



GRETCHEN WHITMER  
GOVERNOR

STATE OF MICHIGAN  
DEPARTMENT OF  
ENVIRONMENT, GREAT LAKES, AND ENERGY  
LANSING



LIESL EICHLER CLARK  
DIRECTOR

June 30, 2021

CERTIFIED MAIL

Mr. David Kepler  
Four Lakes Task Force  
233 East Larkin Street, Suite 2  
Midland, Michigan 48640

Dear Mr. Kepler:

SUBJECT: Four Lakes Task Force (FLTF) Dams  
Secord Dam, Dam ID No. 547, Gladwin County  
Smallwood Dam, Dam ID No. 548, Gladwin County  
Edenville Dam, Dam ID No. 549, Gladwin County  
Sanford Dam, Dam ID No. 550, Midland County

We have determined, based in part on a December 2020 consent judgement, that Midland and Gladwin Counties are the owner of four dams, Secord, Smallwood, Edenville, and Sanford Dams, located on the Tittabawassee River in Gladwin and Midland Counties. Upon issuance of a Federal Energy Regulatory Commission (FERC) order terminating licenses by implied surrender, effective May 27, 2021, Secord, Smallwood, and Sanford Dams reverted to regulatory authority of the State of Michigan. These dams are regulated by the Department of Environment, Great Lakes, and Energy (EGLE) under Part 307, Inland Lake Levels (Part 307) and Part 315, Dam Safety (Part 315), of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended (NREPA). We are writing to inform you of some of your key responsibilities, as delegated authority over the four dams, per the provisions of Parts 307 and 315. Part 307, Part 315, and its administrative rules can be found on our website at [www.mi.gov/damsafety](http://www.mi.gov/damsafety). We suggest you take time to review these documents.

These dams have been given **high hazard potential** ratings by EGLE. These ratings are an evaluation of the potential downstream consequences should the dam fail. It is not an evaluation of the dam's condition. A high hazard potential rating means that the dam located is in an area where a failure may cause significant environmental degradation, or where danger to individuals exists with the potential for loss of life. Listed below are some of the key items Part 315 requires of the owner of a regulated dam:

- Notification to EGLE and affected public safety officials of any circumstances that may affect the safety of the dam (Section 31520).

- Submission of periodic inspection reports conducted by a licensed engineer evaluating the dam's structural condition and hydraulic adequacy (Section 31518).
- Obtaining permits from EGLE, as required, to accomplish repairs and alterations of the dam (Section 31509).
- Developing and maintaining an up-to-date Emergency Action Plan (EAP) (Section 32523). The current EAP is out of date and should be updated immediately.

Owners of high hazard potential dams must submit dam safety inspection reports once every three years. It appears the last evaluation of your structures were performed in October 2020 and January 2021. Subsequently FLTF submitted Feasibility Studies on March 17, 2021 for each dam addressing deficiencies identified during these and previous inspections. Below is a brief discussion of the findings at each dam.

#### Secord Dam:

Secord Dam received minimal observed damage during the May 2020 flood event. However, there were several deficiencies that have persisted and require rehabilitation. Several critical safety improvements were completed this year to facilitate management of the dam in its current drawn down condition. Below is a summary of outstanding deficiencies that need to be addressed:

- The spillway has inadequate capacity to safely pass the ½ Probably Maximum Flood (PMF) as required by Part 315.
- Concrete components of the dam are showing signs of deterioration and are beyond their design life.
- The existing tainter gates are beyond their design life and exhibit signs of deterioration. The hoisting mechanisms are insufficiently sized for the range of design service loads and do not meet current industry design standards.
- The embankment dams are overly steep, have insufficient slope stability, and exhibit excessive amounts of seepage.
- Downstream energy dissipation and erosion protection is inadequate.

FLTF should continue to pursue improvements to the facility as outlined in the March 2021 Feasibility Study. Impoundment water levels shall be maintained at the current, drawn down level until the above referenced deficiencies are remedied.

#### Smallwood Dam:

Smallwood Dam experienced significant erosion during the May 2020 flood event but did not fail. Following the flood, emergency repairs were implemented to address erosion,

loss of riprap, repair of damaged retaining walls, sealing of holes in structures, and safety improvements to facilitate management of the dam in its current drawn down condition. There are several deficiencies that have persisted and require rehabilitation. Below is a summary of outstanding deficiencies that need to be addressed:

- The spillway has inadequate capacity to safely pass the ½ PMF as required by Part 315.
- Concrete components of the dam are showing signs of deterioration and are beyond their design life.
- The existing tainter gates are beyond their design life and exhibit signs of deterioration. The hoisting mechanisms are insufficiently sized for the range of design service loads and do not meet current industry design standards.
- Downstream energy dissipation and erosion protection are inadequate.

FLTF should continue to pursue improvements to the facility as outlined in the March 2021 Feasibility Study. Impoundment water levels shall be maintained at the current, drawn down level until the above referenced deficiencies are remedied.

#### Edenville Dam:

Edenville Dam was breached on May 19, 2020 after several days of intense rainfall. The damage to the dam was extensive with complete loss of the left embankment, left of the Tittabawassee spillway, damage to the remaining earthen embankments, damage to the Tobacco spillway structure and diversion of the Tobacco and Tittabawassee Rivers. The condition of the remaining dam structures following the failure continued to cause concern of a secondary failure due to limited hydraulic capacity of the Tobacco spillway and insufficient slope stability of the adjacent embankments. Due to the unresponsiveness of the former owner (Boyce Hydro, LLC.), EGLE Dam Safety issued an emergency order and initiated repairs to modify the Tobacco spillway, drawdown the impoundment, stabilize the remaining embankments, modify the Tittabawassee spillway, and restore the rivers to their pre-failure channels. EGLE, in partnership with FLTF and DTMB, has completed the drawdown of the Tobacco impoundment and lowering of the spillway crest. FLTF is moving forward with designs and construction contracting to finish stabilization of the Tobacco spillway, modification of the Tittabawassee spillway, stabilization of the remaining embankments, and diversion of the Tittabawassee River, to fulfill the requirements of the emergency order. This work shall be completed as expeditiously as possible under the current emergency permit (WRP026173).

In addition to the emergency work, FLTF has presented feasibility level plans for reconstruction of the Edenville Dam in accordance with current and anticipated state regulations and industry standard practices. FLTF should continue to pursue these efforts according to the Feasibility Study and apply for permits according local, state and federal laws. However, if FLTF determines that reconstruction of the Edenville Dam isn't feasible in a reasonable timeframe, a plan to address remaining concerns with long-term dam safety and stability and ongoing natural resource impacts will need to be developed and

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implemented. The plan would need to consider such alternatives as additional stabilization and restoration measures or removal of the dam and restoration of impacted reaches of the river channels.

#### Sanford Dam:

Sanford Dam failed on May 19, 2020 following the failure of the Edenville Dam. The damage to the dam was extensive with complete loss of the right embankment and fuse plug spillway. The current route of the Tittabawassee River through the breach section is causing continued head-cutting through the native substrate and downgrading of the upstream river reaches. Due to the ongoing concerns with impacts to infrastructure and elevated sediment transport downstream impacting natural resources, FLTF is proposing emergency stabilization work at the dam. FLTF should continue to pursue these stabilization measures and apply for permits according to local, state and federal laws. EGLE has expressed its intent to expedite the Joint Permit Application review process, upon receipt of said application.

In addition to the emergency work, FLTF has presented feasibility level plans for reconstruction of the Sanford Dam in accordance with current and anticipated state regulations and industry standard practices. FLTF should continue to pursue these efforts according to the Feasibility Study and apply for permits according local, state and federal laws. However, if FLTF determines that reconstruction of the Sanford Dam isn't feasible in a reasonable timeframe, a plan to address remaining concerns with long-term dam safety and stability and ongoing natural resource impacts will need to be developed and implemented. The plan would need to consider such alternatives as additional stabilization and restoration measures or removal of the dam and restoration of impacted reaches of the river channel.

#### Interim Operations:

During this period of recovery and restoration of the dams, FLTF shall continue to operate and maintain the dams in a safe manner consistent current industry standard practices. FLTF should develop an Operation, Maintenance and Surveillance Plan which outlines operational procedures (if any) and type, frequency and reporting of monitoring and maintenance at each dam. Emergency action plans are required to be developed for each dam in coordination with the County Emergency Managers. These plans must be submitted to EGLE for review and should be reviewed annually FLTF and updated accordingly as modifications are made to the dams.

As high hazard dams, inspection reports are required every three years according to Part 315. Throughout 2020, the four dams underwent several inspections and in 2021 thorough engineering investigations and analyses were completed as part of the Feasibility Study. These reports satisfy the inspection requirement and the next inspection will be due by December 31, 2024.

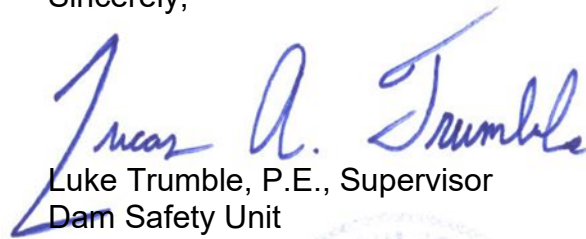
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If you have objections to our determination of ownership, you think that the dam may not meet the size criteria for regulation by Part 315, or you have any questions, please contact this office. Ms. Amira Oun, Dam Safety Unit, WRD, is assigned your area of the state. She may be reached at 517-230-5866 or OunA@Michigan.gov. Mr. Dan DeVaun, P.E., Dam Safety Unit, WRD, provides assistance for major projects. He may be reached at 989-370-1528 or DeVaunD@Michigan.gov; or you may contact me.

Sincerely,



Luke Trumble, P.E., Supervisor  
Dam Safety Unit  
Water Resources Division  
517-256-4458

cc: Ms. Karrie Hulme, Gladwin County Clerk  
Ms. Bridgette Gransden, Midland County Administrator  
Mr. Bob North, Gladwin County Emergency Management  
Ms. Jenifer Boyer, Midland County Emergency Management  
Ms. Teresa Seidel, EGLE  
Mr. Jerrod Sanders, EGLE  
Ms. Amy Lounds, EGLE  
Ms. Amira Oun, EGLE  
Mr. Dan DeVaun, P.E., EGLE