



**2022 DAM INSPECTION REPORT  
FOR  
HOUGHTON LAKE LEVEL CONTROL STRUCTURE**

*ROSCOMMON COUNTY*

Submitted to:  
**ROSCOMMON COUNTY BOARD OF COMMISSIONERS**  
**500 Lake Street**  
**Roscommon, Michigan 48653**  
**ValentinoJ@roscommoncounty.net**

Submitted by:  
**J.E. TIFFANY AND SONS, LLC**  
**3844 Grizzly Creek Road**  
**Yankee Hill, CA 95965**

December, 2022



MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY  
LAND AND WATER MANAGEMENT DIVISION  
**DAM INSPECTION REPORT**

This form is to be used for inspection reports required by Part 307, Inland Lake Levels, for those dams that do not meet the size criteria as defined by Part 315, Dam Safety, of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended. Dams six (6) feet or more in height, as defined by Part 315, and impounding five (5) acres or more at the design flood elevation, must meet the inspection report format as outlined in Section 31518 of Part 315.

A person failing to comply, or falsely representing dam conditions, is guilty of misconduct in office.

DAM NAME <b>Houghton Lake level Control Structure</b>		DAM ID <b>2014</b>	COUNTY <b>Roscommon</b>
DATE OF INSPECTION <b>September 30, 2022</b>	NAME OF WATERBODY <b>Houghton Lake/Muskegon River</b>	SECTION, TOWN, RANGE <b>Sec. 10 T 23N. R 04W.</b>	LEVEL THIS DATE <b>1137.71 NAVD88</b>
DATE ELEVATION SET BY COURT <b>3/19/1982</b>	LEGAL LEVEL <b>1138.10 (starting 4/15 or ice out)</b>	DRAWDOWN LEVEL <b>1137.60 (starting 11/1)</b>	HIGH WATER MARK ELEVATION <b>N/A</b>

**EARTH EMBANKMENTS** LEFT EMBANKMENT  $\approx$ 30 FT. RIGHT EMBANKMENT  $\approx$ 96 FT. TOTAL LENGTH  $\approx$ 126 FT.  
(LOOKING DOWNSTREAM)

	UPSTREAM	CROWN	DOWNSTREAM
VEGETATIVE COVER	Grass/small trees & 1 dead/down large tree, far right	Grass/gravel/4 spruce trees, far right	Grass
EROSION	@L.&R. wingwall-from foot traffic, minor	None	Some from foot traffic-R. & L.
SEEPAGE			None
SLIDES, SLUMPS & CRACKS	None	None	None
ANIMAL BURROWS	None observed	None observed	None observed
WAVE ACTION PROTECTION	Concrete wingwalls. left-timber extension of wingwall		Concrete wingwalls. right-timber extension of wingwall
REMARKS*	/	/	/

**CONTROL STRUCTURE**

TYPE <b>Slide Gates</b>	YEAR CONSTRUCTED <b>Current Structure, 1938</b>	STRUCTURAL HEIGHT (top of dam elevation minus stream invert) <b><math>\approx</math> 7 Feet</b>
LENGTH OF SPILLWAY <b>6 Bays <math>\approx</math> 7 Feet Each</b>	FREEBOARD <b><math>\approx</math>3.3 Feet</b>	HYDRAULIC HEIGHT (design flood elevation minus stream invert) <b>N/A</b>
VERTICAL PIPE SIZE <b>N/A</b>	HORIZONTAL PIPE SIZE <b>N/A</b>	HEAD (normal headwater minus normal tailwater) <b><math>\approx</math>2'</b>

**DESCRIBE CONDITION OF THE FOLLOWING ITEMS.**

STOPLOG VALVES AND GATES (open and close to check condition): Check location of top stoplog in relation to top of riser pipe intake box or fixed crest, for leakage, and condition of stoplogs, valves and gates. <b>Gates consist of wood in steel frames. Frames good, wood fair. Stoplogs- 3rd bay from left.</b>
OUTLET PIPE: Check for damage from ice, logs, vandalism; inside discharge pipe for settlement and/or joint separation; condition of pipe coating. <b>N/A</b>

**CONTROL STRUCTURE (continued)**

CONCRETE STRUCTURE: Check for erosion; location of cracking or spalling. If old or new; settlement; need for crack repairs. Concrete generally is in very good condition. One pier was damaged at upstream end & is covered with steel face/gate channels and is in very poor condition (see photos).	
WALKWAY & RAILING: Check if in place or removed, condition, and if adequate protection provided. Good condition. Newer fencing.	TRASHRACK OR LOG BOOM: Check if operable. N/A
EMERGENCY SPILLWAY: Size, type, and condition. N/A	

**INLET & OUTLET CHANNELS**

	INLET	OUTLET
SIZE	≈75 Feet	Varies
EXISTING CONDITION	Good	Good
EROSION	None noted	None noted
DEBRIS & OBSTRUCTIONS	None	None
RIPRAP PROTECTION	Medium, L. & R. sides of stream, small to medium at spillway	Small to medium downstream of spillway
REMARKS*	/	/

**RECOMMENDATIONS**

List work needed, how to be done, by whom, estimated cost, source of funds, recommended completion date. If emergency, to what extent. ADDITIONAL COMMENTS.

1) Replace bad pier, repair damaged pier, and  
 2) Improvements to gate systems

Inspection Ordered By: Mr. William Sullivan  
Roscommon County Delegated Agent

James E. Tiffany, P.E.

INSPECTOR'S NAME (PRINTED)

ADDRESS

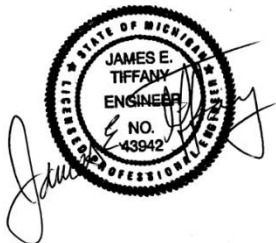
3844 Grizzly Creek Road

CITY, STATE, ZIP CODE

Yankee Hill, CA 95965

TELEPHONE NUMBER

231-735-4546



SIGNATURE

6201043942

P.E. REGISTRATION NO.



Downstream Side of Dam, From Left



Upstream Side of Dam, From Right



Far Left Spillway Bay



Spillway Bay, 2<sup>nd</sup> From Left



Spillway Bay, 3<sup>rd</sup> From Left. Note Steel Plate Used for Adjacent Bays



Spillway Bay, 4<sup>th</sup> From Left. Note Steel Plate for Lake Control & Bad Pier



Spillway Bay, 4<sup>th</sup> From Left. Note Damaged Concrete, Left Side of Bay



Close Up of Bad Pier, Right Side of Bay



Crack in Same Pier



Other Side of Bad Pier





Badly Corroded Gate Channel



Far Right Spillway Bay



Downstream Side of Dam, From Right



Downstream Right Wingwall



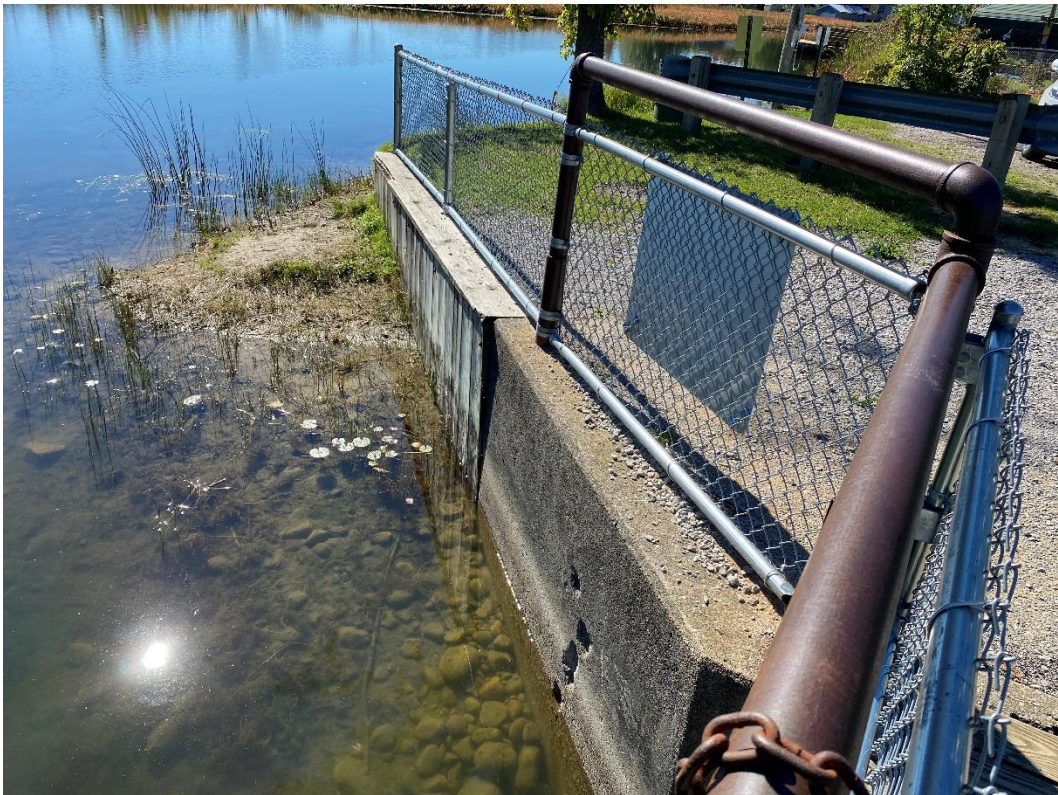
Right Embankment



Dead/Down Tree on Right Embankment



Upstream Right Wingwall



Upstream Left Wingwall



River Downstream of Dam

