WHETSTONE BROOK DAM
CT-00167
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### NATIONAL PROGRAM FOR INSPECTION OF NON-FEDERAL DAMS

#### Whetstone Brook Dam

**Cover program reads:** Phase I Inspection Report, National Dam Inspection Program; however, the official title of the program is: National Program for Inspection of Non-Federal Dams; use cover date for date of report.

**DAMs, inspection, dam safety,**

Whetstone Brook Dam

The dam is approx. 18 ft. high and 250 ft. long. The spillway which comprises the dam section is a stone masonry gravity section with a 5 ft. high dike to the left and concrete intake structure to the right. The project is in poor condition. There is substantial seepage, the sluice gates are inoperable, there is a gap in the left intake channel of 0.4 ft.
INSPECTION REPORT
WHETSTONE BROOK DAM - LT. 00167

The dam is approximately 18 feet high and 250 feet long. The spillway which comprises the main dam section is a stone masonry gravity section with a 5 foot high dike to the left and concrete intake structure to the right.

The 100 foot long spillway is constructed of uncut to extremely rough cut, dry-laid stone masonry with a 6 foot wide concrete cap. The masonry is at a batter of 5 vertical to 1 horizontal on the downstream side and the spillway approach channel slopes sharply and has a silt, sand and gravel bottom.

For the Owner's information and use, the following items are attached:

1. "Visual Inspection Check List".
2. Hydraulic/Hydrologic computations.
3. Existing data and correspondence.
4. Photos of project.

Based upon the visual inspection, the project is in poor condition. The following features could influence the future condition and/or stability of the project:

1. There is substantial seepage emanating from the downstream face of the masonry spillway section;
2. The sluice gates in the intake structure at the right end of the dam area inoperable;
3. The left intake channel wingwall has become separated from the gate structure, leaving a gap of 0.4 feet between them.

The owner should retain the services of a registered professional engineer to perform further studies pertaining to the following general recommendations. More specific recommendations, made by the engineer, should be implemented by the owner.
1. The seepage through the dam should be investigated. Measures should be undertaken to eliminate the seepage, or a seepage monitoring program should be established.

2. The outlet works should be made operable, in order to partially draw down the pond level, should the need occur.

3. The left intake channel wingwall should be securely fixed in its original position, attached to the gate structure.
**VISUAL INSPECTION CHECK LIST**

**PARTY ORGANIZATION**

**PROJECT:** Whetstone Brook Dam  
**DATE:** June 5, 1960  
**TIME:** 3:00 pm  
**WEATHER:** Sunny 75°  
**W.S. ELEV.** 99.0' U.S. 82.0' DN.S

<table>
<thead>
<tr>
<th>PARTY</th>
<th>INITIALS</th>
<th>DISCIPLINE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Peter Heynen</td>
<td>PH</td>
<td>Geotechnical</td>
</tr>
<tr>
<td>Ted Stevens</td>
<td>TS</td>
<td>Geotechnical</td>
</tr>
<tr>
<td>Hector Moreno</td>
<td>HM</td>
<td>Hydraulics</td>
</tr>
<tr>
<td>Robert Jalin</td>
<td>RJ</td>
<td>Hydraulics</td>
</tr>
<tr>
<td>Tim Kavanaugh</td>
<td>TK</td>
<td>Survey</td>
</tr>
<tr>
<td>Moshe Norman</td>
<td>MN</td>
<td>Survey</td>
</tr>
</tbody>
</table>

**PROJECT FEATURE**  
**INSPECTED BY**  
**REMARKS**

1. Masonry Spillway  
   PH, TS, HM, RJ  Poor cond.
2. Concrete Intake Structure  
   PH, TS, HM, RJ  Poor cond.
**PERIODIC INSPECTION CHECK LIST**

**PROJECT** Wheatstone Brook Dam  
**DATE** 6-5-62  
**PROJECT FEATURE** Masonry Spillway  
**BY** RJTS, HM, BJ

<table>
<thead>
<tr>
<th>AREA EVALUATED</th>
<th>CONDITION</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>OUTLET WORKS-SPILLWAY WEIR, APPROACH AND DISCHARGE CHANNELS</strong></td>
<td></td>
</tr>
<tr>
<td>a) Approach Channel</td>
<td></td>
</tr>
<tr>
<td>General Condition</td>
<td>Good, drops off quickly</td>
</tr>
<tr>
<td>Loose Rock Overhanging Channel</td>
<td>No</td>
</tr>
<tr>
<td>Trees Overhanging Channel</td>
<td>No</td>
</tr>
<tr>
<td>Floor of Approach Channel</td>
<td>Silt, Sand, Cobble</td>
</tr>
<tr>
<td>b) Weir and Training Walls</td>
<td></td>
</tr>
<tr>
<td>General Condition of Concrete</td>
<td>Poor - just a thin, shell-like cop over masonry</td>
</tr>
<tr>
<td>Rust or Staining</td>
<td>None observed</td>
</tr>
<tr>
<td>Spalling</td>
<td></td>
</tr>
<tr>
<td>Any Visible Reinforcing</td>
<td>N/A</td>
</tr>
<tr>
<td>Any Seepage of Efflorescence</td>
<td>No-seepage of water thru masonry</td>
</tr>
<tr>
<td>Drain Holes</td>
<td>N/A</td>
</tr>
<tr>
<td>c) Discharge Channel</td>
<td></td>
</tr>
<tr>
<td>General Condition</td>
<td>Good</td>
</tr>
<tr>
<td>Loose Rock Overhanging Channel</td>
<td>No</td>
</tr>
<tr>
<td>Trees Overhanging Channel</td>
<td>No</td>
</tr>
<tr>
<td>Floor of Channel</td>
<td>Cobble</td>
</tr>
<tr>
<td>Other Obstructions</td>
<td>No obstructions - channel in deep, wide valley</td>
</tr>
</tbody>
</table>
## Periodic Inspection Check List

**Project:** Whitestone-Brook Dam  
**Date:** 6-5-80  
**Project Feature:** Concrete Intake Structure by PHJS, HM, RJ

### Area Evaluated: Outlet Works-Intake Channel and Intake Structure

#### a) Approach Channel
- **Slope Conditions**: Submerged—could not observe
- **Bottom Conditions**: Silty
- **Rock Slides or Falls**: No
- **Log Boom**: No
- **Debris**: Minor floating debris
- **Condition of Concrete Lining**: Poor—left training wall pulled 0.4' away from headwall—exposed—reinforcing N/A
- **Drains or Weep Holes**: Poor—left training wall pulled 0.4' away from headwall—exposed—reinforcing

#### b) Intake Structure
- **Condition of Concrete**: Fair
- **Stop Logs and Slots**: Yes—two wood gates, each is 58" wide x 50" deep
STATE BOARD FOR THE SUP.
INVENTORY IN

Hale Dam

Name of Dam or Pond

Code No.

Location of Structure

Town

Name of Stream

U.S.G.S. Quad.

Owner

Address

Pond Used For

Dimensions of Pond: Width ______ Length ______ Area ______

Total Length of Dam ______ Length of Spillway ______

Depth of Water Below Spillway Level (Downstream) ______

Height of Abutments Above Spillway ______

Type of Spillway Construction

Type of Dike Construction

Downstream Conditions

Summary of File Data

Remarks
13 June 1970

Hale Manufacturing Company
58 Pomfret Street, Box 190
Putnam, Connecticut

Re: Dam on Valley Road (K-4)
Killingly

Gentlemen:

According to the records in this office the above mentioned dam on Whetstone Brook is owned by you.

Section 25-110 (1971 Supplement) of the General Statutes, a copy of which is enclosed, places under the jurisdiction of this department all dams, which by breaking away or otherwise, might endanger life or property. It has been determined that this dam is under the jurisdiction of this department.

In accordance with Section 25-111 (1971 Supplement) of the General Statutes, this dam has been inspected. In order to maintain your dam in a safe condition the following work must be done, or steps taken:

1. The stones at the north end of the spillway must be replaced so as to restore the vertical wall to its original elevation.

2. The remaining flashboards on the spillway should be removed so that the water will flow evenly over the entire spillway during a heavy run-off.

Will you please notify this office within two weeks as to your intentions in regard to this matter.

Very truly yours,

Victor F. Galgowski
Supt. of Dam Maintenance
Water & Related Resources

VFGri1g
HYDROLOGIC/HYDRAULIC INVESTIGATION

Wheatstone Brook (Wheat Hill Co.) Dam, Killingly, Ct.

2) Performance at Peak Flood Condition:

1) Probable Maximum Flood (PMF):

a) Watershed classified as "rolling"

b) Watershed area:

The dam is located on Wheatstone Brook 97 ft. from a group of ponds and reservoirs with adjacent camp and meadow areas. The total watershed is subdivided as follows:

2) DA. To Eddy Pond Reservoir Dam.  \( A_{DA} = 0.50 \text{ sq. mi.} \)
3) DA. To Killingly Pond Dam.  \( A_{DA} = 1.50 \text{ sq. mi.} \)
4) DA. To Alvin Chaff Reservoir Dam.  \( A_{DA} = 0.45 \text{ sq. mi.} \)
5) Total Pond/Reservoirs Draining To Middle Reservoir.  \( A_{TOTAL} = 3.87 \text{ sq. mi.} \)
6) Increment to Middle Reservoir Dam.  \( A_{INC} = 0.77 \text{ sq. mi.} \)
7) Total DA. To Middle Reservoir Dam.  \( A_{DA} = 4.61 \text{ sq. mi.} \)
8) Increment To Bog Meadow Reservoir.  \( A_{DA} = 0.15 \text{ sq. mi.} \)
9) Total DA. To Bog Meadow Reservoir Dam.  \( A_{DA} = 5.06 \text{ sq. mi.} \)
10) Increment To Acme Pond.  \( A_{DA} = 0.06 \text{ sq. mi.} \)
11) Total DA. To Acme Pond Dam.  \( A_{DA} = 5.10 \text{ sq. mi.} \)
12) Increment To Wheatstone Brook Dam.  \( A_{DA} = 0.55 \text{ sq. mi.} \)
13) Total DA. To Wheatstone Brook Dam.  \( A_{DA} = 5.65 \text{ sq. mi.} \)

*Note: Drainage areas with an asterisk are from Conn. DEP Bulletin No. 1 (Gazetteer of Natural Drainage Areas). All others are from the U.S.G.S. East Killingly, Conn. Quadrangle Sheet (Rev. 1970).
C) Peak Floods (From NED-ACE Guidelines-Sole Curves for PHF).

The group of impoundments and their adjacent stream/meadow lands 4% from Whetstone Brook Dam cover (2) 15% of the watershed and therefore, they have potentially, a significant effect on the reduction of peak inflow to the dam.

This peak flood reduction was estimated by the approximate Routing NED-ACE Guidelines Alternate Method "Surcharge Storage Routing" and 19th May. Precip. 2.0. In New England.

The following impacting conditions are noted. See in field observations and analysis of the watershed.

C) A horizontal overflow length at the top elevation of the dam with discharge coefficient C=5.0 was used. Real routed ponds/reservoirs that accounts a relatively small outflow discharge (neglected) with respect to the total outflow.

C) A freeboard from the normal water surface to the top of the dam (overflow) of H0 = 4 was assumed for all the routed ponds/reservoirs.

W) The Alvin Clark Reservoir was merged to the main reservoir for flood routing purposes. Similarly, the group of impoundments comprising Bog Meadow Reservoir and Acme Pond were routed as a single reservoir with the overflow section at Acme Pond.

G) Overflow lengths and average lake areas within expected surcharge peaks were measured on the USGS Liason Creek Run RI Land Sheet (Rev 1973), except for the Acme Pond overflow which is a field measure.

**Field Observations on 5/1/70 by USA 9-5**

Copy available to DTIC does not permit fully legible reproduction.
The flood from incremental S.A.'s 'net annual runoff' has been adjusted to peak simultaneously with the reservoir's peak inflow.

A summary of the runoffs of peak inflows to Whitestone Brook Dam follows:

<table>
<thead>
<tr>
<th>Name/Location of Runoff Flood</th>
<th>D.A. (sq mi)</th>
<th>CSA (0.15 ft³/s)</th>
<th>Overflow (ft³/s)</th>
<th>Average Lake Area (ac)</th>
<th>PMF (cfs)</th>
<th>1/2 PMF (cfs)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Eddy Play</td>
<td>*0.87</td>
<td>2400</td>
<td>1700</td>
<td>*79.3</td>
<td>2100</td>
<td>1400</td>
</tr>
<tr>
<td>Killingly</td>
<td>*1.51</td>
<td>2100</td>
<td>500</td>
<td>*14.4</td>
<td>3200</td>
<td>1600</td>
</tr>
<tr>
<td>Alvina Chase and Milestone</td>
<td>2.23</td>
<td>2200</td>
<td>2000</td>
<td>230</td>
<td>7900</td>
<td>6000</td>
</tr>
<tr>
<td>Bos Meadow to Acre (Incl.)</td>
<td>0.49</td>
<td>2600</td>
<td>740</td>
<td>64</td>
<td>7300</td>
<td>6700</td>
</tr>
<tr>
<td>Whitestone</td>
<td>0.56</td>
<td>2500</td>
<td>200</td>
<td>8100</td>
<td>2100</td>
<td>2700</td>
</tr>
</tbody>
</table>

Notes:
1. Drainage Area: (a) = total; (b) = incremental.
2. Reduced to allow for possible overflow to Modesty Reservoir or other waters.
3. Average Lake Area to E.F.R.A. = 2400.4 ft².
4. Average Lake Area to top of dam = 591,690 x 5,650 ft².
5. No reduction to the peak inflows are expected at Whitestone Brook Dam.
6. Estimated peak inflows to Whitestone Brook Dam without reduction by ½ reservoir's are estimated at: PMF = 10000 (cfs) and ½ PMF = 5000 (cfs) Peak Flood Reduction by ½ reservoirs is estimated at (a) 19% for the PMF and (b) 46% for the ½ PMF.
2) Surchage at Peak Inflows

b) Outflow Rating Curve

(c) Spillway and Overflow Profile for Comparison & Design

Spillway (25' Long, broad crest (5'-10' width) with 0.624 cap uneven crest formed by a coarsely crushed lap dumped concrete. The Coarse Crushed Masonry, the Concrete Crushed Rock Cap, the sloping section to the right of the Dam (see profile on CE) which is also included an extension of the spillway.

The overflow section extends on flat slab termed "overflow road" (30'D right) closed (4000') at both sides of the dam; assume C = 2.8 for the flow over the entire section (see profile below).

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Note: Data from CE observations on 5/1/60 by YK & R.S.

Whitstone Brook Dam
Approximate Overflow Profile

*Note: National Geodetic Vertical Datum (NGVD) of 5', f = 1.04. Data not available. Therefore, elev's 100' A.D. A.D. - (Assumed Datum). (Assumed Datum) Elevation, Reconcile CE's Elevations. Check CE's Elevations. The Assumed CEV's 100' Elevations to (c) elev 420' NGVD.
(ii) Therefore, assuming counterclockwise for the lozenge drain, the overflow rating curve for the weir crest (H) above the weir crest can be approximated as follows:

1) Section AB: \( Q_{48} = \frac{25 \times 6 \times 2.8 (H-3.6)^{5/6}}{112 (H-3.6)^{4/6}} \)

2) Section BC: \( Q_{00} = \frac{17 \times 10 \times 2.8 (H-2.8)^{5/6}}{112 (H-2.8)^{4/6}} \)

\( Q_{00} = \frac{2.8 \times 15 \times (H-1.9)^{5/6}}{112 (H-1.9)^{4/6}} = 44.2 (H-1.9)^{5/6} \quad H \geq 1.9 \)

3) Skewway (Section DE): (Pinnacle L=17'; Sect CD assumed level)

\( Q_{c2} = Q_{00} = \frac{2.8 \times 10 \times 6}{112} = 288 (H-3.6)^{5/6} \)

4) Section EF: \( Q_{48} = \frac{25 \times 6 \times 2.8 (H-4.9)^{5/6}}{215 (H-4.9)^{4/6}} \quad H \geq 4.9 \)

\( Q_{48} = \frac{28 \times 20 (H-0.62)^{5/6}}{215 (H-0.62)^{4/6}} \quad H \geq 5.0 \)

5) Section GH: \( Q_{48} = 28 \times 28 (H-4.9)^{5/6} = 784 (H-4.9)^{5/6} \quad H \geq 5.0 \)

6) Section HI: \( Q_{48} = \frac{29 \times 49 \times 2.8 (H-4.9)^{5/6}}{53.3 (H-4.9)^{5/6}} \quad H \geq 5.0 \)

\( Q_{48} = 28 \times 40 (H-5.28)^{5/6} = 112 (H-5.28)^{5/6} \quad H \geq 5.0 \)

7) Section JJ: \( Q_{48} = \frac{29 \times 22 \times 2.8 (H-6.3)^{5/6}}{53.3 (H-6.3)^{5/6}} \quad H \geq 6.3 \)

Therefore, the total overflow is approximated by the sum of all the applicable formularies on items (1') to (2') and the curves. Pending curve is plotted on p. 2-6.

b) Surcharge height to pass peak flow (48" peak)

\( @ Q_{48} = 8100 \text{ cfs} \quad (\text{PF}) \quad H \leq 5.0 \)

\( @ Q_{48} = 2700 \text{ cfs} \quad (\text{1/4 PF}) \quad H \leq 3.3 \)
Cahn Engineers Inc.
Consulting Engineers

Sheet 1 of 1

Project: NON-FEDERAL DAMS INSPECTION

Computed By: [Name]
Checked By: [Name]

Date: [Date]

Total Outflow Rating Curve

- See Note P. D-4
- Assumed Top of Dam at Low Overflow Point to the Left of the Spillway.

Effect of Surcharge Forces - Peak Outflows:

1) Ave. Lake Area (A) Within Elevation Use:

- Lake Area at Flowline (Assumed 42") E 155'40" (R.2.1): ~ 2.2 ft

2) Area at Contour 450'40" (R.2.1): ~ 2.6 ft

Ave. Area Within Elevation Use (A':) ~ 4.8 ft²

Note: Areas from U.S. East Hillocks, Jan 17, 1987 Sheet, Jan 17, 1987

Assume Normal Pool at Flowline (Elev. 450'40")
(ii) WATERFED D.A. = 5.66 ft. (Regulated by 1% reservoir - See p. 8)

(iii) PEAK OUTFLOWS (Q, = Q,)

Because the lake area is so small, consequently, the storage of Whetstone Brook can pond are too small to have an appreciable effect on the reduction of the peak flows. The peak outflows are approximately:

\[
\begin{align*}
Q_1 & = 8100\, \text{cfs} \\
Q_2 & = 2700\, \text{cfs}
\end{align*}
\]

(See Rating Curve p. 9-6)

3) SPILLWAY CAPACITY RATIO TO PEAK OUTFLOWS

<table>
<thead>
<tr>
<th>Spillway Capacity To:</th>
<th>Surch* H (FT)</th>
<th>W.S. Elev. (Ft.-Dam)</th>
<th>Spillway Capacity (CFS)</th>
<th>Spillway Capacity as % of Peak Outflows</th>
</tr>
</thead>
<tbody>
<tr>
<td>Top of Dam</td>
<td>1.4</td>
<td>101.4</td>
<td>510</td>
<td>6.3</td>
</tr>
<tr>
<td>1/2 PMF</td>
<td>3.3</td>
<td>103.3</td>
<td>590</td>
<td>7.4</td>
</tr>
<tr>
<td>PMF</td>
<td>5.6</td>
<td>105.6</td>
<td>4600</td>
<td>57</td>
</tr>
</tbody>
</table>

*Surchage Above the Spillway Crest  
**See Note p. 9-4  
***Assumed at the low overflow point to the left of the spillway
Whetstone Brook Dam

II) Downstream Failure Hazard

1) Potential Impact Area.

An industrial building and at least 7 houses with first floor elevations between 23.5 and 6' above the stream are located to within a distance of 3400' from Whetstone Brook Dam. Said small ponds and a mill also are located in this Whetstone Brook reach, which is considered to be the potential impact area in case of failure of the dam.

2) Failure at Whetstone Brook Dam

a) Assume surcharge to top of dam: Elevation 101.8' Datum (+ FL 405.40) ft.

b) Height of Dam*: H = 17.6' (Top Elevation: 84.8' Datum + 17.6' FL 341.40)

c) Mid-Height Length*: L = 113'

d) Beam Width (see NED-ACE 9.1 Dam Failure Guidelines):

\[ W = 0.4 \times 113 = 45.2' \quad \text{Assume} \; W_0 = 45' \]

e) Assumed water depth at time of failure: \( h_0 = 17.6' \)

f) Spillway Discharge at time of failure:

\[ Q_0 = 510 \; \text{cfs} \] (see p. 0.7)

\[ Q_1 = 590 \; \text{cfs} \] (after failure, assuming remaining stream: 15.84'); \( Q_2 = 590 \; \text{cfs} \)

*From CE field measurements on 5/1/80 by N.C. & R.J.
4) BREACH OUTFLOW (SEE NE-1*5 GUIDELINES)

\[ Q_b = \frac{b}{27} \times \frac{V_b}{6} \times \frac{y}{10} = 5600 \text{ CFS} \]

9) PEAK FAILURE OUTFLOW \((Q_P)\) TO WHETSTONE BRIDGE

\[ Q_p = 6000 \text{ CFS} \]

3) FLOOD DEPTH* IMMEDIATELY \(\frac{3}{4}\) FROM DAM:

\[ y = 0.44 \times 7.7\]

*(FROM RETREATING WAVE THEORY APPLIED TO DAM FAILURE)

4) ESTIMATE OF \(\frac{3}{4}\) FAILURE CONDITIONS AT POTENTIAL IMPACT AREA:

(SEENED ACE GUIDELINES FOR ESTIMATING \(\frac{3}{4}\) FAILURE HEADING)

(1) 4000' LONG REACH OF WHETSTONE BRIDGE: 0.5% SE AWAY FROM WHICH CONTINUES: THE POTENTIAL IMPACT AREA IS GENERALLY THAT OF THE ZONE IN CROSS SECTION WITH (1) 200' BASE AND (3) 3' AND 15' TO 1' SIDE SLOPES. THE AVERAGE REACH SLOPE IS 2%, ASSUME N = 0.050.

5) RESERVOIR STORAGE AT TIME OF FAILURE:

\[ \frac{S}{W} = 25,400 \text{ AC-FT} \]

\[ \frac{S}{W} = 12.5,400 \text{ AC-FT} \]

*CE. ESTIMATE BASED PRIORIARLY ON LAKE AREA AT FLOW LINE AND AT CONTOUR 430' NED (SEE P.26): A_max = 22 sq ft; \(h_{80} = 6.4\) ft; HEIGHT OF DAM (P.28) H = 176' (H zero = 162') AND LAKE LENGTH (P.650') AND WIDEN (P.200') AT FLOOD LINE. IT IS NOTED THAT BASED ON THESE DATA, THE MAX STORAGE VALUE OF 68 AC-FT GIVEN ON THE ACE US INVENTORY OF DAMS OF 1/26/80, P.23, IS CONSIDERED TOO LARGE.
Cahn Engineers Inc.
Consulting Engineers

Project: Non-Federal Dam Inspection
Sheet 0-10 of 10

Computed By: [Signature]
Checked By: [Signature]
Date: 6/1/70

Field Book Ref.: [Signature]
Other Ref.: [Signature]
Revisions: [Signature]

C) Approximate Stage 46 From Dam After Failure

The Reach is subdivided to have [details omitted]

<table>
<thead>
<tr>
<th>Reach</th>
<th>Q at 6600</th>
<th>Q at 3900</th>
<th>Q at 2400</th>
<th>Q at 1270</th>
<th>Q at 770</th>
<th>Q at 440</th>
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<tbody>
<tr>
<td></td>
<td>ft³/s</td>
<td>ft³/s</td>
<td>ft³/s</td>
<td>ft³/s</td>
<td>ft³/s</td>
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</tr>
<tr>
<td>700</td>
<td>6000</td>
<td>2.5</td>
<td>1.8</td>
<td>1.4</td>
<td>1.2</td>
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<tr>
<td>950</td>
<td>3900</td>
<td>2.5</td>
<td>1.8</td>
<td>1.4</td>
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<td>1350</td>
<td>2400</td>
<td>1.8</td>
<td>1.4</td>
<td>1.2</td>
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<tr>
<td>1000</td>
<td>1270</td>
<td>1.8</td>
<td>1.4</td>
<td>1.2</td>
<td>1.2</td>
<td>1.2</td>
</tr>
</tbody>
</table>

The peak flood through the potential impact area upon failure of Whetstone Reservoir varies approximately from Q = 6600 cf; just 46 from the dam to (1) Q = 3900, approx. 4000' 26.

The corresponding channel stage varies approximately from 1/4 of 26 immediately 46 from the dam and from (0.4, +26') to (1) 4.26' through the potential impact area.

1) Approximate Stage Before Failure: Q = 510, 4.26' 26

2) Rise in Stage Through the Impact Area Varies Approximately for

AY = 2, 26' to 2, 26'"
**State Board for the SUP. Inventory**

**Hale Dam**

**Name of Dam or Pond**: Hale Dam

**Code No.**: 176

**Location of Structure**: Valley Rd. 3200' East of Burlington Rd.

**Town**: Lat. 41° 50' 30" N

**Name of Stream**: Ill. 1st As

**U.S.G.S. Quad.**: Long 71° 49' 47" W

**Owner**: City of Champaign

**Address**: City, CO

---

**Pond Used For**: DA 2.445m

**Dimensions of Pond**: Width __________ Length __________ Area __________

**Total Length of Dam** __________ **Length of Spillway** __________

**Depth of Water Below Spillway Level** (Downstream) __________

**Height of Abutments Above Spillway**: __________

**Type of Spillway Construction**: __________

**Type of Dike Construction**: __________

**Downstream Conditions**: __________

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**Summary of File Data**: __________

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**Remarks**: __________
END

FILMED

DTIC

V5-84