

Alternatives Analysis Summary Matrix
Rome Dam Engineering Study
Updated: 2/14/2017

KEY: ++ = best; + = good; o = moderate; - = poor

ID	Alternative	Improve Dam Safety	Reduce Flood Risk	Reduce Erosion Risk	Meet Spillway Requirements	Improve Water Quality	Estimated Implementation Cost	Change in Town Insurance Cost	Likely State Dam Safety Fees	Potential Annual Maintenance Cost	NOTES	Recommended
A	No action - Maintain Existing Conditions	-	-	-	-	-	\$0	\$13,000	\$4,000,000 to \$5,000,000	\$15,000	Action must be taken given high hazard dam is in disrepair and State requires either fix or removal. Insurance costs are high. Should the dam fail, sudden rush of water and sediment will fill the channel and lead to damages and potential loss of life downstream. Dam does not currently meet dam safety design standards.	NO
B	Full Removal	++	+	++	N/A	+	\$2,500,000 to \$3,000,000	-\$13,000**	\$0	\$0	Include removal of timber crib towers to improve site safety. Best way to limit downstream risks and financial liability. Only way to fully eliminate dam safety concerns.	YES
C	Three Quarters Removal (Down to Ogee Bottom)	++	+	++	++	+	\$2,000,000 to \$2,500,000	-\$13,000**	\$4,000,000 to \$5,000,000	\$5,000	Create uniform longitudinal profile. Limit storage of water and sediment so lower downstream risks. Remaining dam structure likely does not trigger NYS Dam Safety regulatory jurisdiction. Foundation exploration and abutment repair required.	NO
D	Half Removal	+	o	o	+	o	\$2,000,000 to \$2,500,000	\$13,000	\$4,000,000 to \$5,000,000	\$10,000	Jurisdictional dam remains with remaining downstream risks due to channel sedimentation and migration should the dam fail. May not be possible to achieve spillway design requirements. Foundation exploration and abutment repair required. Annual inspections required.	NO
E	Repair Dam	+	o	o	-	o	\$3,000,000 to \$4,000,000*	\$13,000	\$4,000,000 to \$5,000,000	\$15,000	Would require change of hazard classification to meet spillway design requirements and that is not likely for current dam configuration. Regular maintenance would be needed to reduce sedimentation to control downstream risks should the dam fail. Dam may remain uninsurable unless hazard class is changed. Jurisdictional dam would remain. High-risk investment without knowledge of dam foundation. Annual inspections required.	NO
F	Replace Dam	++	+	+	++	+	\$7,000,000 to \$8,000,000*	\$13,000	\$4,000,000 to \$5,000,000	\$10,000	Would require full dam removal and then construction of a new dam. New structure would likely be smaller in thickness. The spillway crest elevation would need to be lower in the bedrock canyon to pass the design flood. Would require regular maintenance and sediment management. A new jurisdictional dam would exist. Annual inspections required.	NO

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* Cost of repair and replacement could vary widely based on identification of subsurface conditions and selected alternative.

**Negative costs indicate potential savings.