

Four Lakes Task Force

Representing the Special Assessment District

Gladwin and Midland County Four Lakes

July 16, 2020

Board Meeting via Webinar



Four Lakes Task Force

Virtual Public Meeting

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- We received many questions via email and website prior to the meeting and have structured the presentation to address most of them
- If you have questions or comments you have not yet submitted, you can do so using the “questions” feature in GotoWebinar
 - ▣ This feature will be enabled following our President’s Report
 - ▣ We will answer public questions for the final 30 minutes of this meeting
 - ▣ We will answer any questions we do not get to and post all questions/answers on our website after the meeting



Agenda

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- Roll Call
- Agenda and Approval of Minutes
- President's Report to the Board
- Acquisition of Property Report
- GEI Study Results
- 2020 Funding Status
- Questions and Answers
- Vote on 2020 plan and acquisition
- Other Business
- Adjourn



Recovery and Rebuilding the Dams

Gladwin and Midland County Four Lakes

President's Report

Dave Kepler, President and Chairperson, FLTF



Four Lakes Task Force

The May 19, 2020 Flood and the New Reality for the Four Lakes System

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An embankment failed on the Edenville Dam. Sanford Dam failed because of excess water from the Edenville failure. All causes have yet to be determined. FERC ordered Boyce to form an independent investigation team and EGLE Dam Safety joined the effort. We believe the investigation should be independent from Boyce .

Smallwood and Secord Dams were lowered for inspection by order of FERC. Boyce's inspection information has not been shared with the counties or FLTF.

The State of Michigan has challenged Boyce on its inadequacy of inspections and plans for stabilization of the Tobacco spillway. Boyce is behind on FERC order compliance.

Haven't We Seen This Cartoon Before?

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- Boyce and the State are in lawsuits
- FERC Status as of July 15th
 - ▣ 17 days behind on the Dam Inspection for Secord and Smallwood
 - ▣ Smallwood has 34 actions to address
 - ▣ Secord Dam not reported out yet by FERC
 - ▣ Sanford Dam Report not submitted to FERC
 - ▣ Making Repairs without Engineers Supervision
- Boyce claims repairs for Secord are \$30,000 and the lake can come up by October. Just needs some more money



Meanwhile the dams and lake bottoms sit empty, with no clear plan from the owner on how he will finance or repair his assets.

The President Has Approved a Major Disaster Declaration

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All Four Dams will be required to meet current “Standard of Practice” for dam engineering and have appropriate spillway capacity.

The Counties, State and Federal Government, or the Community should not and cannot require anything less.

Long-term Financing or Grants are not going to be available if we are not providing a 75+ year service life to all four lakes.

While the independent investigation will show causes;
one thing is clear: the system failed to protect people and property.

THE FOUR LAKES TASKS FORCE PLAN GOING FORWARD REFLECTS THIS REALITY.

Lake Levels for the Four Lakes in Gladwin and Midland County

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Part 307 Inland Lake Level of the Michigan Natural Resources and Environmental Protection Act, 1994 PA 451 allows for the establishment of legal (normal) lake levels.

If a hydropower dam no longer has a FERC License to Operate, a Part 307 State Legal (Normal) Lake Level is the ***only way property owners would be legally entitled to existence of a Lake.***

In May 2019, after County Resolutions and Circuit Court Orders; State Legal Lake Levels were established for the Four Lakes, along with a required Special Assessment District, and the Four Lakes Task Force was named by the counties as the Delegated Authority for the Special Assessment District. ***This was a huge effort and it's critical that the community stands by this work.***

Four Lakes Task Force (FLTF)

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FLTF is a 501(c)(3) non-profit that was formed by the Lake Associations in 2018 to support the counties in obtaining the Court Order for Part 307 and acquiring the lake and dam properties.

Seven board members are nominated from their lake associations. They are volunteers and not compensated. Two board members come from Midland and Gladwin counties – one per county. No board member has or can profit from their engagement.

FLTF has secured the services of Spicer Group for civil engineering and survey, GEI Consulting for hydro dam engineering, Essex Partnership for dam operations, Clark Hill PPC for legal services, Trapani Communications, Yeo and Yeo for auditing.

Four Lakes Operations (FLO) is and was always owned 100% by FLTF and put in place to coordinate the acquisition and operations from Boyce. Its purpose is no longer needed. ***No board member other than FLTF ever had shares in FLO.***

Boyce Ownership of the Dams

All four dams have been under full operational control of Boyce Hydro since it acquired the property in 2006 and regulated by the Federal Energy and Regulatory Commission (FERC).

Boyce lost the bottomlands in Wixom and Sanford lakes in Midland County over a tax dispute. The bottomlands for all of Sanford and the Midland County portion of Wixom lake are now owned by FLTF. These properties will return to county ownership.

FERC revoked Boyce's hydropower license for the Edenville Dam in September 2018, "because of Boyce's long-standing failure to increase the project's spillway capacity to safely pass flood flows." The Edenville Dam then moved to oversight by Michigan EGLE Dam Safety. Both parties have sued each other.

FLTF was in the process of acquiring and then improving and repairing the dams on behalf of the counties through an agreement with Boyce Trusts that was to start in 2020. **That agreement cannot and is not proceeding.**

Lakes with Boyce or Private Ownership Are Not Sustainable

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Boyce has acknowledged to FERC that it could not afford to keep the dams in compliance. The dams have been under-invested in. **A Private Owned Hydropower has not and will not generate enough revenue to cover the costs for these dams.**

The liability, and recovery and repair effort are Boyce's responsibility. Lee Mueller, the Boyce Hydro Power Co-Manager has stated it is beyond Boyce's capability to address the damages, post-flood debris removal, stabilization of the lakes, dam improvements, and restoration of the lakes. Boyce has over \$6 million dollars of debt.

FLTF Plan to Recover and Restore the Lakes

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1. Out of necessity, the counties approved to acquire the property from Boyce through condemnation (eminent domain).

2. Stabilize all four dams, remove debris and address erosion - \$30+ Million. Over the next two years the dams need to be stabilized while restoration and repairs are underway. Debris needs to be removed and erosion needs to be managed.

3. Start the rebuild and repair program - ~ \$250 to \$400 million over 4 to 6 years. This is based on the opinion of our experts, and others with the current facts available. It is not an estimate, but a look at scale and needs to be refined.

In the first part of 2021, we will refine our plans, get approval from the Counties, then we must submit these plans to the State of Michigan.

Lawsuits

There are multiple lawsuits related to this matter, FLTF has no position on a lake owner joining a class. The counties and FLTF are named in some of the lawsuits. We maintain that the lawsuits against the counties and FLTF are without merit.

Boyce and the State of Michigan have filed lawsuits against each other. Neither FLTF nor the Counties are a party to those suits. However, Boyce has published its positions in the cases, and some newspapers have reported them as fact.

Environmental and Recreation Studies

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The State and Boyce are in a legal suit over environmental damage to mussels as a result of the 2018 and 2019 drawdown. FLTF is not involved in this litigation. FLTF agreed to contribute \$1 million towards studies, monitoring, and conservation efforts to benefit the freshwater mussel ecosystem in all four lakes and to determine how to limit negative impacts on the ecosystem and conserve the ecosystem. ***FLTF did not agree to pay fines or damages for Boyce, or to the State of Michigan.***

Boyce was required by FERC and DNR to conduct environmental monitoring and management, including invasive species, bald eagles counts, sediment, and water quality. Prior to May 2020, FLTF was planning to take over Boyce's environmental reporting responsibilities, to ensure timely and complete reports would be sent to FERC. **Currently a new plan will be developed for future studies and monitoring as we implement our restoration plan.**

Financing and Funding

Recovery Funds: FLTF is working with FEMA and USDA-Natural Resource Conservation Services for grants and loans. We have estimated the impact to be in the \$10's of Millions. FLTF has submitted several projects requesting federal support.

US ARMY CORP OF ENGINEERS: FLTF is engaged for support for Flood Studies, Planning Assistance, and Future Project Support.

We are getting significant support from our Counties, State Senator and State Representatives, Congressman and Senators in helping to implement our plan.

The Special Assessment District will need to be a major source of financing.

Special Assessment District and Assessments

The planned assessment methodology before May 2019, is no longer valid. A new methodology needs to be developed. FLTF does not have an estimate. No plans for assessment timing have been made, but certainly we do not expect it to be earlier than 2022. **Any number being reported by others is only speculation.**

It is not practical for the Secord and Smallwood Lake communities to pay for Sanford or Edenville dam restorations. These communities will remain in the Four Lakes Special Assessment District. ***Boyce or others that want to challenge this will have to do so in the Circuit Court of Midland and Gladwin, and FLTF would then respond.***

Financing Needed to Recover and Restore the Lakes

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- \$8 million: Acquire, Manage and Operate Four Lakes (2020-22)
 - ▣ We have \$1.38 million in funds, with plans to raise additional funds from individual donors, foundations, corporations and government grants
- \$30-\$40 million: Recovery
 - ▣ Funding in progress working with state and federal agencies for funds
 - ▣ Dam stabilization (\$5-8 million)
 - ▣ Debris removal (\$4 million)
 - ▣ Erosion control (\$25-\$30 million)
- \$250 million to \$400 million: Rebuild and repair the lakes



Planning Cost Breakdown for State Requirements (1/2 PMF with -30% to +50% Confidence)

Sanford

Cost \$92 million

Edenville

Cost \$208 million

Smallwood

Cost \$14 million

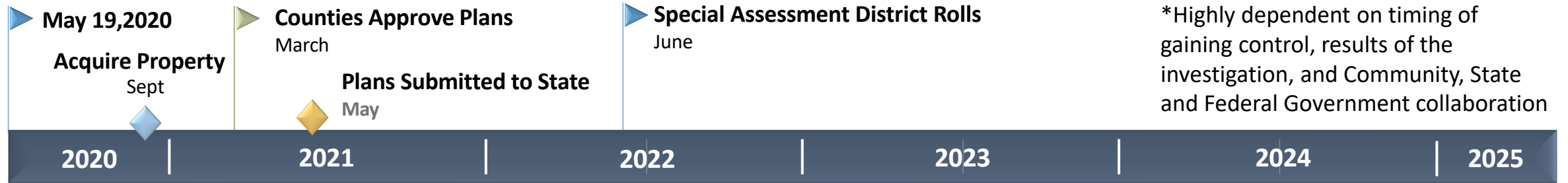
Secord

Cost \$24 million

**TOTAL PLANNING LEVEL COST
\$338 MILLION**

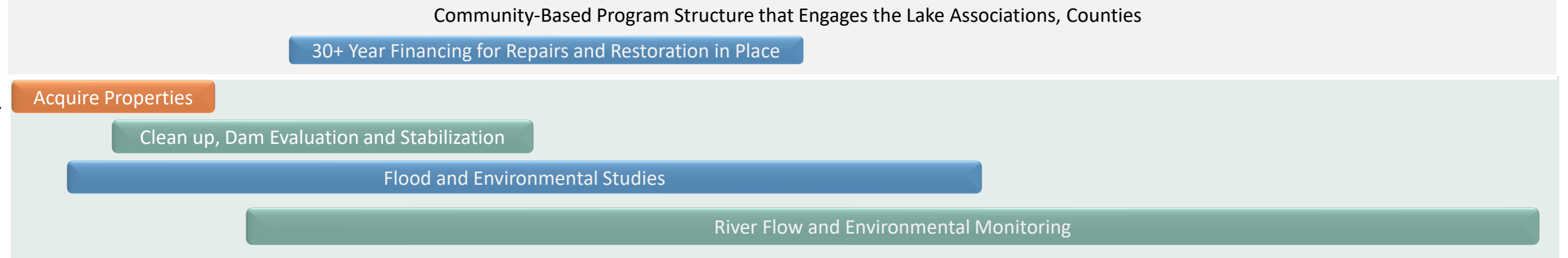
Recovery and Restoration Timeline*

Four Lakes Program: Gain Community and Government Support for a Plan to Acquire, Restore and Rebuild the Four Lakes and Dams

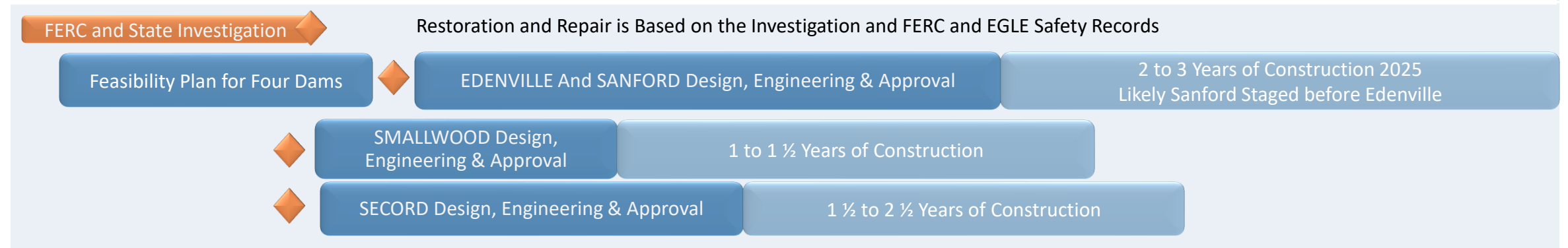


*Highly dependent on timing of gaining control, results of the investigation, and Community, State and Federal Government collaboration

Recovery Effort



Repair and Restoration Effort



Ongoing Communications

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□ Meetings

- Monthly webinars between board meetings on specific topics
- Lake-by-Lake webinar for each lake in August

□ Website Updates

- We will continue to monitor and put on the website
 - FERC communications and filings
 - EGLE postings
 - FLTF communications
 - New: search feature
 - Note: We have a document library

□ Monthly Newsletter on Progress

- Sign-up on our website

□ Weekly News Flashes

- Sign-up on our website
- On demand as new information comes forward

□ Quarterly Mailing to Homes

□ Facebook

- We will not engage in comments on FB except to post updates
- Those with comments, questions or topic suggestions may send them via email to info@fourlakestaskforce.org and we will respond



The lake property owners of the Special Assessment District, working with the counties, with support from the state and federal government are the only way to:

BRING BACK THE LAKES



Acquisition of Property Report

Gladwin and Midland County Four Lakes

Joseph W. Colaianne, Clark Hill, PLC



Four Lakes Task Force

Erosion Report

Gladwin and Midland County Four Lakes

Dave Rothman, Board member of FLTF
Chairperson of Environmental, Operations and Safety Committee



Four Lakes Task Force

Shoreline Erosion

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- Four Lakes Task Force hosted two Erosion Engineering fairs, one in Midland and one in Gladwin counties
- FLTF is entering properties with erosion damage into a GIS application in collaboration with Midland County
 - ▣ Volunteers associated with FLTF will visit our property owners to complete the damage assessment
 - ▣ We are working with NRCS to obtain funding for the properties that we have entered
 - ▣ Those that attended the erosion fair are already entered

Contact for Shoreline Erosion

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- FLTF encourages individuals with Erosion Concerns that have not already reached out to do so
- Email is the preferred method of communication:
kaylas@fourlakestaskforce.org
 - ▣ In your email please include your name, address, phone number and a brief description of your erosion concern
- You may also call: (989) 941-3005



Preliminary Dam Reconstruction/Repair Summary

Gladwin and Midland County Four Lakes

PMF Study · Reconstruction/Repair Designs · Costs

Ron Hansen, Spicer Group



Four Lakes Task Force

Summary of PMF Study

- Prior to the May 19th event, FLTF was evaluating the spillway capacity of the dams in the four lakes system. This was done with Ayres Associates and Spicer Group, with GEI Consultants reviewing and providing input
 - ▣ Last study completed in 1994 by Mead and Hunt
- Definitions

Probable Maximum Flood (PMF)

FERC defines PMF as “the flood that may be expected from the most severe combination of critical meteorological and hydrologic conditions that are reasonably possible in a particular drainage area.”

Probable Maximum Precipitation (PMP)

Developed from 1993 Wisconsin-Michigan PMP Study. A very generalized summary of the PMP one-day rainfall amount is 16 inches of rain across the watershed.

Summary of PMF Study

Dam	Flowrate per 2020 PMF Study (CFS)	Previously Reported Spillway Capacity (CFS)
Sanford	80,600	37,000
Edenville	80,900*	26,500
Smallwood	41,200	40,970
Secord	29,400	11,100

* Initial estimate of flow at Edenville Dam at time of failure was 20,000 CFS.

It's not acceptable for homes to be flooded when the dam spillway has not reached capacity.

Dam Safety Design Standards

- FERC Criteria for Spillway Capacity
 - Sanford – Inflow Design Flood (IDF)
 - In this case, the Sanford Dam would be submerged and therefore an additional threat to life and property from a dam breach would not occur
 - FERC accepted value – 37,000 CFS which is 49% less than previously accepted PMF
 - Smallwood and Secord – PMF
- EGLE Criteria for Spillway Capacity
 - Sanford and Smallwood – 200 Year Storm Event
 - Edenville and Secord – 1/2 PMF
 - Further analysis is required to update values based on PMF study and May 19th storm event

Summary of GEI Consulting Report

- After the May 19th event, FLTF requested GEI Consulting to produce a report for planning purposes
 - Done with Spicer Engineering and Essex Partnership input and review
 - This presentation summarizes that report which will be posted on the FLTF website
 - For planning level purposes and our conceptual designs
 - Detailed engineering and studies must be completed to confirm assumptions

- Restoration Assumptions
 - Reconstruction of Sanford and Edenville dams
 - Repair/rehab of Smallwood and Secord dams
 - No hydropower based on economics and time

- Design criteria assumptions include:
 - Provide 75+ year service life
 - Meet current standard of practice for dam engineering
 - Meet state dam requirement of 1/2 PMF and cascading capacity

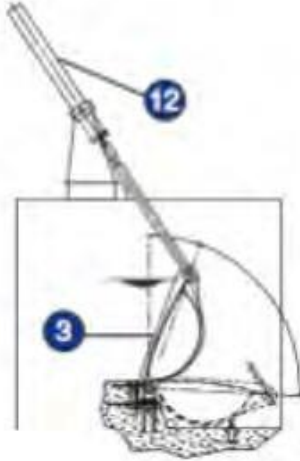
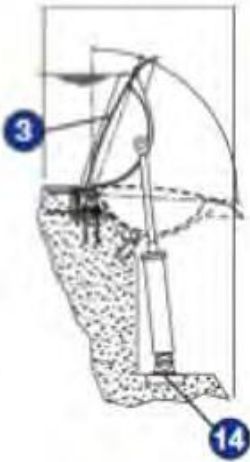
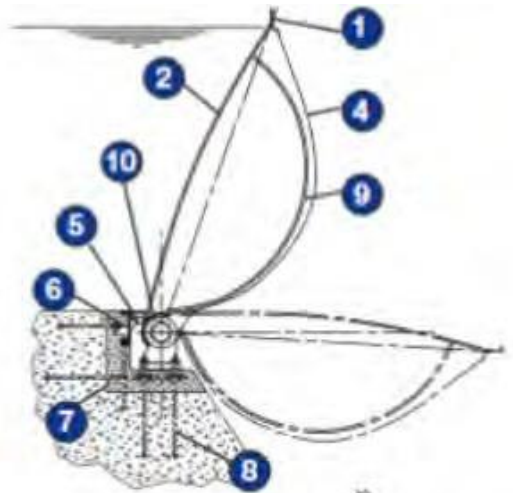


Sanford and Edenville Dam - Reconstruction

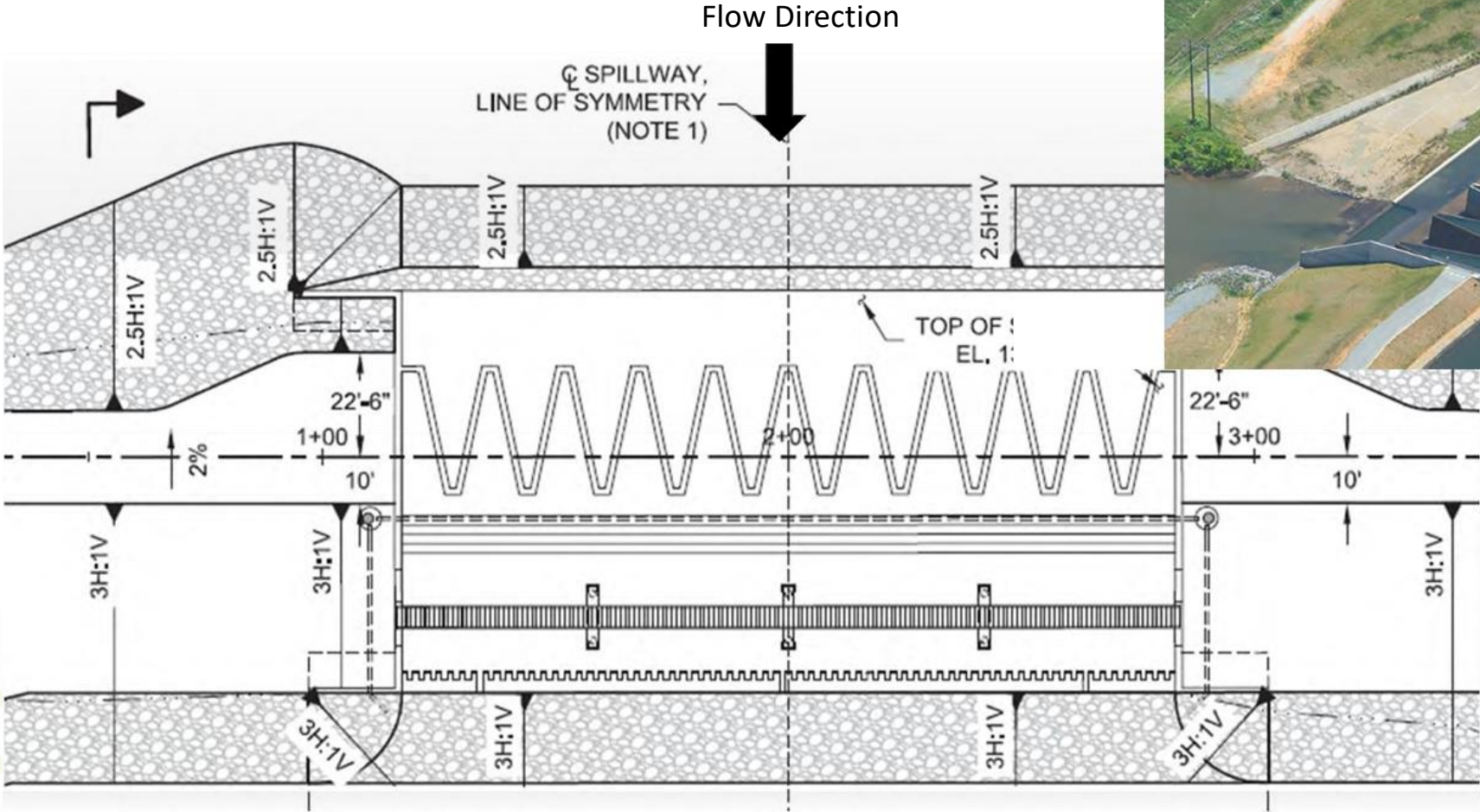
- Construct new primary spillways
- Primary spillways must pass the combined 100-year storm (minimum)
- Reconstruct and raise the embankments
- Construct new auxiliary spillways



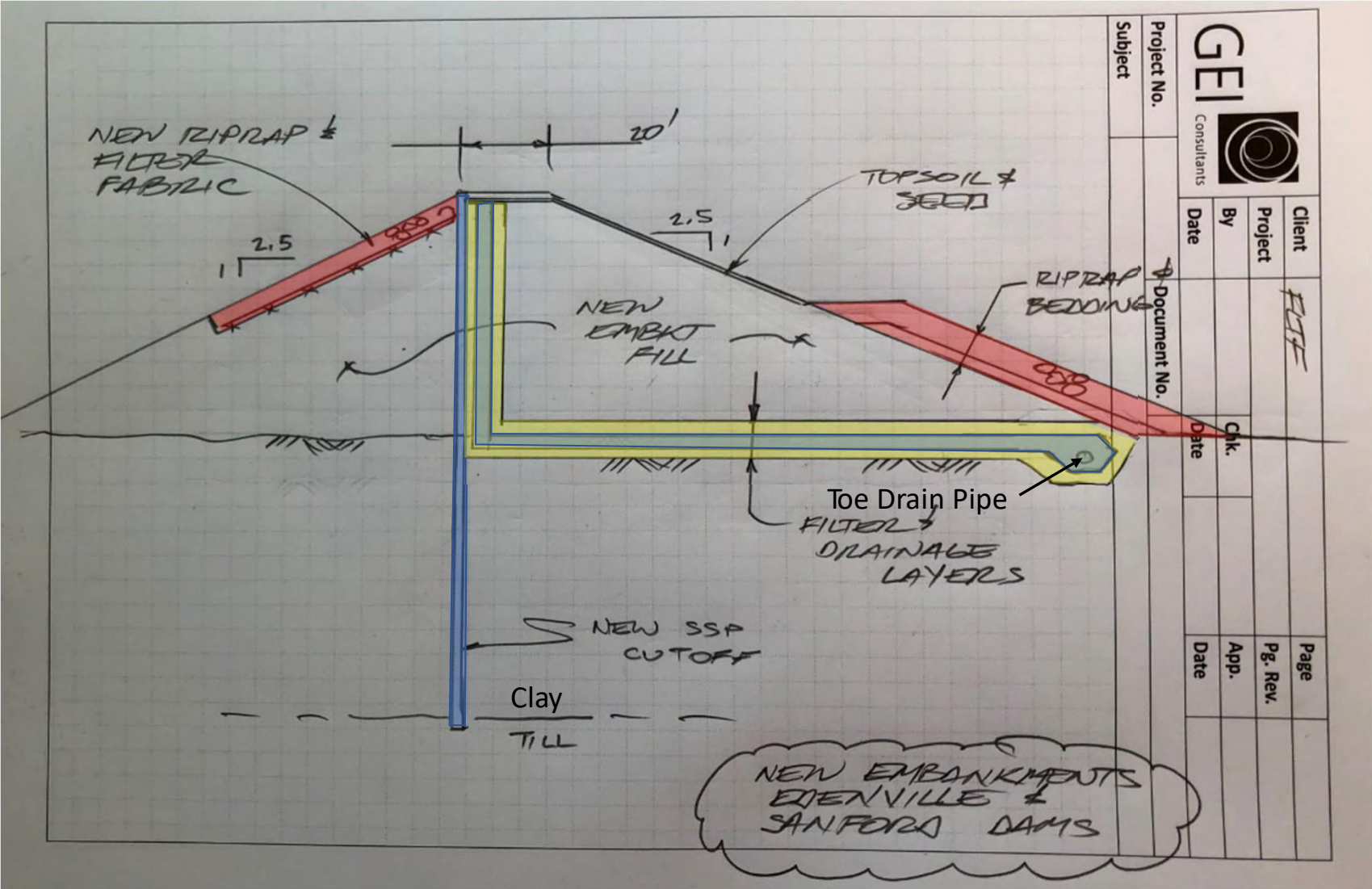
Typical Crest Gate Detail



Typical Labyrinth Auxiliary Spillway Detail



Typical Embankment Reconstruction Detail



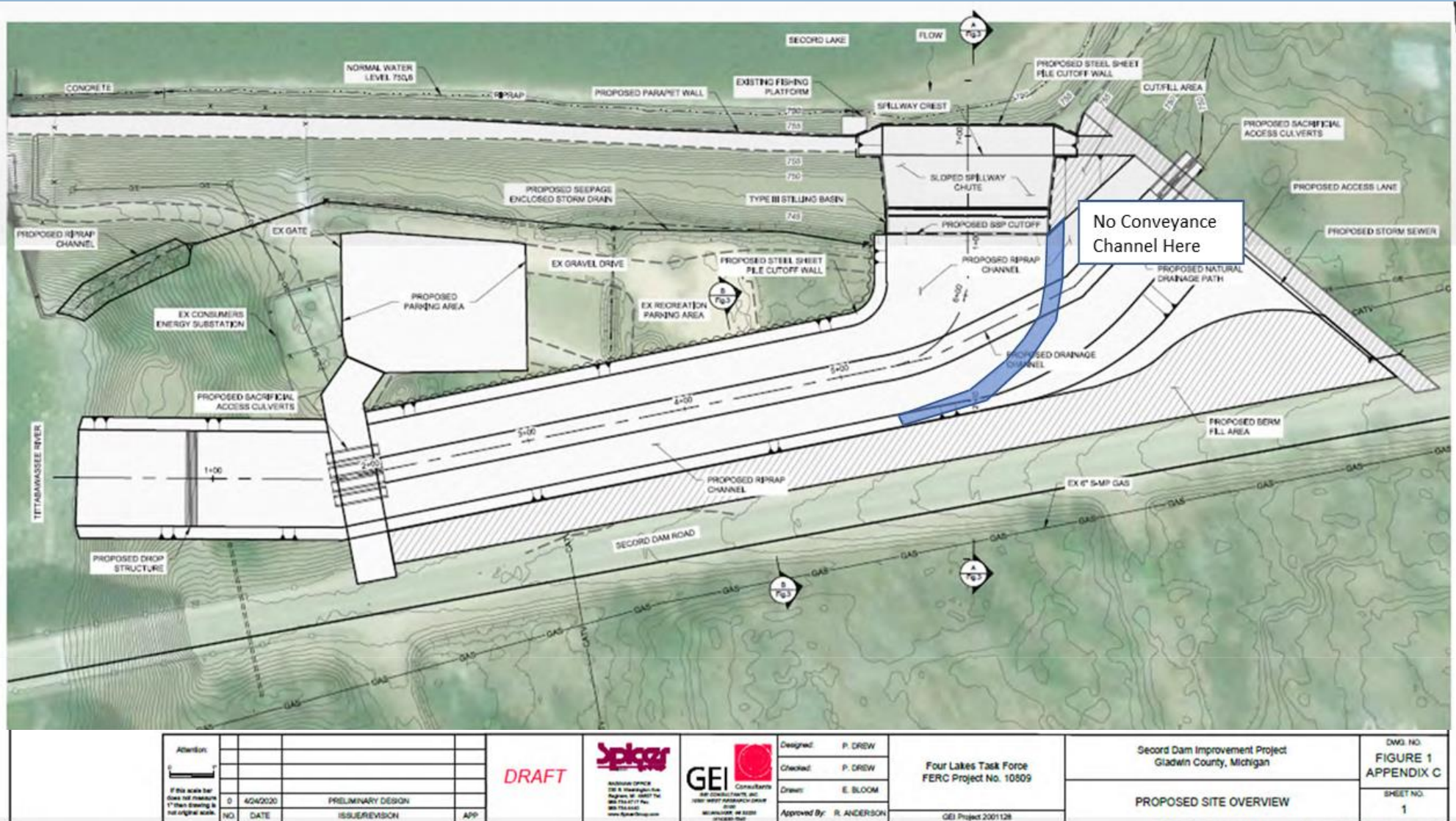
Project No.		GEI Consultants		Client	EDF
Subject		By	Date	Project	
Document No.		Chk.	Date	Date	
		App.	Date	Pg. Rev.	

Secord and Smallwood Dam – Rehabilitation

- Replace tainter gates with Obermeyer or crest gates
- Lower spillway crest to increase capacity
- Rehabilitate embankment with sheet pile and fill
- Rehabilitate existing primary spillway with cellular grout fill and underpinning
- Construct passive auxiliary spillway
- Increase spillway capacity to pass without flooding homes
- Install shoreline armor protection for high exit velocities and high tailwater



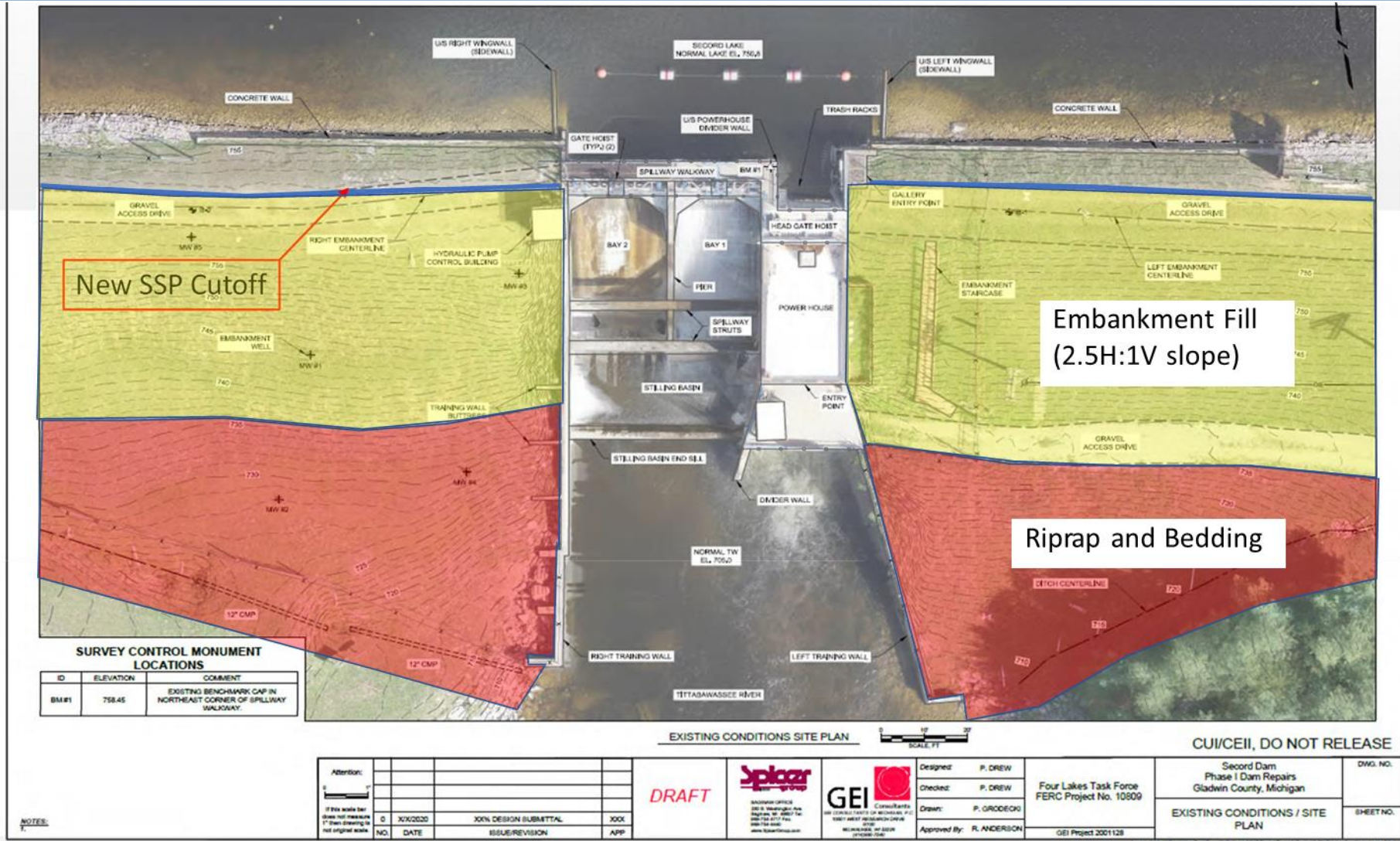
Secord Dam – Rehabilitation



Attention: If this scale bar does not measure 1" then drawing is not original scale.	NO	DATE	ISSUE/REVISION	APP	DRAFT <small>ANNUAL OFFICE 700 N. Washington Ave. Ann Arbor, MI 48106-1517 313.763.6111 Fax 313.763.6144 www.SpitzerGroup.com</small>	 <small>Consultants 3450 S. State Street, Suite 200 Ann Arbor, MI 48106-1517 313.763.6111 www.GEI.com</small>	Designed: P. DREW	Four Lakes Task Force FERC Project No. 10509	Secord Dam Improvement Project Gladwin County, Michigan	DWG. NO. FIGURE 1 APPENDIX C
							Checked: P. DREW			PROPOSED SITE OVERVIEW
							Drawn: E. BLOOM			
							Approved By: R. ANDERSON			
							GEI Project 2001128			

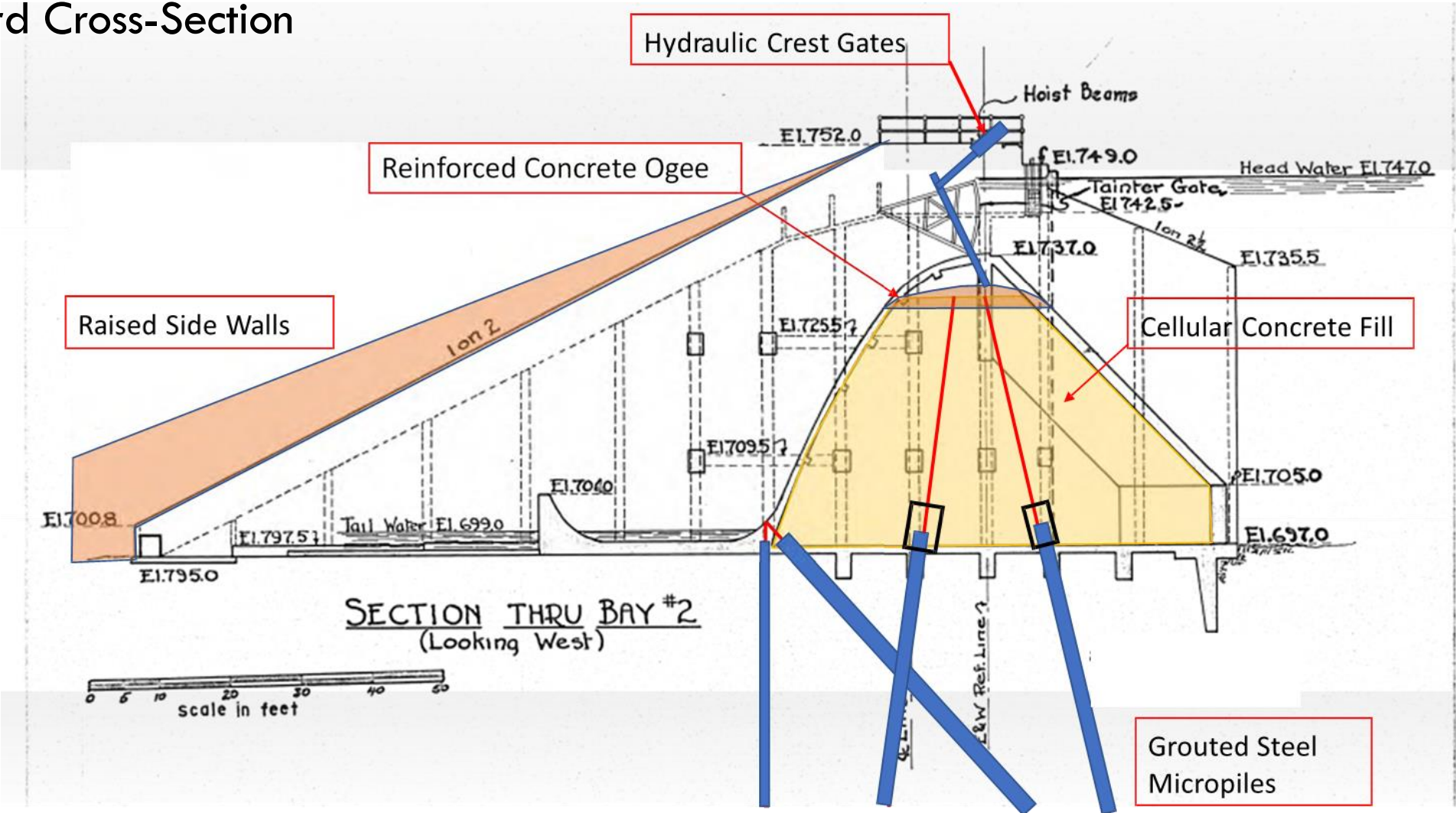


Secord Dam – Rehabilitation

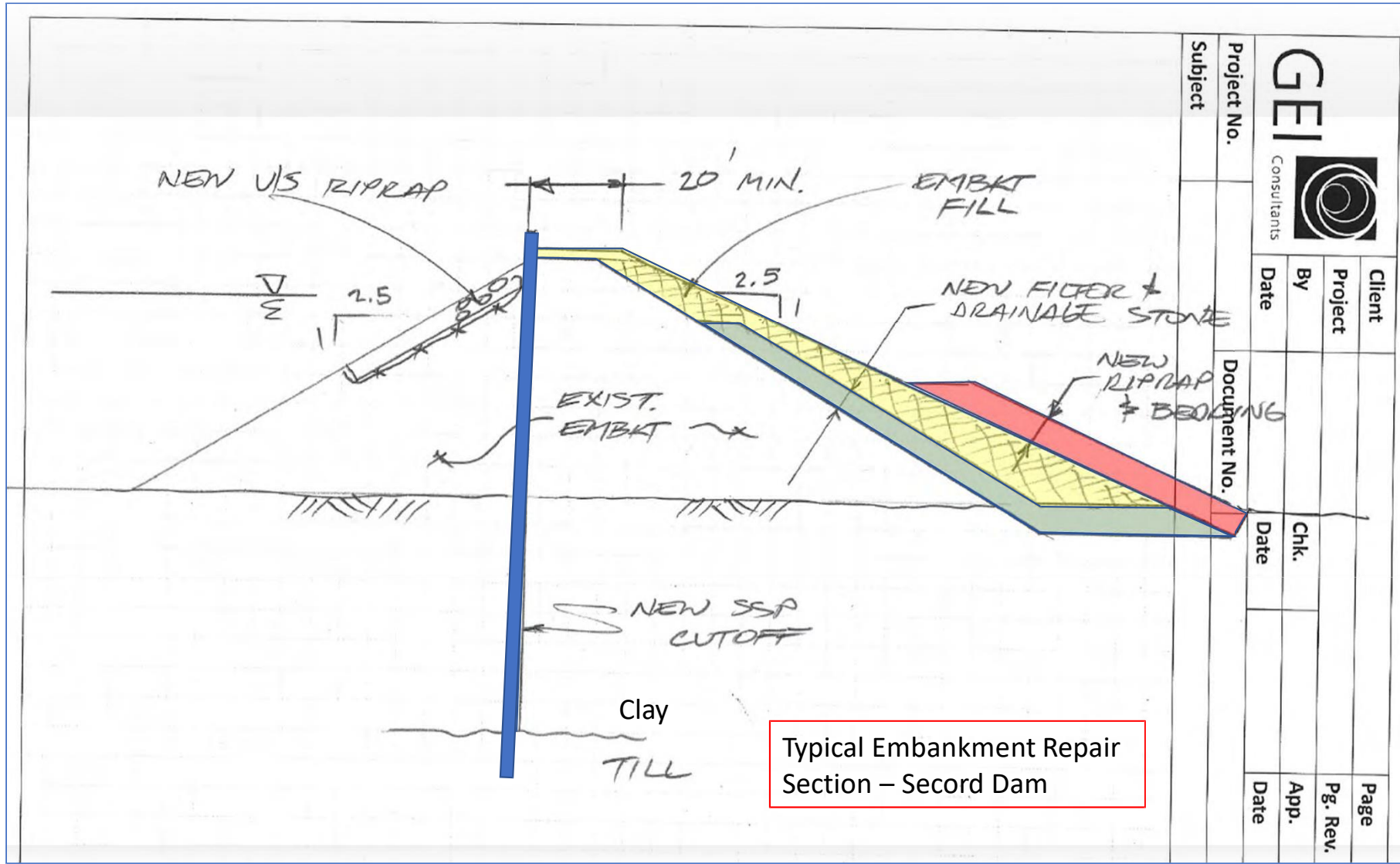


Typical Micropile Detail

Second Cross-Section

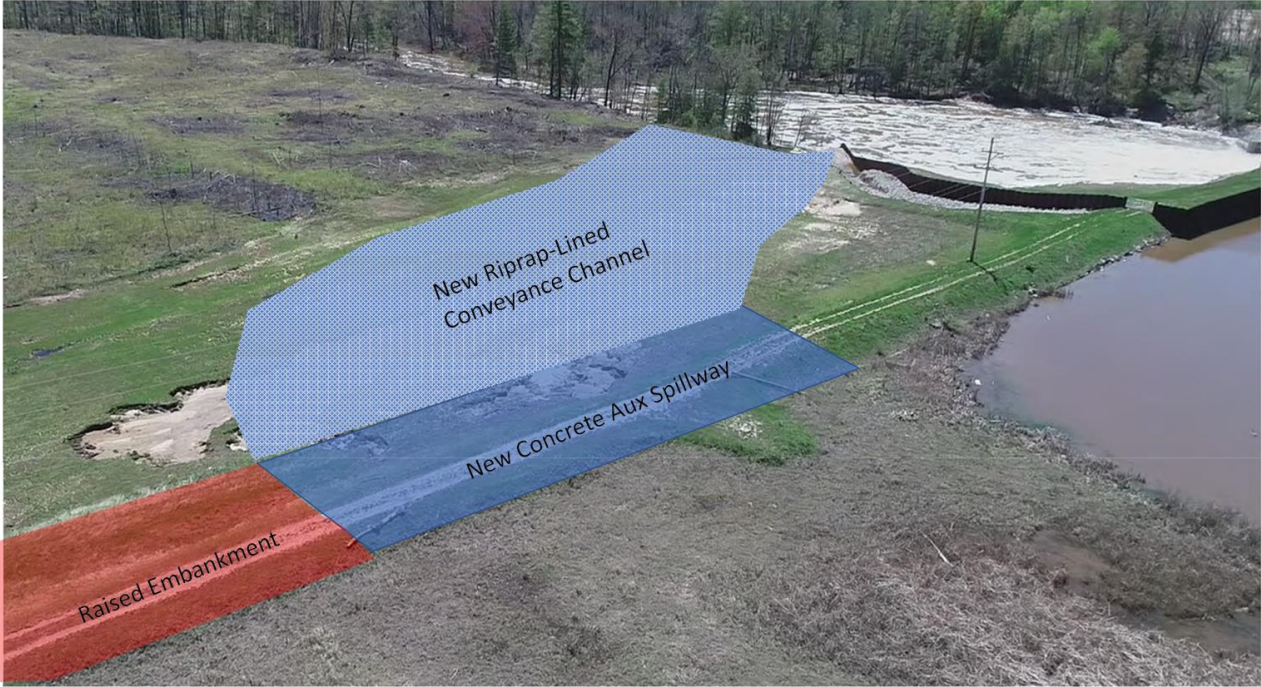


Secord Dam - Rehabilitation



Typical Embankment Repair Section – Secord Dam

Smallwood Dam – Rehabilitation



Four Lakes Position on the Report

- GEI's opinion of probable cost should be considered rough budgetary estimates based on conceptual level designs, costs for similar projects and engineering judgment
- Sanford and Edenville are basically close to total replacement costs
- Flood studies suggest we can expect greater Maximum Floods than in previous years
- Smallwood and Secord repair are higher than previous estimates
 - ▣ State expectations to repair these dams to current standards
 - ▣ Embankments, new spillways and concrete age
 - ▣ Avoid flooding out of containment



GEI Consultants Preliminary Opinion of Costs

- \$338 million to meet state requirements and 1/2 PMF
- Confidence levels at this phase are between -30% to +50%
- Overall estimate includes
 - ▣ Site Investigations, Engineering, Permitting and Construction Management
- Other factors that could impact costs
 - ▣ Inflow Design Flood could decrease number
 - ▣ Full PMF on all Dams will increase numbers significantly
 - ▣ Value Engineering will decrease numbers



Planning Cost Breakdown for State Requirements

1/2 PMF with -30% to +50% Confidence

Sanford

- General conditions
- Site preparation
- Demolition/abandonment
- Left abutment reconstruction
- Right embankment
- New gated spillway/outlet works
- New labyrinth spillway structure
- Site restoration

Cost \$92 million

Edenville

- General conditions
- Site preparation
- M-30 diversion
- Demolition/abandonment
- Embankment repair
- New gated spillway/outlet works
- New labyrinth spillway structure
- Site restoration

Cost \$208 million

Smallwood

- General conditions
- Site preparation
- Demolition/abandonment
- Embankment repair and stabilization
- Gated spillway rehab
- Powerhouse rehab
- New labyrinth spillway structure
- Site restoration

Cost \$14 million

Secord

- General conditions
- Site preparation
- Demolition/abandonment
- Embankment repair and stabilization
- Gated spillway rehab
- Powerhouse rehab
- New overflow auxiliary spillway structure
- Site restoration

Cost \$24 million

TOTAL PLANNING LEVEL COST \$338 MILLION

Financing and Funding

Gladwin and Midland County Four Lakes

Tamara McGovern, Chief Financial Officer, FLTF



Four Lakes Task Force

Expenditure of MEDC Funds

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MEDC Grant Expenditure 1/2019-7/2020		
Consultants		\$ 2,756,054.76
	Engineering	\$ 1,954,526.74
	Finance	\$ 153,334.00
	Public Relations	\$ 122,276.24
	Legal	\$ 525,917.78
Repairs		\$ 391,998.96
Administrative		\$ 37,597.91
Acquisition		\$ 520,000.00
Total Expenditure		\$ 3,705,651.63

- **Important note: this is not ALL FLTF expenditures, these are specifically expenditures out of the MEDC grant for the indicated period**
- FLTF has spent \$3.7 million and has \$1.3 million remaining

Current Financial Position of FLTF

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Category	MEDC Grant	Dow Grant	Kepler Family Erosion Grant	Private Donations	Total Funds
Funds Spent	\$ 3,705,651.63	\$ 103,222.51	\$ 2,386.36		
Funds Obligated			\$ 3,000.00		\$ 596,768.79
Funds Remaining	\$ 1,294,348.37	\$ 146,777.49	\$ 94,613.64	\$ 450,000.00	\$ 1,388,970.71

- \$1.3 Million remaining of MEDC obligated to be spent in line with grant guidelines
- \$146,000 remaining of Dow Grant unrestricted
- \$94,000 remaining to be spent on erosion control. This amount remaining was made possible by Spicer Engineering donating \$20,000+ of engineering support services
- \$450,000 in private donations remaining, these funds are unrestricted
- We have \$596,768.79 in payables
- Net funds on hand **\$1.38 million**

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Questions and Answers



Four Lakes Task Force

Agenda

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Thank You!



Four Lakes Task Force