

# Technical Memorandum



**To:** Chuck Reid

**From:** Matt Trueheart

**Company:** Mohonk Preserve

**SLR Engineering, Landscape  
Architecture, and Land Surveying, P.C.**

**cc:**

**Date:** August 22, 2024

**Project No.** 142.20261.00001

**RE: Duck Pond Dam at Mohonk Preserve**

---

SLR Engineering, Landscape Architecture, and Land Surveying, P.C. (SLR) conducted a visual inspection of the Duck Pond Dam at Mohonk Preserve (NYSDEC Dam 193-5962) on August 20, 2024.

During the inspection, the pond water surface elevation was slightly above the spillway inlet elevation; however, all spilling flow was observed to be entering a lateral crack that extends across all three spillway conduits and not exiting from the spillway outlet (Photo 1). Thus, the water is flowing through the rock and earth embankment. This is an unsafe condition that will cause further deterioration of the dam over time and is a potential mode of failure for the dam as seepage flows can erode the embankment from the inside. Saturation of the structural fill and freeze-thaw action can weaken and/or damage the dam as well. The crack is roughly 4.5" wide and of indeterminate depth and has propagated through the entire concrete and masonry spillway section (base, piers/columns, and top slab). Seeping flows were observed to be flowing out from near the right (southwest) side at the toe of the dam, between about 10 and 20 feet offset from the primary spillway section. No turbidity was observed in the discharging seepage.

On the downstream face of the dam, the spillway section has been undermined to the point of creating a hazardous condition. A large void has developed underneath the center and left (northeast) spillway conduits that is up to about 3 feet deep, with slightly less severe undermining of the right (southwest) conduit, leaving a significant portion of the spillway structure unsupported on the downstream side (Photo 2). The remaining dry masonry elements under the spillway section are loose. Much of the embankment downstream of the spillway had previously been eroded, and the concrete spillway structure is slumping in the downstream direction.

Because of the apparently unsafe condition of the dam, SLR recommends that Mohonk Preserve close the roadway over the dam to all vehicle traffic and that the impoundment should be drawn down to relieve the hydrostatic pressure on the dam as soon as is practical. Daily and post-rainfall monitoring and visual inspection of the dam and spillway are recommended to assess for any additional damage or change in conditions.



**Photo 1** Spilling flows entering lateral crack in base of spillway section (looking downstream through right spillway section)



**Photo 2** Missing masonry, large void, and undermined spillway section (looking upstream at downstream face)

