

**MEMORANDUM**

TO: Brian Carroll, Town of Glover Selectboard  
FROM: Ben Green, PE, Dam Safety Engineer  
DATE: May 25, 2022  
SUBJECT: Shadow Lake Dam, Glover  
Site Visit and Water Level Observations

On May 25, 2022, Ben Green, PE, accompanied by Bob Finucane, PE, and Billy Devers of the Dam Safety Program (DSP) made a site visit to the abovementioned dam. The purpose of the visit was to observe lake levels and spillway performance/conditions to collect information for the upcoming hydrologic and hydraulic study of the lake, dam and downstream area. The dam is owned and operated by the Town of Glover and Brian Carroll granted permission for the site visit and provided information and access to the dam. Also present at the site visit was Jenifer Andrews of the Shadow Lake Association

**BACKGROUND**

As noted above, the DSP has contracted with an engineering consultant, Dubois & King, Inc. (D&K), to perform additional hydrologic and hydraulic modeling of Shadow Lake, the dam, and downstream area. The goals of that work are to identify alternatives to make the dam hydraulically adequate while also working to address the prolonged high-water levels that persist in the spring and following large rainfall events. Furthermore, the DSP received inquiries/notifications of the prolonged high-water elevations recently from two lakeshore property owners.

Based on recent field GPS elevations documented in a 2021 report by D&K, the following are the elevations of key hydraulic features at the dam (all elevations approximately reference the North American Vertical Datum of 1988 or NAVD88 in feet):

Top of Stoplogs/Principal Spillway/Normal Pool	El. 1,394.6
Auxiliary Spillway	El. 1,396.2
Dam Crest	El. 1,399.8

Accordingly, the vertical distance between the principal and auxiliary spillways is approximately 1.6 feet or 19 inches. Given the limited outflow capacity of the principal spillway, it is reportedly common that lake levels in the spring and following large storm events hover around 19 inches above normal pool for extended periods causing damage or loss of use of structures including docks and near/lake buildings.

**OBSERVATIONS**

The following observations were made during the site visit.

- General:
  - The lake level was measured to be approximately El. 1,395.9 based on rudimentary measurements taken from the auxiliary spillway weir and principal spillway stoplogs. Survey equipment was not used and these measurements are considered approximate.
- Principal Spillway/Stoplogs:
  - The full width of the principal spillway channel was measured to be about 65 inches. Approximately eight vertically oriented timbers, measuring 4 inches by 4 inches, were observed acting as the trashrack at the

Water Investment Division  
1 National Life Drive,  
Montpelier, VT 05620-3510  
Phone: 802-622-4093

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