

## Callahan Lake Dam Meeting – Agenda / Outline – September 1, 2022

### 1) Introductions

- a) Department Staff
- b) Other stakeholders

### 2) Why are we here?

- a) Call in 2019 regarding concerns with the dam
- b) Inspection Schedule – 2022 Inspection
- c) History of Dam according to DNR Dam Safety Files

< 1936: Logging dam for sluicing timber in same location as today. When timber cutting finished, dam abandoned, and superstructure failed. Property owners rebuilt with flashboards to preserve lake.

1936: Resort application to construct dam and raise and enlarge water levels approximately 10-ft. Flowage proposed from 158-acres to 851-acres. County sponsored project and obtained easements on much of land including dam site. Ultimately not built due to lack of WPA funds. Flashboard dam washed out and rebuilt. Presumed rebuilt by dam owner who inquired to PSC about maintenance of remains of dam on his property.

1938: Road damaged at outlet. County quit claimed deed to Thelen in order that Town could rebuild bridge where road had been damaged.

1950: Dam documented in place and held by a road over the logging dam

1954: Bridge removed and replaced with three 4'x6' arch culverts set below lake level

1955: To preserve the existing lake level, local residents reconstructed stone dam ahead of culverts and installed flashboards on crest. Built fishway that includes stoplog slots for operation.

#### d) **Authorization Information**

- The dam is considered authorized under GEN LAW. In this case the dam did not have direct legislative authorization via permit but was likely used for log sluicing when originally constructed. However, the following historical Public Service Commission correspondence provides evidence for authorization.
  
- 1955 Inspection by William Sayles

There does not appear to be any change in conditions which prevailed before the installation of the culverts, and it is the opinion that there has been no violation of law by the work done at the outlet of Callahan Lake.

- 1981 Department Memo

On August 11, 1936, Albert Thelen wrote to the P.S.C. inquiring about his obligations regarding the remains of the dam on his property. At that time the dam maintained about 3 feet of head. On August 15, 1936, Mr. Thelen was advised by the P.S.C. that "if you own a dam which maintains a level for 10 years you are required to maintain this level thereafter." He was also advised that repair costs must be borne by the owner of the dam site, the P.S.C. could order needed repairs, and no permit would be necessary to rebuild the dam to maintain previous water levels. We can only presume that Mr. Thelen rebuilt the dam.

**e) Dam on the landscape not in compliance with NR 333, Wis. Admin. Code or Ch 31, Wis Stats.**

**1997 Inspection**

Configuration Summary:

- Fishway: Concrete fishway eroded and sink holes along left training wall. Overtops during low frequency storms. Concrete walls cracked. Metal screen cage covers inlet to fishway. Unknown use due to physical limitations (caged inlet, outlet area rocky and steep)
- Flashboards: Flashboards metal fence posts and boards right of fishway. Flow below and through boards
- Relatively steep rock ledges between the flashboards and culverts
- Three 4x6' culverts below the Town road
- Embankment: Callahan Lake Road is embankment for dam. Left downstream slope old tires and rock fill. Slope 1.5 to 1:1 downstream slope. Erosion and slumping occurring. Trees and brush on upstream and downstream embankments.
- Water Level: If structures upstream of roadway removed, elevation of lake would be lowered by approximately 3-ft (based on culvert invert elevation and normal lake elevation).

Hydrology and Hydraulics

- WPA calcs 10 cfs / square mile as a maximum flood flow (Q100) which would yield 590 cfs.
- Large dam likely low hazard (Q10/Q50). Unsure of capacity. Further survey needed and H&H should be completed prior to reconstruction.

Summary/Comments

- *"Although the Callahan dam is in no immediate threat of failure causing loss of life, the dam does have some serious deficiencies that will inevitably result in loss of the normal lake elevation. When the dam fails, elevations can be expected to be at least 3 feet lower than the normal level."*
- Repair of the dam is actually reconstruction

- The dam appears to have inadequate capacity.
- Failure of the dam will result in loss of lake elevation, greater than 3 feet.
- The Dam undoubtedly would not meet structural stability or hydraulic capacity criteria.
- Callahan Dam appears to be a low hazard structure, but due to lack of adequate zoning downstream, the dam is high hazard, and would need to address zoning or higher capacity at the time of reconstruction.
- All dams within the state are required to have an owner. The Department has tried in the past to determine an owner for this dam and has been unable to do so. Ch. 31.187 gives us the opportunity to remove abandoned dams.

### **2019 Inspection**

- Configuration described similarly to 1997 inspection.
- Multiple jacks/supports are located in the perched culvert.
- There appears to be head cutting left of the fishway chute and right of the perched culvert.

### **2022 Inspection**

- Reference report hand out

#### **f) Future Dam Ownership Options**

- Town of Round Lake
- Private Landowners
- Lake District Formed
- Lake Association

#### **g) Being pro-active versus reactive**

- When the dam fails

## **2) Where to go from here?**

### **a) Reconstruction**

- Ownership accepted through transfer application
  - Ownership Accepted
- Directives/Order issued through transfer permit, and dates assigned
- Funding opportunities to achieve compliance
  - Municipal Dam Grant (2022 grant cycle numbers)

### **b) Abandon/Removal**

- Ownership accepted
- Funding opportunities to achieve compliance
  - Municipal Dam Grant
  - Dam Removal Grant
- Department determines abandoned under 31.187