Salmon Falls River

New Hampshire

MILTON THREE PONDS DAM DAM - BREAK FLOOD ANALYSIS

March 1986

US Army Corps
of Engineers
New England Division

MILTON THREE PONDS DAM

DAM-BREAK FLOOD

ANALYSIS

SUBMITTED TO:

DEPARTMENT OF THE ARMY

NEW ENGLAND DIVISION

WALTHAM, MASSACHUSETTS

SUBMITTED BY:

VOLLMER ASSOCIATES

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CONTRACT NUMBER:

DACW 33-85-D-0006

OCTOBER 1985

MILTON THREE PONDS DAM
DAM-BREAK FLOOD ANALYSIS

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MILTON THREE PONDS DAM
DAM-BREAK FLOOD ANALYSIS

1. INTRODUCTION AND PURPOSE

This report presents the findings of a dam-break flood analysis performed for Milton Three Ponds Dam. The dam is owned, operated and maintained by the New Hampshire Water Resources Board. Included in the report are a description of pertinent features of the dam, the procedure used for the analysis, the assumed dam-break conditions, and the resulting effect on downstream flooded areas. This study was not performed because of any known likelihood of a dam-break at Milton Three Ponds Dam. Its purpose is to provide quantitative information for emergency planning use.

2. DAM DESCRIPTION

Identification No.:	NH00320
Name of Dam:	Milton Three Ponds Dam
Town:	Milton
County and State:	Strafford, NH
Stream:	Salmon Falls River

Milton Three Ponds Dam is located in the south eastern part of the State of New Hampshire, approximately eight miles north of the City of Rochester. It is a gravity dam with a reinforced concrete superstructure over a dry stone masonry base. The dam is 19 feet high, 16 1/2feet wide, and 156 feet long. The concrete superstructure consists of seven sections of stoplogs, a low-level gated outlet structure, and a reinforced concrete foot bridge. The seven sections of stoplogs are divided as follows: Five sections of four bays each are located to the left (east) of the gate structure, a section of three bays of stoplogs occupies a space vertically above the two-compartmented gated low-level outlet, and a section of two bays right (west) of the gate structure. A wooden gatehouse has been constructed above the three-bay spillway and contains the gate hoisting mechanisms. The wooden gates, 27" H x 44" W, each fitted with two timber stems with rack and pinion mechanisms are electrically operated by a single motor with a transfer belt drive.

3. PERTINENT DATA

Data is taken from "Phase I Inspection Report" for Milton Three Ponds Dam dated August 1978.

a. Drainage Area

Milton Three Ponds is located at the confluence of the Branch and Salmon Falls Rivers, and consists of Milton, Town House and Northeast Ponds (Plate 1). The drainage area consists of 108 square miles (69,120 acres) of primarily wooded terrain with some urbanized area.

b. Elevation (N.G.V.D.)

(1) Top of dam - crest varies from 416.2 to 417.6
(2) Top of stoplogs - 413.8
(3) Spillway crest (top of concrete) - 408.3

c. Reservoir

(1) Length of normal pool - 4.9 miles

d. Storage (Acre-Feet)

(1) Top of dam - 15,000 acre-feet
(2) Top of stoplogs - 12,500 acre-feet

e. Reservoir Surface (Acres)

(1) Top of dam - 1,015 acres
(2) Top of stoplogs - 900 acres
(3) Spillway crest - 375 acres

f. Dam

(1) Type - The structure is basically a gravity dam built on a stone foundation with steel stanchions and a concrete superstructure.

(2) Length - 156' (measured)

(3) Height - 19'

(4) Top Width - 16.5'

(5) Side slopes - Vertical downstream; approximately 1H:1 3/4V upstream

(6) Zoning - unknown

(7) Imprevious core - unknown

(8) Cutoff - An upstream cutoff wall is reported to have been placed in 1915

(9) Grout curtain - unknown.

g. Diversion and Regulating Tunnel: The regulating tunnels consist of two reinforced concrete boxes approximately 5' x 5" separated by a 30" pier. The tunnels are fitted with gates 27" H x 44" W.

h. Spillway

(1) Type - Concrete spillway with 25 bays of stoplogs.

(2) Length of weir - 126.25' (20 bays @ 5 foot lengths: 2 bays @ 6 foot lengths and 3 bays at approximately 5 foot lengths).

(3) Crest Elevation - 408.3' N.G.V.D. (22 bays on either side of gatehouse); 409.6' N.G.V.D. (3 bays above low-level outlet).

(4) Gates - Not applicable.

(5) U/S Channel - Milton Three Ponds

(6) D/S Channel - Bottom is covered with sand, gravel, and boulders.

(7) General - The 20 bays of stoplog spillway to the west of the gatehouse are comprised of 5 sections separated by 18" wide concrete piers. Each of the above sections is divided into 4 bays separated by 10" wide steel stanchions, and are at invert elevation 408.3' N.G.V.D. The 2 bays of stoplog spillway to the east of the gatehouse are also separated by a 10" wide steel stanchion, and at invert elevation 408.3' N.G.V.D. The 3 bays of stoplog spillway below the gatehouse are separated by 30" wide concrete piers. These latter bays are at invert elevation 409.6' N.G.V.D.

A four foot wide reinforced concrete walkway has been built over the stoplog spillways on both sides of the gatehouse. This access bridge is 1.5 feet thick. The top of the walkway is at elevation 417.6' N.G.V.D.

4. VALLEY DESCRIPTION

The river valley below Milton Three Ponds is steep to Spaulding Pond averaging approximately 100 feet per mile. A dam is located at the outlet of Spaulding Pond, about 3.3 miles downstream from Milton Three Ponds Dam. It is a stone masonry gravity structure between earth abutments. The stone portion is 157 feet

long while the overall length is 300 feet. Spaulding Pond is approximately 103 acres at normal pool elevation and 180 acres at the top of the dam. The dam is approximately 30 feet high. Below Spaulding Pond, the channel slope becomes very flat averaging only 7.5 feet per mile to the community of East Rochester. The Salmon Falls River meanders through this flat reach along a floodplain averaging only 100 feet wide. The total study reach is show on Plate 1.

5. MODEL DESCRIPTION

The Milton Three Ponds dam-break analysis was made using the NWS version, dated July 1984, of the "National Weather Service Dam-Break Flood Forecasting Computer Model", developed by D.L. Fread, Research Hydrologist, Office of Hydrology, National Weather Service, NOAA, Silver Springs, Maryland 20910. Input for the model consisted of: (a) storage characteristics of the reservoir, (b) selected geometry and duration of the breach development, (c) hydraulic roughness coefficients, and (d) active and inactive flow regions. Based on the input data, the model computes the dam-break outflow hydrograph and routes it downstream. The analysis provides output on the attentuation of the flood stages, and timing of the flood wave as it progresses downstream.

6. ASSUMED DAM BREAK CONDITIONS

General: The magnitude of a flood resulting from the hypothetical failure of Milton Three Ponds is a function of many different parameters including size of breach, initial pool level and storage, rate of breach formation, channel and overbank roughness and antecedent flow conditions. Engineering assumptions of conditions which could be reasonably expected to exist prior to a failure of Milton Three Ponds Dam which were used in the analysis are presented below:

(1) Initial Pool Level: 416.8 feet N.G.V.D., 3.0 feet above top of stoplogs.

(2) Reservoir Inflow: Estimated flood of record = 4,000 cfs.

(3) Breach Invert: 398.6 feet N.G.V.D.

(4) Breach Base Width: 100 feet, vertical side slopes 1V:OH.

(5) Time to Complete Formation of Breach 0.5 Hour.

(6) Downstream Channel Roughness: Manning's "n" = .035 to .140.

(7) Pre-Breach River Flows: The pre-breach river flow was assumed equal to the flood of record which was estimated by using a cfs/sq. mi. value based on the 1936 flood flow on the Salmon Falls River at S. Lebanon, ME, drainage area 147 square miles. Inflow to Milton Three Ponds was 4,000 cfs.

7. RESULTS

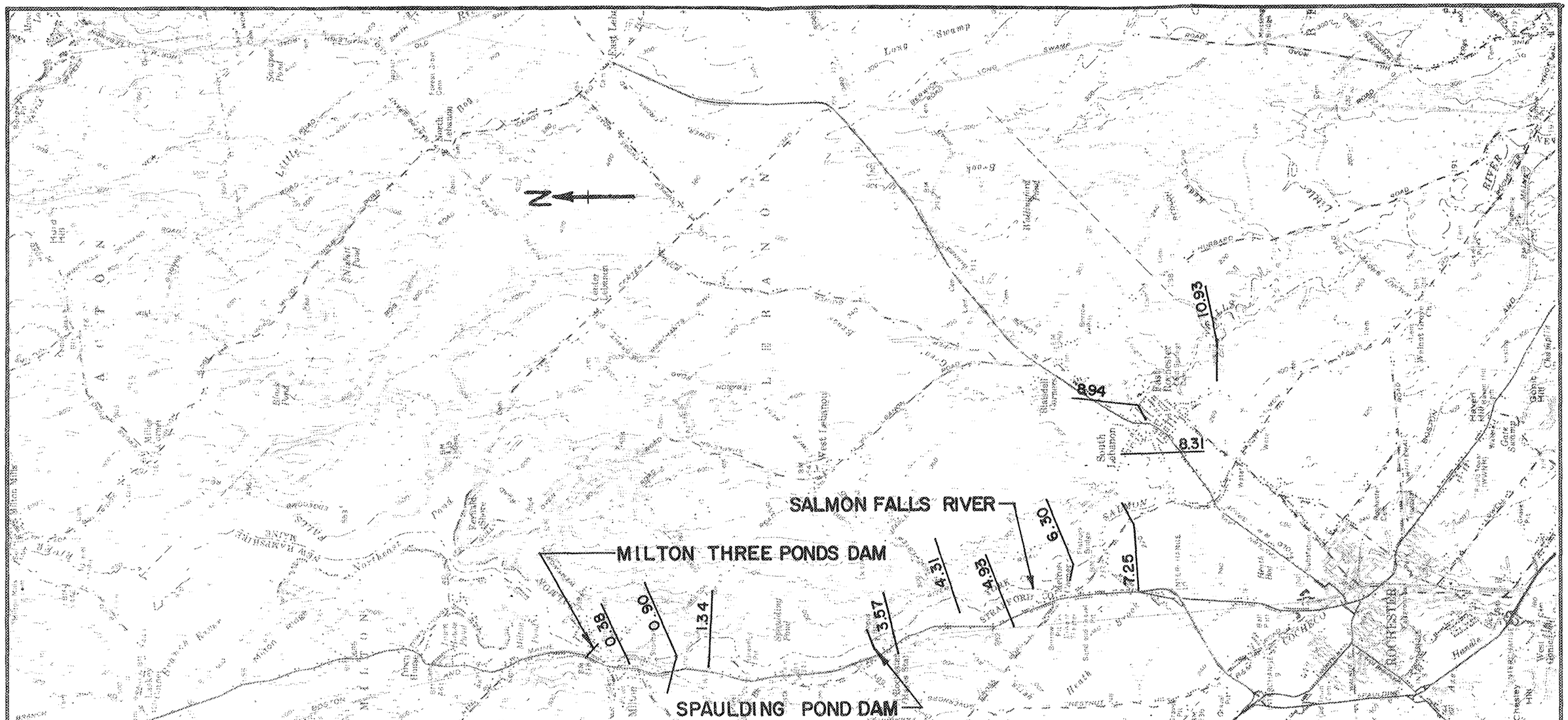
The resulting peak stage flood profiles are shown on plates 2, 3, and 4. Because of the scarcity of good topographic mapping in the area, profiles are shown in feet above normal summertime (July-August) low water (NLW). Users of the information can establish depth of flooding at particular properties by establishing its relative elevation with respect to the adjacent stream level. Variations in depth above NLW progressing downstream, is attributable to changes in natural stream hydraulic capacity as well as changes in peak discharge.

For the dam-break analysis, the stream channel below Milton Three Ponds was modeled in two reaches. The first reach is from the dam at Milton Three Ponds to just upstream of Spaulding Pond. The second reach is from the dam at Spaulding Pond downstream to the end of the study beyond the community of East Rochester at mile 10.93. The outflow hydrograph of the first reach was used as the inflow hydrograph to the second reach. The dam at Spaulding Pond was modeled in the analysis. The outflow hydrograph from reach one was routed through Spaulding Pond without failing the dam to attain maximum pool. The dam at Spaulding Pond was subsequently failed at maximum pool. The analysis indicates that Spaulding Pond has little impact on moderating a dam failure of Milton Three Ponds. The failure of the dam at Spaulding Pond also does not significantly increase the severity of the flooding caused by the failure of Milton Three Ponds Dam.

The peak dam break discharge from Milton Three Ponds Dam is 13,800 cfs producing a rise of approximately 13.5 feet above the NLW river depth at a point .02 miles downstream from the dam. At a distance of 8.94 miles below Milton Three Ponds, in the community of East Rochester, peak discharge is 9,950 cfs with an associated rise over NLW stage of about 15.2 feet.

Peak discharge, stage and timing for three stations downstream from Milton Three Ponds Dam are shown on Plate 5. The stations are located 0.02, 4.31 and 8.94 miles downstream of the dam. Attenuation of the dam-break flood occurs primarily in the area of Spaulding Pond due to the available surcharge storage volume along this reach.

The input data file is in Apendix A, while Appendix B contains the output file.



MAP BASED UPON U.S.G.S.
BERWICK, MAINE - N. H. QUADRAGLE
1958

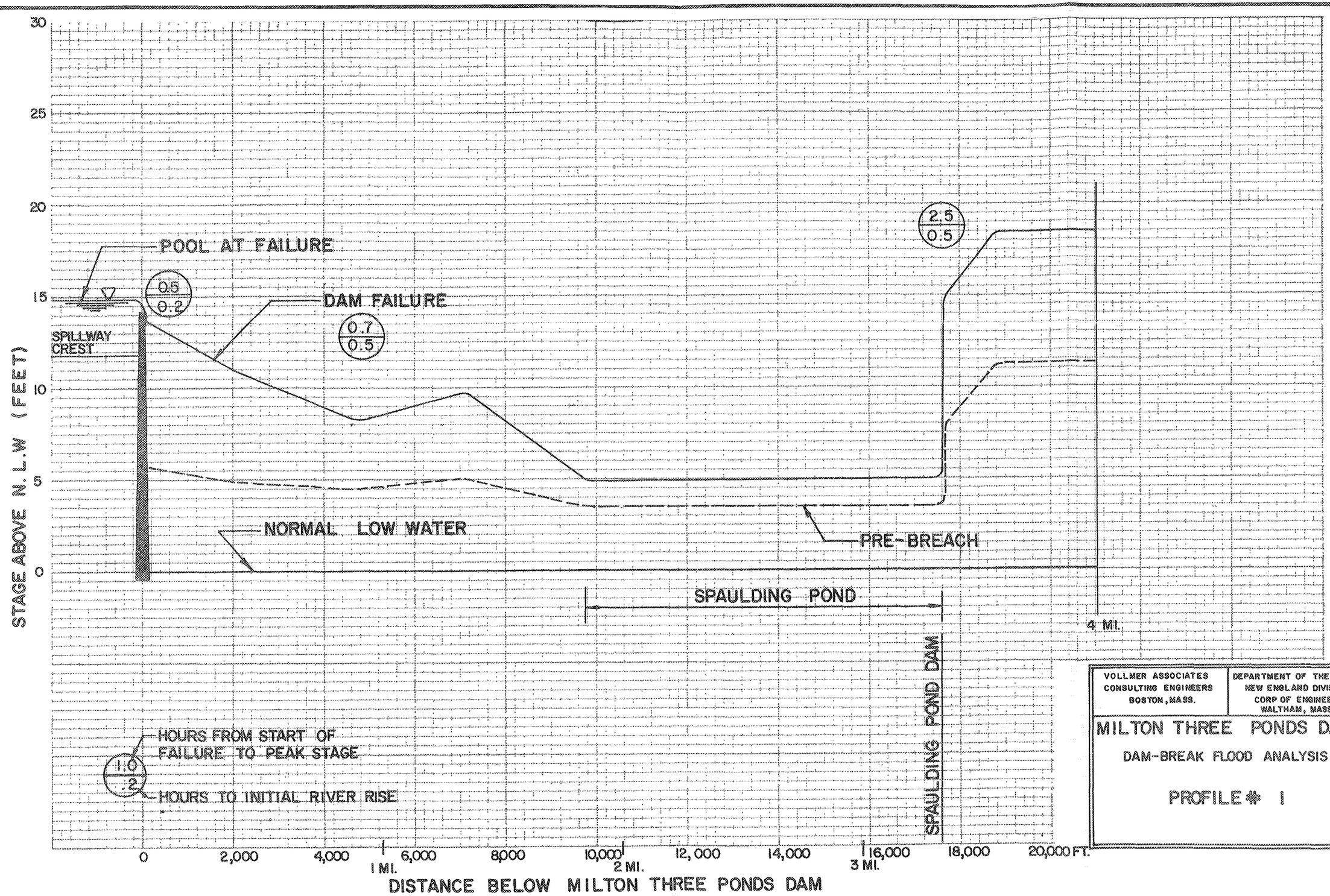
CROSS-SECTION LOCATION IN
MILES BELOW DAM

SCALE IN FEET
2,000 0 2,000

VOLLMER ASSOCIATES CONSULTING ENGINEERS BOSTON, MASS.	DEPARTMENT OF THE ARMY NEW ENGLAND DIVISION CORP OF ENGINEERS WALTHAM, MASS.

MILTON THREE PONDS DAM
DAM-BREAK FLOOD ANALYSIS

INDEX MAP



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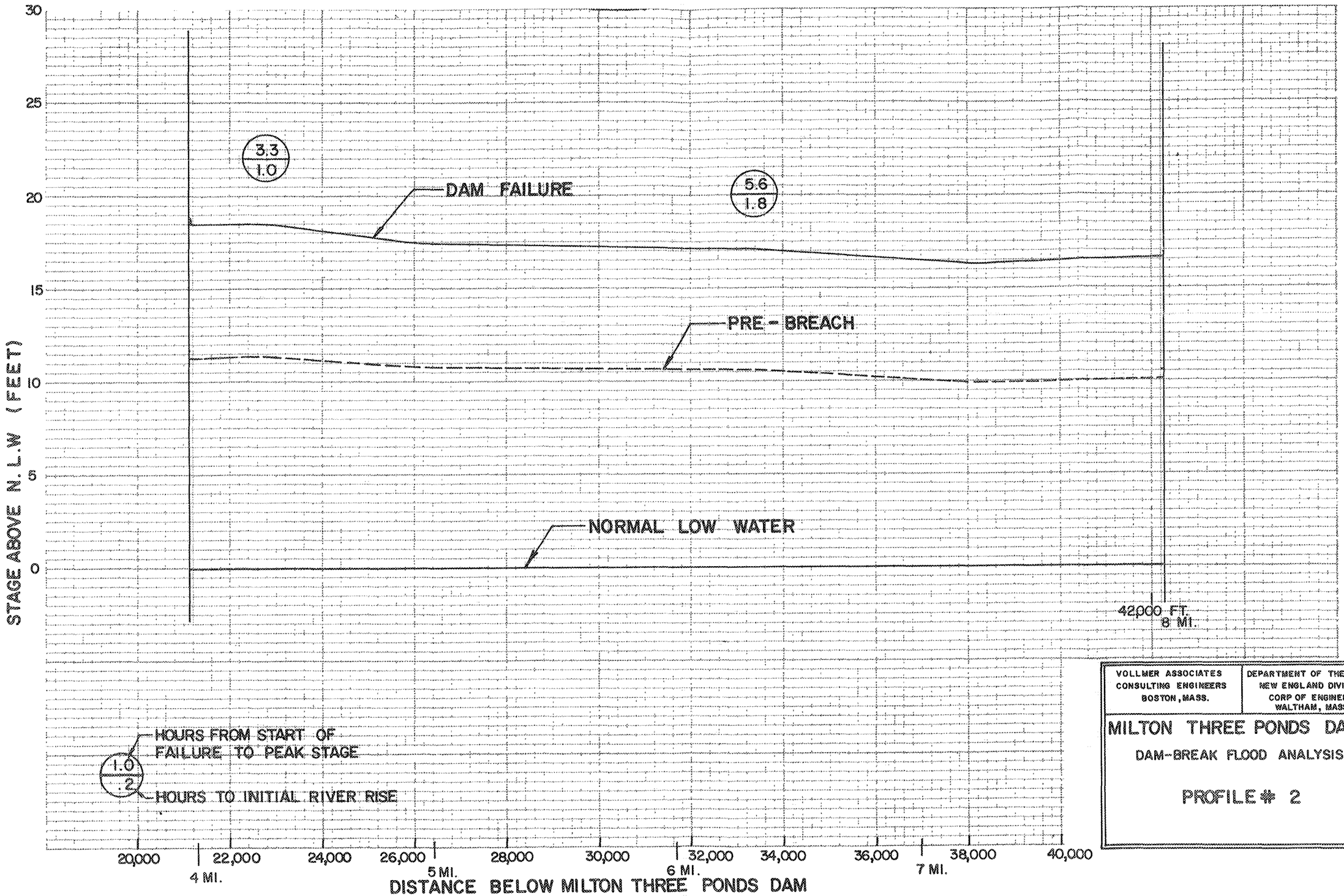
MILTON THREE PONDS DAM

DAM-BREAK FLOOD ANALYSIS

PROFILE # 1



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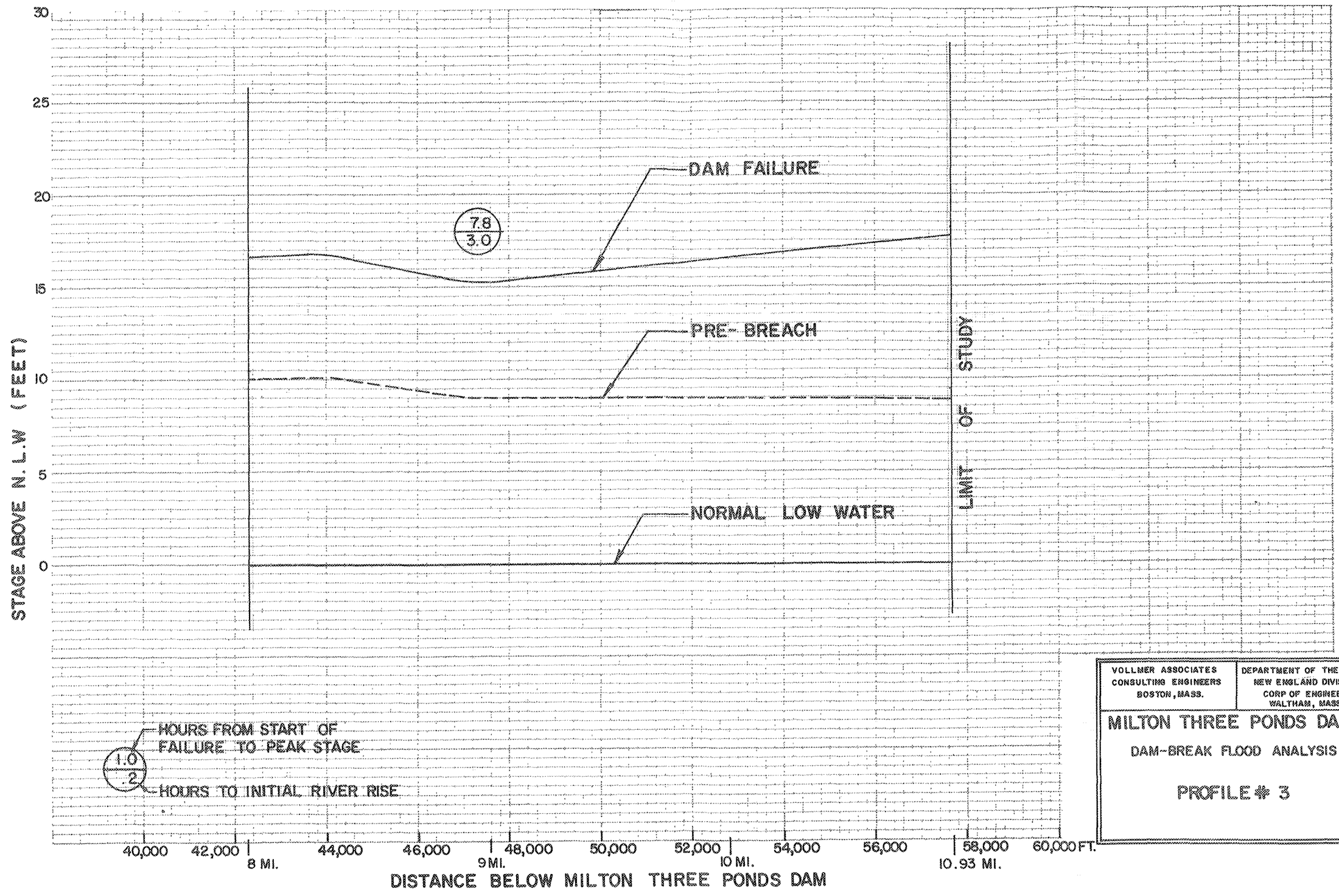
MILTON THREE PONDS DAM

DAM-BREAK FLOOD ANALYSIS

PROFILE # 2



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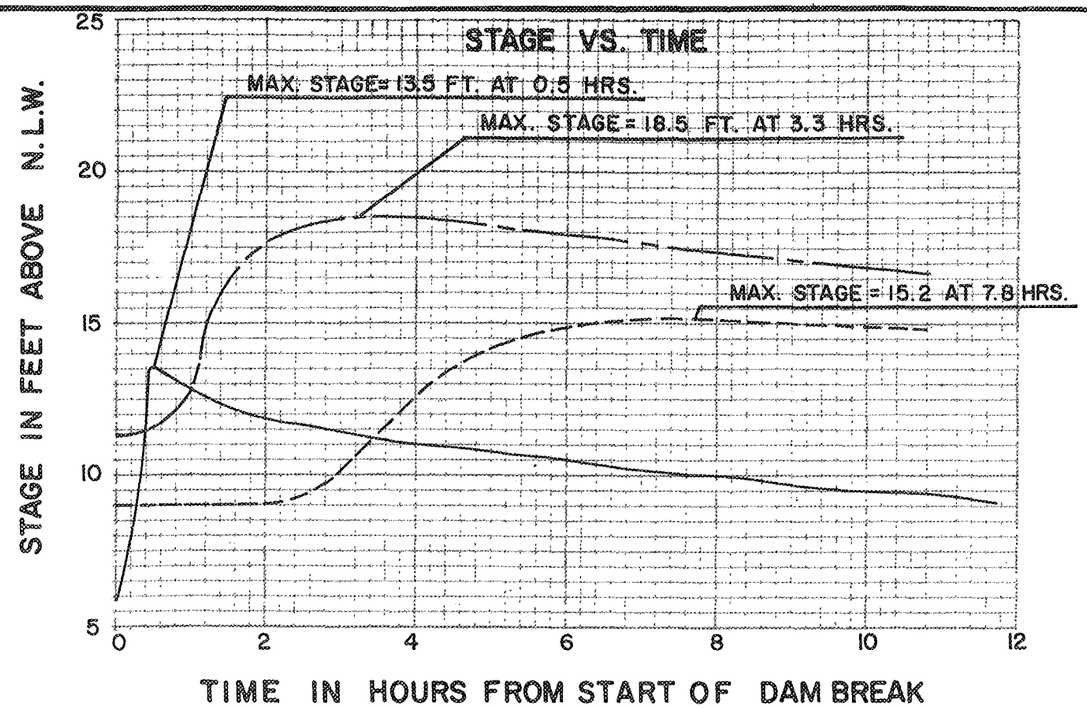
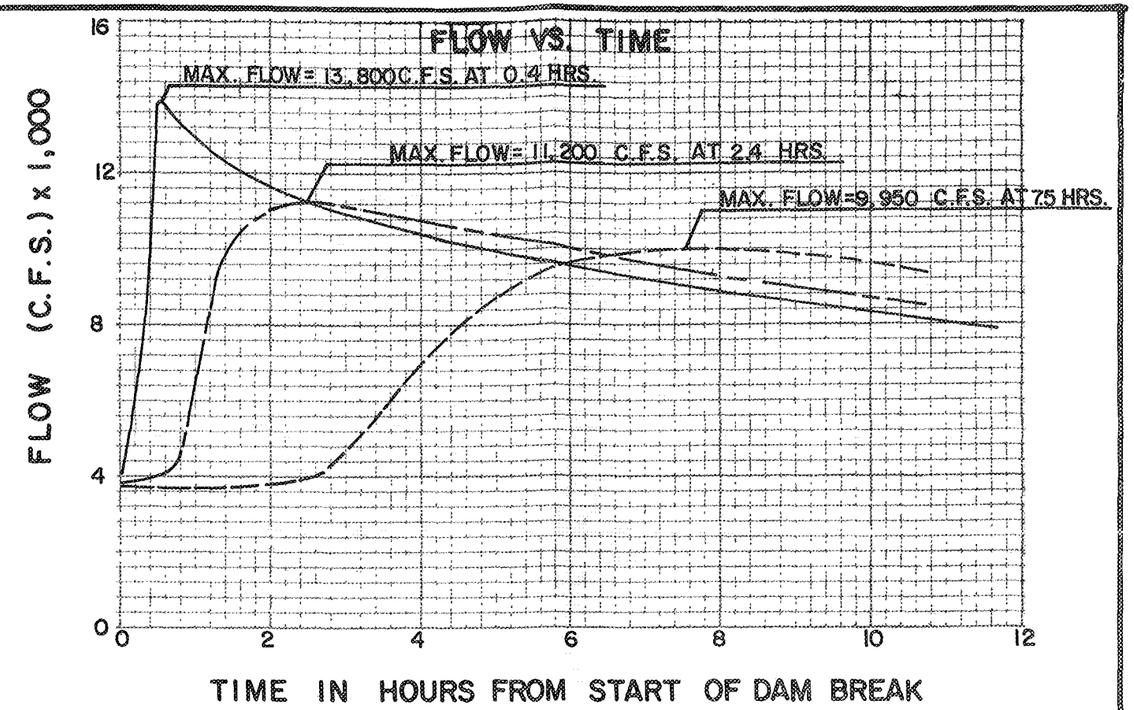
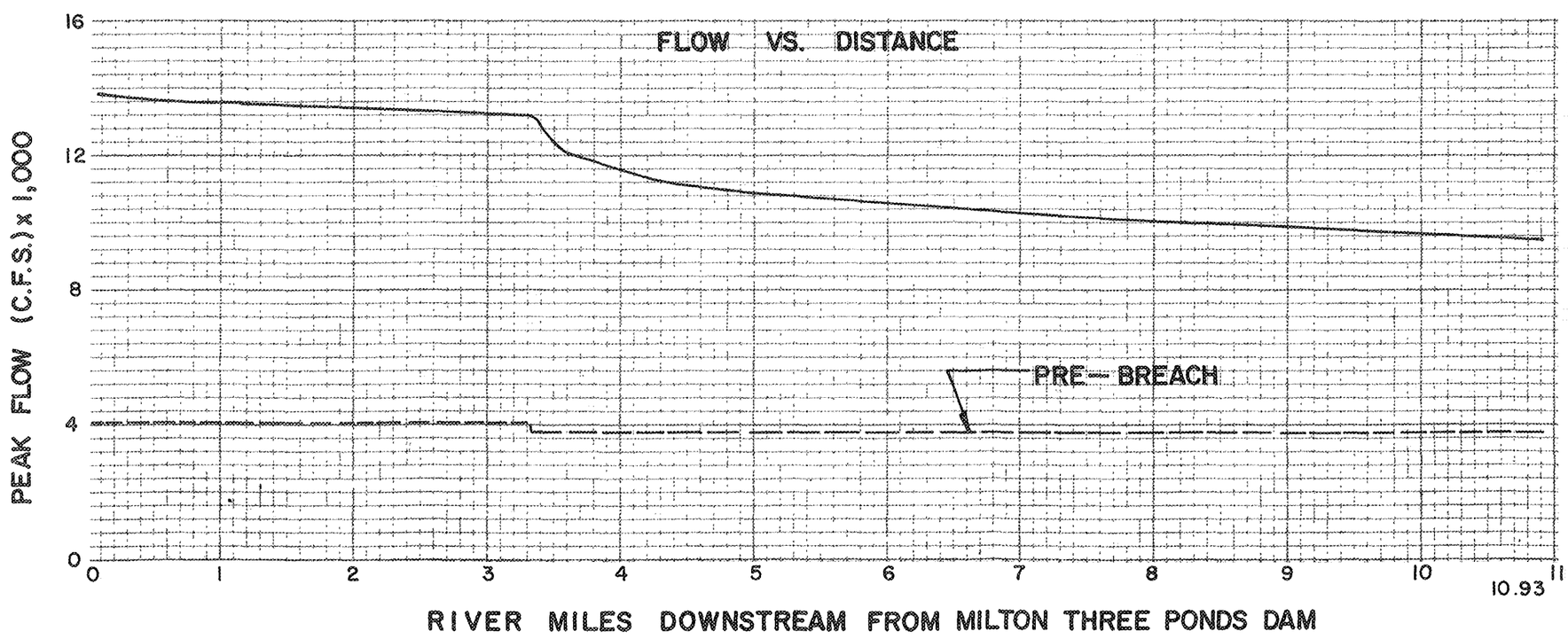
MILTON THREE PONDS DAM

DAM-BREAK FLOOD ANALYSIS

PROFILE # 3







N.L.W. DATUM (FEET N.G.V.D.)

STA. 1	R.M. 0.02	= 402.00	————
STA. 2	R.M. 4.31	= 216.60	——— —
STA. 3	R.M. 8.94	= 196.40	— — — —

VOLLMER ASSOCIATES CONSULTING ENGINEERS BOSTON, MASS.	DEPARTMENT OF THE ARMY NEW ENGLAND DIVISION CORP OF ENGINEERS WALTHAM, MASS.

MILTON THREE PONDS DAM

DAM-BREAK FLOOD ANALYSIS

BASE FLOOD DISCHARGES
STAGES & TIMING

APPENDIX A
INPUT DATA FILE

```
MILTON 3 PONDS DAM  SALMON FALLS RIVER  VOLLMER ASSOCIATES
BOSTON, MA 02116                        NOV. 13, 1985 #DB1
     1       1       1       0      13       0       0       0
     1
 80000   50000   30000   25000   20000   15000   12500       0
   440     431   423.8   421.7   419.2   416.2   413.8   398.6
     5   416.8       0   398.6     100     0.5   398.6       1
 416.8   416.2   413.8       0       0       0       0     100
     0     240    1000    2550    4000    6000    9500   22250
     0       1       2     2.8     3.0       5       7      11
     1      12
  4000    4000    4000    4000    4000    4000    4000    4000
  4000    4000    4000    4000    4000
     5       4       5       4       0       0       0
     1       2       3       4       5
  0.01
 398.6   416.1   417.6     420
   150     150     165     620

  0.02
 398.2     402     415     422
     0     100     205     616

  0.38
 389.5     392   408.8     412
     0      80     215     290

  0.90
 338.5     340     360     380
     0      80     704    1584

  1.34
 259.5     260     280     300
     0      80     396     880

 0.035   0.055   0.075   0.100
 0.035   0.055   0.075   0.100
 0.065   0.100   0.120   0.140
 0.065   0.100   0.120   0.140
  0.20    0.20    0.20    0.20
     0       0       0       0
     0       0    0.00    0.00      67       0       0       0
```

```
SPAULDING POND DAM  SALMON FALLS RIVER  VOLLMER ASSOCIATES
BOSTON, MA 02116                        NOV. 13,1985 #DB1
      1       1       1       0      16       0       0       0
      1
    243     122       0
    260     247   222.9
   1.34   246.8       0   222.9     157     0.5   222.9       0
 248.21   252.9   243.3       0       0       0       0       0
      0    1000    2000    3000    5000    6000    9200   14000
      0    1.68     2.8    3.38     3.7     4.2     4.7    4.95
    0.0      11
   4103    4128   10261   13507   13223   12303   11739   11304
  10962   10417    9983    9280    8960    8659    8376    8109
      0    0.25     0.5   0.725     1.0     1.5     2.0     2.5
    3.0     4.0     5.0     7.0     8.0     9.0    10.0    11.0
     10       4       6       4       0       0       0
      1       2       3       4       6       9
3.345 0.005
  222.9   224.4     240     260
      0     150    1200    1900

3.35  0.01
  222.9   224.4     240     260
      0     150    1200    1900

3.57  0.23
  218.5     220     240     260
      0      60     792    1760

4.31  0.97
  215.1   216.6     240     260
      0      60     616    2068

4.93  1.59
  212.3   213.8     220     240
      0      60     317     484

6.30  2.96
  206.0   207.5     220     240
      0      60     528     968

7.25  3.91
  201.7   203.2     220     240
      0      80     634    3872

8.31  4.97
  196.9   198.4     220     240
      0     100     950    2640

8.94  5.60
    194   196.4   202.6     213
      0     140     160     440
```

```
10.93 7.59
      178.5     180     200     220
          0     140    1426    3960

      0.050   0.090   0.120   0.140
      0.050   0.090   0.120   0.140
      0.050   0.090   0.120   0.140
      0.045   0.080   0.120   0.140
      0.045   0.080   0.120   0.140
      0.045   0.080   0.120   0.140
      0.045   0.080   0.120   0.140
      0.045   0.080   0.120   0.140
      0.050   0.090   0.120   0.140
       0.20    0.20    0.20    0.20    0.20    0.20    0.20    0.20
       0.20
          0       0       0       0       0       0       0
          0
          0       0    0.00    0.25       8       0       0       0
      179.6   181.3   181.6   182.6   183.6   185.6   191.6
          0     100     185     650    1050    1585    5500
```

APPENDIX B
OUTPUT DATA FILE

PROGRAM DAMBRK---VERSION-07/18/84

ANALYSIS OF THE DOWNSTREAM FLOOD HYDROGRAPH

PRODUCED BY THE DAM BREAK OF

MILTON J PONDS DAM

ON

SALMON FALLS RIVER

ANALYSIS BY

VOLLMER ASSOCIATES
BOSTON, MA 02116
SEPT. 18,1985 #DB1

BASED ON PROCEDURE DEVELOPED BY

DANNY L. FREAD, PH.D., RESEARCH HYDROLOGIST
HYDROLOGIC RESEARCH LABORATORY
W23, OFFICE OF HYDROLOGY
NOAA, NATIONAL WEATHER SERVICE
SILVER SPRING, MARYLAND 20910

1

```
*******************************
*******************************
***                         ***
***  SUMMARY OF INPUT DATA  ***
***                         ***
*******************************
*******************************
```

INPUT CONTROL PARAMETERS FOR MILTON J PONDS DAM

PARAMETER	VARIABLE	VALUE
NUMBER OF DYNAMIC ROUTING REACHES	KKN	1
TYPE OF RESERVOIR ROUTING	KUI	1
MULTIPLE DAM INDICATOR	MULDAM	1
PRINTING INSTRUCTIONS FOR INPUT SUMMARY	KDMP	0
NO. OF RESERVOIR INFLOW HYDROGRAPH POINTS	ITEH	13
INTERVAL OF CROSS-SECTION INFO PRINTED OUT WHEN JNK=9	NPRT	0
FLOOD-PLAIN MODEL PARAMETER	KFLP	0
LANDSLIDE PARAMETER	KSL	0

IDAM= 1

MILTON 3 PONDS DAM RESERVOIR

TABLE OF ELEVATION VS SURFACE AREA

SURFACE AREA (ACRES) SA(K)	ELEVATION (FT) HSA(K)
4766.8	440.00
1899.8	431.00
3655.7	423.80
1106.2	421.70
2893.8	419.20
439.6	416.20
1643.7	413.80
1.0	398.60

DAM NUMBER 1

MILTON 3 PONDS DAM RESERVOIR AND BREACH PARAMETERS

PARAMETER	UNITS	VARIABLE	VALUE
ELEVATION OF WATER SURFACE	FT	YO	416.80
SIDE SLOPE OF BREACH		Z	.00
ELEVATION OF BOTTOM OF BREACH	FT	YBMIN	398.60
WIDTH OF BASE OF BREACH	FT	BB	100.00
TIME TO MAXIMUM BREACH SIZE	HR	TFM	.50
ELEVATION OF WATER WHEN BREACHED	FT	HF	416.80
ELEVATION OF TOP OF DAM	FT	HO	416.20
ELEVATION OF UNCONTROLLED SPILLWAY CREST	FT	HSP	413.80
ELEVATION OF CENTER OF GATE OPENINGS	FT	HGT	.00
DISCHARGE COEF. FOR UNCONTROLLED SPILLWAY		CS	.00
DISCHARGE COEF. FOR GATE FLOW		CG	.00
DISCHARGE COEF. FOR UNCONTROLLED WEIR FLOW		CDO	.00

DISCHARGE THRU TURBINES CFS QT 100.00

QSPILL(K, 1)	HEAD(K, 1)
0.	.0
240.	1.0
1000.	2.0
2550.	2.8
4000.	3.0
6000.	5.0
9500.	7.0
22250.	11.0

DHF(INTERVAL BETWEEN INPUT HYDROGRAPH ORDINATES) = 1.00 HRS.

TEH(TIME AT WHICH COMPUTATIONS TERMINATE) = 12.0000 HRS.

INFLOW HYDROGRAPH TO MILTON 3 PONDS DAM
****

4000.00	4000.00	4000.00	4000.00	4000.00	4000.00	4000.00	4000.00
4000.00	4000.00	4000.00	4000.00	4000.00			

TIME OF INFLOW HYDROGRAPH ORDINATES

.0000	1.0000	2.0000	3.0000	4.0000	5.0000	6.0000	7.0000
8.0000	9.0000	10.0000	11.0000	12.0000			

CROSS-SECTIONAL PARAMETERS FOR SALMON FALLS RIVER
BELOW MILTON 3 PONDS DAM

PARAMETER	VARIABLE	VALUE
**********	******	*******
NUMBER OF CROSS-SECTIONS	NS	5

MAXIMUM NUMBER OF TOP WIDTHS	NCS	4
NUMBER OF CROSS-SECTIONAL HYDROGRAPHS TO PLOT	NTT	5
TYPE OF OUTPUT OTHER THAN HYDROGRAPH PLOTS	JNK	4
CROSS-SECTIONAL SMOOTHING PARAMETER	KSA	0
DOWNSTREAM SUPERCRITICAL OR NOT	KSUPC	0
NO. OF LATERAL INFLOW HYDROGRAPHS	LQ	0
NO. OF POINTS IN GATE CONTROL CURVE	KCG	0

NUMBER OF CROSS-SECTION WHERE HYDROGRAPH DESIRED
(MAX NUMBER OF HYDROGRAPHS = 6)
****

1 2 3 4 5

CROSS-SECTIONAL VARIABLES FOR SALMON FALLS RIVER
BELOW MILTON 3 PONDS DAM

PARAMETER	UNITS	VARIABLE
LOCATION OF CROSS-SECTION	MI	XS(I)
ELEVATION (MSL) OF FLOODING AT CROSS-SECTION	FT	FSTG(I)
ELEV CORRESPONDING TO EACH TOP WIDTH	FT	HS(K,I)
TOP WIDTH CORRESPONDING TO EACH ELEV (ACTIVE FLOW PORTION)	FT	BS(K,I)
TOP WIDTH CORRESPONDING TO EACH ELEV (OFF-CHANNEL PORTION)	FT	BSS(K,I)
SURFACE AREA CORRESPONDING TO EACH ELEV (ACTIVE FLOW PORTION)	ACRES	DSA(K,I)
SURFACE AREA CORRESPONDING TO EACH ELEV (OFF-CHANNEL PORTION)	ACRES	SSA(K,I)
NUMBER OF CROSS-SECTION		I
NUMBER OF ELEVATION LEVEL		K

CROSS-SECTION NUMBER 1
****

XS(I) = .010 FSTG(I) = .00 XSL(I) = .0 XSR(I) = .0

HS ...	398.6	416.1	417.6	420.0
BS ...	150.0	150.0	165.0	620.0
BSS ...	.0	.0	.0	.0

CROSS-SECTION NUMBER 2
****

XS(I) = .020 FSTG(I) = .00 XSL(I) = .0 XSR(I) = .0

HS ...	398.2	402.0	415.0	422.0
BS ...	.0	100.0	205.0	616.0
BSS ...	.0	.0	.0	.0

CROSS-SECTION NUMBER 3
****

XS(I) = .380 FSTG(I) = .00 XSL(I) = .0 XSR(I) = .0

HS ...	389.5	392.0	408.8	412.0
BS ...	.0	80.0	215.0	290.0
BSS ...	.0	.0	.0	.0

CROSS-SECTION NUMBER 4
****

XS(I) = .900 FSTG(I) = .00 XSL(I) = .0 XSR(I) = .0

HS ...	338.5	340.0	360.0	380.0
BS ...	.0	80.0	704.0	1584.0
BSS ...	.0	.0	.0	.0

CROSS-SECTION NUMBER 5
****

X5(I) = 1.340 FSTG(I) = .00 XSL(I) = .0 XSR(I) = .0

H5 ...	259.5	260.0	280.0	300.0
B5 ...	.0	80.0	396.0	880.0
BSS ...	.0	.0	.0	.0

1

MANNING N ROUGHNESS COEFFICIENTS FOR THE GIVEN REACHES
(CM(K,I),K=1,NCS) WHERE I = REACH NUMBER
****

REACH 1 ...	.035	.055	.075	.100
REACH 2 ...	.035	.055	.075	.100
REACH 3 ...	.065	.100	.120	.140
REACH 4 ...	.065	.100	.120	.140

1

CROSS-SECTIONAL VARIABLES FOR SALMON FALLS RIVER
BELOW MILTON 3 PONDS DAM

PARAMETER	UNITS	VARIABLE
MINIMUM COMPUTATIONAL DISTANCE USED BETWEEN CROSS-SECTIONS	MI	DXM(I)
CONTRACTION - EXPANSION COEFFICIENTS BETWEEN CROSS-SECTIONS		FKC(I)

REACH NUMBER	DXM(I)	FKC(I)

1	.200	.000
2	.200	.000
3	.200	.000
4	.200	.000

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DOWNSTREAM FLOW PARAMETERS FOR SALMON FALLS RIVER
BELOW MILTON 3 PONDS DAM

PARAMETER	UNITS	VARIABLE	VALUE
MAX DISCHARGE AT DOWNSTREAM EXTREMITY	CFS	QMAXD	.0
MAX LATERAL OUTFLOW PRODUCING LOSSES	CFS/FT	QLL	.000
INITIAL SIZE OF TIME STEP	HR	DTHM	.0000
INITIAL WATER SURFACE ELEVATION DOWNSTREAM	FT	YDN	.00
SLOPE OF CHANNEL DOWNSTREAM OF DAM	FT/MI	SOM	67.00
THETA WEIGHTING FACTOR		THETA	.00
CONVERGENCE CRITERION FOR STAGE	FT	EPSY	.000
TIME AT WHICH DAM STARTS TO FAIL	HR	TFI	12.00

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***  SUMMARY OF OUTPUT DATA ***
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CROSS-SECTION NO.	MILE	BOTTOM ELEVATION FEET	REACH NO.	REACH LENGTH MILES	SLOPE FT/MI	MESAGE

1	.01	398.60				
2	.02	398.20	1	.01	40.00	
3	.38	389.50	2	.36	24.17	
4	.90	338.50	3	.52	98.08	SLOPE GREATER THAN 50 FT/MI MAY CAUSE SUPERCRITICAL FLOW
5	1.34	259.50	4	.44	179.55	SLOPE GREATER THAN 50 FT/MI MAY CAUSE SUPERCRITICAL FLOW

TOTAL NUMBER OF CROSS SECTIONS (ORIGINAL+INTERPOLATED) (N) = 7 (MAXIMUM ALLOWABLE = 200

RE-NUMBERED VALUES FOR IDAM

IDAM(1) = 1

INITIAL CONDITIONS

L= 7	X(L)=	1.340	YD(L)=	265.08	K= 2	QDI(L)=	4100.0
L= 6	X(L)=	1.120	YD(L)=	304.70	K= 3	QDI(L)=	4100.0
L= 5	X(L)=	.900	YD(L)=	344.37	K= 3	QDI(L)=	4100.0
L= 4	X(L)=	.640	YD(L)=	372.07	K= 4	QDI(L)=	4100.0
L= 3	X(L)=	.380	YD(L)=	396.89	K= 3	QDI(L)=	4100.0
L= 2	X(L)=	.020	YD(L)=	407.68	K= 4	QDI(L)=	4100.0
L= 1	X(L)=	.010	YD(L)=	416.80	K= 0	QDI(L)=	4100.0

LS= ITERATION COUNTER FOR SUBMERGENCE EFFECT AT TIME=0. IM= THE LOCATION OF THE DOWNSTREAM FACE OF THE DAM.

LS= 0 IM= 2 YD(IM)= 407.68 QDI(IM)= 4100.00

INITIAL CONDITIONS

I	X(I)	YO(I)	YNORM(I)
1	.01	416.80	407.68
2	.02	407.68	407.68

3	.38	396.89	396.89
4	.64	372.07	372.07
5	.90	344.37	344.37
6	1.12	304.70	304.70
7	1.34	265.08	265.08

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TIME PARAMETERS OF OUTFLOW HYDROGRAPH IMMEDIATELY DOWNSTREAM OF DAM

PARAMETER	UNITS	VARIABLE	VALUE
TIME TO FAILURE	HR	TFH	.500
TIME TO START OF RISING LIMB OF HYDROGRAPH	HR	TFO	12.000
TIME TO PEAK	HR	TP	.000
TIME STEP SIZE	HR	DTHI	.025

PROFILE OF CRESTS AND TIMES FOR SALMON FALLS RIVER
BELOW MILTON 3 PONDS DAM

RVR MILE FROM DAM	MAX ELEV (FT)	MAX FLOW (CFS)	TIME MAX ELEV(HR)	MAX VEL (FT/SEC)	FLOOD ELEV (FT)	TIME FLOOD ELEV(HR)
.010	416.80	13795	.000	5.09	.00	.00
.020	415.46	13795	.500	6.69	.00	.00
.380	402.98	13578	.450	9.33	.00	.00
.640	377.33	13531	.600	5.89	.00	.00
.900	348.19	13515	.650	7.67	.00	.00
1.120	308.90	13510	.700	8.03	.00	.00
1.340	269.71	13507	.725	8.76	.00	.00

DISCHARGE HYDROGRAPH FOR SALMON FALLS RIVER ... STATION NUMBER 1
BELOW MILTON 3 PONDS DAM AT MILE .01

GAGE ZERO = 398.60 MAX ELEVATION REACHED BY FLOOD WAVE = 416.80
FLOOD STAGE NOT AVAILABLE

MAX STAGE = 18.20 AT TIME = .000 HOURS
MAX FLOW = 13795 AT TIME = .400 HOURS

HR	STAGE	FLOW	0	5000	10000	15000	20000	25000
.00	18.2	4100	I	* I	I	I	I	I
.25	18.2	8319	I	I	* I	I	I	I
.50	18.0	13628	I	I	I	* I	I	I
.75	17.6	13287	I	I	I	* I	I	I
1.00	17.3	12756	I	I	I	* I	I	I
1.25	17.0	12362	I	I	I	* I	I	I
1.50	16.8	12048	I	I	I	* I	I	I
1.75	16.6	11780	I	I	I	* I	I	I
2.00	16.4	11546	I	I	I	* I	I	I
2.25	16.3	11336	I	I	I	* I	I	I
2.50	16.2	11150	I	I	I	* I	I	I
2.75	16.0	10986	I	I	I	* I	I	I
3.00	15.9	10834	I	I	I	* I	I	I
3.25	15.8	10693	I	I	I	* I	I	I
3.50	15.7	10560	I	I	I	* I	I	I
3.75	15.6	10435	I	I	I	* I	I	I
4.00	15.5	10317	I	I	I	* I	I	I
4.25	15.4	10205	I	I	*	I	I	I
4.50	15.4	10099	I	I	*	I	I	I
4.75	15.3	9997	I	I	*	I	I	I
5.00	15.2	9900	I	I	*	I	I	I
5.25	15.1	9809	I	I	*	I	I	I
5.50	15.1	9719	I	I	*I	I	I	I
5.75	15.0	9631	I	I	*I	I	I	I
6.00	14.9	9544	I	I	*I	I	I	I
6.25	14.8	9458	I	I	*I	I	I	I
6.50	14.8	9374	I	I	*I	I	I	I
6.75	14.7	9290	I	I	*I	I	I	I
7.00	14.6	9208	I	I	* I	I	I	I
7.25	14.6	9128	I	I	* I	I	I	I
7.50	14.5	9048	I	I	* I	I	I	I
7.75	14.4	8970	I	I	* I	I	I	I
8.00	14.4	8893	I	I	* I	I	I	I
8.25	14.3	8816	I	I	* I	I	I	I
8.50	14.2	8742	I	I	* I	I	I	I
8.75	14.2	8668	I	I	* I	I	I	I
9.00	14.1	8595	I	I	* I	I	I	I
9.25	14.1	8523	I	I	* I	I	I	I
9.50	14.0	8453	I	I	* I	I	I	I
9.75	13.9	8383	I	I	* I	I	I	I
10.00	13.9	8315	I	I	* I	I	I	I
10.25	13.8	8248	I	I	* I	I	I	I
10.50	13.8	8181	I	I	* I	I	I	I
10.75	13.7	8116	I	I	* I	I	I	I
11.00	13.6	8051	I	I	* I	I	I	I
11.25	13.6	7988	I	I	* I	I	I	I
11.50	13.5	7925	I	I	* I	I	I	I
11.75	13.5	7864	I	I	* I	I	I	I

DISCHARGE HYDROGRAPH FOR SALMON FALLS RIVER ... STATION NUMBER 2
BELOW MILTON 3 PONDS DAM AT MILE .02

GAGE ZERO = 398.20 MAX ELEVATION REACHED BY FLOOD WAVE = 415.46
FLOOD STAGE NOT AVAILABLE
MAX STAGE = 17.26 AT TIME = .500 HOURS
MAX FLOW = 13795 AT TIME = .400 HOURS

HR	STAGE	FLOW	0	5000	10000	15000	20000	25000
.00	9.5	4100	I	* I	I	I	I	I
.25	12.6	8319	I	I	* I	I	I	I
.50	17.3	13628	I	I	I	* I	I	I
.75	16.9	13287	I	I	I	* I	I	I
1.00	16.5	12756	I	I	I	* I	I	I
1.25	16.2	12362	I	I	I	* I	I	I
1.50	16.0	12048	I	I	I	* I	I	I
1.75	15.8	11780	I	I	I	* I	I	I
2.00	15.7	11546	I	I	I	* I	I	I
2.25	15.5	11336	I	I	I	* I	I	I
2.50	15.4	11150	I	I	I	* I	I	I
2.75	15.3	10986	I	I	I	* I	I	I
3.00	15.2	10834	I	I	I	* I	I	I
3.25	15.1	10693	I	I	I	* I	I	I
3.50	15.0	10560	I	I	I	* I	I	I
3.75	14.9	10435	I	I	I	* I	I	I
4.00	14.8	10317	I	I	I	* I	I	I
4.25	14.7	10205	I	I	*	I	I	I
4.50	14.7	10099	I	I	*	I	I	I
4.75	14.6	9997	I	I	*	I	I	I
5.00	14.5	9900	I	I	*	I	I	I
5.25	14.4	9809	I	I	*	I	I	I
5.50	14.4	9719	I	I	*I	I	I	I
5.75	14.3	9631	I	I	*I	I	I	I
6.00	14.3	9544	I	I	*I	I	I	I
6.25	14.2	9458	I	I	*I	I	I	I
6.50	14.1	9374	I	I	*I	I	I	I
6.75	14.1	9290	I	I	*I	I	I	I
7.00	14.0	9208	I	I	* I	I	I	I
7.25	13.9	9128	I	I	* I	I	I	I
7.50	13.9	9048	I	I	* I	I	I	I
7.75	13.8	8970	I	I	* I	I	I	I
8.00	13.8	8893	I	I	* I	I	I	I
8.25	13.7	8816	I	I	* I	I	I	I
8.50	13.7	8742	I	I	* I	I	I	I
8.75	13.6	8668	I	I	* I	I	I	I
9.00	13.5	8595	I	I	* I	I	I	I
9.25	13.5	8523	I	I	* I	I	I	I
9.50	13.4	8453	I	I	* I	I	I	I
9.75	13.4	8383	I	I	* I	I	I	I
10.00	13.3	8315	I	I	* I	I	I	I

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10.25   13.3    8248  I        I    *  I        I        I        I
10.50   13.2    8181  I        I    *  I        I        I        I
10.75   13.2    8116  I        I    *  I        I        I        I
11.00   13.1    8051  I        I    *  I        I        I        I
11.25   13.1    7988  I        I    *  I        I        I        I
11.50   13.0    7925  I        I    *  I        I        I        I
11.75   13.0    7864  I        I    *  I        I        I        I
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DISCHARGE HYDROGRAPH FOR SALMON FALLS RIVER ... STATION NUMBER 3
BELOW MILTON 3 PONDS DAM AT MILE .38

GAGE ZERO = 389.50 MAX ELEVATION REACHED BY FLOOD WAVE = 402.98
FLOOD STAGE NOT AVAILABLE
MAX STAGE = 13.48 AT TIME = .450 HOURS
MAX FLOW = 13578 AT TIME = .525 HOURS

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HR   STAGE    FLOW  0      5000     10000     15000     20000     25000
.00    7.4    4101  I       * I         I         I         I         I
.25    9.3    6312  I         I  *      I         I         I         I
.50   13.4   13468  I         I         I      *  I         I         I
.75   13.3   13412  I         I         I      *  I         I         I
1.00  13.1   12874  I         I         I     *   I         I         I
1.25  12.8   12442  I         I         I    *    I         I         I
1.50  12.7   12115  I         I         I   *     I         I         I
1.75  12.5   11838  I         I         I   *     I         I         I
2.00  12.4   11597  I         I         I  *      I         I         I
2.25  12.3   11383  I         I         I  *      I         I         I
2.50  12.2   11190  I         I         I *       I         I         I
2.75  12.1   11023  I         I         I *       I         I         I
3.00  12.0   10869  I         I         I *       I         I         I
3.25  11.9   10725  I         I         I*        I         I         I
3.50  11.9   10590  I         I         I*        I         I         I
3.75  11.8   10464  I         I         I*        I         I         I
4.00  11.7   10344  I         I         I*        I         I         I
4.25  11.7   10231  I         I         *         I         I         I
4.50  11.6   10123  I         I         *         I         I         I
4.75  11.5   10020  I         I         *         I         I         I
5.00  11.5    9922  I         I         *         I         I         I
5.25  11.4    9830  I         I         *         I         I         I
5.50  11.4    9740  I         I        *I         I         I         I
5.75  11.3    9652  I         I        *I         I         I         I
6.00  11.3    9564  I         I        *I         I         I         I
6.25  11.2    9478  I         I        *I         I         I         I
6.50  11.2    9394  I         I        *I         I         I         I
6.75  11.1    9310  I         I        *I         I         I         I
7.00  11.1    9228  I         I       * I         I         I         I
7.25  11.0    9147  I         I       * I         I         I         I
7.50  11.0    9067  I         I       * I         I         I         I
7.75  10.9    8988  I         I       * I         I         I         I
8.00  10.9    8911  I         I       * I         I         I         I
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 8.25   10.8    8835 I        I      * I        I        I        I
 8.50   10.8    8759 I        I      * I        I        I        I
 8.75   10.7    8685 I        I     *  I        I        I        I
 9.00   10.7    8612 I        I     *  I        I        I        I
 9.25   10.6    8541 I        I     *  I        I        I        I
 9.50   10.6    8470 I        I     *  I        I        I        I
 9.75   10.6    8400 I        I     *  I        I        I        I
10.00   10.5    8331 I        I     *  I        I        I        I
10.25   10.5    8264 I        I     *  I        I        I        I
10.50   10.4    8197 I        I    *   I        I        I        I
10.75   10.4    8132 I        I    *   I        I        I        I
11.00   10.3    8067 I        I    *   I        I        I        I
11.25   10.3    8003 I        I    *   I        I        I        I
11.50   10.3    7941 I        I    *   I        I        I        I
11.75   10.2    7879 I        I    *   I        I        I        I
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DISCHARGE HYDROGRAPH FOR SALMON FALLS RIVER   ... STATION NUMBER   5
            BELOW MILTON 3 PONDS DAM   AT MILE      .90

GAGE ZERO =  338.50     MAX ELEVATION REACHED BY FLOOD WAVE =  348.19
                     FLOOD STAGE NOT AVAILABLE
            MAX STAGE =    9.69     AT TIME =     .650 HOURS
            MAX FLOW =    13516    AT TIME =     .650 HOURS

 HR   STAGE     FLOW  0      5000     10000     15000     20000     25000
 .00    5.9     4101  I      * I        I         I         I         I
 .25    6.1     4514  I       *I        I         I         I         I
 .50    9.4    12607  I        I        I    *    I         I         I
 .75    9.7    13464  I        I        I      *  I         I         I
1.00    9.6    13070  I        I        I     *   I         I         I
1.25    9.4    12571  I        I        I    *    I         I         I
1.50    9.3    12221  I        I        I   *     I         I         I
1.75    9.2    11930  I        I        I   *     I         I         I
2.00    9.1    11678  I        I        I  *      I         I         I
2.25    9.0    11455  I        I        I  *      I         I         I
2.50    9.0    11255  I        I        I  *      I         I         I
2.75    8.9    11080  I        I        I *       I         I         I
3.00    8.9    10922  I        I        I *       I         I         I
3.25    8.8    10775  I        I        I *       I         I         I
3.50    8.8    10637  I        I        I*        I         I         I
3.75    8.7    10508  I        I        I*        I         I         I
4.00    8.7    10386  I        I        I*        I         I         I
4.25    8.6    10271  I        I        I*        I         I         I
4.50    8.6    10161  I        I        *         I         I         I
4.75    8.6    10057  I        I        *         I         I         I
5.00    8.5     9957  I        I        *         I         I         I
5.25    8.5     9863  I        I        *         I         I         I
5.50    8.5     9773  I        I        *         I         I         I
5.75    8.4     9684  I        I       *I         I         I         I
6.00    8.4     9596  I        I       *I         I         I         I
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6.25    8.4    9510  I        I        *I        I        I        I
6.50    8.3    9424  I        I        *I        I        I        I
6.75    8.3    9340  I        I        *I        I        I        I
7.00    8.3    9258  I        I        *I        I        I        I
7.25    8.2    9176  I        I       * I        I        I        I
7.50    8.2    9096  I        I       * I        I        I        I
7.75    8.2    9017  I        I       * I        I        I        I
8.00    8.1    8939  I        I       * I        I        I        I
8.25    8.1    8863  I        I       * I        I        I        I
8.50    8.1    8787  I        I       * I        I        I        I
8.75    8.1    8713  I        I      *  I        I        I        I
9.00    8.0    8640  I        I      *  I        I        I        I
9.25    8.0    8567  I        I      *  I        I        I        I
9.50    8.0    8496  I        I      *  I        I        I        I
9.75    7.9    8426  I        I      *  I        I        I        I
10.00   7.9    8357  I        I      *  I        I        I        I
10.25   7.9    8289  I        I      *  I        I        I        I
10.50   7.9    8222  I        I     *   I        I        I        I
10.75   7.8    8156  I        I     *   I        I        I        I
11.00   7.8    8091  I        I     *   I        I        I        I
11.25   7.8    8027  I        I     *   I        I        I        I
11.50   7.8    7964  I        I     *   I        I        I        I
11.75   7.7    7902  I        I     *   I        I        I        I
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DISCHARGE HYDROGRAPH FOR SALMON FALLS RIVER   ... STATION NUMBER   7
            BELOW MILTON 3 PONDS DAM   AT MILE     1.34

GAGE ZERO =  259.50     MAX ELEVATION REACHED BY FLOOD WAVE =  269.71
                     FLOOD STAGE NOT AVAILABLE
            MAX STAGE =   10.21     AT TIME =     .725 HOURS
            MAX FLOW =    13507    AT TIME =     .725 HOURS

HR   STAGE     FLOW  0      5000     10000     15000     20000     25000
.00    5.6     4103  I       * I        I         I         I         I
.25    5.6     4128  I       * I        I         I         I         I
.50    8.9    10261  I         I        I*        I         I         I
.75   10.2    13499  I         I        I      *  I         I         I
1.00   10.1    13223  I         I        I     *   I         I         I
1.25    9.9    12676  I         I        I    *    I         I         I
1.50    9.7    12303  I         I        I    *    I         I         I
1.75    9.6    11999  I         I        I   *     I         I         I
2.00    9.5    11739  I         I        I  *      I         I         I
2.25    9.4    11510  I         I        I  *      I         I         I
2.50    9.3    11304  I         I        I  *      I         I         I
2.75    9.3    11123  I         I        I *       I         I         I
3.00    9.2    10962  I         I        I *       I         I         I
3.25    9.1    10812  I         I        I *       I         I         I
3.50    9.1    10672  I         I        I*        I         I         I
3.75    9.0    10541  I         I        I*        I         I         I
4.00    9.0    10417  I         I        I*        I         I         I
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 4.25   8.9   10300 I        I        I*       I        I        I
 4.50   8.9   10189 I        I        *        I        I        I
 4.75   8.8   10084 I        I        *        I        I        I
 5.00   8.8    9983 I        I        *        I        I        I
 5.25   8.7    9887 I        I        *        I        I        I
 5.50   8.7    9796 I        I        *        I        I        I
 5.75   8.7    9707 I        I       *I        I        I        I
 6.00   8.6    9619 I        I       *I        I        I        I
 6.25   8.6    9532 I        I       *I        I        I        I
 6.50   8.5    9447 I        I       *I        I        I        I
 6.75   8.5    9363 I        I       *I        I        I        I
 7.00   8.5    9280 I        I       *I        I        I        I
 7.25   8.4    9198 I        I      * I        I        I        I
 7.50   8.4    9118 I        I      * I        I        I        I
 7.75   8.4    9038 I        I      * I        I        I        I
 8.00   8.3    8960 I        I      * I        I        I        I
 8.25   8.3    8883 I        I      * I        I        I        I
 8.50   8.2    8807 I        I      * I        I        I        I
 8.75   8.2    8733 I        I     *  I        I        I        I
 9.00   8.2    8659 I        I     *  I        I        I        I
 9.25   8.1    8587 I        I     *  I        I        I        I
 9.50   8.1    8515 I        I     *  I        I        I        I
 9.75   8.1    8445 I        I     *  I        I        I        I
10.00   8.0    8376 I        I     *  I        I        I        I
10.25   8.0    8308 I        I     *  I        I        I        I
10.50   8.0    8240 I        I    *   I        I        I        I
10.75   7.9    8174 I        I    *   I        I        I        I
11.00   7.9    8109 I        I    *   I        I        I        I
11.25   7.9    8045 I        I    *   I        I        I        I
11.50   7.8    7981 I        I    *   I        I        I        I
11.75   7.8    7919 I        I    *   I        I        I        I
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DATE: 11/12/85
FILE: M3PD1DB1.DAT

DAMBRK - Version..10/25/84

CPU Time (HH:MM:SS)....00:05:52

1

PROGRAM DAMBRK---VERSION-07/18/84

ANALYSIS OF THE DOWNSTREAM FLOOD HYDROGRAPH

PRODUCED BY THE DAM BREAK OF

SPAULDING POND DAM

ON

SALMON FALLS RIVER

ANALYSIS BY

VOLLMER ASSOCIATES
BOSTON, MA 02116
NOV. 13,1985 #081

BASED ON PROCEDURE DEVELOPED BY

CROSS-SECTION NUMBER 5
****

XS(I) = 1.590 FSTG(I) = .00 XSL(I) = .0 XSR(I) = .0

HS ...	212.3	213.8	220.0	240.0
BS ...	.0	60.0	317.0	484.0
BSS ...	.0	.0	.0	.0

CROSS-SECTION NUMBER 6
****

XS(I) = 2.960 FSTG(I) = .00 XSL(I) = .0 XSR(I) = .0

HS ...	206.0	207.5	220.0	240.0
BS ...	.0	60.0	528.0	968.0
BSS ...	.0	.0	.0	.0

CROSS-SECTION NUMBER 7
****

XS(I) = 3.910 FSTG(I) = .00 XSL(I) = .0 XSR(I) = .0

HS ...	201.7	203.2	220.0	240.0
BS ...	.0	80.0	634.0	3872.0
BSS ...	.0	.0	.0	.0

CROSS-SECTION NUMBER 8
****

XS(I) = 4.970 FSTG(I) = .00 XSL(I) = .0 XSR(I) = .0

SPAULDING POND DAM RESERVOIR

TABLE OF ELEVATION VS SURFACE AREA

SURFACE AREA (ACRES) SA(K)	ELEVATION (FT) HSA(K)
243.0	260.00
122.0	247.00
.0	222.90
.0	.00
.0	.00
.0	.00
.0	.00
.0	.00

DAM NUMBER 1

SPAULDING POND DAM RESERVOIR AND BREACH PARAMETERS

PARAMETER	UNITS	VARIABLE	VALUE
ELEVATION OF WATER SURFACE	FT	YO	246.80
SIDE SLOPE OF BREACH		Z	.00
ELEVATION OF BOTTOM OF BREACH	FT	YBMIN	222.90
WIDTH OF BASE OF BREACH	FT	BB	157.00
TIME TO MAXIMUM BREACH SIZE	HR	TFH	.50
ELEVATION OF WATER WHEN BREACHED	FT	HF	248.21
ELEVATION OF TOP OF DAM	FT	HD	252.90
ELEVATION OF UNCONTROLLED SPILLWAY CREST	FT	HSP	243.30
ELEVATION OF CENTER OF GATE OPENINGS	FT	HGT	.00
DISCHARGE COEF. FOR UNCONTROLLED SPILLWAY		CS	.00
DISCHARGE COEF. FOR GATE FLOW		CG	.00
DISCHARGE COEF. FOR UNCONTROLLED WEIR FLOW		CDO	.00

DISCHARGE THRU TURBINES CFS QT .00

QSPILL(K, 1)	HEAD(K, 1)
0.	.0
1000.	1.7
2000.	2.8
3000.	3.4
5000.	3.7
6000.	4.2
9200.	4.7
14000.	4.9

DHF(INTERVAL BETWEEN INPUT HYDROGRAPH ORDINATES) = .00 HRS.

TEH(TIME AT WHICH COMPUTATIONS TERMINATE) = 11.0000 HRS.

INFLOW HYDROGRAPH TO SPAULDING POND DAM
****

4103.00	4128.00	10261.00	13507.00	13223.00	12303.00	11739.00	11304.00
10962.00	10417.00	9983.00	9280.00	8960.00	8659.00	8376.00	8109.00

TIME OF INFLOW HYDROGRAPH ORDINATES

.0000	.2500	.5000	.7250	1.0000	1.5000	2.0000	2.5000
3.0000	4.0000	5.0000	7.0000	8.0000	9.0000	10.0000	11.0000

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CROSS-SECTIONAL PARAMETERS FOR SALMON FALLS RIVER
BELOW SPAULDING POND DAM

PARAMETER	VARIABLE	VALUE
**********	******	*******
NUMBER OF CROSS-SECTIONS	NS	10

MAXIMUM NUMBER OF TOP WIDTHS	NCS	4
NUMBER OF CROSS-SECTIONAL HYDROGRAPHS TO PLOT	NTT	6
TYPE OF OUTPUT OTHER THAN HYDROGRAPH PLOTS	JNK	4
CROSS-SECTIONAL SMOOTHING PARAMETER	KSA	0
DOWNSTREAM SUPERCRITICAL OR NOT	KSUPC	0
NO. OF LATERAL INFLOW HYDROGRAPHS	LQ	0
NO. OF POINTS IN GATE CONTROL CURVE	KCG	0

NUMBER OF CROSS-SECTION WHERE HYDROGRAPH DESIRED
(MAX NUMBER OF HYDROGRAPHS = 6)
****

1 2 3 4 6 9

CROSS-SECTIONAL VARIABLES FOR SALMON FALLS RIVER
BELOW SPAULDING POND DAM

PARAMETER	UNITS	VARIABLE
LOCATION OF CROSS-SECTION	MI	XS(I)
ELEVATION (MSL) OF FLOODING AT CROSS-SECTION	FT	FSTG(I)
ELEV CORRESPONDING TO EACH TOP WIDTH	FT	HS(K,I)
TOP WIDTH CORRESPONDING TO EACH ELEV (ACTIVE FLOW PORTION)	FT	BS(K,I)
TOP WIDTH CORRESPONDING TO EACH ELEV (OFF-CHANNEL PORTION)	FT	BSS(K,I)
SURFACE AREA CORRESPONDING TO EACH ELEV (ACTIVE FLOW PORTION)	ACRES	DSA(K,I)
SURFACE AREA CORRESPONDING TO EACH ELEV (OFF-CHANNEL PORTION)	ACRES	SSA(K,I)
NUMBER OF CROSS-SECTION		I
NUMBER OF ELEVATION LEVEL		K

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CROSS-SECTION NUMBER  1
*************************

XS(I) =    .005   FSTG(I) =     .00        XSL(I) =     .0        XSR(I) =     .0


HS  ...    222.9   224.4   240.0   260.0
BS  ...       .0   150.0  1200.0  1900.0
BSS ...       .0      .0      .0      .0


CROSS-SECTION NUMBER  2
*************************

XS(I) =    .010   FSTG(I) =     .00        XSL(I) =     .0        XSR(I) =     .0


HS  ...    222.9   224.4   240.0   260.0
BS  ...       .0   150.0  1200.0  1900.0
BSS ...       .0      .0      .0      .0


CROSS-SECTION NUMBER  3
*************************

XS(I) =    .230   FSTG(I) =     .00        XSL(I) =     .0        XSR(I) =     .0


HS  ...    218.5   220.0   240.0   260.0
BS  ...       .0    60.0   792.0  1760.0
BSS ...       .0      .0      .0      .0


CROSS-SECTION NUMBER  4
*************************

XS(I) =    .970   FSTG(I) =     .00        XSL(I) =     .0        XSR(I) =     .0


HS  ...    215.1   216.6   240.0   260.0
BS  ...       .0    60.0   616.0  2068.0
BSS ...       .0      .0      .0      .0
```

CROSS-SECTION NUMBER 5
****

XS(I) = 1.590 FSTG(I) = .00 XSL(I) = .0 XSR(I) = .0

HS ...	212.3	213.8	220.0	240.0
BS ...	.0	60.0	317.0	484.0
BSS ...	.0	.0	.0	.0

CROSS-SECTION NUMBER 6
****

XS(I) = 2.960 FSTG(I) = .00 XSL(I) = .0 XSR(I) = .0

HS ...	206.0	207.5	220.0	240.0
BS ...	.0	60.0	528.0	968.0
BSS ...	.0	.0	.0	.0

CROSS-SECTION NUMBER 7
****

XS(I) = 3.910 FSTG(I) = .00 XSL(I) = .0 XSR(I) = .0

HS ...	201.7	203.2	220.0	240.0
BS ...	.0	80.0	634.0	3872.0
BSS ...	.0	.0	.0	.0

CROSS-SECTION NUMBER 8
****

XS(I) = 4.970 FSTG(I) = .00 XSL(I) = .0 XSR(I) = .0

```
HS  ...    196.9   198.4   220.0   240.0
BS  ...       .0   100.0   950.0  2640.0
BSS ...       .0      .0      .0      .0
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CROSS-SECTION NUMBER  9
***********************

XS(I) =   5.600   FSTG(I) =     .00        XSL(I) =      .0        XSR(I) =      .0

HS  ...    194.0   196.4   202.6   213.0
BS  ...       .0   140.0   160.0   440.0
BSS ...       .0      .0      .0      .0
```

```
CROSS-SECTION NUMBER 10
************************

XS(I) =   7.590   FSTG(I) =     .00        XSL(I) =      .0        XSR(I) =      .0

HS  ...    178.5   180.0   200.0   220.0
BS  ...       .0   140.0  1426.0  3960.0
BSS ...       .0      .0      .0      .0

HS(1, 2) IS GREATER THAN HS(1, 1).
THIS ADVERSE SLOPE MAY CAUSE PROBLEMS LATER IN THE ROUTING COMPUTATIONS,PARTICULARLY IF THE BASE FLOW IS SMALL.

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MANNING N ROUGHNESS COEFFICIENTS FOR THE GIVEN REACHES
      (CM(K,I),K=1,NCS) WHERE I = REACH NUMBER
*********************************************************

REACH  1 ...  .050   .090   .120   .140

REACH  2 ...  .050   .090   .120   .140

REACH  3 ...  .050   .090   .120   .140
```

REACH 4 ...	.045	.080	.120	.140
REACH 5 ...	.045	.080	.120	.140
REACH 6 ...	.045	.080	.120	.140
REACH 7 ...	.045	.080	.120	.140
REACH 8 ...	.045	.080	.120	.140
REACH 9 ...	.050	.090	.120	.140

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CROSS-SECTIONAL VARIABLES FOR SALMON FALLS RIVER
BELOW SPAULDING POND DAM

PARAMETER	UNITS	VARIABLE
MINIMUM COMPUTATIONAL DISTANCE USED BETWEEN CROSS-SECTIONS	MI	DXM(I)
CONTRACTION - EXPANSION COEFFICIENTS BETWEEN CROSS-SECTIONS		FKC(I)

REACH NUMBER	DXM(I)	FKC(I)
1	.200	.000
2	.200	.000
3	.200	.000
4	.200	.000
5	.200	.000
6	.200	.000
7	.200	.000
8	.200	.000
9	.200	.000

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DOWNSTREAM FLOW PARAMETERS FOR SALMON FALLS RIVER
BELOW SPAULDING POND DAM

PARAMETER	UNITS	VARIABLE	VALUE
MAX DISCHARGE AT DOWNSTREAM EXTREMITY	CFS	QMAXD	.0
MAX LATERAL OUTFLOW PRODUCING LOSSES	CFS/FT	QLL	.000
INITIAL SIZE OF TIME STEP	HR	DTHM	.0000
INITIAL WATER SURFACE ELEVATION DOWNSTREAM	FT	YDN	.25
SLOPE OF CHANNEL DOWNSTREAM OF DAM	FT/MI	SOM	8.00
THETA WEIGHTING FACTOR		THETA	.00
CONVERGENCE CRITERION FOR STAGE	FT	EPSY	.000
TIME AT WHICH DAM STARTS TO FAIL	HR	TFI	11.00

DOWNSTREAM BOUNDARY RATING TABLE

STAGE	DISCHARGE
179.60	.00
181.30	100.00
181.60	185.00
182.60	650.00
183.60	1050.00
185.60	1585.00
191.60	5500.00
.00	.00

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*********************************
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***                           ***
***  SUMMARY OF OUTPUT DATA   ***
***                           ***
*********************************
*********************************
```

CROSS-SECTION NO.	MILE	BOTTOM ELEVATION FEET	REACH NO.	REACH LENGTH MILES	SLOPE FT/MI
1	.00	222.90			
2	.01	222.90	1	.00	.00
3	.23	218.50	2	.22	20.00
4	.97	215.10	3	.74	4.59
5	1.59	212.30	4	.62	4.52
6	2.96	206.00	5	1.37	4.60
7	3.91	201.70	6	.95	4.53
8	4.97	196.90	7	1.06	4.53
9	5.60	194.00	8	.63	4.60
10	7.59	178.50	9	1.99	7.79

MESAGE

TOTAL NUMBER OF CROSS SECTIONS (ORIGINAL+INTERPOLATED) (N) = 36 (MAXIMUM ALLOWABLE = 200

RE-NUMBERED VALUES FOR IDAM

IDAM(1) = 1

INITIAL CONDITIONS

L= 36	X(L)=	7.590	YD(L)=	188.92	K= 2	QDI(L)=	3750.0
L= 35	X(L)=	7.369	YD(L)=	189.62	K= 3	QDI(L)=	3750.0
L= 34	X(L)=	7.148	YD(L)=	190.79	K= 3	QDI(L)=	3750.0
L= 33	X(L)=	6.927	YD(L)=	192.37	K= 3	QDI(L)=	3750.0
L= 32	X(L)=	6.706	YD(L)=	194.19	K= 2	QDI(L)=	3750.0
L= 31	X(L)=	6.484	YD(L)=	196.13	K= 3	QDI(L)=	3750.0
L= 30	X(L)=	6.263	YD(L)=	198.15	K= 3	QDI(L)=	3750.0
L= 29	X(L)=	6.042	YD(L)=	200.28	K= 4	QDI(L)=	3750.0
L= 28	X(L)=	5.821	YD(L)=	202.61	K= 4	QDI(L)=	3750.0
L= 27	X(L)=	5.600	YD(L)=	205.39	K= 4	QDI(L)=	3750.0
L= 26	X(L)=	5.390	YD(L)=	207.07	K= 4	QDI(L)=	3750.0
L= 25	X(L)=	5.180	YD(L)=	207.87	K= 3	QDI(L)=	3750.0

L= 24	X(L)=	4.970	YD(L)=	208.52	K= 3	QDI(L)=	3750.0
L= 23	X(L)=	4.758	YD(L)=	209.21	K= 3	QDI(L)=	3750.0
L= 22	X(L)=	4.546	YD(L)=	210.03	K= 3	QDI(L)=	3750.0
L= 21	X(L)=	4.334	YD(L)=	210.96	K= 2	QDI(L)=	3750.0
L= 20	X(L)=	4.122	YD(L)=	211.98	K= 3	QDI(L)=	3750.0
L= 19	X(L)=	3.910	YD(L)=	213.09	K= 3	QDI(L)=	3750.0
L= 18	X(L)=	3.672	YD(L)=	214.35	K= 3	QDI(L)=	3750.0
L= 17	X(L)=	3.435	YD(L)=	215.60	K= 3	QDI(L)=	3750.0
L= 16	X(L)=	3.197	YD(L)=	216.83	K= 3	QDI(L)=	3750.0
L= 15	X(L)=	2.960	YD(L)=	218.06	K= 3	QDI(L)=	3750.0
L= 14	X(L)=	2.732	YD(L)=	219.23	K= 3	QDI(L)=	3750.0
L= 13	X(L)=	2.503	YD(L)=	220.38	K= 3	QDI(L)=	3750.0
L= 12	X(L)=	2.275	YD(L)=	221.48	K= 3	QDI(L)=	3750.0
L= 11	X(L)=	2.047	YD(L)=	222.52	K= 2	QDI(L)=	3750.0
L= 10	X(L)=	1.818	YD(L)=	223.53	K= 2	QDI(L)=	3750.0
L= 9	X(L)=	1.590	YD(L)=	224.56	K= 2	QDI(L)=	3750.0
L= 8	X(L)=	1.383	YD(L)=	225.66	K= 3	QDI(L)=	3750.0
L= 7	X(L)=	1.177	YD(L)=	226.84	K= 3	QDI(L)=	3750.0
L= 6	X(L)=	.970	YD(L)=	227.92	K= 3	QDI(L)=	3750.0
L= 5	X(L)=	.723	YD(L)=	229.17	K= 3	QDI(L)=	3750.0
L= 4	X(L)=	.477	YD(L)=	230.22	K= 2	QDI(L)=	3750.0
L= 3	X(L)=	.230	YD(L)=	231.16	K= 3	QDI(L)=	3750.0
L= 2	X(L)=	.010	YD(L)=	232.04	K= 4	QDI(L)=	3750.0
L= 1	X(L)=	.005	YD(L)=	246.80	K= 0	QDI(L)=	3750.0

LS= ITERATION COUNTER FOR SUBMERGENCE EFFECT AT TIME=0. IM= THE LOCATION OF THE DOWNSTREAM FACE OF THE DAM.

LS= 0 IM= 2 YD(IM)= 232.04 QDI(IM)= 3750.00

INITIAL CONDITIONS

I	X(I)	YD(I)	YNORM(I)
1	.00	246.80	232.04
2	.01	232.04	232.04
3	.23	231.16	231.16
4	.48	230.22	230.22
5	.72	229.17	229.17
6	.97	227.92	227.92
7	1.18	226.84	226.84
8	1.38	225.66	225.66
9	1.59	224.56	224.56
10	1.82	223.53	223.53
11	2.05	222.52	222.52
12	2.28	221.48	221.48
13	2.50	220.38	220.38
14	2.73	219.23	219.23
15	2.96	218.06	218.06
16	3.20	216.83	216.83
17	3.43	215.60	215.60

18	3.67	214.35	214.35
19	3.91	213.09	213.09
20	4.12	211.98	211.98
21	4.33	210.96	210.96
22	4.55	210.03	210.03
23	4.76	209.21	209.21
24	4.97	208.52	208.52
25	5.18	207.87	207.87
26	5.39	207.07	207.07
27	5.60	205.39	205.39
28	5.82	202.61	202.61
29	6.04	200.28	200.28
30	6.26	198.15	198.15
31	6.48	196.13	196.13
32	6.71	194.19	194.19
33	6.93	192.37	192.37
34	7.15	190.79	190.79
35	7.37	189.62	189.62
36	7.59	188.92	188.92

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TIME PARAMETERS OF OUTFLOW HYDROGRAPH IMMEDIATELY DOWNSTREAM OF DAM

PARAMETER	UNITS	VARIABLE	VALUE
TIME TO FAILURE	HR	TFH	.500
TIME TO START OF RISING LIMB OF HYDROGRAPH	HR	TFD	11.000
TIME TO PEAK	HR	TP	.000
TIME STEP SIZE	HR	DTHI	.025

PROFILE OF CRESTS AND TIMES FOR SALMON FALLS RIVER
BELOW SPAULDING POND DAM

RVR MILE FROM DAM	MAX ELEV (FT)	MAX FLOW (CFS)	TIME MAX ELEV(HR)	MAX VEL (FT/SEC)	FLOOD ELEV (FT)	TIME FLOOD ELEV(HR)
3.345 .005	248.21	13149	1.045	.61	.00	.00
3.35 .010	239.15	13149	2.470	1.93	.00	.00

3.57	.230	238.45	12077	2.645	2.10	.00	.00
	.477	237.51	11555	2.870	2.11	.00	.00
	.723	236.42	11331	3.025	2.19	.00	.00
4.31	.970	235.08	11189	3.288	2.41	.00	.00
	1.177	233.81	11092	3.498	2.28	.00	.00
	1.383	232.50	11003	3.760	2.11	.00	.00
4.93	1.590	231.25	10934	3.970	2.16	.00	.00
	1.818	230.01	10869	4.180	2.05	.00	.00
	2.047	228.85	10799	4.443	1.96	.00	.00
	2.275	227.73	10726	4.705	1.90	.00	.00
	2.503	226.66	10654	5.020	1.85	.00	.00
	2.732	225.61	10583	5.335	1.82	.00	.00
6.30	2.960	224.59	10510	5.598	1.80	.00	.00
	3.197	223.46	10417	5.860	1.82	.00	.00
	3.435	222.18	10322	6.175	1.86	.00	.00
	3.672	220.79	10244	6.438	1.91	.00	.00
7.25	3.910	219.43	10184	6.753	1.97	.00	.00
	4.122	218.34	10136	6.963	1.93	.00	.00
	4.334	217.38	10088	7.173	1.87	.00	.00
	4.546	216.53	10045	7.330	1.78	.00	.00
	4.758	215.80	10009	7.435	1.65	.00	.00
8.31	4.970	215.18	9981	7.540	1.48	.00	.00
	5.180	214.55	9963	7.593	1.46	.00	.00
	5.390	213.63	9953	7.645	1.61	.00	.00
8.94	5.600	211.61	9948	7.750	2.74	.00	.00
	5.821	208.26	9941	8.013	2.24	.00	.00
	6.042	205.58	9928	8.485	2.12	.00	.00
	6.263	203.25	9905	9.115	2.06	.00	.00
	6.484	201.36	9863	9.903	1.99	.00	.00
	6.706	199.96	9795	10.375	1.92	.00	.00
	6.927	199.00	9704	10.638	1.80	.00	.00
	7.148	198.38	9612	10.743	1.61	.00	.00
	7.369	198.00	9548	10.795	1.30	.00	.00
10.93	7.590	197.77	9526	10.795	.96	.00	.00

DISCHARGE HYDROGRAPH FOR SALMON FALLS RIVER ... STATION NUMBER 1
BELOW SPAULDING POND DAM AT MILE .00

GAGE ZERO = 222.90 MAX ELEVATION REACHED BY FLOOD WAVE = 248.21
FLOOD STAGE NOT AVAILABLE
MAX STAGE = 25.31 AT TIME = 1.045 HOURS
MAX FLOW = 13150 AT TIME = 1.045 HOURS

HR	STAGE	FLOW	0	5000	10000	15000	20000	25000
.00	23.9	3818	I	* I	I	I	I	I
.25	23.9	4020	I	* I	I	I	I	I
.50	24.4	5518	I	I*	I	I	I	I
.75	25.1	9924	I	I	*	I	I	I
1.00	25.3	13128	I	I	I	* I	I	I
1.25	25.3	12905	I	I	I	* I	I	I

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 1.50   25.3    12457  I         I         I    *    I         I         I
 1.75   25.3    12119  I         I         I   *     I         I         I
 2.00   25.2    11833  I         I         I   *     I         I         I
 2.25   25.2    11595  I         I         I  *      I         I         I
 2.50   25.2    11377  I         I         I  *      I         I         I
 2.75   25.2    11191  I         I         I *       I         I         I
 3.00   25.2    11019  I         I         I *       I         I         I
 3.25   25.2    10872  I         I         I *       I         I         I
 3.50   25.2    10735  I         I         I*        I         I         I
 3.75   25.2    10599  I         I         I*        I         I         I
 4.00   25.2    10463  I         I         I*        I         I         I
 4.25   25.2    10345  I         I         I*        I         I         I
 4.50   25.2    10236  I         I         *         I         I         I
 4.75   25.1    10127  I         I         *         I         I         I
 5.00   25.1    10019  I         I         *         I         I         I
 5.25   25.1     9925  I         I         *         I         I         I
 5.50   25.1     9837  I         I         *         I         I         I
 5.75   25.1     9749  I         I        *I         I         I         I
 6.00   25.1     9661  I         I        *I         I         I         I
 6.25   25.1     9573  I         I        *I         I         I         I
 6.50   25.1     9485  I         I        *I         I         I         I
 6.75   25.1     9397  I         I        *I         I         I         I
 7.00   25.1     9309  I         I        *I         I         I         I
 7.25   25.1     9227  I         I       * I         I         I         I
 7.50   25.1     9172  I         I       * I         I         I         I
 7.75   25.1     9110  I         I       * I         I         I         I
 8.00   25.1     9036  I         I       * I         I         I         I
 8.25   25.1     8960  I         I       * I         I         I         I
 8.50   25.1     8884  I         I       * I         I         I         I
 8.75   25.0     8809  I         I       * I         I         I         I
 9.00   25.0     8734  I         I      *  I         I         I         I
 9.25   25.0     8660  I         I      *  I         I         I         I
 9.50   25.0     8588  I         I      *  I         I         I         I
 9.75   25.0     8517  I         I      *  I         I         I         I
10.00   25.0     8446  I         I      *  I         I         I         I
10.25   25.0     8376  I         I      *  I         I         I         I
10.50   25.0     8309  I         I      *  I         I         I         I
10.75   25.0     8242  I         I     *   I         I         I         I
```

DISCHARGE HYDROGRAPH FOR SALMON FALLS RIVER ... STATION NUMBER 2
BELOW SPAULDING POND DAM AT MILE .01

GAGE ZERO = 222.90 MAX ELEVATION REACHED BY FLOOD WAVE = 239.15
FLOOD STAGE NOT AVAILABLE
MAX STAGE = 16.25 AT TIME = 2.470 HOURS
MAX FLOW = 13150 AT TIME = 1.045 HOURS

```
 HR   STAGE    FLOW  0         5000      10000     15000     20000     25000
 .00    9.2    3818  I         * I          I         I         I         I
 .25    9.3    4020  I         * I          I         I         I         I
```

GAGE ZERO = 215.10 MAX ELEVATION REACHED BY FLOOD WAVE = 235.08

FLOOD STAGE NOT AVAILABLE

MAX STAGE = 19.98 AT TIME = 3.288 HOURS

MAX FLOW = 11190 AT TIME = 2.395 HOURS

HR	STAGE	FLOW	0	5000	10000	15000	20000	25000
.00	12.8	3750	I	* I	I	I	I	I
.25	12.8	3776	I	* I	I	I	I	I
.50	12.9	3901	I	* I	I	I	I	I
.75	13.4	4516	I	*I	I	I	I	I
1.00	14.8	6640	I	I *	I	I	I	I
1.25	16.8	9012	I	I	* I	I	I	I
1.50	18.1	10236	I	I	*	I	I	I
1.75	18.9	10810	I	I	I *	I	I	I
2.00	19.3	11076	I	I	I *	I	I	I
2.25	19.6	11179	I	I	I *	I	I	I
2.50	19.8	11185	I	I	I *	I	I	I
2.75	19.9	11145	I	I	I *	I	I	I
3.00	20.0	11080	I	I	I *	I	I	I
3.25	20.0	10997	I	I	I *	I	I	I
3.50	20.0	10908	I	I	I *	I	I	I
3.75	19.9	10813	I	I	I *	I	I	I
4.00	19.9	10711	I	I	I*	I	I	I
4.25	19.9	10605	I	I	I*	I	I	I
4.50	19.8	10503	I	I	I*	I	I	I
4.75	19.7	10402	I	I	I*	I	I	I
5.00	19.7	10302	I	I	I*	I	I	I
5.25	19.6	10202	I	I	*	I	I	I
5.50	19.5	10108	I	I	*	I	I	I
5.75	19.5	10017	I	I	*	I	I	I
6.00	19.4	9927	I	I	*	I	I	I
6.25	19.3	9836	I	I	*	I	I	I
6.50	19.3	9748	I	I	*I	I	I	I
6.75	19.2	9660	I	I	*I	I	I	I
7.00	19.1	9572	I	I	*I	I	I	I
7.25	19.0	9485	I	I	*I	I	I	I
7.50	19.0	9403	I	I	*I	I	I	I
7.75	18.9	9331	I	I	*I	I	I	I
8.00	18.8	9261	I	I	*I	I	I	I
8.25	18.8	9188	I	I	* I	I	I	I
8.50	18.7	9114	I	I	* I	I	I	I
8.75	18.7	9040	I	I	* I	I	I	I
9.00	18.6	8965	I	I	* I	I	I	I
9.25	18.5	8891	I	I	* I	I	I	I
9.50	18.5	8817	I	I	* I	I	I	I
9.75	18.4	8744	I	I	* I	I	I	I
10.00	18.3	8672	I	I	* I	I	I	I
10.25	18.3	8600	I	I	* I	I	I	I
10.50	18.2	8529	I	I	* I	I	I	I
10.75	18.1	8460	I	I	* I	I	I	I

DISCHARGE HYDROGRAPH FOR SALMON FALLS RIVER ... STATION NUMBER 15
BELOW SPAULDING POND DAM AT MILE 2.96

GAGE ZERO = 206.00 MAX ELEVATION REACHED BY FLOOD WAVE = 224.59
FLOOD STAGE NOT AVAILABLE
MAX STAGE = 18.59 AT TIME = 5.598 HOURS
MAX FLOW = 10511 AT TIME = 4.338 HOURS

HR	STAGE	FLOW	0	5000	10000	15000	20000	25000
.00	12.1	3750	I	* I	I	I	I	I
.25	12.1	3750	I	* I	I	I	I	I
.50	12.1	3750	I	* I	I	I	I	I
.75	12.1	3753	I	* I	I	I	I	I
1.00	12.1	3782	I	* I	I	I	I	I
1.25	12.2	3918	I	* I	I	I	I	I
1.50	12.5	4414	I	*I	I	I	I	I
1.75	13.2	5433	I	I*	I	I	I	I
2.00	14.2	6708	I	I *	I	I	I	I
2.25	15.2	7860	I	I *	I	I	I	I
2.50	16.0	8732	I	I *	I	I	I	I
2.75	16.7	9354	I	I *I	I	I	I	I
3.00	17.2	9797	I	I *	I	I	I	I
3.25	17.6	10084	I	I *	I	I	I	I
3.50	17.9	10275	I	I I*	I	I	I	I
3.75	18.1	10401	I	I I*	I	I	I	I
4.00	18.2	10476	I	I I*	I	I	I	I
4.25	18.4	10509	I	I I*	I	I	I	I
4.50	18.4	10504	I	I I*	I	I	I	I
4.75	18.5	10479	I	I I*	I	I	I	I
5.00	18.6	10440	I	I I*	I	I	I	I
5.25	18.6	10391	I	I I*	I	I	I	I
5.50	18.6	10333	I	I I*	I	I	I	I
5.75	18.6	10270	I	I I*	I	I	I	I
6.00	18.6	10204	I	I *	I	I	I	I
6.25	18.6	10135	I	I *	I	I	I	I
6.50	18.5	10064	I	I *	I	I	I	I
6.75	18.5	9990	I	I *	I	I	I	I
7.00	18.5	9915	I	I *	I	I	I	I
7.25	18.4	9839	I	I *	I	I	I	I
7.50	18.4	9763	I	I *	I	I	I	I
7.75	18.3	9686	I	I *I	I	I	I	I
8.00	18.3	9610	I	I *I	I	I	I	I
8.25	18.2	9538	I	I *I	I	I	I	I
8.50	18.2	9466	I	I *I	I	I	I	I
8.75	18.1	9395	I	I *I	I	I	I	I
9.00	18.0	9324	I	I *I	I	I	I	I
9.25	18.0	9253	I	I *I	I	I	I	I
9.50	17.9	9182	I	I * I	I	I	I	I
9.75	17.9	9111	I	I * I	I	I	I	I
10.00	17.8	9040	I	I * I	I	I	I	I
10.25	17.7	8969	I	I * I	I	I	I	I
10.50	17.7	8898	I	I * I	I	I	I	I

```
10.75   17.6     8827  I        I       * I        I        I        I
1
```

DISCHARGE HYDROGRAPH FOR SALMON FALLS RIVER ... STATION NUMBER 27
BELOW SPAULDING POND DAM AT MILE 5.60

GAGE ZERO = 194.00 MAX ELEVATION REACHED BY FLOOD WAVE = 211.61
FLOOD STAGE NOT AVAILABLE
MAX STAGE = 17.61 AT TIME = 7.750 HOURS
MAX FLOW = 9948 AT TIME = 7.540 HOURS

```
HR   STAGE    FLOW  0      2000      4000      6000      8000     10000
1.0   11.4    3750  I         I        *I         I         I         I
1.2   11.4    3750  I         I        *I         I         I         I
1.4   11.4    3750  I         I        *I         I         I         I
1.6   11.4    3750  I         I        *I         I         I         I
1.8   11.4    3755  I         I        *I         I         I         I
2.0   11.4    3772  I         I        *I         I         I         I
2.2   11.5    3816  I         I        *I         I         I         I
2.4   11.6    3911  I         I         *         I         I         I
2.6   11.8    4082  I         I         *         I         I         I
2.8   12.1    4344  I         I         I *       I         I         I
3.0   12.5    4696  I         I         I  *      I         I         I
3.2   13.0    5094  I         I         I    *    I         I         I
3.4   13.5    5546  I         I         I      * I         I         I
3.6   14.0    6021  I         I         I        *         I         I
3.8   14.5    6497  I         I         I        I *       I         I
4.0   15.0    6954  I         I         I        I    *    I         I
4.2   15.4    7388  I         I         I        I      *  I         I
4.4   15.7    7786  I         I         I        I        *I         I
4.6   16.1    8142  I         I         I        I         I*        I
4.8   16.3    8455  I         I         I        I         I *       I
5.0   16.6    8727  I         I         I        I         I   *     I
5.2   16.8    8963  I         I         I        I         I    *    I
5.4   16.9    9165  I         I         I        I         I     *   I
5.6   17.1    9337  I         I         I        I         I      *  I
5.8   17.2    9481  I         I         I        I         I      *  I
6.0   17.3    9598  I         I         I        I         I       * I
6.2   17.4    9694  I         I         I        I         I       * I
6.4   17.4    9771  I         I         I        I         I        *I
6.6   17.5    9832  I         I         I        I         I        *I
6.8   17.5    9879  I         I         I        I         I        *I
7.0   17.6    9912  I         I         I        I         I         *
7.2   17.6    9934  I         I         I        I         I         *
7.4   17.6    9945  I         I         I        I         I         *
7.6   17.6    9948  I         I         I        I         I         *
7.8   17.6    9942  I         I         I        I         I         *
8.0   17.6    9930  I         I         I        I         I         *
8.2   17.6    9912  I         I         I        I         I         *
8.4   17.6    9888  I         I         I        I         I        *I
8.6   17.6    9860  I         I         I        I         I        *I
```

```
  8.8   17.6    9828  I        I        I        I        I       *I
  9.0   17.5    9793  I        I        I        I        I       *I
  9.2   17.5    9755  I        I        I        I        I       *I
  9.4   17.5    9715  I        I        I        I        I       *I
  9.6   17.5    9672  I        I        I        I        I      * I
  9.8   17.4    9629  I        I        I        I        I      * I
 10.0   17.4    9583  I        I        I        I        I      * I
 10.2   17.4    9537  I        I        I        I        I      * I
 10.4   17.3    9489  I        I        I        I        I     *  I
 10.6   17.3    9439  I        I        I        I        I     *  I
 10.8   17.3    9388  I        I        I        I        I     *  I
1

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DATE: 11/13/85
FILE: M3PD2DB1.DAT


DAMBRK - Version..10/25/84

CPU Time (HH:MM:SS)....00:11:17

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