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WHEN IS ISS THE RIGHT CHOICE OVER DREDGING?

OCT 22
2025

SMWG
Sediment Management Work Group

Introductions

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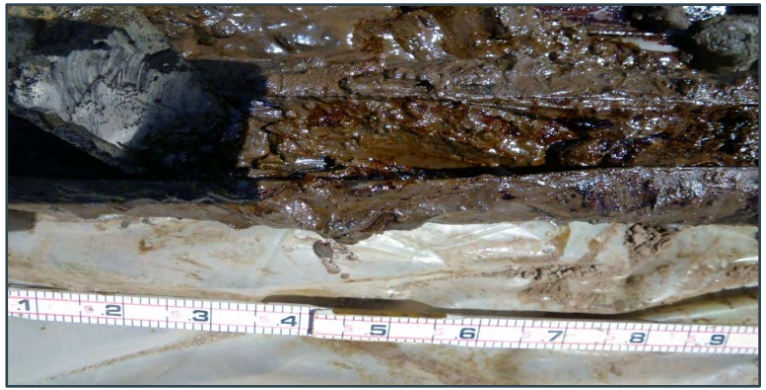
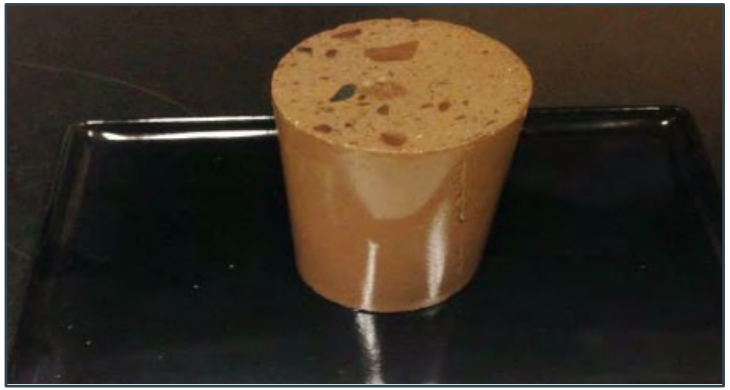
ISS and Sediment Remediation

- Goal: Reduce hydraulic conductivity to reduce/eliminate contaminant migration
- End product is an improved soil/sediment with reduced hydraulic conductivity and higher geotechnical strength
  - HC: 1x10-6 cm/sec: negotiable based on geology
  - UCS: 50 psi: negotiable based on endpoint use.
- Solidification is physical not chemical (i.e. stabilization)
- Dredging and capping may still be necessary!





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Site Attributes Advantageous for ISS

- High waste disposal costs
- Adjacent to critical infrastructure
- ISS treatment thickness > 4 feet
- Treatment volumes > 10,000 CY

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Water Conditions

- Water Flow and Current
  - » Water velocity
  - » Barge maneuverability
  - » Silt curtain and containment boom effectiveness
- Water Column Depth
  - » Minimum draft
  - » Tidal fluctuations
  - » Equipment limitations
  - » Volumetric expansion freeboard

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Working Restrictions

- Access
  - Bridge clearances
  - Upland support areas/batch plant
  - Marine traffic
  - Launch site access and proximity
- Structures
  - Bridge abutments, bulkheads, piers/piling
  - Overhead and subsurface utilities

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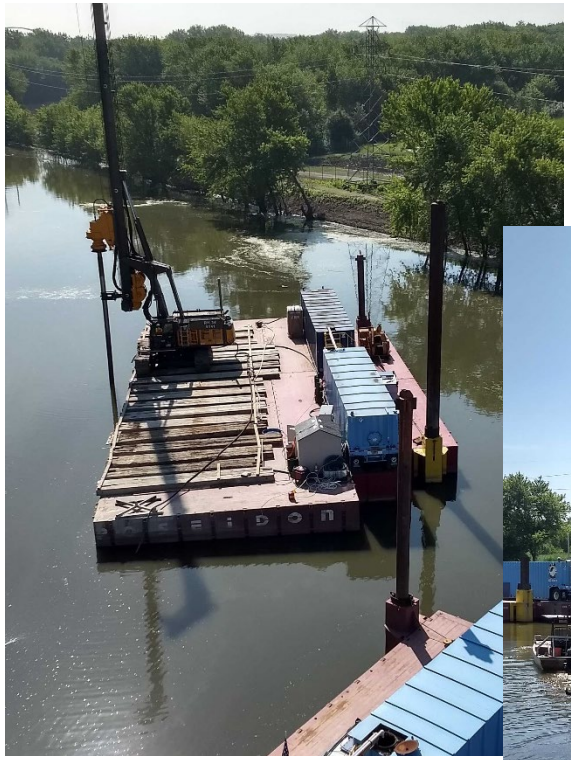
Marine Logistical Considerations

- Barge Design and Positioning
  - »Maximize columns per move
  - »Ballast and draft constraints
  - »Can the batch plant be on shore?
- Debris Management
  - »Pre-investigation – limited usefulness
  - »Support barges



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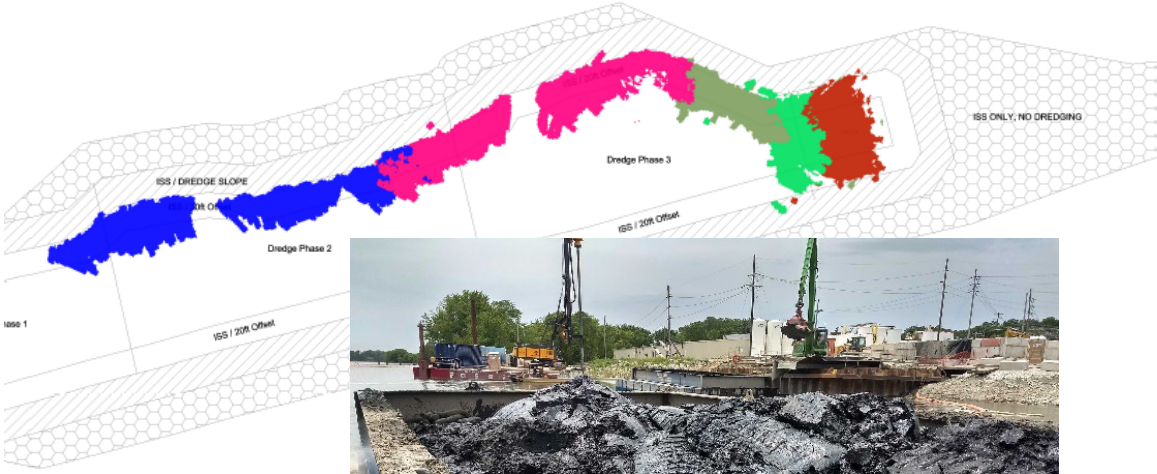
Marine Logistical Considerations

- Swell Management
  - Sequencing
  - Equipment flexibility
  - Headspace for restoration cap



Approximate Material Remaining 03302020 Dredge Base.mtd		
Date	CY Removed	
04/06/2020	564.0	
04/07/2020	1421.6	
04/08/2020	497.2	
04/09/2020	906.1	
04/10/2020	1140.5	
Total Material Material Removed To Date	9698.5*	

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Managing Surface Water

- Turbidity / Sheen / pH
  - Turbidity Curtains
  - Moonpools
  - Cofferdams
  - Washout controls
- Mixing Methodology
  - Spinning down
  - Lower RPMs at surface mixing

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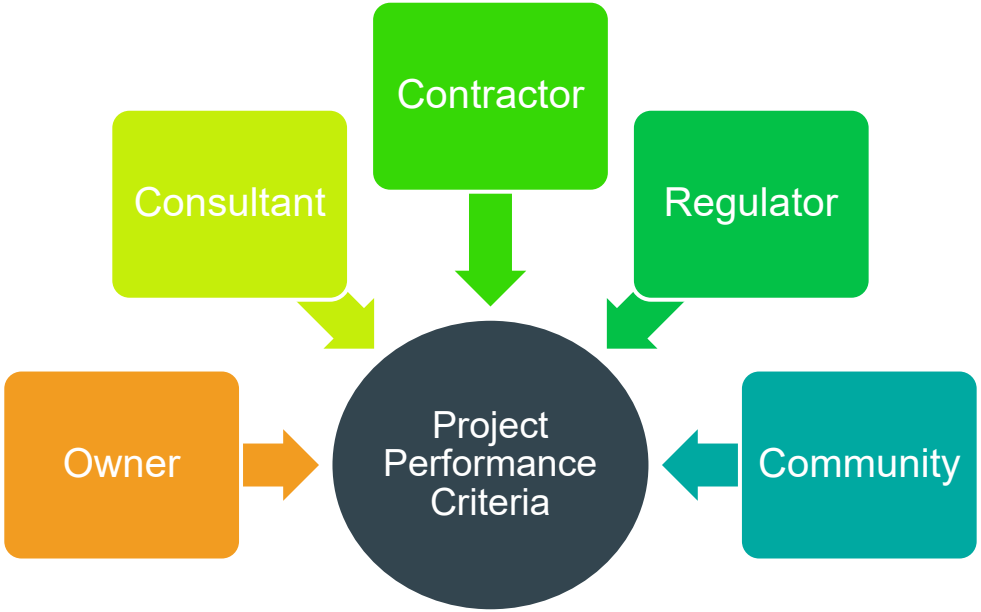
ISS Regulatory Challenges

- Early & proactive stakeholder engagement is critical
  - Diverse concerns & priorities
  - Educating communities of advantages
  - Secure riparian rights & coastal conveyance agreements
- Performance Standards
  - Hydraulic Conductivity: primary metric
  - UCS: secondary metric to meet project strength requirements
  - Leachability: Utilize bench scale if needed, not appropriate for full scale.
- Long term monitoring
  - Similar to cap monitoring requirements
  - Limited info for sediment ISS projects



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OPEN FORUM

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