ATTACHMENT 5

Hydrograph Routing Calculations
Proposed Option No. 1

Note: This Attachment contains the Hydrograph Routing/Detention Basin Analysis Results for Proposed Drainage Option No. 1, one of two options recommended to reduce the runoff and cliff erosion of Rimforest.

Option No. 1 directs the flow into Little Bear Creek.

```
                    FLOOD HYDROGRAPH ROUTING PROGRAM
            Copyright (c) CIVILCADD/CIVILDESIGN, 1989 - 2005
                        Study date: 07/08/09

----------------------------------------------------------------------

Linear Basin
Runoff To Match Existing Flow

----------------------------------------------------------------------

Program License Serial Number 4500

----------------------------------------------------------------------
******************** HYDROGRAPH INFORMATION **********************

                From study/file name: opt1un.rte
****************************HYDROGRAPH DATA****************************
                Number of intervals =   314
                Time interval =    5.0 (Min.)
                Maximum/Peak flow rate =      462.714 (CFS)
                Total volume =     156.895 (Ac.Ft)
        Status of hydrographs being held in storage
                   Stream 1  Stream 2  Stream 3  Stream 4  Stream 5
        Peak (CFS)      0.000     0.000     0.000     0.000     0.000
        Vol (Ac.Ft)      0.000     0.000     0.000     0.000     0.000
**********************************************************************


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station       13.000 to Point/Station       14.000
**** RETARDING BASIN ROUTING ****
______________________________________________________________________

Program computation of outflow v. depth




CALCULATED OUTFLOW DATA AT DEPTH =    2.00(Ft.))
Pipe length  =   100.00(Ft.)   Elevation difference =  10.00(Ft.)
Manning's N = 0.013   No. of pipes = 2
Given pipe size =     24.00(In.)
 NOTE: Assuming free outlet flow.
NOTE: Normal flow is pressure flow.
The total friction loss through the pipe is     12.000(Ft.)
Pipe friction loss =      5.438(Ft.)
Minor friction loss =      6.567(Ft.)     K-factor =   1.50
Calculated flow rate through pipe(s) =    105.504(CFS)

Total outflow at this depth =    105.50(CFS)


CALCULATED OUTFLOW DATA AT DEPTH =    4.00(Ft.))
Pipe length  =   100.00(Ft.)   Elevation difference =  10.00(Ft.)
Manning's N = 0.013   No. of pipes = 2
Given pipe size =     24.00(In.)
 NOTE: Assuming free outlet flow.
NOTE: Normal flow is pressure flow.
The total friction loss through the pipe is     14.000(Ft.)
Pipe friction loss =      6.344(Ft.)
Minor friction loss =      7.662(Ft.)     K-factor =   1.50
Calculated flow rate through pipe(s) =    113.957(CFS)

Total outflow at this depth =    113.96(CFS)


CALCULATED OUTFLOW DATA AT DEPTH =    6.00(Ft.))
Pipe length  =   100.00(Ft.)   Elevation difference =  10.00(Ft.)
Manning's N = 0.013   No. of pipes = 2
Given pipe size =     24.00(In.)
 NOTE: Assuming free outlet flow.
NOTE: Normal flow is pressure flow.
The total friction loss through the pipe is     16.000(Ft.)
Pipe friction loss =      7.250(Ft.)
Minor friction loss =      8.756(Ft.)     K-factor =   1.50
Calculated flow rate through pipe(s) =    121.825(CFS)

Total outflow at this depth =    121.83(CFS)
```

```
CALCULATED OUTFLOW DATA AT DEPTH =    8.00(Ft.))
Pipe length  =   100.00(Ft.)   Elevation difference =  10.00(Ft.)
Manning's N = 0.013   No. of pipes = 2
Given pipe size =     24.00(In.)
 NOTE: Assuming free outlet flow.
NOTE: Normal flow is pressure flow.
The total friction loss through the pipe is     18.000(Ft.)
Pipe friction loss =      8.156(Ft.)
Minor friction loss =      9.851(Ft.)     K-factor =   1.50
Calculated flow rate through pipe(s) =    129.215(CFS)

Total outflow at this depth =    129.22(CFS)


CALCULATED OUTFLOW DATA AT DEPTH =   10.00(Ft.))
Pipe length  =   100.00(Ft.)   Elevation difference =  10.00(Ft.)
Manning's N = 0.013   No. of pipes = 2
Given pipe size =     24.00(In.)
 NOTE: Assuming free outlet flow.
NOTE: Normal flow is pressure flow.
The total friction loss through the pipe is     20.000(Ft.)
Pipe friction loss =      9.063(Ft.)
Minor friction loss =     10.945(Ft.)     K-factor =   1.50
Calculated flow rate through pipe(s) =    136.205(CFS)

Total outflow at this depth =    136.20(CFS)


CALCULATED OUTFLOW DATA AT DEPTH =   12.00(Ft.))
Pipe length  =   100.00(Ft.)   Elevation difference =  10.00(Ft.)
Manning's N = 0.013   No. of pipes = 2
Given pipe size =     24.00(In.)
 NOTE: Assuming free outlet flow.
NOTE: Normal flow is pressure flow.
The total friction loss through the pipe is     22.000(Ft.)
Pipe friction loss =      9.969(Ft.)
Minor friction loss =     12.040(Ft.)     K-factor =   1.50
Calculated flow rate through pipe(s) =    142.853(CFS)

Total outflow at this depth =    142.85(CFS)


CALCULATED OUTFLOW DATA AT DEPTH =   14.00(Ft.))
Pipe length  =   100.00(Ft.)   Elevation difference =  10.00(Ft.)
Manning's N = 0.013   No. of pipes = 2
Given pipe size =     24.00(In.)
 NOTE: Assuming free outlet flow.
NOTE: Normal flow is pressure flow.
The total friction loss through the pipe is     24.000(Ft.)
Pipe friction loss =     10.875(Ft.)
Minor friction loss =     13.134(Ft.)     K-factor =   1.50
Calculated flow rate through pipe(s) =    149.205(CFS)

Total outflow at this depth =    149.20(CFS)


CALCULATED OUTFLOW DATA AT DEPTH =   16.00(Ft.))
Pipe length  =   100.00(Ft.)   Elevation difference =  10.00(Ft.)
Manning's N = 0.013   No. of pipes = 2
Given pipe size =     24.00(In.)
 NOTE: Assuming free outlet flow.
NOTE: Normal flow is pressure flow.
The total friction loss through the pipe is     26.000(Ft.)
Pipe friction loss =     11.781(Ft.)
Minor friction loss =     14.229(Ft.)     K-factor =   1.50
Calculated flow rate through pipe(s) =    155.297(CFS)

Total outflow at this depth =    155.30(CFS)


CALCULATED OUTFLOW DATA AT DEPTH =   18.00(Ft.))
Pipe length  =   100.00(Ft.)   Elevation difference =  10.00(Ft.)
Manning's N = 0.013   No. of pipes = 2
Given pipe size =     24.00(In.)
 NOTE: Assuming free outlet flow.
NOTE: Normal flow is pressure flow.
The total friction loss through the pipe is     28.000(Ft.)
Pipe friction loss =     12.688(Ft.)
Minor friction loss =     15.324(Ft.)     K-factor =   1.50
Calculated flow rate through pipe(s) =    161.160(CFS)


Weir capacity using equation Q = CLH^Exp(Using Feet as units)
Weir Length =  20.00(Ft.)   C value =   2.60   Exp =   1.50
Weir flow:      Depth = H =    2.00(Ft.)   Flow =    147.08 (CFS)

Total outflow at this depth =    308.24(CFS)
```

```
-----------------------------------------------------------------------
Total number of inflow hydrograph intervals = 314
Hydrograph time unit =  5.000 (Min.)
Initial depth in storage basin =   0.00(Ft.)
-----------------------------------------------------------------------
-----------------------------------------------------------------------
Initial basin depth =   0.00 (Ft.)
Initial basin storage =      0.00 (Ac.Ft)
Initial basin outflow =   0.00 (CFS)
-----------------------------------------------------------------------
-----------------------------------------------------------------------
Depth vs. Storage and Depth vs. Discharge data:
 Basin Depth  Storage    Outflow   (S-O*dt/2)   (S+O*dt/2)
     (Ft.)    (Ac.Ft)    (CFS)     (Ac.Ft)    (Ac.Ft)
-----------------------------------------------------------------------
  0.000      0.000      0.000      0.000        0.000
  2.000      2.000    105.504      1.637        2.363
  4.000      4.000    113.957      3.608        4.392
  6.000      6.000    121.825      5.580        6.420
  8.000      8.000    129.215      7.555        8.445
 10.000     10.000    136.205      9.531       10.469
 12.000     12.000    142.853     11.508       12.492
 14.000     14.000    149.205     13.486       14.514
 16.000     16.000    155.297     15.465       16.535
 18.000     18.000    308.238     16.939       19.061
-----------------------------------------------------------------------
                Hydrograph Detention Basin Routing
-----------------------------------------------------------------------

Graph values: 'I'= unit inflow; 'O'=outflow at time shown
-----------------------------------------------------------------------
 Time   Inflow  Outflow    Storage                                   Depth
(Hours)  (CFS)   (CFS)     (Ac.Ft) .0     115.7  231.36  347.04  462.71 (Ft.)
 0.083    2.14    0.33      0.006  O       |       |       |       |     0.01
 0.167   12.16    2.43      0.046  O       |       |       |       |     0.05
 0.250   26.51    7.63      0.145  OI      |       |       |       |     0.14
 0.333   38.96   15.34      0.291  |OI     |       |       |       |     0.29
 0.417   45.67   23.64      0.448  |O I    |       |       |       |     0.45
 0.500   49.12   30.94      0.587   OI     |       |       |       |     0.59
 0.583   51.00   36.82      0.698   OI     |       |       |       |     0.70
 0.667   52.10   41.35      0.784   OI     |       |       |       |     0.78
 0.750   53.04   44.80      0.849   O      |       |       |       |     0.85
 0.833   53.76   47.44      0.899   O      |       |       |       |     0.90
 0.917   54.28   49.46      0.938   O      |       |       |       |     0.94
 1.000   54.74   51.02      0.967   O      |       |       |       |     0.97
 1.083   55.17   52.23      0.990   O      |       |       |       |     0.99
 1.167   55.58   53.19      1.008   O      |       |       |       |     1.01
 1.250   55.94   53.98      1.023   O      |       |       |       |     1.02
 1.333   56.29   54.64      1.036   O      |       |       |       |     1.04
 1.417   56.61   55.19      1.046   O      |       |       |       |     1.05
 1.500   56.91   55.68      1.055   O      |       |       |       |     1.06
 1.583   57.20   56.10      1.063   O      |       |       |       |     1.06
 1.667   57.47   56.48      1.071   O      |       |       |       |     1.07
 1.750   57.72   56.82      1.077   O      |       |       |       |     1.08
 1.833   57.97   57.14      1.083   OI     |       |       |       |     1.08
 1.917   58.21   57.43      1.089   OI     |       |       |       |     1.09
 2.000   58.46   57.71      1.094   OI     |       |       |       |     1.09
 2.083   58.71   57.98      1.099    O     |       |       |       |     1.10
 2.167   58.96   58.24      1.104    O     |       |       |       |     1.10
 2.250   59.18   58.50      1.109    O     |       |       |       |     1.11
 2.333   59.28   58.72      1.113    O     |       |       |       |     1.11
 2.417   59.37   58.91      1.117    O     |       |       |       |     1.12
 2.500   59.47   59.06      1.120    O     |       |       |       |     1.12
 2.583   59.57   59.20      1.122    O     |       |       |       |     1.12
 2.667   59.67   59.33      1.125    O     |       |       |       |     1.12
 2.750   59.76   59.45      1.127    O     |       |       |       |     1.13
 2.833   59.86   59.56      1.129    O     |       |       |       |     1.13
 2.917   59.96   59.67      1.131    O     |       |       |       |     1.13
 3.000   60.07   59.78      1.133    O     |       |       |       |     1.13
 3.083   60.17   59.88      1.135    O     |       |       |       |     1.14
 3.167   60.27   59.99      1.137    O     |       |       |       |     1.14
 3.250   60.38   60.09      1.139    O     |       |       |       |     1.14
 3.333   60.48   60.19      1.141    O     |       |       |       |     1.14
 3.417   60.59   60.30      1.143    O     |       |       |       |     1.14
 3.500   60.69   60.40      1.145    O     |       |       |       |     1.15
 3.583   60.80   60.51      1.147    O     |       |       |       |     1.15
 3.667   60.91   60.62      1.149    O     |       |       |       |     1.15
 3.750   61.02   60.72      1.151    O     |       |       |       |     1.15
 3.833   61.13   60.83      1.153    O     |       |       |       |     1.15
 3.917   61.24   60.94      1.155    O     |       |       |       |     1.16
 4.000   61.35   61.05      1.157    O     |       |       |       |     1.16
 4.083   61.47   61.16      1.159    O     |       |       |       |     1.16
 4.167   61.58   61.27      1.162    O     |       |       |       |     1.16
 4.250   61.69   61.38      1.164    O     |       |       |       |     1.16
 4.333   61.81   61.50      1.166    O     |       |       |       |     1.17
 4.417   61.93   61.61      1.168    O     |       |       |       |     1.17
 4.500   62.05   61.73      1.170    O     |       |       |       |     1.17
 4.583   62.17   61.84      1.172    O     |       |       |       |     1.17
```

4.667	62.29	61.96	1.175	O				1.17
4.750	62.41	62.08	1.177	O				1.18
4.833	62.53	62.20	1.179	O				1.18
4.917	62.65	62.32	1.181	O				1.18
5.000	62.78	62.44	1.184	O				1.18
5.083	62.90	62.56	1.186	O				1.19
5.167	63.03	62.69	1.188	O				1.19
5.250	63.16	62.81	1.191	O				1.19
5.333	63.29	62.94	1.193	O				1.19
5.417	63.42	63.07	1.196	O				1.20
5.500	63.55	63.20	1.198	O				1.20
5.583	63.69	63.33	1.200	O				1.20
5.667	63.82	63.46	1.203	O				1.20
5.750	63.96	63.59	1.205	O				1.21
5.833	64.10	63.72	1.208	O				1.21
5.917	64.23	63.86	1.211	O				1.21
6.000	64.37	64.00	1.213	O				1.21
6.083	64.52	64.13	1.216	O				1.22
6.167	64.66	64.27	1.218	O				1.22
6.250	64.80	64.41	1.221	O				1.22
6.333	64.95	64.56	1.224	O				1.22
6.417	65.10	64.70	1.226	O				1.23
6.500	65.25	64.85	1.229	O				1.23
6.583	65.40	64.99	1.232	O				1.23
6.667	65.55	65.14	1.235	O				1.23
6.750	65.70	65.29	1.238	O				1.24
6.833	65.86	65.44	1.241	O				1.24
6.917	66.02	65.59	1.243	O				1.24
7.000	66.18	65.75	1.246	O				1.25
7.083	66.34	65.91	1.249	O				1.25
7.167	66.50	66.06	1.252	O				1.25
7.250	66.67	66.22	1.255	O				1.26
7.333	66.84	66.39	1.258	O				1.26
7.417	67.00	66.55	1.262	O				1.26
7.500	67.18	66.72	1.265	O				1.26
7.583	67.35	66.88	1.268	O				1.27
7.667	67.52	67.05	1.271	O				1.27
7.750	67.70	67.23	1.274	O				1.27
7.833	67.88	67.40	1.278	O				1.28
7.917	68.06	67.58	1.281	O				1.28
8.000	68.25	67.75	1.284	O				1.28
8.083	68.43	67.93	1.288	O				1.29
8.167	68.62	68.12	1.291	O				1.29
8.250	68.81	68.30	1.295	O				1.29
8.333	69.01	68.49	1.298	O				1.30
8.417	69.20	68.68	1.302	O				1.30
8.500	69.40	68.87	1.306	O				1.31
8.583	69.60	69.06	1.309	O				1.31
8.667	69.81	69.26	1.313	O				1.31
8.750	70.02	69.46	1.317	O				1.32
8.833	70.23	69.66	1.321	O				1.32
8.917	70.44	69.87	1.325	O				1.32
9.000	70.66	70.08	1.328	O				1.33
9.083	70.87	70.29	1.332	O				1.33
9.167	71.10	70.50	1.337	O				1.34
9.250	71.32	70.72	1.341	O				1.34
9.333	71.55	70.94	1.345	O				1.34
9.417	71.79	71.17	1.349	O				1.35
9.500	72.02	71.39	1.353	O				1.35
9.583	72.26	71.62	1.358	O				1.36
9.667	72.51	71.86	1.362	OI				1.36
9.750	72.75	72.10	1.367	OI				1.37
9.833	73.01	72.34	1.371	O				1.37
9.917	73.26	72.58	1.376	O				1.38
10.000	73.53	72.83	1.381	O				1.38
10.083	73.79	73.09	1.385	O				1.39
10.167	74.06	73.34	1.390	O				1.39
10.250	74.33	73.60	1.395	O				1.40
10.333	74.61	73.87	1.400	O				1.40
10.417	74.89	74.14	1.405	O				1.41
10.500	75.18	74.42	1.411	O				1.41
10.583	75.48	74.70	1.416	O				1.42
10.667	75.78	74.98	1.421	O				1.42
10.750	76.08	75.27	1.427	O				1.43
10.833	76.39	75.57	1.433	O				1.43
10.917	76.71	75.87	1.438	O				1.44
11.000	77.03	76.18	1.444	O				1.44
11.083	77.36	76.49	1.450	O				1.45
11.167	77.70	76.81	1.456	O				1.46
11.250	78.04	77.14	1.462	O				1.46
11.333	78.39	77.47	1.469	O				1.47
11.417	78.75	77.81	1.475	O				1.47
11.500	79.12	78.15	1.482	O				1.48
11.583	79.49	78.51	1.488	O				1.49
11.667	79.88	78.87	1.495	O				1.50
11.750	80.26	79.24	1.502	O				1.50
11.833	80.67	79.62	1.509	O				1.51
11.917	81.07	80.00	1.517	O				1.52

```
12.000   81.50   80.40      1.524 |    O  |       |       |       |     1.52
12.083   81.66   80.76      1.531 |    O  |       |       |       |     1.53
12.167   80.87   80.91      1.534 |    O  |       |       |       |     1.53
12.250   79.55   80.70      1.530 |    O  |       |       |       |     1.53
12.333   78.51   80.19      1.520 |    O  |       |       |       |     1.52
12.417   78.20   79.62      1.509 |    O  |       |       |       |     1.51
12.500   78.33   79.20      1.501 |    O  |       |       |       |     1.50
12.583   78.66   78.99      1.497 |    O  |       |       |       |     1.50
12.667   79.11   78.96      1.497 |    O  |       |       |       |     1.50
12.750   79.60   79.08      1.499 |    O  |       |       |       |     1.50
12.833   80.14   79.32      1.504 |    O  |       |       |       |     1.50
12.917   80.72   79.66      1.510 |    O  |       |       |       |     1.51
13.000   81.34   80.08      1.518 |    O  |       |       |       |     1.52
13.083   81.97   80.57      1.527 |    O  |       |       |       |     1.53
13.167   82.65   81.10      1.537 |    O  |       |       |       |     1.54
13.250   83.34   81.68      1.548 |    O  |       |       |       |     1.55
13.333   84.07   82.31      1.560 |    O  |       |       |       |     1.56
13.417   84.82   82.96      1.573 |    O  |       |       |       |     1.57
13.500   85.63   83.66      1.586 |    O  |       |       |       |     1.59
13.583   86.45   84.39      1.600 |    O  |       |       |       |     1.60
13.667   87.32   85.16      1.614 |    OI |       |       |       |     1.61
13.750   88.22   85.96      1.630 |    OI |       |       |       |     1.63
13.833   89.18   86.80      1.645 |     O |       |       |       |     1.65
13.917   90.16   87.68      1.662 |     O |       |       |       |     1.66
14.000   91.21   88.61      1.680 |     O |       |       |       |     1.68
14.083   92.32   89.58      1.698 |     O |       |       |       |     1.70
14.167   93.57   90.61      1.718 |     O |       |       |       |     1.72
14.250   94.92   91.73      1.739 |     O |       |       |       |     1.74
14.333   96.35   92.93      1.762 |     O |       |       |       |     1.76
14.417   97.77   94.20      1.786 |     O |       |       |       |     1.79
14.500   99.27   95.53      1.811 |     O |       |       |       |     1.81
14.583  100.82   96.92      1.837 |     O |       |       |       |     1.84
14.667  102.49   98.37      1.865 |     OI|       |       |       |     1.86
14.750  104.24   99.91      1.894 |     OI|       |       |       |     1.89
14.833  106.16  101.54      1.925 |      O|       |       |       |     1.92
14.917  108.19  103.27      1.958 |      O|       |       |       |     1.96
15.000  110.43  105.13      1.993 |      O|       |       |       |     1.99
15.083  112.83  105.66      2.036 |      O|       |       |       |     2.04
15.167  115.50  105.90      2.094 |      O|       |       |       |     2.09
15.250  118.40  106.22      2.169 |      OI       |       |       |     2.17
15.333  121.70  106.61      2.263 |      OI       |       |       |     2.26
15.417  122.45  107.06      2.367 |      OI       |       |       |     2.37
15.500  113.21  107.37      2.441 |      O|       |       |       |     2.44
15.583   98.74  107.33      2.431 |     IO|       |       |       |     2.43
15.667   87.90  106.92      2.336 |     IO|       |       |       |     2.34
15.750   86.15  106.35      2.201 |    I O|       |       |       |     2.20
15.833   91.45  105.85      2.082 |     IO|       |       |       |     2.08
15.917  103.23  105.61      2.024 |      O|       |       |       |     2.02
16.000  127.14  105.88      2.089 |      OI       |       |       |     2.09
16.083  203.59  107.59      2.493 |      O|     I |       |       |     2.49
16.167  380.77  112.88      3.746 |      O|       |       I       |     3.75
16.250  462.71  121.21      5.844 |       O       |       |     I |     5.84
16.333  400.75  129.05      7.956 |       O       |       I       |     7.96
16.417  261.43  133.87      9.331 |       |O      I       |       |     9.33
16.500  185.41  136.00      9.940 |       |O  I   |       |       |     9.94
16.583  155.10  136.78     10.174 |       |OI     |       |       |    10.17
16.667  143.32  137.06     10.258 |       |O      |       |       |    10.26
16.750  139.05  137.16     10.286 |       |O      |       |       |    10.29
16.833  131.34  137.11     10.273 |       |O      |       |       |    10.27
16.917  123.50  136.89     10.207 |       IO      |       |       |    10.21
17.000  118.29  136.53     10.098 |       IO      |       |       |    10.10
17.083  114.47  136.07      9.961 |      I|O      |       |       |     9.96
17.167  110.64  135.51      9.801 |      I|O      |       |       |     9.80
17.250  106.66  134.87      9.618 |      I|O      |       |       |     9.62
17.333  103.54  134.16      9.415 |      I|O      |       |       |     9.42
17.417  100.52  133.40      9.197 |     I |O      |       |       |     9.20
17.500   97.86  132.58      8.964 |     I |O      |       |       |     8.96
17.583   95.40  131.73      8.719 |     I |O      |       |       |     8.72
17.667   93.08  130.84      8.464 |     I |O      |       |       |     8.46
17.750   91.14  129.92      8.201 |     I O       |       |       |     8.20
17.833   89.54  128.96      7.931 |     I O       |       |       |     7.93
17.917   88.10  127.95      7.658 |     I O       |       |       |     7.66
18.000   86.69  126.93      7.383 |    I  O       |       |       |     7.38
18.083   85.54  125.91      7.105 |    I  O       |       |       |     7.10
18.167   85.26  124.89      6.829 |    I  O       |       |       |     6.83
18.250   84.80  123.89      6.558 |    I  O       |       |       |     6.56
18.333   82.65  122.88      6.285 |    I  O       |       |       |     6.29
18.417   82.40  121.87      6.011 |    I  O       |       |       |     6.01
18.500   81.92  120.81      5.741 |    I  O       |       |       |     5.74
18.583   81.31  119.76      5.475 |    I  O       |       |       |     5.47
18.667   80.51  118.72      5.211 |    I  O       |       |       |     5.21
18.750   79.74  117.69      4.949 |    I  O       |       |       |     4.95
18.833   79.00  116.66      4.688 |    I  O       |       |       |     4.69
18.917   78.28  115.65      4.430 |    I O|       |       |       |     4.43
19.000   77.59  114.64      4.174 |    I O|       |       |       |     4.17
19.083   76.93  113.62      3.920 |    I O|       |       |       |     3.92
19.167   76.29  112.56      3.668 |    I O|       |       |       |     3.67
19.250   75.68  111.51      3.420 |    I O|       |       |       |     3.42
```

```
19.333   75.10  110.47      3.175  |    I O|       |       |       |     3.17
19.417   74.54  109.45      2.933  |    I O|       |       |       |     2.93
19.500   73.99  108.44      2.694  |    I O|       |       |       |     2.69
19.583   73.47  107.44      2.459  |    I O|       |       |       |     2.46
19.667   72.96  106.46      2.226  |    I O|       |       |       |     2.23
19.750   72.47  105.37      1.998  |    I O|       |       |       |     2.00
19.833   72.00   95.19      1.804  |   I O |       |       |       |     1.80
19.917   71.54   87.99      1.668  |   I O |       |       |       |     1.67
20.000   71.10   82.86      1.571  |   IO  |       |       |       |     1.57
20.083   70.67   79.18      1.501  |   IO  |       |       |       |     1.50
20.167   70.25   76.50      1.450  |   IO  |       |       |       |     1.45
20.250   69.85   74.52      1.413  |   IO  |       |       |       |     1.41
20.333   69.44   73.02      1.384  |   IO  |       |       |       |     1.38
20.417   69.04   71.86      1.362  |   O   |       |       |       |     1.36
20.500   68.65   70.93      1.345  |   O   |       |       |       |     1.34
20.583   68.27   70.17      1.330  |   O   |       |       |       |     1.33
20.667   67.90   69.53      1.318  |   O   |       |       |       |     1.32
20.750   67.54   68.97      1.308  |   O   |       |       |       |     1.31
20.833   67.19   68.48      1.298  |   O   |       |       |       |     1.30
20.917   66.85   68.03      1.290  |   O   |       |       |       |     1.29
21.000   66.52   67.62      1.282  |   O   |       |       |       |     1.28
21.083   66.19   67.23      1.274  |   O   |       |       |       |     1.27
21.167   65.87   66.86      1.267  |   O   |       |       |       |     1.27
21.250   65.56   66.51      1.261  |   O   |       |       |       |     1.26
21.333   65.25   66.17      1.254  |   O   |       |       |       |     1.25
21.417   64.96   65.84      1.248  |   O   |       |       |       |     1.25
21.500   64.66   65.53      1.242  |   O   |       |       |       |     1.24
21.583   64.38   65.22      1.236  |   O   |       |       |       |     1.24
21.667   64.10   64.92      1.231  |   O   |       |       |       |     1.23
21.750   63.82   64.62      1.225  |   O   |       |       |       |     1.23
21.833   63.55   64.34      1.220  |   O   |       |       |       |     1.22
21.917   63.29   64.05      1.214  |   O   |       |       |       |     1.21
22.000   63.03   63.78      1.209  |   O   |       |       |       |     1.21
22.083   62.78   63.51      1.204  |   O   |       |       |       |     1.20
22.167   62.53   63.25      1.199  |   O   |       |       |       |     1.20
22.250   62.28   62.99      1.194  |   O   |       |       |       |     1.19
22.333   62.04   62.74      1.189  |   O   |       |       |       |     1.19
22.417   61.81   62.49      1.185  |   O   |       |       |       |     1.18
22.500   61.58   62.24      1.180  |   O   |       |       |       |     1.18
22.583   61.35   62.00      1.175  |   O   |       |       |       |     1.18
22.667   61.13   61.77      1.171  |   O   |       |       |       |     1.17
22.750   60.91   61.54      1.167  |   O   |       |       |       |     1.17
22.833   60.69   61.31      1.162  |   O   |       |       |       |     1.16
22.917   60.48   61.09      1.158  |   O   |       |       |       |     1.16
23.000   60.27   60.87      1.154  |   O   |       |       |       |     1.15
23.083   60.06   60.65      1.150  |   O   |       |       |       |     1.15
23.167   59.86   60.44      1.146  |   O   |       |       |       |     1.15
23.250   59.66   60.23      1.142  |   O   |       |       |       |     1.14
23.333   59.46   60.02      1.138  |   O   |       |       |       |     1.14
23.417   59.27   59.82      1.134  |   O   |       |       |       |     1.13
23.500   59.08   59.62      1.130  |   O   |       |       |       |     1.13
23.583   58.89   59.43      1.127  |   O   |       |       |       |     1.13
23.667   58.71   59.23      1.123  |   O   |       |       |       |     1.12
23.750   58.52   59.04      1.119  |   O   |       |       |       |     1.12
23.833   58.34   58.86      1.116  |   O   |       |       |       |     1.12
23.917   58.17   58.67      1.112  |   O   |       |       |       |     1.11
24.000   57.99   58.49      1.109  |   O   |       |       |       |     1.11
24.083   55.68   57.98      1.099  |  IO   |       |       |       |     1.10
24.167   45.51   55.71      1.056  |  O    |       |       |       |     1.06
24.250   31.06   50.35      0.954  | IO    |       |       |       |     0.95
24.333   18.56   42.50      0.806  |IO     |       |       |       |     0.81
24.417   11.86   34.11      0.647  I O     |       |       |       |     0.65
24.500    8.44   26.74      0.507  IO      |       |       |       |     0.51
24.583    6.60   20.83      0.395  IO      |       |       |       |     0.39
24.667    5.56   16.30      0.309  IO      |       |       |       |     0.31
24.750    4.68   12.86      0.244  O       |       |       |       |     0.24
24.833    4.02   10.24      0.194  O       |       |       |       |     0.19
24.917    3.57    8.26      0.157  O       |       |       |       |     0.16
25.000    3.18    6.76      0.128  O       |       |       |       |     0.13
25.083    2.82    5.60      0.106  O       |       |       |       |     0.11
25.167    2.48    4.69      0.089  O       |       |       |       |     0.09
25.250    2.20    3.97      0.075  O       |       |       |       |     0.08
25.333    1.93    3.39      0.064  O       |       |       |       |     0.06
25.417    1.69    2.90      0.055  O       |       |       |       |     0.06
25.500    1.47    2.49      0.047  O       |       |       |       |     0.05
25.583    1.26    2.15      0.041  O       |       |       |       |     0.04
25.667    1.08    1.85      0.035  O       |       |       |       |     0.03
25.750    0.92    1.59      0.030  O       |       |       |       |     0.03
25.833    0.76    1.35      0.026  O       |       |       |       |     0.03
25.917    0.60    1.15      0.022  O       |       |       |       |     0.02
26.000    0.44    0.95      0.018  O       |       |       |       |     0.02
26.083    0.28    0.77      0.015  O       |       |       |       |     0.01
26.167    0.12    0.60      0.011  O       |       |       |       |     0.01
26.250    0.00    0.43      0.008  O       |       |       |       |     0.01
26.333    0.00    0.30      0.006  O       |       |       |       |     0.01
26.417    0.00    0.21      0.004  O       |       |       |       |     0.00
26.500    0.00    0.14      0.003  O       |       |       |       |     0.00
26.583    0.00    0.10      0.002  O       |       |       |       |     0.00
```

```
26.667    0.00    0.07      0.001  O       |       |       |       |     0.00
26.750    0.00    0.05      0.001  O       |       |       |       |     0.00

        ****************************HYDROGRAPH DATA****************************
                        Number of intervals =   321
                        Time interval =    5.0 (Min.)
                        Maximum/Peak flow rate =      137.156 (CFS)
                        Total volume =     156.894 (Ac.Ft)
                Status of hydrographs being held in storage
                           Stream 1  Stream 2  Stream 3  Stream 4  Stream 5
                Peak (CFS)      0.000     0.000     0.000     0.000     0.000
                Vol (Ac.Ft)      0.000     0.000     0.000     0.000     0.000
        ***********************************************************************

        ----------------------------------------------------------------------
```