



TODDY POND DAM (#111)



PREPARED FOR:

**BUCKSPORT MILL LLC
P.O. BOX 1874
BUCKSPORT, MAINE 04416**

PREPARED BY:

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**October 2024 – Revision 1
JN: 11299.023**



**REVISION SHEET
OPERATION AND MAINTENANCE MANUAL**

**FOR
TODDY POND DAM NO. 111**

NO.	DESCRIPTION OF REVISION MADE	BY	DATE
0	O&M Manual	Haley Ward, Inc.	2023
1	Ownership update	Haley Ward, Inc.	2024

**DISTRIBUTION LIST
OPERATION AND MAINTENANCE MANUAL**

**FOR
TODDY POND DAM NO. 111**

COPY NO.	LOCATION
1	Dam Owner/Operator
2	MEMA



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TODDY POND DAM PROJECT DATA SHEET

General

Dam Name:	Toddy Pond Dam
NID ID No.:	111
Owner & Operator:	Bucksport Mill LLC
Location:	Lat 44°34'05" N.; Long 68°40'41" W Hatchery Road, Town of Orland, Hancock County, Maine
Purpose of Project:	Regulate lake levels in Toddy Pond and Alamoosook Lake
Construction History:	Original construction in 1921, initially for paper mill; repairs made in 1947
Downstream Hazard Class:	High Hazard
Project Datum:	National Geodetic Vertical Datum of 1929 (NGVD_29 Approx.) Note: Elevations are based on mill datum and may not correspond with other recognized or published elevations, per 1984 repair plans.

Reservoir

Watershed:	Located on Toddy Pond Stream from Toddy Pond to Alamoosook Lake			
Drainage Area:	25.0 square miles			
	ELEVATION (FT)	SURFACE AREA (AC)	TOTAL STORAGE (AF)	ACTIVE STORAGE (AF)
Normal Full Pool:	165.0	2,360.0	19,658.0	26,640.0 (Est.)
Maximum Flood Pool:	167.0		22,300.0	

Dam

Dam Type:	Composite earth/concrete/masonry dam with concrete fishway		
Height:	Structural: 16.0 ft		Hydraulic: 13.0 ft at normal pool
Crest Elevation:	167.4 ft		
Crest Length:	196.0 ft	Crest Width: 10.0 ft +/-	
Upstream Slope:	Undocumented		
Downstream Slope:	Ranges from 2.7H:1V to 3.6V:1H on downstream side of Hatchery Road		

Outlet Works

Conduit:	Concrete
Control Gate (s)	One electrically operated 4.0'x6.0' vertical gate

Spillway

The dam has two uncontrolled spillways. The left spillway is 9'2.5" long while the right spillway is 10'0" long.
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1.0 GENERAL INFORMATION

1.1 Operation and Maintenance Manual

This document is the Operation and Maintenance (O&M) Manual for Toddy Pond Dam. The O&M Manual provides procedures and guidance for the normal operation and maintenance of the Toddy Pond Dam. The purpose of the O&M Manual is to ensure adherence to approved operating procedures over long periods of time and through changes in operating personnel. The O&M Manual will also permit personnel, knowledgeable in dam/reservoir operations, but unfamiliar with the conditions at a particular dam, to operate the dam and reservoir at times when regular operating personnel cannot perform their normal duties.

NOTE: For unusual and emergency conditions, the procedures set forth in the Toddy Pond Dam Emergency Action Plan (EAP) should be followed.

1.2 Purpose and Description of Project

The Toddy Pond Dam (ID No. 111) is a high potential hazard, composite earth/concrete/masonry dam with fishway, located at the outlet of Toddy Pond in the Town of Orland, Maine, adjacent to Hatchery Road. The dam is a concrete and masonry gravity structure with gate, spillways, fish ladder, and abutment sections. The structure had been used for hydropower production, but the powerhouse and penstock have been removed. The structure is primarily used to regulate lake levels in Toddy Pond and provide flows in Toddy Pond Stream for the migration of alewives. Photographs of the dam are included in **Appendix A**. Location Map, Schematic Plans, and Aerial Map are included in **Appendix D**.

The Toddy Pond Dam is owned by Bucksport Mill LLC. The dam was built in 1921 as a mill dam to store water to supply downstream mills along the downstream Narramissic River. After the downstream mills were closed, the dam continued to flow into Alamoosook Lake from where water is pumped into Silver Lake. Currently, the pond is used for recreation. The dam's last major repair was in 1947. The dam raises Toddy Pond, a glacial lake, by approximately 8.0 feet. For the purposes of the O&M manual, the dam structure is assumed to end at the upstream side of the Hatchery Road bridge, per MDOT records (see MDOT plan - Figure 5 in **Appendix D**). Ownership of the bridge and responsibility for maintenance of the bridge structure lies with the Town of Orland.

The dam consists of one electrically operated 4.0-foot high, 6.0-foot long vertical gate, between two 9.0-foot and 10.0-foot long, nearly 4.0-foot thick granite masonry spillways. The reservoir level can be controlled by the electrically operated mechanical gate. The east spillway is abutted by a 5.0-foot wide pier and a 5.0-foot wide fish ladder. The water flow in the fish ladder is controlled by wooden baffles. When the water level of the pond is at the top of the dam (TOD elevation 167.0 feet), the estimated discharge of both spillways is 186.0 cubic feet per second (cfs). The combined discharge of the gate, fish ladder, and spillways is 612.0 cfs. The dam has no other controllable outlets.



This O&M Manual provides the necessary information and procedures for successful operation and maintenance of the Toddy Pond Dam. Implementation of the O&M Manual will address public safety for residents and properties located both upstream and downstream of the dam, monitor existing deterioration, and extend the useful life of the dam and associated structures. Implementation of the O&M Manual also enhances the function of Toddy Pond, the local ecosystem including fisheries, wildlife, and water quality, provides a stable water level, protects the lake waterfront properties, and reduces the risk and liability associated with dam ownership.

The O&M Manual includes background information, a description of the dam, associated hydrology and hydraulics inspection guidelines, and operation and maintenance procedures, including lake water level management.

1.3 Location and Access to the Dam and Facilities

The Toddy Pond Dam is located at the northerly end of Toddy Pond in the Town of Orland, Maine. The dam is accessed via Hatchery Road from the west and Toddy Dam Road from the north.

1.4 Assignment of Responsibility

Bucksport Mill LLC maintains ownership of the Toddy Pond Dam and has final authority and responsibility for the safety, operation, and maintenance of the Toddy Pond Dam.

1.5 Attendance and Communications

1.5.1 Attendance

The Toddy Pond Dam is unattended with site visits and site inspections performed on behalf of Bucksport Mill LLC by contracted personnel. The dam is an approximately five-to-ten-minute drive from where the contracted personnel who operate the water system for Bucksport Mill LLC are located.

1.5.2 Communication

There is no phone or radio at the Toddy Pond Dam. Contact Bucksport Mill LLC for questions or to arrange access. Bucksport Mill LLC may be reached by phone at (630) 986-1972.

1.6 Public Safety and Health

The safety of the public and all personnel is a primary concern. Access to the dam is to be coordinated with the Owner. Access to the dam is restricted. The outlet gate valves are locked and gated.

1.7 Restricted Areas

Access to the dam is to be coordinated with the Owner. Access to the dam is restricted. The outlet gate valves are locked and gated.



2.0 OPERATION PROCEDURES

2.1 Reservoir Operations

Bucksport Mill LLC uses contracted personnel to maintain water levels in the lake in accordance with an established rule curve. Typically, flows out of the lake vary.

Little information exists about watershed hydrology, lake levels, and historic flows at the regulated Toddy Pond site. From lake level records provided by Verso Paper for the period January 1960 through August 1998, a peak lake level of 166.8 feet (estimated USGS datum) occurred in December 1969. The flow in Toddy Pond Stream was unknown but was calculated to be 157.0 cfs of overtopping flow (1.8 feet over the spillways and 0.3 feet over the west core wall) with an unknown amount of gate flow. Assuming a maximum gate opening of 5.0 feet, the gate could have been contributing as much as 300 cfs additional flow. Typically, Toddy Pond Lake levels are between elevations 163.0 feet and 165.0 feet, with the lowest levels occurring during the summer.

Toddy Pond has a drainage area of approximately 25.0 square miles. In watersheds in Maine, average annual flows are approximately 2.0 cubic feet per second per square mile (cfs/mile²) according to records from gauged basins. The average annual flow for the Toddy Pond drainage is, therefore, estimated to be 50.0 cfs.

Toddy Pond Stream flows from Toddy Pond to Alamoosook Lake, a distance of approximately 0.7 miles. The normal level of Alamoosook Lake is elevation 21.0 feet, so that the elevation difference between Toddy Pond and Alamoosook Lake is 144.0 feet. The steeply sloping stream is defined by a boulder strewn streambed and high wooded banks. The gradient of the stream flattens near the confluence with Alamoosook Lake in a large wetland. Alamoosook Lake flows into the Narramissic River, which is backwatered by the Orland Village Dam separating the Narramissic River from tidewater.

There is little development adjacent to Toddy Pond Stream downstream of the dam. As noted previously, the Hatchery Road bridge has a low chord elevation of 160.5 feet and a deck elevation of approximately 163.5 feet. A single residence downstream of the Hatchery Road bridge has a sill elevation of approximately 165.0 feet. The only other structures downstream of the dam are properties on the shoreline of Alamoosook Lake and houses along the Narramissic River.

2.2 Filling Schedule

There is no filling schedule for Toddy Pond.

2.3 Release Schedule

There is no release schedule for Toddy Pond. A decision is made to release water based on the rainfall, moisture conditions, and water demand. The outlet structure is inspected and cleaned of debris and sediment if present, and the gate is adjusted based on demand. When the lake elevation is below the crest of the spillways and the gate is closed, only leakage is passed from the dam.



2.4 Flood Operation

Refer to the Emergency Action Plan (EAP).

2.5 Control Gates

In the center of the structure is a 5.0-foot wide sluice gate. The concrete gate structure has a width of 11.5 feet, including the gate.

2.6 Spring Startup Procedure

Each spring (April – May), an inspection of the dam will be performed by the Owner or Owner's representative.

2.7 Fall Shutdown Procedure

Each fall (October – November), an inspection of the dam will be performed by the Owner or Owner's representative.



3.0 MONITORING AND INSPECTION

3.1 General

This section describes the methods and frequency of data collection, transmittal of data, and procedures to evaluate the data.

Bucksport Mill LLC is primarily responsible for collecting and reporting readings which consist of monitoring lake water levels at the dam. Periodic Inspections should be performed by Bucksport Mill LLC. Bucksport Mill LLC contracts to have these functions performed but maintains responsibility for them and is responsible to review and file the inspection records.

Twice a year, in the spring (April – May) and the fall (October – November), an inspection of the following areas will be performed by the Owner or Owner's representative. Each item has one or more specific items to observe and note. The specific items are listed on the dam Inspection Checklist, which must be filled out completely at the time of each inspection, and include:

1. Access
2. Crest
3. Upstream/Downstream Slopes
4. Abutment Contact
5. Appurtenances/Structures
6. Reservoir
7. Downstream Channel
8. Level
9. Gate

Additional dam and water level inspections will be performed as needed and after critical events including severe rain or windstorms, earthquakes, or periods of extremely high storage. During inspections, debris will be removed as needed from in and around the weirs to prevent clogging.

3.2 Monitoring Wells

There are no monitoring wells at or associated with the Toddy Pond Dam.

3.3 Drains and Seepage

Find all toe drains and sumps, monitor and record their flows and the lake elevation twice a year during the semi-annual inspections.

Locate and map all leaks. Monitor and record leakage twice per year in May and November. Correlate seepage rates to lake elevation and document. Monitor settlement of the embankments.

Map, photo document, and monitor efflorescence and loss of material and strength in the spillway channel walls which retain the embankments and other concrete work in the dam.



3.4 Operational Inspections

Bucksport Mill LLC will assign or contract for personnel to conduct the inspections as needed. Inspections should include the use of the Inspection Checklist. Any unusual conditions should be reported to Bucksport Mill LLC immediately for further investigation or repair.

3.5 Periodic Owner Inspections

A formal Owner Inspection should be performed twice each year (fall and spring). The inspection should include a systematic review of the conditions of the dam and its associated features, including the outlet works as outlined on the forms included in **Appendix B**. The inspection forms should be completed and maintained in the project record files. Digital photographic records of project features should be included with the inspection files.

3.6 Periodic Engineer Inspections

A high hazard dam is required by the Maine Emergency Management Agency (MEMA) Dam Safety Program, per State Law [Title 37B MRSA , Chapter 24](http://mainelegislature.org) (mainelegislature.org), to have a periodic inspection completed by a qualified engineer every six years. Inspections by a qualified engineer should also be performed if unusual conditions occur or after critical events, such as earthquakes or extremely high reservoir storage levels.

3.7 Critical Event Inspections

The dam should be inspected during or immediately following the occurrence of critical events which raise the water level more than one foot, such as severe rain, or earthquakes. If emergency conditions are observed, the responses outlined in the EAP should be implemented. Emergency conditions include erosion threatening the integrity of the dam, seepage that is cloudy or excessive, and/or extremely high-water surfaces. Inspection by a qualified engineer should be performed to evaluate the impact of critical events on the dam.

This dam is susceptible to overtopping due to inadequate spillway capacity. Following any flood event which overtops the dam, it is suggested to have an inspection by a Maine licensed Professional Engineer.

Even if the water surface level is not at a high elevation at the time of an earthquake, it is possible that the dam could suffer negative effects from the earthquake (associated with seepage performance) that may not become evident until higher reservoir elevations are reached. Therefore, heightened awareness and possible monitoring would be appropriate following an earthquake whenever the reservoir is rising to elevations that have not been previously experienced since the occurrence of the earthquake. Specific changes to monitoring schedules would need to be established on a case-by-case basis in light of the magnitude of the earthquake, reservoir elevation at the time of the earthquake, and apparent damage sustained by the dam as a result of the earthquake.



4.0 MAINTENANCE

4.1 Critical Conditions

The following conditions are considered to be critical and require immediate repair or maintenance be completed under the direction of a qualified engineer. The critical repairs or maintenance needed to address the specific conditions encountered are not covered in this O&M Manual. Critical conditions should also trigger a response as outlined in the EAP.

- Overtopping event.
- Erosion, slope failure, or other conditions which are endangering the integrity of the dam.
- Piping or internal erosion as evidenced by increasingly cloudy seepage or other symptoms.
- Spillway blockage or restriction.
- Excessive or rapidly increasing seepage appearing anywhere near the dam site.

4.2 Periodic Maintenance

The following items should be noted in the operations log and added to the work schedule whenever they are noted during Operation Inspections or Periodic Inspections. The following maintenance items should be completed as soon as possible after identification (at least annually):

- Removal of trees and other woody vegetation from the embankment and abutments (see **Section 4.3**).
- Repair erosion gullies.
- Repair defective gates.
- Repair deteriorated concrete or metal components.
- Maintenance of riprap or other erosion protection.

Continued maintenance should also be performed for the following items:

- Testing and cleaning gates.
- Inspecting and maintaining gaging equipment.
- Removal of debris from embankment face and from areas around the intake structures.

4.3 Embankment Maintenance

1. Fill erosion gullies with properly compacted cohesive soil material. Seed or riprap repaired area to stabilize from future erosion.
2. Fill rodent burrows with a slurry of soil, cement, and water. Remove the rodents.
3. Maintain grass cover by spraying weeds, fertilizing, and watering as needed.
4. Remove trees and other woody vegetation from embankment and from within 25.0 feet of the groins and 50.0 feet of the toe of the embankment. Remove tree roots and fill resultant depressions with compacted soil and re-seed area.
5. Mow embankment at least twice per year.



6. Add or repair riprap where displacement or other damage occurs or has occurred.
7. Maintain grading of the embankment crests to prevent potholes, rutting, or other potential for standing water to accumulate.
8. Maintain fences to provide site security and to exclude wildlife from the embankments. Repair and re-vegetate damaged embankment surfaces.
9. Perform regular inspections of the embankments and abutments to identify potential maintenance items.

4.4 Outlet Maintenance

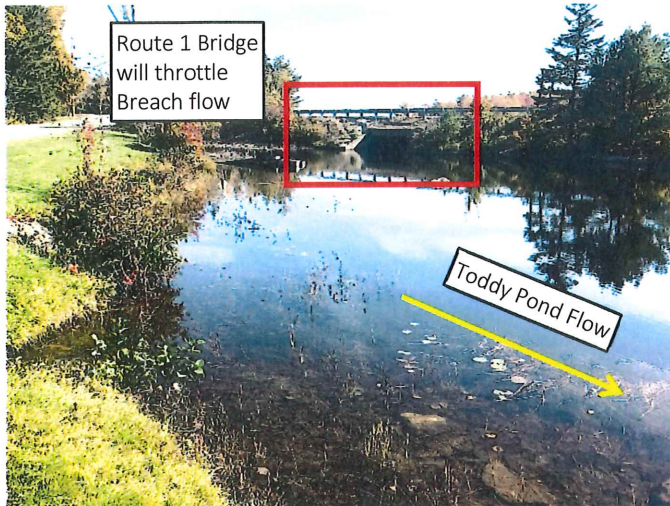
1. Test gates and valves semi-annually or as needed.
2. Lubricate gates and valves annually or as recommended by the manufacturer.
3. Repair defective gates to ensure smooth operation and prevent leakage.
4. Repair deteriorated concrete or metalwork.
5. Remove debris from the outlet channels and fishway annually, inspect and repair erosion protection.
6. Test motor semi-annually or as needed.

Maintenance Log and Schedule forms are located in **Appendix C**.

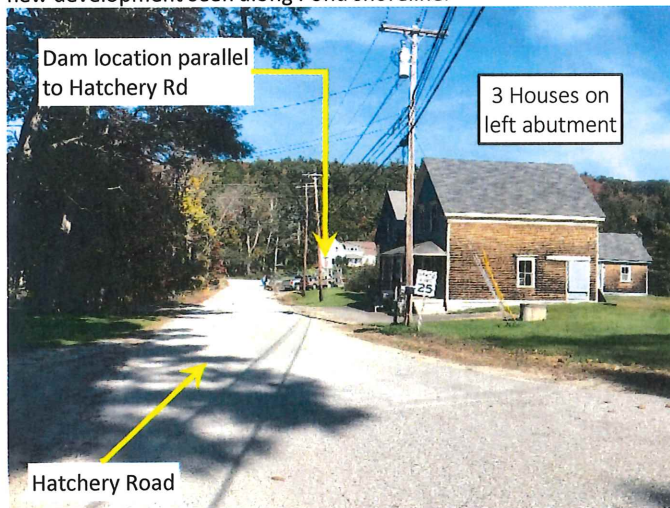


APPENDIX A

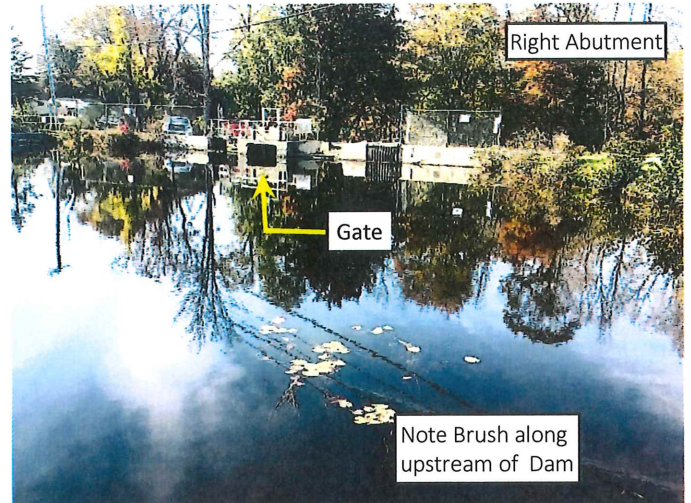
PHOTO LOG



1. Toddy pond head pond drawn down about 12". No new development was seen in the basin that would increase runoff. No new development seen along Pond shoreline.



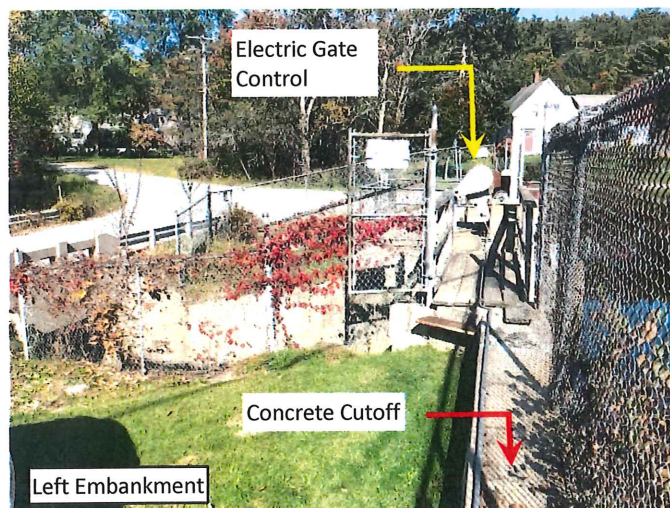
3. Road over bridge immediately downstream of dam.



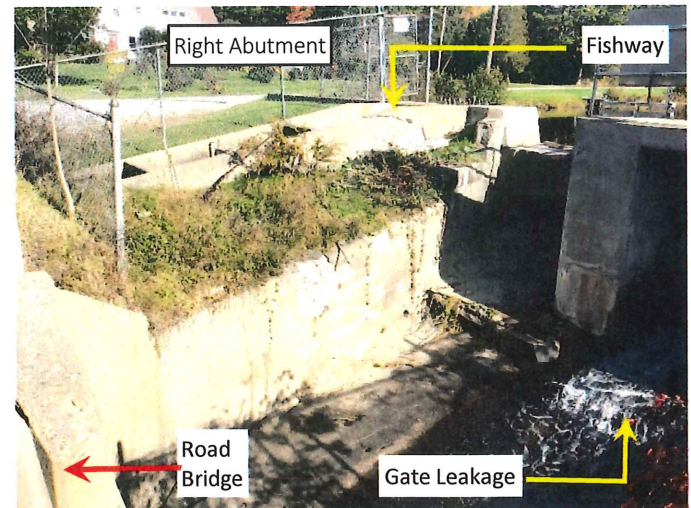
2. Dam headpond. No debris on screen. Concrete deteriorated throughout dam. Gate leaking. Fishway flowing & functional. Brush upstream on embankments left & right of concrete wall.



4. Concrete wall between left abutment & bridge.



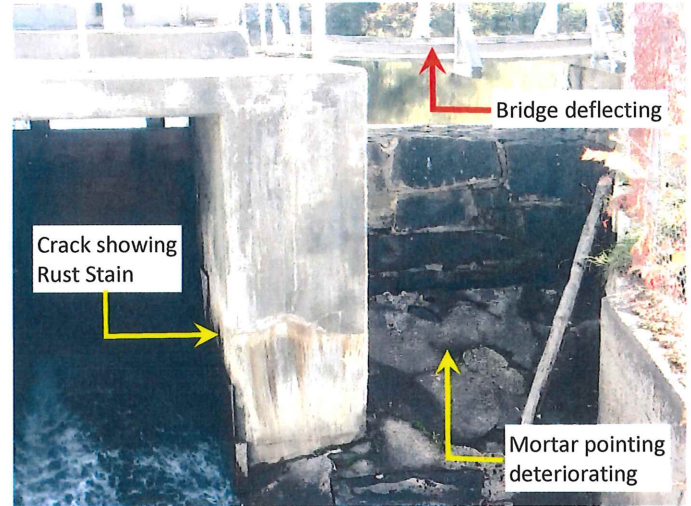
5. Gate opened for inspection. Concrete cutoff wall leads to bridge & gate control. Note fenced channel from spillway to bridge. The lawn is the left embankment.



6. Concrete outlet channel. Note close proximity of dam to Hatchery Road & bridge. All concrete serviceable but deteriorated.



7. Right uncontrolled spillway. Concrete cracks show seepage but little movement



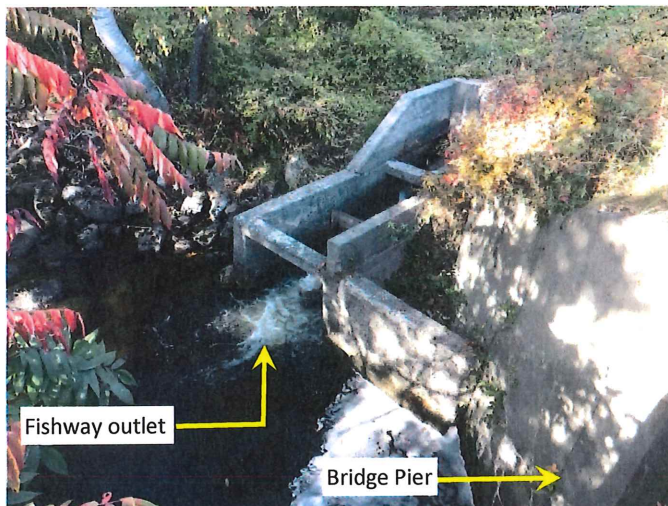
8. Gate & Left uncontrolled spillway. Concrete mortar at gate breaking up. Bridge deflecting. Gate operational.



9. Concrete piers & slab housing sluice gate & electric hoist. Rust streaks are likely at construction joints.



10. Downstream road embankment which merges with the road embankment. Fishway outlet lower right. Toe of dam assumed at channel outlet to bridge.



11. Fishway outlet.



APPENDIX B

INSPECTION CHECKLIST



DAM INSPECTION CHECKLIST		DATE: _____	
DAM: _____		INSPECTED BY: _____	
Item	Satisfactory	Unsatisfactory	Corrective Actions
1. Access			
2. Crest			
a. Settlement			
b. Misalignment			
c. Cracks			
d. Trees and Brush			
3. Upstream/Downstream Slopes			
a. Slope Protection			
b. Erosion/Beaching			
c. Trees and Brush			
d. Visual Settlements			
e. Sinkholes			
f. Animal Burrows			
g. Seepage			
h. Toe Drains			
i. Relief Wells			
j. Slides/Slumps			
4. Abutment Contact			
a. Erosion			
b. Seeping			
c. Boils			
d. Springs			
5. Appurtenances/Structures			
a. Concrete Condition:			
- Spalling			
- Cracking			
- Exposed Reinforcement			
- Loss of Joint Filler			
- Scaling			
b. Drains/Weepholes			
c. Stone			
d. Gates/Sluices Serviceable			
e. Spillway Obstructed/Bypassed			
6. Reservoir			
a. Signs of Shoreline Instability			
b. Sedimentation			
c. Excessive Debris			
d. Ice Related Problems			
e. Environmental Concerns			
f. Other			
7. Downstream Channel			
a. Eroding/Back cutting			
b. Sloughing			
c. Obstruction			
8. Fishways			
a. Baffles			
b. Obstructions			
c. Structural Condition			
9. Level			
a. Lake / Pond Level			
10. Gate			
a. Position			
11. Notes:			
Subject: Dam Inspection Checklist		Doc. ID: 40354	
Effective: 1/27/2020		Document Owner: Bucksport Mill LLC	
Once printed this is not a controlled document. All controlled documents exist in electronic form on the Mill web site.		Approved By: _____	



Inspection Continued:

Seepage Monitoring

EMBANKMENT	ZONE	VOLUME (GALLONS)	TIME (MINUTES)	RATE (GAL/MIN)	RESERVOIR LEVEL



APPENDIX C

DAM MAINTENANCE LOG AND SCHEDULE



DAM MAINTENANCE LOG

DATE	STRUCTURE ¹	FEATURE ²	TYPE ³ OF REPAIR/ MAINTENANCE	REPAIR/MAINTENANCE CONDUCTED BY	REPAIR/ MAINTENANCE COST	COMMENTS

NOTES: _____

¹Stoplog gate, east spillway, west spillway, etc.

²Top, upstream/downstream slope or face, apron, trash racks, handrail, etc.

³Concrete, earthwork, stone masonry, rock riprap, grass mowing, vegetation control, debris removal, etc.

MAINTENANCE SUMMARY AND SCHEDULE TABLE

This maintenance summary and schedule is intended to provide the owner with a quick reference of the recommended frequency intervals for inspecting and

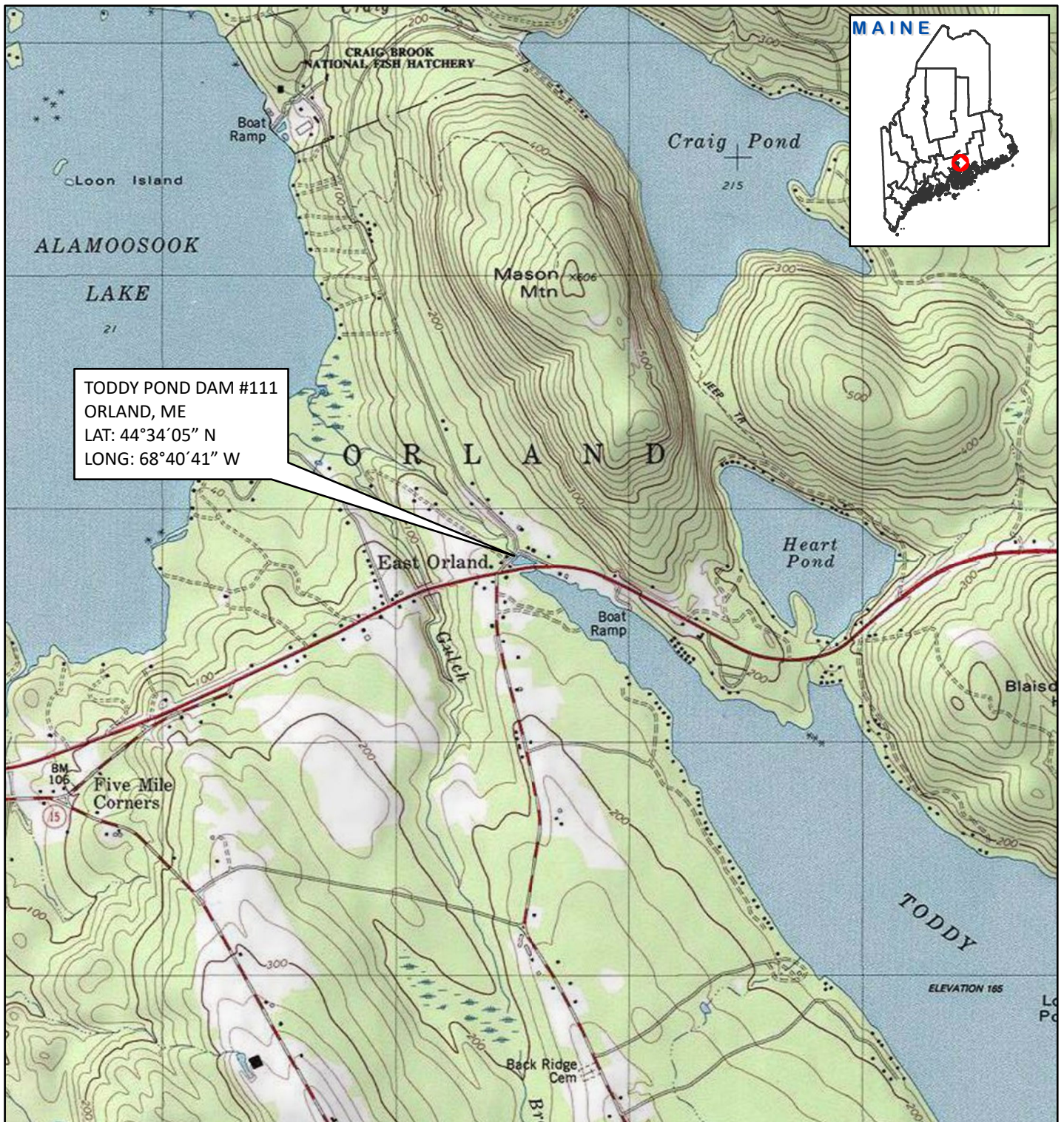
performing routine maintenance on the components of a dam.

Component	Maintenance Activity	Frequency
Embankment	Vegetation control Rodent control Minor earthwork, erosion repair Erosion protection	Twice per year, minimum Check once per year, perform as required Check once per year, perform as required As required
Principal Spillway	Vegetation control Minor earthwork, erosion repair Erosion protection Concrete repair	Twice per year Check twice per year, perform as required Check twice per year, perform as required As required
Emergency Spillway	Vegetation control Minor earthwork, erosion repair Erosion protection Concrete repair	Twice per year Check twice per year Check twice per year As required
Intake/Outlet Structures	Trashrack cleaning Mechanical operation Internal conduit inspection Concrete features inspection	After every major storm Once per year Once per year Once per year
Masonry Walls	Vegetation control Missing stones	Twice per year As required
Miscellaneous Safety and Access Features	Vehicle/pedestrian access route(s) maintenance Fences, locks, signs inspection	Once per year Once per year



APPENDIX D

PROJECT DRAWINGS




Legend



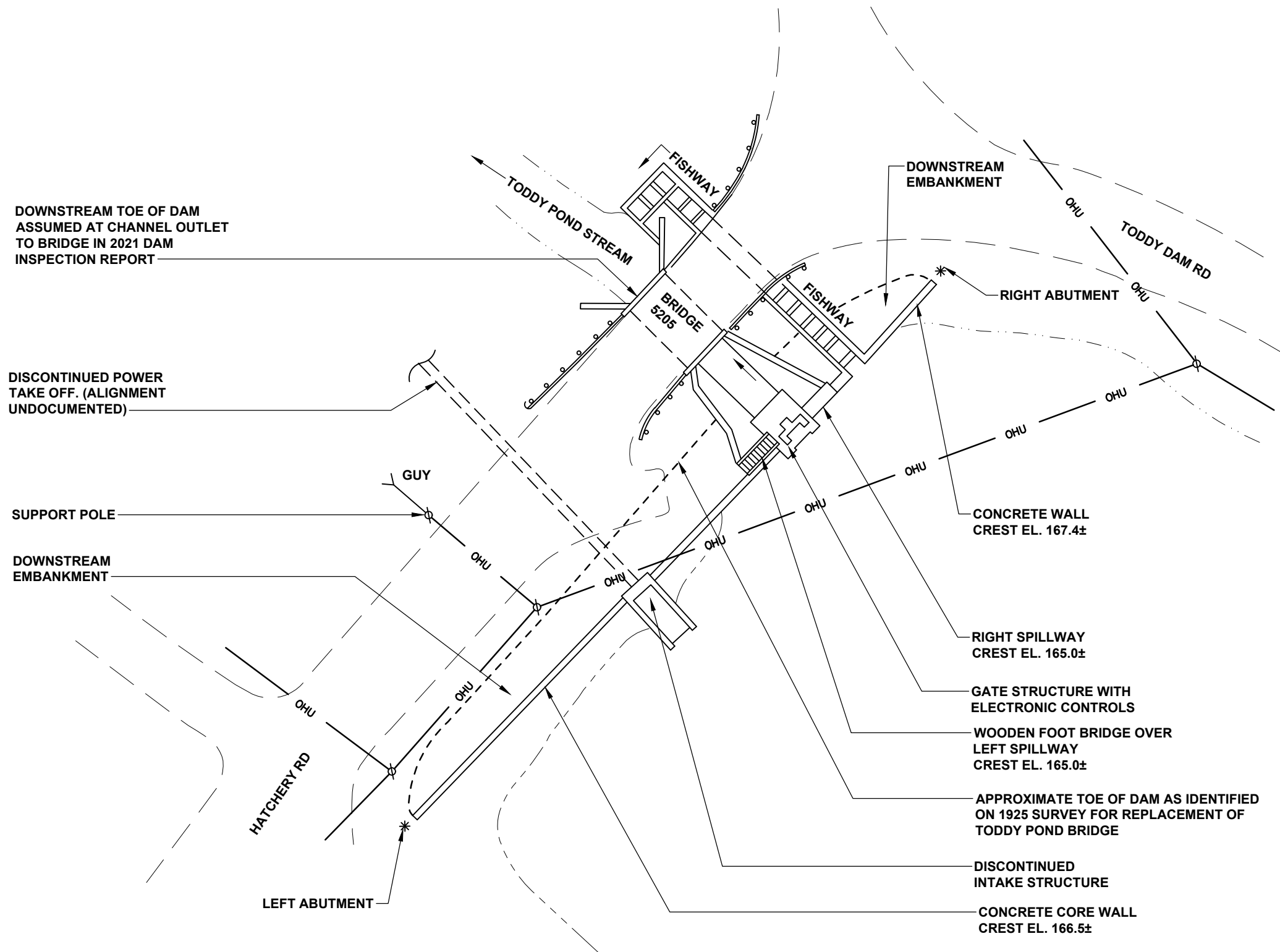
0 500 1,000 2,000
Feet

MAP NOTES:

1. MAP IS PROJECTED USING UTM ZONE 19N COORDINATES, AND REFERENCES THE NORTH AMERICAN DATUM OF 1983 (NAD83).
2. NORTH ARROW IS ORIENTED TO GRID NORTH IN ALL MAP EXTENTS DEPICTED HEREIN.
3. SITE FEATURES ARE APPROXIMATE.
4. BASE MAP CREDITS:
Copyright:© 2013 National Geographic Society, i-cubed

 HALEY WARD <small>ENGINEERING ENVIRONMENTAL SURVEYING</small> <small>1 Merchants Plaza, Suite 701 Bangor, ME 04401 207-989-4824</small>	
<small>WWW.HALEYWARD.COM</small>	
CLIENT	AIM DEVELOPMENT (USA) LLC
PROJECT	TODDY POND DAM #111 OPERATIONS & MAINTENANCE PLAN ORLAND, ME
TITLE	FIGURE 1 - LOCATION MAP
DATE	2/27/2023
PROJECT No.	11299.023
DRAWN BY	SWEATHERBEE
SCALE	1" = 2,000'

P:\11299-AM DEVELOPMENT\023-RIVER RD BUCKSPORT EAP UPDATES 3 DAMS-DBK02-CAD_DRAWINGS\CIVIL\TODDY POND DAM\11299.023 FIGURE 2.DWG



LEGEND

ϕ

UTILITY POLE

— OHU —

OVERHEAD WIRES

— · — · —

EDGE OF WATER

TOE OF DAM

— o — o — o —

GUIDE RAIL

NOTES:

1. MAP IS PROJECTED USING UTM ZONE 19 COORDINATES, AND REFERENCES THE NORTH AMERICAN DATUM OF 1983 (NAD83).

2. NORTH ARROW IS ORIENTED TO GRID NORTH IN ALL MAP EXTENTS DEPICTED HEREIN.

3. BASE MAP COURTESY OF GOOGLE MAPS.

4. THE LOCATION OF OVERHEAD WIRES SHOULD BE CONSTRUED AS APPROXIMATE.

5. ELEVATIONS FOR SPILLWAY CREST AND DAM WALLS WERE OBTAINED FROM THE 2021 INSPECTION REPORT FOR TODDY POND DAM #111 ON FILE AT MEMA.

6. BRIDGE FEATURES AND APPROXIMATE TOE OF DAM WERE OBTAINED FROM PLANS DATED 1925 FOR BRIDGE 2505 ON FILE AT MDOT.

7. INFORMATION PROVIDED IN THE 1925 DAM SURVEY AND 2021 INSPECTION REPORT REFERENCED HEREIN CONFLICT WITH RESPECT TO THE LOCATION OF THE DAM'S DOWNSTREAM TOE. FURTHER INVESTIGATION IS REQUIRED TO DOCUMENT DOWNSTREAM LIMITS OF THE DAM.

GRAPHIC SCALE

30

0

15

30

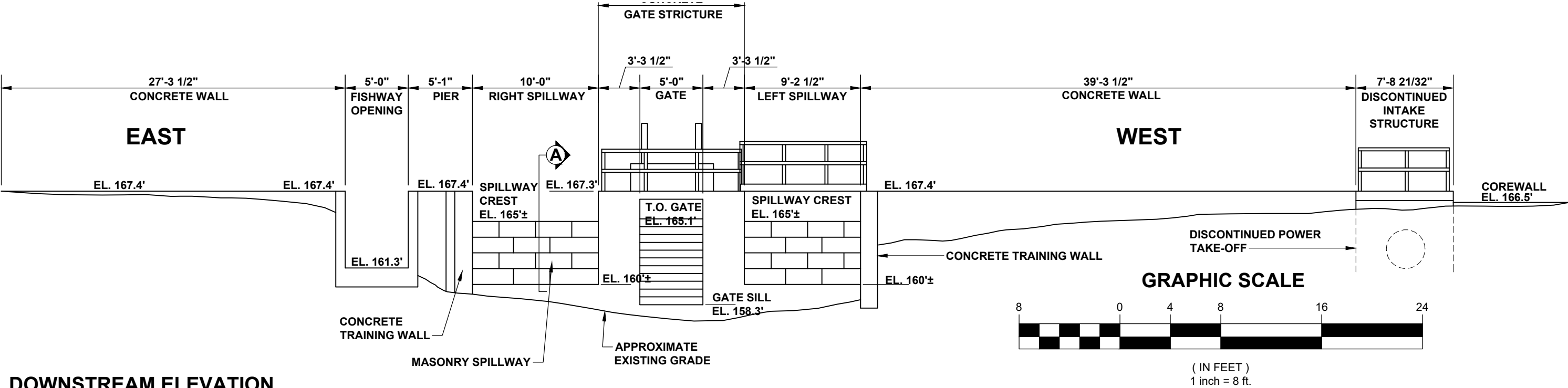
60

90

(IN FEET)
1 inch = 30 ft.

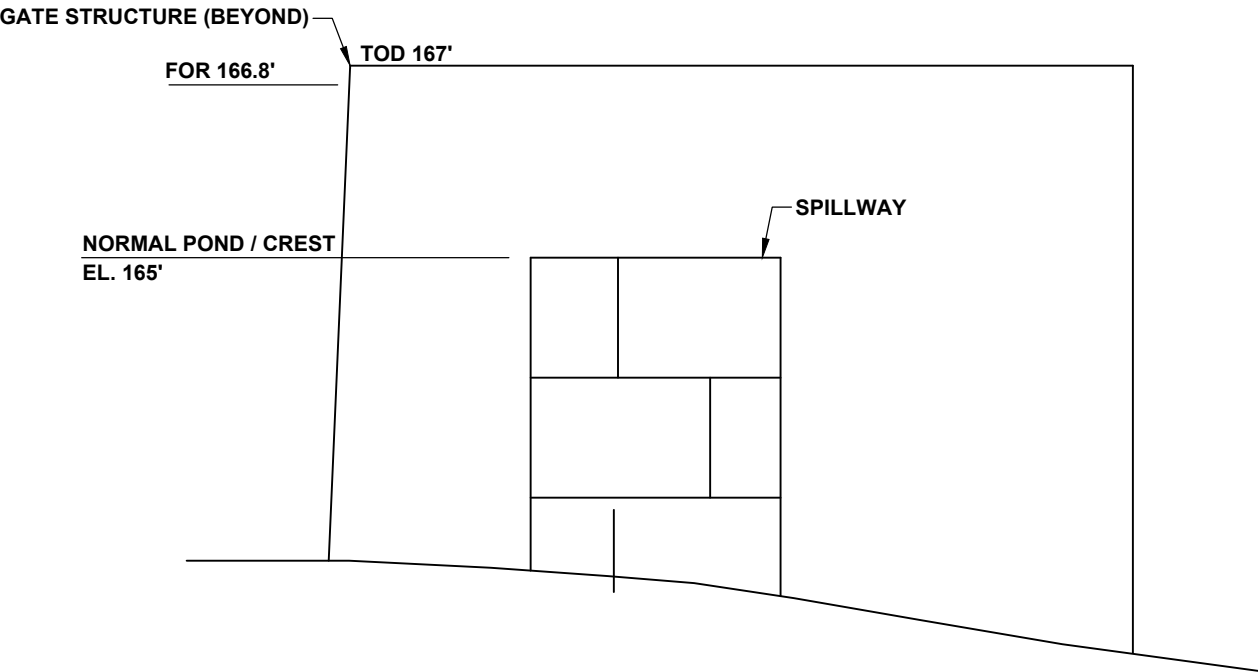
PROJECT	TODDY POND DAM, ORLAND, MAINE		DWG No.	FIGURE 2		BY	MEB / DNB		DRAWING STATUS	NOT FOR CONSTRUCTION	<div><div></div><div>HALEY WARD</div><div>ENGINEERING ENVIRONMENTAL SURVEYING</div></div>			
			JN	11299.023		DATE	2023.05.18							
			SCALE	AS NOTED		REV.								
TITLE			SITE PLAN			REV. DATE								

P:\11299-AM DEVELOPMENT\023-RIVER RD BUCKSPORT EAP UPDATES 3 DAMS-DBK02-CAD_DRAWINGS\CIVIL\TODDY POND DAM\11299.023 2.DWG



DOWNSTREAM ELEVATION

SCALE: 1"=8'-0"




SECTION A

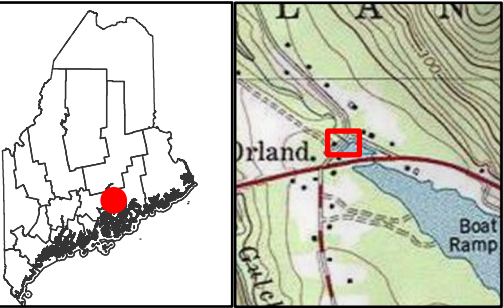
SCALE: 1"=2'-0"

- NOTES:
- THIS DRAWING WAS DIGITIZED BY HALEY WARD, INC. FROM A 1998 DRAWING BY KLEINSCHMIDT ASSOCIATES AND SHOULD BE CONSTRUED AS APPROXIMATE.
 - ELEVATIONS DEPICTED ON THIS DRAWING WERE OBTAINED FROM THE ABOVE-MENTIONED KLEINSCHMIDT DRAWING AS ANNOTATED BY MEMA IN THE 10/12/21 HAZARD & CONDITION REPORT FOR #111 TODDY POND DAM. ELEVATIONS APPEAR TO BE APPROXIMATELY REFERENCED TO NGVD-1929

PROJECT	TODDY POND DAM, ORLAND, MAINE		DWG No.	BY	MEB / DNB	DRAWING STATUS
			FIGURE 3	DATE	2023.04.19	
			JN 11299.023	REV.		
TITLE	DOWNSTREAM ELEVATION		SCALE	AS NOTED	REV. DATE	NOT FOR CONSTRUCTION

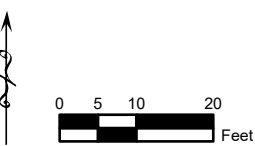



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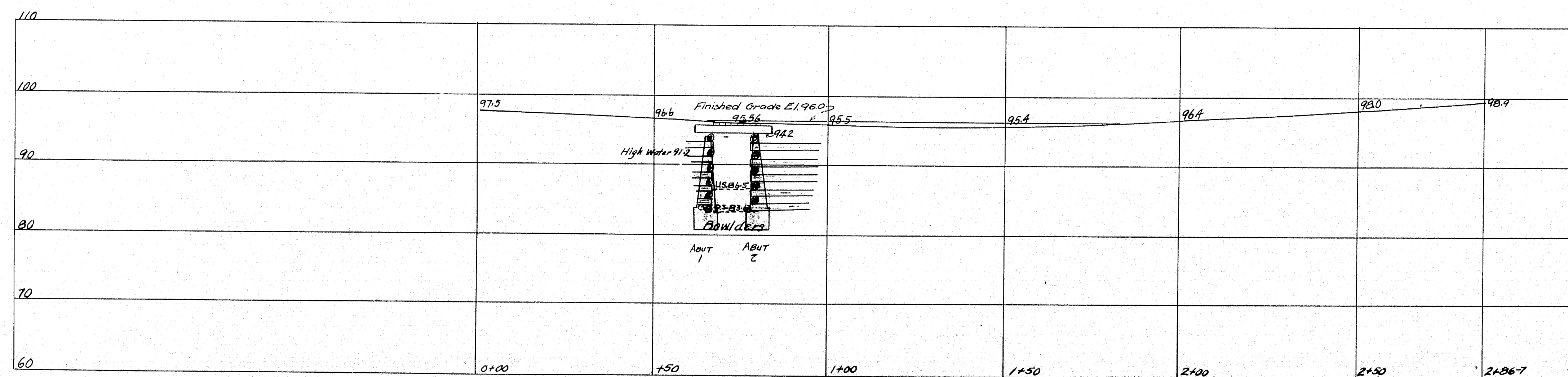
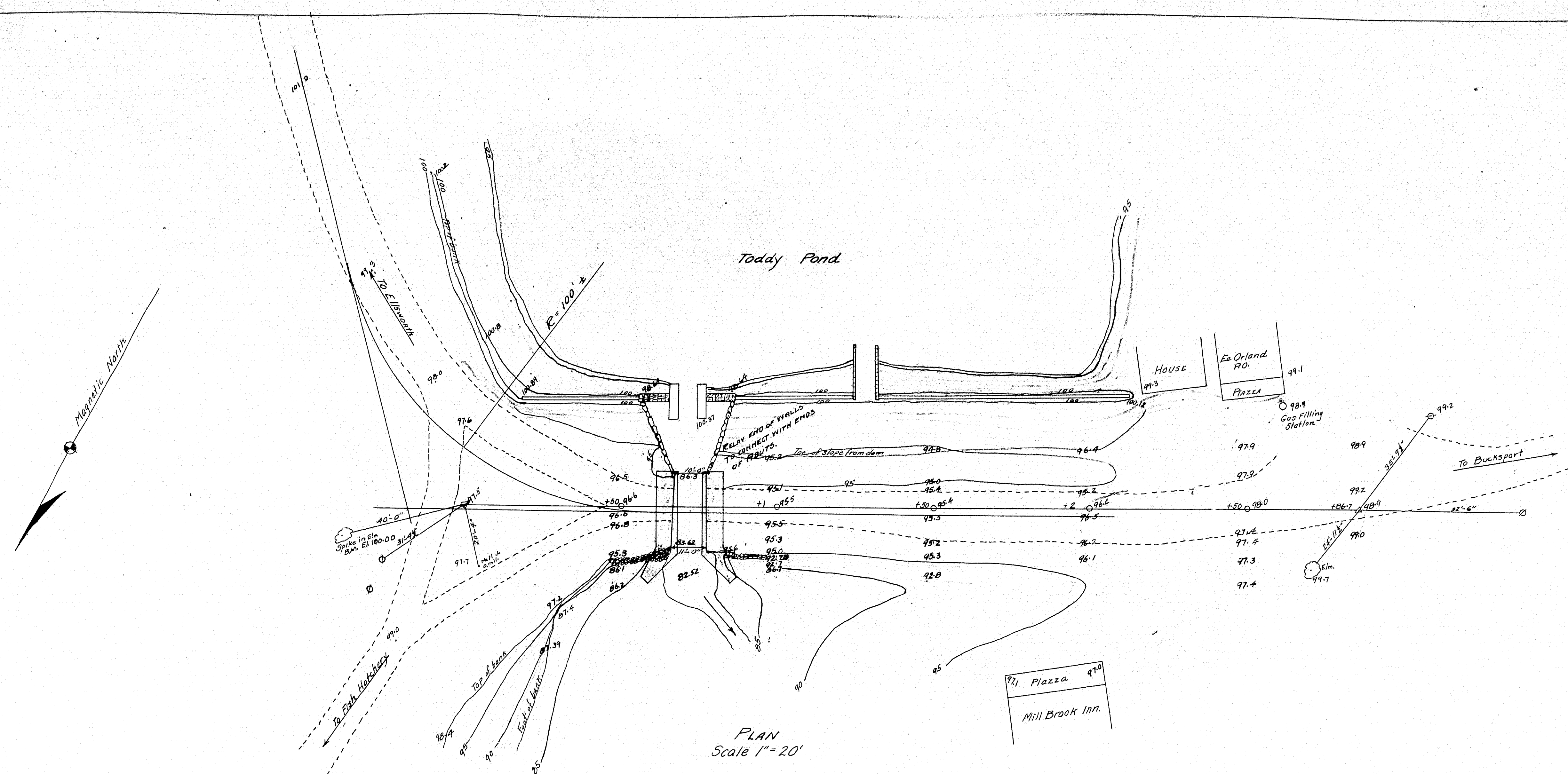


Legend

- MAP NOTES:
- 1. MAP IS PROJECTED USING UTM ZONE19 COORDINATES, AND REFERENCES THE NORTH AMERICAN DATUM OF 1983 (NAD83).
 - 2. NORTH ARROW IS ORIENTED TO GRID NORTH IN ALL MAP EXTENTS DEPICTED HEREIN.
 - 3. BASE MAP COURTESY OF GOOGLE MAPS.



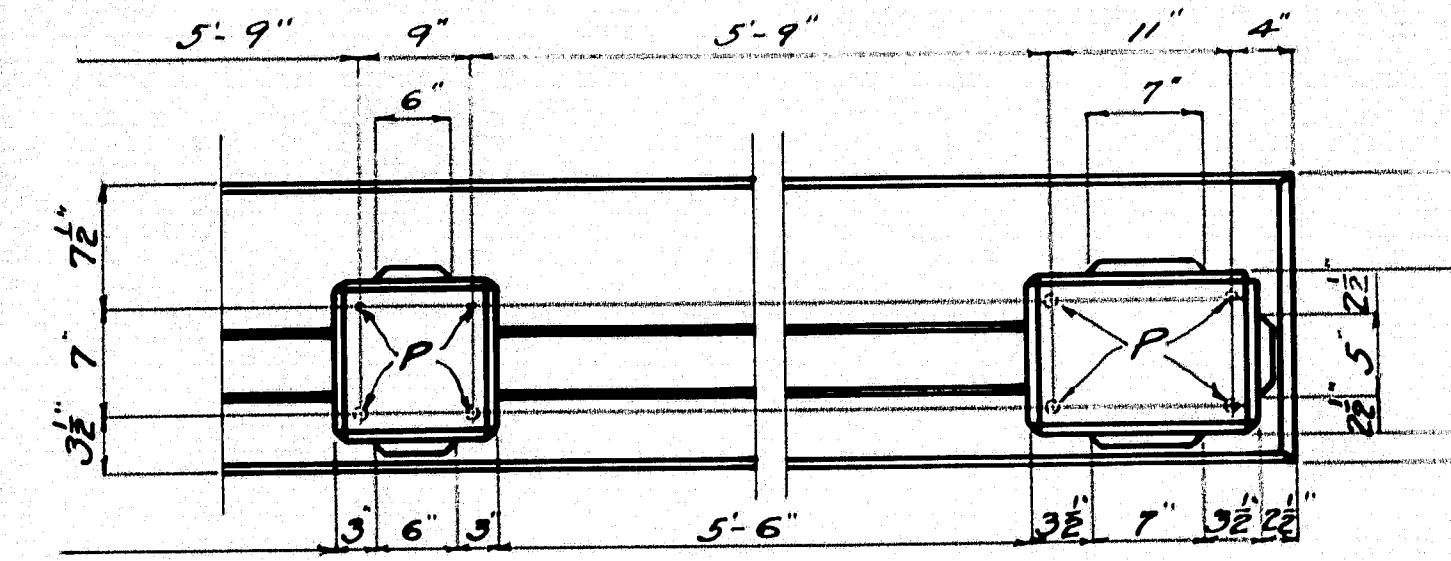
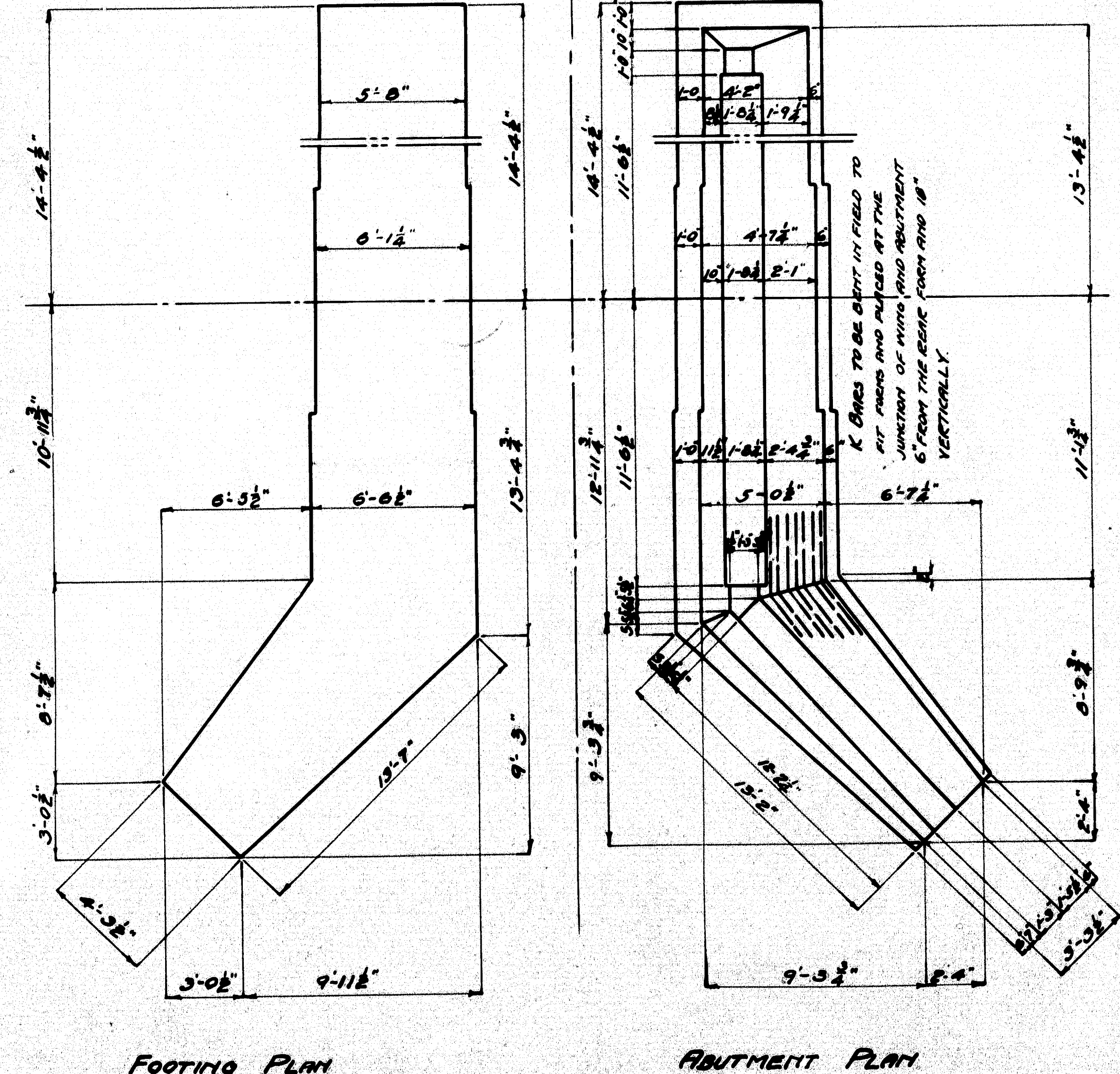
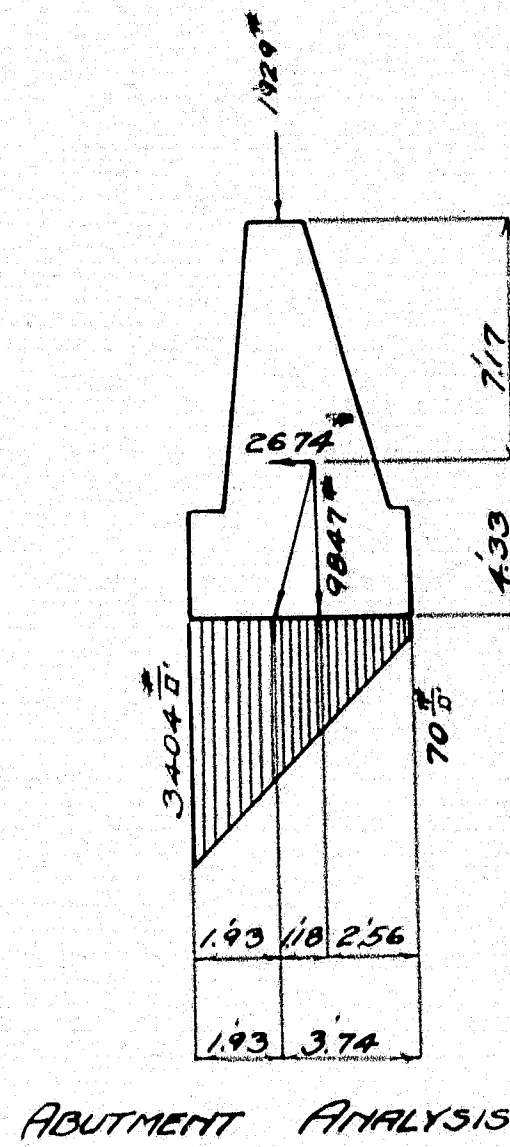
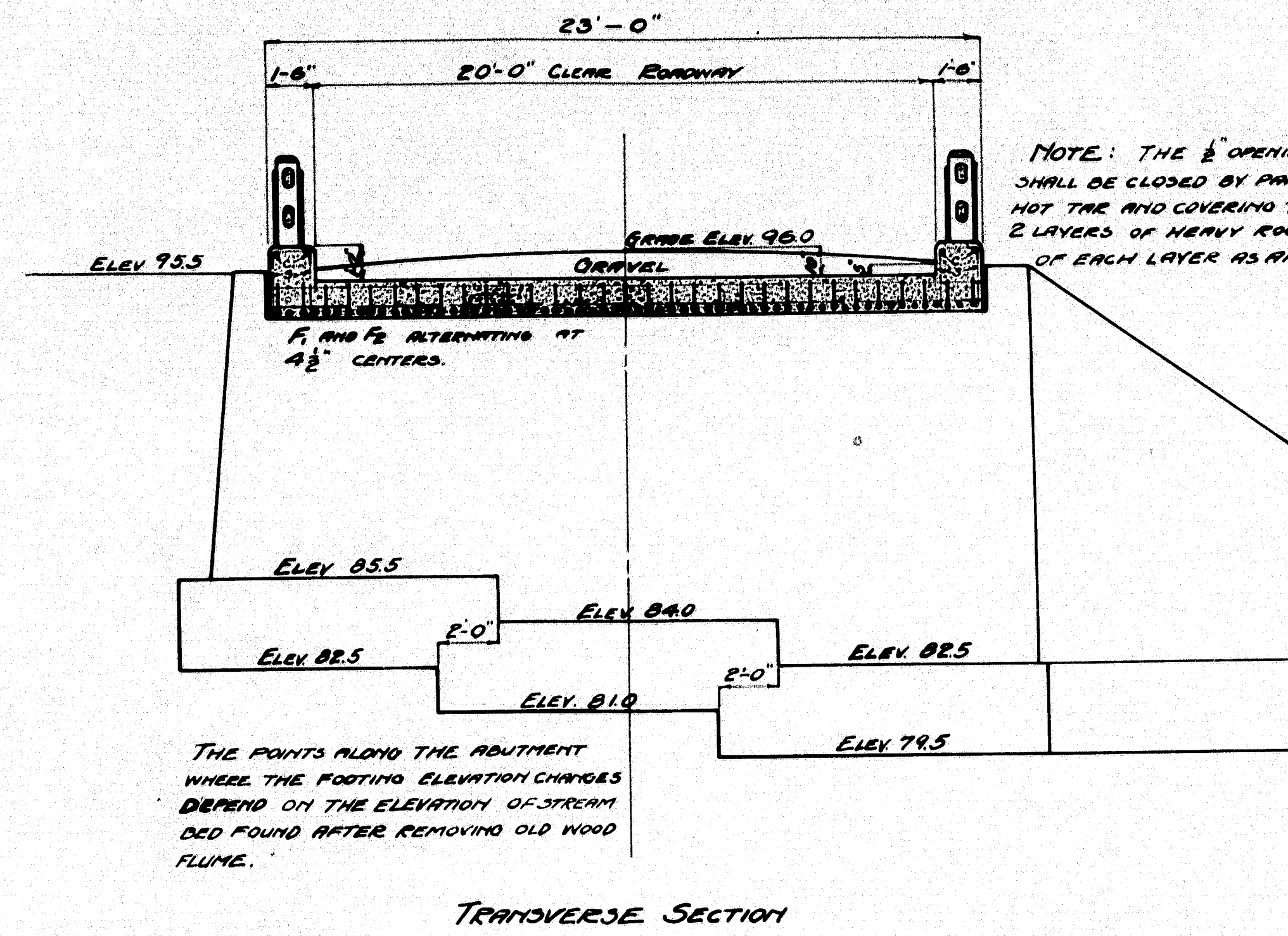
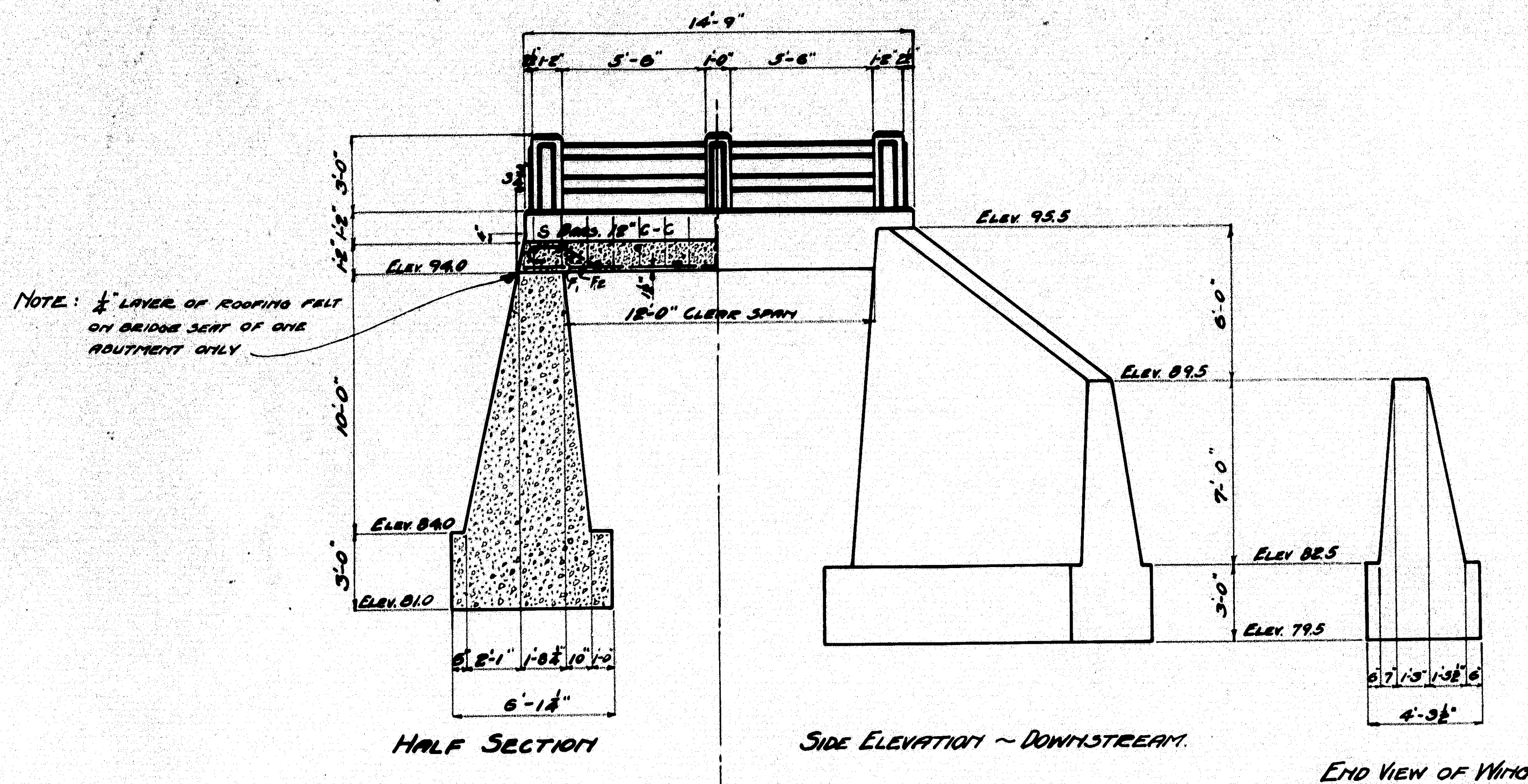
 <div>HALEY WARD ENGINEERING ENVIRONMENTAL SURVEYING 1 Merchants Plaza, Suite 701 Bangor, ME 04401 207-989-4824 WWW.HALEYWARD.COM</div>	
CLIENT	AIM DEVELOPMENT (USA) LLC
PROJECT	TODDY POND DAM #111 OPERATIONS & MAINTENANCE PLAN ORLAND, ME
TITLE	FIGURE 4 - AERIAL
DATE	2/28/2023
PROJECT No.	11299.023
DRAWN BY	SWEATHERBEE
SCALE	1" = 25'



MAINE HIGHWAY COMMISSION
BRIDGE DIVISION
TODDY POND BRIDGE
OVER
OUTLET TO TODDY POND
IN THE TOWN OF
ORLAND, HANCOCK CO.
SURVEY PLAN

Sheet No. 1 of 2 May 4, 1925

6-77



STEEL SCHEDULE

BENT BARS

MARK	SIZE	NO. BARS	LENGTH	LOCATION
F ₁	$\frac{3}{8}$ "	31	17'-3"	SLAB

STRAIGHT BARS

MARK	SIZE	NO. BARS	LENGTH	LOCATION
F ₂	$\frac{3}{8}$ "	30	15'-1"	SLAB
F ₃	$\frac{3}{8}$ "	11	22'-9"	SLAB
C	$\frac{3}{8}$ "	4	14'-6"	CURB
P	$\frac{3}{8}$ "	24	4'-0"	POSTS
R	$\frac{3}{8}$ "	16	5'-10"	RAIL BARS
K	$\frac{3}{8}$ "	14	8'-0"	WINGS AND ABUT

STEEL DIMENSIONS ARE GIVEN TO CENTERS OF BARS. ALL STEEL SHALL BE PLAIN ROUND BARS OF STRUCTURAL GRADE.

STATE HIGHWAY COMMISSION
BRIDGE DIVISION
TODDY POND BRIDGE
OVER
OUTLET TO TODDY POND
IN THE TOWN OF
ORLAND, HANCOCK CO.
BRIDGE DETAILS

SHEET NO. 2 OF 2 AUGUSTA, ME MARCH 3, 1926