BATTELLE 2023 SEDIMENTS CONFERENCE

If You Clean It, They Will Come: Combining Sediment Remediation with Revitalization and Redevelopment

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ANCHOR QEA

Cooperative Partnerships Lead to Successful Remediation and Redevelopment Projects

Portage Canal

- Manufactured canal that connects the Wisconsin and Fox rivers
  - Constructed from 1835 to 1876
  - Closed to navigation in 1951
  - Ownership transferred to WDNR in 1981
- Adjacent land use primarily residential with some commercial properties
- Groundwater and stormwater sources
- Sediments contained PAHs and metals

Right: Portage Canal, circa 1900; source: Wisconsin Historical Society

CHALLENGE

- Restore transportation functionality of Portage Canal as a water trail
- Provide a multiuse path adjacent to the canal compatible with the existing Ice Age Trail network

ICE AGE TRAIL
ALLIANCE

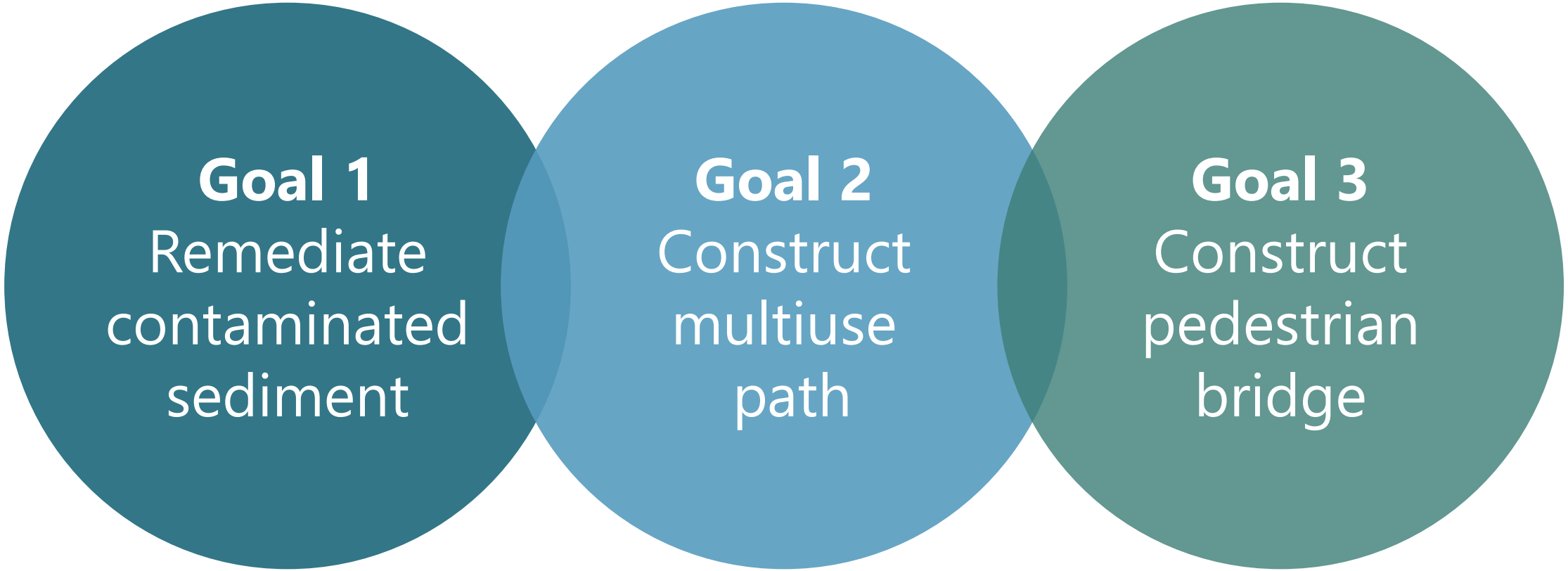
APPROACH + METHODS

WISCONSIN DEPT. OF NATURAL RESOURCES

CITY OF PORTAGE

WISCONSIN DEPARTMENT OF TRANSPORTATION

APPROACH + METHODS



Roles and Responsibilities

- WDNR and City
  - Goal 1: Remediate contaminated sediment
  - Goal 2: Facilitate multiuse path construction
- City and Wisconsin Department of Transportation
  - Goal 2: Construct multiuse path
  - Goal 3: Prepare for pedestrian bridge

Right: Downed trees and debris throughout the Portage Canal; source: Anchor QEA

Sediment Remedial Action

- Prepared site (i.e., demolished building, constructed remediation support and staging areas)
- Removed approximately 30,000 cubic yards of sediment
- Dewatered, managed, transported, and disposed of dredged sediment
- Pretreated, managed, and discharged treated contact water to City sewer

Right: Dredging and material management activities; source: ENTACT/raSmith

Material Placement

- Placed more than 10,000 cubic yards of sand over dredged areas
- Procured, delivered, and constructed base of multiuse path with more than 40,000 tons of material
- Extended seven storm sewers through multiuse path base and sealed three existing outfalls

Right: Material placement for base of multiuse path; source: Anchor QEA/Cedar Corporation

Restoration

- Placed riprap aprons at outfalls to protect against erosion
- Restored canal banks with topsoil, seed, and coir matting
- Prepared Mullet Street property (i.e., remediation support and staging area) for transfer from WDNR to City

Right: Seeding and placing coir matting on canal banks; source: Anchor QEA/Cedar Corporation

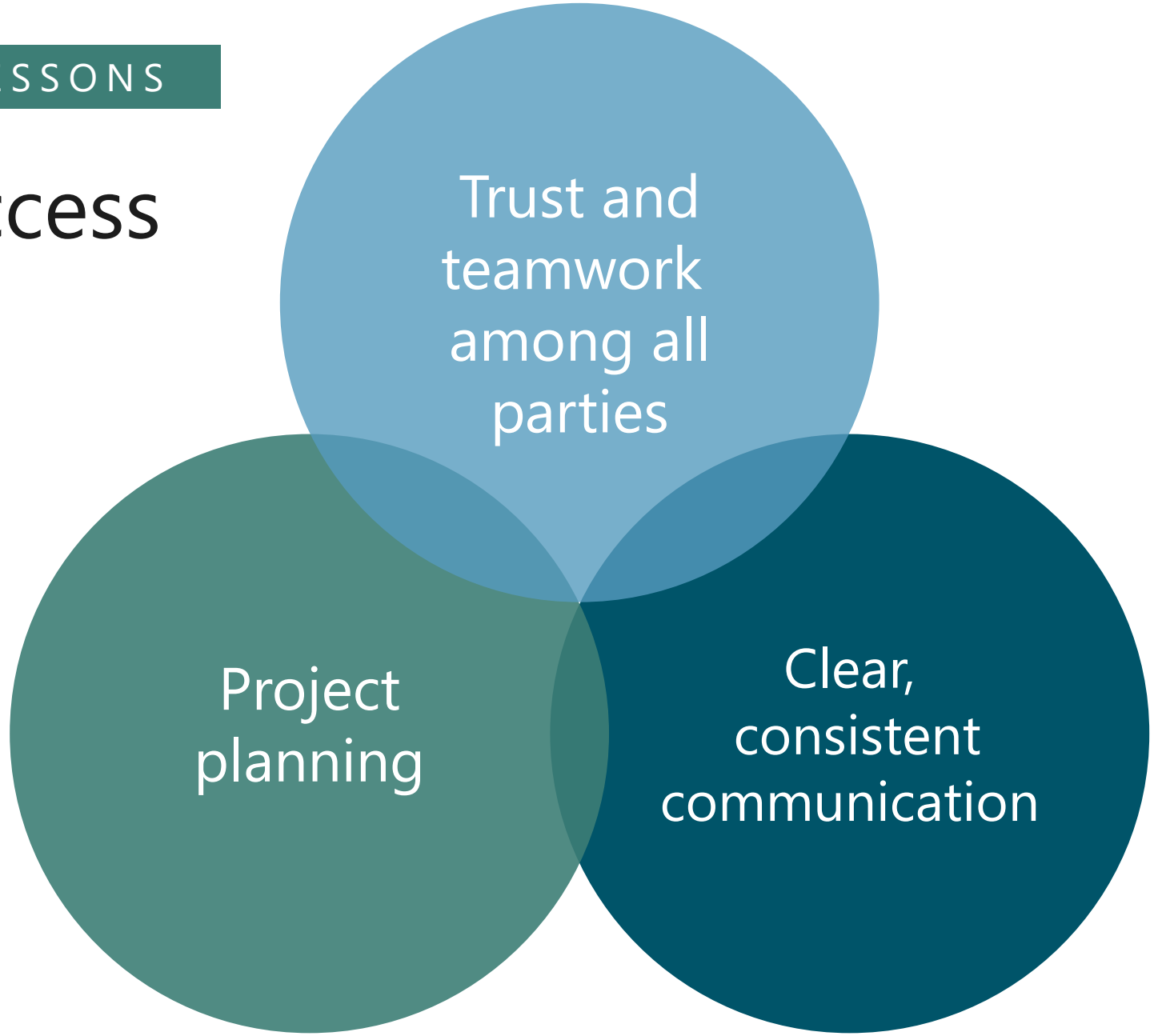
Project Completion

- Sediment remedial action and multiuse path base construction completed in fall 2021
- Installation of multiuse path completed by City in fall 2022

Right: Portage Canal and paved multiuse path in fall 2022; source: City of Portage

SOLUTION / LESSONS

Keys to Success



Success in Action

- Project dilemma
  - City had a borrow source with sand they wanted to develop
  - Remediation project needed sand for cap and cover placement
- Positive outcome
  - Project team changed borrow source to City
  - Resulted in more than $60,000 savings toward sand procurement and delivery

Right: Loading sand from City's borrow source;
source: Anchor QEA/Cedar Corporation

Success in Action

- Project dilemma
  - Outfalls to be extended identified along canal banks during pre-design investigation
  - Condition and type of pipe uncovered during construction differed
- Positive outcome
  - WDNR, City, contractor, and design engineer were in constant communication to make quick decisions on pipe alterations

Right: Installation of pipe extension through the base of the multiuse path; source: Anchor QEA/Cedar Corporation

If You Build It, They Will Come!

- Success for aquatic species
  - Fish beds associated with spawning were identified within canal in spring 2022
- Success with connectivity
  - Portage community is eager to use the new multiuse path and host Ice Age Trail visitors

Right: Fish beds within Portage Canal; source: WDNR

THANK YOU

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