



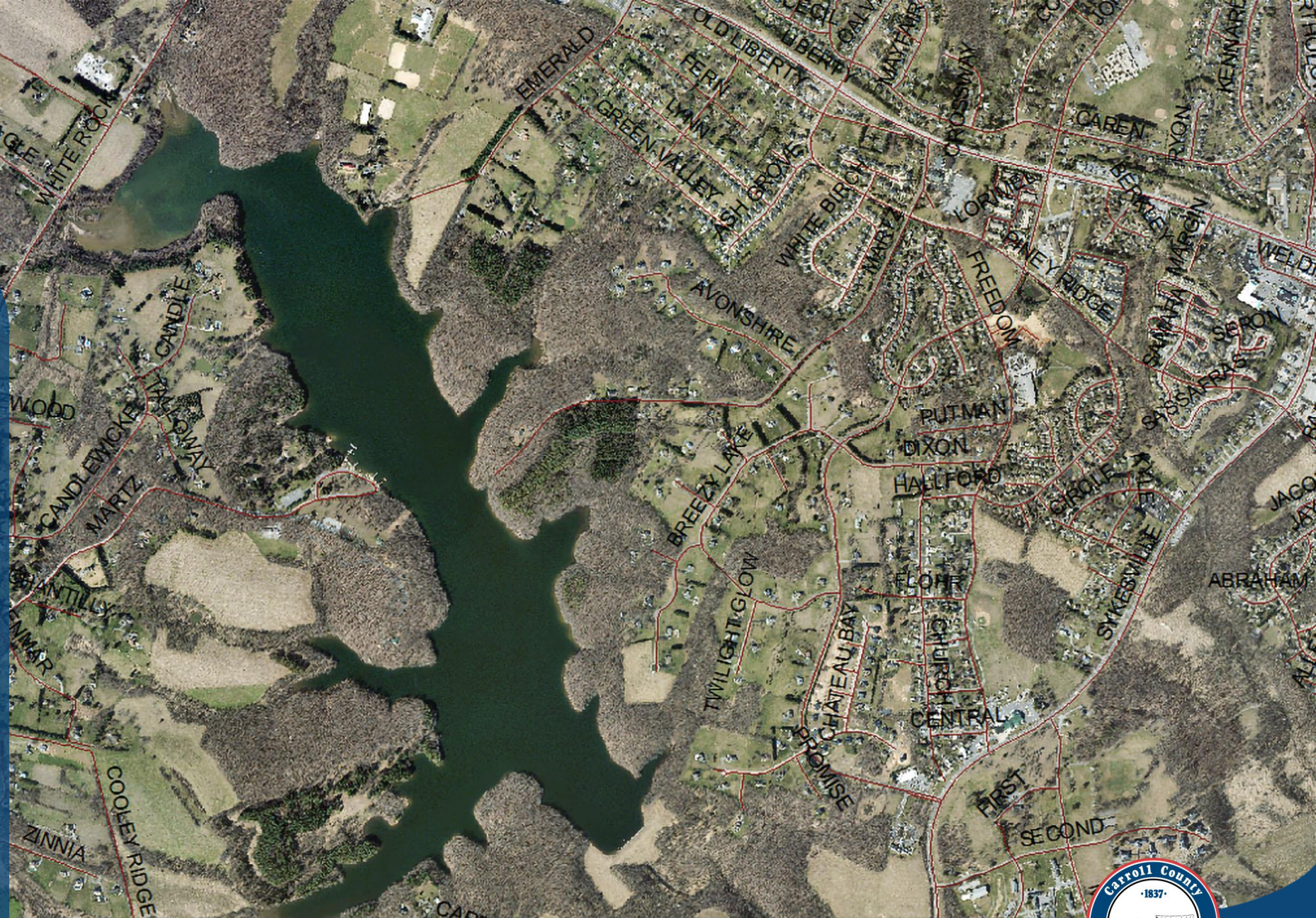
Piney Run Reservoir

Board of County Commissioners Briefing

February 25, 2021

Piney Run Reservoir

- Completed 1974
- Flood Control
- Water Supply
- Recreation



Piney Run Dam

- 73 feet tall, 600 feet long
- Reservoir:
 - 290 acres
 - 54-foot maximum normal depth
 - 1.7B gallon maximum normal capacity



Piney Run Dam



Piney Run Dam



- Classified as “High Hazard”
- High standards for operation and maintenance
- Must safely pass most severe storm predictable



Operation and Maintenance

- Inspected annually by County, State (MDE), and Natural Resources Conservation Service (NRCS) engineers
- Last inspection: November 12, 2020
- Good condition, well-maintained
- No findings that raise safety concerns

Inspection of principal spillway riser



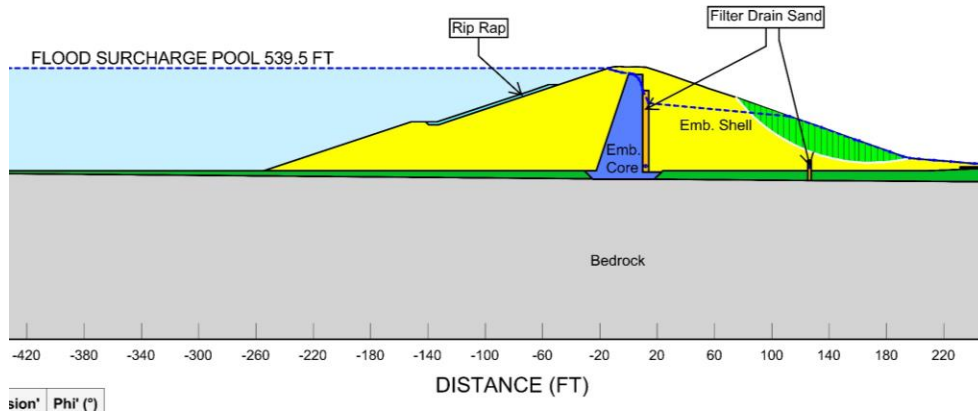
MDE Compliance



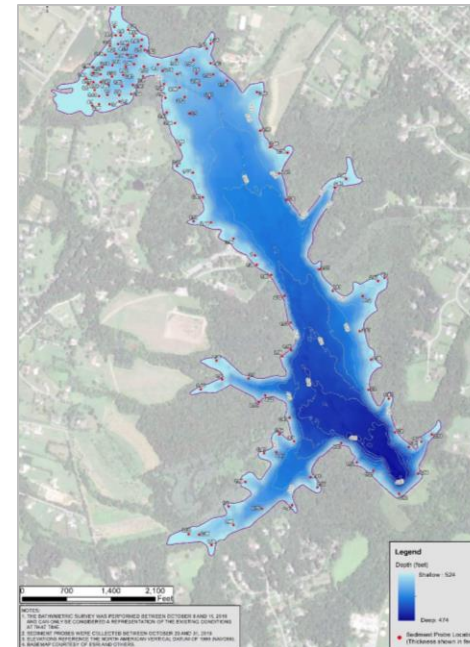
- Safely pass design storm
 - Auxiliary Spillway capacity
 - Erodibility of Auxiliary Spillway
- MDE requires analysis and mitigation by 2027
- AECOM hired to perform analysis with NRCS grant



NRCS-Funded Watershed Study

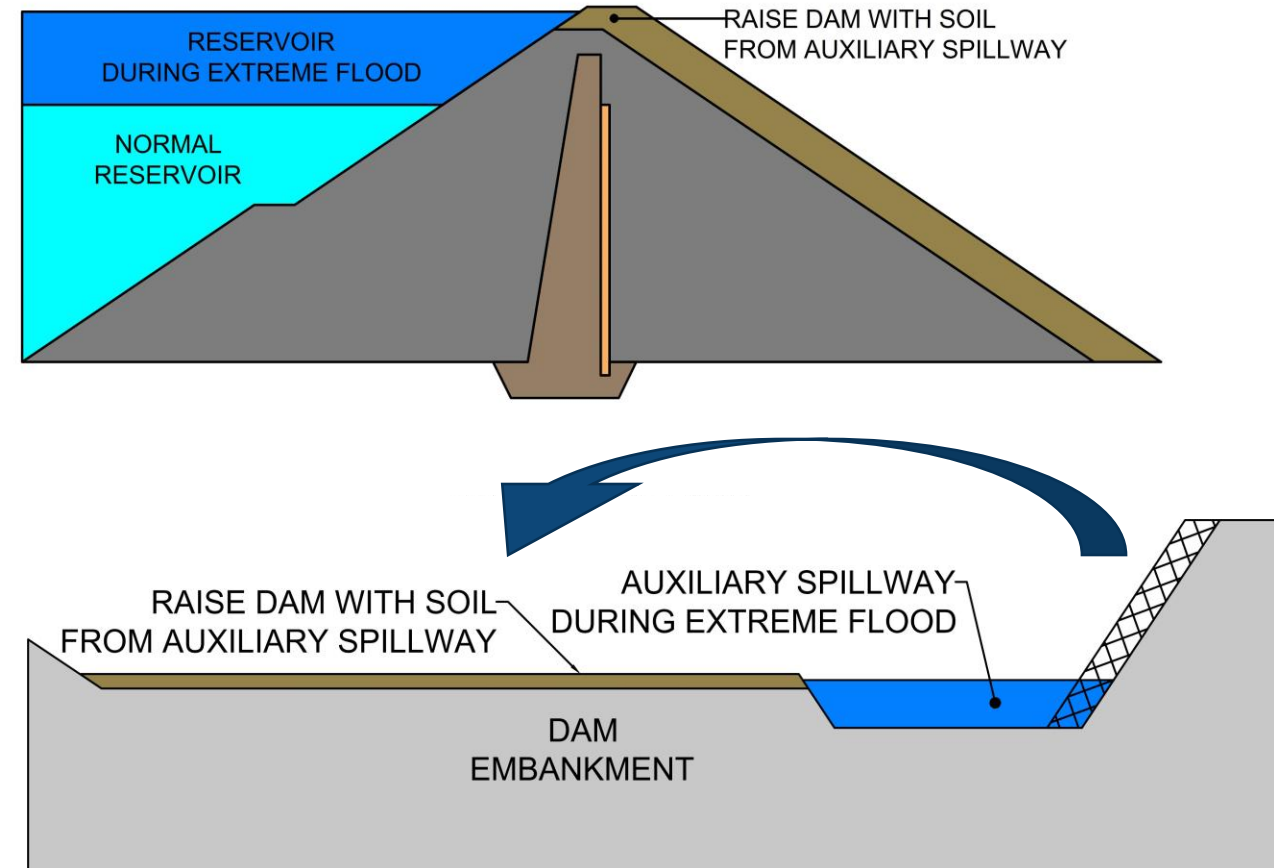


- Inspections
- Hydrologic/Hydraulic Analysis
- Geotechnical Analysis
- Sedimentation Analysis
- Environmental, Cultural, and Archeological Surveys



Auxiliary Spillway Capacity

- Design storm: Probable Maximum Flood
- 39 inches of rain in 72 hours
- 2.7 times greater than Hurricane Eloise (1975)
- Must be safely passed through auxiliary spillway
- Solution: Spillway widening and embankment crest raise



Auxiliary Spillway Erodibility



- Forces on the spillway are potentially enough to erode the weathered rock
- Erosion of the spillway could lead to a failure

SOLUTION:
**Concrete armoring
of downstream end
of spillway**

Black Creek Site 53 (MS) failure from spillway erosion in 1983 (courtesy: NRCS)



MDE Compliance Requirement

2027 deadline to:

- ✓ Raise dam and widen spillway
- ✓ Armor downstream end of auxiliary spillway with concrete

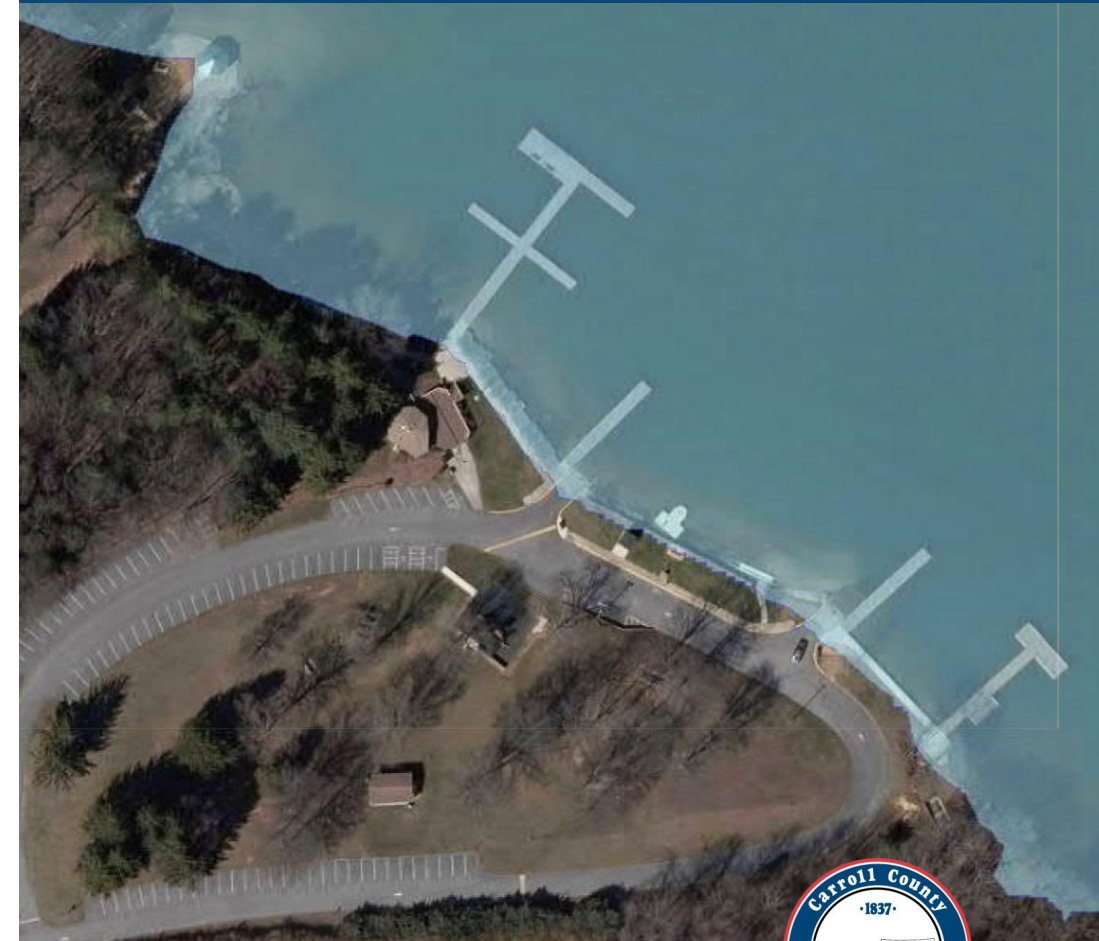
- Estimated costs: \$7.5M in design, permitting, and construction
- Potential NRCS Grant for 100% of design, 65% of construction
- Potential \$5M NRCS Grant



Path to Future Water Supply Security

- **Address accumulated sediment:**
 - Volume of water for water supply
 - Surface area for recreation
- **Remove sediment:** Cost-prohibitive
- **Raise normal pool elevation** by 2.3 feet
 - Concrete weir structure across spillway
 - Reinforce riser structure
 - Modify recreational area
 - Potential draining of reservoir for construction

Projected normal pool surface after 2.3-foot raise.



Path to Future Water Supply Security

- Additional \$8M in design, permitting, and construction costs
- Potential NRCS funding of 65% of \$15.5M cost (\$10M)
- Additional \$5.5M in County investment (not reimbursable by NRCS)
 - Pump station and piping
 - Recreational infrastructure modifications
- Total \$21M Capital Project with potential of \$10M in NRCS grant funding



Alternatives



Alternative 0: Compliance Only
Alternative 1: Compliance and Water Supply Preparation
 Estimated Budget: \$15M to \$21M

REWARD	Reduced early investment of capital and resources by the County
RISK	<ul style="list-style-type: none"> • MDE can perform the work anyway and charge the County. • If MDE performs the work, the County does not control the costs. • No potential for cost share with NRCS. • Compliance will be achieved, but not at County direction. MDE may also remove the dam. • Compliance is related to public safety. There is a liability if the County takes no action. • Severely damaged relationship with MDE.
	Full implementation of water supply requires additional investment beyond \$21M.



Next Steps

FEBRUARY 25
Commissioner Briefing

MARCH 11
Public Meeting
(2 sessions)

MID-MARCH
Request Commissioner Public Hearing

EARLY APRIL
Commissioner decision on alternative

SEPTEMBER
Watershed Study complete with NRCS

DECEMBER
Apply to NRCS Grant for design funding

