Why are you here?

I am here because of Burden Lake.

Why is Burden Lake here?

Because of the Dam System.

The deterioration of Burden Lake's 150-year-old Dam System threatens the future of the three lakes as we know them. Learn what failure of the Dam System could mean for the lake and property owners, and what you can do to help preserve the lake and protect your interests as a lakefront property owner.

This document was developed by the Burden Lake Preservation Corporation (BLPC) to provide information about the Burden Lake Dam System to property owners and to anyone who enjoys the lake.

What do you like about being on Burden Lake?

Enjoying sitting by the water

Watching the sunrise or sunset

Watching and listening to your children and grandchildren playing

Enjoying swimming, boating, tubing, fishing etc.

Relaxing, relieving stress

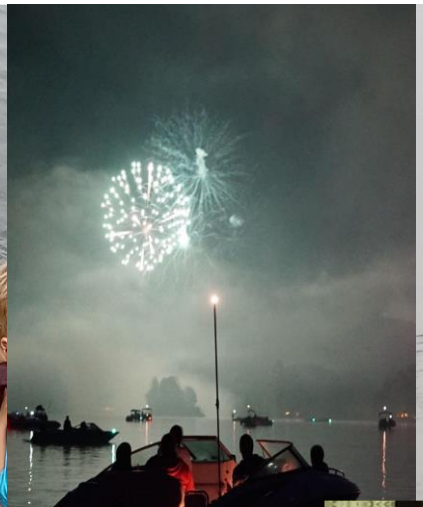
Enjoying cruising around the lake with your family and friends

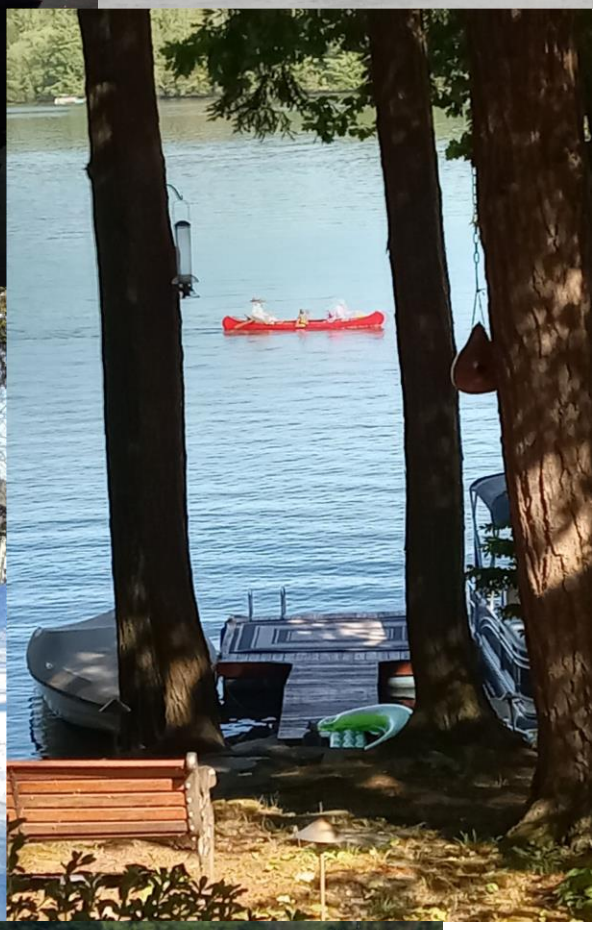
Sitting by a campfire at the end of the day

Watching the wildlife that lives around the lake

Picnicking with family and friends

And much more!





The Burden Lake Preservation Corporation (BLPC) [1], a non-profit organization of concerned lakefront property owners, *believes that* ***you, as a lakefront property owner, deserve to be informed about the threat posed by the deterioration of the Dam System*** *(dam, spillway, weir, and canal) that keeps the water in Burden Lake.*

Consider what it would be like if you could no longer enjoy or navigate the lake…

If any part of the Dam System were to fail, the water level in the lake would drop significantly (and most likely not come back up to normal levels). The value of your property could drop by 30% or more, it would severely harm the lake ecosystem and its wildlife, and people and property downstream could be at risk.

Even with so much at stake, *it is currently unclear how, if, and when the Dam System will be restored*. The clock is ticking, and we cannot afford to let it run out… **The BLPC urges you to get involved, let your voice be heard, and do whatever you can to support a Dam system repair project that will help preserve Burden Lake and protect your interests as a lakefront-property owner:**

- **Stay informed** about this critical situation through your lake associations at www.theblca.org and https://burdenlakeassociat.wixsite.com/website
- **Get involved** with the BLPC and other lakefront neighbors by contacting one of the BLPC Board of Directors (see page 5) or Email **BLPCLAKE@GMAIL.COM**
- **Advocate** for town and county officials to speak out publicly about the need to help resolve this threat by repairing the Dam System
- (**IF** it proves necessary) **Promote and support** the creation of a Burden Lake Tax District to fund Dam System repairs and maintenance.

Estimated Costs and Potential Funding Solutions

Contractors currently estimate the cost to complete this work at approximately $4 million to $5 million. Potential funding solutions include securing grants, pledges, and donations; fundraising; and the potential creation of a Burden Lake Tax District. *As of December 2023, the BLPC has had a 4.2-million-dollar grant under review by FEMA since 2021. We are currently still in the running. This is a matching grant: if awarded, we would need to raise 10 percent of the cost to qualify for federal matching funds that would cover 90 percent of the cost. Donations and the value of in-kind services will count towards this match.*

[1] The BLPC is a 501(c)(3) (NTEE C32) tax-exempt organization located at 87 Gundrum Point Road, Averill Park, NY 12018.

Donations already received

These include the land around the Weir (valued at $120,000), and many hours of in-kind services performed by BLPC members and friends (so far valued at $46,000), plus we have already received pledges worth $45,000. We now have Pledge sheets available.

Who Benefits from Keeping the Water in Burden Lake?

Lakefront property owners are the obvious beneficiaries with maintaining and increasing the value of their properties, but many entities are compensated via the tax revenue generated by the **stepped-up** assessed value of lakefront property. These passive stakeholders include Rensselaer County, the Town of Sand Lake, the Town of Nassau, and the Averill Park Central School District. If lake water levels drop significantly because of a Dam System failure, your property and resale values will drop, too, and the negative impact on tax revenue will cascade throughout the community.

The BLPC is not responsible for the water levels in Burden Lake.

The BLPC, a group of volunteers, is committed to helping you in preserving Burden Lake, but we can't do it without YOU. We encourage you to support the BLPC initiative to repair the Dam System, and we thank those who have generously donated and/or shared their time and expertise so far. Your investment in the future of Burden Lake will help protect your interests as a lakefront property owner and preserve the Burden Lake experience for future generations.

Current BLPC Board of Directors – Wayne Pratt, Larry McKeough, Joe Johnson, Dan Hogarty, Paul Ashline, Frank Maier, Wendy Will, Steve Scarlata, Walt VanDeLoo, Lisa Thorn, Joe Morrissey.
Secretary: Theresa Flynn.

The following pages summarize this critical situation, including a current assessment of the condition of the Dam System; issues of ownership; and the BLPC's ongoing efforts to help you find a way – and funding – to repair your Dam System and save your Lake.

For more detailed information on the History of the Dam, Lake, or The BLPC,

-----SEE ------

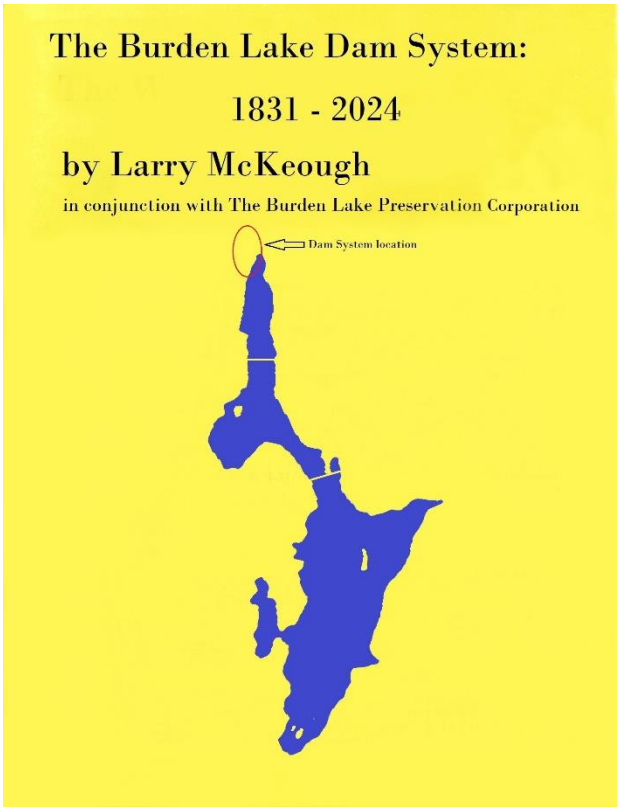
<u>The Burden Lake Dam System: 1831– 2024</u>

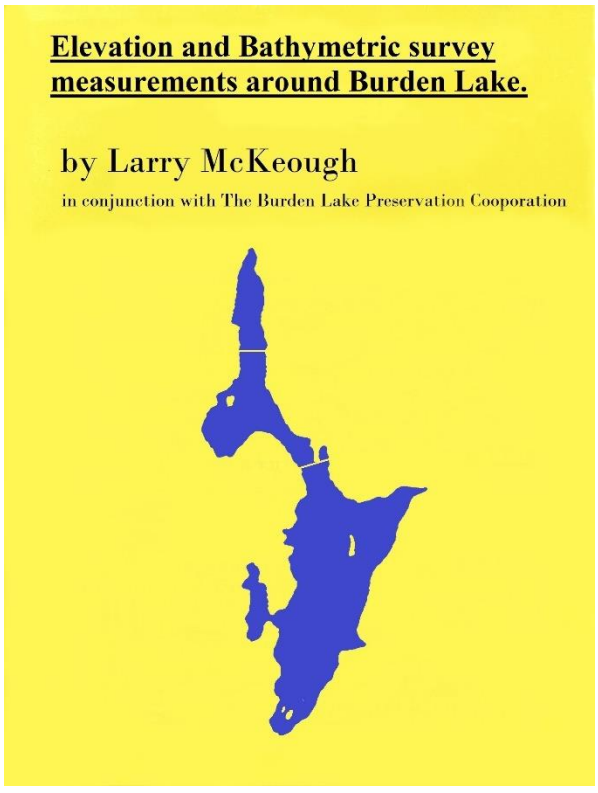
<u>Elevations and Bathymetric Book</u>

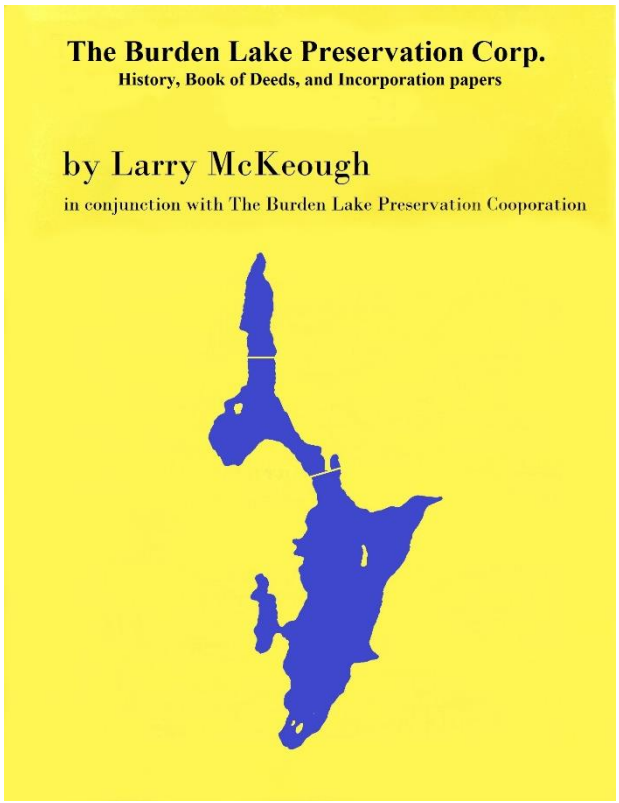
<u>BLPC History, Deeds and Corp. Papers</u>

For History of the Woods Development, see <u>The Woods Development at Totem Lodge</u>

All available on your Association's Web page.



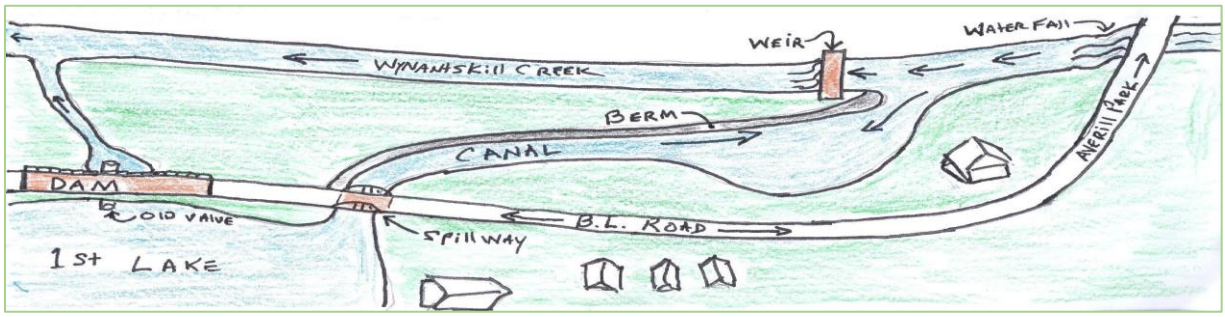




1: What Comprises the Dam System?

The Dam System consists of four components:

- the D**am** that runs below the closed portion of Burden Lake Road.
- the S**pillway** just north of the dam.
- the C**anal** that leads from the Wynantskill Creek to the spillway or lake inlet/outlet.
- the W**eir** (actually a diversion dam across the Wynantskill) that sets the level of the water in the three lakes and allows water to flow in or out, depending on weather-related water levels.



2: What's Wrong with the Dam System?

After more than 150 years, the Burden Lake Dam System (installed when Abraham Lincoln was president) is deteriorating due--to age; traffic wear and tear (including the weight and speed of heavy vehicles like tractor-trailers and cement trucks; and the impact of weather, including rainfall and freeze/thaw cycles,-- and is in dire need of repair. The DEC requires a very costly professional Engineering Assessment to be done to help establish the exact current condition of the entire Dam System. This assessment is already in progress.

The Dam

- The road on top of the dam has been closed for 2+ years, after the BLPC expressed its concerns about the safety of the dam (and vehicles traveling the road above it) to Rensselaer County officials.
- Designed in 1863, the dam was never intended to handle the amount of traffic and size and weight of the vehicles that were traveling over it prior to its closing.
- The closure of a portion of Burden Lake Road spares the dam from the stresses of traffic weight and speed for now, but extreme weather could still accelerate deterioration of the dam.
- The BLPC has documented the following issues with the dam:

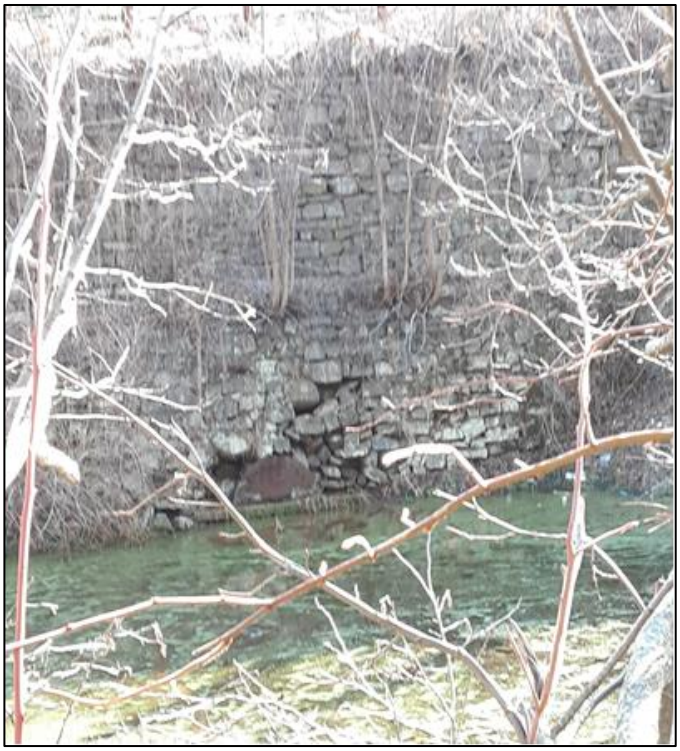
- The stones of the dam's west wall appear to be moving.
- There is an approximately six-foot hole in the stone face on the dam's west side.
- There are stress cracks throughout the blacktop on the road atop the dam.
- The Town installed a sewer line at least eight feet deep along the length of the dam in 1982.
- As part of the sewer installation, two manholes were set approximately ten-feet deep into the dam's structure.
- The 30"-inch drainpipe valve on the east side of the dam is inoperable, and the west side of the pipe is capped off.

Six-foot hole in west face of dam wall. Stones to the left of the hole appear to be collapsing.

Man standing next to six-foot hole to show scale

Close-up of six-foot hole

Stress cracks in road atop dam



Loose rocks around outlet pipe

30” pipe capped off

Sewer manhole at least 10’ deep.

On closed portion of road, guard rails and supports are separated and unstable.

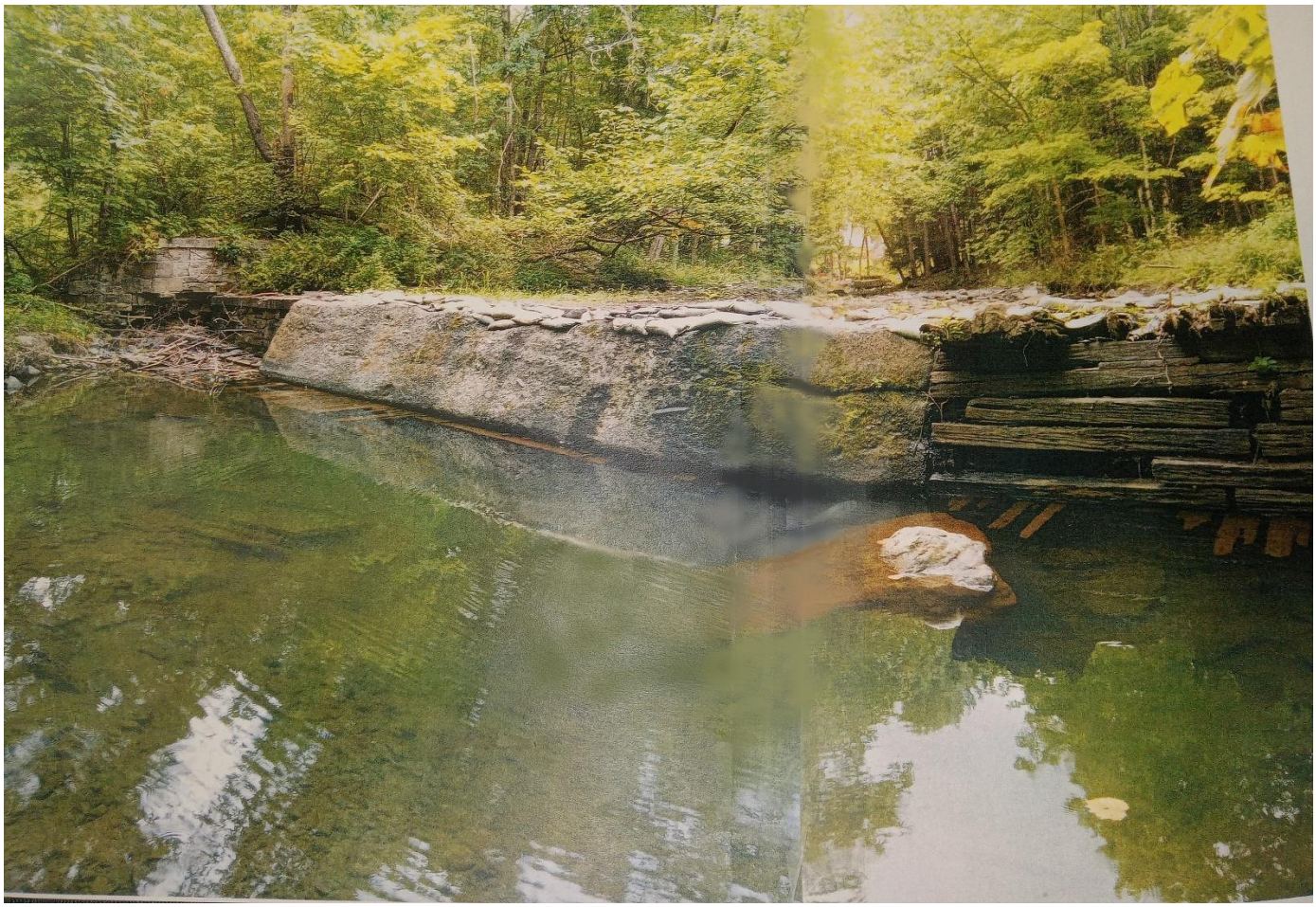
The Weir

- After 130+ years, the weir is in extremely poor condition and has outlived its useful life.
- Cut-stone abutments on either side are failing.
- After part of the weir fell apart in the 1970s, it was temporarily repaired with railroad ties that are still in place and now rotting away.
- The large granite capstones, which set the "normal" level of the three lakes, have all been washed off the top and temporarily replaced with sandbags which now must be removed in order to minimize any DEC fines.
- The structure is leaking in numerous places, including through the 1970s-era temporary repair.
- The boards under the weir appear to be deteriorating.

This photo shows rotting boards under the Weir. Weir photos were taken during the drought of 2022. At that time, the lake level was feet lower than normal. Due to evaporation, the lake level kept dropping until it finally rained, and the Creek and Canal filled back up, beginning to replenish the much-needed water in Burden Lake**.** **See photos on page 17 which show the canal dried up, empty, and separated from the Lake. This is how the Canal will always be if we lose the Weir.**

Above: Southeast Abutment

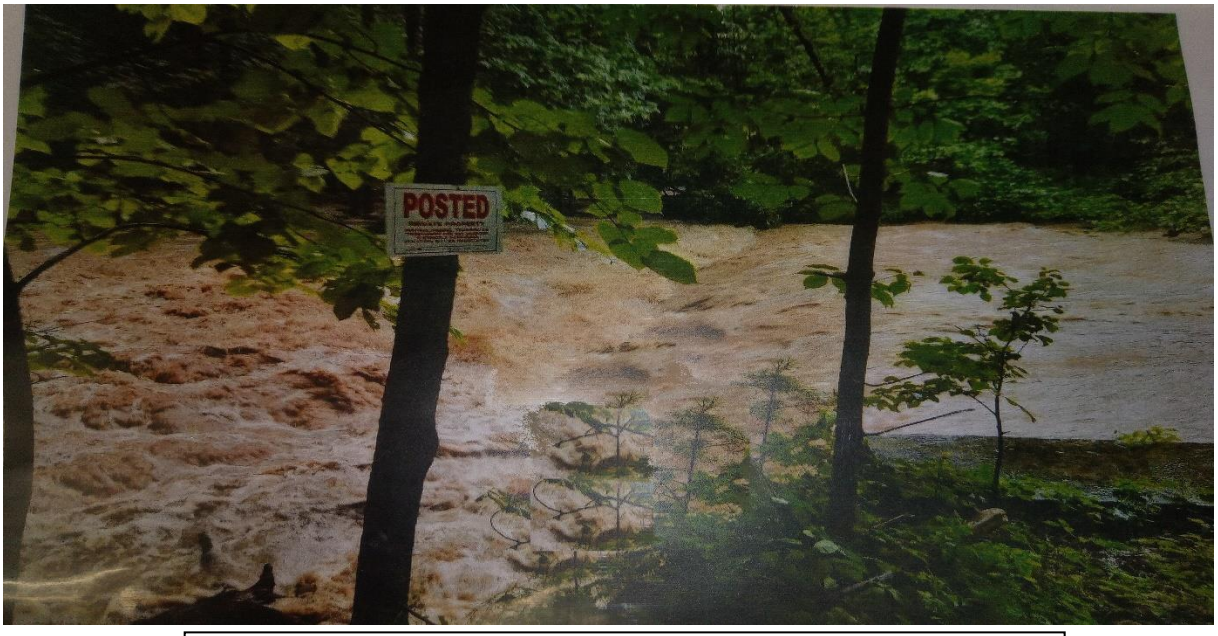
Left: Northwest Abutment



Weir with normal operations and a little higher than normal flow.

Photo taken during spring rains and ice melt.

<u>Old photo shows some of the cap stones still in place.</u> Larry McKeough plugging a leak in the Dam (actually the Weir) with his thumb, trying to save Burden Lake! LOL. Photo courtesy of Paul Ashline.



Three feet of water rushing over the Weir during the July 2021 flood.

The Berm

- Needs to have all vegetation, including trees, removed.
- Must be raised and widened by two feet to prevent breaching during large storms and high-water events.
- Needs riprap installed on the east side to help prevent erosion.
- Needs grass planted along the top and west side.

Water flowing over the berm (canal to the right). Photo taken during flood of 2021.

More water breaching the berm during the flood of 2021

Berm after the flood, with canal to right.

The Canal

- Needs to have foreign debris removed.
- May need to be dredged to remove the buildup of sediment.

Above how the Canal normally looks, full of water.

Photos show the Canal where it meets the Weir. During drought of 2022, the creek was so low it couldn't enter the canal. Once it rained, the canal filled back up and started re-filling the lake. When the canal was dry, no water from the Creek could flow into the lake and lake levels kept dropping due to evaporation.

The Spillway

- In good condition
- Bridge replaced in 2009
- Abutments may need some repairs.

Lake side of Spillway

Canal side of Spillway

Old repair of Spillway wall may need attention.

3: Ownership Issues

The NYS Department of Environmental Conservation, (DEC) asserts that the Town, the County, and the BLPC share ownership of the Dam System. The BLPC does not necessarily agree with their assertion because our deed indicates otherwise.

4: Impact of Dam Failure

Without repair/replacement, the Dam System will continue to deteriorate and eventually fail. *The failure of any part of the Dam System could dramatically and negatively affect your ability to use and enjoy the lake and would reduce your property value.*

- **If the weir fails**, the water level in the lake would gradually drop and not come back up because the Creek would be 4 feet lower than the entrance to the Canal. This could negatively affect both the lake's ecosystem and its navigability, especially in the coves.
- **If the canal berm fails or breaches**, it could put people and property in significant jeopardy downstream from Burden Lake, because the water level would drop significantly and quickly and not come back up-- because any water flowing in the canal would flow through the berm breach, into the woods, and head back to the Creek.
- **If the dam fails**, it could be catastrophic, potentially destroying property downstream and putting people in jeopardy. The lake would drop significantly and not come back up.

5: Repairing/Replacing the Dam System

The BLPC and lakefront property owners like you are and should be concerned about keeping the water in Burden Lake to maintain its current (historic ca. 1866) level. BLPC's ongoing efforts for you include securing DEC-required engineering assessments/reports; meeting with town, county, and DEC officials; and pursuing grants to help cover repair costs.

What will it take to repair the Dam System?

The BLPC has devised a concept plan (see diagram p. 21) that we believe addresses all necessary repairs to the entire Dam System to:

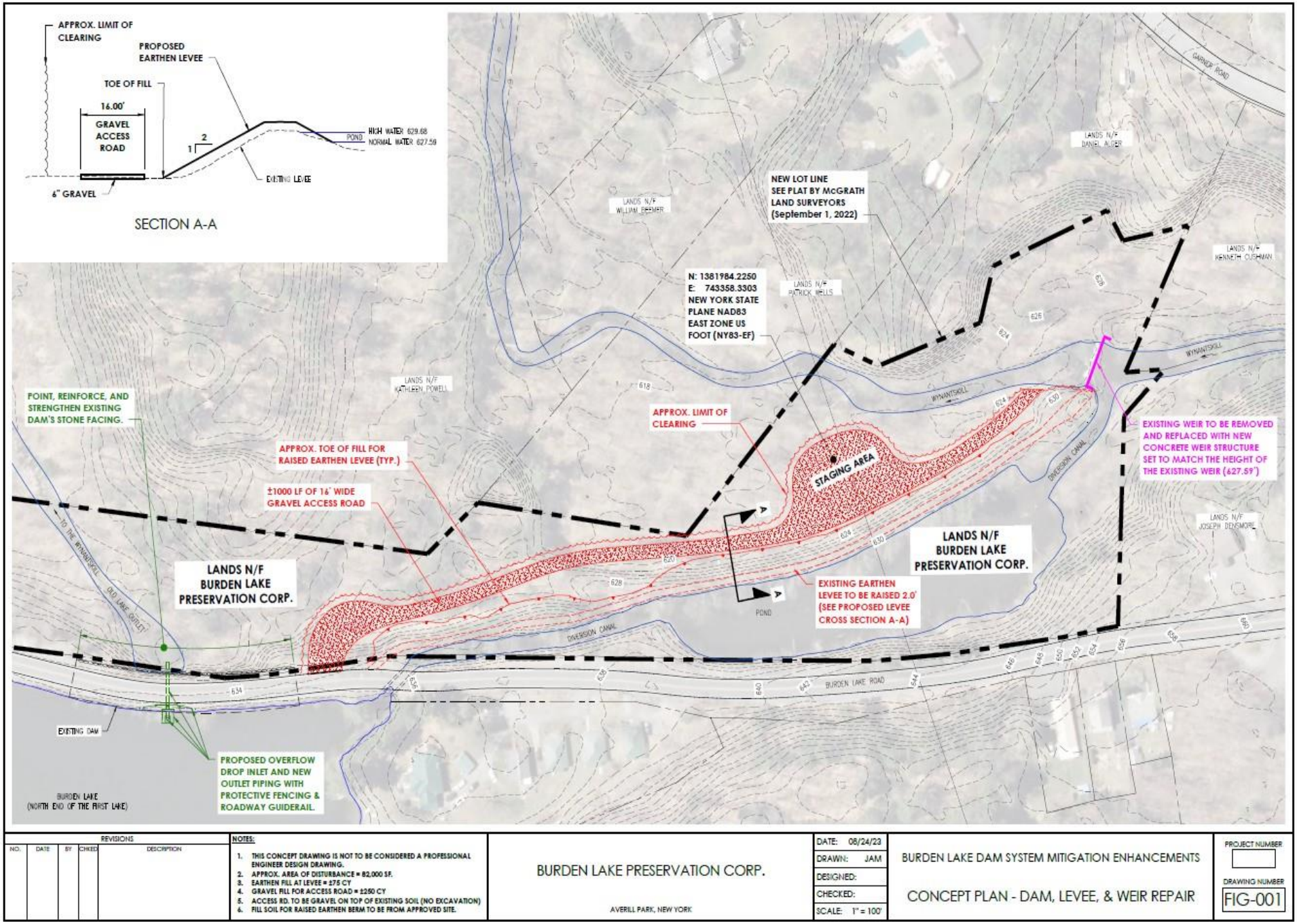
- Keep water in the lake to maintain historic water levels.
- Maintain and increase property values.
- Protect people and property downstream.
- Preserve the ecosystem and natural environment.
- Allow future generations to enjoy and use the lake.

Concept Plan

1. Build a construction service road from the dam on Burden Lake Road to the Weir
2. Completely replace the Weir with the elevation set at the exact same historic elevation, incorporating a "fish ladder," if needed
3. Remove all trees and brush from the 900-foot berm; raise the berm an additional two feet; hydroseed the top and west side of the berm, and riprap the whole east side.
4. Utilize the original 30-inch low level exit pipe under the dam by incorporating a standpipe and repairing the control valve (on the lake side of the dam) to allow us to release excess water as needed.
5. Repair and strengthen the west side of the dam under the closed portion of Burden Lake Road
6. Divert water and snow melt from flowing off the roadway and down the west face of the dam

The BLPC concept plan will have to be approved by the DEC and recommended by a DEC approved engineering firm (once an assessment can be made), before it can be executed.

A drawing of the Concept Plan follows.



REVISIONS				
NO.	DATE	BY	CHKED	DESCRIPTION

NOTES:

1. THIS CONCEPT DRAWING IS NOT TO BE CONSIDERED A PROFESSIONAL ENGINEER DESIGN DRAWING.
2. APPROX. AREA OF DISTURBANCE = 82,000 SF.
3. EARTHEN FILL AT LEVEE = ±75 CY
4. GRAVEL FILL FOR ACCESS ROAD = ±250 CY
5. ACCESS RD. TO BE GRAVEL ON TOP OF EXISTING SOIL (NO EXCAVATION)
6. FILL SOIL FOR RAISED EARTHEN BERM TO BE FROM APPROVED SITE.

BURDEN LAKE PRESERVATION CORP.

AVERILL PARK, NEW YORK

DATE:	08/24/23
DRAWN:	JAM
DESIGNED:	
CHECKED:	
SCALE:	1" = 100'

BURDEN LAKE DAM SYSTEM MITIGATION ENHANCEMENTS

CONCEPT PLAN - DAM, LEVEE, & WEIR REPAIR

PROJECT NUMBER

DRAWING NUMBER FIG-001

Please help us make sure Burden Lake doesn't ever turn into this!

Stock image

Thank you for the photos provided by Wendy Will, Wayne Pratt, and Frank Maier!

Written by: Wayne Pratt & Larry McKeough with editorial assistance from Maggie Fusco - January 2024

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