80 ELEV	2.85	2.84	2.84	2.84	2.84	2.83	2.83	2.83
14.20 CFS	1.54	1.52	1.50	1.49	1.47	1.46	1.44	1.43
14.20 ELEV	2.83	2.83	2.83	2.83	2.83	2.83	2.83	2.82
14.60 CFS	1.42	1.40	1.39	1.37	1.36	1.34	1.33	1.32
14.60 ELEV	2.82	2.82	2.82	2.82	2.82	2.82	2.82	2.82
15.00 CFS	1.30	1.29	1.27	1.26	1.24	1.23	1.22	1.20
15.00 ELEV	2.82	2.82	2.82	2.82	2.81	2.81	2.81	2.81
15.40 CFS	1.19	1.17	1.16	1.14	1.13	1.11	1.10	1.09
15.40 ELEV	2.81	2.81	2.81	2.81	2.81	2.81	2.81	2.81

15.80 CFS	1.07	1.06	1.04	1.03	1.01	1.00	.99	.98
15.80 ELEV	2.81	2.81	2.80	2.80	2.80	2.80	2.80	2.80
16.20 CFS	.97	.96	.95	.95	.94	.94	.93	.93
16.20 ELEV	2.80	2.80	2.80	2.80	2.80	2.80	2.80	2.80
16.60 CFS	.92	.92	.91	.91	.90	.90	.89	.89
16.60 ELEV	2.80	2.80	2.80	2.80	2.80	2.80	2.80	2.80
17.00 CFS	.88	.88	.87	.87	.86	.85	.85	.84
17.00 ELEV	2.80	2.80	2.80	2.80	2.79	2.79	2.79	2.79
17.40 CFS	.84	.83	.83	.82	.82	.81	.81	.80
17.40 ELEV	2.79	2.79	2.79	2.79	2.79	2.79	2.79	2.79
17.80 CFS	.80	.79	.79	.78	.78	.77	.77	.76
17.80 ELEV	2.79	2.79	2.79	2.79	2.79	2.79	2.79	2.79
18.20 CFS	.76	.75	.75	.74	.74	.73	.73	.72
18.20 ELEV	2.79	2.79	2.79	2.79	2.79	2.79	2.79	2.79
18.60 CFS	.72	.71	.70	.70	.69	.69	.68	.68
18.60 ELEV	2.79	2.79	2.79	2.79	2.79	2.79	2.79	2.79
19.00 CFS	.67	.67	.66	.66	.65	.65	.64	.64
19.00 ELEV	2.79	2.78	2.78	2.78	2.78	2.78	2.78	2.78
19.40 CFS	.63	.63	.62	.62	.61	.61	.60	.59
19.40 ELEV	2.78	2.78	2.78	2.78	2.78	2.78	2.78	2.78
19.80 CFS	.59	.58	.58	.57	.57	.56	.56	.56
19.80 ELEV	2.78	2.78	2.78	2.78	2.78	2.78	2.78	2.78
20.20 CFS	.55	.55	.55	.55	.55	.55	.54	.54
20.20 ELEV	2.78	2.78	2.78	2.78	2.78	2.78	2.78	2.78
20.60 CFS	.54	.54	.54	.54	.54	.54	.54	.54
20.60 ELEV	2.78	2.78	2.78	2.78	2.78	2.78	2.78	2.78
21.00 CFS	.53	.53	.53	.53	.53	.53	.53	.53
21.00 ELEV	2.78	2.78	2.78	2.78	2.78	2.78	2.78	2.78
21.40 CFS	.53	.53	.52	.52	.52	.52	.52	.52
21.40 ELEV	2.78	2.78	2.78	2.78	2.78	2.78	2.78	2.78
21.80 CFS	.52	.52	.52	.52	.51	.51	.51	.51
21.80 ELEV	2.78	2.78	2.78	2.78	2.78	2.78	2.78	2.78
22.20 CFS	.51	.51	.51	.51	.51	.50	.50	.50
22.20 ELEV	2.78	2.78	2.78	2.78	2.78	2.78	2.78	2.78
22.60 CFS	.50	.50	.50					
22.60 ELEV	2.78	2.78	2.78					

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
4.19 WATERSHED INCHES; 32 CFS-HRS; 2.6 ACRE-FEET.

DURATION(HRS)	2	4	6	8	10	12	14
FLOW(CFS)	2	1	1	1	1	1	0

--- STRUCTURE 1, ALTERNATE 1, STORM 25, HYDROGRAPH ADDED TO READHD FILE ---

EXECUTIVE CONTROL ENDCMP COMPUTATIONS COMPLETED FOR PASS 4

EXECUTIVE CONTROL COMPUT FROM STRUCTURE 1 TO STRUCTURE 1 50-YR
STARTING TIME = .00 RAIN DEPTH = 7.05 RAIN DURATION = 1.00
ANT. RUNOFF COND. = 2 MAIN TIME INCREMENT = .050 HOURS
ALTERNATE NO. = 1 STORM NO. =50 RAIN TABLE NO. = 2

OPERATION RUNOFF STRUCTURE 1

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
12.00	49.5	(RUNOFF)

HYDROGRAPH POINTS FOR ALTERNATE = 1, STORM =50
HRS MAIN TIME INCREMENT = .050 hr, DRAINAGE AREA = .01 SQ.MI.

8.40 CFS	.50	.51	.53	.55	.56	.58	.60	.61
8.40 ELEV	2.78	2.78	2.78	2.78	2.78	2.78	2.78	2.78
8.80 CFS	.63	.65	.67	.69	.71	.73	.75	.76
8.80 ELEV	2.78	2.78	2.78	2.79	2.79	2.79	2.79	2.79
9.20 CFS	.77	.78	.79	.80	.81	.82	.83	.84
9.20 ELEV	2.79	2.79	2.79	2.79	2.79	2.79	2.79	2.79
9.60 CFS	.85	.86	.88	.91	.94	.97	1.00	1.03
9.60 ELEV	2.79	2.79	2.80	2.80	2.80	2.80	2.80	2.80
10.00 CFS	1.06	1.09	1.13	1.16	1.20	1.25	1.29	1.34
10.00 ELEV	2.81	2.81	2.81	2.81	2.81	2.81	2.82	2.82
10.40 CFS	1.39	1.43	1.48	1.54	1.59	1.65	1.72	1.79
10.40 ELEV	2.82	2.82	2.83	2.83	2.83	2.84	2.84	2.84
10.80 CFS	1.87	1.95	2.04	2.12	2.21	2.30	2.41	2.54
10.80 ELEV	2.85	2.85	2.86	2.86	2.87	2.87	2.88	2.88
11.20 CFS	2.69	2.87	3.06	3.25	3.45	3.66	3.87	4.33
11.20 ELEV	2.89	2.90	2.91	2.92	2.93	2.94	2.95	2.98
11.60 CFS	5.52	7.54	10.70	14.84	20.12	26.89	36.67	45.84
11.60 ELEV	3.10	3.33	3.64	4.06	4.53	4.85	5.30	5.72
12.00 CFS	49.47	46.61	37.78	27.11	18.74	13.87	10.98	9.20
12.00 ELEV	5.89	5.76	5.35	4.86	4.44	3.97	3.67	3.47
12.40 CFS	7.96	7.03	6.25	5.61	5.08	4.68	4.38	4.17
12.40 ELEV	3.37	3.29	3.20	3.11	3.04	2.99	2.98	2.97
12.80 CFS	3.99	3.84	3.70	3.57	3.44	3.31	3.20	3.09
12.80 ELEV	2.96	2.95	2.94	2.94	2.93	2.92	2.92	2.91
13.20 CFS	3.00	2.92	2.84	2.77	2.70	2.63	2.56	2.50
13.20 ELEV	2.91	2.90	2.90	2.89	2.89	2.89	2.88	2.88
13.60 CFS	2.43	2.37	2.31	2.26	2.21	2.16	2.11	2.06
13.60 ELEV	2.88	2.87	2.87	2.87	2.86	2.86	2.86	2.86
14.00 CFS	2.01	1.96	1.92	1.88	1.85	1.83	1.81	1.79
14.00 ELEV	2.85	2.85	2.85	2.85	2.85	2.85	2.84	2.84
14.40 CFS	1.77	1.75	1.73	1.72	1.70	1.68	1.67	1.65
14.40 ELEV	2.84	2.84	2.84	2.84	2.84	2.84	2.84	2.84
14.80 CFS	1.63	1.61	1.60	1.58	1.56	1.55	1.53	1.51
14.80 ELEV	2.83	2.83	2.83	2.83	2.83	2.83	2.83	2.83
15.20 CFS	1.49	1.48	1.46	1.44	1.42	1.41	1.39	1.37
15.20 ELEV	2.83	2.83	2.83	2.83	2.82	2.82	2.82	2.82

15.60 CFS	1.35	1.34	1.32	1.30	1.29	1.27	1.25	1.23
15.60 ELEV	2.82	2.82	2.82	2.82	2.82	2.82	2.82	2.81
16.00 CFS	1.22	1.20	1.18	1.17	1.16	1.15	1.14	1.14
16.00 ELEV	2.81	2.81	2.81	2.81	2.81	2.81	2.81	2.81
16.40 CFS	1.13	1.12	1.12	1.11	1.11	1.10	1.09	1.09
16.40 ELEV	2.81	2.81	2.81	2.81	2.81	2.81	2.81	2.81
16.80 CFS	1.08	1.07	1.07	1.06	1.06	1.05	1.04	1.04
16.80 ELEV	2.81	2.81	2.81	2.81	2.80	2.80	2.80	2.80
17.20 CFS	1.03	1.02	1.02	1.01	1.01	1.00	.99	.99
17.20 ELEV	2.80	2.80	2.80	2.80	2.80	2.80	2.80	2.80
17.60 CFS	.98	.97	.97	.96	.96	.95	.94	.94
17.60 ELEV	2.80	2.80	2.80	2.80	2.80	2.80	2.80	2.80
18.00 CFS	.93	.93	.92	.91	.91	.90	.89	.89
18.00 ELEV	2.80	2.80	2.80	2.80	2.80	2.80	2.80	2.80
18.40 CFS	.88	.88	.87	.86	.86	.85	.84	.84
18.40 ELEV	2.80	2.80	2.80	2.79	2.79	2.79	2.79	2.79
18.80 CFS	.83	.82	.82	.81	.81	.80	.79	.79
18.80 ELEV	2.79	2.79	2.79	2.79	2.79	2.79	2.79	2.79
19.20 CFS	.78	.77	.77	.76	.76	.75	.74	.74
19.20 ELEV	2.79	2.79	2.79	2.79	2.79	2.79	2.79	2.79
19.60 CFS	.73	.72	.72	.71	.71	.70	.69	.69
19.60 ELEV	2.79	2.79	2.79	2.79	2.79	2.79	2.79	2.79
20.00 CFS	.68	.67	.67	.67	.66	.66	.66	.66
20.00 ELEV	2.79	2.79	2.78	2.78	2.78	2.78	2.78	2.78
20.40 CFS	.65	.65	.65	.65	.65	.65	.65	.65
20.40 ELEV	2.78	2.78	2.78	2.78	2.78	2.78	2.78	2.78
20.80 CFS	.64	.64	.64	.64	.64	.64	.64	.64
20.80 ELEV	2.78	2.78	2.78	2.78	2.78	2.78	2.78	2.78
21.20 CFS	.63	.63	.63	.63	.63	.63	.63	.63
21.20 ELEV	2.78	2.78	2.78	2.78	2.78	2.78	2.78	2.78
21.60 CFS	.63	.62	.62	.62	.62	.62	.62	.62
21.60 ELEV	2.78	2.78	2.78	2.78	2.78	2.78	2.78	2.78
22.00 CFS	.62	.61	.61	.61	.61	.61	.61	.61
22.00 ELEV	2.78	2.78	2.78	2.78	2.78	2.78	2.78	2.78
22.40 CFS	.61	.60	.60	.60	.60	.60	.60	.60
22.40 ELEV	2.78	2.78	2.78	2.78	2.78	2.78	2.78	2.78
22.80 CFS	.60	.59	.59	.59	.59	.59	.59	.59
22.80 ELEV	2.78	2.78	2.78	2.78	2.78	2.78	2.78	2.78
23.20 CFS	.59	.58	.58	.58	.58	.58	.58	.58
23.20 ELEV	2.78	2.78	2.78	2.78	2.78	2.78	2.78	2.78
23.60 CFS	.58	.57	.57	.57	.57	.57	.57	.57
23.60 ELEV	2.78	2.78	2.78	2.78	2.78	2.78	2.78	2.78
24.00 CFS	.56	.53	.41					
24.00 ELEV	2.78	2.78	2.77					

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
5.19 WATERSHED INCHES; 40 CFS-HRS; 3.3 ACRE-FEET.

DURATION(HRS)	2	4	6	8	10	12	14	16
FLOW(CFS)	3	2	1	1	1	1	1	0

--- STRUCTURE 1, ALTERNATE 1, STORM 50, HYDROGRAPH ADDED TO READHD FILE ---

OPERATION RESVOR STRUCTURE 1

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
12.16	25.9	4.80
13.00	4.2	2.97
13.10	3.8	2.95
13.20	3.6	2.94
13.30	3.4	2.92
13.40	3.2	2.91
13.70	2.6	2.89
13.80	2.5	2.88
13.90	2.4	2.87
14.00	2.2	2.87

HYDROGRAPH POINTS FOR ALTERNATE = 1, STORM =50
HRS MAIN TIME INCREMENT = .050 hr, DRAINAGE AREA = .01 SQ.MI.

4.55 CFS	.00	.01	.01	.01	.02	.02	.03	.03
4.55 ELEV	2.75	2.75	2.75	2.75	2.75	2.75	2.75	2.75
4.95 CFS	.04	.04	.05	.05	.06	.06	.07	.07
4.95 ELEV	2.75	2.75	2.75	2.75	2.75	2.75	2.75	2.75
5.35 CFS	.08	.08	.09	.09	.10	.10	.11	.11
5.35 ELEV	2.75	2.75	2.75	2.75	2.76	2.76	2.76	2.76
5.75 CFS	.12	.12	.13	.14	.14	.15	.15	.16
5.75 ELEV	2.76	2.76	2.76	2.76	2.76	2.76	2.76	2.76
6.15 CFS	.16	.17	.18	.18	.19	.19	.20	.21
6.15 ELEV	2.76	2.76	2.76	2.76	2.76	2.76	2.76	2.76
6.55 CFS	.21	.22	.22	.23	.24	.24	.25	.25
6.55 ELEV	2.76	2.76	2.76	2.76	2.76	2.76	2.76	2.76
6.95 CFS	.26	.27	.27	.28	.29	.29	.30	.31
6.95 ELEV	2.76	2.76	2.76	2.76	2.76	2.77	2.77	2.77
7.35 CFS	.31	.32	.33	.33	.34	.35	.35	.36
7.35 ELEV	2.77	2.77	2.77	2.77	2.77	2.77	2.77	2.77
7.75 CFS	.37	.37	.38	.39	.39	.40	.41	.42
7.75 ELEV	2.77	2.77	2.77	2.77	2.77	2.77	2.77	2.77
8.15 CFS	.43	.44	.45	.47	.48	.50	.51	.53
8.15 ELEV	2.77	2.77	2.77	2.77	2.78	2.78	2.78	2.78
8.55 CFS	.55	.56	.58	.60	.61	.63	.65	.67
8.55 ELEV	2.78	2.78	2.78	2.78	2.78	2.78	2.78	2.78
8.95 CFS	.69	.71	.73	.75	.76	.77	.78	.79
8.95 ELEV	2.79	2.79	2.79	2.79	2.79	2.79	2.79	2.79
9.35 CFS	.80	.81	.82	.83	.84	.85	.86	.88
9.35 ELEV	2.79	2.79	2.79	2.79	2.79	2.79	2.79	2.80
9.75 CFS	.91	.94	.96	.99	1.03	1.06	1.09	1.12
9.75 ELEV	2.80	2.80	2.80	2.80	2.80	2.81	2.81	2.81

10.15 CFS	1.16	1.20	1.25	1.29	1.34	1.38	1.43	1.48
10.15 ELEV	2.81	2.81	2.81	2.82	2.82	2.82	2.82	2.83
10.55 CFS	1.53	1.59	1.65	1.72	1.79	1.87	1.95	2.04
10.55 ELEV	2.83	2.83	2.84	2.84	2.84	2.85	2.85	2.86
10.95 CFS	2.12	2.21	2.30	2.41	2.54	2.69	2.86	3.05
10.95 ELEV	2.86	2.86	2.87	2.88	2.88	2.89	2.90	2.91
11.35 CFS	3.25	3.45	3.65	3.87	4.32	5.02	5.93	7.70
11.35 ELEV	2.92	2.93	2.94	2.95	2.98	3.03	3.16	3.35
11.75 CFS	10.01	12.24	14.66	16.66	18.27	20.57	23.27	25.12
11.75 ELEV	3.56	3.80	4.05	4.25	4.40	4.55	4.68	4.76
12.15 CFS	25.84	25.55	24.65	23.45	22.14	20.81	19.51	18.64
12.15 ELEV	4.80	4.78	4.74	4.69	4.63	4.57	4.50	4.43
12.55 CFS	17.81	17.01	15.84	14.52	12.17	9.74	6.84	5.01
12.55 ELEV	4.35	4.28	4.16	4.03	3.80	3.53	3.27	3.03
12.95 CFS	2.80	4.17	2.63	3.84	2.49	3.57	2.38	3.35
12.95 ELEV	2.90	2.97	2.89	2.95	2.88	2.94	2.87	2.92
13.35 CFS	2.30	3.15	2.21	2.96	2.12	2.78	2.04	2.63
13.35 ELEV	2.87	2.91	2.87	2.90	2.86	2.89	2.86	2.89
13.75 CFS	1.97	2.49	1.90	2.35	1.83	2.23	1.76	2.11
13.75 ELEV	2.85	2.88	2.85	2.87	2.85	2.87	2.84	2.86
14.15 CFS	1.70	2.02	1.67	1.96	1.65	1.90	1.63	1.85
14.15 ELEV	2.84	2.86	2.84	2.85	2.84	2.85	2.83	2.85
14.55 CFS	1.61	1.81	1.58	1.76	1.56	1.71	1.54	1.67
14.55 ELEV	2.83	2.84	2.83	2.84	2.83	2.84	2.83	2.84
14.95 CFS	1.51	1.63	1.48	1.59	1.46	1.54	1.43	1.50
14.95 ELEV	2.83	2.83	2.83	2.83	2.83	2.83	2.82	2.83
15.35 CFS	1.40	1.46	1.37	1.42	1.34	1.39	1.31	1.35
15.35 ELEV	2.82	2.83	2.82	2.82	2.82	2.82	2.82	2.82
15.75 CFS	1.28	1.31	1.24	1.27	1.21	1.24	1.18	1.20
15.75 ELEV	2.82	2.82	2.81	2.82	2.81	2.81	2.81	2.81
16.15 CFS	1.15	1.18	1.14	1.16	1.12	1.14	1.11	1.13
16.15 ELEV	2.81	2.81	2.81	2.81	2.81	2.81	2.81	2.81
16.55 CFS	1.10	1.11	1.09	1.10	1.08	1.09	1.07	1.07
16.55 ELEV	2.81	2.81	2.81	2.81	2.81	2.81	2.81	2.81
16.95 CFS	1.06	1.06	1.04	1.05	1.03	1.04	1.02	1.02
16.95 ELEV	2.81	2.81	2.80	2.80	2.80	2.80	2.80	2.80
17.35 CFS	1.01	1.01	1.00	1.00	.98	.98	.97	.97
17.35 ELEV	2.80	2.80	2.80	2.80	2.80	2.80	2.80	2.80
17.75 CFS	.96	.96	.95	.95	.94	.93	.92	.92
17.75 ELEV	2.80	2.80	2.80	2.80	2.80	2.80	2.80	2.80
18.15 CFS	.91	.91	.90	.90	.89	.88	.87	.87
18.15 ELEV	2.80	2.80	2.80	2.80	2.80	2.80	2.80	2.80
18.55 CFS	.86	.86	.85	.84	.84	.83	.82	.82
18.55 ELEV	2.79	2.79	2.79	2.79	2.79	2.79	2.79	2.79
18.95 CFS	.81	.81	.80	.79	.79	.78	.77	.77
18.95 ELEV	2.79	2.79	2.79	2.79	2.79	2.79	2.79	2.79
19.35 CFS	.76	.76	.75	.74	.74	.73	.72	.72
19.35 ELEV	2.79	2.79	2.79	2.79	2.79	2.79	2.79	2.79
19.75 CFS	.71	.71	.70	.69	.69	.68	.67	.67

19.75 ELEV	2.79	2.79	2.79	2.79	2.79	2.79	2.79	2.78
20.15 CFS	.67	.66	.66	.66	.66	.65	.65	.65
20.15 ELEV	2.78	2.78	2.78	2.78	2.78	2.78	2.78	2.78
20.55 CFS	.65	.65	.65	.65	.65	.64	.64	.64
20.55 ELEV	2.78	2.78	2.78	2.78	2.78	2.78	2.78	2.78
20.95 CFS	.64	.64	.64	.64	.64	.64	.63	.63
20.95 ELEV	2.78	2.78	2.78	2.78	2.78	2.78	2.78	2.78
21.35 CFS	.63	.63	.63	.63	.63	.63	.62	.62
21.35 ELEV	2.78	2.78	2.78	2.78	2.78	2.78	2.78	2.78
21.75 CFS	.62	.62	.62	.62	.62	.62	.61	.61
21.75 ELEV	2.78	2.78	2.78	2.78	2.78	2.78	2.78	2.78
22.15 CFS	.61	.61	.61	.61	.61	.61	.60	.60
22.15 ELEV	2.78	2.78	2.78	2.78	2.78	2.78	2.78	2.78
22.55 CFS	.60	.60	.60	.60	.60	.60	.59	.59
22.55 ELEV	2.78	2.78	2.78	2.78	2.78	2.78	2.78	2.78
22.95 CFS	.59	.59	.59	.59	.59	.59	.58	.58
22.95 ELEV	2.78	2.78	2.78	2.78	2.78	2.78	2.78	2.78
23.35 CFS	.58	.58	.58	.58	.58	.58	.57	.57
23.35 ELEV	2.78	2.78	2.78	2.78	2.78	2.78	2.78	2.78
23.75 CFS	.57	.57	.57	.57	.57	.56	.53	.42
23.75 ELEV	2.78	2.78	2.78	2.78	2.78	2.78	2.78	2.77
24.15 CFS	.26	.14	.08					
24.15 ELEV	2.76	2.76	2.75					

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
5.16 WATERSHED INCHES; 39 CFS-HRS; 3.2 ACRE-FEET.

DURATION(HRS)	2	4	6	8	10	12	14	16
FLOW(CFS)	3	2	1	1	1	1	1	0

--- STRUCTURE 1, ALTERNATE 1, STORM 50, HYDROGRAPH ADDED TO READHD FILE ---

OPERATION RUNOFF STRUCTURE 1

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
12.00	49.5	(RUNOFF)

HYDROGRAPH POINTS FOR ALTERNATE = 1, STORM =50
HRS MAIN TIME INCREMENT = .050 hr, DRAINAGE AREA = .01 SQ.MI.

8.40 CFS	.50	.51	.53	.55	.56	.58	.60	.61
8.40 ELEV	2.78	2.78	2.78	2.78	2.78	2.78	2.78	2.78
8.80 CFS	.63	.65	.67	.69	.71	.73	.75	.76
8.80 ELEV	2.78	2.78	2.78	2.79	2.79	2.79	2.79	2.79
9.20 CFS	.77	.78	.79	.80	.81	.82	.83	.84
9.20 ELEV	2.79	2.79	2.79	2.79	2.79	2.79	2.79	2.79
9.60 CFS	.85	.86	.88	.91	.94	.97	1.00	1.03
9.60 ELEV	2.79	2.79	2.80	2.80	2.80	2.80	2.80	2.80
10.00 CFS	1.06	1.09	1.13	1.16	1.20	1.25	1.29	1.34
10.00 ELEV	2.81	2.81	2.81	2.81	2.81	2.81	2.82	2.82
10.40 CFS	1.39	1.43	1.48	1.54	1.59	1.65	1.72	1.79

10.40	ELEV	2.82	2.82	2.83	2.83	2.83	2.84	2.84	2.84
10.80	CFS	1.87	1.95	2.04	2.12	2.21	2.30	2.41	2.54
10.80	ELEV	2.85	2.85	2.86	2.86	2.87	2.87	2.88	2.88
11.20	CFS	2.69	2.87	3.06	3.25	3.45	3.66	3.87	4.33
11.20	ELEV	2.89	2.90	2.91	2.92	2.93	2.94	2.95	2.98
11.60	CFS	5.52	7.54	10.70	14.84	20.12	26.89	36.67	45.84
11.60	ELEV	3.10	3.33	3.64	4.06	4.53	4.85	5.30	5.72
12.00	CFS	49.47	46.61	37.78	27.11	18.74	13.87	10.98	9.20
12.00	ELEV	5.89	5.76	5.35	4.86	4.44	3.97	3.67	3.47
12.40	CFS	7.96	7.03	6.25	5.61	5.08	4.68	4.38	4.17
12.40	ELEV	3.37	3.29	3.20	3.11	3.04	2.99	2.98	2.97
12.80	CFS	3.99	3.84	3.70	3.57	3.44	3.31	3.20	3.09
12.80	ELEV	2.96	2.95	2.94	2.94	2.93	2.92	2.92	2.91
13.20	CFS	3.00	2.92	2.84	2.77	2.70	2.63	2.56	2.50
13.20	ELEV	2.91	2.90	2.90	2.89	2.89	2.89	2.88	2.88
13.60	CFS	2.43	2.37	2.31	2.26	2.21	2.16	2.11	2.06
13.60	ELEV	2.88	2.87	2.87	2.87	2.86	2.86	2.86	2.86
14.00	CFS	2.01	1.96	1.92	1.88	1.85	1.83	1.81	1.79
14.00	ELEV	2.85	2.85	2.85	2.85	2.85	2.85	2.84	2.84
14.40	CFS	1.77	1.75	1.73	1.72	1.70	1.68	1.67	1.65
14.40	ELEV	2.84	2.84	2.84	2.84	2.84	2.84	2.84	2.84
14.80	CFS	1.63	1.61	1.60	1.58	1.56	1.55	1.53	1.51
14.80	ELEV	2.83	2.83	2.83	2.83	2.83	2.83	2.83	2.83
15.20	CFS	1.49	1.48	1.46	1.44	1.42	1.41	1.39	1.37
15.20	ELEV	2.83	2.83	2.83	2.83	2.82	2.82	2.82	2.82
15.60	CFS	1.35	1.34	1.32	1.30	1.29	1.27	1.25	1.23
15.60	ELEV	2.82	2.82	2.82	2.82	2.82	2.82	2.82	2.81
16.00	CFS	1.22	1.20	1.18	1.17	1.16	1.15	1.14	1.14
16.00	ELEV	2.81	2.81	2.81	2.81	2.81	2.81	2.81	2.81
16.40	CFS	1.13	1.12	1.12	1.11	1.11	1.10	1.09	1.09
16.40	ELEV	2.81	2.81	2.81	2.81	2.81	2.81	2.81	2.81
16.80	CFS	1.08	1.07	1.07	1.06	1.06	1.05	1.04	1.04
16.80	ELEV	2.81	2.81	2.81	2.81	2.80	2.80	2.80	2.80
17.20	CFS	1.03	1.02	1.02	1.01	1.01	1.00	.99	.99
17.20	ELEV	2.80	2.80	2.80	2.80	2.80	2.80	2.80	2.80
17.60	CFS	.98	.97	.97	.96	.96	.95	.94	.94
17.60	ELEV	2.80	2.80	2.80	2.80	2.80	2.80	2.80	2.80
18.00	CFS	.93	.93	.92	.91	.91	.90	.89	.89
18.00	ELEV	2.80	2.80	2.80	2.80	2.80	2.80	2.80	2.80
18.40	CFS	.88	.88	.87	.86	.86	.85	.84	.84
18.40	ELEV	2.80	2.80	2.80	2.79	2.79	2.79	2.79	2.79
18.80	CFS	.83	.82	.82	.81	.81	.80	.79	.79
18.80	ELEV	2.79	2.79	2.79	2.79	2.79	2.79	2.79	2.79
19.20	CFS	.78	.77	.77	.76	.76	.75	.74	.74
19.20	ELEV	2.79	2.79	2.79	2.79	2.79	2.79	2.79	2.79
19.60	CFS	.73	.72	.72	.71	.71	.70	.69	.69
19.60	ELEV	2.79	2.79	2.79	2.79	2.79	2.79	2.79	2.79
20.00	CFS	.68	.67	.67	.67	.66	.66	.66	.66
20.00	ELEV	2.79	2.79	2.78	2.78	2.78	2.78	2.78	2.78

20.40 CFS	.65	.65	.65	.65	.65	.65	.65	.65
20.40 ELEV	2.78	2.78	2.78	2.78	2.78	2.78	2.78	2.78
20.80 CFS	.64	.64	.64	.64	.64	.64	.64	.64
20.80 ELEV	2.78	2.78	2.78	2.78	2.78	2.78	2.78	2.78
21.20 CFS	.63	.63	.63	.63	.63	.63	.63	.63
21.20 ELEV	2.78	2.78	2.78	2.78	2.78	2.78	2.78	2.78
21.60 CFS	.63	.62	.62	.62	.62	.62	.62	.62
21.60 ELEV	2.78	2.78	2.78	2.78	2.78	2.78	2.78	2.78
22.00 CFS	.62	.61	.61	.61	.61	.61	.61	.61
22.00 ELEV	2.78	2.78	2.78	2.78	2.78	2.78	2.78	2.78
22.40 CFS	.61	.60	.60	.60	.60	.60	.60	.60
22.40 ELEV	2.78	2.78	2.78	2.78	2.78	2.78	2.78	2.78
22.80 CFS	.60	.59	.59	.59	.59	.59	.59	.59
22.80 ELEV	2.78	2.78	2.78	2.78	2.78	2.78	2.78	2.78
23.20 CFS	.59	.58	.58	.58	.58	.58	.58	.58
23.20 ELEV	2.78	2.78	2.78	2.78	2.78	2.78	2.78	2.78
23.60 CFS	.58	.57	.57	.57	.57	.57	.57	.57
23.60 ELEV	2.78	2.78	2.78	2.78	2.78	2.78	2.78	2.78
24.00 CFS	.56	.53	.41					
24.00 ELEV	2.78	2.78	2.77					

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
5.19 WATERSHED INCHES; 40 CFS-HRS; 3.3 ACRE-FEET.

DURATION(HRS)	2	4	6	8	10	12	14	16
FLOW(CFS)	3	2	1	1	1	1	1	0

--- STRUCTURE 1, ALTERNATE 1, STORM 50, HYDROGRAPH ADDED TO READHD FILE ---

EXECUTIVE CONTROL ENDCMP COMPUTATIONS COMPLETED FOR PASS 5

EXECUTIVE CONTROL COMPUT FROM STRUCTURE 1 TO STRUCTURE 1 100-YR
STARTING TIME = .00 RAIN DEPTH = 8.26 RAIN DURATION = 1.00
ANT. RUNOFF COND. = 2 MAIN TIME INCREMENT = .050 HOURS
ALTERNATE NO. = 1 STORM NO. =99 RAIN TABLE NO. = 2

OPERATION RUNOFF STRUCTURE 1

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET) (RUNOFF)
12.00	59.9	

HYDROGRAPH POINTS FOR ALTERNATE = 1, STORM =99
MAIN TIME INCREMENT = .050 hr, DRAINAGE AREA = .01 SQ.MI.

HRS								
7.55 CFS	.49	.50	.51	.52	.53	.53	.54	.55
7.55 ELEV	2.78	2.78	2.78	2.78	2.78	2.78	2.78	2.78
7.95 CFS	.56	.57	.58	.59	.60	.62	.63	.65

7.95	ELEV	2.78	2.78	2.78	2.78	2.78	2.78	2.78	2.78
8.35	CFS	.67	.69	.71	.73	.76	.78	.80	.82
8.35	ELEV	2.78	2.79	2.79	2.79	2.79	2.79	2.79	2.79
8.75	CFS	.85	.87	.89	.92	.94	.96	.99	1.01
8.75	ELEV	2.79	2.80	2.80	2.80	2.80	2.80	2.80	2.80
9.15	CFS	1.03	1.04	1.06	1.07	1.08	1.09	1.10	1.10
9.15	ELEV	2.80	2.80	2.81	2.81	2.81	2.81	2.81	2.81
9.55	CFS	1.12	1.13	1.15	1.18	1.21	1.24	1.28	1.32
9.55	ELEV	2.81	2.81	2.81	2.81	2.81	2.81	2.82	2.82
9.95	CFS	1.35	1.39	1.43	1.48	1.52	1.58	1.63	1.69
9.95	ELEV	2.82	2.82	2.82	2.83	2.83	2.83	2.83	2.84
10.35	CFS	1.74	1.81	1.87	1.93	1.99	2.06	2.14	2.22
10.35	ELEV	2.84	2.84	2.85	2.85	2.85	2.86	2.86	2.87
10.75	CFS	2.32	2.41	2.51	2.62	2.72	2.83	2.94	3.08
10.75	ELEV	2.87	2.88	2.88	2.89	2.89	2.90	2.90	2.91
11.15	CFS	3.24	3.43	3.64	3.87	4.11	4.36	4.61	4.89
11.15	ELEV	2.92	2.93	2.94	2.95	2.96	2.98	2.99	3.01
11.55	CFS	5.49	6.93	9.42	13.29	18.32	24.72	32.84	44.65
11.55	ELEV	3.10	3.28	3.49	3.91	4.40	4.75	5.12	5.67
11.95	CFS	55.53	59.91	56.32	45.60	32.64	22.48	16.70	13.23
11.95	ELEV	6.17	6.38	6.21	5.71	5.11	4.64	4.25	3.90
12.35	CFS	11.03	9.53	8.41	7.47	6.71	6.07	5.59	5.24
12.35	ELEV	3.67	3.50	3.41	3.33	3.26	3.18	3.11	3.06
12.75	CFS	4.98	4.77	4.59	4.42	4.26	4.10	3.95	3.81
12.75	ELEV	3.02	3.00	2.99	2.98	2.97	2.96	2.96	2.95
13.15	CFS	3.69	3.58	3.48	3.39	3.31	3.22	3.14	3.05
13.15	ELEV	2.94	2.94	2.93	2.93	2.92	2.92	2.91	2.91
13.55	CFS	2.97	2.90	2.82	2.76	2.69	2.63	2.57	2.51
13.55	ELEV	2.90	2.90	2.90	2.89	2.89	2.89	2.88	2.88
13.95	CFS	2.45	2.39	2.34	2.28	2.24	2.21	2.18	2.15
13.95	ELEV	2.88	2.87	2.87	2.87	2.87	2.86	2.86	2.86
14.35	CFS	2.13	2.11	2.09	2.06	2.04	2.02	2.00	1.98
14.35	ELEV	2.86	2.86	2.86	2.86	2.86	2.86	2.85	2.85
14.75	CFS	1.96	1.94	1.92	1.90	1.88	1.86	1.84	1.82
14.75	ELEV	2.85	2.85	2.85	2.85	2.85	2.85	2.85	2.84
15.15	CFS	1.80	1.78	1.76	1.73	1.72	1.69	1.67	1.65
15.15	ELEV	2.84	2.84	2.84	2.84	2.84	2.84	2.84	2.84
15.55	CFS	1.63	1.61	1.59	1.57	1.55	1.53	1.51	1.49
15.55	ELEV	2.84	2.83	2.83	2.83	2.83	2.83	2.83	2.83
15.95	CFS	1.47	1.44	1.42	1.41	1.39	1.38	1.37	1.36
15.95	ELEV	2.83	2.83	2.82	2.82	2.82	2.82	2.82	2.82
16.35	CFS	1.35	1.34	1.34	1.33	1.32	1.31	1.31	1.30
16.35	ELEV	2.82	2.82	2.82	2.82	2.82	2.82	2.82	2.82
16.75	CFS	1.29	1.28	1.28	1.27	1.26	1.25	1.25	1.24
16.75	ELEV	2.82	2.82	2.82	2.82	2.82	2.82	2.81	2.81
17.15	CFS	1.23	1.22	1.22	1.21	1.20	1.20	1.19	1.18
17.15	ELEV	2.81	2.81	2.81	2.81	2.81	2.81	2.81	2.81
17.55	CFS	1.17	1.17	1.16	1.15	1.14	1.14	1.13	1.12
17.55	ELEV	2.81	2.81	2.81	2.81	2.81	2.81	2.81	2.81

17.95 CFS	1.11	1.11	1.10	1.09	1.08	1.08	1.07	1.06
17.95 ELEV	2.81	2.81	2.81	2.81	2.81	2.81	2.81	2.81
18.35 CFS	1.05	1.05	1.04	1.03	1.02	1.02	1.01	1.00
18.35 ELEV	2.80	2.80	2.80	2.80	2.80	2.80	2.80	2.80
18.75 CFS	.99	.99	.98	.97	.97	.96	.95	.94
18.75 ELEV	2.80	2.80	2.80	2.80	2.80	2.80	2.80	2.80
19.15 CFS	.94	.93	.92	.91	.91	.90	.89	.88
19.15 ELEV	2.80	2.80	2.80	2.80	2.80	2.80	2.80	2.80
19.55 CFS	.88	.87	.86	.85	.85	.84	.83	.82
19.55 ELEV	2.80	2.80	2.79	2.79	2.79	2.79	2.79	2.79
19.95 CFS	.82	.81	.80	.79	.79	.79	.78	.78
19.95 ELEV	2.79	2.79	2.79	2.79	2.79	2.79	2.79	2.79
20.35 CFS	.78	.78	.78	.77	.77	.77	.77	.77
20.35 ELEV	2.79	2.79	2.79	2.79	2.79	2.79	2.79	2.79
20.75 CFS	.77	.77	.76	.76	.76	.76	.76	.76
20.75 ELEV	2.79	2.79	2.79	2.79	2.79	2.79	2.79	2.79
21.15 CFS	.75	.75	.75	.75	.75	.75	.75	.74
21.15 ELEV	2.79	2.79	2.79	2.79	2.79	2.79	2.79	2.79
21.55 CFS	.74	.74	.74	.74	.74	.74	.73	.73
21.55 ELEV	2.79	2.79	2.79	2.79	2.79	2.79	2.79	2.79
21.95 CFS	.73	.73	.73	.73	.73	.72	.72	.72
21.95 ELEV	2.79	2.79	2.79	2.79	2.79	2.79	2.79	2.79
22.35 CFS	.72	.72	.72	.71	.71	.71	.71	.71
22.35 ELEV	2.79	2.79	2.79	2.79	2.79	2.79	2.79	2.79
22.75 CFS	.71	.71	.70	.70	.70	.70	.70	.70
22.75 ELEV	2.79	2.79	2.79	2.79	2.79	2.79	2.79	2.79
23.15 CFS	.70	.69	.69	.69	.69	.69	.69	.68
23.15 ELEV	2.79	2.79	2.79	2.79	2.79	2.79	2.79	2.79
23.55 CFS	.68	.68	.68	.68				
23.55 ELEV	2.79	2.79	2.79	2.79				

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
6.31 WATERSHED INCHES; 48 CFS-HRS; 4.0 ACRE-FEET.

DURATION(HRS)	2	4	6	8	10	12	14	16
FLOW(CFS)	3	2	1	1	1	1	1	1

DURATION(HRS)	16
FLOW(CFS)	1 TRUNCATED

--- STRUCTURE 1, ALTERNATE 1, STORM 99, HYDROGRAPH ADDED TO READHD FILE ---

OPERATION RESVOR STRUCTURE 1

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
12.16	30.4	5.01
13.15	4.4	2.98
13.25	4.1	2.96
13.35	3.8	2.95
13.45	3.6	2.94
13.55	3.4	2.93
13.65	3.2	2.92
13.75	3.0	2.91
14.25	2.4	2.87
14.35	2.3	2.87

HYDROGRAPH POINTS FOR ALTERNATE = 1, STORM =99
MAIN TIME INCREMENT = .050 hr, DRAINAGE AREA = .01 SQ.MI.

HRS								
4.00	CFS	.00	.01	.01	.02	.02	.03	.03	.04
4.00	ELEV	2.75	2.75	2.75	2.75	2.75	2.75	2.75	2.75
4.40	CFS	.04	.05	.05	.06	.07	.07	.08	.08
4.40	ELEV	2.75	2.75	2.75	2.75	2.75	2.75	2.75	2.75
4.80	CFS	.09	.10	.10	.11	.12	.12	.13	.13
4.80	ELEV	2.75	2.76	2.76	2.76	2.76	2.76	2.76	2.76
5.20	CFS	.14	.15	.15	.16	.17	.17	.18	.19
5.20	ELEV	2.76	2.76	2.76	2.76	2.76	2.76	2.76	2.76
5.60	CFS	.20	.20	.21	.22	.22	.23	.24	.24
5.60	ELEV	2.76	2.76	2.76	2.76	2.76	2.76	2.76	2.76
6.00	CFS	.25	.26	.27	.27	.28	.29	.30	.30
6.00	ELEV	2.76	2.76	2.76	2.76	2.76	2.77	2.77	2.77
6.40	CFS	.31	.32	.33	.33	.34	.35	.36	.36
6.40	ELEV	2.77	2.77	2.77	2.77	2.77	2.77	2.77	2.77
6.80	CFS	.37	.38	.39	.40	.40	.41	.42	.43
6.80	ELEV	2.77	2.77	2.77	2.77	2.77	2.77	2.77	2.77
7.20	CFS	.44	.44	.45	.46	.47	.48	.48	.49
7.20	ELEV	2.77	2.77	2.77	2.77	2.77	2.77	2.78	2.78
7.60	CFS	.50	.51	.52	.53	.53	.54	.55	.56
7.60	ELEV	2.78	2.78	2.78	2.78	2.78	2.78	2.78	2.78
8.00	CFS	.57	.58	.59	.60	.62	.63	.65	.67
8.00	ELEV	2.78	2.78	2.78	2.78	2.78	2.78	2.78	2.78
8.40	CFS	.69	.71	.73	.76	.78	.80	.82	.84
8.40	ELEV	2.79	2.79	2.79	2.79	2.79	2.79	2.79	2.79
8.80	CFS	.87	.89	.92	.94	.96	.99	1.01	1.03
8.80	ELEV	2.80	2.80	2.80	2.80	2.80	2.80	2.80	2.80
9.20	CFS	1.04	1.06	1.07	1.08	1.09	1.10	1.10	1.12
9.20	ELEV	2.80	2.81	2.81	2.81	2.81	2.81	2.81	2.81
9.60	CFS	1.13	1.15	1.17	1.21	1.24	1.28	1.31	1.35
9.60	ELEV	2.81	2.81	2.81	2.81	2.81	2.82	2.82	2.82
10.00	CFS	1.39	1.43	1.48	1.52	1.57	1.63	1.69	1.74
10.00	ELEV	2.82	2.82	2.83	2.83	2.83	2.83	2.84	2.84
10.40	CFS	1.80	1.86	1.93	1.99	2.06	2.14	2.22	2.31
10.40	ELEV	2.84	2.85	2.85	2.85	2.86	2.86	2.87	2.87
10.80	CFS	2.41	2.51	2.61	2.72	2.82	2.94	3.07	3.23
10.80	ELEV	2.88	2.88	2.89	2.89	2.90	2.90	2.91	2.92

11.20 CFS	3.42	3.64	3.87	4.11	4.36	4.61	4.83	5.05
11.20 ELEV	2.93	2.94	2.95	2.96	2.98	2.99	3.00	3.03
11.60 CFS	5.76	7.15	9.37	11.41	14.17	15.89	17.73	20.05
11.60 ELEV	3.13	3.30	3.49	3.72	4.00	4.17	4.35	4.53
12.00 CFS	23.74	27.11	29.44	30.39	30.12	29.08	27.70	26.17
12.00 ELEV	4.70	4.86	4.97	5.01	5.00	4.95	4.88	4.81
12.40 CFS	24.62	23.08	21.60	20.18	19.02	18.17	17.34	16.43
12.40 ELEV	4.74	4.67	4.60	4.54	4.46	4.39	4.31	4.22
12.80 CFS	15.08	13.42	10.92	8.45	6.13	4.85	3.08	4.38
12.80 ELEV	4.09	3.92	3.66	3.41	3.19	3.01	2.91	2.98
13.20 CFS	2.93	4.09	2.82	3.85	2.71	3.62	2.60	3.40
13.20 ELEV	2.90	2.96	2.90	2.95	2.89	2.94	2.89	2.93
13.60 CFS	2.50	3.20	2.40	3.03	2.32	2.87	2.23	2.71
13.60 ELEV	2.88	2.92	2.88	2.91	2.87	2.90	2.87	2.89
14.00 CFS	2.15	2.57	2.07	2.45	2.01	2.36	1.98	2.29
14.00 ELEV	2.86	2.88	2.86	2.88	2.85	2.87	2.85	2.87
14.40 CFS	1.96	2.23	1.93	2.17	1.91	2.12	1.88	2.06
14.40 ELEV	2.85	2.87	2.85	2.86	2.85	2.86	2.85	2.86
14.80 CFS	1.85	2.01	1.82	1.96	1.79	1.91	1.75	1.86
14.80 ELEV	2.85	2.85	2.84	2.85	2.84	2.85	2.84	2.85
15.20 CFS	1.72	1.81	1.68	1.76	1.65	1.72	1.61	1.67
15.20 ELEV	2.84	2.84	2.84	2.84	2.84	2.84	2.83	2.84
15.60 CFS	1.58	1.62	1.54	1.58	1.50	1.53	1.46	1.49
15.60 ELEV	2.83	2.83	2.83	2.83	2.83	2.83	2.83	2.83
16.00 CFS	1.42	1.44	1.39	1.41	1.36	1.38	1.34	1.37
16.00 ELEV	2.82	2.83	2.82	2.82	2.82	2.82	2.82	2.82
16.40 CFS	1.33	1.35	1.32	1.33	1.30	1.32	1.29	1.30
16.40 ELEV	2.82	2.82	2.82	2.82	2.82	2.82	2.82	2.82
16.80 CFS	1.28	1.28	1.26	1.27	1.25	1.25	1.23	1.24
16.80 ELEV	2.82	2.82	2.82	2.82	2.82	2.82	2.81	2.81
17.20 CFS	1.22	1.22	1.21	1.21	1.19	1.19	1.18	1.18
17.20 ELEV	2.81	2.81	2.81	2.81	2.81	2.81	2.81	2.81
17.60 CFS	1.16	1.16	1.15	1.15	1.13	1.13	1.12	1.12
17.60 ELEV	2.81	2.81	2.81	2.81	2.81	2.81	2.81	2.81
18.00 CFS	1.10	1.10	1.09	1.09	1.08	1.07	1.06	1.06
18.00 ELEV	2.81	2.81	2.81	2.81	2.81	2.81	2.81	2.80
18.40 CFS	1.05	1.04	1.03	1.03	1.02	1.01	1.00	1.00
18.40 ELEV	2.80	2.80	2.80	2.80	2.80	2.80	2.80	2.80
18.80 CFS	.99	.98	.97	.97	.96	.95	.94	.94
18.80 ELEV	2.80	2.80	2.80	2.80	2.80	2.80	2.80	2.80
19.20 CFS	.93	.92	.91	.91	.90	.89	.88	.88
19.20 ELEV	2.80	2.80	2.80	2.80	2.80	2.80	2.80	2.80
19.60 CFS	.87	.86	.85	.85	.84	.83	.82	.82
19.60 ELEV	2.80	2.79	2.79	2.79	2.79	2.79	2.79	2.79
20.00 CFS	.81	.80	.79	.79	.79	.78	.78	.78
20.00 ELEV	2.79	2.79	2.79	2.79	2.79	2.79	2.79	2.79
20.40 CFS	.78	.78	.77	.77	.77	.77	.77	.77
20.40 ELEV	2.79	2.79	2.79	2.79	2.79	2.79	2.79	2.79
20.80 CFS	.77	.76	.76	.76	.76	.76	.76	.75

20.80 ELEV	2.79	2.79	2.79	2.79	2.79	2.79	2.79	2.79
21.20 CFS	.75	.75	.75	.75	.75	.75	.74	.74
21.20 ELEV	2.79	2.79	2.79	2.79	2.79	2.79	2.79	2.79
21.60 CFS	.74	.74	.74	.74	.74	.73	.73	.73
21.60 ELEV	2.79	2.79	2.79	2.79	2.79	2.79	2.79	2.79
22.00 CFS	.73	.73	.73	.73	.72	.72	.72	.72
22.00 ELEV	2.79	2.79	2.79	2.79	2.79	2.79	2.79	2.79
22.40 CFS	.72	.72	.71	.71	.71	.71	.71	.71
22.40 ELEV	2.79	2.79	2.79	2.79	2.79	2.79	2.79	2.79
22.80 CFS	.71	.70	.70	.70	.70	.70	.70	.70
22.80 ELEV	2.79	2.79	2.79	2.79	2.79	2.79	2.79	2.79
23.20 CFS	.69	.69	.69	.69	.69	.69	.68	.68
23.20 ELEV	2.79	2.79	2.79	2.79	2.79	2.79	2.79	2.79
23.60 CFS	.68	.68	.68					
23.60 ELEV	2.79	2.79	2.79					

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
6.28 WATERSHED INCHES; 48 CFS-HRS; 4.0 ACRE-FEET.

DURATION(HRS)	2	4	6	8	10	12	14	16
FLOW(CFS)	4	2	1	1	1	1	1	1

DURATION(HRS) 16
FLOW(CFS) 1 TRUNCATED

--- STRUCTURE 1, ALTERNATE 1, STORM 99, HYDROGRAPH ADDED TO READHD FILE ---

OPERATION RUNOFF STRUCTURE 1

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
12.00	59.9	(RUNOFF)

HYDROGRAPH POINTS FOR ALTERNATE = 1, STORM =99
HRS MAIN TIME INCREMENT = .050 hr, DRAINAGE AREA = .01 SQ.MI.

7.55 CFS	.49	.50	.51	.52	.53	.53	.54	.55
7.55 ELEV	2.78	2.78	2.78	2.78	2.78	2.78	2.78	2.78
7.95 CFS	.56	.57	.58	.59	.60	.62	.63	.65
7.95 ELEV	2.78	2.78	2.78	2.78	2.78	2.78	2.78	2.78
8.35 CFS	.67	.69	.71	.73	.76	.78	.80	.82
8.35 ELEV	2.78	2.79	2.79	2.79	2.79	2.79	2.79	2.79
8.75 CFS	.85	.87	.89	.92	.94	.96	.99	1.01
8.75 ELEV	2.79	2.80	2.80	2.80	2.80	2.80	2.80	2.80
9.15 CFS	1.03	1.04	1.06	1.07	1.08	1.09	1.10	1.10
9.15 ELEV	2.80	2.80	2.81	2.81	2.81	2.81	2.81	2.81
9.55 CFS	1.12	1.13	1.15	1.18	1.21	1.24	1.28	1.32
9.55 ELEV	2.81	2.81	2.81	2.81	2.81	2.81	2.82	2.82
9.95 CFS	1.35	1.39	1.43	1.48	1.52	1.58	1.63	1.69
9.95 ELEV	2.82	2.82	2.82	2.83	2.83	2.83	2.83	2.84
10.35 CFS	1.74	1.81	1.87	1.93	1.99	2.06	2.14	2.22
10.35 ELEV	2.84	2.84	2.85	2.85	2.85	2.86	2.86	2.87

10.75 CFS	2.32	2.41	2.51	2.62	2.72	2.83	2.94	3.08
10.75 ELEV	2.87	2.88	2.88	2.89	2.89	2.90	2.90	2.91
11.15 CFS	3.24	3.43	3.64	3.87	4.11	4.36	4.61	4.89
11.15 ELEV	2.92	2.93	2.94	2.95	2.96	2.98	2.99	3.01
11.55 CFS	5.49	6.93	9.42	13.29	18.32	24.72	32.84	44.65
11.55 ELEV	3.10	3.28	3.49	3.91	4.40	4.75	5.12	5.67
11.95 CFS	55.53	59.91	56.32	45.60	32.64	22.48	16.70	13.23
11.95 ELEV	6.17	6.38	6.21	5.71	5.11	4.64	4.25	3.90
12.35 CFS	11.03	9.53	8.41	7.47	6.71	6.07	5.59	5.24
12.35 ELEV	3.67	3.50	3.41	3.33	3.26	3.18	3.11	3.06
12.75 CFS	4.98	4.77	4.59	4.42	4.26	4.10	3.95	3.81
12.75 ELEV	3.02	3.00	2.99	2.98	2.97	2.96	2.96	2.95
13.15 CFS	3.69	3.58	3.48	3.39	3.31	3.22	3.14	3.05
13.15 ELEV	2.94	2.94	2.93	2.93	2.92	2.92	2.91	2.91
13.55 CFS	2.97	2.90	2.82	2.76	2.69	2.63	2.57	2.51
13.55 ELEV	2.90	2.90	2.90	2.89	2.89	2.89	2.88	2.88
13.95 CFS	2.45	2.39	2.34	2.28	2.24	2.21	2.18	2.15
13.95 ELEV	2.88	2.87	2.87	2.87	2.87	2.86	2.86	2.86
14.35 CFS	2.13	2.11	2.09	2.06	2.04	2.02	2.00	1.98
14.35 ELEV	2.86	2.86	2.86	2.86	2.86	2.86	2.85	2.85
14.75 CFS	1.96	1.94	1.92	1.90	1.88	1.86	1.84	1.82
14.75 ELEV	2.85	2.85	2.85	2.85	2.85	2.85	2.85	2.84
15.15 CFS	1.80	1.78	1.76	1.73	1.72	1.69	1.67	1.65
15.15 ELEV	2.84	2.84	2.84	2.84	2.84	2.84	2.84	2.84
15.55 CFS	1.63	1.61	1.59	1.57	1.55	1.53	1.51	1.49
15.55 ELEV	2.84	2.83	2.83	2.83	2.83	2.83	2.83	2.83
15.95 CFS	1.47	1.44	1.42	1.41	1.39	1.38	1.37	1.36
15.95 ELEV	2.83	2.83	2.82	2.82	2.82	2.82	2.82	2.82
16.35 CFS	1.35	1.34	1.34	1.33	1.32	1.31	1.31	1.30
16.35 ELEV	2.82	2.82	2.82	2.82	2.82	2.82	2.82	2.82
16.75 CFS	1.29	1.28	1.28	1.27	1.26	1.25	1.25	1.24
16.75 ELEV	2.82	2.82	2.82	2.82	2.82	2.82	2.81	2.81
17.15 CFS	1.23	1.22	1.22	1.21	1.20	1.20	1.19	1.18
17.15 ELEV	2.81	2.81	2.81	2.81	2.81	2.81	2.81	2.81
17.55 CFS	1.17	1.17	1.16	1.15	1.14	1.14	1.13	1.12
17.55 ELEV	2.81	2.81	2.81	2.81	2.81	2.81	2.81	2.81
17.95 CFS	1.11	1.11	1.10	1.09	1.08	1.08	1.07	1.06
17.95 ELEV	2.81	2.81	2.81	2.81	2.81	2.81	2.81	2.81
18.35 CFS	1.05	1.05	1.04	1.03	1.02	1.02	1.01	1.00
18.35 ELEV	2.80	2.80	2.80	2.80	2.80	2.80	2.80	2.80
18.75 CFS	.99	.99	.98	.97	.97	.96	.95	.94
18.75 ELEV	2.80	2.80	2.80	2.80	2.80	2.80	2.80	2.80
19.15 CFS	.94	.93	.92	.91	.91	.90	.89	.88
19.15 ELEV	2.80	2.80	2.80	2.80	2.80	2.80	2.80	2.80
19.55 CFS	.88	.87	.86	.85	.85	.84	.83	.82
19.55 ELEV	2.80	2.80	2.79	2.79	2.79	2.79	2.79	2.79
19.95 CFS	.82	.81	.80	.79	.79	.79	.78	.78
19.95 ELEV	2.79	2.79	2.79	2.79	2.79	2.79	2.79	2.79
20.35 CFS	.78	.78	.78	.77	.77	.77	.77	.77

20.35 ELEV	2.79	2.79	2.79	2.79	2.79	2.79	2.79	2.79
20.75 CFS	.77	.77	.76	.76	.76	.76	.76	.76
20.75 ELEV	2.79	2.79	2.79	2.79	2.79	2.79	2.79	2.79
21.15 CFS	.75	.75	.75	.75	.75	.75	.75	.74
21.15 ELEV	2.79	2.79	2.79	2.79	2.79	2.79	2.79	2.79
21.55 CFS	.74	.74	.74	.74	.74	.74	.73	.73
21.55 ELEV	2.79	2.79	2.79	2.79	2.79	2.79	2.79	2.79
21.95 CFS	.73	.73	.73	.73	.73	.72	.72	.72
21.95 ELEV	2.79	2.79	2.79	2.79	2.79	2.79	2.79	2.79
22.35 CFS	.72	.72	.72	.71	.71	.71	.71	.71
22.35 ELEV	2.79	2.79	2.79	2.79	2.79	2.79	2.79	2.79
22.75 CFS	.71	.71	.70	.70	.70	.70	.70	.70
22.75 ELEV	2.79	2.79	2.79	2.79	2.79	2.79	2.79	2.79
23.15 CFS	.70	.69	.69	.69	.69	.69	.69	.68
23.15 ELEV	2.79	2.79	2.79	2.79	2.79	2.79	2.79	2.79
23.55 CFS	.68	.68	.68	.68				
23.55 ELEV	2.79	2.79	2.79	2.79				

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
6.31 WATERSHED INCHES; 48 CFS-HRS; 4.0 ACRE-FEET.

DURATION(HRS)	2	4	6	8	10	12	14	16
FLOW(CFS)	3	2	1	1	1	1	1	1

DURATION(HRS) 16
FLOW(CFS) 1 TRUNCATED

--- STRUCTURE 1, ALTERNATE 1, STORM 99, HYDROGRAPH ADDED TO READHD FILE ---

EXECUTIVE CONTROL ENDCMP COMPUTATIONS COMPLETED FOR PASS 6

SUMMARY TABLE 1

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

XSECTION/ STRUCTURE ID	STANDARD CONTROL OPERATION	DRAINAGE AREA (SQ MI)	RUNOFF AMOUNT (IN)	PEAK DISCHARGE ELEVATION (FT)	TIME (HR)	RATE (CFS)	RATE (CSM)
RAINFALL OF 3.11 inches AND 24.00 hr DURATION, BEGINS AT .0 hrs.							
RAINTABLE NUMBER 2, ARC 2							
MAIN TIME INCREMENT .050 HOURS							
ALTERNATE 1 STORM 2							
STRUCTURE 1	RUNOFF	.01	1.61	---	12.01	16	1600.0
STRUCTURE 1	RESVOR	.01	1.56	3.88	12.09	13	1300.0
STRUCTURE 1	RUNOFF	.01	1.61	---	12.01	16	1600.0
STRUCTURE 1	ADDHYD	.02	1.59	4.90	12.04	28	1400.0
RAINFALL OF 4.00 inches AND 24.00 hr DURATION, BEGINS AT .0 hrs.							
ALTERNATE 1 STORM 5							
STRUCTURE 1	RUNOFF	.01	2.38	---	12.01	23	2300.0
STRUCTURE 1	RESVOR	.01	2.38	4.20	12.12	16	1600.0
STRUCTURE 1	RUNOFF	.01	2.38	---	12.01	23	2300.0
STRUCTURE 1	ADDHYD	.02	2.38	5.38	12.02	38	1900.0
RAINFALL OF 4.78 inches AND 24.00 hr DURATION, BEGINS AT .0 hrs.							
ALTERNATE 1 STORM 10							
STRUCTURE 1	RUNOFF	.01	3.08	---	12.01	30	3000.0
STRUCTURE 1	RESVOR	.01	3.04	4.38	12.14	18	1800.0
STRUCTURE 1	RUNOFF	.01	3.08	---	12.01	30	3000.0
STRUCTURE 1	ADDHYD	.02	3.06	5.77	12.02	47	2350.0
RAINFALL OF 5.99 inches AND 24.00 hr DURATION, BEGINS AT .0 hrs.							
ALTERNATE 1 STORM 25							
STRUCTURE 1	RUNOFF	.01	4.19	---	12.00	40	4000.0
STRUCTURE 1	RESVOR	.01	4.18	4.61	12.16	22	2200.0
STRUCTURE 1	RUNOFF	.01	4.19	---	12.00	40	4000.0

SUMMARY TABLE 1

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

XSECTION/ STRUCTURE ID	STANDARD CONTROL OPERATION	DRAINAGE AREA (SQ MI)	RUNOFF AMOUNT (IN)	PEAK DISCHARGE ELEVATION (FT)	TIME (HR)	RATE (CFS)	RATE (CSM)
ALTERNATE 1 STORM 25							
STRUCTURE 1	ADDHYD	.02	4.19	6.34	12.02	59	2950.0
RAINFALL OF 7.05 inches AND 24.00 hr DURATION, BEGINS AT .0 hrs.							
ALTERNATE 1 STORM 50							
STRUCTURE 1	RUNOFF	.01	5.19	---	12.00	49	4900.0
STRUCTURE 1	RESVOR	.01	5.16	4.80	12.16	26	2600.0
STRUCTURE 1	RUNOFF	.01	5.19	---	12.00	49	4900.0
STRUCTURE 1	ADDHYD	.02	5.18	6.88	12.02	71	3550.0
RAINFALL OF 8.26 inches AND 24.00 hr DURATION, BEGINS AT .0 hrs.							
ALTERNATE 1 STORM 99							
STRUCTURE 1	RUNOFF	.01	6.31	---	12.00	60	6000.0
STRUCTURE 1	RESVOR	.01	6.28	5.01	12.16	30	3000.0
STRUCTURE 1	RUNOFF	.01	6.31	---	12.00	60	6000.0
STRUCTURE 1	ADDHYD	.02	6.29	7.52	12.02	85	4250.0

SUMMARY TABLE 3

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

XSECTION/ STRUCTURE ID	DRAINAGE AREA (SQ MI)	STORM NUMBERS..... 2	5	10	25	50
STRUCTURE 1	.02					
ALTERNATE 1		28	38	47	59	71

SUMMARY TABLE 3

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

XSECTION/ STRUCTURE ID	DRAINAGE AREA (SQ MI)	STORM NUMBERS..... 99
STRUCTURE 1	.02	
ALTERNATE 1		85

SUMMARY TABLE #3 / 3A DATA REORDERED IN DESCENDING ORDER FOR ECON2.

ECON2 DATA FILE

```
ECON2
TITLE                 JONES POINT PARK EXISTING CONDITIONS
TITLE             FILENAME: JPPCUL1P.dat     9/16/05   BY: TLH
FLOW-FREQ    -1            85.       71.       59.       47.       38.ALT  1   1
FLOW-FREQ    -1            28.                                          ALT  1   2
```

END OF 1 JOBS IN THIS RUN

SCS TR-20, VERSION 2.04TEST
FILES

```
INPUT  = C:\JPPCUL1P.DAT                        , GIVEN DATA FILE
OUTPUT = C:\JPPCUL1P.OUT                        , DATED 09/16/**,11:42:54

          FILES GENERATED - DATED 09/16/**,11:42:54

FILE C:\JPPCUL1P.TEC CONTAINS ECON2 INFORMATION

FILE C:\JPPCUL1P.TRD CONTAINS READHD INFORMATION

FILE C:\JPPCUL1P.TMG CONTAINS MESSAGE + WARNING INFORMATION


       TOTAL NUMBER OF WARNINGS =  13,  MESSAGES =   0

                   JOB ENDED AT 11:42:54
                *** TR-20 RUN COMPLETED ***
```