1840 Lake SM

Lake County, Ohio

CONCORD TOWNSHIP
LAKE COUNTY, OHIO

BRIGHTWOOD LAKE DAM PUBLIC MEETING

JUNE 19, 2018

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DISCUSSION OUTLINE

- History of Brightwood Lake dam
- Current Conditions
- Proposed Restoration
  - Approach
  - Benefits
  - Examples
- Next Steps
  - Funding
  - Grants
- Easements
- Frequently Asked Questions

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DAM HISTORY

1967
DAM CONSTRUCTED

1985
INVENTORIED; DAM OVERTOPPING EVENT

1986-2004
PERIODIC DAM SAFETY INSPECTIONS

2006
OVERTOPPING CONCERNS CAUSE EVACUATION OF DOWNSTREAM RESIDENTS

2009 – 2011
PERIODIC DAM SAFETY INSPECTIONS

2011
MULTIPLE HOMES REMOVED FROM DOWNSTREAM HAZARD

2013
URS DAM REMOVAL FEASIBILITY STUDY; NEW STATE OF OHIO PMP STUDY RELEASED

2016
MOST RECENT DAM SAFETY INSPECTION

2017
UPDATED EAP AND HYDROLOGIC AND HYDRAULIC STUDY

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CURRENT CONDITIONS

DAM CHARACTERISTICS

- CLASS I DAM (BASED ON DOWNSTREAM HAZARD)
  - MUST PASS PROBABLE MAXIMUM FLOOD (PMF)
  - CURRENTLY PASSES ~9% OF PMF
  - CLASS IV BY HEIGHT, CLASS III BY VOLUME
- PRINCIPAL SPILLWAY
  - 55-FOOT CONCRETE OGEE SHAPED SPILLWAY
- LAKE DRAIN
  - 12-INCH CAST IRON PIPE
- AUXILIARY SPILLWAY
  - NO AUXILIARY SPILLWAY
- DOWNSTREAM HAZARD
  - MULTIPLE HOMES, PROUTY ROAD, INFRASTRUCTURE

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CURRENT CONDITIONS

NATURAL RESOURCES

- EXISTING DAM
  - 340 FEET LONG, 16 FEET HIGH
  - PROVIDES 11 ACRE LAKE
  - SEDIMENT CONTINUES TO ACCUMULATE BEHIND DAM
  - SUBSTANTIAL UPGRADES REQUIRED TO MEET ODNR REGULATIONS
- ECOLOGICAL IMPACTS
  - WATER QUALITY A CONCERN FOR LOCAL HABITATS
  - POTENTIAL BREACH HAZARD IMPACTS HIGH
  - SHRINKING MACROINVERTIBRATE AND SALMANOID HABITATS

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THE FUTURE OF THE DAM

- BASED ON 2006 ENGINEERING STUDY, THREE ALTERNATIVES WERE CONSIDERED:
  - REHAB DAM AND DREDGE LAKE: Cost $4.4 million (2013)
  - REMOVE DAM AND RESTORE STREAM: Cost $1.3 million (2013)
  - PARTIALLY REMOVE DAM AND RESTORE STREAM: Cost $1.0 million (2013)
- DECISION:
  - DISCUSSIONS WITH DAM OWNERS, TOWNSHIP, COUNTY AND STATE HAVE CONCLUDED DAM REMOVAL IS THE BEST ALTERNATIVE TO ADVANCE

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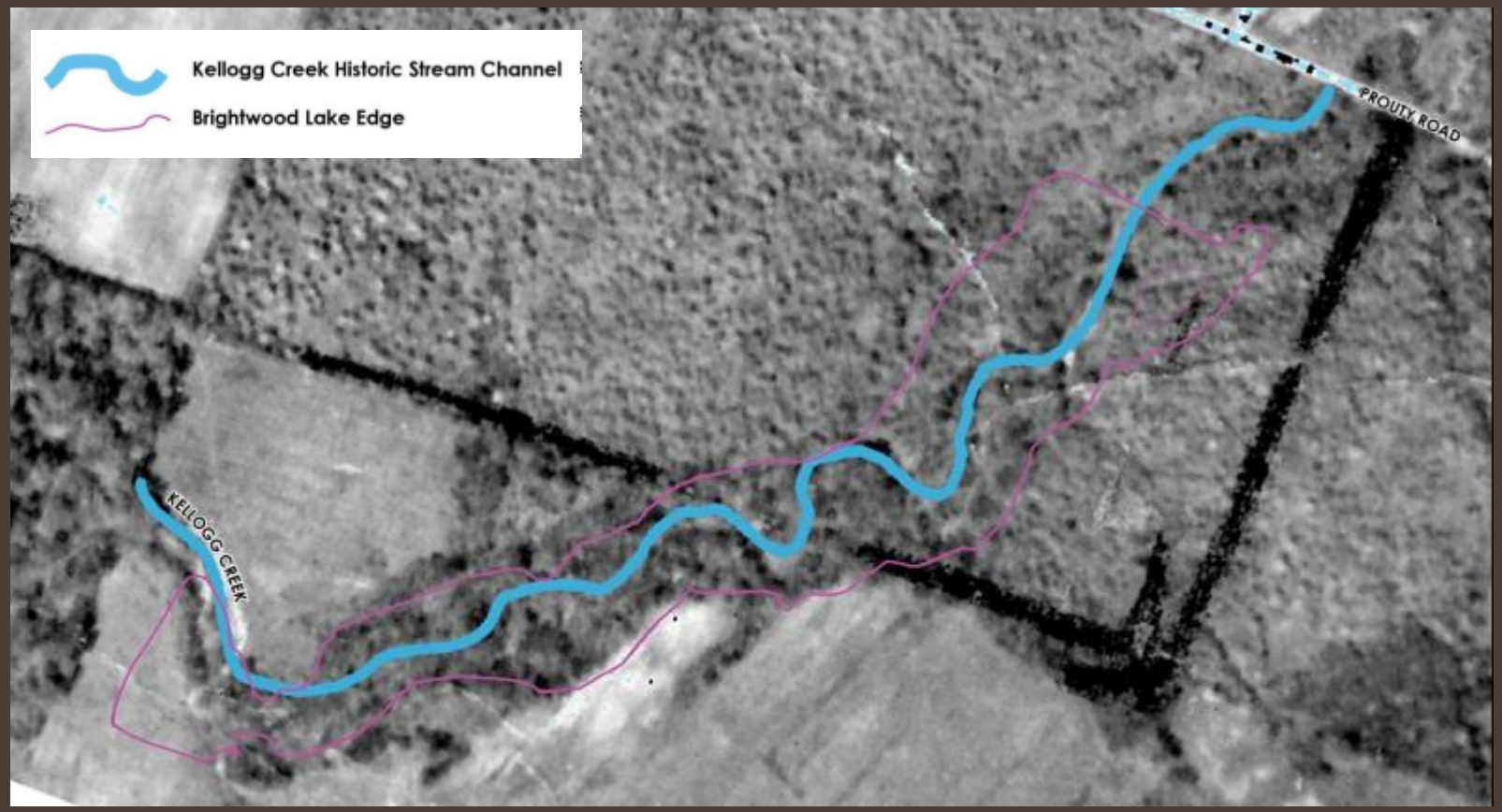
PROPOSED RESTORATION APPROACH

1951 HISTORIC SITE AERIAL IMAGE



As previously shown in URS' 2013 Feasibility Study

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PROPOSED RESTORATION APPROACH

2011 SITE AERIAL IMAGE

As previously shown in URS' 2013 Feasibility Study

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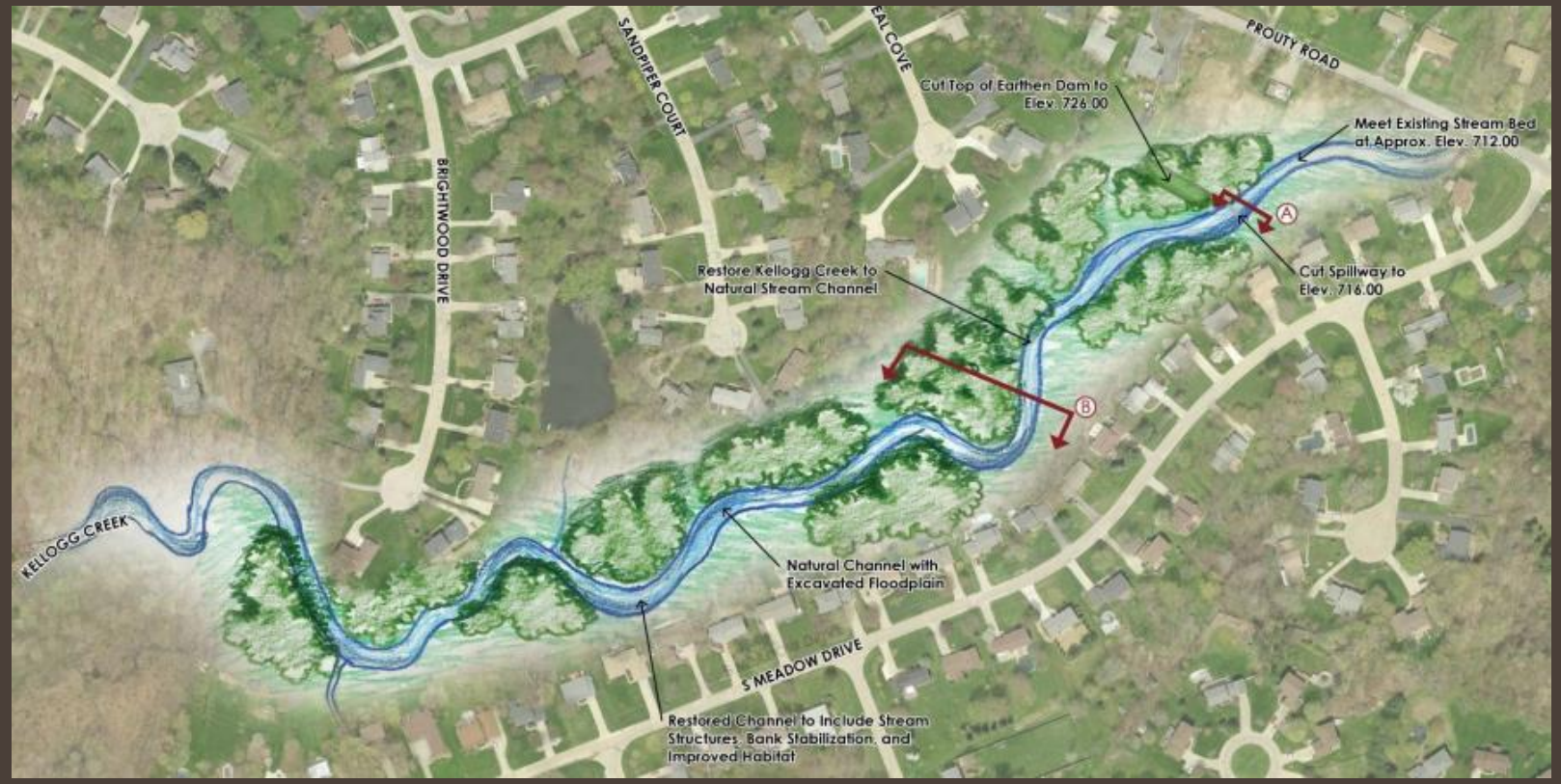
PROPOSED RESTORATION APPROACH

CONCEPTUAL PLAN



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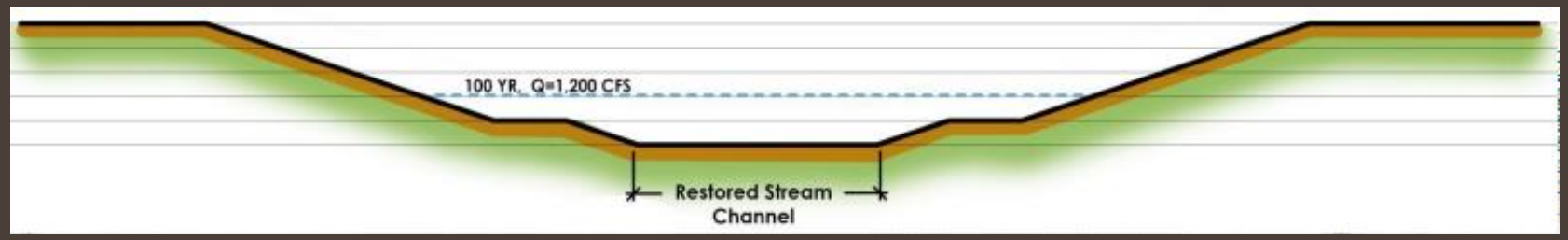
PROPOSED RESTORATION APPROACH

CONCEPTUAL PLAN



As previously shown in URS' 2013 Feasibility Study

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PROPOSED RESTORATION BENEFITS

- SAFETY AND SECURITY
  - REMOVAL OF DAM SAFETY HAZARD
  - REMOVAL OF SEDIMENTATION HAZARD
- ECOLOGICAL IMPACTS
  - IMPROVED WATER QUALITY IN KELLOGG CREEK
  - GREATER POTENTIAL FOR UPPER REACHES OF KELLOGG CREEK TO MEET OEPA ATTAINMENT
  - INCREASE MACROINVERTEBRATE AND FISH HABITAT; RESTORE SALMONID HABITAT
  - RE-ESTABLISH NATURAL FLOW CHANNELS TO SUPPORT BIODIVERSITY IN KELLOGG CREEK

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PROPOSED RESTORATION EXAMPLES

MAYDALE CONSERVATION PARK RESTORATION [COLESVILLE, MD]

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PROPOSED RESTORATION EXAMPLES

ANNADALE ROAD STREAM RESTORATION [STATEN ISLAND, NY]

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PROPOSED RESTORATION EXAMPLES

NEW STREET ECOLOGICAL PARK RESTORATION [LITITZ, PA]

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PROPOSED RESTORATION EXAMPLES

SNAKED BRANCH RESTORATION [RESTON, VA]

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NEXT STEPS

FUNDING

- OHIO EPA WATER RESOURCE RESTORATION SPRONSOR PROGRAM GRANT
  - PROVIDES PROJECT FUNDING UP TO $1.5 MILLION
  - NO LOCAL MATCH REQUIREMENTS
  - FOCUS ON WATER QUALITY IMPROVEMENT GOALS
- OHIO EPA 319 GRANT
  - PROVIDES PROJECT FUNDING UP TO $300,000
  - 40% LOCAL MATCH REQUIREMENT
  - FOCUS ON WATER QUALITY IMPROVEMENT GOALS

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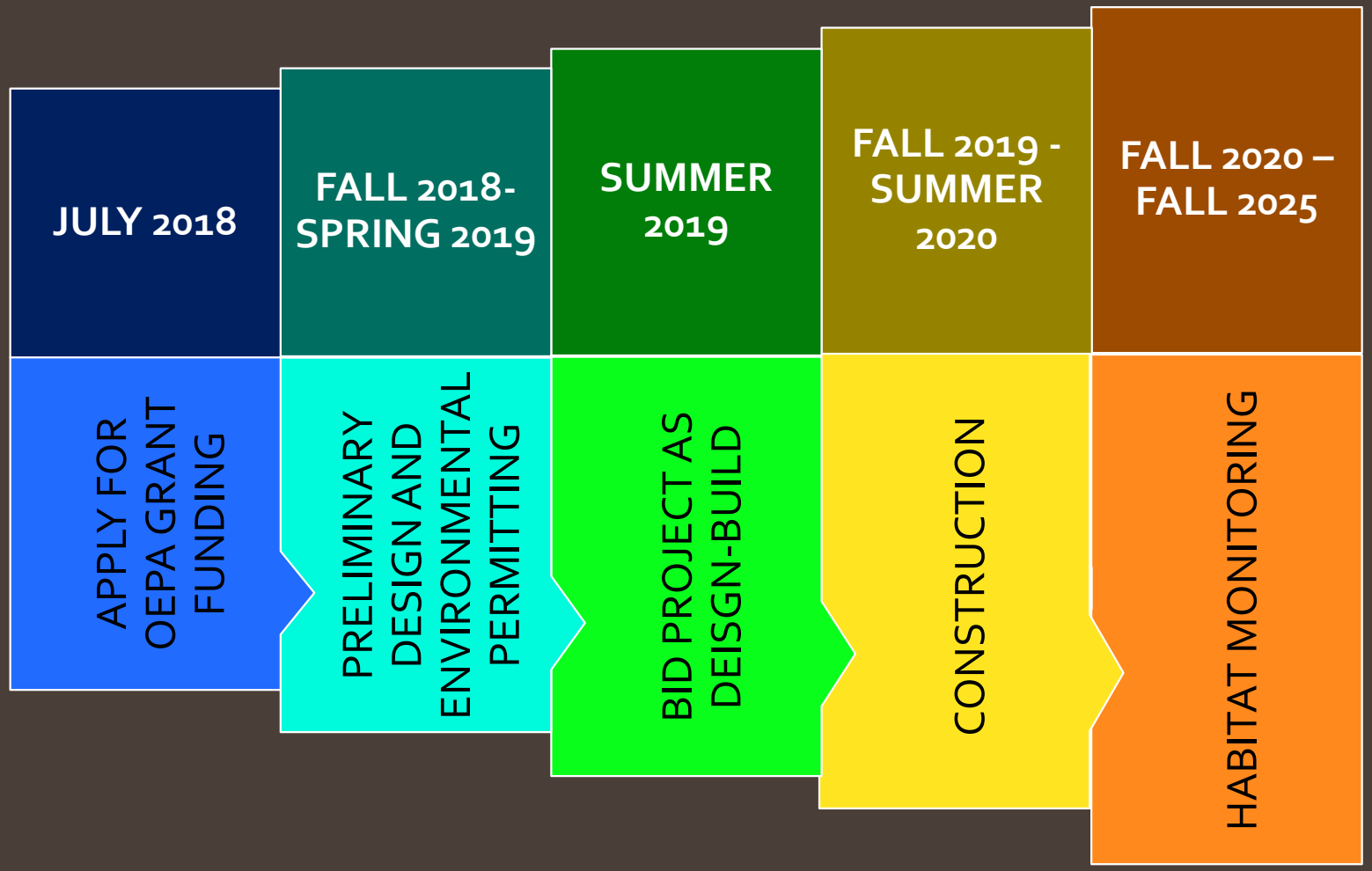
NEXT STEPS

SCHEDULE



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EXISTING EASEMENTS

- RIPARIAN EASEMENTS:
  - ORIGINALLY ESTABLISHED TO ALLOW MAINTAINANCE ALONG THE LAKE
  - RECORDED EASEMENT

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EASEMENTS

NEXT STEPS

1. PREVIOUSLY ENTERED INTO EASEMENT BASED ON DAM REPAIR OR REPLACEMENT
   - REQUEST REMOVAL OF EASEMENT (SEE #3 BELOW)
   - REQUEST MODIFICATION OF EASEMENT (SEE #2 BELOW)
2. OWN PROPERTY ALONG LAKE AND WANT TO ENTER EASEMENT
   - YOUR PROPERTY WILL BE INCLUDED IN STREAM RESTORATION PROJECT
3. OWN PROPERTY ALONG LAKE AND DO NOT WANT TO ENTER EASEMENT
   - YOUR PROPERTY WILL NOT BE INCLUDED IN STREAM RESTORATION PROJECT
   - IF YOU CHANGE YOUR MIND AFTER TODAY PLEASE DON'T HESITATE TO CONTACT US

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FREQUENTLY ASKED QUESTIONS

- CAN ANYONE EVER BUILD ON THE PROPERTY THAT IS NOW OCCUPIED BY THE LAKE?
  - NO. AS PART OF THE GRANT, A CONSERVATION EASEMENT WILL BE PLACED ON THE PROPERTY FOR THE STREAM RESTORATION. THE CONSERVATION EASEMENT WILL BE IN PERPETUITY.

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FREQUENTLY ASKED QUESTIONS

- ARE THERE ANY OTHER OPTIONS AVAILBLE, RATHER THAN REMOVAL OF THE DAM?
  - SINCE THE EARLY 2000'S AN ENORMOUS AMOUNT OF TIME AND ENERGY HAS BEEN SPENT LOOKING AT OPTIONS. THE DAM OWNERS, IN CONCERT WITH THE TOWNSHIP, COUNTY AND STATE, HAVE DETERMINED THAT THE ONLY VIABLE OPTION TO ADDRESS THE DAM DEFICIENCIES AT THIS TIME IS TO REMOVE THE DAM AND RESTORE THE STREAM.

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FREQUENTLY ASKED QUESTIONS

- WHAT IF I DON'T WANT MY PROPERTY INCLUDED IN THE STREAM RESTORATION?
  - PRELIMINARY ENGINIEERING ANALYSIS SHOW THAT THE STREAM CAN BE RESTORED ON THE PROPERTY CURRENTLY OWNED BY THE DAM OWNERS. SHOULD YOU CHOOSE NOT TO PARTICIPATE IN THE PROJECT THROUGH AN EASEMENT, NO WORK WILL BE DONE ON YOUR PROPERTY. THE PROJECT WILL STILL ADVANCE. THE DAM WILL STILL BE REMOVED AND THE STREAM WILL STILL BE RESTORED.

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FREQUENTLY ASKED QUESTIONS

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CONTACT INFORMATION

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