

NEW LOCK AT THE SOO

CONGRESSIONAL MEMBER AND STAKEHOLDER UPDATE

U.S. Army Corps of Engineers
Detroit District
07 Sep 2023

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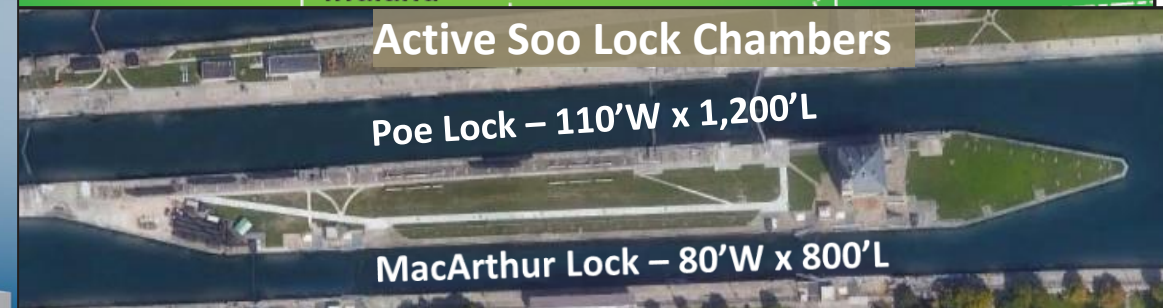


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of Engineers®



SOO LOCKS IMPORTANCE

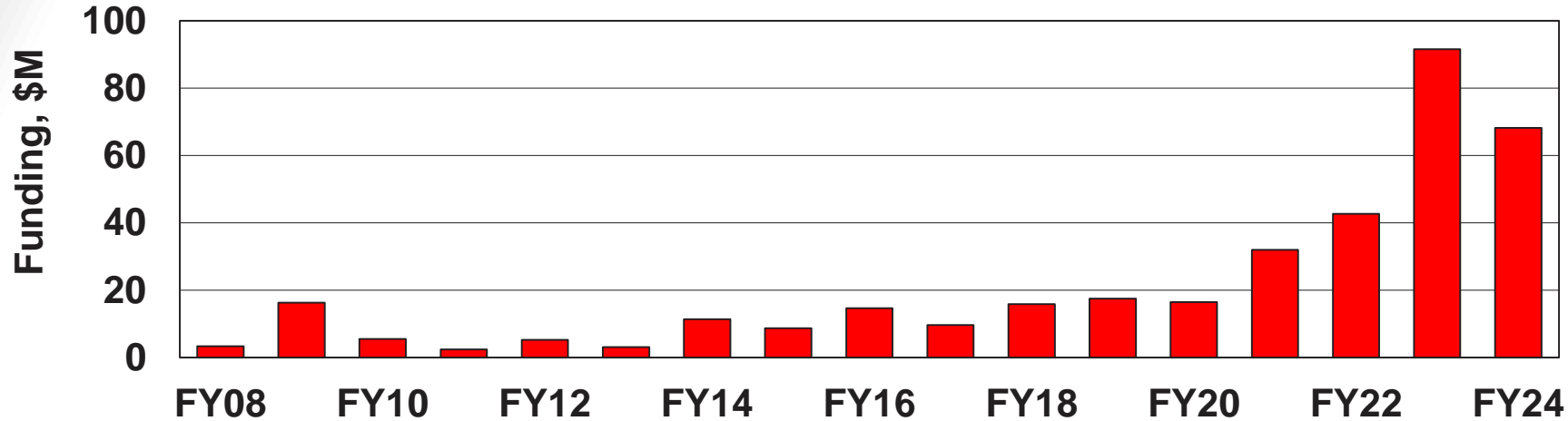
- Nearly all domestically produced high strength steel is made with iron ore that transits the Poe Lock
- Within 2-6 weeks of an unscheduled Poe Lock outage, 75% of our nation's high strength steel production would cease
- Six-month unscheduled outage would result in 11 million jobs lost and \$1.1 trillion economic impact





MAINTAINING EXISTING SOO LOCKS FACILITY

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Projects Funded in FY23

FY23 Pres Bud \$38.3M:

- Construction of Backup Generator - \$16.0M
- Construction of Facility Wastewater Sewer Rehab - \$4.40M
- Various Facility and Site Rehab - \$13.4M
- Various Lock Rehab Projects: \$4.48M

FY23 BIL \$38.6M:

- Poe Lock Gate 1 Replacement Fabrication: \$12.35M
- Crib Dam Repairs and Mooring Facility: \$24.7M
- Floating Plant Outfitting; Poe Lock Recess Design: \$1.5M

FY23 Work Plan \$14.6M:

- West Center Pier & Facility Lighting: \$2.5M
- Poe Lock Stoplog and Miter Gate Cylinder Rods: \$0.91M
- Facility Improvements, Maintenance, and Acquisition Contract Management: \$3.56M
- Additional capability for Backup Generator, Sewer Rehabilitation, and Maintenance & Storage Facility Repairs: \$7.64M

Projects Funded in FY24

FY24 Pres Bud \$68.2M:

- Marine Lifting Equipment: \$37M
- Design and construction Rehab of West Center Pier North Side: \$12M
- Design and construction Poe Lock Dewatering Emergency Bulkhead: \$6M
- Construction of Poe Stop Log Recess Repairs: \$2.7M
- Design and Repair of Gate 3 Structural Defects: \$2M
- Various Lock and Facility Projects: \$8.45M

Upcoming Asset Renewal Priorities

- Aquadigger Crane/Barge Dry Dock
- Poe Lock Gate 1 Design & Replacement
- Heavy Lift Crane Equipment



Poe Lock Rewatering 2023

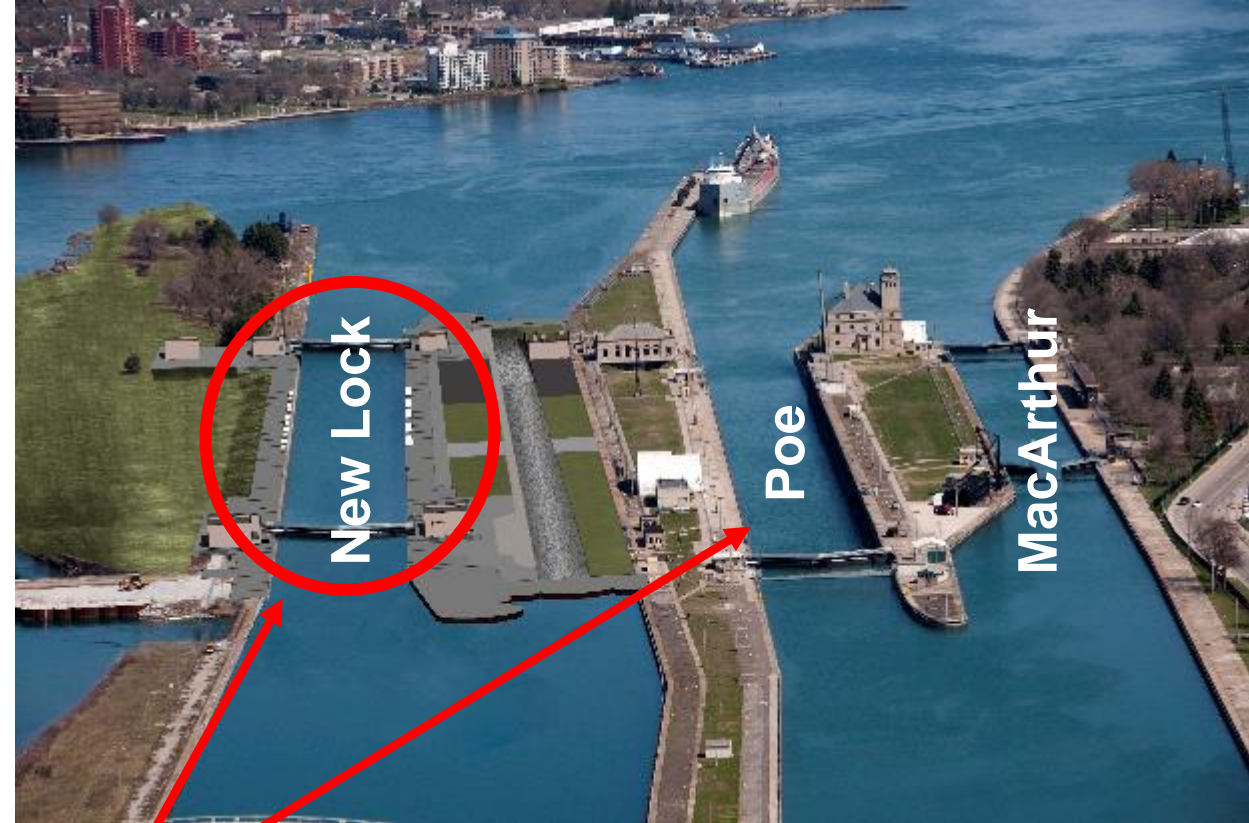


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NEW LOCK AT THE SOO



Current Facility



Future Facility

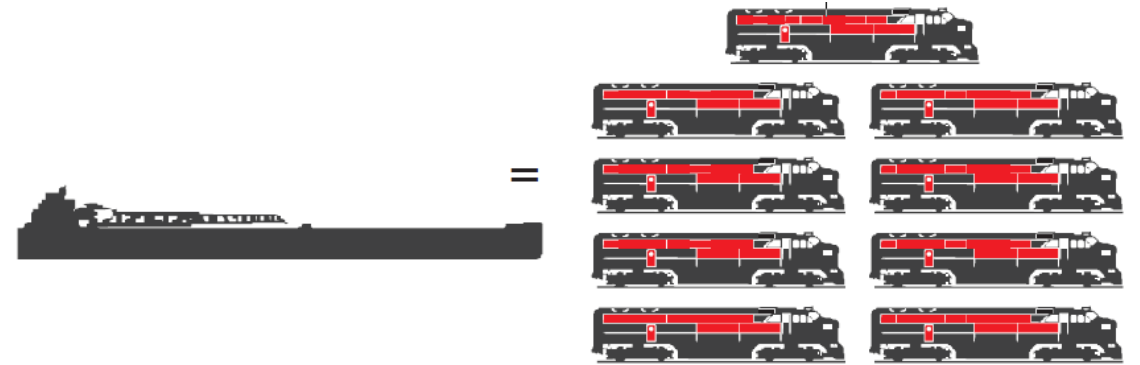
New lock will have **same dimensions** as existing Poe Lock (1200 ft length by 110 ft width and a depth of 32 ft)



BLUF: The fiscal year 2023 New Lock at the Soo Supplemental Econ Update is being finalized with a policy-compliant Benefit Cost Ratio (BCR) of 2.3 at the 7% Office of Management and Budget (OMB) Discount Rate.

- Economic update evaluated critical assumptions and uncertainties in the FY22 BCR.
- The reevaluated cost of the Escanaba Build Out resulted in substantial increases in project benefits.

Freight Capacity Comparison



*One 1,000 foot Laker
(Approximately 70,000 tons)*

*Seven 100 Car Trains with a
10,000 ton capacity*



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ALLOCATIONS & CAPABILITIES

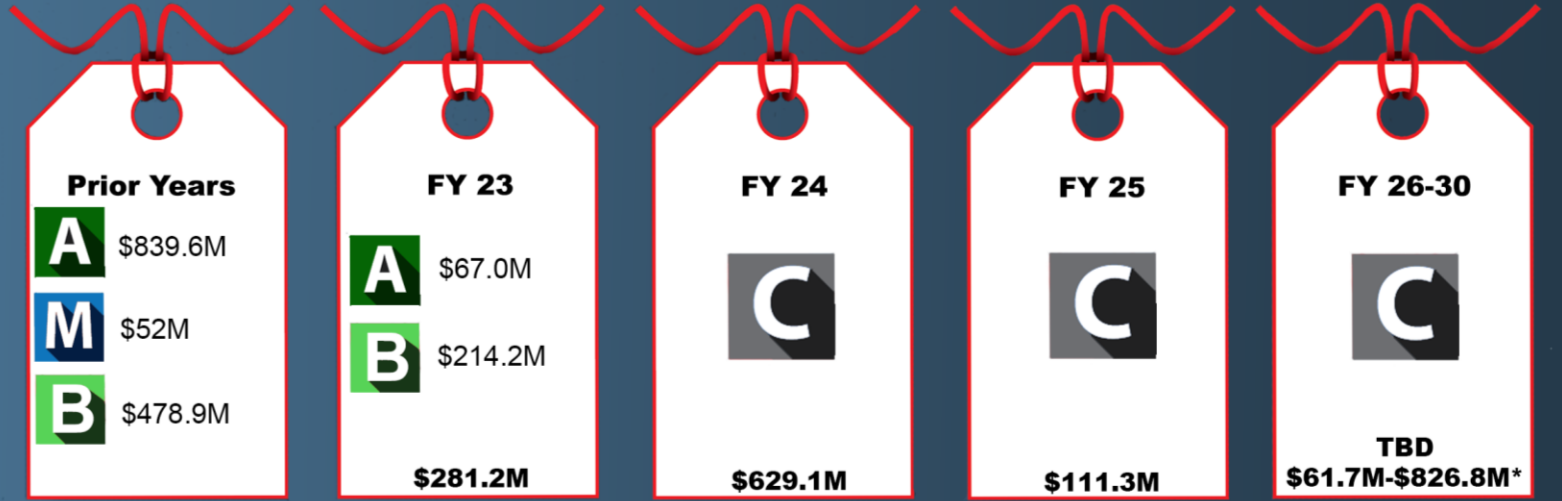


A Federal Allocation

B Bipartisan Infrastructure Law

M State of Michigan

C Capability



* \$826.8M is project contingency that may be required for unknown needs and is based on the FY23 Authorized Cost of \$3.219B

\$1.652B
Allocated to Date

Remaining Activities		Capabilities**		
		FY24 – Pbud	FY24 - Remaining	FY25
Chamber Wall Monoliths (Phase III - Opt 1B)	Pricing Expires DEC 2023	\$235.0M***		-
Upstream Wide Wall Monoliths Contingency (Phase III - Opt 1A)			\$17.2M	-
Construction Contingency			\$47.8M	
Upper Approach Wall Remaining Work			\$69.0M	-
Lock Operational (Phase III – Opt 3)	Pricing Expires SEP 2024		\$260.1M	-
Downstream Work (Phase III – Opt 4)	Pricing Expires SEP 2025		-	\$55.8M
Hands Free Mooring (Phase III – Opt 5)	Pricing Expires SEP 2025		-	\$26.6M
Downstream Ship Arrestors (Phase III – Opt 6)	Pricing Expires SEP 2025		-	\$28.8M
TOTAL		\$235.0M	\$394.1M	\$111.3M

** Options could be advanced into an earlier FY. Also, these capabilities are as of March 2023. If options are not funded prior to expiring, cost and schedule will be impacted and capabilities will be adjusted accordingly.

*** House Committee version of FY24 Appropriations Bill includes an additional \$22.7M earmark



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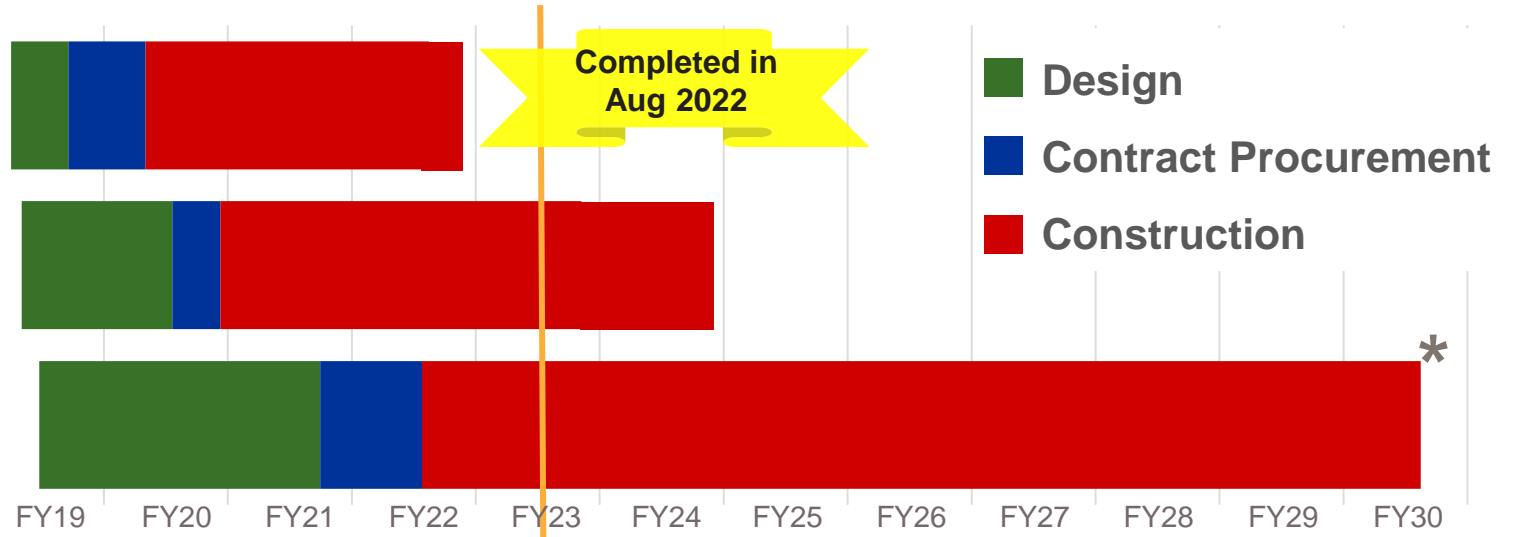
NEW LOCK AT THE SOO CONSTRUCTION STATUS



Phase 1: Upstream Channel Deepening (UCD)

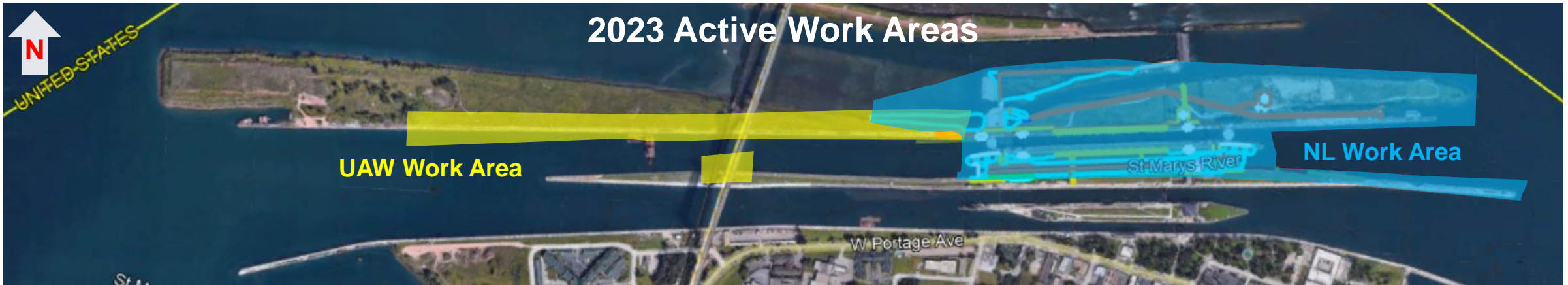
Phase 2: Upstream Approach Walls (UAW)

Phase 3: New Lock (NL)



WE ARE HERE

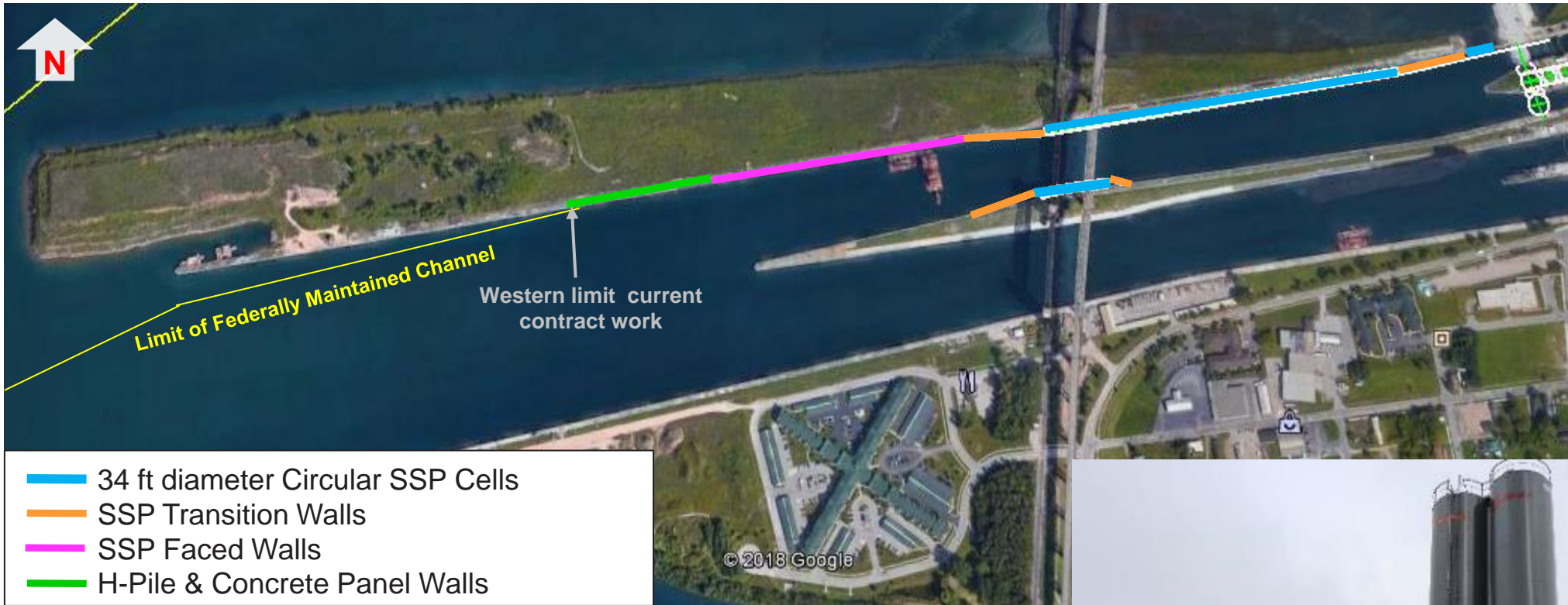
* Assumes efficient funding





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PHASE 2: UPSTREAM APPROACH WALLS UPDATE



Scope: Rehabilitate approach walls upstream of new lock including reconstruction/refacing existing 100-year-old walls, installation of new lighting, bollards, and concrete cap repairs.

Construction Status:

- \$117M Contract awarded in September 2020 to Kokosing-Alberici
- Contractor is generally working from East to West and has completed 83% of the required contract work.

Estimated Completion: Summer 2024





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PHASE 2: UPSTREAM APPROACH WALLS



Template used to construct circular steel sheet pile cells



Sheet piles are 30' strips of steel placed within coffer cell template

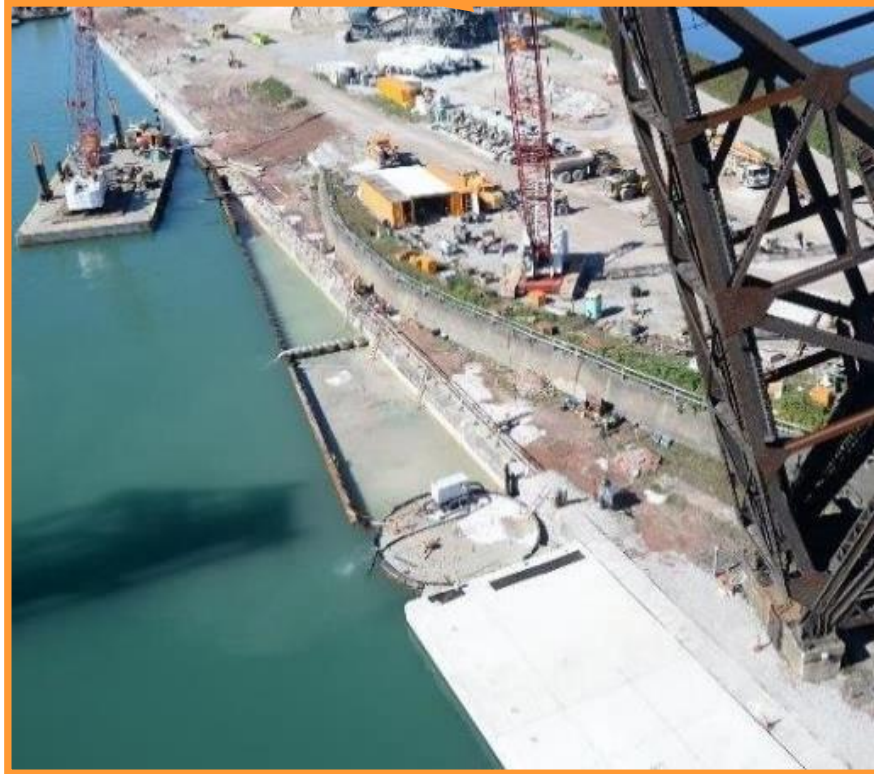


Concrete placement in cell



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PHASE 2: UPSTREAM APPROACH WALLS UPDATE



Northwest SSP transition wall and adjacent circular SSP cell prior to concrete cap placement



Southwest SSP transition wall with concrete cap



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PHASE 2: UPSTREAM APPROACH WALLS UPDATE



- 34 ft dia. Circular SSP Cells
- SSP Transition Walls
- SSP Faced Walls
- H-Pile & Concrete Panel Walls



Formwork for concrete caps on SSP faced wall



Placement of SSP for SSP faced wall



SSP wall anchor pin



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PHASE 2: UPSTREAM APPROACH WALLS



- 34 ft dia. Circular SSP Cells
- SSP Transition Walls
- SSP Faced Walls
- H-Pile & Concrete Panel Walls



Drilled shaft installation of concrete panel deadmen



Concrete panels for H-pile and concrete panel wall



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PHASE 3: NEW LOCK UPDATE



Scope: Construct new 1,200' long by 110' wide by 32' deep chamber, New Pump Well, and New Power Plant Bridge, and rehabilitate downstream approach walls.

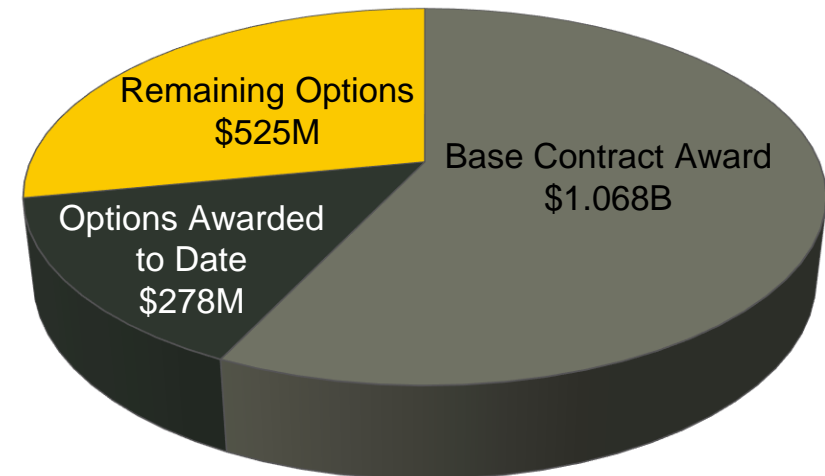
Construction Status:

- Contract awarded in July 2022 to Kokosing Alberici Traylor, LLC
- Current contract award valued at \$1.347B (72% of total contract cost)
- 2023 focus:
 - Demolition of aging structures
 - Extensive electrical work
 - Bridge construction
 - Cofferdam construction to allow for dewatering

Estimated Completion: Summer 2030



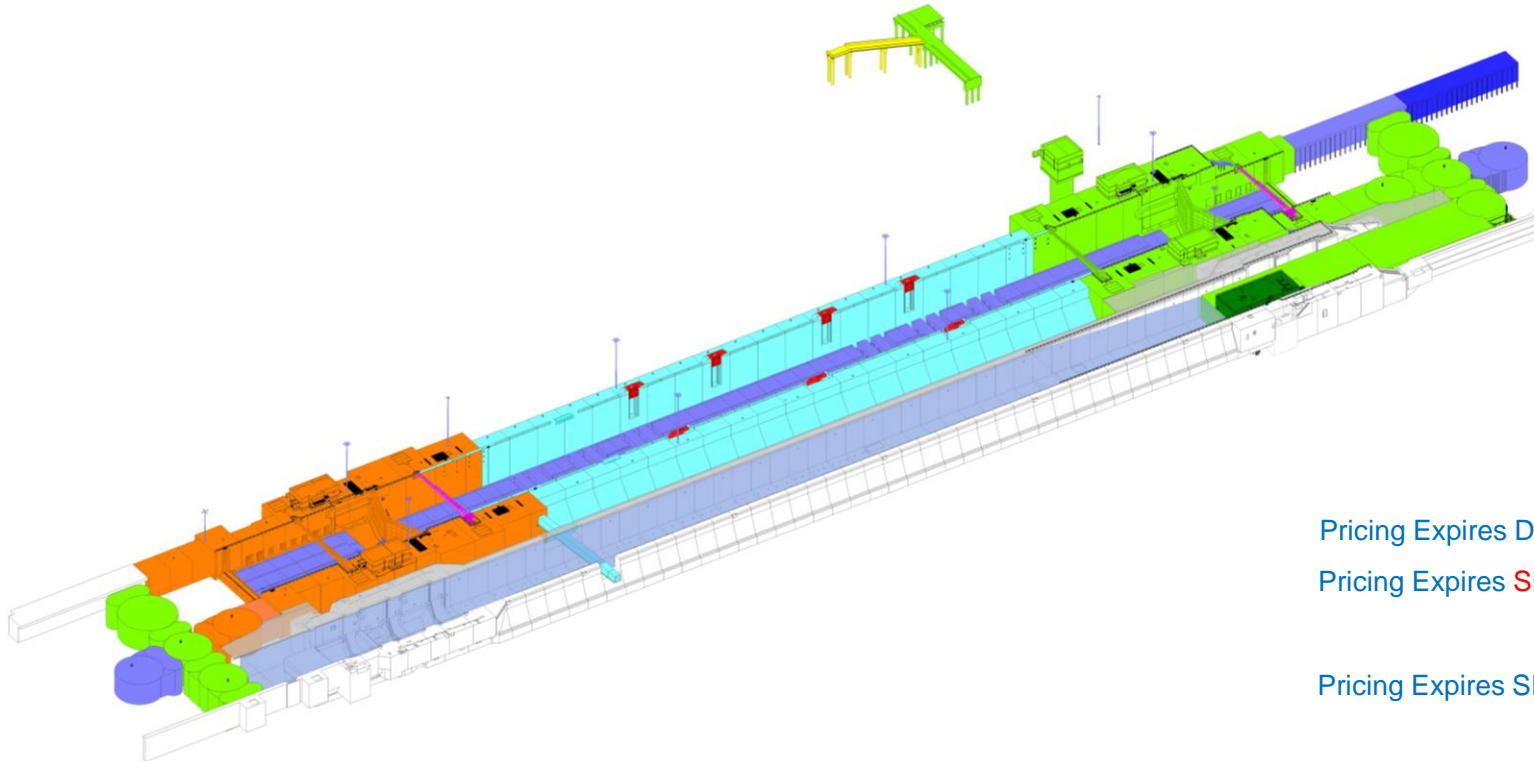
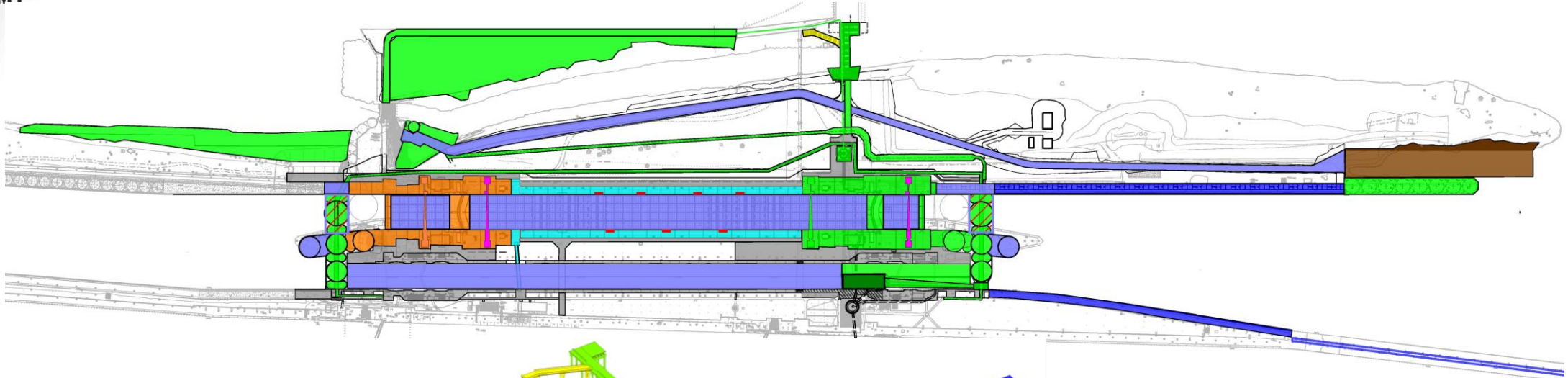
NL Construction Contract Cost
Total contract valued at \$1.872B





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PHASE 3: NEW LOCK CONTRACT BASE & OPTIONS



Legend

- BASE BID **AWARDED**
- OPTION 1A UPSTREAM WIDE WALL MONOLITHS **AWARDED**
- OPTION 1C NPP BRIDGE RAMP **AWARDED**
- OPTION 2 NEW PUMP WELL COMPLETION **AWARDED**
- OPTION 7 ALLIGATOR'S MOUTH MOORING AREA **AWARDED**
- OPTION 1B CHAMBER WALL MONOLITHS
- OPTION 3 LOCK OPERATIONAL
- OPTION 4 DOWNSTREAM WORK
- OPTION 5 HANDS FREE MOORING
- OPTION 6 DOWNSTREAM SHIP ARRESTORS

Pricing Expires DEC 2023

Pricing Expires SEP 2024

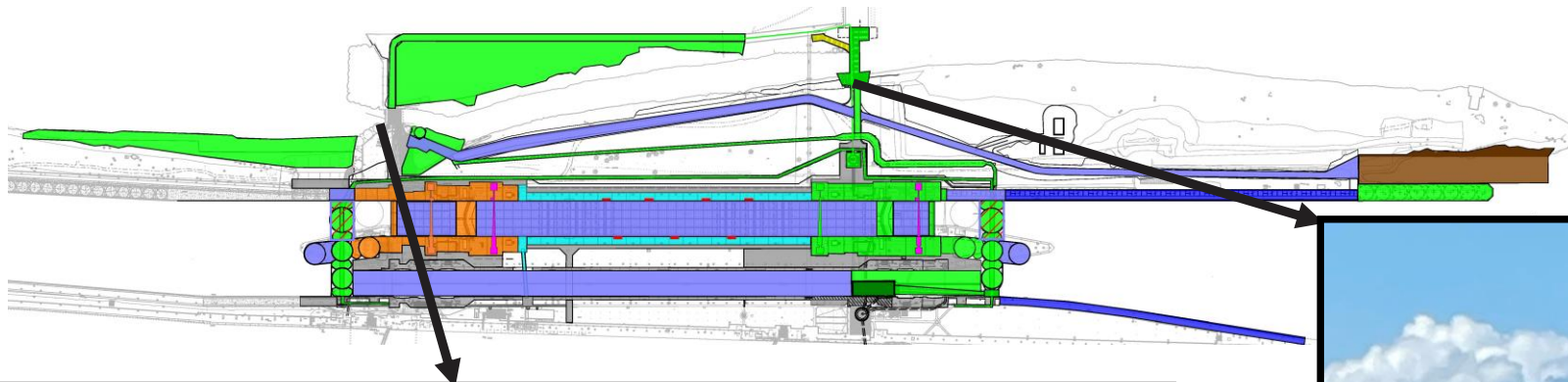
Pricing Expires SEP 2025



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PHASE 3: NEW LOCK PROGRESS

SITE ACCESS AND LOGISTICS



Prefabricated steel bridge installed west of Unit 10, providing haul route access to the Center Dike fill area



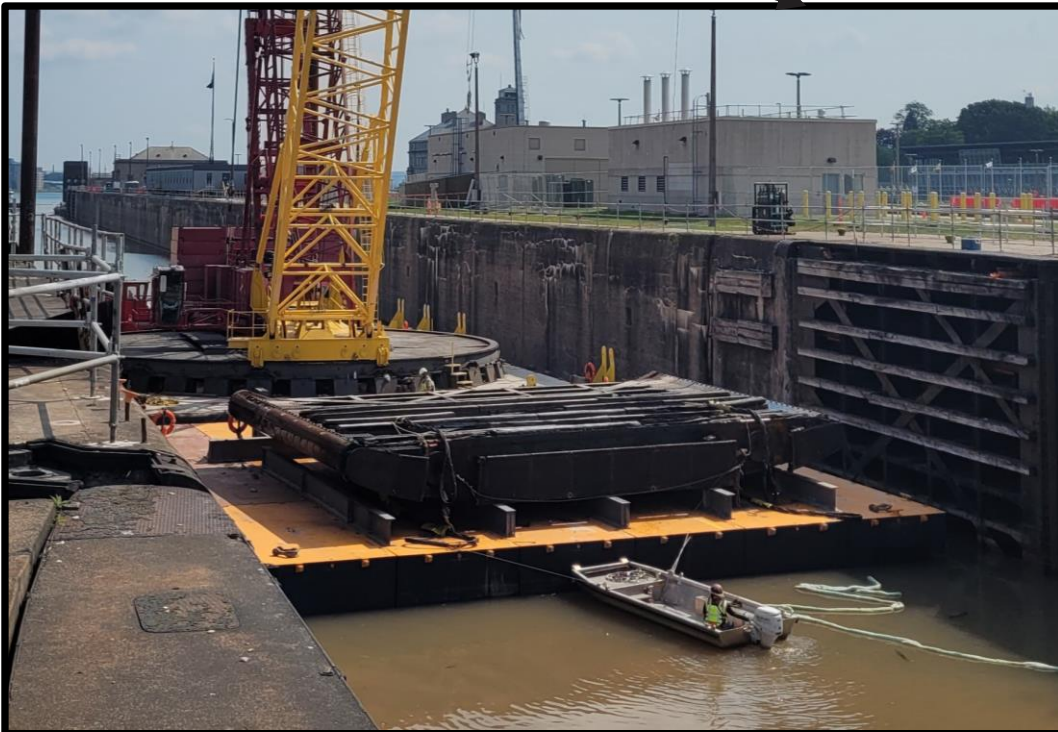
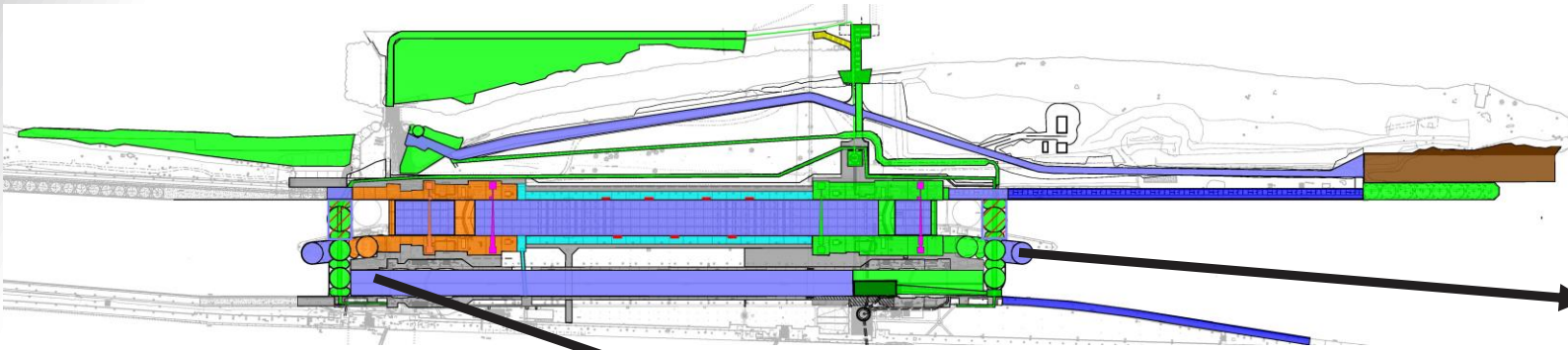
Lubrication truck crossing navigation channel to access construction site



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PHASE 3: NEW LOCK PROGRESS

DEMOLITION OF EXISTING STRUCTURES



Davis Lock upstream miter gate leaf removal



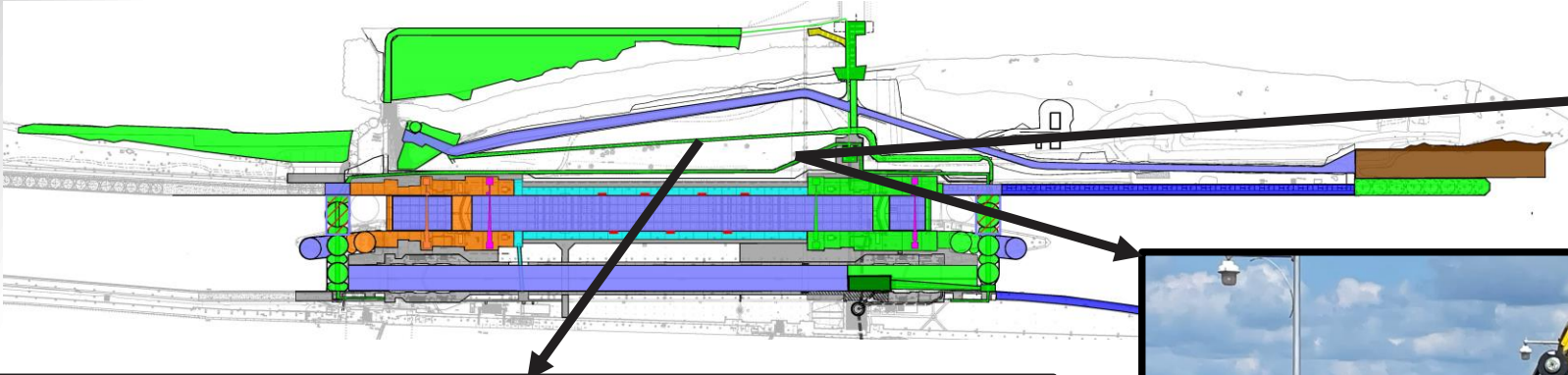
Demo of downstream nose pier in preparation for downstream cofferdam construction



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PHASE 3: NEW LOCK PROGRESS

SEEPAGE PREVENTION



Placement of the Soil Cement – Cement Bentonite (SCCB) wall north of the Sabin Lock to prevent seepage through soil into the dewatered excavation area



Drilling of shafts for grouting



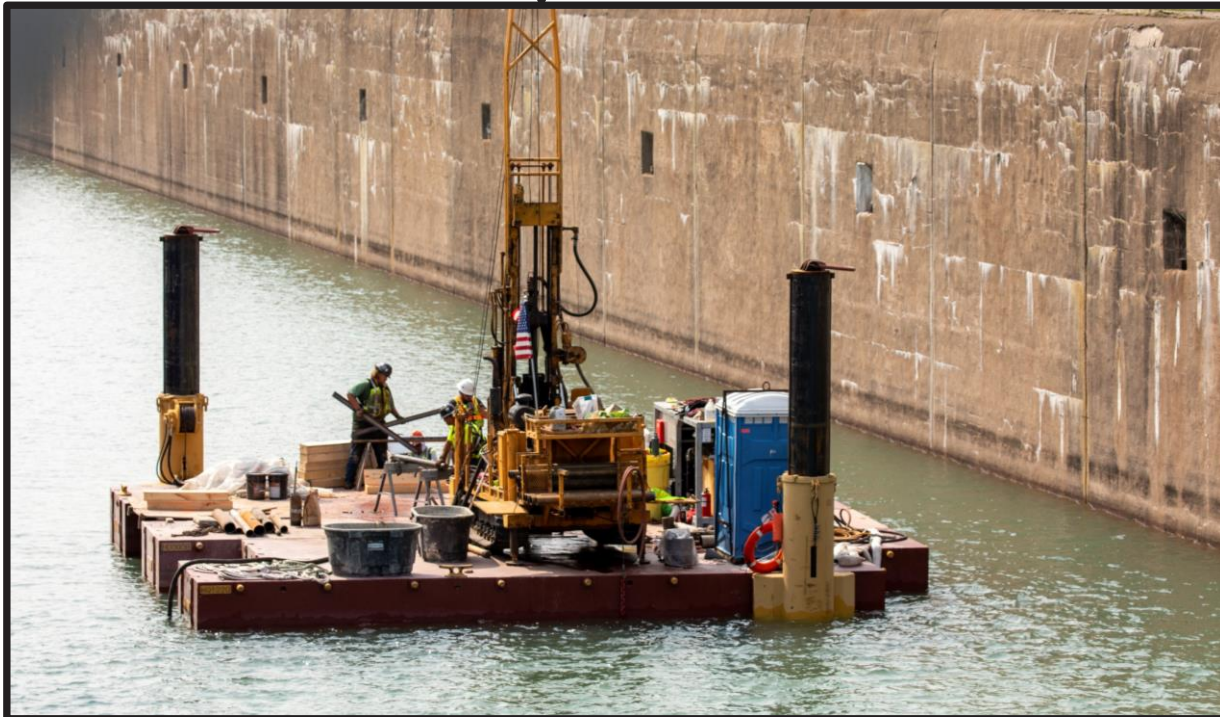
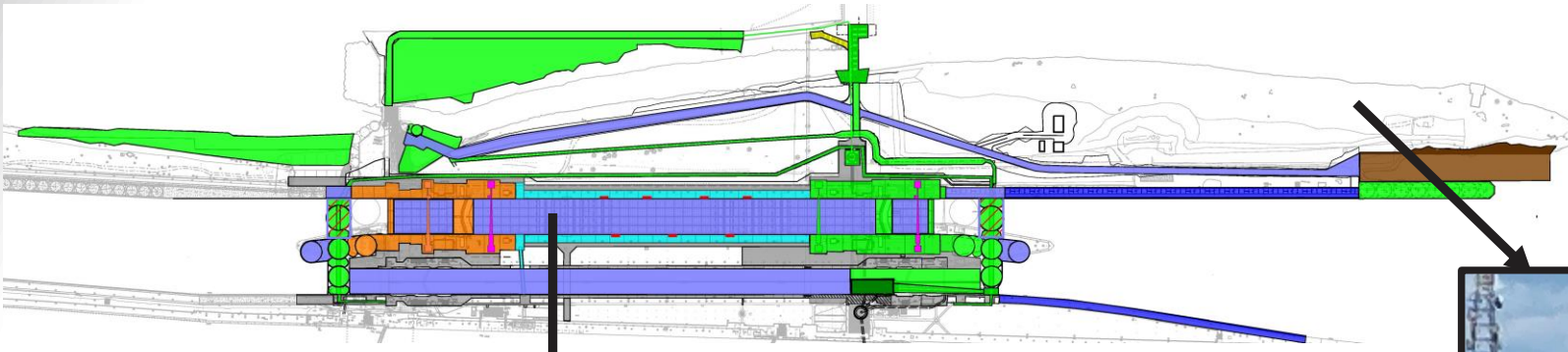
Grout curtain installation



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PHASE 3: NEW LOCK PROGRESS

NEW LOCK CHAMBER FOUNDATION PREPARATION



Foundation verification drilling in Sabin Lock chamber



Construction of temporary rock core storage building



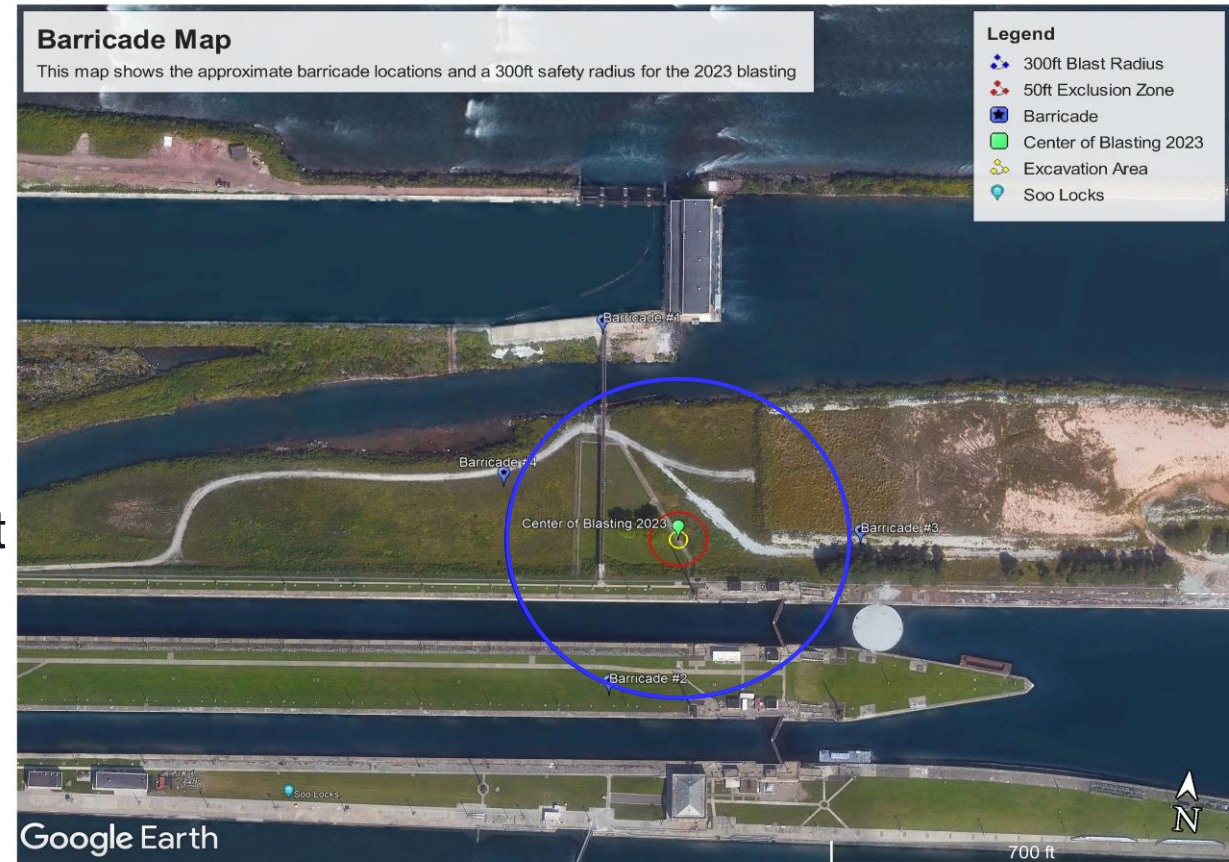
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PHASE 3: NEW LOCK BLASTING

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- Blasting is being used to fracture existing bedrock allowing for more efficient material excavation.
 - 2023 blasts - weekly from mid August through winter
 - 2023 blasting - not anticipated to impact land areas outside of the Soo Locks facility.
- Warning Signals
 - 5 minutes prior – one long air horn warning blast
 - 1 minute prior – series of short air horn warning blasts
 - All clear after detonation - one long air horn blast
- Risk mitigation Strategies
 - Multi-party review of every blast plan, including an independent 3rd party blasting consultant
 - Continuous seismograph monitoring of surrounding area
 - Restrictions on blasting effects are in place to prevent impacts to Atlantic Salmon, and Sturgeon spawning in adjacent powerplant tailrace





FIRST BLAST





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PROJECT'S ECONOMIC IMPACT

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- **1,240** jobs created on an annual basis
 - 600 direct jobs
 - 210 indirect jobs
 - 430 induced jobs
- **1,000,000** tons of limestone or granite
- **110,000** tons of American-made cement
- **25,000** tons of American-made steel



Upstream Approach Wall Tremie Concrete Placement



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ENGAGEMENTS SINCE APRIL 2023 UPDATE



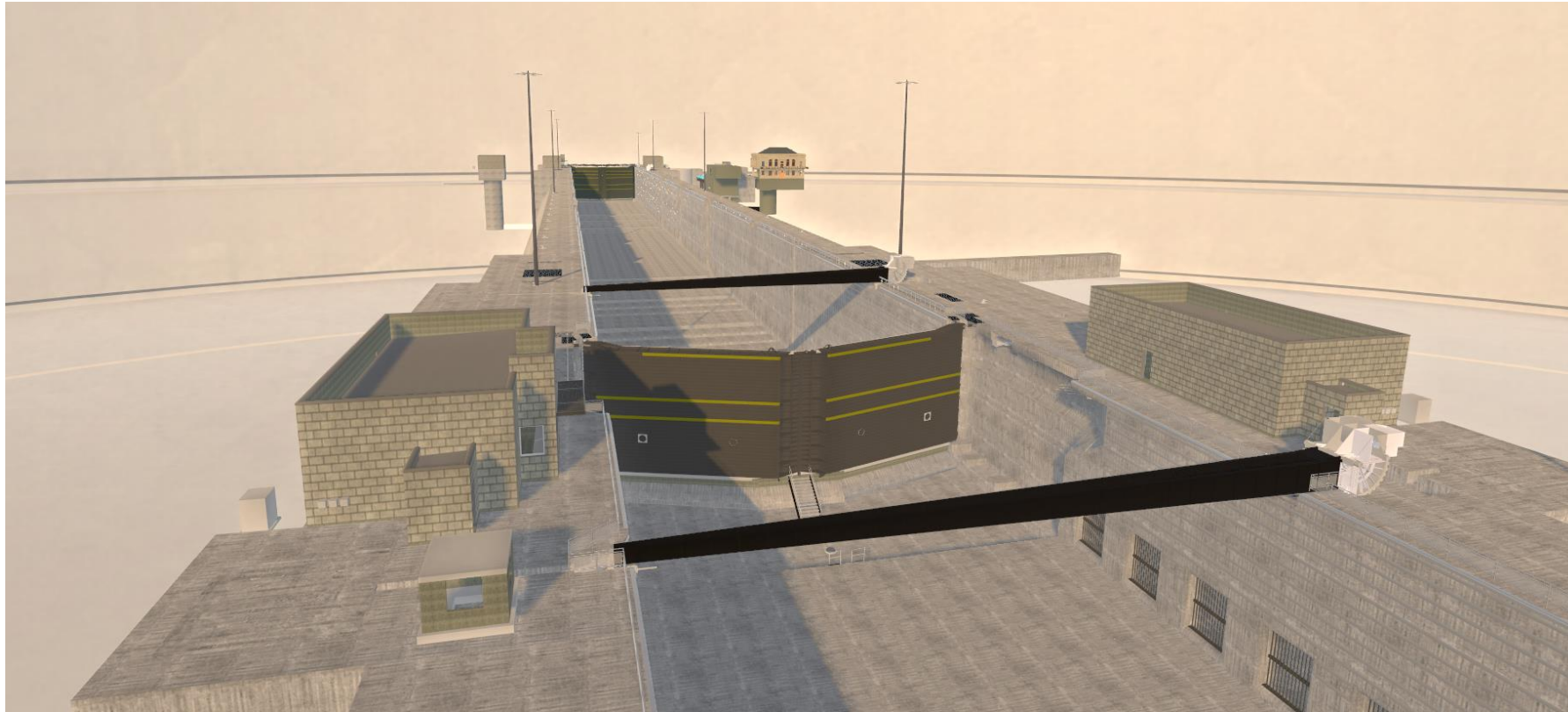
- Northern Michigan ASCE Soo Locks Site Visit
- Lakes and Rivers Division Change of Command
- Mr. Connor, Assistant Secretary of the Army for Civil Works, Site Visit
- Great Lakes Society of Naval Architects and Marine Engineers Site Visit
- MI Lt. Gov. Gilchrest New Lock Site Visit
- House Transportation & Infrastructure and Energy & Water Staffdel Site Visit
- Sault Tribe of Chippewa Indians Environmental Focused Site Visit
- Senator Stabenow Site Visit
- City of Sault Ste Marie and Boyne Commission Members Site Tour
- Congressman Bergman's Staff Site Visit
- USACE Engineering and Construction Chief, Mr. Pete Perez, Site Visit



Mr. Michael Connor, ASA-CW, with LeighAnn Ryckeghem, Soo Locks Operations Manager, and LTC Brett Boyle, USACE Detroit District Commander, July site visit



QUESTIONS



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