

Tittabawassee River, Saginaw River & Bay Site

Controlling Contaminant Movement at Reach MM Island

Options and EPA's Preferred Option

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Outline

- Review objectives for controlling potential contaminant movement
- Reach MM island project
 - Background
 - Proposed alternatives
 - EPA's preferred alternative
- Schedule and next steps

Major Work at the Site

Three critical activities:

- Early exposure controls at high-use properties
- Early control of significant contaminant movement
 - Reach MM island
- Segment-by-segment comprehensive cleanup

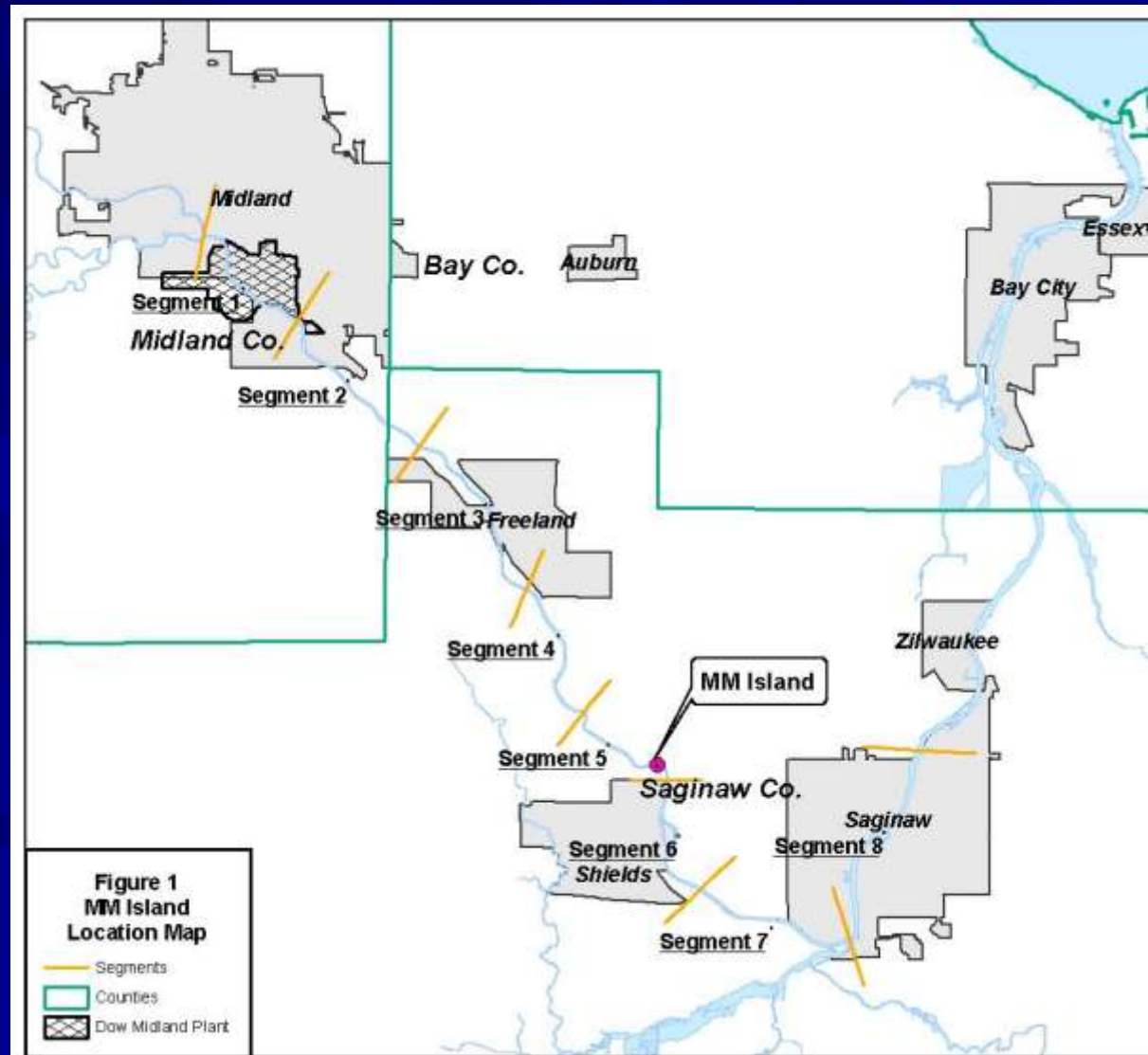
Controlling Contaminant Movement

Key Objectives

- Develop early actions to address contaminant movement
 - Focus on areas with highest potential for significant contaminant movement
 - Goal → to stabilize contaminants
- Additional actions considered as part of segment-specific evaluations

Project Location

- Reach MM island is about 17 miles downstream of the beginning of site
- Reach MM island is in Segment 5



Reach MM Island Deposit



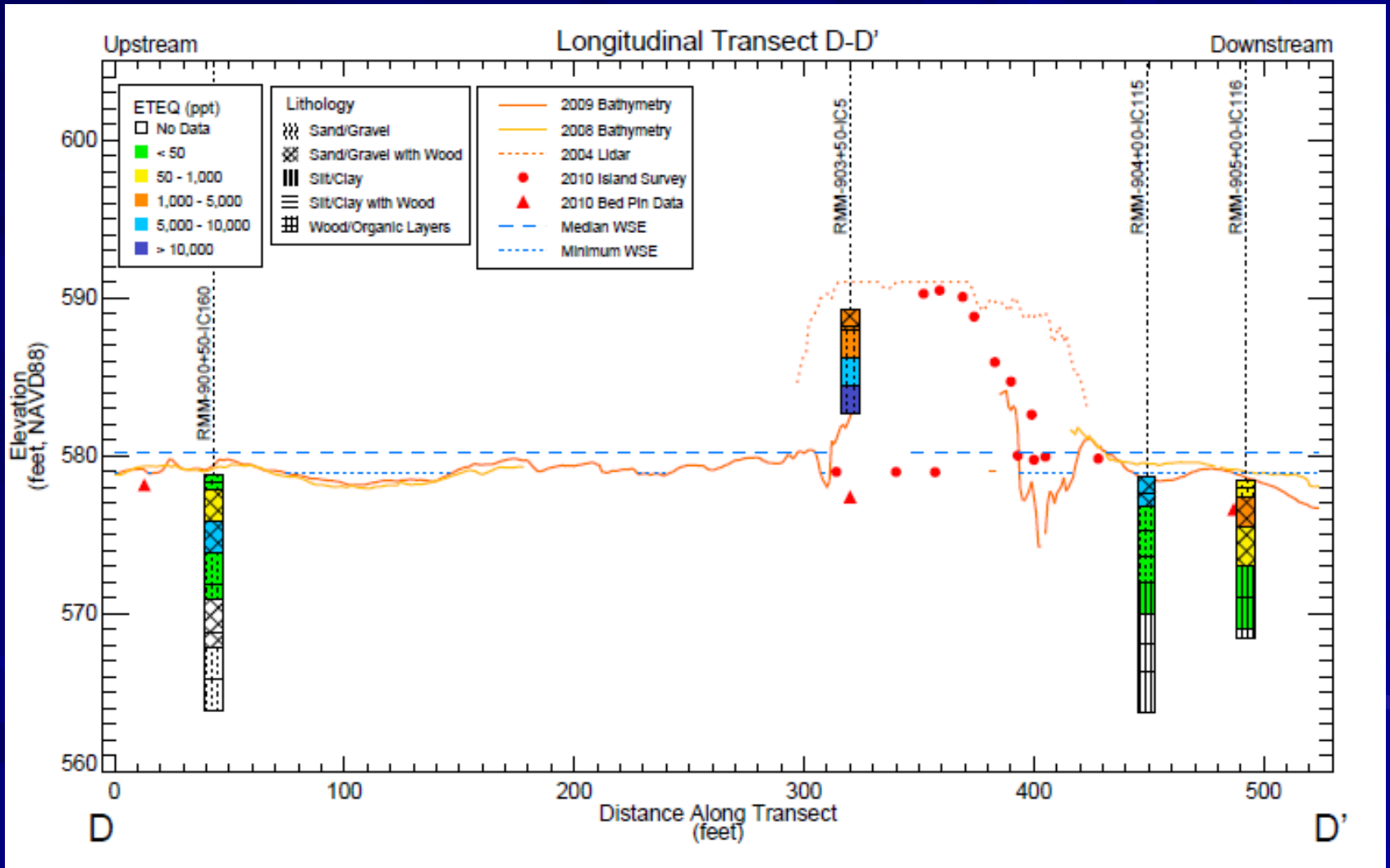
Background

- Stability assessment and sampling
 - Chemical sampling
 - Historical aerial photography
 - Bathymetry & topography
- Reach MM island identified as having high concentrations of furans
 - Furans are part of the dioxin family
- Island is showing erosion over time

Reach MM Center Island Deposit



Cross Section D-D'



Historical Aerial Photographs



Response Goal and Options

- Goal: Reduce potential contaminant movement associated with the eroding sediments located at the Reach MM island
- Options:
 - Alternative 1 – Stabilization
 - Alternative 2 – Above-water sediment removal and in-place containment
 - Alternative 3 – Removal of all targeted sediments

Alternative 1

- Alternative 1: Stabilization
 - Logs, armor stone, etc. placed to minimize erosion of existing island
 - Post-stabilization monitoring
- Estimated Cost: \$250,000

Reach MM Center Island Deposit



Alternative 2

- Alternative 2: Above-water sediment removal and in-place containment
 - Removal down to about the low water elevation – work done in the dry
 - Cap
 - Stabilize remaining island deposit
 - Nearby underwater areas, if needed
 - Provide deposition enhancement to promote natural restoration of the island
 - Post-cap monitoring

- Estimated Cost: \$500,000

Alternative 3

- Alternative 3: Removal of all targeted sediments
 - Above and under water
 - Turbidity control
 - Sediment removal and management (dewatering and disposal)
- Estimated Cost: \$1,100,000 to 2,000,000

Common Elements for Options

- Hydrodynamic assessment
 - To evaluate potential impacts on nearby areas
- Additional pre-construction sampling
 - To better define footprint of work area
- Temporary access roads
- Movement of clean fill to work area
- Alternatives 2 and 3 – removal and disposal of contaminated sediments
- Project Health & Safety Plan

Evaluation Criteria

EPA must consider:

- Effectiveness: Will option prevent significant contaminant movement until comprehensive cleanup is complete?
- Implementability: Can option be put in place easily?
- Cost: What are the costs of each option?

Effectiveness Considerations

- Overall protectiveness
- Compliance with laws and regulations
- Short-term effectiveness
 - Protection of the community; protection of workers; environmental impacts; time until response objectives are achieved
- Long-term effectiveness
 - Magnitude of residual risk; adequacy and reliability of controls
- Reduction of toxicity, mobility or volume

Reach MM Center Island Deposit



Implementability Considerations

- Technical feasibility
- Administrative feasibility
- Availability of services and materials
- State and community acceptance

Relative Comparison of Alternatives

Evaluation Criteria	Alternative 1 Stabilization	Alternative 2 Above-water sediment removal and in-place containment	Alternative 3 Removal of all targeted sediment
Effectiveness	Moderate	High	Moderate to High
Implementability	High	High	Moderate
Estimated Cost	\$250,000	\$500,000	\$1.1 million to \$2 million

EPA's Preferred Alternative

- EPA is proposing Alternative 2 – Above-water sediment removal and in-place containment
- Best balance of evaluation criteria

Schedule

- Public comment to start on April 22
 - Thirty day comment period until May 22
 - Fifteen day extension, if requested
- Materials posted on website, at local repositories, mailed to mailing list
- Public sessions – April 28

Next Steps

- EPA and MDEQ will review and respond to public comments
 - The plan may change based on comments
- EPA will finalize the plan
- EPA expects Dow to implement this work in 2011

QUESTIONS?