• Part of a System
• ODNR Projects
  = $73.6 Million
Improvements
West Reservoir - $6.3 Million (Completed)
Improvements
Tuscarawas Diversion Dam
$3.9 Million (Completed)
Improvements
Long Lake Floodgates
$3.9 Million (Completed)
Improvements
East Reservoir
$29.6 Million
(Construction Underway)
Improvements

North Reservoir (Design Underway)

~ $26 Million
Water Levels to Remain the Same

Unless dam safety requires adjustments
Public Access to Be Limited
Continued Access to Docks
ODNR to Work with Individual Property Owners: Acquisition, Existing Improvements
Schedule: 2020 Completion
Background

- Class I – High hazard potential dam
- 12.7 ft. maximum height
- Two dam embankments
- Low spot at west end
- Severe spillway discharge capacity deficiency
- Dam overtops by 2.4 ft.
Existing Features

- West End Low Spot
- Long Lake
- East Embankment
- Spillway
- West Embankment
- 12" Dia. Outlet
Existing Features

East embankment

West embankment

Deteriorated spillway

West embankment
Dam Safety Issues

- Design Storm* overtops embankments by 2.4 feet for 30 hours
- Deteriorated spillway
- Seepage around outlet at east embankment (Interim Risk Reduction Measure* recommended)
Effects of a Design Flood

12" Lake Drain
East Embankment
West Embankment

North Reservoir

Ohio Department of Natural Resources

TETRA TECH

4/12/2018
NORTH RESERVOIR DAM IMPROVEMENTS
Consequences of Failure: At Risk

- About 4,000 people
- Approximately 2,000 critical structures
- Minimum: $3.2 million (sunny day breach)
- Up to $500 million in building-related damages (design storm breach)
Design Constraints and Commitments

- Affect as few as possible
- Construct at normal pool level unless safety a concern
- Minimize disruptions on Portage Lakes Drive
- Keep the public informed
Design Constraints

- Need hard surfaces for overtopping
- Extend hard surfaces to level of Design Storm

Areas that will flood if water overtops the dam
Proposed Design

NORTH RESERVOIR DAM IMPROVEMENTS

PARAPET WALL

CONCRETE CAP

SOIL-CEMENT

CUTOFF WALL

EXISTING LAKE BED

TOP OF DAM

RIP RAP

SOIL COVER, TOPSOIL, AND GRASS

STATE PROPERTY LINE

SOIL-CEMENT GRAVITY SECTION

CONCRETE CAP

SOIL-CEMENT CUTOFF WALL

EXISTING LAKE BED

NORMAL POOL

TOP OF DAM

RIP RAP

SOIL COVER, TOPSOIL, AND GRASS

STATE PROPERTY LINE

SOIL-CEMENT GRAVITY SECTION

CONCRETE CAP

SOIL-CEMENT CUTOFF WALL

EXISTING LAKE BED

NORMAL POOL
NORTH RESERVOIR DAM IMPROVEMENTS

PROPOSED DESIGN

12" DIA. OUTLET
WEST EMBANKMENT PROTECTION
EAST EMBANKMENT PROTECTION
LOW AREA PROTECTION
NORTH RESERVOIR
PARKING LOT
MYERS ISLAND
Schedule/Next Steps: 2018

- Preliminary and final engineering
- Property line surveys
- Coordinate with permitting agencies
- Public meetings/briefings
- Property acquisition and easements may be necessary
Schedule/Next Steps

- Begin construction winter/spring 2019
Permitting Process

- 401/404 permit application submitted to Ohio EPA and Corps of Engineers
  - 401 permit is for water quality issues (Ohio EPA)
  - 404 permit is for placing fill in the ‘Waters of the United States’ (Corps of Engineers)
  - State Historic Preservation Office (SHPO) part of the 404 permit application
Permitting Public Process: May/June

- Army Corps of Engineers will announce public comment period
- Ohio EPA will advertise and hold a public meeting
Where to Direct Your Questions

- Questions about permits: Ohio EPA, Army Corps
- Questions about design/operations: ODNR
How This Might Affect You
Commitment to Minimize Impacts

Lake level will remain the same unless safety becomes a concern during construction
Commitment to Minimize Impacts

Limited public access to the new dam structure (ODNR working on details)
Commitment to Minimize Impacts

ODNR also working on details regarding:

- Dock access and restoration
- Existing residential improvements along the waterfront
Stay Informed

- Sign up for the E-newsletter
- Public briefings as needed
- Direct questions about construction/operation to ODNR
- Construction communication
Contacts

ODNR – North Reservoir web page

Angela DelBrocco, MurphyEpson
(614) 221-2885 x18
adelbrocco@murphyepson.com
Thank you!