

BRANDON ROAD INTERBASIN PROJECT



US Army Corps of Engineers®

STRUCTURAL PLAN FEATURES

Engineered Channel: Creates a concrete channel without fish habitat. Increases the effectiveness and reduces the impacts of some measures and is a platform for future technologies.

Electric Deterrent: Creates an electric field that deters fish.

Automated Barge Clearing (ABC) Deterrent: Bubble curtain removes small and stunned fish entrained in spaces between barges.

Acoustic Fish Deterrents: Underwater sounds to deter fish.

Bubbler Deterrent: Bubble curtain that deters fish.

Support Facilities: Infrastructure to support operations and maintenance of controls.

Boat Launches: Provides access for nonstructural measures, safety and OMRR&R.

RISK-INFORMED AQUATIC NUISANCE SPECIES CONTROL STRATEGY

The Recommended Plan developed during the feasibility phase of this project uses integrated aquatic nuisance species management to maximize the effectiveness of the aquatic nuisance species control system while minimizing impacts to navigation. Success requires shared responsibility.

Future without Project

- Continued operation of the Chicago Sanitary and Shipping Canal (CSSC) Electric Deterrent
- Continued monitoring, overfishing, public education and research, etc.

Nonstructural Controls

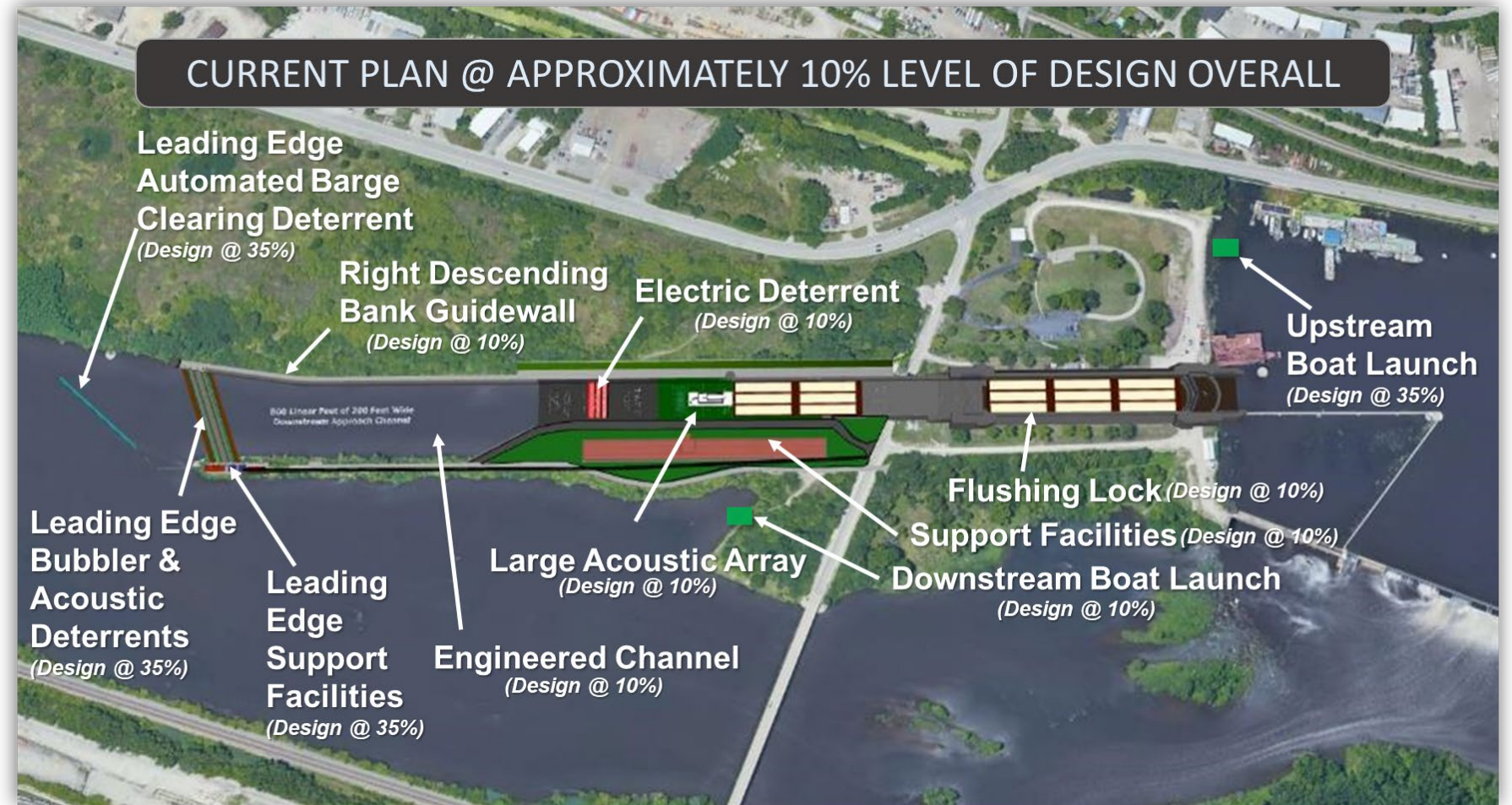
- Monitoring aquatic nuisance species populations
- Increased overfishing to reduce population pressure at Brandon Road.
- Maximizes effectiveness of the aquatic nuisance species management system

Structural Controls

- Flushing Lock
- Electric Deterrent
- Acoustic Fish Deterrent
- Fish Entrainment Deterrent

Importance of Engineered Channel

- Increases effectiveness of aquatic nuisance species controls
- Improves underwater monitoring
- Reduces stray current impacts of the electric deterrent
- Increases effectiveness of fish clearing within the channel
- Provides platform to test & implement future aquatic nuisance species controls



AQUATIC NUISANCE SPECIES RISK MANAGEMENT SYSTEM

Two control points

- CSSC Electric Deterrent
- Brandon Road control point

Three management zones

- Population Reduction Zone: monitoring and harvesting
- Monitoring, Management and Control Zone
- Monitoring and Response Zone

Shared responsibility

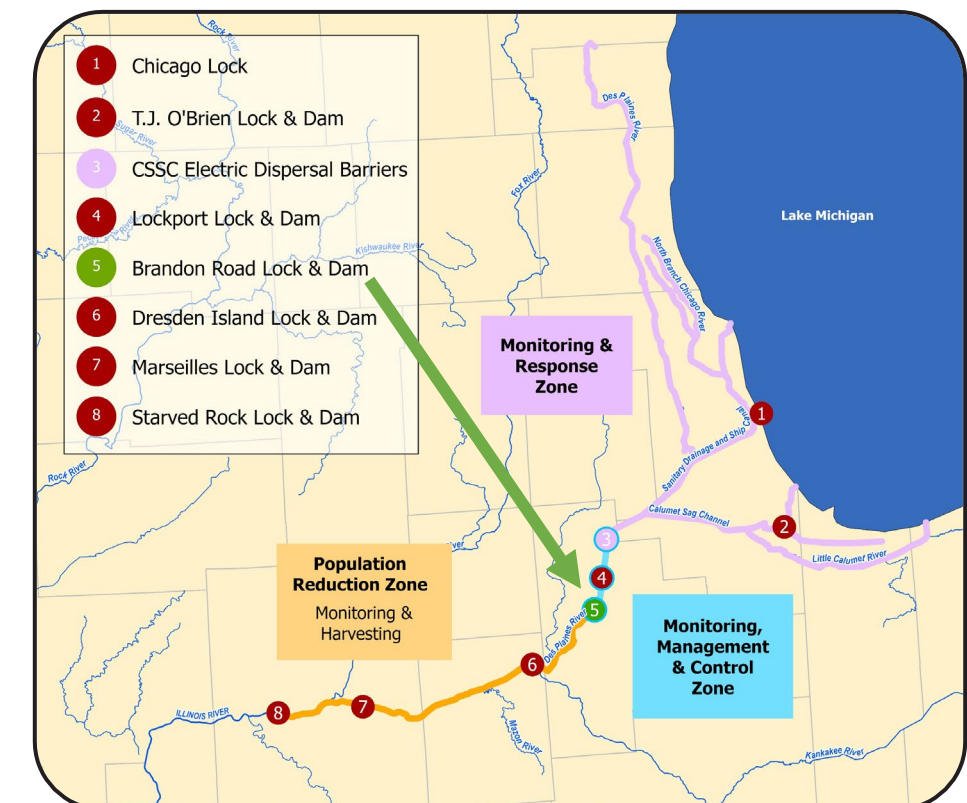
PLANNING, ENGINEERING & DESIGN

Value Engineering with Design Charrettes

- Overall Project Design
- Engineered Channel
- Flushing Lock
- Aquatic Nuisance Species Controls
- Site Preparation and Support Buildings

Goals

- Assess Possible Efficiencies in Design and Construction Methods
- Maximize Aquatic Nuisance Species Control Effectiveness
- Minimize navigation impacts by Evaluating Construction Methods and Timing, and Coordination with Navigation Community



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PRELIMINARY PROJECT SCHEDULE*

Task Name	2022												2023												2024												2025												2026												2027												2028												2029																						
	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N
Increment I																																																																																																											
Increment II																																																																																																											
Increment III																																																																																																											

*Increment Phases: Plans & Specs ■ Construction Award ■ Construction ■

*Preliminary phase schedules based on feasibility-level design, timeline will be further developed in PED

FEASIBILITY LEVEL PROPOSED INCREMENTS SUBJECT TO CHANGE PENDING COMPLETION OF DESIGN & EXECUTION OF A PPA.

INCREMENT I

- Site Prep
- Channel Rock Excavation
- Air Bubble Curtain Deterrent
- Narrow Acoustic Deterrent Array
- Control Building
- Upstream Boat Launch

INCREMENT II

- Electric Deterrent
- Wide Acoustic Deterrent Array
- Complete Control Building
- RDB Wall Connect to Lower Guidewall
- Flushing Lock
- Downstream Boat Launch

INCREMENT III

- Finish Engineered Channel

Total Incremental Implementation EST. Costs: \$858M*
**Based on FY21 price levels
 Updated Cost estimate scheduled for December 2022*

FEASIBILITY LEVEL PROJECT COSTS	
Contributor	Estimated Project First Costs ^a
Total Federal Contribution	\$684,405,700
Total Non-Federal Contribution	\$173,641,300
Cash	\$170,230,300
Lands, Easements, Right-of-Ways, Relocations & Disposal (LERRDs)	\$3,411,000
Total Project First Costs	\$858,047,000
Nonstructural Measures (Equivalent Average Annual Cost) ^b	
Project Cost	
USACE	\$338,000
Non-Federal Sponsor	\$182,000
Not Project Costs	
Department of the Interior	\$12,287,000
Total Nonstructural Measures	\$12,807,000
Operation, Maintenance, Repairs, Rehabilitation & Replacement (OMRR&R) (Equivalent Average Annual Cost) ^c	
USACE (80%)	\$6,680,000
Non-Federal (20%)	\$1,671,000
Total OMRR&R	\$8,351,000

a) All costs are presented at the FY 2021 price level and rounded to the nearest thousand. Average annual costs were estimated using a base year of FY 2022 and a 50-year period of analysis. b) Nonstructural measures are assumed to commence in 2022. USACE's portion pertains to monitoring of the control point. That annual estimate will be cost-shared 80% Federal and 20% non-Federal. c) OMRR&R activities are assumed to commence in FY29. Pursuant to Water Resources Development Act of 2018, H.R. 3021, 115th Cong. § 1142 (2018) OMRR&R costs are 100% Federal for the flushing lock, and 80% Federal and 20% non-Federal for the remaining features.