Barton & Loguidice

October 27, 2021

Mr. George Noewatne
Director of Public Works
Town of Cheshire
84 South Main Street
Cheshire, Connecticut 06410

Re: **Mixville Pond Dam / CTDamID# 2502 / Registration #201205141**

Dear Mr. Noewatne:

As you know, the Commissioner of the Department of Energy and Environmental Protection (DEEP), per Connecticut General Statute (CGS) 22a-409(c), has notified you of the yearly regulatory inspection of the Mixville Pond Dam. These periodical inspections are required to assure that the dams continued operation and use does not constitute a hazard to life, health or property.

CGS 22a-409-2(j) of the Regulations of Connecticut State Agencies (RCSA) outlines the Town's responsibilities, which includes but not limited to, inspections of the dam to assure no unsafe conditions are developing and also maintenance of the structure and adjacent area.

Because dams are subject to deterioration over time, all dam components and appurtenances should be inspected and maintained regularly. Per Connecticut DEEP Guidelines for Inspection and Maintenance of Dams, routine maintenance activities include grass mowing, cutting of brush or trees, removal of debris and sediment, restoration of eroded areas, minor patching of concrete structures, eradication of vermin, and maintenance of valves and other appurtenances.

On April 14, 2021, I performed an inspection of the Mixville Pond Dam and noted deficiencies (sketch attached) that require maintenance and/or repair. The deficiencies observed, along with a work narrative, are as follows:

1. **Missing hardware on pedestrian bridge.** Missing bolts, nuts and/or washers to be installed. Each bridge connection should have two bolts with washers and nuts.

2. **Vegetation Control on Embankments.** Mow grass to maintain visibility of dam surfaces and remove woody vegetation from within 25 feet of all dam components.

3. **Spillway Debris.** Remove fallen trees and branches, including woody vegetation, from primary and emergency spillways.

4. **Erosion**. Repair eroded areas in emergency spillway and near the pedestrian bridge. Replace missing soil with new soil that contains no vegetation, organic matter, trash or large rocks; Place and compact in thin (6-inch) layers; then topsoil and seed.

5. **Concrete Repair**. There are two concrete voids (possibly connected) in the easterly abutment that need to be repaired. Suggested corrective measures should be followed: Lower the water table below the work area(s) and allow the exposed void sufficient time to dry; Thoroughly cleanout the areas by removing loose material (stone, cobbles, debris, etc.) by hand followed by blowing out the fines by air; Once areas have been cleaned, pack in quick setting concrete, within 2-inches of the abutment face, in adequate lifts to fully fill the voids. Tamp each lift to ensure concrete is spread out thoroughly; Let quick set concrete cure for a minimum of 24 hours before final concrete patching; For the remaining 2-inches, use hydraulic cement and provide a smooth finish with existing face of abutment; At the base of the exposed abutment, place hydraulic cement along the bottom edge creating a base to prevent future undermining. Blend with trowel.

6. **Toe Drain**. Expose the 6-inch toe drain outlet along the east dam embankment. Outlet should be free of debris and be functional. Install rock or vegetation where erosion protection is missing, damaged or otherwise required.

7. **Drainage Outlet.** Expose the 15-inch RCP drainage pipe outlet located beneath the emergency spillway. Outlet should be free of debris and be functional. Install rock where erosion protection is missing, damaged or otherwise required.

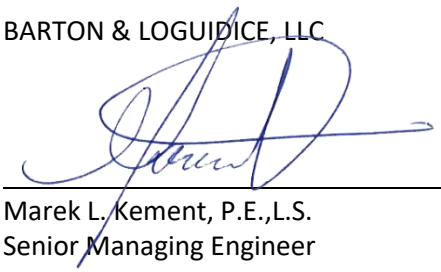
On September 20, 2021, I performed a follow-up inspection and noted the emergency spillway suffered additional erosion, which has now caused separation of the 15-inch RCP drainage pipe.

8. **Drainage Pipe.** Repair the 15-inch RCP drainage pipe under emergency spillway. Restore damaged/eroded areas with new soil that contains no vegetation, organic matter or trash; Place and compact in layers; then install rip-rap where needed to restore the emergency spillway.

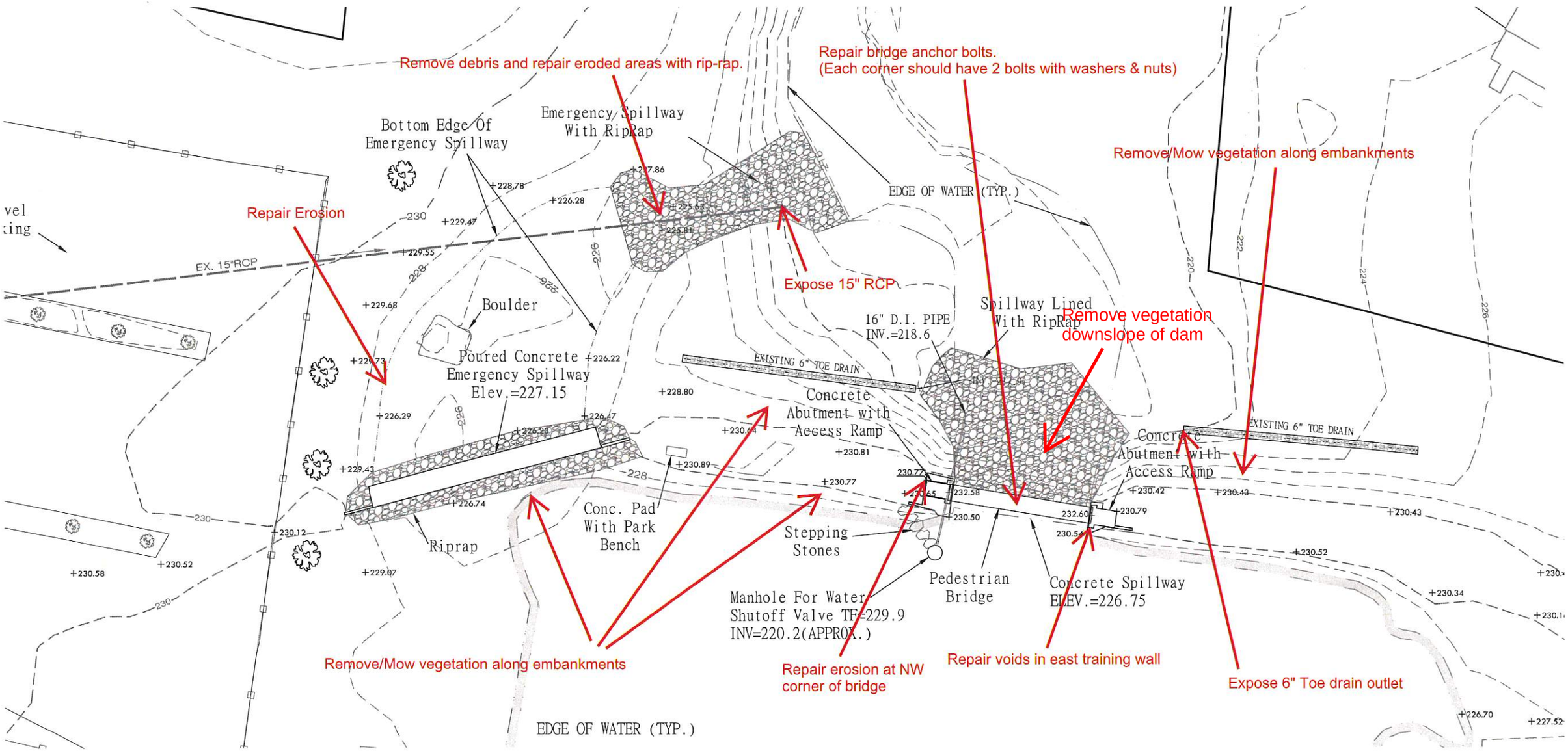
To prevent additional deteriorations of the dam and surrounding areas, it is strongly recommended that these deficiencies, noted above, be repaired immediately. If you have any questions or wish to discuss further, please feel free to call me.

Sincerely,

BARTON & LOGUIDICE, LLC



Marek L. Kement, P.E.,L.S.
Senior Managing Engineer


Remove debris and repair eroded areas with rip-rap.
Repair bridge anchor bolts.
(Each corner should have 2 bolts with washers & nuts)
Remove/Mow vegetation along embankments
Repair Erosion
Bottom Edge Of
Emergency Spillway
Emergency Spillway
With RipRap
EDGE OF WATER (TYP.)
EX. 15"RCP
Expose 15" RCP
Boulder
Poured Concrete
Emergency Spillway
Elev.=227.15
16" D.I. PIPE
INV.=218.6
Spillway Lined
With RipRap
Remove vegetation
downslope of dam
EXISTING 6" TOE DRAIN
Concrete
Abutment with
Access Ramp
Riprap
Conc. Pad
With Park
Bench
Stepping
Stones
Pedestrian
Bridge
Concrete Spillway
ELEV.=226.75
Manhole For Water
Shutoff Valve TF=229.9
INV=220.2(APPROX.)
Remove/Mow vegetation along embankments
Repair erosion at NW
corner of bridge
Repair voids in east training wall
Expose 6" Toe drain outlet
EDGE OF WATER (TYP.)