South Carolina Department of Health and Environmental Control
Healthy People. Healthy Communities.

Congaree River Coal Tar/Sediment Cleanup
COMMUNITY MEETING

- To avoid echoing or feedback, all lines are muted
- At the end of the presentation, we will unmute and call upon those who would like to ask questions
- This virtual meeting will be recorded and posted on our webpage

www.scdhec.gov/CongareeRiver

Option to Call In

- If you are experiencing audio problems, join the virtual meeting by phone:
  - Phone number: **(864) 558-7311**
  - Access Code: **768 349 125#**

Exits the meeting. (If you accidentally exit the meeting, you can rejoin.)


6
FEET
Be smart. Stay 6 feet apart.
scdhec.gov/COVID19
dhec
CR-012661 4/20

Stop the Spread of COVID-19

Wash
hands often

Stay home
while sick

Cover coughs
and sneezes

Clean
surfaces often

scdhec.gov/COVID19

dhec

CR-012661 4/20

dhec

Healthy People. Healthy Communities.

Congaree River Coal Tar/Sediment Cleanup

Community Meeting
November 17, 2020

South Carolina Department of Health and Environmental Control
Healthy People. Healthy Communities.

Agenda

- Brief History
- Update Progress since 2019 Public Meeting
- Discuss Preferred Cleanup Alternative
- Start Public Comment Period
- Answer Questions

History

- Tar like material (TLM) in the Congaree River was reported in June 2010 by a local citizen
- DHEC responded by collecting samples and looking for a source
- The source was determined to originate from a former Manufactured Gas Plant (MGP)

Manufactured Gas Plant History

- Located on Huger Street
- Operated from 1900-1950
- Plant burned coal to produce gas for production of the predecessor to natural gas
- Created large amounts of byproduct (coal tar)
- 1950s- 2008 Operated as the City Bus Terminal
- Contract between DHEC and Dominion Energy (DEC) to assess and cleanup MGP Plant in 2002
- MGP removal conducted from 2009-2012

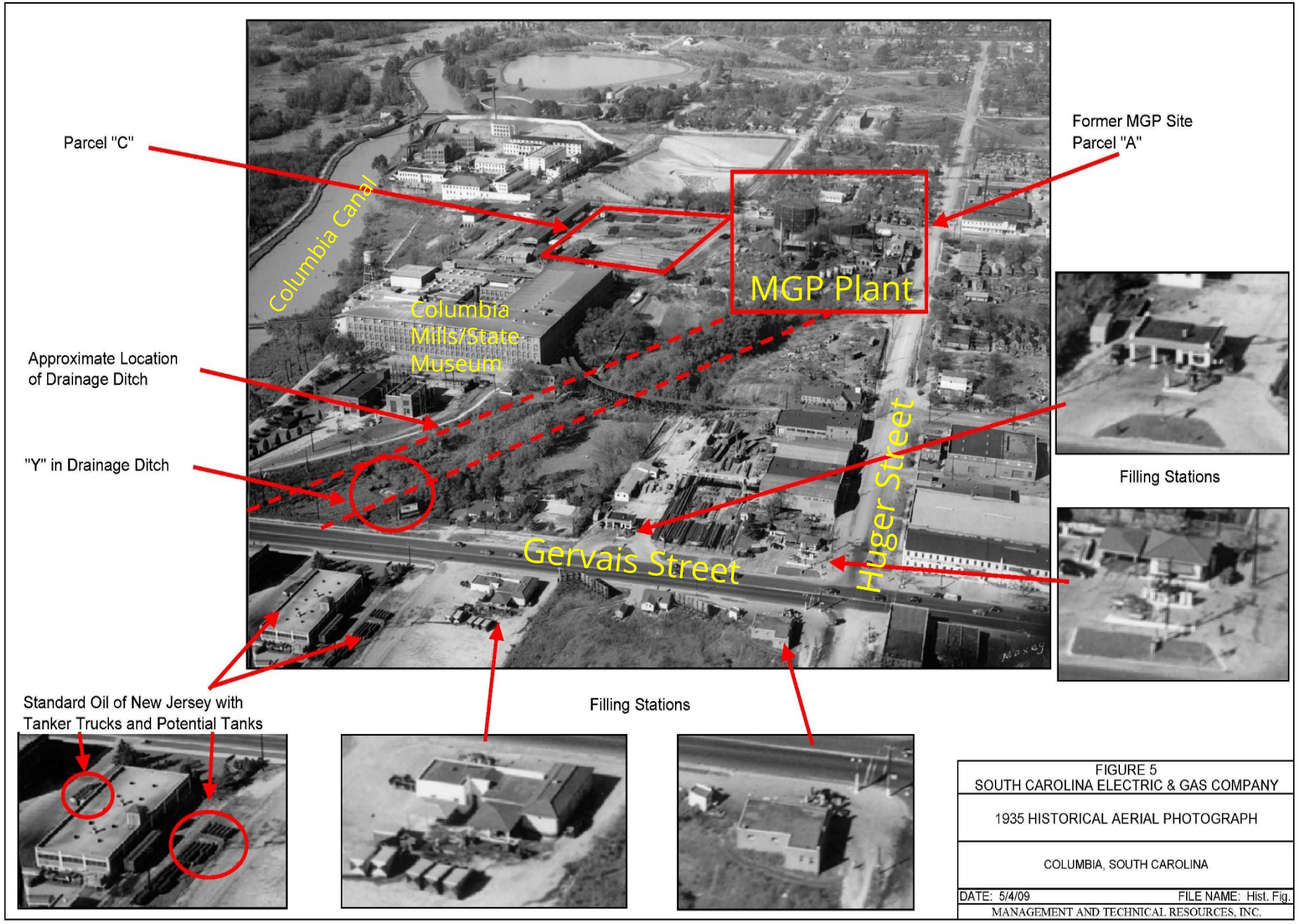


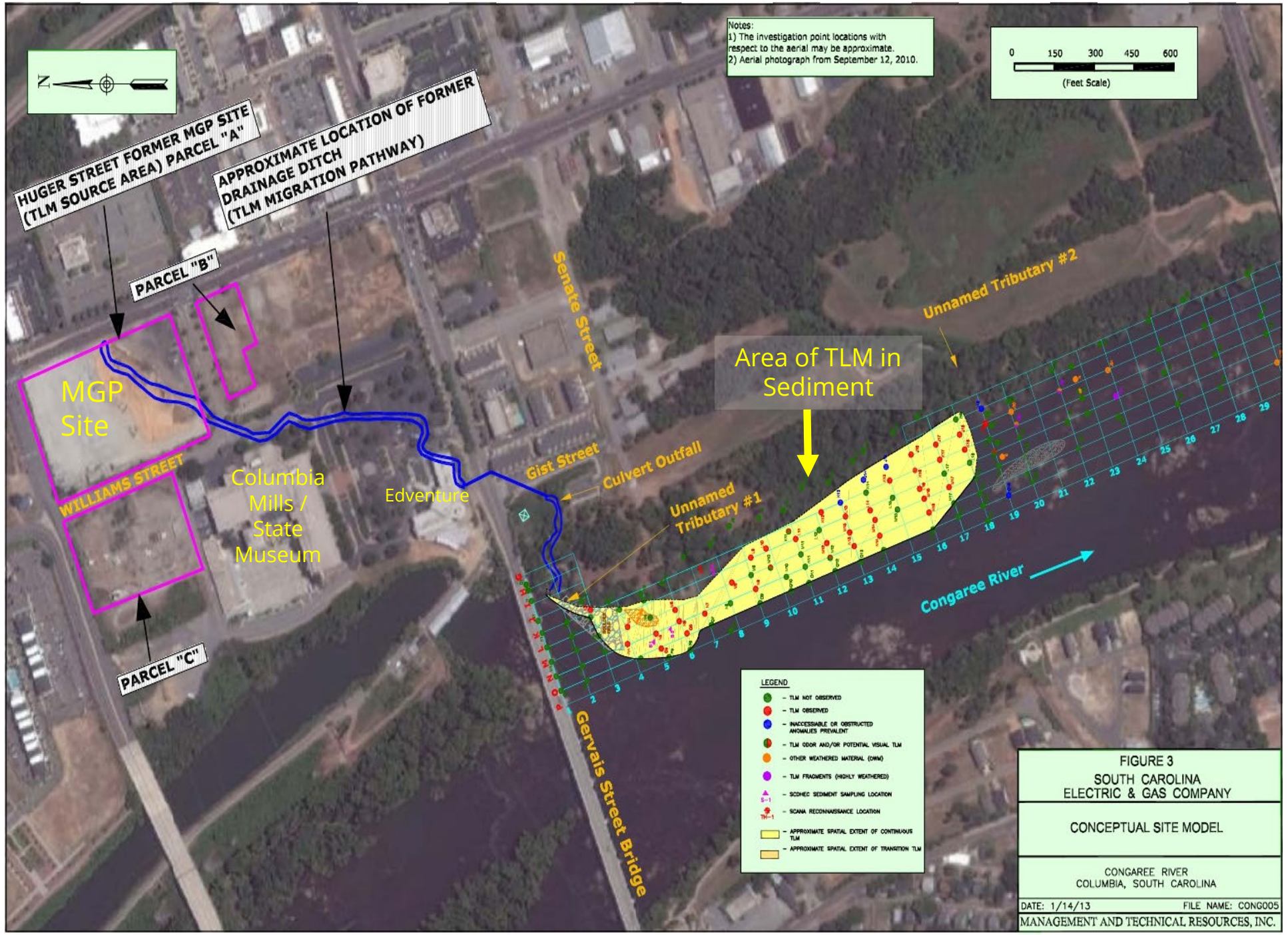
FIGURE 5
SOUTH CAROLINA ELECTRIC & GAS COMPANY

1935 HISTORICAL AERIAL PHOTOGRAPH

COLUMBIA, SOUTH CAROLINA

DATE: 5/4/09 FILE NAME: Hist. Fig.

MANAGEMENT AND TECHNICAL RESOURCES, INC.


Notes:
1) The investigation point locations with respect to the aerial may be approximate.
2) Aerial photograph from September 12, 2010.
0 150 300 450 600
(Feet Scale)
HUGER STREET FORMER MGP SITE (TLM SOURCE AREA) PARCEL "A"
APPROXIMATE LOCATION OF FORMER DRAINAGE DITCH (TLM MIGRATION PATHWAY)
PARCEL "B"
MGP Site
WILLIAMS STREET
PARCEL "C"
Columbia Mills / State Museum
Edventure
Senate Street
Gist Street
Culvert Outfall
Unnamed Tributary #1
Unnamed Tributary #2
Area of TLM in Sediment
Congaree River
Gervais Street Bridge
POND LITTLE
LEGEND
– TLM NOT OBSERVED
– TLM OBSERVED
– INACCESSIBLE OR OBSTRUCTED ANOMALIES PREVALENT
– TLM ODOR AND/OR POTENTIAL VISUAL TLM
– OTHER WEATHERED MATERIAL (OWM)
– TLM FRAGMENTS (HIGHLY WEATHERED)
– SCDHEC SEDIMENT SAMPLING LOCATION
– SCANA RECONNAISSANCE LOCATION
– APPROXIMATE SPATIAL EXTENT OF CONTINUOUS TLM
– APPROXIMATE SPATIAL EXTENT OF TRANSITION TLM
FIGURE 3
SOUTH CAROLINA ELECTRIC & GAS COMPANY
CONCEPTUAL SITE MODEL
CONGAREE RIVER
COLUMBIA, SOUTH CAROLINA
DATE: 1/14/13
FILE NAME: CONG005
MANAGEMENT AND TECHNICAL RESOURCES, INC.

Risks of TLM in the River

- Primary potential risk is from direct contact with the TLM
- Undisturbed, the TLM is not dissolving into the river water and poses little risk to the water quality.

Assessment of the River

- Surface water sampling
  - Five events have been completed since 2017.
  - To date, no TLM-related constituents have been detected
- Aquatic Macroinvertebrate Assessment
  - June 2017
  - No adverse effects

Cleanup Challenges

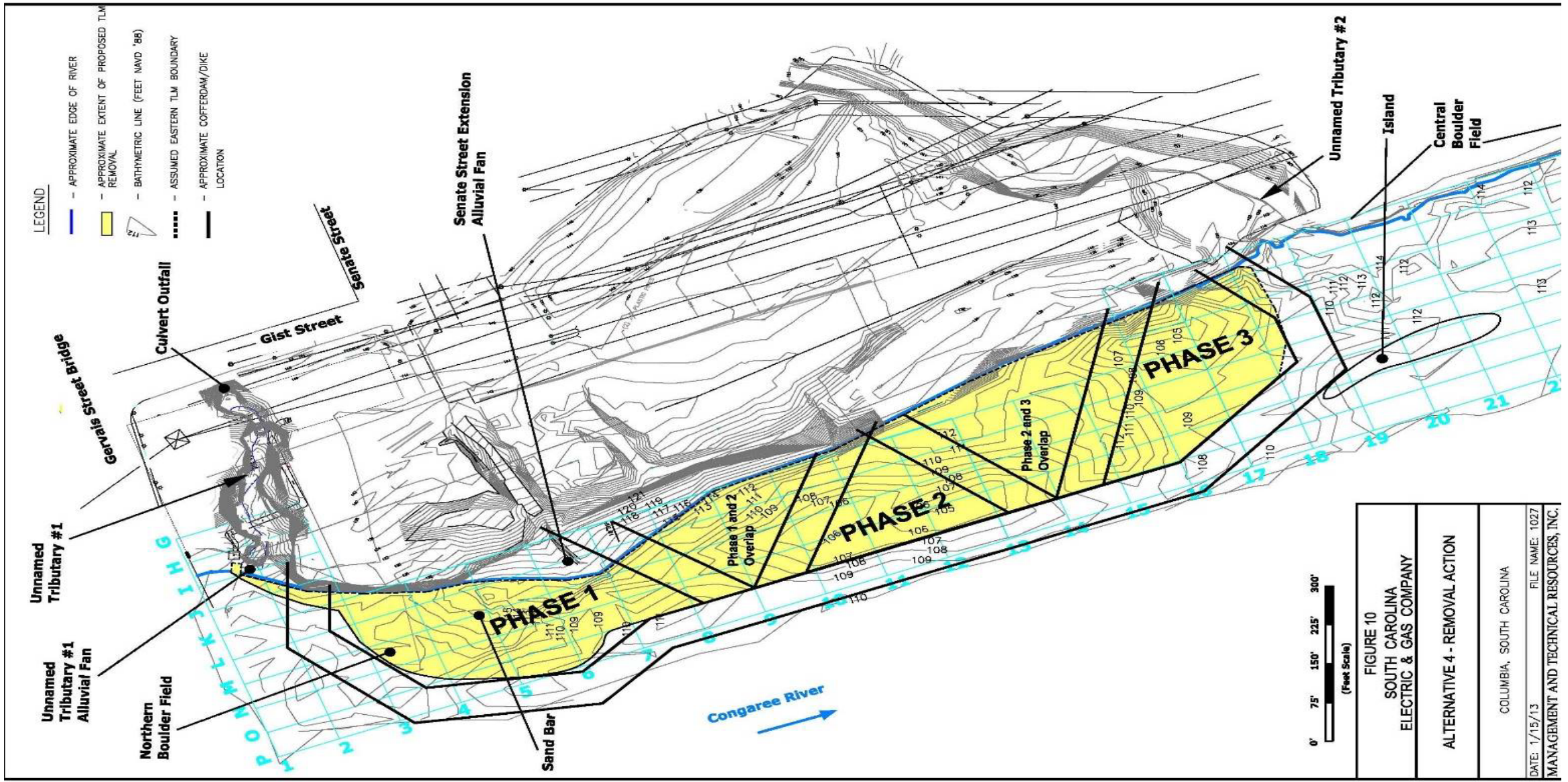
- Civil war munitions deposited in this portion of the Congaree River
  - Potential Unexploded Ordnance
  - Worker Safety Concerns
  - Preserving Historical Artifacts
- 2015 Flood deposited up to 5 feet of sediment in the area of concern
- River has bedrock bottom making metal piling options infeasible
- Dynamic river conditions
- Limited timeframes for work in the river

	Congaree River Sediments Removal Action Alternatives
1	**No Action**
	Retained as a baseline for comparison with other alternatives. The TLM would be left in place
2	**Monitoring and Institutional Controls**
	The TLM would be left in place and access restrictions would be established by the installation of signs and a chain link fence along the shoreline. Yearly monitoring of sediment conditions within and downstream of the project area in order to detect potential migration of the TLM
3	**Sediment Capping and Institutional Controls**
	The TLM would be left in place and an engineered cap would be installed that would include geotextile and rip rap placed over the top of the TLM. Institutional controls and monitoring similar to Alternative 2 would be included
4	**Removal of the Impacted Sediment With Off-Site Disposal**
	The TLM would be physically removed from the river. This would include construction of a cofferdam and dewatering of the project area in order to access the TLM and sediment.

Evaluation of Cleanup Alternatives: Engineering Evaluation/Cost Analysis (EE/CA)

- Protection of Human Health & Environment
- Compliance with State and Federal Regulations
- Reduction of Contaminant Mass, Volume & Toxicity
- Short Term and Long-Term Effectiveness
- Implementability
- Costs
- Public Comment

Full-Scale Removal (Alternative 4): Original Footprint



Full-Scale Removal (Alternative 4): Risks

- Erosion to the Shoreline on the West Bank
- Flooding on the West Bank
- Overtopping of the Cofferdam
- Potential Catastrophic Overtopping
- Construction/Deconstruction

Full Scale removal determined to be infeasible due to construction concerns from ACOE.

Sediment Capping (Alternative 3): Evaluation

- **August 2016:** DHEC requested Dominion Energy to seek US Army Corps of Engineers permit for Sediment Capping
- **February 2017:** DHEC held a public meeting on the Sediment Capping Alternative.
  - Concerns from local community, stakeholders, and natural resource agencies
- **October 2017:** US Army Corps of Engineers granted a Nationwide permit for the Sediment Capping Alternative

2017 Public Meeting Feedback

Surface Water Data
Health of the River
Long-term impacts to the river from a cap
Long-term effectiveness of a cap
Will cap endanger the recreational user
There must be a better alternative than this
Removal of TLM preferred by the public

Taking into Account Input from the Local Community, Stakeholders, and Natural Resource Agencies, DHEC decided to hold off on moving forward with **Alternative 3: Sediment Capping** and reevaluate alternatives

Modified Removal Action (Preferred Alternative)

- **December 2017:** DHEC met with primary stakeholders to discuss removal of the tar-like material
- **May 2018:** US Army Corps of Engineers indicated a permit may be achievable for a Modified Removal Action
- **June 2018:** DHEC requested Dominion Energy pursue a Modified Removal Action for the site
- **December 2018:** Dominion Energy submitted a Conceptual Plan for a Modified Removal Action

Primary Stakeholders
DHEC
Dominion Energy
Congaree Riverkeeper
Property Owners
Girl Scouts of America
City of Columbia
SC Governor's Office
City of West Columbia

Modified Removal Action (Preferred Alternative): Evaluation

- Approximately **70-75% of total TLM would be removed** from the Congaree River
- TLM would be removed from areas of the river that are **most accessed** and where the **majority of TLM volume** exists in the river
  - **Two (2) separate areas**
  - Largest area may use multi-phased approach
- Reduces impact of river rise on west bank
  - Full-scale removal = 8 feet
  - Modified Removal Action = <1 foot

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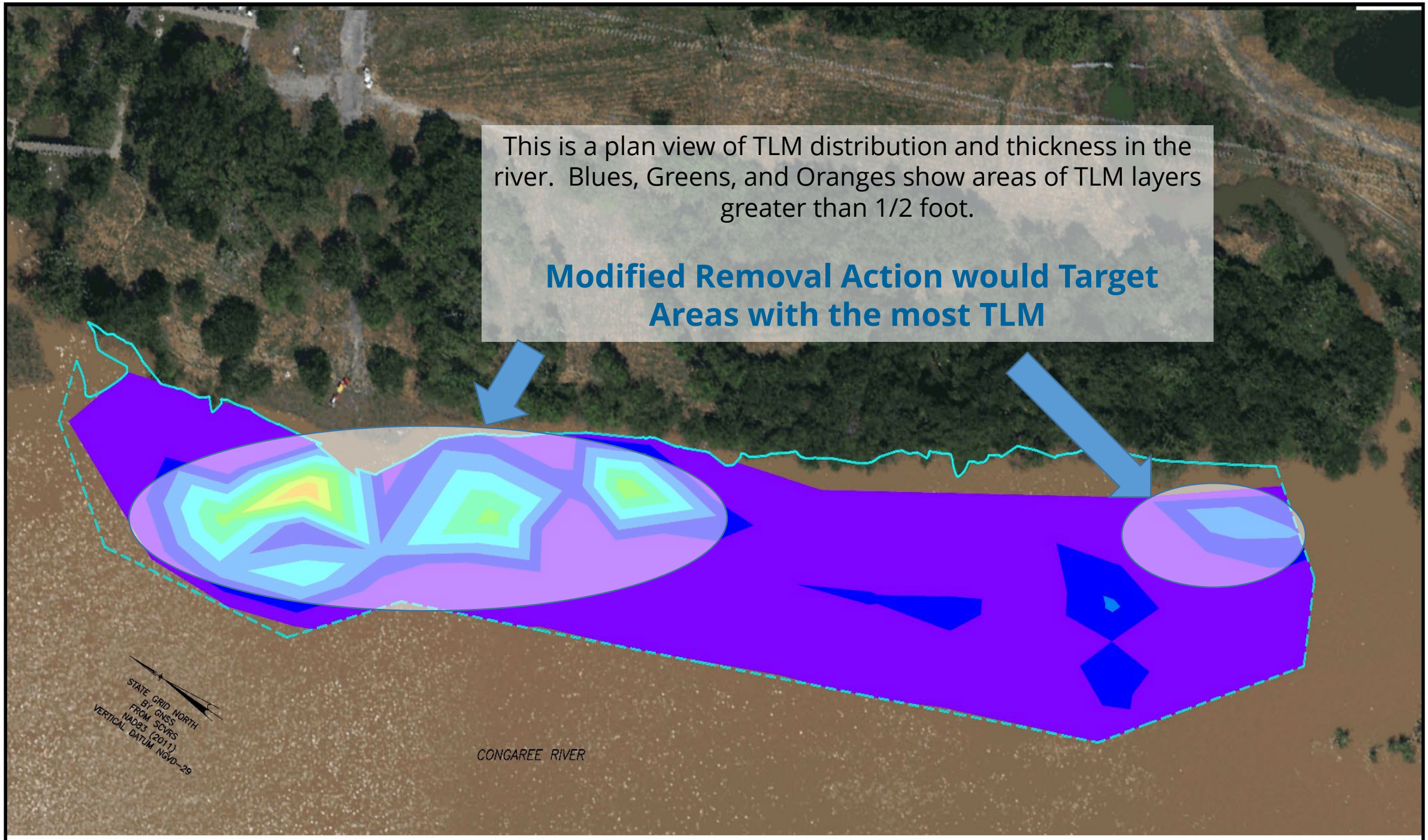
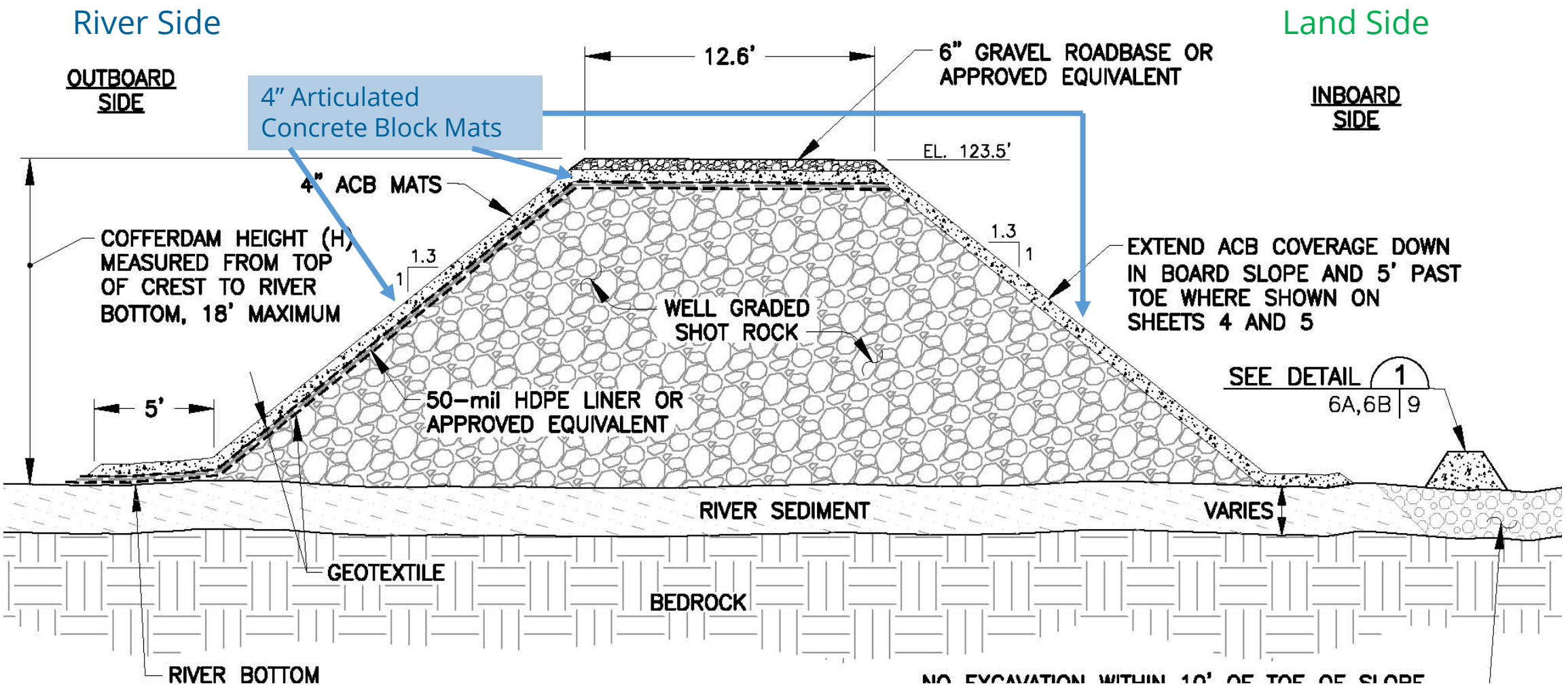
4A	**Modified Removal of the Impacted Sediment With Off-Site Disposal**
	Targeted areas of TLM would be physically removed from the river. This would include construction of a cofferdam and dewatering of the project area in order to access the TLM and sediments. Removal would be completed in the dry and TLM would be disposed of properly in a landfill.


This is a plan view of TLM distribution and thickness in the river. Blues, Greens, and Oranges show areas of TLM layers greater than 1/2 foot.
Modified Removal Action would Target Areas with the most TLM
STATE GRID NORTH BY GNSS FROM SCVRS NAD83 (2011) VERTICAL DATUM NGVD-29
CONGAREE RIVER

Examples of Articulated Concrete Block (ACB) Mats that will be used to Reinforce the Rockfill Cofferdam on Sides and Top

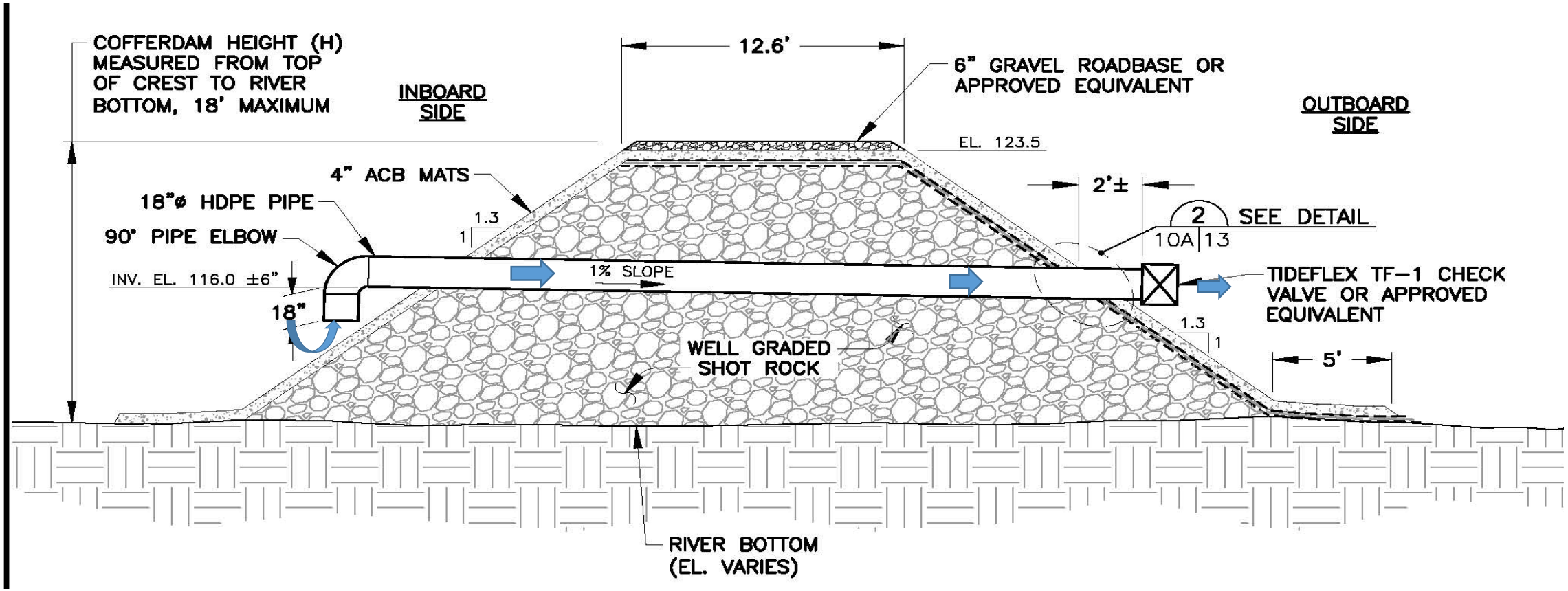
Reinforced Rockfill Cofferdam Conceptual Design



Reinforced Rockfill Cofferdam is **Expected to Be Overtopped** Occasionally. Cofferdam will have Outlet Structure Built in to Remove Water Once River Levels Fall Below Cofferdam Height

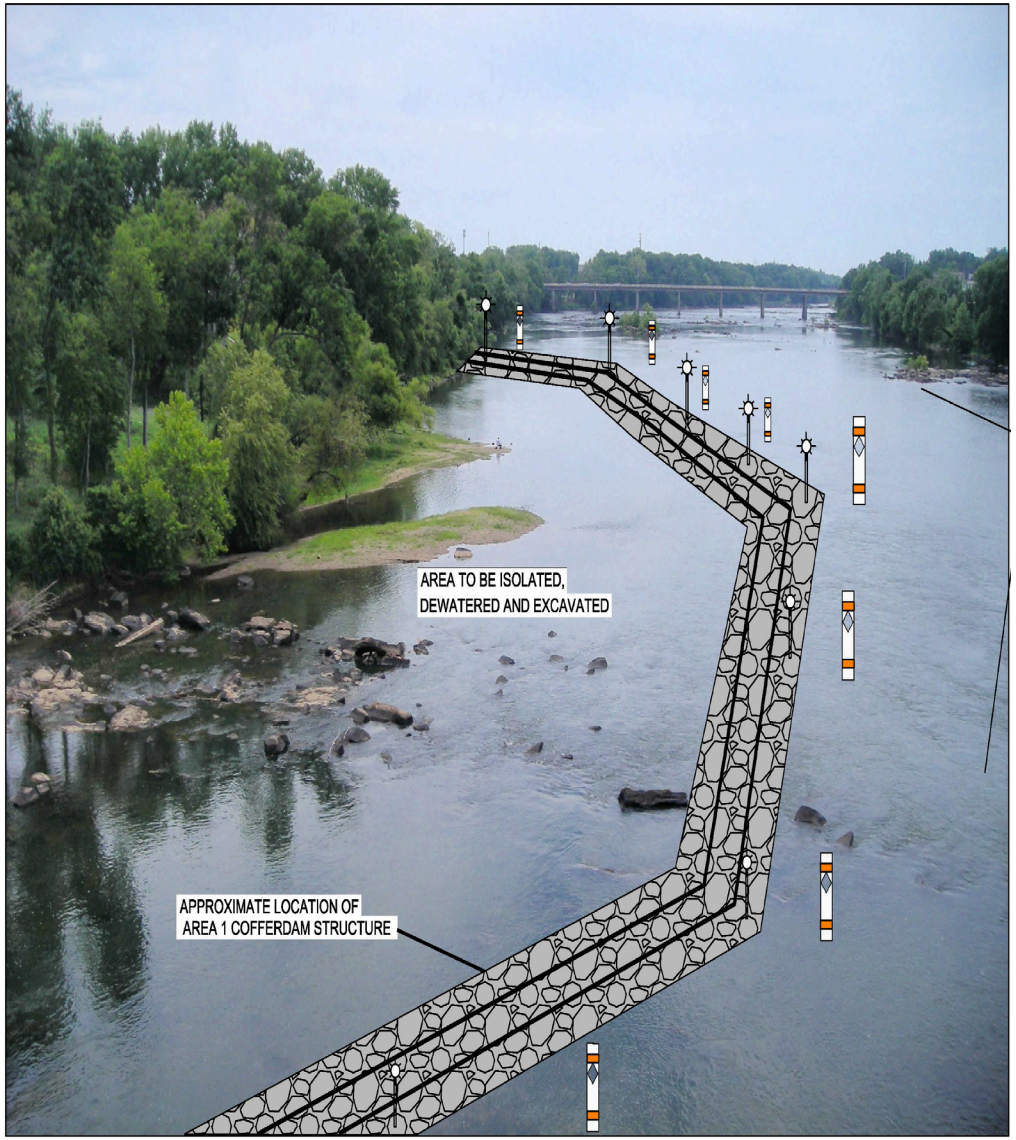
Land Side

River Side



Overtopping Events will Require **Time** for Preparation for an Overtopping Event, **Time** in which River Levels are Above Safe Working Levels, and **Time** to Pump Water from Behind the Cofferdam so Work can Restart

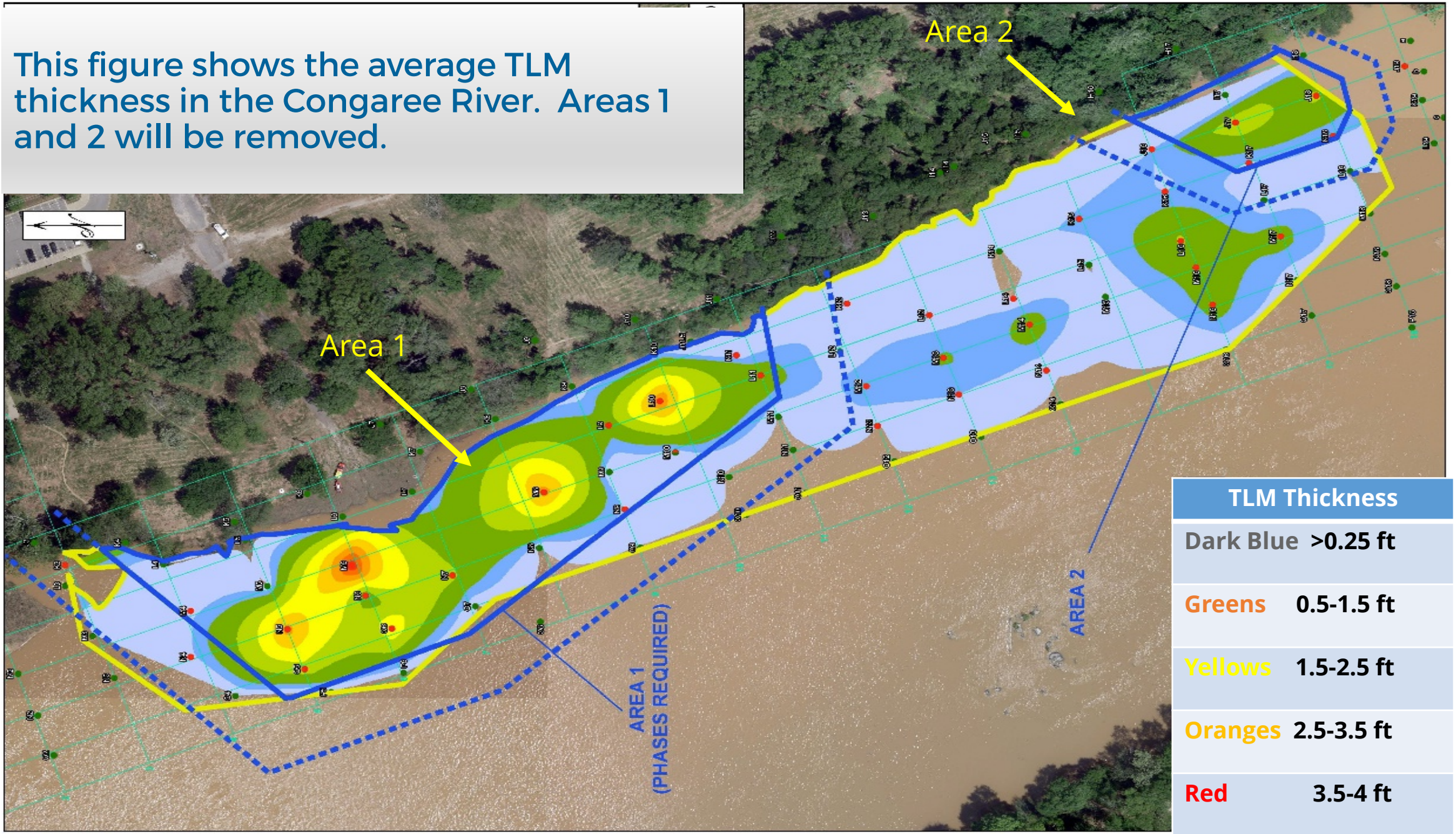
Cofferdam Layout View



View from West Columbia Side

View from Gervais Street Bridge

This figure shows the average TLM thickness in the Congaree River. Areas 1 and 2 will be removed.

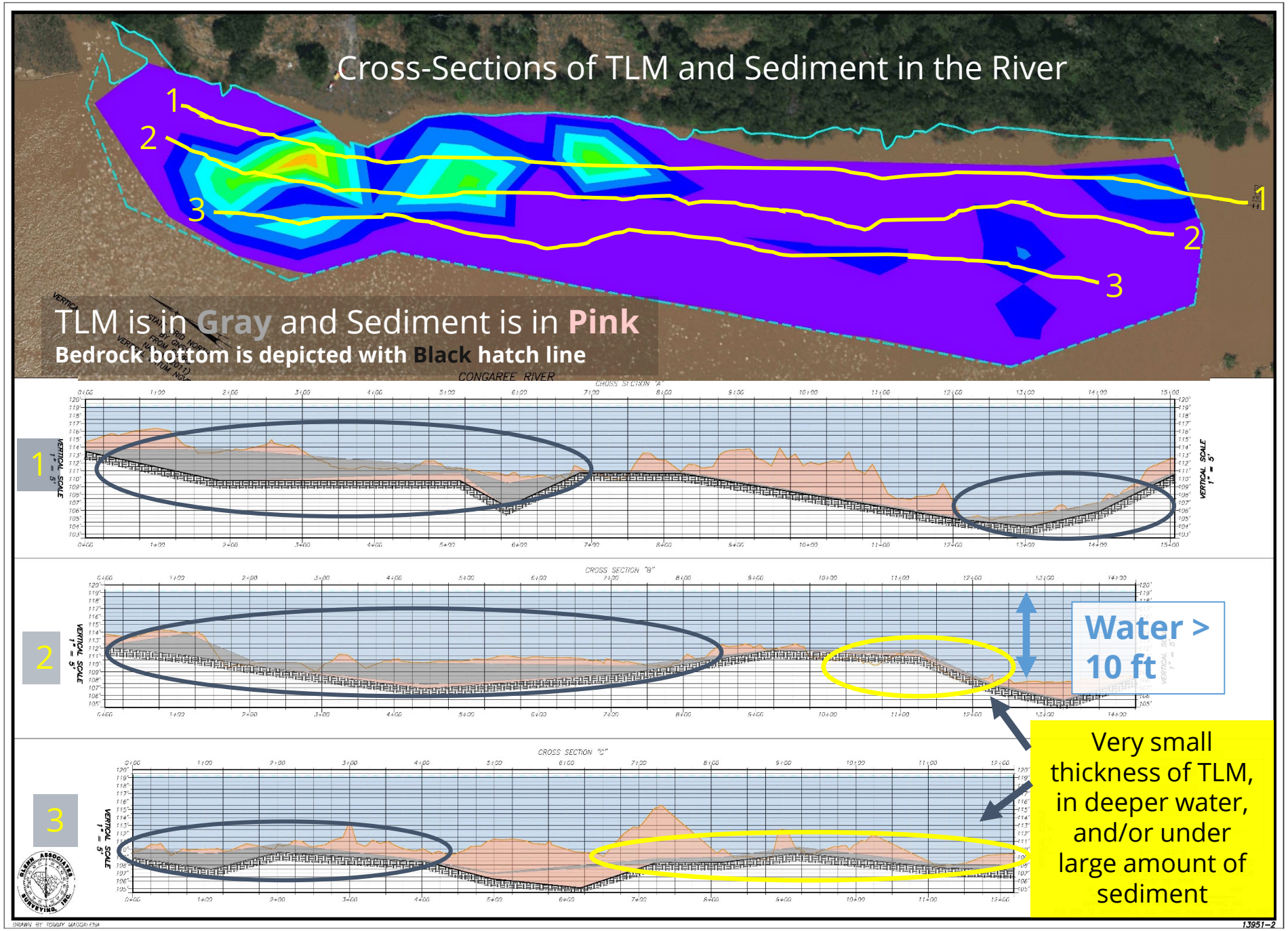


TLM Thickness	
Dark Blue	>0.25 ft
Greens	0.5-1.5 ft
Yellows	1.5-2.5 ft
Oranges	2.5-3.5 ft
Red	3.5-4 ft

Modified Removal Action (Preferred Alternative): What will remain?

Sediment left in the "other areas" that will not be removed consist of either:

- Relatively minor thicknesses of TLM
- TLM that is now covered by additional sediment resulting from the 2015 flood
- TLM that is far enough away from the shoreline and in deeper water where the risk of dermal contact is minimal


Cross-Sections of TLM and Sediment in the River
1
2
3
TLM is in Gray and Sediment is in Pink
Bedrock bottom is depicted with Black hatch line
CONGAREE RIVER
CROSS SECTION "A"
CROSS SECTION "B"
CROSS SECTION "C"
VERTICAL SCALE 1" = 5'
Water > 10 ft
Very small thickness of TLM, in deeper water, and/or under large amount of sediment
DRAWN BY: TOMMY MAGDALENA
13951-2

Permitting Challenges of Alternative 4A: Modified Removal Action

- Dominion Energy has submitted the Permit Application to the Army Corps of Engineers for Review (09/30/2020)
- Some Permits and Approvals have been accomplished in preparation for the Permit Application.
- Some Permits and Approvals will need to be obtained during or once the Army Corps of Engineers Permit has been issued
- Permit process may take an extended period of time

	Congaree River Removal Action Alternatives
4A	**Modified Removal Action**
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Public Comment Period

November 17, 2020 – January 15, 2021

Send Written Comments to :

Greg Cassidy
State Voluntary Cleanup Program
2600 Bull Street
Columbia SC 29201
cassidga@dhec.sc.gov

Alternative 4A: Modified Removal Action Timeline

Date	Event
2021	Approval of Army Corps of Engineers Joint Federal and State Application
2021	Approval of Remaining Necessary Permits
2021	Submittal and Approval of a Final Design for Alternative 4A: Modified Removal Action
Early 2022	Modified Removal Action Kickoff Meeting
Early 2022	Site Operations Area Set-up
May 2022	Target Date for Cofferdam Construction to Begin
2022-2024	Projected Timeframe to Complete Removal Action
2025	Projected Timeframe to Complete Restoration

Questions?

Lucas Berresford
Greg Cassidy

Tom Effinger
Rusty Contrael

Bill Stangler

http://www.scdhec.gov/CongareeRiver

How to Participate

- Unmute to indicate you would like to speak
- Unmuted lines will be called on to speak
- Click the Hand Raise icon to be called on to speak

Hand Raise
(click this icon to indicate you would like to speak)

Muted
(no one in the meeting can hear you)

Unmuted
(everyone in the meeting can hear you)

Contact Us

Greg Cassidy

State Voluntary Cleanup Program

2600 Bull Street

Columbia SC 29201

cassidga@dhec.sc.gov

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