

Chickamauga Lock Project Update Inland Waterways Users Board Meeting No. 93

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Chickamauga Lock Replacement

▪ Bottom Line Up Front

▶ Lock Excavation Construction

- Rescinded Blast Damage Request for Proposal
- Contract closeout pending

▶ Lock Chamber Construction

- Initial mass concrete placements using conveyor system - 17 Oct 2019.
- Exercised Option 9a (\$6.8 million) on 11 Dec 2019.
 - ▷ Scope includes placement of concrete and embedded metals that will allow more efficient completion of previously exercised Options.



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CHICKAMAUGA LOCK PROJECT OVERVIEW

Lock & Associated Facilities	\$786M
Road and Bridges	6M
Total	\$792M (Oct '18 P.L.)
\$286.4M Expended thru Dec 2019 = 36% completed	

Road & Bridges - \$6M
Completed Feb 2007

Site Restoration
Award scheduled: Sep '23

Approach Walls & Decommissioning
Award scheduled: Sep '21

Bridge Fabrication - \$400K
Completed June 2011

Gates & Valves - \$17M
Awarded Sep 2009, Comp 2012

Approach Beams - \$14M
Awarded Apr 2010, Comp 2013

Cofferdam - \$86M
Awarded Sep 2006, Comp 2012

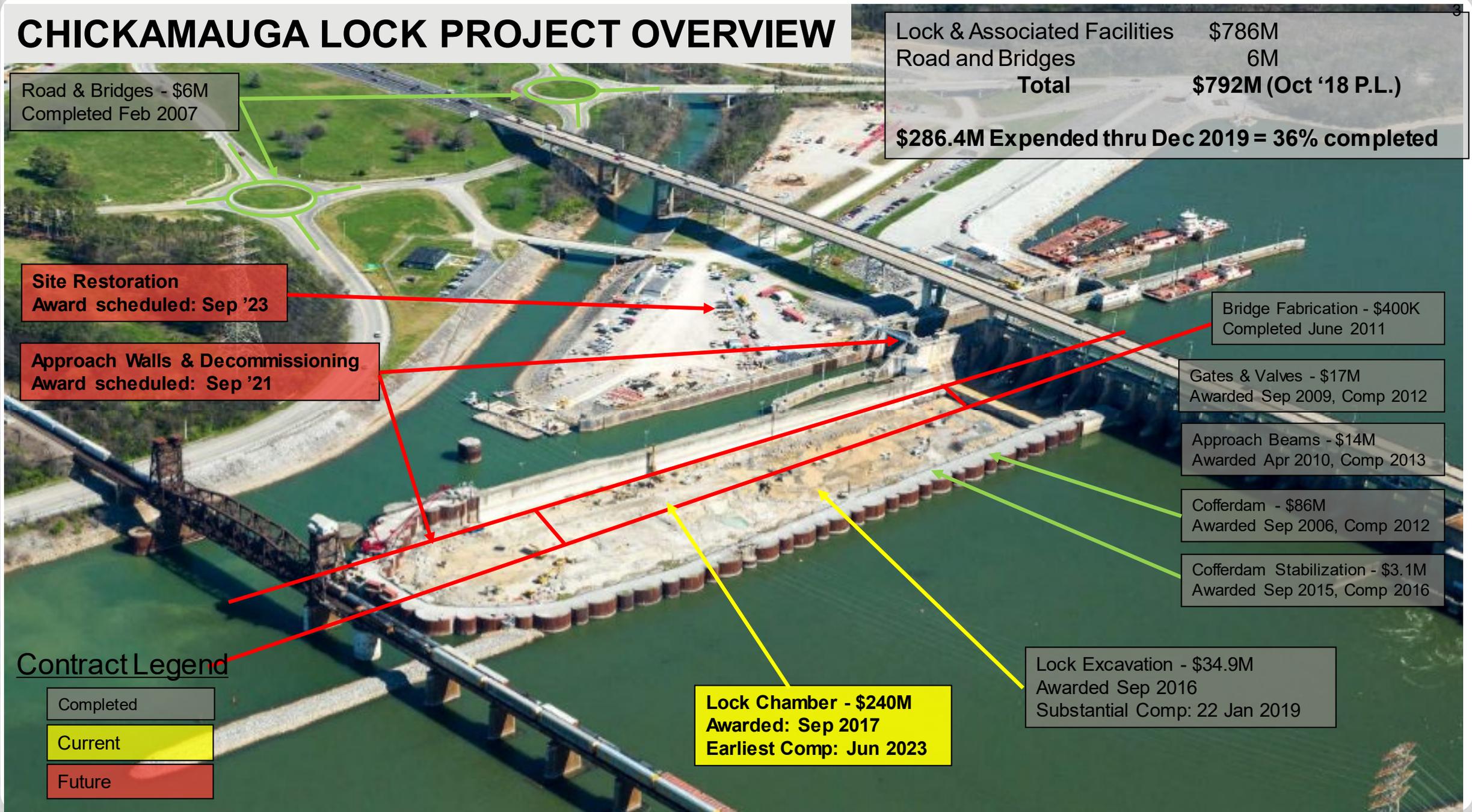
Cofferdam Stabilization - \$3.1M
Awarded Sep 2015, Comp 2016

Lock Chamber - \$240M
Awarded: Sep 2017
Earliest Comp: Jun 2023

Lock Excavation - \$34.9M
Awarded Sep 2016
Substantial Comp: 22 Jan 2019

Contract Legend

- Completed
- Current
- Future

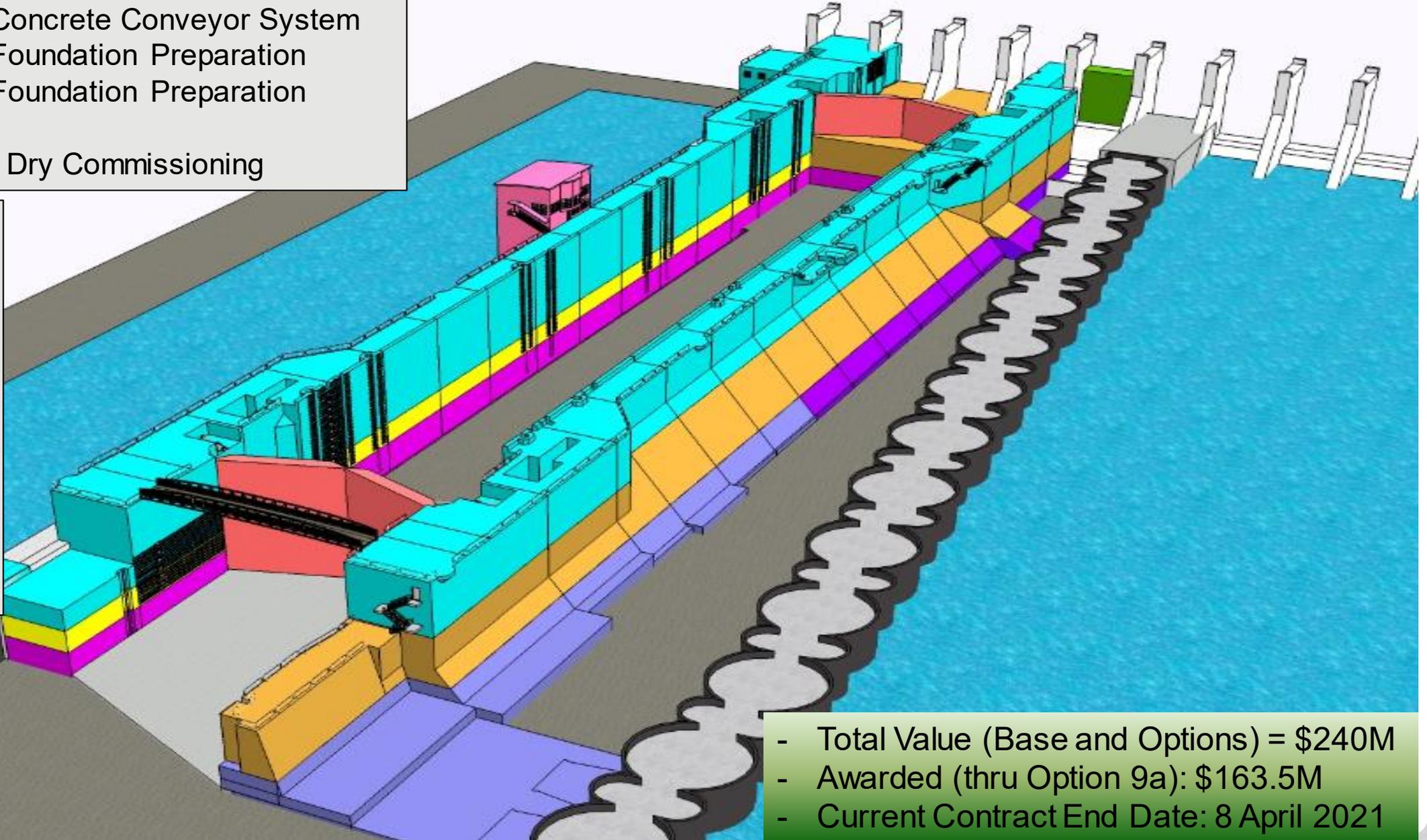


Lock Chamber Construction Contract

- ✔ Option 1 – Concrete Conveyor System
- ✔ Option 2 – Foundation Preparation
- ✔ Option 3 – Foundation Preparation
- ⋮
- Option 13 – Dry Commissioning

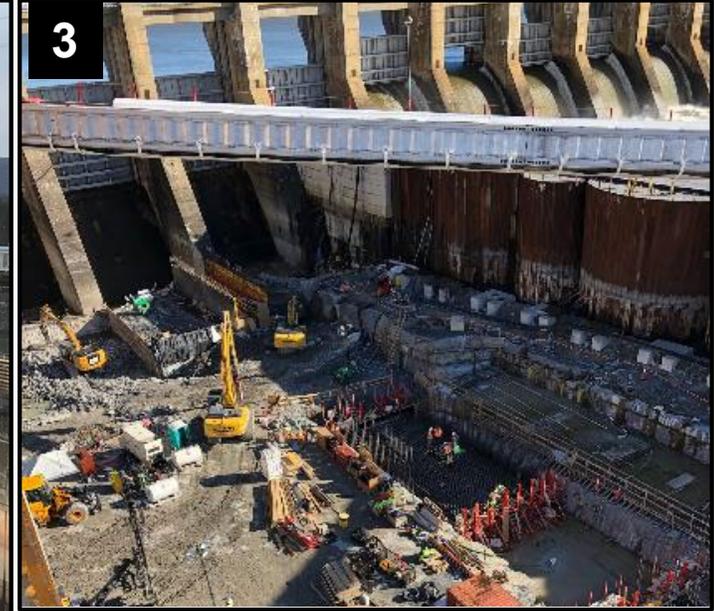
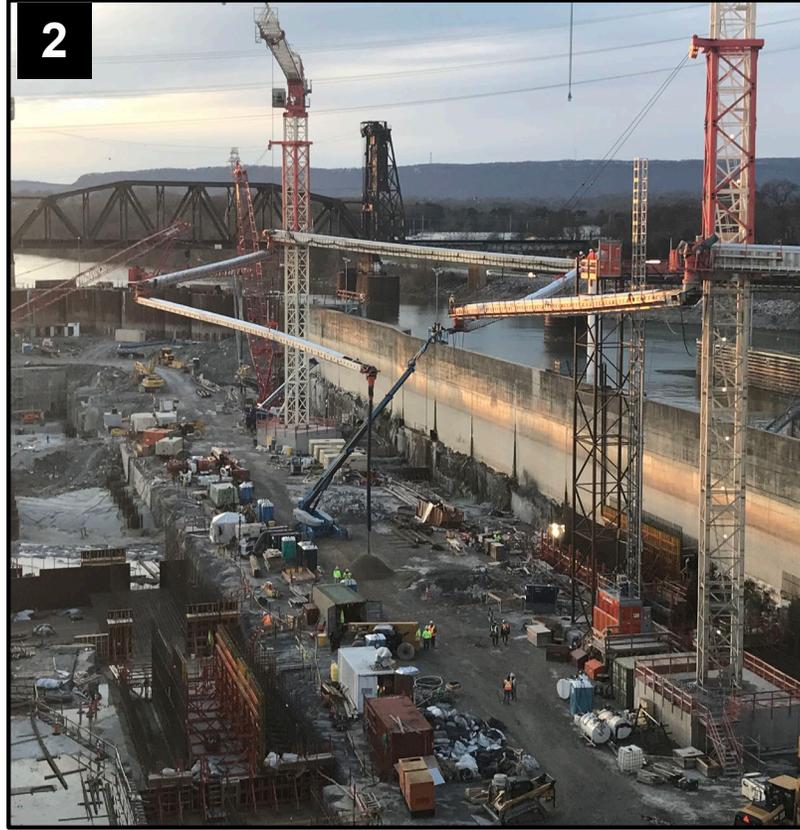
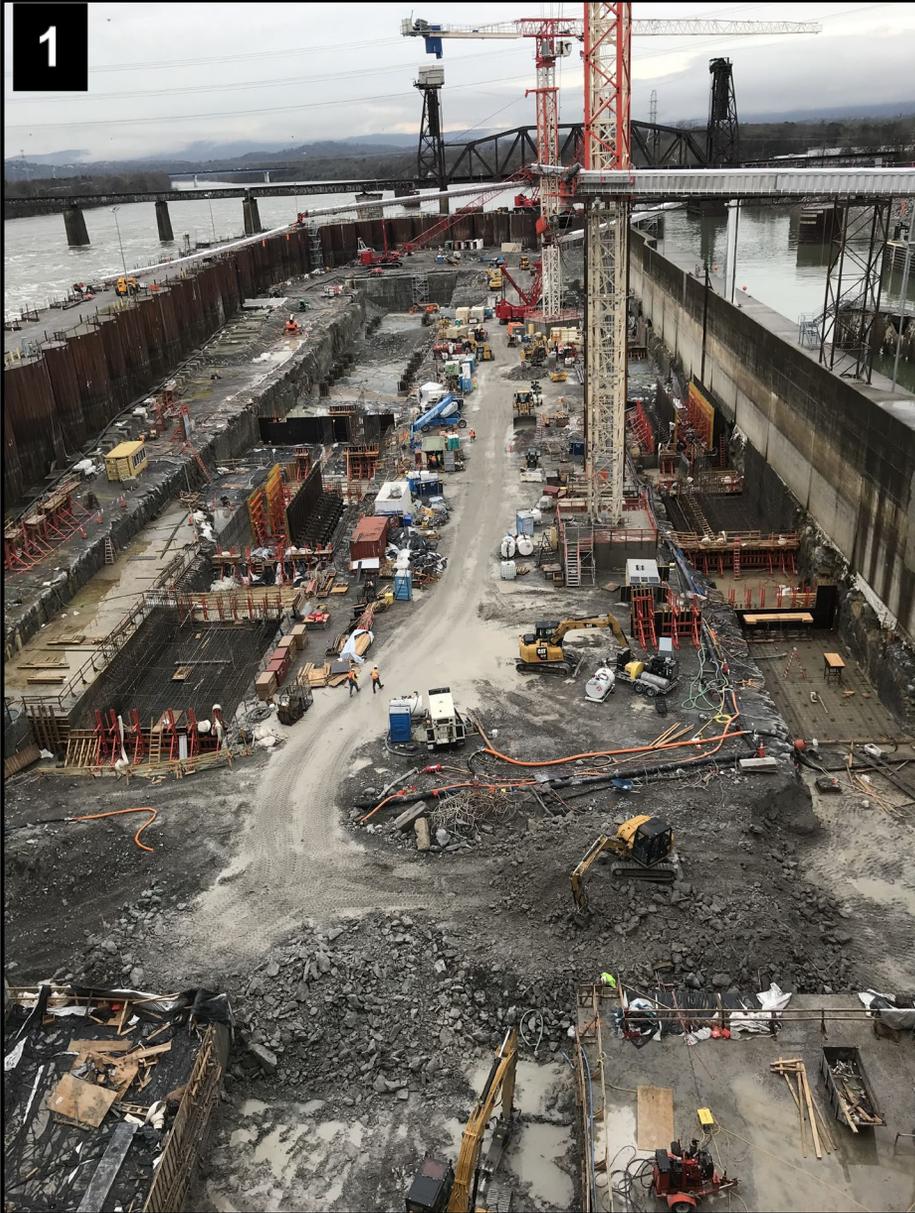
Legend

- ✔ Option 4
- ✔ Option 5
- ✔ Option 6
- ✔ Option 7
- ✔ Option 8
- ✔ Option 9a
- Option 9
- Option 10
- Option 11
- Option 12



- Total Value (Base and Options) = \$240M
- Awarded (thru Option 9a): \$163.5M
- Current Contract End Date: 8 April 2021

Current Project Photos



1. 14 Jan 2020: Ongoing Activities Include: Foundation Prep, Drilled Shafts, Rebar and Concrete Placement.
2. 21 Jan 2020: System Test of TB02.
3. 8 Jan 2020: Excavation of Dam Spillways Bays 3 and 5.

Chickamauga Lock & Dam, Tennessee River, TN

	ARRA	CG	IWTF	Total
Total Project Cost (TPC):				\$757,666,000 ¹
Allocations through FY2014:	\$49,307,619	\$68,391,511	\$68,389,500	\$186,088,630
FY15 Allocation:	\$0	\$1,500,000	\$1,500,000	\$3,000,000
FY16 Allocation:	NA	\$14,800,000	\$14,800,000	\$29,600,000
FY17 Allocation:	NA	\$20,000,000	\$20,000,000	\$40,000,000
FY18 Allocation:	NA	\$38,250,000	\$38,250,000	\$76,500,000
FY19 Allocation:	NA	\$76,245,000	\$13,455,000	\$89,700,000
Total Allocations to Date:	\$49,307,619	\$219,186,511	\$156,394,500	\$424,888,630
Remaining TPC Balance:				\$332,777,370
Remaining Balance Change From Last Meeting				\$0

Note: ¹Project cost data is reflective of Jun 2018 certified cost at a Oct 2017 price level, Fully Funded, 2024 completion

Changes
None

<p style="text-align: center;"><u>Funding Overview</u></p> <ul style="list-style-type: none"> • Authorized Cost: \$757,666,000 (Oct 17 \$) • 902 Limit: \$909,199,200 (Oct 17 \$) • ARRA Funds: \$ 49,307,619 (total FY09-12) • Engineering & Design Cost: \$ 55,230,000 (thru FY18) • Supervision & Admin Cost: \$ 9,153,000 (thru FY18) • Mitigation Cost: TBD 	<p style="text-align: center;"><u>Current Status of the Project</u></p> <ul style="list-style-type: none"> • Lock Chamber contract (thru Option 9a) valued at ~\$163.5M; 31% financially complete. • Lock Excavation contract – contract closeout pending. <p style="text-align: center;"><u>Next Steps</u></p> <ul style="list-style-type: none"> • Lock Excavation contract – preparing final VEQ Mod. • Lock Chamber contract – exercise additional Options with FY20 Work Plan Funds. • Approach Wall and Decommissioning Contract – Begin developing Plans & Specifications package for anticipated FY21 award.
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Chickamauga Lock & Dam, Tennessee River, TN

Schedule of Remaining Work	Design Initiated	Contract Award	Construction Complete *	Project Benefits**	Capitalized Cost Closeout
Task 1 – Approach Walls Fabrication	30-Mar-04	05-Apr-10	08-Mar-13		
Task 2 – Cofferdam Stabilization	31-Sep-05	25-Sep-15	18-Jul-16		
Task 3 – Lock Excavation	31-Sep-05	26-Sep-16	1 Feb 2019***		
Task 4 – Lock Chamber	11-Aug-05	28-Sep-17	Jun 2023		
Task 5 – Approach Walls and Decommission	11-Aug-05	30-Sep-21	Dec 2024	Sept 2023	
Task 6 – Site Restoration	11-Aug-05	30-Sep-23	Dec 2024		

*Dates are achievable based on the most efficient funding profile.

**Based on June 2018 Certified cost estimate Cost and Schedule Risk Assessment, the project has an 80% confidence level of being completed by Jan 2027. Primary driver for the 25 months of schedule contingency is the funding stream uncertainty.

***Date Lock Excavation contractor demobilized from cofferdam work area and laydown yard.



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Chickamauga Lock Project

Time and Cost Scorecard



Expenditures	31 Dec
Planned (BCWS)	\$293.9M
Earned (BCWP)	\$284.8M
Actual (ACWP)	\$286.4M

BCWP: Reports the value (based on % complete) of the work performed to date.

Target:
Actual as compared to Planned: (<1% = Green) (>1% and <3% = Yellow) and (>3% = Red)

Schedule 30 Jun

	(Baseline)/(Current)
Project Complete	Jan 2027 / Dec 2024
Lock Operational	Jan 2027 / Sept 2023

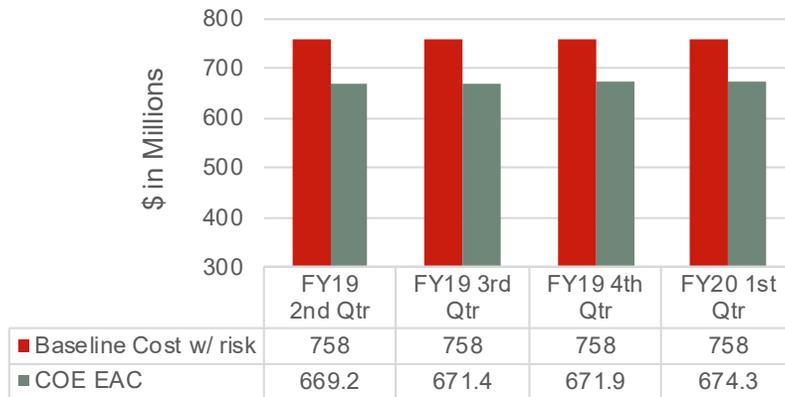
Measures: Planned project completion and Lock operational dates

Target: Lock Chamber contract completion June 2023



Budget

Chickamauga Project EAC Trend



Major Activity Schedule

Activity	Baseline	Current
Lock Excavation – Contract Closeout	18 Dec 2018	29 Feb 2020
Lock Chamber – Mapping Monolith Foundations Complete	NA	24 Feb 2020
Approach Wall and Decommissioning Contract 60% P&S ATR	13 April 2020	13 April 2020



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Chickamauga Lock Replacement – Follow Up from Board Meeting No. 92

- **Question from Mr. Monahan: “If Chickamauga were funded to complete, would that have any additional cost savings from the efficient funding profile or the timeline?”**
- Yes, in the current Cost and Schedule Risk Assessment (CSRA), funding variation is the second highest risk driver with respect to cost and the top risk driver with respect to schedule. If efficient funding is provided through the FY20 Work Plan, then those risks (and associated contingencies) will likely be greatly reduced in the CSRA update anticipated to occur by June 2020.

Chickamauga Lock Summary and Challenges

- **Lock Excavation** contract is substantially complete.
 - Contract closeout pending.
- **Lock Chamber** contract on-going.
 - Efficient Funding Request for FY20 includes Options 9-11.
- **Efficient Funding Profile – FY19 Price Level**

FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	Total
\$94.5M	\$76.0M	\$74.8M	\$87.3M	\$34.7M	\$367.3M

