

# **VERMONT - Department of Environmental Conservation**

## **CAPITAL BUDGET ADJUSTMENT PROPOSAL**

### **Waterbury Dam Spillway Project and Dam Safety and Hydrology Projects**



*Waterbury Dam*

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VTDEC Dam Safety Program

# **Brief Dam Safety Program Overview**

- Located in the Water Investment Division (WID) within the VTDEC

- **RESPONSIBILITIES:**

- dam regulation
- dam ownership
- lands management

- **CURRENT STAFFING:**

- (1) licensed engineer
- (1) senior staff engineer
- (2) “new” junior staff engineers
- Summer Temporary (as allowed)

- **STATUTE/RULES:**

- 10 V.S.A Chapter 43: Dams, Non-federal, non-power dams.
- Rules still under construction.

- **DAM OWNERSHIP:** 14 dams including the (3) Winooski River Flood Control Dams.

- **Forthcoming Audit Report:** Opportunities for programmatic activities in support of Public Safety.



Silver Lake Dam



# Waterbury Dam Spillway Project

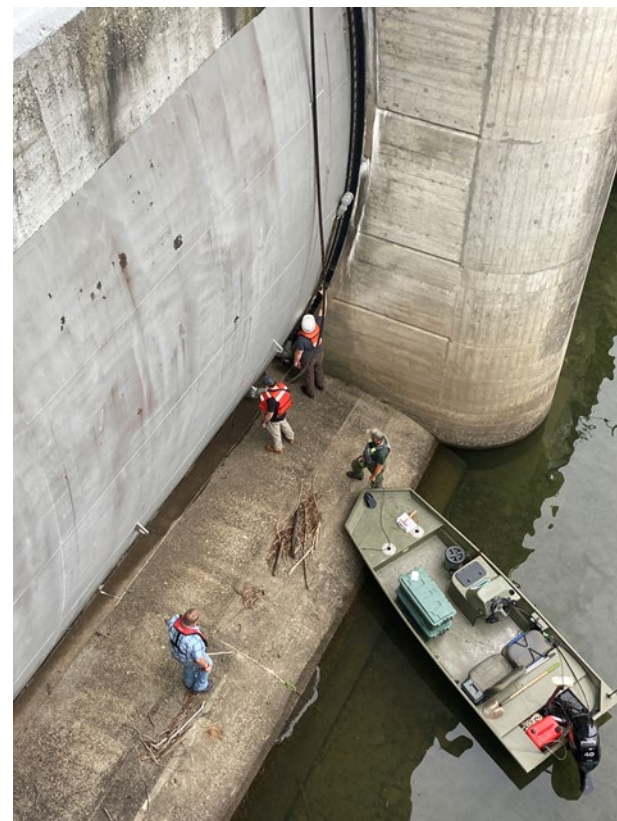
- No. 50. An Act Relating to Capital Construction and State Bonding
- Sec. 9. Natural Resources:
  - (a) FY2022, (3) = \$750,000
  - (e) FY2023, (3) = \$750,000, per line 75 in BAA

Project Name	Dam Owner	Hazard Class	Scope	Capital - FY22	Capital - FY23	Future Projected Costs
Waterbury Dam Spillway Project: Dam Safety Modification Study	DEC	HIGH	Perform Quantitative Risk Assessment of Potential Failure Modes, structural assessment, geologic explorations, develop alternatives for design. Total Project ~\$3M, 50% Cost Share, State portion is \$1.5M.	\$750,000	\$750,000	-
Waterbury Dam Spillway Project: Design	DEC	HIGH	Perform Design of Spillway Improvements. Total Project \$5M, 35% Cost Share, State Portion \$1.75M	-	-	\$1,750,000
Waterbury Dam Spillway Project: Construction	DEC	HIGH	Perfrom rehabilitation of Spillway Improvements.	-	-	TBD



# Waterbury Dam Spillway Project

- ~\$60M Vermont/USACE New England District Project
- Risk Assessment: Complete
  - \$2M Cost, 35% State match ~\$700k
- Dam Safety Modification Study: Underway to October 2023.
  - \$3M Cost, 50% State match = ~\$1.5M
- Design: November 2023 to June 2025 (est.)
  - \$5M Cost, 35% State match ~1.5M
- Construction July 2025 to December 2027 (est.)
  - Cost TBD



# Dam Safety and Hydrology Projects

- No. 50. An Act Relating to Capital Construction and State Bonding
- Sec. 9. Natural Resources:
  - (a) FY2022, (2) = \$310,000
  - (e) FY2023, (2) = \$805,000 (+ \$3.5M) per line 74

Project Name	Dam Owner	Hazard Class	Scope	Capital - FY22	Capital - FY23	Capital - Added FY23
Lake Morey Dam Rehabilitation Project	DEC	LOW	Topographic and boundary survey, hydrologic and hydraulic analysis, design, culvert repair, stoplog repair/replacement, fencing improvements.	\$150,000		
Little Hosmer Dam Rehabilitation Project	DEC	LOW	Topographic and boundary survey, hydrologic and hydraulic analysis, seepage assessment, design, permitting, construction. .	\$160,000	\$190,000	
Projects at up to 21 HIGH and SIGNIFICANT Hazard ANR Owned Dams	DEC/FPR/F&W	HIGH/SIGN	Projects based on those identified in the Screening Level Risk Assessment being performed as part of GF Projects. \$4,115,000. Anticipated to be initially spread between roughly 12 dams for an average of about ~\$350k per dam.		\$615,000	\$3,500,000
<b>Totals</b>				<b>\$310,000</b>	<b>\$805,000</b>	<b>\$3,500,000</b>





# Dam Safety and Hydrology Projects



Lake Morey Dam



Little Hosmer Dam

# Dam Safety and Hydrology Projects

- 21 ANR owned dams subject to Screening Level Risk Assessment (SLRA)
- Identify Potential Failure Modes and relative risk estimates for each dam
- Prioritize projects based on risk estimates to “buy down risk”

DamName	Location (Town)	Owner	Condition	Issue	Recent Work	Likely Needs
Silver Lake	Barnard	DEC	Poor	hydraulic capacity, stoplogs	slip line aux. 2010	overtop protection, stoplogs
East Barre	Barre Town	DEC	Fair	wall movement	none	concrete wall work, stilling basin
Wrightsville	Middlesex	DEC	Satisfactory	Intake structure, tunnel access	none	intake work, tunnel repair
Sweet Pond	Guilford	FPR	Satisfactory	seepage	rebuilt 2019	seepage collection
Lake Sadawga	Whitingham	DFW	Fair	hydraulic capacity, seepage	rebuilt 2016	IDF Analysis, raise embankments
Lake Sadawga West Dike	Whitingham	DFW	Poor	vegetation, drainage	none	embankment repair/raise
Lowell Lake	Londonderry	FPR	Fair	hydraulic capacity	rebuilt 1981	H&H study, low level outlet, bridge
Crystal Lake	Barton	DEC	Fair	seepage	seep/LLO, 2022	Scheduled rehab 2022
Glen Lake	Castleton	FPR	Fair	hydraulic capacity	rebuilt 1991	H&H study, assessment, overtop protection
Knapp Brook Site No. 1	Cavendish	DFW	Poor	vegetation in auxiliary	none	H&H study, assessment, clear auxiliary
Knapp Brook Site No. 2	Cavendish	DFW	Fair	principal, auxiliary, vegetation	aux. armoring 2013	H&H study, assessment, spillway work
Miles Pond	Concord	DEC	Fair	hydraulic capacity, stoplogs	Stoplogs 2021	tunnel outlet repair
Noyes Pond	Groton	DEC	Fair	hydraulic capacity, stoplogs	none	rehab spillways
Weatherhead Hollow Pond	Guilford	DFW	Fair	hydraulic capacity, auxiliary	none	H&H study, assessment, clear auxiliary
Lake Hortonia	Hubbardton	DFW	Fair	hydraulic capacity	none	H&H study, assessment, LLO condition
Gale Meadows	Londonderry	DFW	Poor	hydraulic capacity, auxiliary	none	H&H study, assessment, repair auxiliary
McIntosh Pond	Royalton	DFW	Fair	hydraulic capacity, auxiliary	stoplogs repair 2015	H&H study, assessment, clear auxiliary
Colton Pond	Killington	DFW	Poor	hydraulic capacity, vegetation	aux. stone 2012	H&H study, assessment, clear vegetation
Kent Pond	Killington	DFW	Poor	erosion, vegetation, debris	aux. stone 2014	H&H study, assessment, slope work
Prison Pond	Windsor	DFW	Poor	hydraulic capacity, concrete	none	H&H study, assessment, rehab or removal
Adams Reservoir	Woodford	FPR	Poor	exposed embankment material	none	H&H study, slope work

## Legend:

- HIGH hazard potential
- SIGNIFICANT hazard potential



# Thank you! Questions?

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Waterbury Dam