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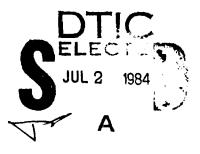
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NAUGATUCK RIVER BASIN WATERBURY, CONNECTICUT

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PHASE I INSPECTION REPORT NATIONAL DAM INSPECTION REPORT



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REPORT DOCUMENT	TION PAGE	READ INSTRUCTIONS
REPORT NUMBER		BEFORE COMPLETING FORM NO. J. RECIPIENT'S CATALOG NUMBER
CT 00033	A2-A142-73	
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Naugatuck River Basin		INSPECTION REPORT
Waterbury, Conn.		
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EW ENGLAND DIVISION		
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		AREA & WORK UNIT HUMBERS
		12. REPORT DATE
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Philip W. Genovese and Associates, Inc. Consulting and Design Engineers

January 6, 1981

Re: Pritchards Pond Dam Waterbury, Connecticut Contract #DACW-33-81-C0017

The Department of the Army New England Division Corps of Engineers 424 Trapelo Road Waltham, Massachusetts 02154

Attention: Mr. E. P. Gould, Project Management Division

Gentlemen:

PZP/LH

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We have inspected Pritchards Pond Dam and conducted a field survey. Our dam failure analysis concludes that the dam should be reclassified as having a low hazard potential.

We are including with this letter a short report substantiating our conclusions.



Very truly yours,

PHILIP W. GENOVESE & ASSOCIATES, INC.

Pratap Z. Patel, P.E.

Pratap Z. Patel, P.E Project Manager

In For

295 Treadwell Street, Hum. In, Conn. 06514 P. O. Box 4330 Jolashone 288.5678 (203) Coble GENOPHIL

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DESCRIPTION

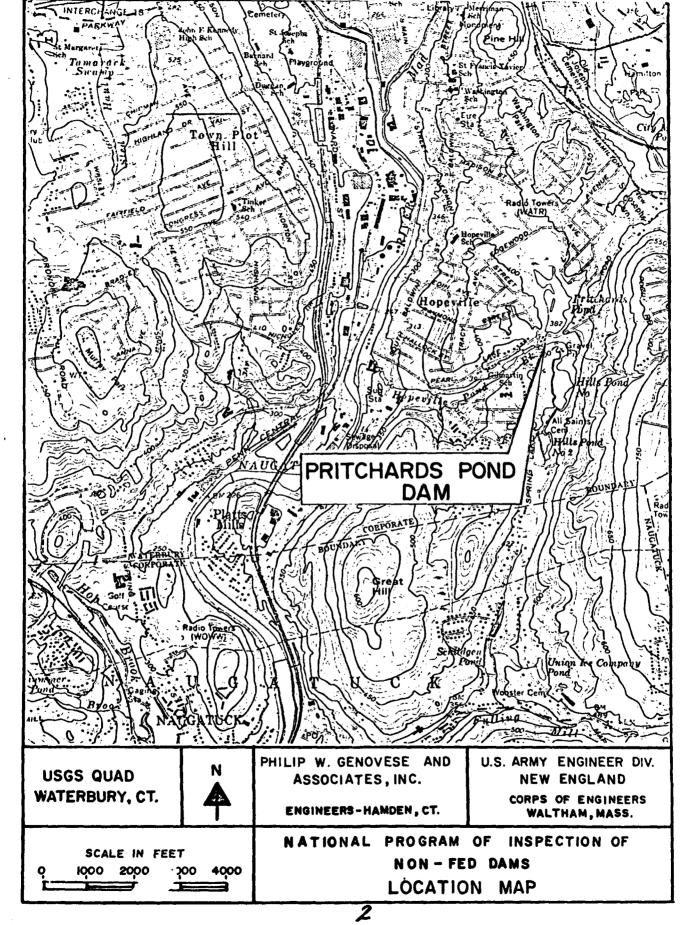
Name of Dam	:	Pritchards Pond Dam
Identification Numbe	r:	CT 00033
Town	:	Waterbury
County and State	:	New Haven County, Connecticut
Stream	:	Hopeville Pond Brook
Owner	:	Risdon Manufacturing Company, 2100 South Main Street, Waterbury, Connecticut
Date of Inspection	:	December 3, 1980

Pritchards Pond Dam is an embankment dam formed by Pearl Lake Road. It has a total length of 249 feet and a maximum height of 8.7 feet. The exact age of the dam is not known but it is believed to be at least 100 years old. There is a no longer functioning outlet box located on the right side of the dam that presumably controlled a 6-inch cast iron outlet pipe on the downstream side of the dam. There is a bar screen and 4 foot wide overflow spillway located in the center of the dam. This spillway drops down to a 15-inch pipe which outlets at the downstream side of the dam. The downstream side has a stone masonry wall along approximately 90 feet of the dam's length, with varying heights.

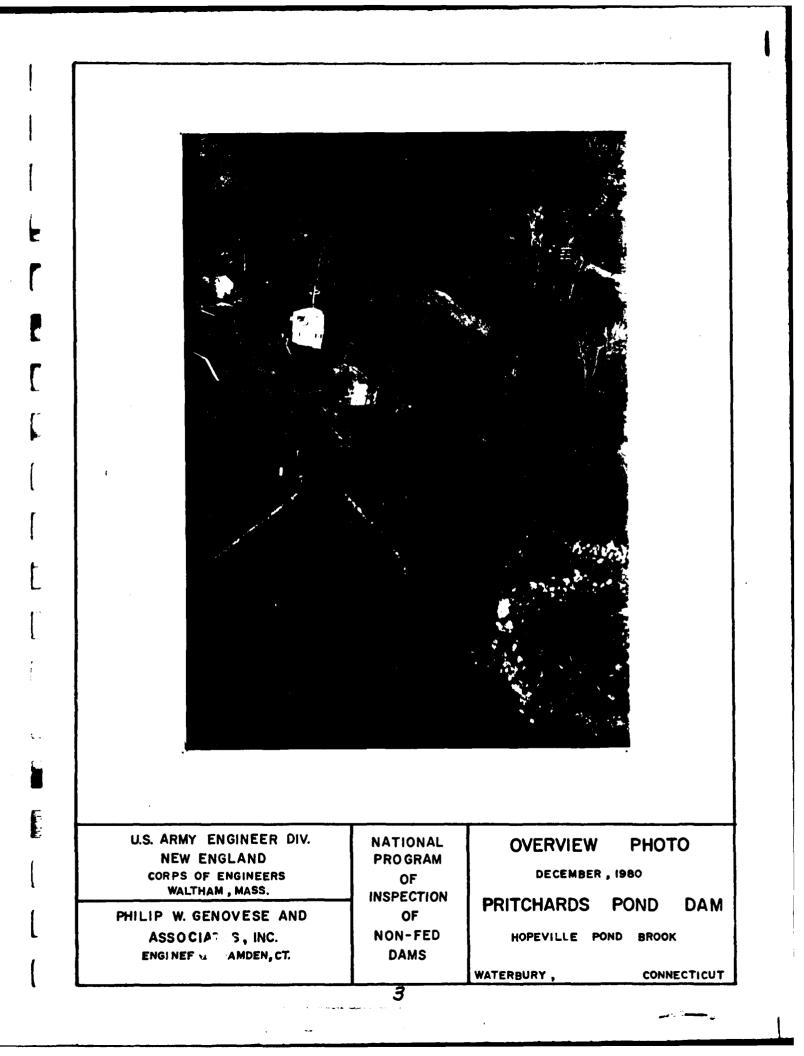
The dam is owned and operated by the Risdon Manufacturing Company, 2100 South Main Street, Waterbury, Connecticut. Although it once augmented the plant's water supply, it no longer is used for that purpose. Any present uses are strictly recreational.

The dam appears in good shape but requires some work. Specifically. this would include developing a functioning outlet works, spillway maintenance and removal of trees on or close to the dam.

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HYDROLOGIC/HYDRAULIC EVALUATION

Pritchards Pond Dam has a tributary watershed of 0.25 square miles. At the spillway crest it has a water surface area of 11 acres and a storage capacity of 14 acre-feet. The storage capacity at the top of the dam is 115 acre-feet.

The pipe spillway has a capacity of 16 cfs with the water at the top of the dam. The maximum height of the dam is 8.7 feet. In accordance with the Corps of Engineers' Recommended Guidelines for Safety Inspection of Dams. Pritchards Pond Dam is a small dam based on storage capacity.

A dam breach analysis was made using the Corps of Engineers' "Rule of Thumb" guidance for estimating downstream dam failure hydrographs. The peak discharge from a dam breach, with the water level at the top of dam (elev. 386.7), was calculated to be 1200 cfs. The flood waters were routed for a distance of 3270 feet downstream.

The results of this analysis indicated that the loss of life from a failure of Pritchards Pond Dam is unlikely and therefore, warrants a "low" hazard classification. Appendix D provides the detailed analysis to justify this conclusion.

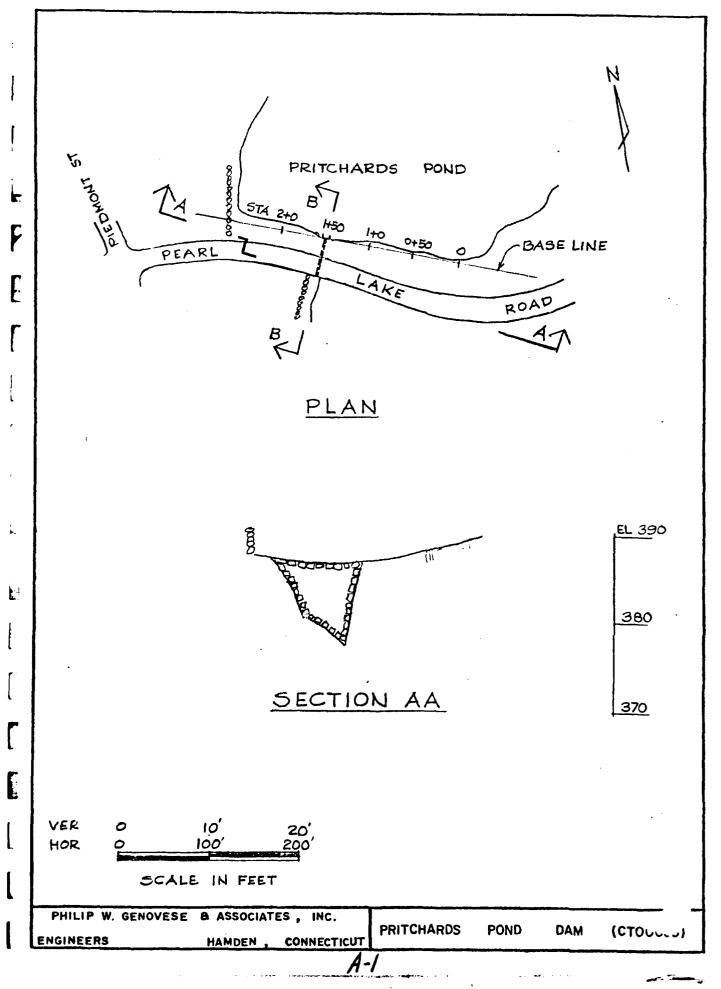
APPENDIX A

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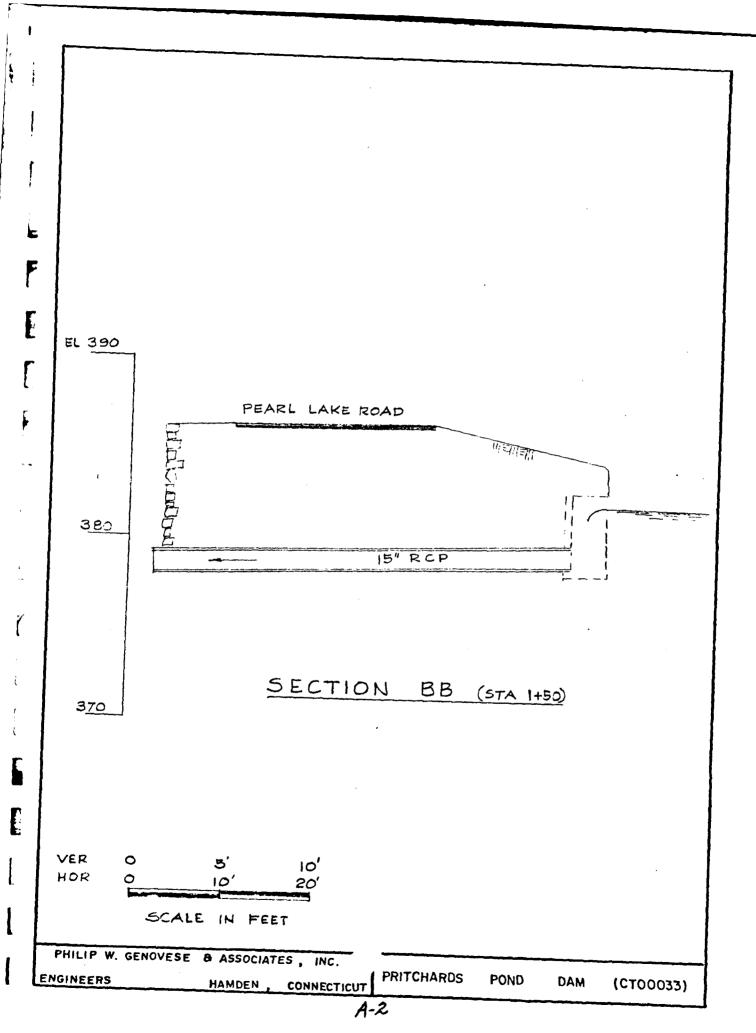
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SITE PLAN



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APPENDIX B

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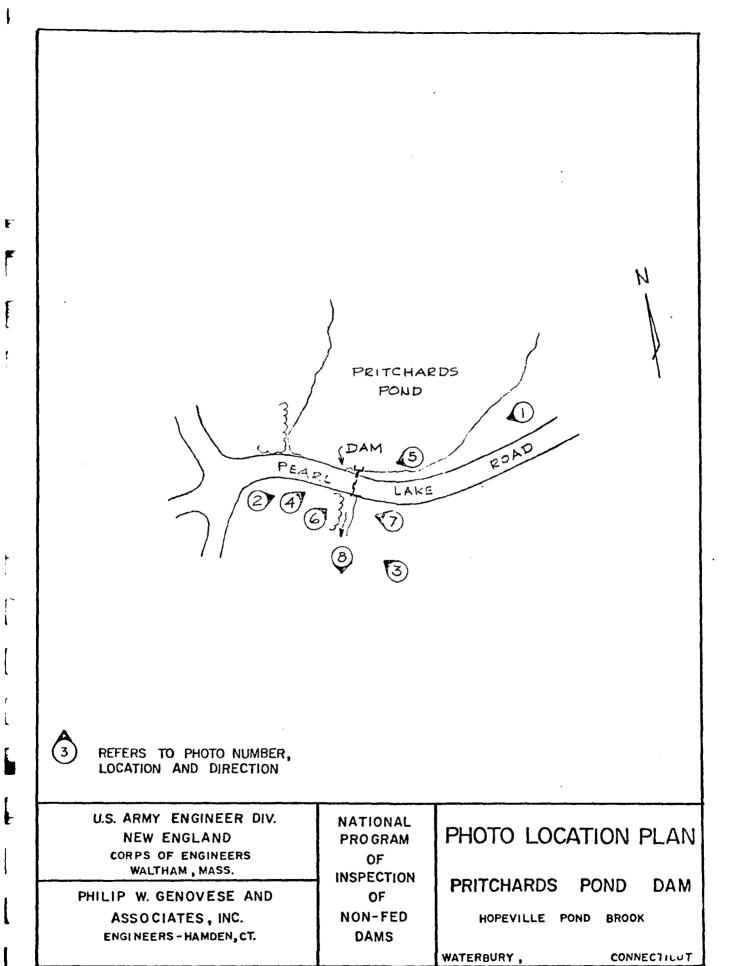
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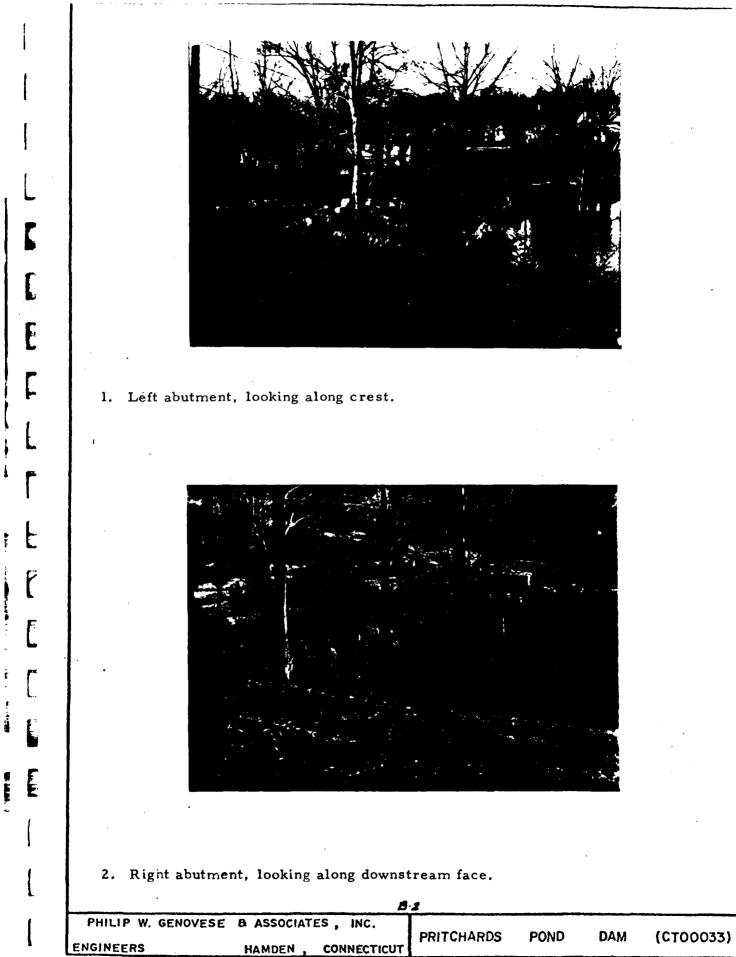
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SITE PHOTOGRAPHS







3. Downstream face of dam, looking towards right side of spillway channel. Note 14" diameter tree in right side of photo and clump of 5 trees in center of photo.

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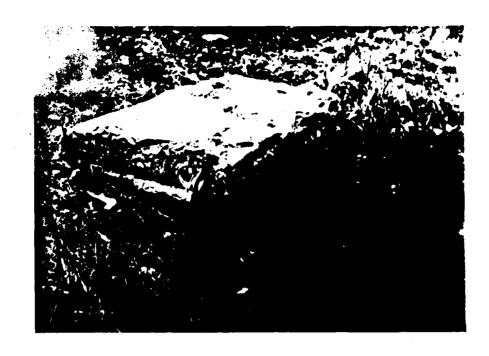
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4. Sta 2+10 looking at downstream face of dam, blue flagging at Sta 2+00, tree stump on left, 8" diameter, tree on right of photo 11" diameter.

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PHILIP W. GENOVESE	& ASSOCIATES , INC.	PRITCHARDS	POND	DAM	(CT00033)
ENGINEERS	HAMDEN , CONNECTICUT	FRITCHARDS	FUNU		(0100033)
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5. Spillway intake structure with trash rack.

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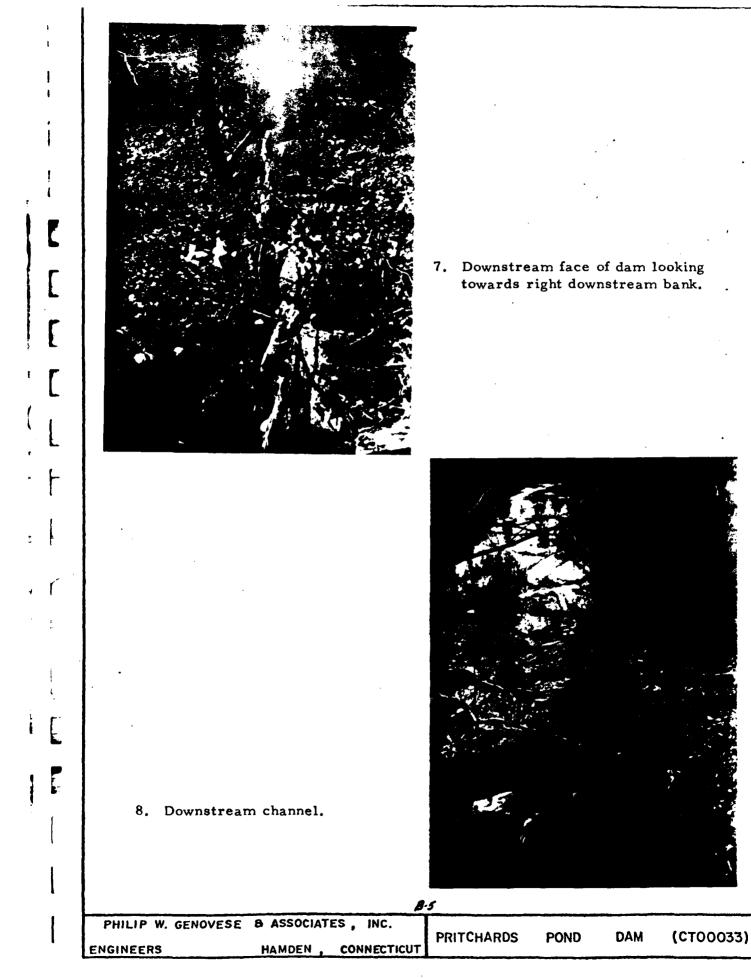
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6. Spillway and outlet discharge pipes.

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PHILIP W. GENOVESE	& ASSOCIAT	ES, INC.	PRITCHARDS	POND	DAM	(CT00033)
ENGINEERS	HAMDEN ,	CONNECTICUT	PRITCHARDS	FUNU		(0100055)



APPENDIX C

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INVENTORY FORM

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REPORTS CONTROL SYMBOL DAEN-CWE-17

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APPENDIX D

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HYDROLOGIC/HYDRAULIC CALCULATIONS

EVALUATION OF HYDRAULIC/HYDROLOGIC FEATURES

The Pritchards Pond Dam has a tributary watershed of 0.25 sq.mi and a water surface area and storage capacity at spillway level of 11 Acres and 14 Ac.Ft respectively. The maximum impoundment to the top of dam (El. 386.7 NGVD) is estimated to be 115 Ac.Ft.

The pipe spillway with drop inlet has an estimated capacity of 16 CFS with pool at top of the dam. In accordance with Table 1 of the Corps of Engineers <u>Recommended Guidelines</u> for Safety Inspection of Dams, the Pritchards Pond Dam is classified as "Small" in size based on storage capacity.

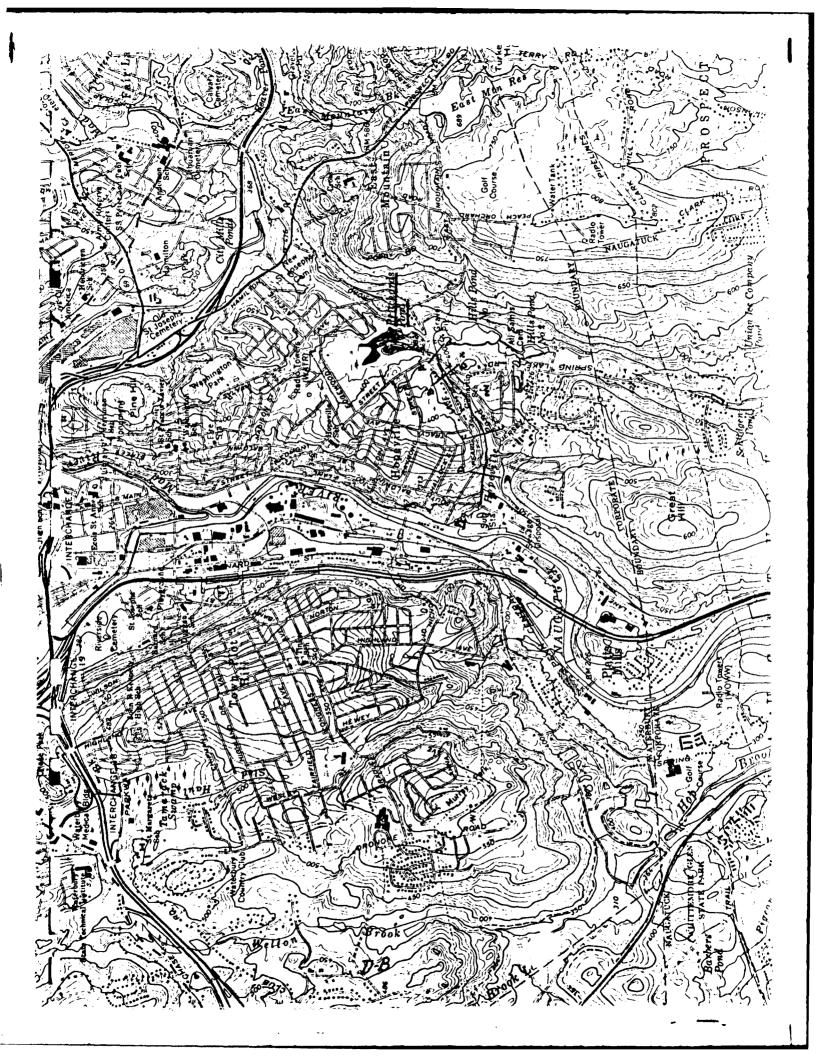
Utilizing the Corps of Engineers April 1978 "Rule of Thumb Guidance for Estimating Downstream Failure Hydrographs", the peak failure outflow due to dam breach is estimated to be 1200 cfs with an estimated flood depth of 3.8 Ft. immediately downstream of the dam. The flood routing was performed for peak failure outflow with pool at top of dam.

The estimated peak flow rates and peak flood depths at four sections downstream of the dam resulting from a dam failure are:

D/S Section (Ft. from Dam)	Flow (CFS)	Flood Depth (FT)	Velocity (fps)
	(015)	(1 - 7	(193)
At Dam	1200	3.8	-
170	1185	3.4	3.5
720	1148	6.2	4.1
2320	1032	4.1	4.25
3270	1021	3.2	3.9

Based on relative elevations of the houses in the vicinity of the Brook, none of them are likely to be flooded during dam failure except one house on Spring Lake Rd, located 3'4" above Brook bed which may have minor flooding. In addition, the culvert on Spring Lake Rd is inadequate to pass the peak flow of 1185 cfs.

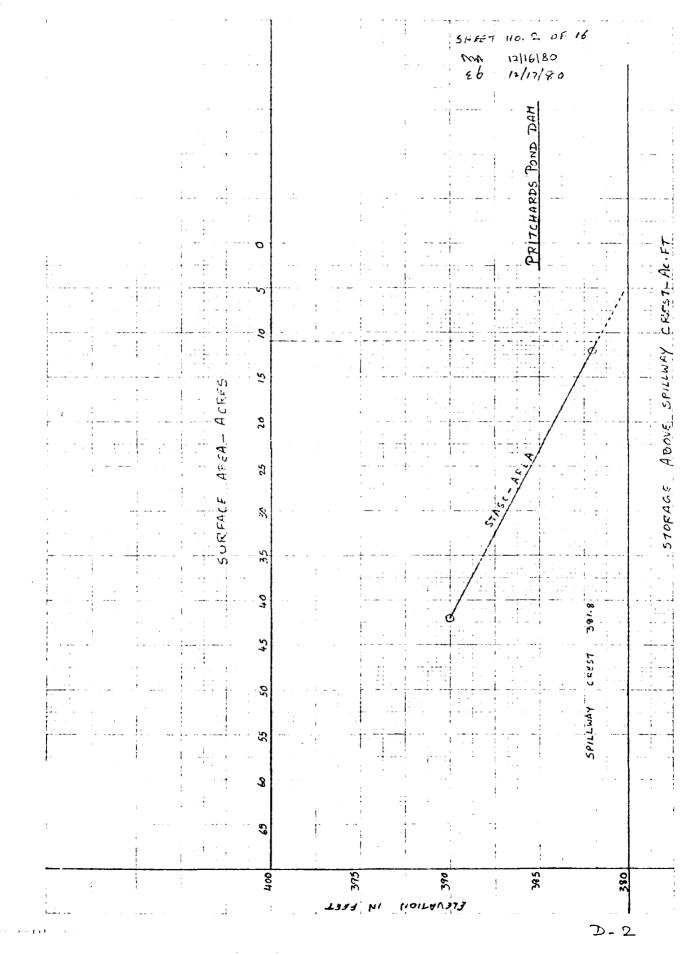
Thus, loss of life from a failure of Pritchards Pond Dam is considered unlikely. Therefore, the dam is classified as "Low" hazard potential. This conclusion is based upon hydraulic/ hydrologic analysis included in Appendix D.



DIVERSIFIED TECHNOLOGIES CORP. CONSULTING ENGINEERS

PROJECT NON FEDERAL DAM INSPECTION PROJECT NO. 80-13-11 SHEET / OF 15 NEW ENGLAND DIVISION COMPUTED BY MA DATE 12/16/20 DATE 12/12/50 <u>,</u> PRITCHARDS POND DAM __CHECKED BY____ FOR THE PURPOSE OF DETERMINING PROJECT SIZE. THE MAXIM M STORAGE ELEVE IS CONSIDERED AT TOP OF DAM . 1H . = EL. 386.7 MGUD TOP OF DAM = EL 378 (15" RCP OUTLET INVERT) TOE OF DAM = 8.7 FT. (%) HEIGHT OF DAM PLANIMETERING FROM USES MAP FOR POND SURFACE AREAS -= 12 Ac AT E1.392 (NORMAL) AT EL. 390 : 42 Ac FROM STAGE POND AND CURVE . POND AREA AT SPILLWAY CREST (EL. 381.9) = 11 Ac POND AREA AT TOP OF DAM (EL. 386.7) = 30 HC AVERAGE PONTS AREA BETWEEN SPILLAY CAST & TOP OF DAIT = 20.5 Ac. STORAGE BETHEEN SPICREST & TOP OF DAM = 4.9×20.5 = 101 AC.FT ESTIMATED STORAGE BELOW SP. (REST = - b.h. - x 11 (381.8-378)= 14 Ac.FT " MAX THPOUNDHENT TO TOP OF DAM = 10/+14 = 115 AC.FT (5) * THE WATER SURFACE ELV OF 382 MSL FOR PRITCHARDS POND ON THE WATERBURY QUAD SHEET (1972) IS ASSUMED TO BE ON NATIONAL GEODETIC VERTICAL DATUM (NGVD) ALL OTHER ELEVATIONS ARE REFERENCED TO THIS ASSUMED ELVN AND ARE OBTAINED BASED LP. N. INFORMATION FURNISHED BY P.W. GENOVESE & Ass. Jus.

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DIVERSIFIED TECHNOLOGIES CORP. CONSULTING ENGINEERS NORTH HAVEN, CONN.

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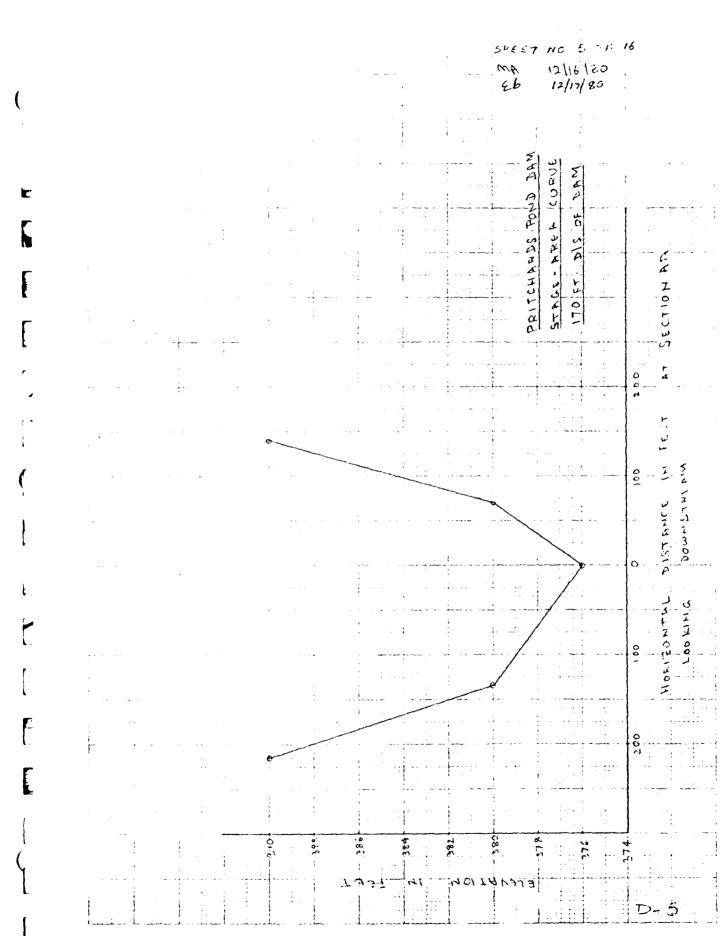
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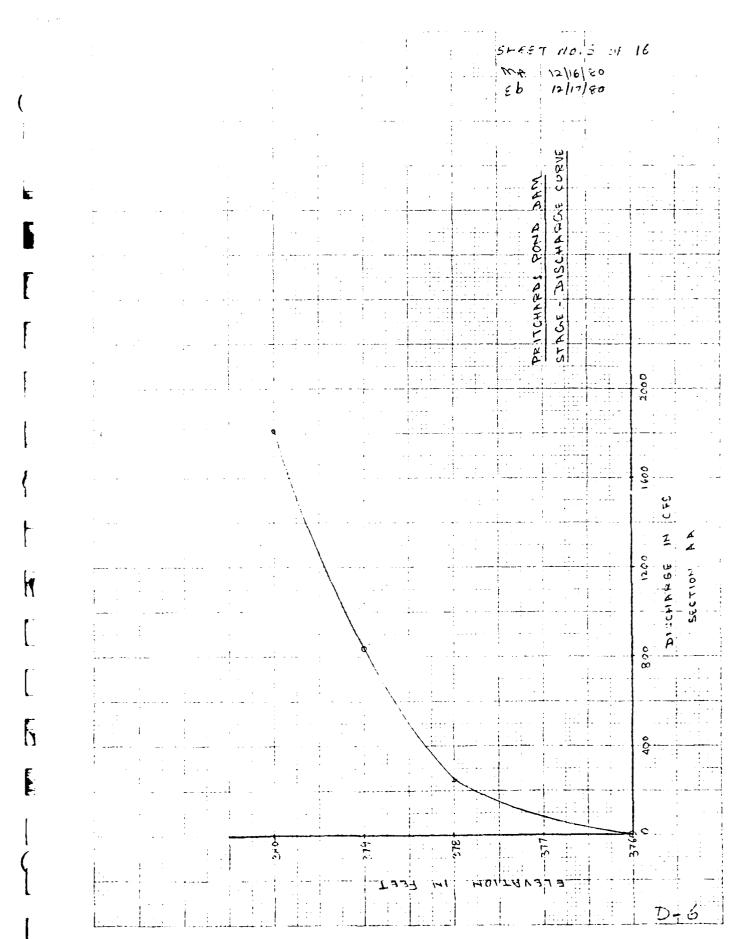
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SECTION AA, FOR AREA = 348 VOLUME OF REAC TRIAL OF 2 = GP1 (= 1200 FOR THIS QP2 T VOLUME OF RE PEAK OUTFLE	$S_{2} + V_{1} = \frac{170 \times 34}{43,56}$ $H = \frac{170 \times 34}{56}$ $(1 - \frac{V_{1}}{1-\frac{1.4}{115}})$ $H = \frac{1.4}{115}$ $H = \frac{57.46 \times -10}{56}$ $= 379.4 \text{ A}$ $A = \frac{170 \times 4}{43}$ $H = \frac{170 \times 4}{43}$	$\frac{8}{5} = 1.2$ $= 1.85$ $= 1185$ $= 1185$ $= 0.4R65 = 0.0$ $NT AREA$ $= 342$ $= 563$	4 AC+F7 S= 70 7 FS HIE GIVE = 34 2 S I+4 AC+F	6P = F 7 5 EVN 3 - F 7 = 7
SECTION AA, FOR AREA = 348 VOLUME OF REAC TRIAL QP2 = GP1 (= 1200 FOR THIS QP2 T VOLUME OF RE PEAK OUTFLE FLOOD DEPTH ATS	$S_{2} + E_{7} = \frac{170 \times 34}{50}$ $H = 43.56$ $(1 - \frac{V_{1}}{5}) = \frac{170 \times 34}{115}$ $H = 57.46 \times -70.567$ $= 379.4 \text{ A}$ $A = 170 \times 43.$ $H = 170 \times 43.$ $H = 170 \times 43.$ $H = 1100$ $H = 1100$	$\frac{92}{5} = 1.2$ $= 1.85$ $= 1185$ $= 1185$ $= 0.4R6 = 0.0$ $NT AREA$ $= 342$ $= 3563$ $= 563$	4 AC · F7 12 70 7 FS HLE GIVE = 34 2 S 1.4 Ac · F 6 = 3.4	6P = F 7 5 EVN 3 - F 7 = 7
SECTION AA, FOR AREA = 348 VOLUME OF REAC TRIAL QP2 = QP1 (= 1200 FOR THIS QP2 TO VOLUME OF RE	$S_{2} + E_{7} = \frac{170 \times 34}{56}$ $H = 43.56$ $(1 - \frac{V_{1}}{5}) = \frac{170 \times 34}{56}$ $(1 - \frac{V_{1}}{5}) = \frac{100}{56}$ $H = 57.466 - 0.567$ $= 379.4 \text{ A}$ $H = 379.4 \text{ A}$ $A = 779.4 \text{ A}$ $A = 779.4 \text{ A}$ $A = 79.4 \text{ A}$ $S = 119$	$\frac{8}{5} = 1.2$ $= 1.85$ $= 1185$ $= 1185$ $= 0.4R65 = CU$ $NT AREA$ $= 342$ $= 342$ $= 355$ $= 565$ $= 565$ $= 379.4 = 37$	+ AC+F7 = 70 7 FS HLE GIVE = 34 2 S 1+4 AC+F 6 = 3+4 SVD	5 QUN 5 QUN 7 FT

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DIVERSIFIED TECHNOLOGIES CORP. CONSULTING ENGINEERS NORTH HAVEN, CONN.

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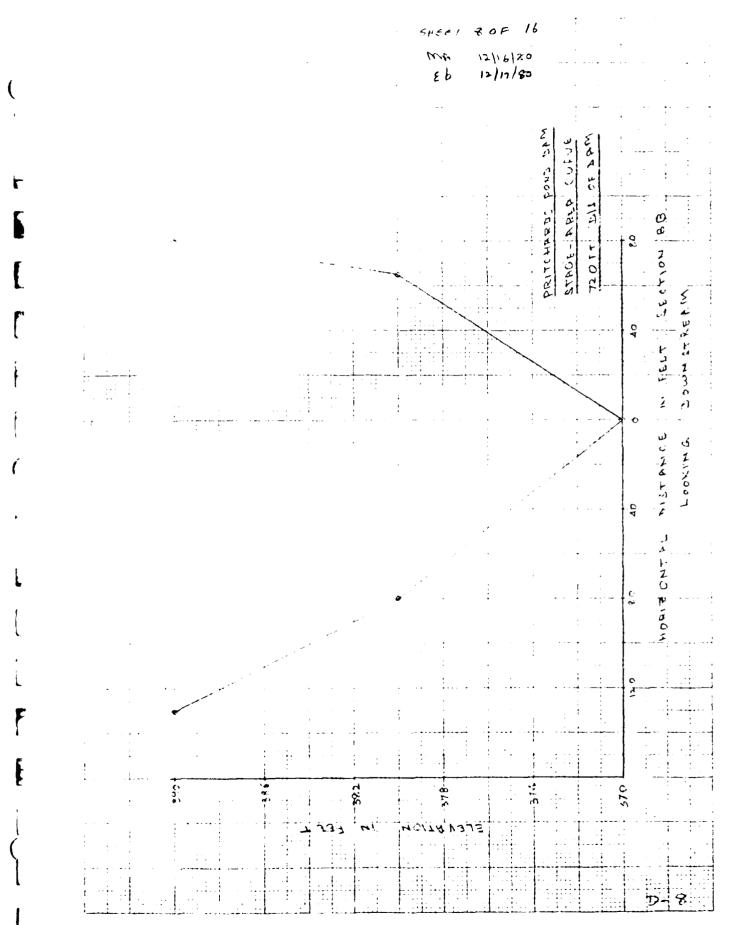
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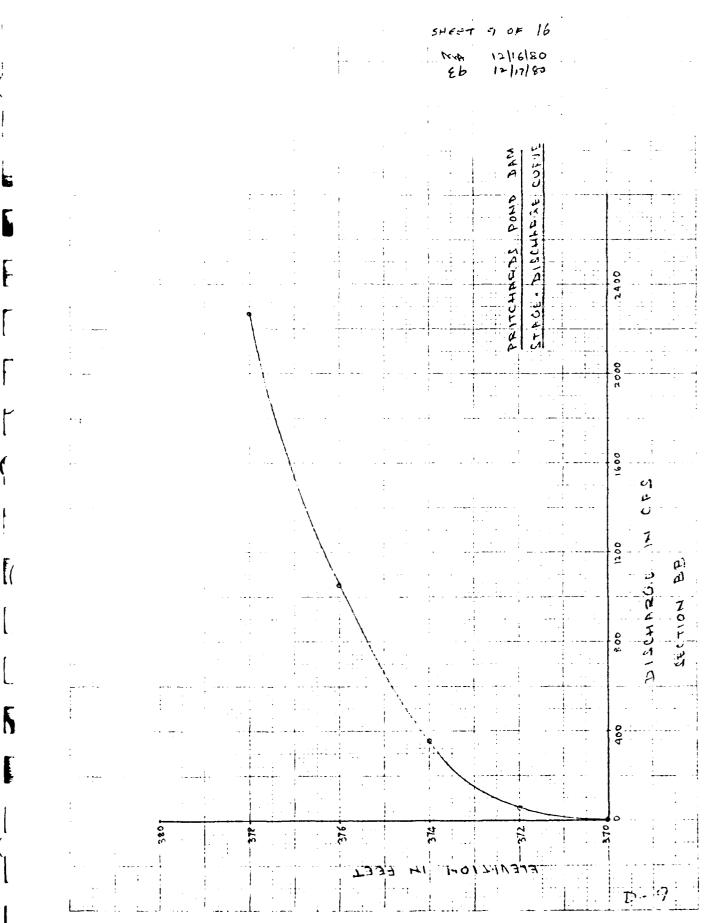
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NEW FIGLAND DIVISION COMPUTED BY Date Lift PRITCHARDS POND DAM CHECKED BY CL DATE DAT		N ENGLAND	DIVISION	COMPUT	TED BY ME		DATE 12116
VOLUME OF REACH $V_2 = \frac{550 \times 2360}{43.560} = 3.5 dc.Ft.$ RECOMPUTING GR_ = 1185 $(1 - \frac{3.7+3.5}{2}) = 1148 cFs$ FLOOD STAGE = 376.2 NGVD FLOOD DEPTH = 6.2 FT. VELOCITY = 1148 = 4.1 FPS VELOCITY = 1148 VELOCITY = 1148 = 4.1 FPS VELOCITY = 1148 = 4.1 FPS VELOCITY = 1148 = 1000 STAR = 1000 STAR = 100<							
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43.560 RECOMPORTING $GP_{2} = 1185\left(1 - \frac{3.7+3.5}{2}\right) = 1148 CFS$ $\frac{FLOOD}{FLOOD} STAGE = 376.2 NGVD$ $\frac{FLOOD}{FLOOD} DEPTH = 6.2 FT.$ $\frac{1.148}{280} = 4.1 FPS$ $\frac{1.148}{280} = 5.000$ $\frac{1.1}{1} FPS$ $\frac{1.160}{336} = 2.40 FPS$			RANK V	560			
$FLOOD STAGE = 376.2 NAVD$ $FLOOD DEPTH = 6.2 FT.$ $VELCCITY = 1148 = 4.1 FPS$ $THE TWO HOUSES ADSALENT TO THE SMALL POND$ $LOCATED AT SECTION BB ARE HIGHER THAN THE CSMMATED FLOOD STAGE, THEREFORE ARE NOT LIKELY TO BE IMPACTED BY DAM FAILURE. \frac{SECTION}{THIS SECTION AS SELECTED 1600' DIS FROM SECTION TO USING MANTING'S EQUATION G = \frac{1.486}{m} \frac{2/3}{4} \frac{1}{2} \frac{1}{3} \frac{1}{2} \frac{1}{4} \frac{1}{4} \frac{1}{5} \frac$	VCLU	ME OF	KEACH V	$2 = \frac{550}{43}$	· 560	コンショイン	F7.
$FLOOD STAGE = 376.2 NAVD$ $FLOOD DEPTH = 6.2 FT.$ $VELCCITY = \frac{1148}{280} = 4.1 FPS$ $THE TWO HOUSES ADSALENT TO THE SMALL POND LOCATED AT SECTION BB ARE HIGHER THAN THE ESTIMATED FLOOD STAKE, THEREFORE ARE NOT LIKELY TO BE IMPACTED BY DAM FAILURE: \frac{5ECTION CC}{7HIS SECTION IS SELECTED 1600' DIS FROM SECTION TO USING MANTING'S EQUATION G = \frac{1.486}{m} \frac{2/3}{F} \frac{1}{2} \frac{1}{2$	RECO	MPUTIN	GP.	- 1185	(1 - 3)	$\frac{7+3+5}{2}$ = 1	148 CFS
$ \begin{array}{rcl} FLOOD & DEPTH & = 6.2 FT. \\ \hline VELCCITY & = 1148 = 4.1 FPS \\ \hline 280 \end{array} \\ \hline THE TWO HOUSES ADJALENT TO THE SMALL POND \\ \hline LOCATED AT SECTION BE ARE HIGHER THAN THE \\ \hline SCIMATED FLOOD STAKE; THEREFORE ARE NOT \\ \hline LIKELY TO BE IMPACTED BY DAM FAILURE \\ \hline SECTION CC \\ \hline THIS SECTION IS SELECTED ISOC' DIS FROM SECTION TO \\ \hline USING MANIJING'S EQUATION \\ \hline G = \frac{1.486}{m} AK_{2/3}^{2/3} I WHERE TO STAKE TO STAKE \\ \hline ELVN ASPET P R R^{2/3} G CF \\ \hline 336 60 60 I I I 160 \\ \hline 338 240 I20 2 I-6 I010 \end{array} $				-		115	
$\frac{V \notin LCCITY}{280} = \frac{1148}{280} = \frac{4\cdot1}{280} F^{2}$ $\frac{1148}{280} = \frac{4\cdot1}{280} F^{2}$ $\frac{1148}{280} = \frac{4\cdot1}{280} F^{2}$ $\frac{1148}{280} = \frac{4\cdot1}{280} F^{2}$ $\frac{1148}{280} = \frac{4\cdot1}{280} F^{2}$ $\frac{1000}{280} F^{2}$	FLOO	D STA	6E	= 376.	2 NGVI	2	· . · · ·
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THE TWO HOUSES ADJACENT TO THE SHALL POND LOCATED AT SECTION BB ARE HIGHER THAN THE ESTIMATED FLOOD STARE; THEREFORE ARE NOT LINCLY TO BE IMPACTED BY DAM FAILURE: $\frac{SECTION}{CC}$ THIS SECTION IS SELECTED 1600' DIS FROM SECTION USING MANIFING'S EQUATION $G = \frac{1.486}{m} \frac{2/3}{m} \frac{1}{m} \frac{1}{m$	VELC	CITY		= 1148	= 4.	1 FP5	
LOCATED AT SECTION BB ARE HIGHER THAN THE ESTIMATED FLOOD STAGE, THEREFORE ARE NOT LINELY TO BE IMPACTED BY DAM FAILURE: $\frac{SECTION}{CC}$ THIS SECTION IS SELECTED 1600' DIS FROM SECTION USING MANNING'S EQUATION $G = \frac{1.486}{m} \frac{2/3}{A} \frac{1}{2} \qquad WHERE T = 0.00 ; 1.501'ED G = \frac{1.486}{m} \frac{2/3}{A} \frac{1}{2} \qquad AND S = 0.00 EST. FROM USGS = 2.63 A R13 ELVN ASZET P R R2/3 G CF 336 60 60 1 1 160 338 240 120 2 1.6 1010$				280)		
LOCATED AT SECTION BB ARE HIGHER THAN THE ESTIMATED FLOOD STAGE, THEREFORE ARE NOT LINGLY TO BE IMPACTED BY DAM FAILURE: $\frac{SECTION}{CC}$ THIS SECTION IS SELECTED 1600' DIS FROM SECTION USING MANTING'S EQUATION $G = \frac{1.486}{m} \frac{2/3}{A} \frac{1}{D} = 0.05 \text{ (1.50)} \text{(5)}$ $G = \frac{1.486}{m} \frac{2/3}{A} \frac{1}{D} = 0.05 \text{ (1.50)} \text{(5)}$ $= 2.63 \text{ AR}^{13}$ $= 2.60 \text{ AR}^{13}$ $= 1.6 \text{ B}^{10}$	140	74:0 11	lauses An	TALENT	71. 74	E SMALL	POND
ESTIMATED FLOOD STAGE, THEREFORE ARE NOT LIKELY TO BE IMPACTED BY DAM FAILURE: $\frac{SECTION CC}{THIS SECTION CC}$ THIS SECTION IS SELECTED 1600 DIS FROM SECTION TO USING MANIANS'S EQUATION $G = \frac{1.4486}{m} \frac{2/3}{R} \frac{1}{2} \qquad WHERE T = 0.08 \ TISOMED$ $G = \frac{1.4486}{m} \frac{2/3}{R} \frac{1}{2} \qquad WHERE T = 0.08 \ TISOMED$ $G = \frac{1.4486}{m} \frac{2/3}{R} \frac{1}{2} \qquad WHERE T = 0.08 \ TISOMED$ $G = \frac{1.4486}{m} \frac{2/3}{R} \frac{1}{2} \qquad WHERE T = 0.08 \ TISOMED$ $G = \frac{1.4486}{m} \frac{2/3}{R} \frac{1}{2} \qquad WHERE T = 0.08 \ TISOMED$ $G = \frac{1.4486}{m} \frac{2/3}{R} \frac{1}{2} \qquad WHERE T = 0.08 \ TISOMED$ $G = \frac{1.4486}{m} \frac{2/3}{R} \frac{1}{2} \qquad WHERE T = 0.08 \ TISOMED$ $G = \frac{1.4486}{m} \frac{2/3}{R} \frac{1}{2} \qquad WHERE T = 0.08 \ TISOMED$ $G = \frac{1.4486}{m} \frac{2/3}{R} \frac{1}{2} \qquad WHERE T = 0.08 \ TISOMED$ $G = \frac{1.4486}{m} \frac{2/3}{R} \frac{1}{2} \qquad WHERE T = 0.08 \ TISOMED$ $G = \frac{1.4486}{m} \frac{2/3}{R} \frac{1}{R} \qquad WHERE T = 0.08 \ TISOMED$ $G = \frac{1.4486}{m} \frac{1}{R} \frac{1}{R} \frac{1}{R} \qquad SCOMED$ $G = \frac{1.4486}{m} \frac{1}{R} \frac{1}{R} \frac{1}{R} \qquad SCOMED$ $G = \frac{1.4486}{m} \frac{1}{R} \frac{1}{R} \frac{1}{R} \qquad SCOMED$ $G = \frac{1.4486}{m} \frac{1}{R} \frac{1}{R} \frac{1}{R} \frac{1}{R} \qquad SCOMED$ $G = \frac{1.4486}{m} \frac{1}{R} \frac{1}{R} \frac{1}{R} \frac{1}{R} \qquad SCOMED$ $G = \frac{1.4486}{m} \frac{1}{R} $							
LINELY TO BE IMPACTED BY DAM FAILURE <u>SECTION</u> <u>CC</u> THIS SECTION IS SELECTED 1600 DIS FROM SECTION USING MANILING'S EQUATION $Q = \frac{1.4486}{m} \frac{7/3}{4} \frac{1}{2} \frac{1}{2} \frac{1}{4} \frac{1}{2} \frac{1}{2} \frac{1}{2} \frac{1}{2} \frac{1}{2} \frac{1}{4} \frac{1}{2} $							
$\frac{5ECTION}{7HIS} \frac{CC}{SECTION} = \frac{1.486}{100} \frac{213}{100} \frac{1.486}{100} $							
THIS SECTION IS SELECTED 1600' DIS FROM SECTION USING MANTING'S EQUATION $Q = \frac{1.486}{m} + \frac{2/3}{K^{2/3}} + \frac{2/3}{K^{2/3}} + \frac{1.486}{K^{2/3}} + $	LINCE	1 70 B	E IMPACTE	D BY D	AM FAI	LURE	
THIS SECTION IS SELECTED IGOC DIS FROM SECTION USING MANTING'S EQUATION UNANTING'S EQUATION $G = \frac{1.486}{m} A K_{2/3}^{2/3}$ UNARE $m = 0.000$ (1.50) (25) $G = \frac{1.486}{m} A K_{2/3}^{2/3}$ UNARE $m = 0.000$ (1.50) (25) $G = \frac{1.486}{m} A K_{2/3}^{2/3}$ AND (2.50) (25) $G = \frac{1.486}{m} A K_{2/3}^{2/3}$ AND (2.50) (25) $G = \frac{1.486}{m} A K_{2/3}^{2/3}$ AND (2.50) (25) $G = \frac{1.63 A R^{2/3}}{m} A K_{2/3}^{2/3}$ AND (2.50) (2.50							
USING MANIATIS'S EQUATION $G = \frac{1.486}{m} A \frac{2/3}{k^{2/3}} I \qquad WHERE m = 0.000 (1.50)(55)$ $= \frac{2.63}{m} A \frac{2/3}{k^{2/3}} A n U \qquad 0 = 0.02 \text{ fst. FROM USGS}$ $= \frac{2.63}{34} A \frac{2}{k^{2/3}} P \qquad R \qquad R^{2/3} \qquad G \ CF$ $= \frac{3.36}{3.36} \qquad 60 \qquad 60 \qquad 1 \qquad 1 \qquad 160$ $= \frac{1.6}{100}$							
USING MANIATIS'S EQUATION $G = \frac{1.486}{m} \frac{2/3}{12} \frac{1}{12} \qquad UPTRE = 0.000 \ r^{-1} 201025$ $= \frac{2.63}{m} \frac{4}{2} \frac{2}{3} \frac{1}{2} \qquad AND \ r^{-1} = 3.02 \ FST. FROM USGS$ $= \frac{2.63}{334} \frac{1}{2} \frac{1}{2} P \qquad R \qquad R^{2/3} \qquad G \ CF$ $= \frac{336}{336} \qquad 60 \qquad 60 \qquad 1 \qquad 1 \qquad 160$ $= \frac{1.6}{100}$	SECT	ION C	<u> </u>				
$G = \frac{1.486}{m} \frac{2/3}{4K^{2}/3} \frac{1}{5^{2}} \frac{WHAKEM}{AND} = 0.08 \frac{1.501765}{5501765}$ $= \frac{2.63}{R} \frac{AR^{2}/3}{R} \frac{1}{2} \frac{AND}{1} \frac{1}{10} = 5.02 \frac{FST}{FROM} \frac{VSOS}{VSOS}$ $= \frac{2.63}{334} \frac{AR}{0} \frac{R}{R} \frac{R^{2}/3}{R} \frac{G}{R} \frac{CF}{R}$ $= \frac{336}{50} \frac{60}{60} \frac{1}{1} \frac{1}{1} \frac{160}{100}$ $= \frac{1.6}{100}$				CTED 15	00' DIS	FROM SE	crion Z
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ELVN ASZIFT P R R ¹⁷³ GCF 334 0 336 60 60 1 1 160 338 240 120 2 1.6 1010	7415	SECTION	IS SELE	Co. A along			
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$\begin{array}{cccccccccccccccccccccccccccccccccccc$	7415	SECTION	IS SELE	Co. A along			
336 60 60 1 1 160 338 240 120 2 1.6 1010	7415	SECTION G MAN <u>1.486</u> <u>2.63</u>	$\frac{15}{1.10} \frac{5}{5.5} \frac{5}{6} \frac{1}{1.10} \frac{5}{5.5} \frac{5}{6} \frac{1}{1.10} \frac{1}{5.5} \frac{1}$	GUATION BRAKE AND X	n = 0 ! = 31	· 08. 1950, 02	"гър он USG5
338 240 120 2 1.6 1010	7415	SECTION G MAN <u>1.486</u> <u>2.63</u>	$\frac{15}{1.10} \frac{5}{5.5} \frac{5}{6} \frac{1}{1.10} \frac{5}{5.5} \frac{5}{6} \frac{1}{1.10} \frac{1}{5.5} \frac{1}$	GUATION BRAKE AND X	n = 0 ! = 31	· 08. 1950, 02	"гър он USG5
	7415	SECTION G MAN <u>1.486</u> <u>2.634</u> ELVN 334	$\frac{15}{1.10} \frac{5}{5} \frac{5}{5} \frac{5}{5} \frac{1}{10} \frac{1}{5} \frac{1}{5} \frac{1}{5} \frac{1}{5} \frac{1}{5} \frac{1}{7} \frac{1}{10} \frac{1}{5} \frac{1}{7} \frac{1}{7$	QUATION UPZKE AND J P —	n = 0 ! = 31	, 08, 1930, 02 <i>F</i> ST, FRG R ^{2/3}	чар он USGS G CF.
340 525 175 3 2.08 2870	7415	SECTION G MAN <u>1.486</u> <u>2.634</u> ELVN 334 336	$\frac{15}{1.110} \frac{5}{5} \frac{5}{5} \frac{5}{5} \frac{1}{1} \frac{1}{10} \frac{1}{5} \frac{1}{5} \frac{1}{5} \frac{1}{5} \frac{1}{10} \frac{1}{5} \frac{1}{10} \frac{1}{5} \frac{1}$	GUATION WHERE AND 18 P 60	n = a = a, R - I	· 08. 1955, 02 <i>F</i> st. FR R ^{2/3} - 1	чер он USGS G С.F.
	7415	SECTION G MAN <u>1.486</u> <u>2.634</u> ELVN 334 336	$\frac{15}{1.110} \frac{5}{5} \frac{5}{5} \frac{5}{5} \frac{1}{1} \frac{1}{10} \frac{1}{5} \frac{1}{5} \frac{1}{5} \frac{1}{5} \frac{1}{10} \frac{1}{5} \frac{1}{10} \frac{1}{5} \frac{1}$	GUATION WHERE AND 18 P 60	n = a = a, R - I	· 08. 1955, 02 <i>F</i> st. FR R ^{2/3} - 1	чер он USGS G C.F.
340 525 175 3 2.08 28	7415	SECTION G MAN <u>1.486</u> <u>2.63</u>	$\frac{15}{1.10} \frac{5}{5.5} \frac{5}{6} \frac{1}{1.10} \frac{5}{5.5} \frac{5}{6} \frac{1}{1.10} \frac{1}{5.5} \frac{1}$	GUATION BRAKE AND X	n = 0 ! = 31	· 08. 1950, 02	чер он USC
	7415	SECTION G MAN <u>1.486</u> <u>2.634</u> ELVN 334 336 338	$\frac{15}{1.110} \frac{5}{5} \frac{5}{5} \frac{2}{3} \frac{1}{5} \frac{1}{5} \frac{1}{5} \frac{1}{5} \frac{1}{5} \frac{1}{7} \frac{1}{5} \frac{1}{7} \frac{1}{5} \frac{1}{7} \frac{1}{5} \frac{1}{5} \frac{1}{7} \frac{1}{5} \frac{1}{5}$	GUATION WHERE AND 10 P 60 120	n = a = a, R - 1 2	· 08 , 1.50, 02 FST. FRO R ²¹³ - 1 1.6	чер он USAS G C.F 160 1010
	7H15 USIN G = =	SECTION G MAN <u>1.486</u> <u>2.63</u> <i>4</i> <i>6</i> <i>2.63</i> <i>4</i> <i>6</i> <i>2.63</i> <i>4</i> <i>3.34</i> <i>3.36</i> <i>3.38</i> <i>3.40</i>	$\frac{15}{110} \frac{5}{5} \frac{5}{5} \frac{2}{3} \frac{1}{5} \frac$	GUATION WHERE AND 10 P 60 120 175	n = a = s, R - 1 2 3	· 08 , 150, 02 <i>F</i> ST· FRO R ^{2/3} - 1 1.6 2.08	G C.F. 160 1010 2870
FOR PRAKE FAILURE OUTFLOW QP = 1148 CFS	THIS USIN G = =	SECTION G MAN <u>1.486</u> <u>2.634</u> ELVN 334 336 338 340 PEAK	IS SELE 1.110 S'S E 1.110 S'S E 1.110 S'S E 1.1213 SZ A SZ.FT 0 60 240 525 FAILURE	QUATION UFILE AND 10 P 60 120 175 OUTFLOI	$r = c$ $r = c$ R -1 2 3 $W = P_{1}$	- 08 , 150, 02 <i>F</i> ST- FRO R ^{2/3} - 1 1.6 2.08 = 1148 CF	Ч 25 6 С.F. 160 1010 2870
FOR FRAK FAILURE OUTFLOW & P. = 1148 CFS ELV N FROM STAGE-DISCHARGE CURVE = 338.2	THIS USIN G = =	SECTION G MAN <u>1.486</u> <u>2.634</u> ELVN 334 336 338 340 PEAK	IS SELE 1.110 S'S E 1.110 S'S E 1.110 S'S E 1.1213 SZ A SZ.FT 0 60 240 525 FAILURE	QUATION UFILE AND 10 P 60 120 175 OUTFLOI	$r = c$ $r = c$ R -1 2 3 $W = P_{1}$	- 08 , 150, 02 <i>F</i> ST- FRO R ^{2/3} - 1 1.6 2.08 = 1148 CF	С С Г. С С Г. 160 1010 2870
ELV N FROM STAGE-DISCHARGE CURVE = 338.2	THIS USIN G = = FOR ELV D	SECTION G MAN <u>1.486</u> <u>2.63</u> <u>4</u> <u>6</u> <u>2.63</u> <u>6</u> <u>4</u> <u>3</u> <u>3</u> <u>3</u> <u>3</u> <u>3</u> <u>3</u> <u>3</u> <u>3</u>	15 5626 1:11 55 6 1:11 55 6 1:11 55 6 1:11 55 6 1:12 5 1:12 5 1	QUATION UF2KE AND P 60 120 175 OUTF200 DISCHARO	R = 0 $R = 0$	$ \begin{array}{r} & 05 \\ & 7 \\ & 57 \\ & FRG \\ & R^{2/3} \\ & \\ & 1 \\ & 1.6 \\ & 2.08 \\ & = 1148 CF \\ & FRG \\ & 1.6 \\ & 2.338. \\ \end{array} $	G C.F. 160 1010 2870 2
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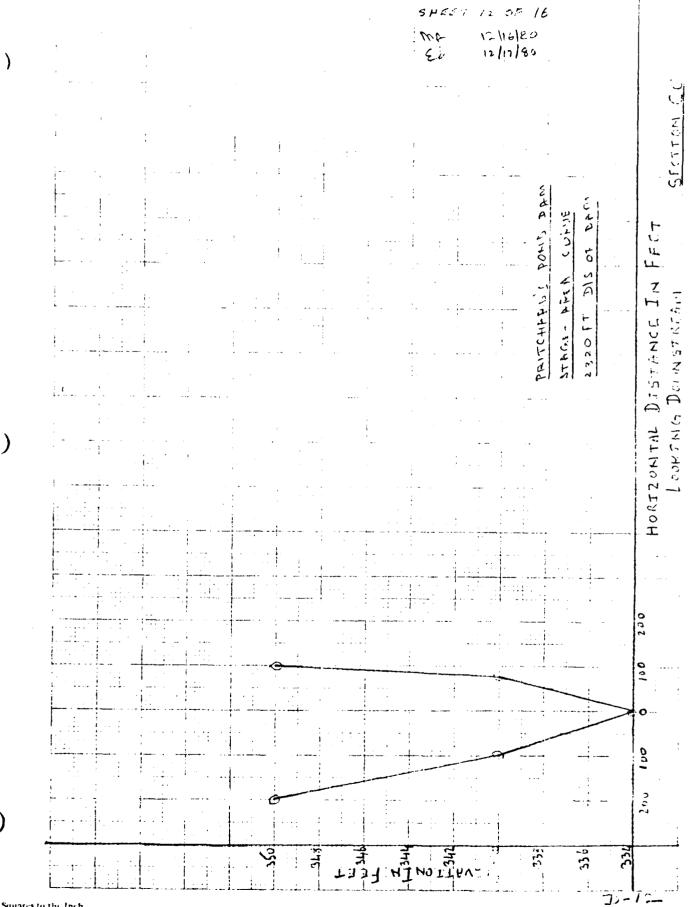
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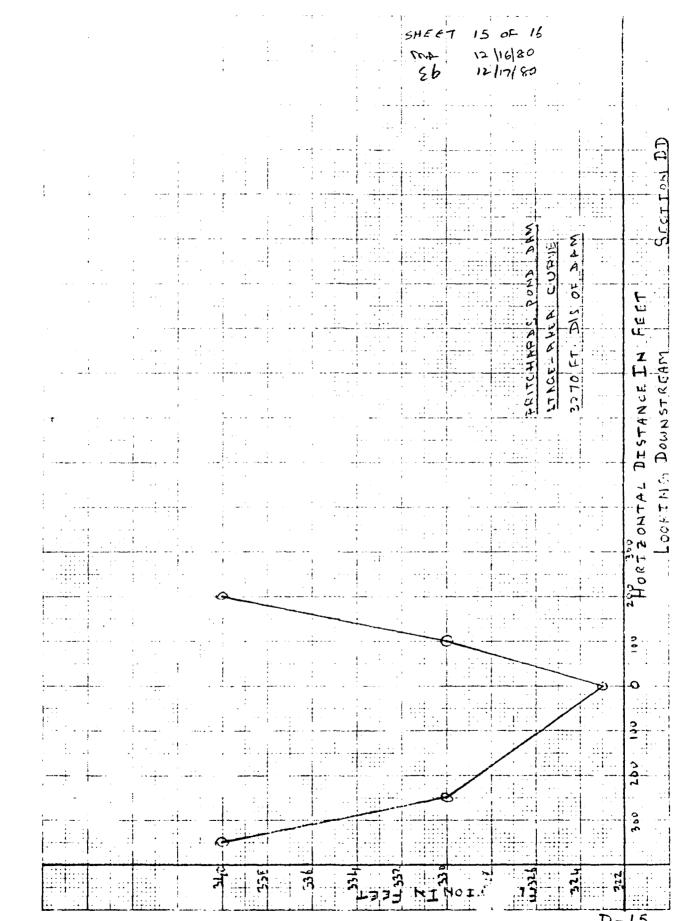
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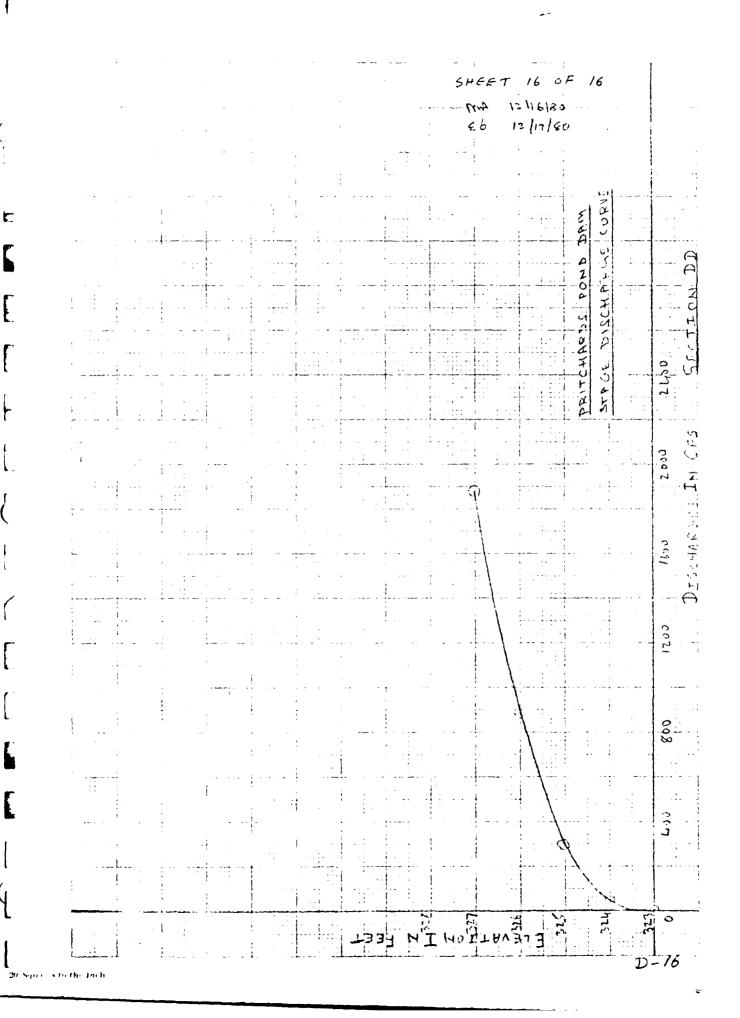
PROJECT_	NON FEDERAL		TIONP	ROJECT NO. 80-	-13-11_SHEET	<u>14_of_16</u>
	NEW ENGLAND		СОМР	UTED BY	[DATE 12/16/82
	PRITCHARDS	POND DAM	CHECK	ED BY 56		DATE 1= 11-1==
		· -			·	
5	ECTION D	D 15 56	LECTED	950' DI	S OF CC	ł
	DIACENT				-	
	ISING MA					
				UHERA m=	0.06 ASS	UMED
G	$l = \frac{1.486}{n} \times$	AXR'>	4/0 1/2	A =	0.014 EST	FROM
: .					USGS	MAP
	= 2,93 × +	$1 \times R^{2/3}$				· · · · · · · · · · · · · · · · · · ·
						
	ELVN	A Sq.FT	P	R	$\mathcal{F}^{2/3}$	GCFS
	323	0			_	
	324	25	52	0.5	0.63_	48
ł	325	100	100	1	1	293
	326	231	154	1.5	1.31	886
	327	400	200	2	1.6	1,875
9. 1						
F	OR PEAK FA	ILURE OUTF	LOW QP	= 1032 0	FS, THE	STAGE
ר	DISCHARGE	CURVE 6	LIVES ,	ELVN = 32	6.18 ANT	DAREA
				•	70 Sg.F	ĩ
- F	OR A REACH	LENGTH 0	F 200	FT,	• 	· · · · · · · · · · · · · · · · · · ·
ν	OLUME OF	REACH	$1 = \frac{24}{2}$	13,560	⊆ 1·2 A	le.FT.
		/	VIN	13-560		
7	TRIAL QP	= QP, C	$-\overline{s}$	2		
		= 1032 ((5) = 102	LI CFS	
P	OF THIS Q	P ELVIN		26.10 1	D ALAR	264 50 FT.
	VOLUME	OF REPCH	1 2 =			2 AC.FT
,	D. A.			43,560	-	
السم المراجع	PEAK OUT	FLOW GP	2 = 1	021 27 5.	a lar a marine inst	
				326.2		· · · · · · · · · · · · · · · · · · ·
	LOCD ST	-	ہ م ج	3.9 51	4 4 4 4	
	LOOD D		-	1021 5	3.9 FA	25
·····	IELOCITY			$\frac{3 \cdot 2}{1021} = \frac{1021}{264}$		
-	HE HOUSES	IN MUIS	i Vicin	ITV ARE	5t FT A	BOVE
: 7	HE BED	0E 7HE	BRUCK			
· · - /					• •	D = 14
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APPENDIX E

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VISUAL CHECK LIST WITH COMMENTS

1	PROJECT PRITCHARD'S POND DAM		DATE December	
	PARTY :			n
	PARTY :			
	PARTY :		WEATHER Overcas	<u>st,</u> 33 ⁰ F.
	PARTY:		W.S. ELEV	DNDN.
1				
	1. Walt Gancarz - Genovese	6		·····
	2. Mark Ballou - Genovese			
	3. Murali Atluru - DTC	8		
1	4. Richard F. Murdock - GEI			
1	5. Richard W. Turnbull - GEI	•		
	PROJECT FEATURE		INSPECTED BY	REMARKS
	1. Embankment		A11	
	2. <u>Outlet works</u>			
	3. Spillway		A 11	
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ſ	PERIODIC INSPECTIO	DN CHECK LIST
	PROJECT PRITCHARD'S POND DAM	DATE December 3, 1980
	PROJECT FEATURE Dam Embankment	NAME
	DISCIPLINE <u>Geotechnical</u> , Civil/Str.	NAME WG, RFM, RWT
ł	AREA EVALUATED	CONDITIONS
ſ	DAM EMBANKIENT	Earth embankment with downstrea
	Crest Elevation	stone masonry wall. 386.7
	Current Pool Elevation	382.5
	Maximum Impoundment to Date	
	Surface Cracks	None observed.
	Pavement Condition	Asphalt pavement moderately cra-
	Movement or Settlement of Crest	Minor undulations of crest surfac
	Lateral Movement	None observed.
	Vertical Alignment	Good.
	Horizontal Alignment	Good.
	Condition at Abutment and at Concrete Structures	Two trees near right abutment (12 and 36 in. diameter).
	Indications of Movement of Structural Items on Slopes	None observed.
	Trespassing on Slopes	Footpath and scattered trash on ι
	Sloughing or Erosion of Slopes or Abutments	slope. Minor sloughs and erosion gullie upstream slope of embankment.
	Rock Slope Protection - Riprap Failures	No slope protection.
	Unusual Movement or Cracking at or near Toes	None observed.
	Unusual Embankment or Downstream Seepage	Wet area and minor seepage obs left floodplain about 50 ft. downs of embankment. Minor seepage
	Piping or Boils	masonry wall, adjacent to outlet None observed.
	Foundation Drainage Features	None observed.
	Toe Drains	None observed.
	Instrumentation Syr m E-2	None.
	Vegetation	Scattered trees, light brush and on crest and upstream slope.
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PERIODIC INSPEC	TION CHECK	LIST		
PROJECT PRITCHARD'S POND DAM		DATE December 3, 198		
PROJECT FEATURE Dike Embankment		NAME		
DISCIPLINE		NAME		
AREA EVALUATED	1	CONDITION		
DIKE EMBANHMENT	None.			
Crest Elevation				
Current Pool Elevation				
Maximum Impoundment to Date				
Surface Cracks				
Pavement Condition				
Movement or Settlement of Crest				
Lateral Movement				
Vertical Alignment				
Horizontal Alignment				
Condition at Abutment and at Concrete Structures				
Indications of Movement of Structural Items on Slopes				
Trespassing on Slopes				
Sloughing or Erosion of Slopes or Abutments				
Rock Slope Protection - Riprap Failures				
Unusual Movement or Cracking at or near Toes				
Unusual Embankment or Downstream Seepage				
Piping or Boils				
Foundation Drainage Features				
Toe Drains				
Instrumentation System				

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PERIODIC INSPEC	TION CHECK LIST
PROJECT PRITCHARD'S POND DAM	DATE December 3, 1980
PROJECT FEATURE Outlet Works-Intake	NAME
DISCIPLINE Civil/Str.	NAME WG
AREA EVALUATED	CONDITION
OUTLET WORKS - INTAKE CHANNEL AND INTAKE STRUCTURE	
a. Approach Channe	Not visible (under water).
Slope Conditions	
Bottom Conditions	
Rock Slides or Falls	
Log Boom	
Debris	
Condition of Concrete Lining	
Drains or Weep Holes	
b. Intake Structure	
Condition of Concrete	Poor.
Stop Logs and Slots	Clogged with debris - no longer work
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	PERIODIC INSPEC	TION CHECK LIST
PRO	JECT PRITCHARD'S POND DAM	DATE December 3, 1980
PRO	JECT FEATURE Outlet Works - Contro	1 Tower NAME
DIS	CIPLINE	NAME
<u></u>		Γ
OIPUI	AREA EVALUATED ET WORKS - CONTROL TOWER	CONDITION
		None observed.
a. (Concrete and Structural	
	General Condition	
	Condition of Joints	
	Spalling .	
	Visible Reinforcing	
İ	Rusting or Staining of Concrete	
į	Any Seepage or Efflorescence	
-	Joint Ali_nment	
	Unusual Scepage or Leaks in Gate Chamber	
	Cracks	
	Rusting or Corrosion of Steel	
. .	Mechanical a: i Electrical	· · · ·
	Air Vents	
•	Float Wells	
	Crane Hoist	
	Elevator	
	Hydraulic System	
	Service Gates	
	Emergency Gates	
	Lightning Protection System	
	Emergency Power System	
	Wiring and shting System	، E-5

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FERIODIC INSPEC	
PROJECT PRITCHARD'S POND DAM	DATE December 3, 1980
PROJECT FEATURE <u>Outlet Works - Condui</u>	
DISCIPLINE_Civil/Str.	VME_WG
AREA EVALUATED	CONDITION
OUTLET WORKS - TRANSITION AND CONDUCT	6" Cast Iron Pipe protruding from
General Condition of Concrete	d/s face of dam.
Rust or Staining on Concrete	
Spalling	
Erosion or Cavitation	
Cracking	
Alignment of Monoliths	
Alignment of Joints	
Numbering of Monoliths	
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•	PROJECT PRITCHARD'S POND DAM	PECTION CHECK LIST
1	PROJECT FEATURE Outlet Works - Str. /	DATE December 3, 1980
	DISCIPLINE <u>Geotechnical</u>	NAME_REM. RWT
	ARŁA EVALUATED	CONDITION
	OUTLET WORKS - OUTLET STRUCTURE AND OUTLET CHANNEL	
	General Condition of Concrete	
	Rust or Staining	
	Spalling	
	Erosion or Cavitation	
	Visible Reinforcing	
; •	Any Seepage or Efflorescence	
	Condition at Joints	
GEI	Drain holes	None observed.
GEI	Channel	Banks lined with stone wall.
GEI	Loose Rock or Trees Overhanging Channel	Parts of stone wall bank liner are loose
GEI	Condition of Discharge Channel	Partially blocked with cluster of 5 tree joined at base (6"-8" diameter), and by several boulders which have fallen
•		off left bank wall into discharge channe!
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FERIODIC INSIECT	ION CIRCK LET
PROJECT_PRITCHARD'S POND DAM	DATE December 3, 1980
PROJECT FEATURE Outlet Works- Weir	N/NQ:
DISCIPLINE Civil/Str, Hydraulic	NAME WG, MA
AREA EVALUATED	CONDITION
OUTLET WORKS - SPILIMAY WEIR, APPROACH AND DISCHARGE CHANNELS	
a. Approach Channel	Not Visible (under water)
General Condition	
Loose Rock Overharding Channel	
Trees Overhanging Channel	
Floor of Approach Channel	
b. Weir and Training Walls	
General Condition of Concrete	Good. trash rack is clogged with debr
Rust or Staining	
Spallin ₆	
Any Visible Reinforcing	
Any Seepage or Efflorescence	
Drain Holes	
c. Discharge Channel	
General Condition	Good
Loose Rock Overhanging Channel	Parts of stone wall are loose
Trees Overhanging Channel	Yes - 5 trees immediately d/s of outlet
Floor of Channel	Clear (except for trees)
Other Obstructions	No
Other Obstructions	No E-8

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PERIODIC INSI	PECTION CHECK LIST
PROJECT PRITCHARD'S POND DAM	DATE December 3, 198
PROJECT FEATURE Outlet works - Service	<u>ce Bri</u> dge NAME
DISCIPLINE	NAME
AREA EVALUATED	CONDITION
OUTLET WORKS - SERVICE BRIDGE	None observed.
a. Super Structure	
Bearings	
Anchor Bolts	<i>,</i>
Bridge Seat	
Longitudinal Members	· .
Under Side of Deck	
Secondary Bracing	
Deck	
Drainage System	
Railings	
Expansion Joints	
Paint	
1. Abutment & Piers	
General Condition of Concrete	
Alignment of Abutment	
Approach to Bridge	
Condition of Seat & Backwall	
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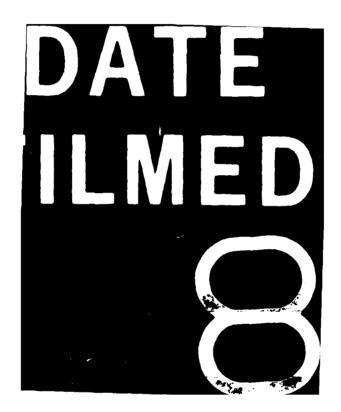
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ςI	Foundation Drainage reasures		··
ĢЫ	Toe Drains		None observed.
GEI	Instrumentation Syr m	F-2	None.
d 2	Vegetation	22	None. Scattered trees on crest and up

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