

Designing an Evolving Urban Sediment Project

A Component of the Milwaukee
Estuary AOC

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1/10/2023



AGENDA

- 1 History of the Milwaukee River Estuary
- 2 Project Need and Background
- 3 Challenges of Working in a Highly Urbanized Setting
- 4 Strategies for Implementation – Lessons Learned and Phase 1 Results
- 5 Questions



Milwaukee: A Place of Council

Brief History of the Milwaukee River Estuary

Place of Council
and Gathering
dating back to
approximately
13,000 BCE.

First Nation's Peoples
from the Potawatomi,
Ottawa, Ojibwa and
Menominee bands
shared the neutral
ground.



Economic Center
of Wisconsin for
manufacturing
and shipping
1750s – 1950s.

2017 Study Estimate
\$106M in revenue from
the Port of Milwaukee
alone.



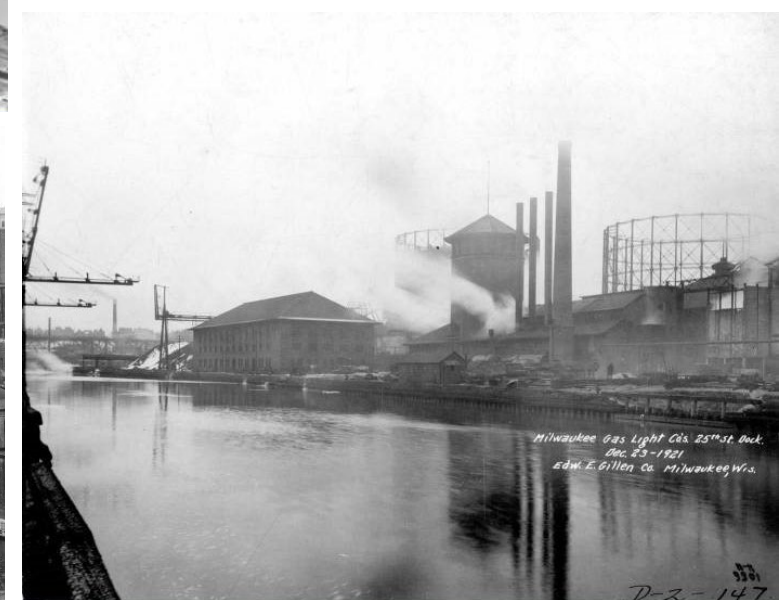
Currently the
Milwaukee River
serves as the
focal point of the
City and is now
the center of Arts
and
Entertainment

Milwaukee's Riverwalk
won the 2017-2018
Global Award of
Excellence from the
Urban Land Institute

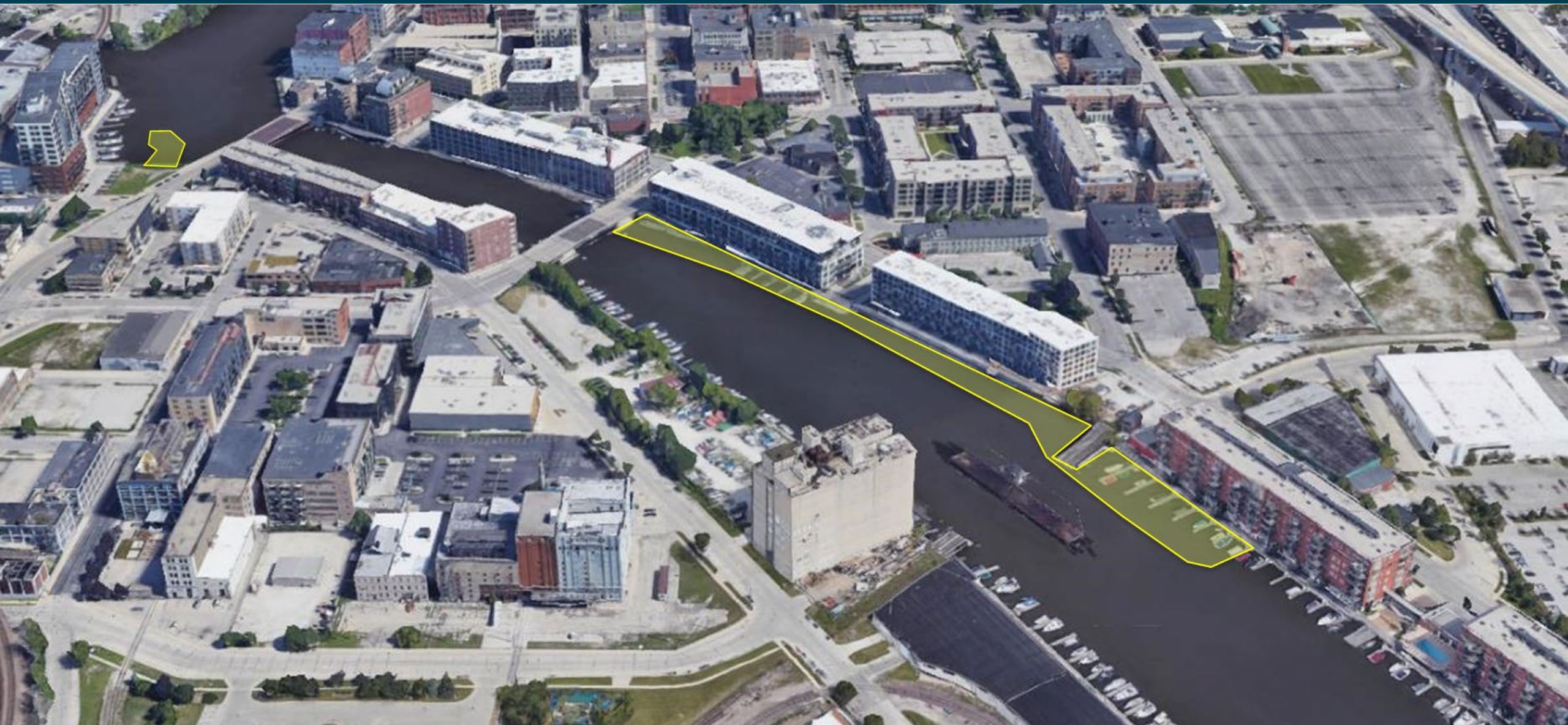


Project Need

- Historic Impacts
 - Milwaukee-Menomonee-Kinnickinnic Rivers served as the main location for all of Milwaukee's industries.
- Milwaukee River AOC Targets and Goals
 - 1.4M cubic yards of sediments planned for remediation
 - \$65.5M already spent on remediation projects.
- Desire to be good stewards of the communities we live and work in.
 - Sediment remediation projects as a part of urban waterway revitalization.
 - Removing NAPL impacts from the sediments.



Challenges of an Urban Waterway



Challenges of an Urban Waterway

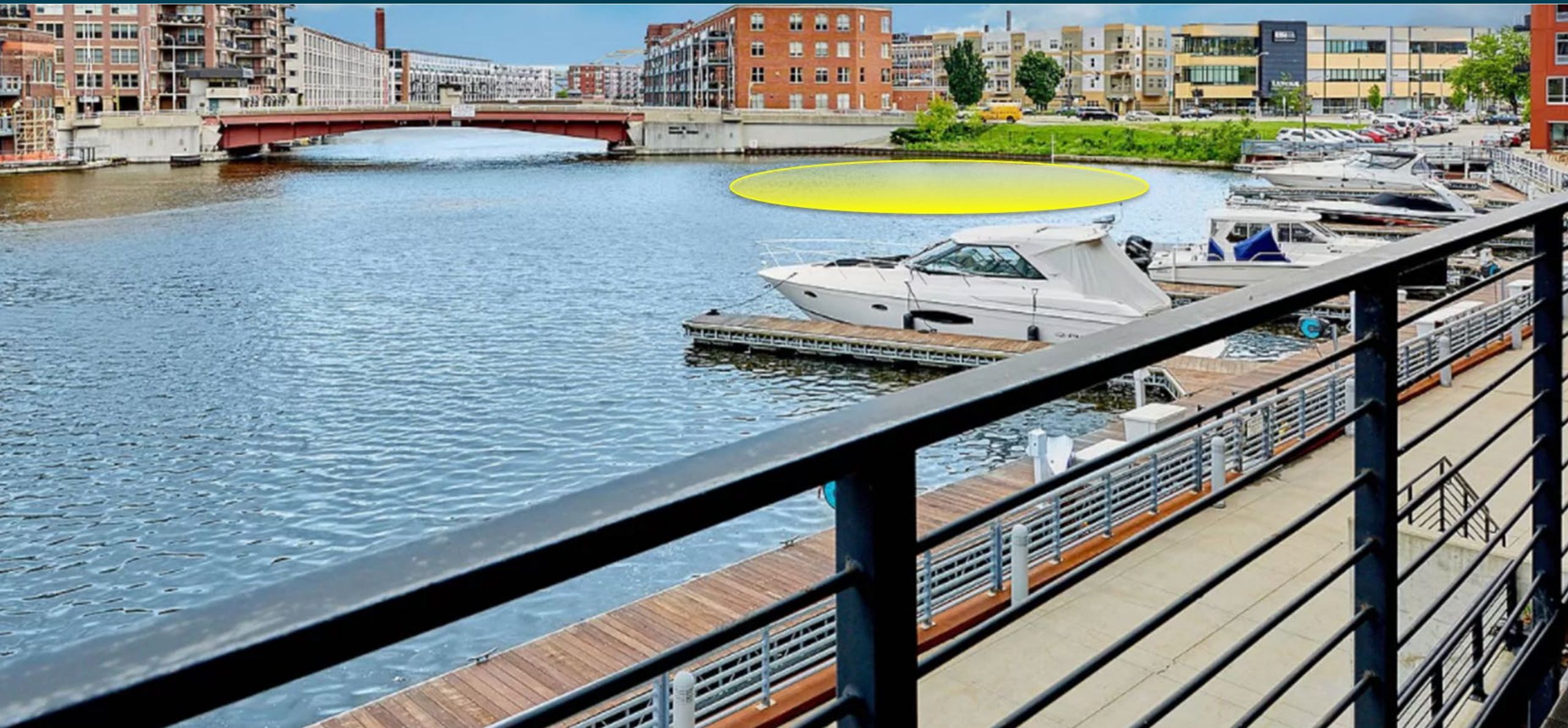


Design

- Lacking As-Built Data
- Deep Water Environment
- Potential for Subsurface debris
- Protection of structures
- Seasonal Limitations
- Removing NAPL containing sediments
- Treatment of the sediments post dredging
- Development of a monitoring program
- Cultural Resources



Challenges of an Urban Waterway



Challenges of an Urban Waterway



Stakeholders

- Utility Companies
- Residents & Property Owners
- City Officials
- State and Federal Regulators
- Event Planning Commissions
- Conservation & Recreation Clubs
- Adjacent Businesses
- Commercial & Pedestrian Traffic
- Public Safety
- Boat Slip Owners
- Railroads



Challenges of an Urban Waterway

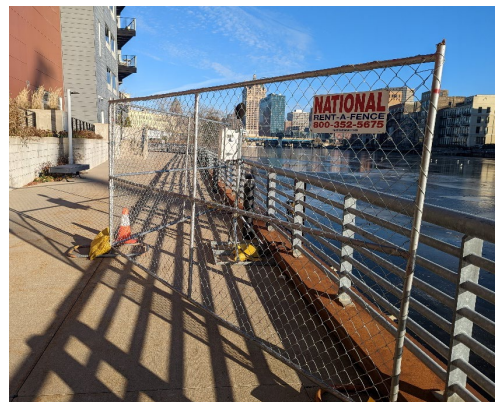


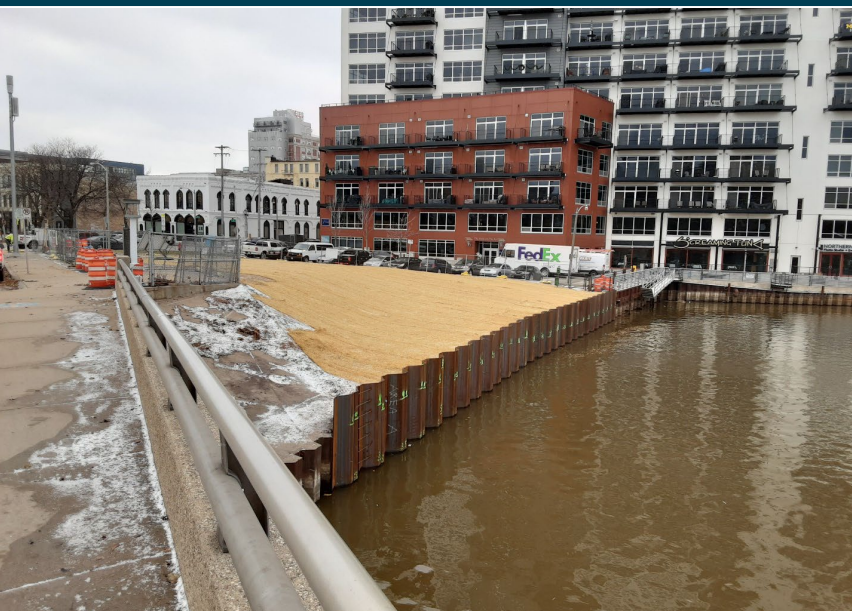


Strategies for Implementation

Lessons Learned

- Design of a multi-tiered approach.
- Development of monitoring program.
- Extensive project team.
- Proactive stakeholder engagement.
- Permitting timelines.
- Cost/risk management.
- Logistics of materials in an urban setting.





Results

- Completion of the new sheet pile wall in the first area in preparation for 2023 dredging activities
- Monitoring program implemented. Real time data tracking.
- Site prep for the water treatment system at the Dredged Material Disposal Facility.
- Overall positive reception.
- Work will continue through 2023 and anticipated to be complete by December 2023.

