

Cleveland Harbor Eastern Embayment Resilience Strategy

March 13, 2025 Stakeholder Meeting #7



Agenda

- USACE Update
- Partner Workshop
- Small-scale Breakout Project Update (Habitat Loop)
- Funding Updates
- BCA + Fact Sheets
- Project Next Steps
- Partner Updates



USACE Update

CLEVELAND HARBOR 20-YEAR DMMP STATUS UPDATE – 13 MARCH 2025

Study Progress & Updates Last Quarter

- CHEERS Design sync between Port's consultants and Buffalo District Engineering 13 Jan
- Pre-coordination call with OEPA and the Port on 401 WQC approach 15 Jan
- Technical engineering began working through conceptual planning level design on initial measures carrying forward to initial array of alternatives – Jan 2025 to present
- Planning continues to screen initial measures and refine initial array of alternatives Jan 2025 to present
- Project management planning documentation drafted and in review Feb to Mar 2025

Upcoming Major Activities & Milestones Next Quarter

- ODNR pre-coordination call with Port and USACE March 2025
- Scoping letter public comment period April to May 2025
- Public scoping meeting to be hosted May 2025
- Task order awards for sediment testing in-water and at CDF10b June 2025

Challenges & Risk

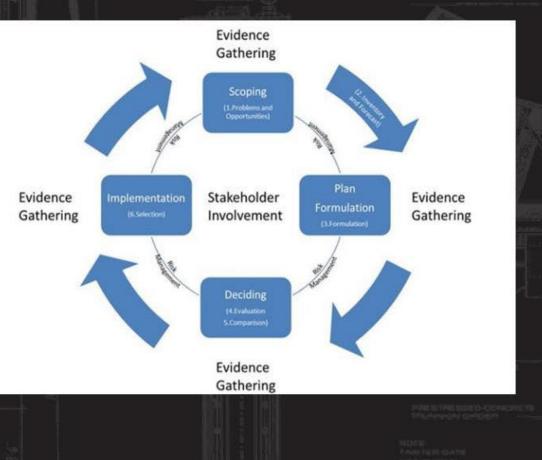
- Change in Port leadership and OC representation Jan 2025
- USACE PM (Shanks) deployed supporting TN Flooding Recovery 13 Jan to 21 Feb
- Continuing Resolution (CR) passed 23 Dec 2024 expires 14 March 2025

Where can you help?

U.S. ARMY

- Scoping letter feedback 20-year DMMP & Preliminary Assessment Addendum (separate)
- Attendance to the public scoping meeting

US Army Corps of Engineers



Briefing POC: Matt Shanks, matthew.r.shanks@usace.army.mil

CLEVELAND HARBOR DMMP SCHEDULE

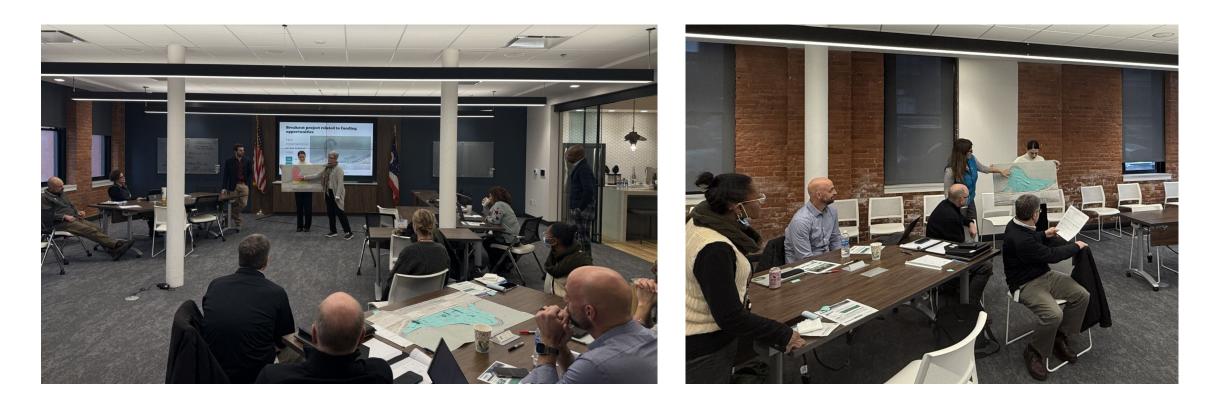


Partner Workshops

October 21 and 22 USACE Charette

- Focused on local stakeholder input for the USACE's development of the 20 year Dredged Material Management Plan (DMMP) for Cleveland Harbor
- The DMMP will explore multiple alternatives and is expected to be complete in 2029. A preferred alternative would then begin the permitting process, leading to a construction start date in 2031 +/-
- CHEERS stakeholders strongly advocated that CHEERS is the local preferred solution
- Local confined disposal facilities reach capacity in 2029
- An early action project could demonstrate the benefits of CHEERS and provide placement options as other capacity is exhausted

January Partner Workshop



The CHEERS Partner group came together to kick-off the 2025 year with a project regroup, discuss implementation strategies and funding opportunities, and collaborate and brainstorm on an initial breakout project.

Breakout Project Update

Early Action Project – Pending NOAA Transformational Habitat application

Project Goals:

- Achieve a constructed project for the community
- Demonstrate benefits and proof of concept for CHEERS
- Address a short-term dredge placement site in advance of the 2029 capacity limit
- Draft budget \$12-13M; local funds needed



Early Action Project -

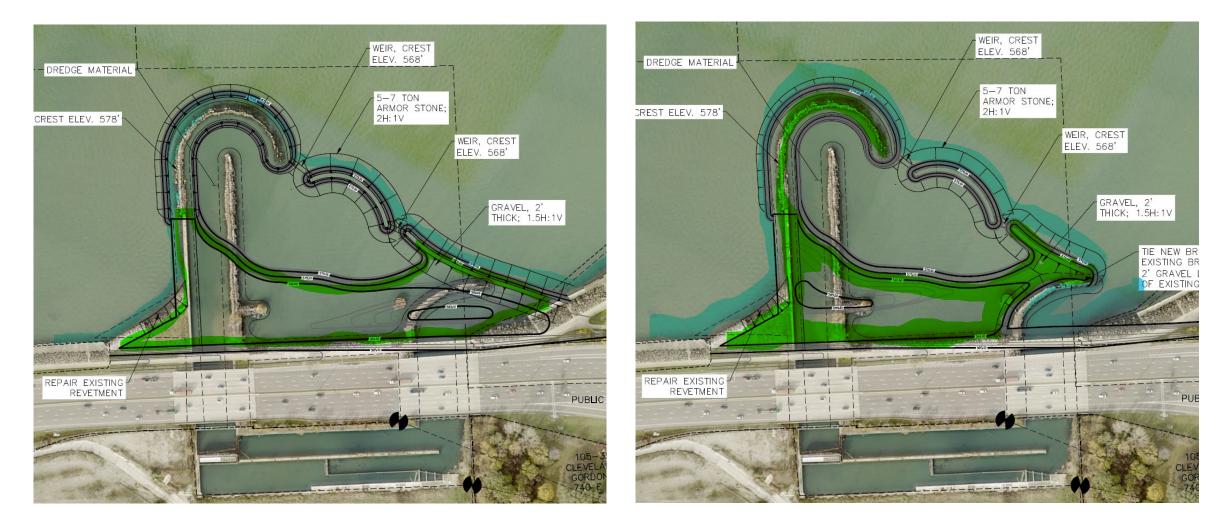
Pending NOAA Transformational Habitat application

Early implementation at the Habitat Loop

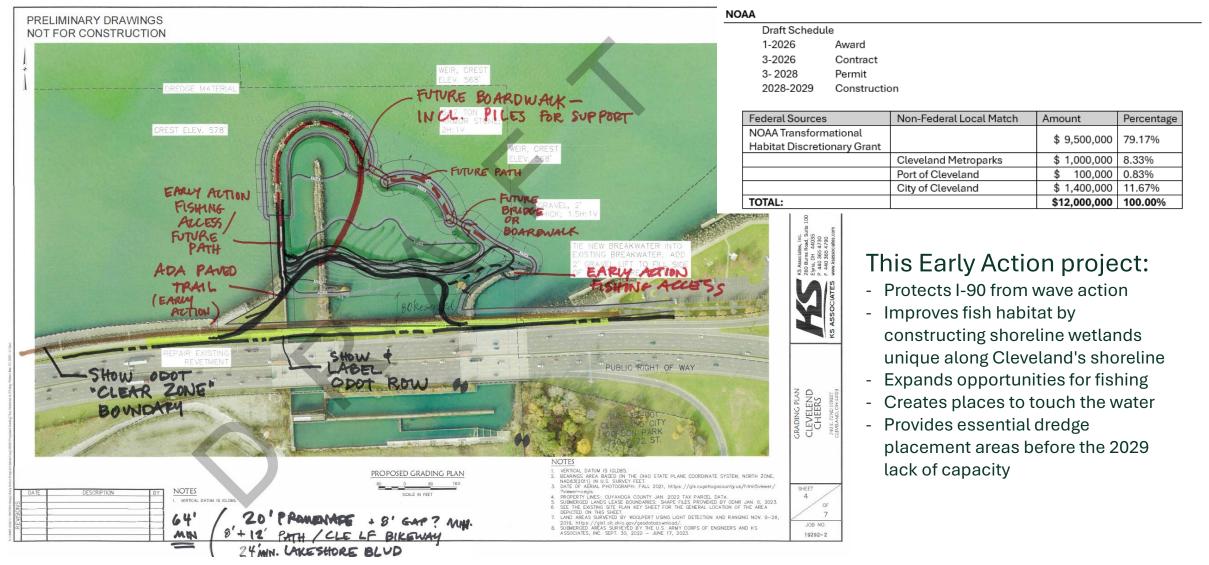


Early Action Project – Pending NOAA Transformational Habitat application

Early implementation options – pending budget review & design refinement



Early Action Project – Pending NOAA Transformational Habitat application

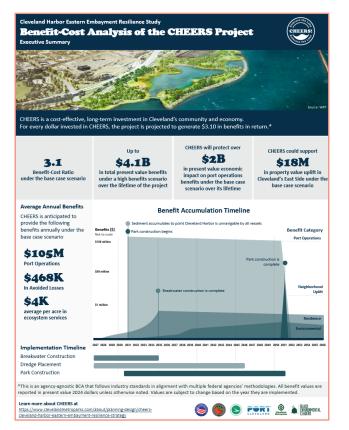


BCA + Fact Sheets

The CHEERS Benefit Cost Analysis (BCA) is here!

Fact Sheets

Customizable advocacy materials for general audiences



Technical Report

Reference document including methods and assumptions

ARUP

CHEERS Benefit Cost Analysis

Technical Report February 27, 2025



This report takes into account the particular instructions and requirements of our client. It is not intended for and should not be relied upon by any third party and no responsibility is undertaken to any third party.

Arup US, Inc. 77 Water Street New York, NY 10005 USA arup.com

Workbook

Excel documentation of quantification methods

F	Present Value		Present Value		Present Value		Present Value	
Ae	Aesthetic Value		Habitat		Water Filtration		Erosion Control	
\$	-	\$	-	\$	-	\$	-	
\$	-	\$	-	\$	-	\$	-	
\$	-	\$	-	\$	-	\$	-	
\$	-	\$	-	\$	-	\$	-	
\$	-	\$	-	\$	-	\$	-	
\$	-	\$	-	\$	-	\$	-	
\$	16,368.143	\$	22,040.336	\$	18,936.861	\$	11,619.504	
\$	15,875.988	\$	21,377.630	\$	18,367.470	\$	11,270.130	
\$	15,398.630	\$	20,734.849	\$	17,815.199	\$	21,862.522	
\$	14,935.626	\$	20,111.396	\$	17,279.533	\$	21,205.162	
\$	28,973.086	\$	39,013.378	\$	33,519.948	\$	20,567.567	
\$	28,101.926	\$	37,840.327	\$	32,512.074	\$	32,528.318	
\$	27,256.960	\$	36,702.548	\$	31,534.504	\$	43,394.363	
\$	26,437.401	\$	35,598.980	\$	30,586.328	\$	42,089.586	
\$	65,347.594	\$	63,827.103	\$	45,009.262	\$	40,824.041	
\$	63,382.730	\$	61,907.956	\$	43,655.929	\$	39,596.548	
\$	61,476.945	\$	60,046.514	\$	42,343.287	\$	38,405.963	
\$	59,628.462	\$	58,241.042	\$	41,070.113	\$	37,251.176	
\$	80,553.683	\$	74,961.020	\$	45,457.316	\$	36,131.112	
\$	78,131.603	\$	72,707.100	\$	44,090.510	\$	45,318.807	
\$	75,782.350	\$	70,520.951	\$	42,764.801	\$	44,285.606	
\$	73,503.735	\$	68,400.534	\$	41,478.954	\$	43,307.933	
\$	149,451.096	\$	129,873.808	\$	60,628.562	\$	47,906.954	
\$	144,957.416	\$	125,968.776	\$	58,805.589	\$	46,466.493	
\$	140,598.851	\$	122,181.160	\$	57,037.429	\$	45,069.343	
\$	156,480.268	\$	135,086.830	\$	60,676.280	\$	43,714.203	
\$	151,775.236	\$	131,025.053	\$	58,851.872	\$	42,399.809	
\$	147,211.674	\$	127,085.406	\$	57,082.320	\$	41,124.936	
\$	142,785.329	\$	123,264.215	\$	55,365.975	\$	39,888.395	
\$	138,492.074	\$	119,557.920	\$	53,701.236	\$	38,689.035	
\$	134,327.909	\$	115,963.065	\$	52,086.553	\$	37,525.737	
\$	2,037,234.71	\$	1,894,037.90	\$	1,060,657.90	\$	912,443.24	

What is a Benefit Costs Analysis (BCA)?

Benefit-Cost Analyses (BCA)

- BCAs are **decision-making** exercises that enable planners, funders, and designers to **quantify** project impacts and **prioritize** those that will yield the most significant positive outcomes for communities.
- Often required by federal grant programs to demonstrate the project is a worthwhile investment.

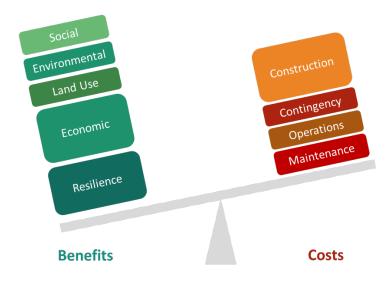
Benefit-Cost Ratio (BCR)

- A BCA is used to evaluate if a project is **cost effective** by producing a benefit-cost ratio (BCR). Cost effectiveness is determined by whether a project's benefits (such as avoided damages, loss of function, or ecosystem services) outweigh the costs of the project.
- If a project has a BCR over 1, the project is considered cost effective.
- BCRs are similar to a return on investment (ROI).

What distinguishes the CHEERS BCA?

- This is an **agency-agnostic BCA**, meaning it was developed to quantify the project **holistically**, rather than following a specific federal-agencies' methodology.
- It quantifies the benefits and costs across the **entire lifetime of the project** rather than for a specific component. Benefits are tied directly to **specific project actions**.
- The figures from this analysis can be **utilized for diverse contexts** rather than being tailored for a specific grant or project component.

Benefit-Cost Ratio The balance between costs and benefits



CHEERS BCA Key Take-aways

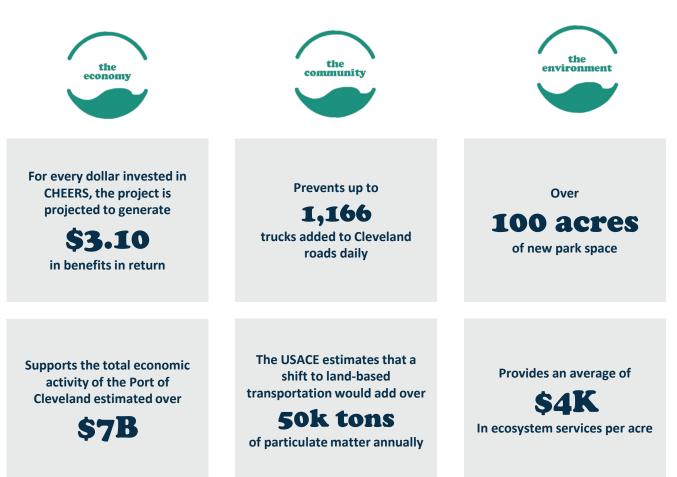
This analysis compared the project costs against 8 quantifiable benefits of CHEERS across four categories: economic, land use, environmental, and resilience.

Benefit Cost Ratio: **3-1**

This analysis found that CHEERS is a cost-effective dredge placement alternative.

Total Benefits (Base Case, Present Value)





CHEERS is a cost-effective, long-term investment in Cleveland's community and economy representing a 310% return on investment (ROI).

Benefits

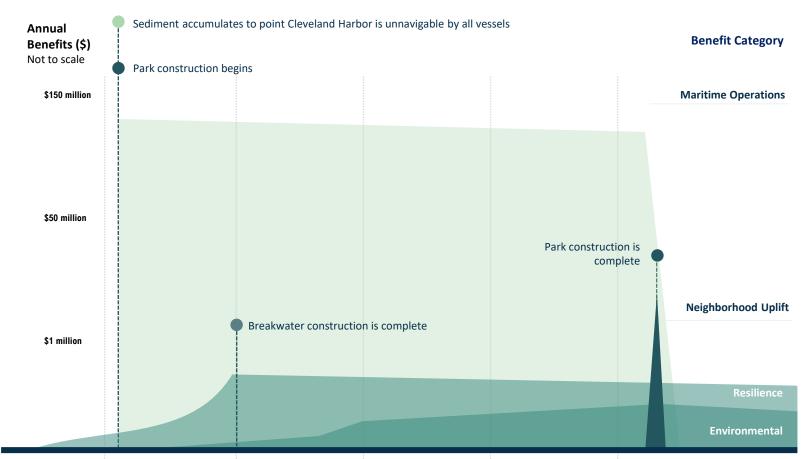
Average Annual Benefits

CHEERS is anticipated to provide the following benefits annually under the base case scenario

\$105M Maritime Operations

\$468K

\$36K Erosion Control Provided



Benefit Accumulation Timeline

Implementation Timeline Breakwater Construction Dredge Placement Park Construction 2027 2028 2029 2030 2031 2032 2033 2034 2035 2036 2037 2038 2039 2040 2041 2042 2043 2044 2045 2046 2047 2048 2049 2050 2051 2052 2053 2054 2055 2056



BCA Fact Sheets

Customizable, thematic advocacy materials



Fact Sheet Tile Library

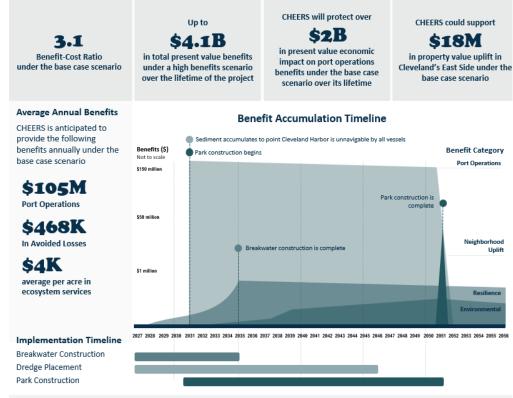
Summary Benefits			
3.1 Benefit-Cost Ratio under the base case scenario	For every dollar invested in CHEERS, the project is projected to generate \$3.10 in benefits in return	Supports the total economic activity of the Port of Cleveland estimated over \$7B	Up to \$4.1B in total present value benefit under a high benefits scenario over the lifetime of the project
Port Operations Benefits			
CHEERS will protect over \$2.B in present value economic impact on port operations benefits under the base case scenario over its lifetime	Protects \$105M In average annual economic impact on port operations benefits under the base case scenario	20 Years Worth of Dredge Capacity	4M Cubic Yards of Dredge Materi Contained
Prevents up to 1,166 trucks added to Cleveland roads daily	The USACE estimates that a shift to land-based transportation could increase costs by over \$44M due to railroad and trucking- related accidents	The USACE estimates that a shift to land-based transportation would add over 50k tons of particulate matter annually	Benefits a community within the: 97th percentile for individuals wit asthma
Community Benefits			
Helps Preserve Over 23,000 Jobs (Ohio Maritime Plan)	CHEERS could support \$18M in property value uplift in Cleveland's East Side under the base case scenario	Benefits a community within the: 98th percentile for social vulnerability in the country	Over 100 acres of new park space
Environmental & Resilience Ben	efits		
Approximately 1 mile of living shoreline and breakwater with fish shelves	\$468K in average avoided losses annually due to breakwater design	~\$36K average annual erosion control provided	Provides an average of \$4K In ecosystem services per act

Cleveland Harbor Eastern Embayment Resilience Study Benefit-Cost Analysis of the CHEERS Project Executive Summarv





CHEERS is a cost-effective, long-term investment in Cleveland's community and economy. For every dollar invested in CHEERS, the project is projected to generate \$3.10 in benefits in return.*



*This is an agency-agnostic BCA that follows industry standards in alignment with multiple federal agencies' methodologies. All benefit values are reported in present value 2024 dollars unless otherwise noted. Values are subject to change based on the year they are implemented.

Learn more about CHEERS at

https://www.clevelandmetroparks.com/about/planning-design/cheerscleveland-harbor-eastern-embayment-resilience-strategy



Cleveland Harbor Eastern Embayment Resilience Study Benefit-Cost Analysis of the CHEERS Project Port Operations Benefits



CHEERS is a cost-effective, long-term investment in Cleveland's community and economy. For every dollar invested in CHEERS, the project is projected to generate \$3.10 in benefits in return.*



Without the CHEERS project, the region will exhaust its current dredge placement facilities. This will stop dredging operations which will impact maritime shipping vessels' ability to operate in Cleveland Harbor. Due to the type of materials transported via the Federal Shipping Channel, such as those used in steel production, there are no holistic and viable alternatives to maritime shipping.

CHEERS!

Responding to this need, CHEERS is the locally preferred alternative for dredge material

4MCubic yards of dredge material beneficially used

placement that ensures the Cuyahoga River can continue to facilitate maritime trade. By ensuring dredging can continue for decades to come, CHEERS will facilitate the movement of goods, which is vital to preserve regional jobs and the economy more broadly.

Average Annual Benefits

CHEERS is anticipated to provide the following benefits annually under the base case scenario

\$105M Port Operations



*This is an agency-agnostic BCA that follows industry standards in alignment with multiple federal agencies' methodologies. All benefit values are reported in present value 2024 dollars unless otherwise noted. Values are subject to change based on the year they are implemented.

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Cleveland Harbor Eastern Embayment Resilience Study Benefit-Cost Analysis of the CHEERS Project Resilience Benefits





CHEERS' containment structure doubles as a breakwater that will protect the shoreline, I-90, the E 55th Street Marina and forthcoming Sailing Center improvements, and multi-use trail while enhancing the region's biodiversity.*

> Winds from Hurricane Sandy push water from Lake Erie over banks at the E. 55th Street Marina. I-90 is visible in the background.

Average Annual Avoided Losses & Erosion Control

CHEERS is anticipated to provide the following benefits annually under the base case scenario:

\$468K

in average avoided losses annually due to breakwater design

~\$36K average annual erosion control



Environmental Benefits

Fast Facts:

- Over 100 acres of new park space
- 1,375 linear feet of breakwater with fish shelves
- 4,670 linear feet of living shoreline
- Protected and expanded subsistence fishing opportunities

This equates to: Habitat Creation Benefits - \$1.9M Water Filtration Benefits - \$1.1M Improved Air Quality** Climate Regulation** Increased Pollination** Biological Control**

*This is an agency-agnostic BCA that follows industry standards in alignment with multiple federal agencies' methodologies. All benefit values are reported in present value 2024 dollars unless otherwise noted. Values are subject to change based on the year they are implemented. **Ecosystem service benefits contribute positively to the analysis, however indicated benefits were not quantified in this analysis.

Learn more about CHEERS at

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Cleveland Harbor Eastern Embayment Resilience Study **Benefit-Cost Analysis of the CHEERS Project**

Community Benefits



CHEERS is estimated to add over \$18 million in uplift to neighboring properties bolstered by a coalition of partners working to serve current residents, preserve affordability, and increase neighborhood vibrancy.*

CHEERS could support

\$18M in property value uplift in Cleveland's East Side under the base case scenario

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1,166 trucks added to Cleveland roads daily

Prevents up to

The USACE estimates that a The USACE estimates that a shift to land-based shift to land-based transportation could increase transportation would add over costs by over

50k tons of particulate matter annually

\$44M due to railroad and truckingrelated accidents

CHEERS!

CHEERS will create waterfront access and purposeful open space for Cleveland residents.

CHEERS is about more than what can be measured

Reimaging the Cleveland shoreline to A create lasting, regional impacts

- 07 **Reconnecting** Cleveland neighborhoods to the lake
- Shifting to co-beneficial ways of handling dredge material
 - Protecting the region's infrastructure and economy for generations to come

The benefiting community is within the: 97th percentile for individuals with asthma 94th percentile for low income

91st percentile for share of adults with diabetes 88th percentile for diesel particulate matter exposure

> The No Action Alternative would exacerbate existing health vulnerabilities.

Multiple additional census tracts south of I-90 that would benefit from the CHEERS project are in the top 2% nationally for households where income is less than or equal to twice the federal poverty level, share of people with asthma, and share of adults with diabetes.

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Learn more about CHEERS at https://www.clevelandmetroparks.com/about/planning-design/cheerscleveland-harbor-eastern-embayment-resilience-strategy







Reimaging the Cleveland shoreline to create lasting, regional impacts

- Reconnecting Cleveland neighborhoods to the lake
 - → Shifting to co-beneficial ways of handling dredge material
- \bigcirc
- **Protecting** the region's infrastructure and economy for generations to come



Funding Pursuits + Opportunities

Reconnecting Communities- Not awarded

- Improve bike and pedestrian connections to Lake Erie / reduce conflicts with I-90
- Northeast Ohio Areawide Coordinating Agency (NOACA) applied for a Planning Grant, with support and local match from:
 - City of Cleveland
 - Port of Cleveland
 - Cleveland Metroparks
 - ODOT
- Partners are participating in the Reconnecting Communities Institute <u>www.rciconnect.org</u>



PROTECT

Promoting Resilient Operations for Transformative, Efficient, and Cost-saving Transportation

- Funding opportunity removed from grants.gov 2.11.2025 may be re-posted this spring
- Applications were due 2.24.2025;
- Resilience Improvement Grants; total available \$408M
- Planned request: \$28.8M
 Local match \$3.4M from
 NOACA, Cleveland
 Metroparks, & the Port



NOAA Transformational Habitat

- Early Action Project described earlier in the meeting
- Demonstrates the value of the CHEERS project
- Small breakout area focused on the Habitat Loop

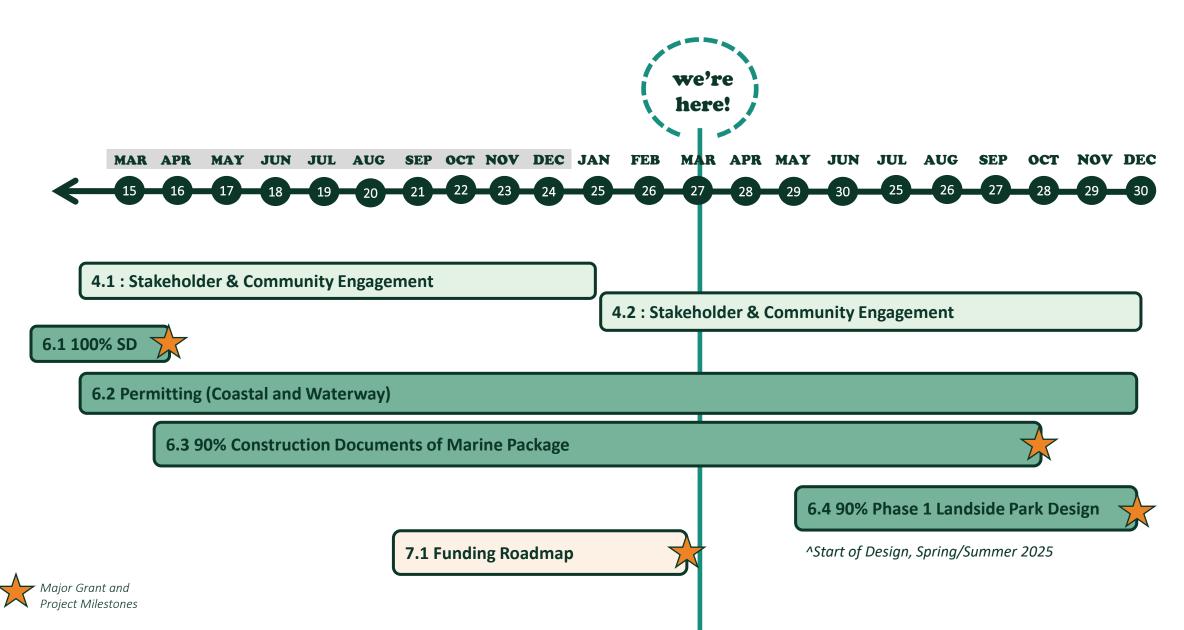


CHEERS Project Updates

We've accomplished a lot this year.

- Advancing Design Feasibility: We continued to refine our design approach, ensuring that it remains both feasible and buildable, successfully completing the 30% Design of the CHEERS Project (Marine and Landside).
- Progressing Funding and Financing: Significant strides were made towards securing funding, including the completion of a Class 5 Construction Cost Estimate, a Grant Checklist, an Annualized Cost analysis, and an advanced agency-agnostic Benefit-Cost analysis.
- **Ongoing Technical Assessments:** Our commitment to comprehensive assessments continued with the advancement of our Geotechnical Analysis, a critical step for ongoing permitting and detailed design of the Marine Breakwater.
- Strengthening Permitting Engagement: We maintained a strong focus on permitting, actively participating in a USACE DMMP Planning Charrette and holding bi-weekly coordination meetings with USACE to ensure design alignment.

2025 Schedule



2025 Project Deliverables

Task 4.2: Stakeholder Engagement

Phase 2 Engagement – Strategy and Planning in progress

Task 6.2 Permitting (Coastal and Waterway)

- □ USACE Coordination Ongoing
 - ✓ (10/04/2023) USACE DMMP Planning Submission by Port of Cleveland currently under regulatory review and coordination

Task 6.3 90% Construction Documents of Marine Package

- □ 60% Plan Set In progress (tracking for January)
 - ✓ (10/04/2023) 10% Plan Progress for Permitting Submission
 - ✓ (1/26/2024) 30% Plan Progress for Schematic Design Submission
- □ 90% Plan Set Oct/Nov 2025
 - ✓ (10/04/2023) 10% Plan Progress for Permitting Submission
 - ✓ (1/26/2024) 30% Plan Progress for Schematic Design Submission

Task 6.4 90% Landside Park Design for "The View"

- ✓ Geotechnical Analysis and Assessments in Progress
- □ 90% Plan Set Oct/Nov 2025

Task 7.1 Funding Roadmap

□ Funding Roadmap

Partner Updates

Partner Updates



Key supporting stakeholders: Ohio Environmental Protection Agency (OEPA) Northeast Ohio Regional Sewer District (NEORSD) Northeast Ohio Areawide Coordinating Agency (NOACA)

Gordon Park

CONCEPT PLAN OVERALL VISION PLAN

A flexible framework that includes:

- Iconic Sunset Bridge + pavilion
- Signature play experiences
- Unique Water Play
- Community gathering spaces
- All-season programming
- Accessible path system for all
- Enhanced entry experience
- Distributed parking areas
- 90% of existing trees preserved
- Integrating arts and culture



Gordon Park



- Removing ballfield infrastructure to open up site access and prepare for the Great Lawn
- Proceeding with Schematic Design of entire site
- Coordinating summer activities and park activation
- Fall 2025 initial construction / Ph. 1 to begin



Stakeholder Meeting

Stakeholder Meeting Agenda

- Stakeholder Meeting #7 March 13, 2025 TODAY!
- Stakeholder Meeting #8 June 12, 2025
- Stakeholder Meeting #9 September 11, 2025
- Stakeholder Meeting #10 December 11, 2025

Would you be interested in meeting on site for a walk-shop as part of the next stakeholder meeting on June 12?

For more information on the CHEERS project, please visit our <u>website</u>. You can also find materials and recordings from previous stakeholder meetings at the bottom of that webpage.

If you would like to add colleagues or other stakeholders to our project listserv, please feel free to reach out to Kelly Coffman (Cleveland Metroparks), Linda Sternheimer (Port of Cleveland), or Kara Slocum (Project PM, Arup).



