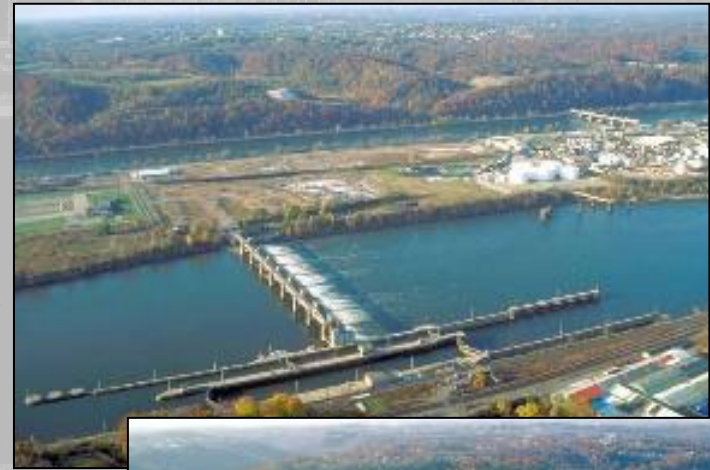


UPPER OHIO NAVIGATION PROJECT

INLAND WATERWAYS USERS BOARD MEETING #97

Mr. Steve Fritz
MEGA Projects Program Manager
US Army Corps of Engineers
Pittsburgh District
16 August 2022

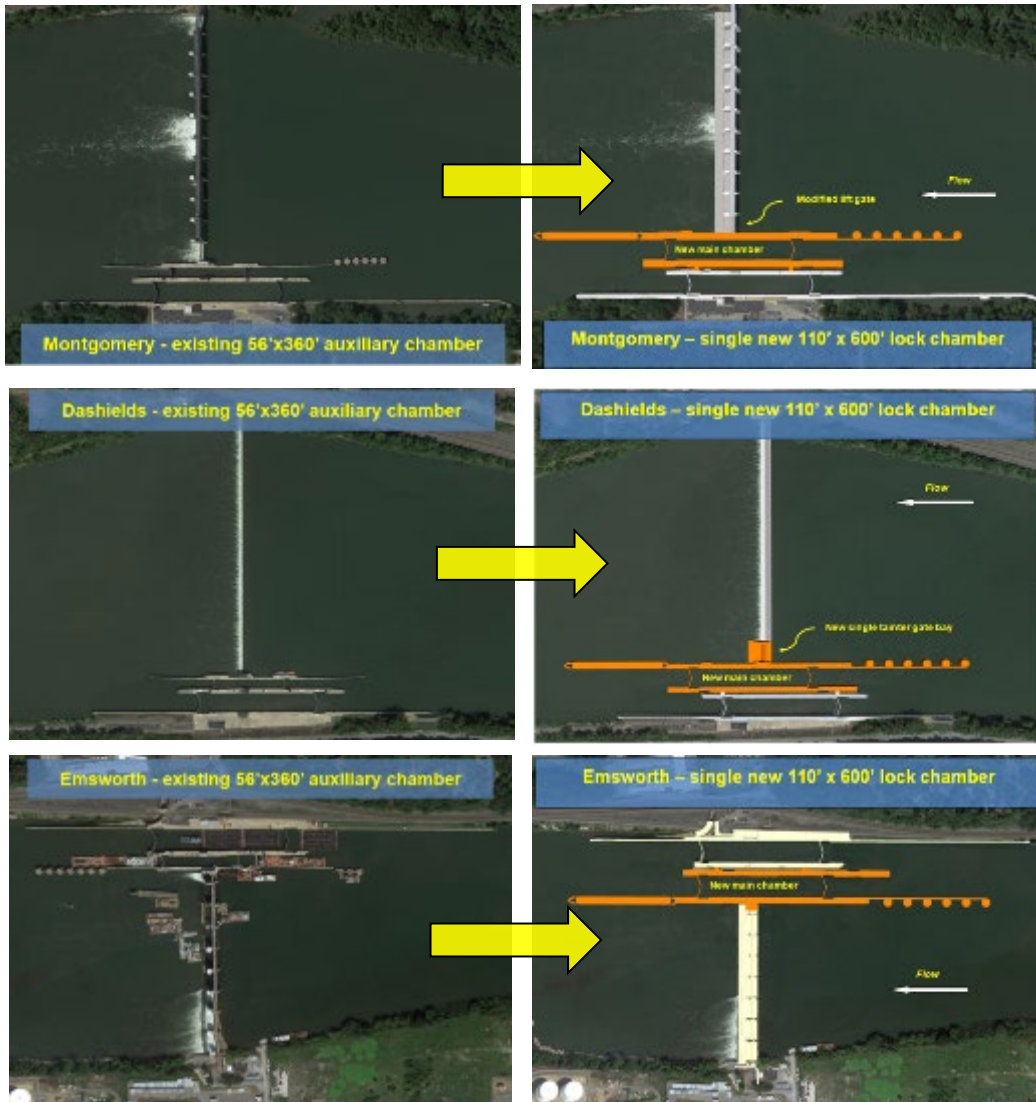
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PROJECT OVERVIEW OF SCOPE



Pre-Project

Post-Project

Major Project Features

- Similar work at Montgomery, Dashiels, & Emsworth
 - Demolish the existing 56' x 360' Auxiliary Chamber
 - Construct a new 110' x 600' Main Chamber
 - Modifications to dams



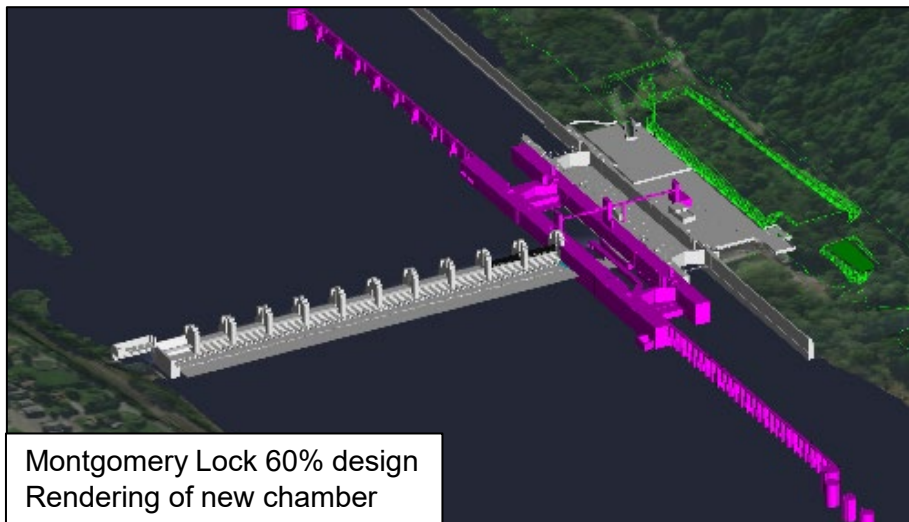
MONTGOMERY - SCHEDULE - WORK COMPLETED THROUGH JULY 2022



- 60% lock design completed – June 2022
- Montgomery construction industry engagement – June 2022
- Montgomery secant pile wall demonstration piles – July 2022



Montgomery Construction Industry Engagement



Montgomery Lock 60% design
Rendering of new chamber



Secant pile wall demonstration piles

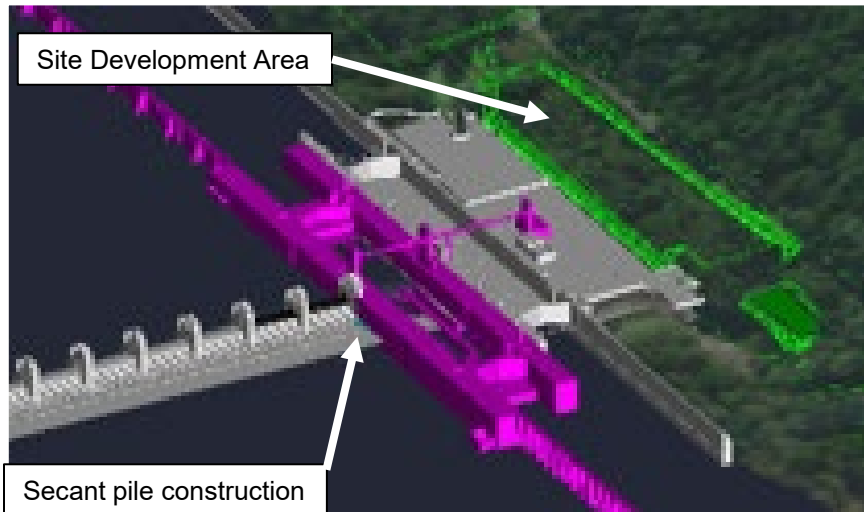


PROJECT SCHEDULE- ONGOING & REMAINING WORK



- **Ongoing Work - Montgomery Lock**

- 95% lock design effort and physical modeling are underway
- Site development contract
- Secant pile wall construction



- Remaining Work - Overall project
 - **Montgomery** – complete design, advertise and award construction contract
 - **Emsworth** lock design, real estate, and construction
 - **Dashiels** lock design, real estate, and construction



COST/FUNDING OVERVIEW – TOTAL & REMAINING



	First Cost	Fully Funded
Original Authorized Cost:	\$2.69B	\$3.14B
Revised Project Cost^{*1}	\$1.64B	\$2.17B

Appropriations	GI-PED	CG	IWTF	IIJA-MY	IIJA-EM	Total
FY17 Appropriation:	5,525,000	-	-	-	-	5,525,000
FY18 Appropriation:	2,353,000	-	-	-	-	2,353,000
FY19 Appropriation:	2,500,000	-	-	-	-	2,500,000
FY20 Appropriation:	7,700,000	-	-	-	-	7,700,000
FY21 Appropriation:	-	14,300,000	7,700,000	-	-	22,000,000
FY22 Appropriation: ^{*2}	-	6,282,650	6,517,350	857,708,000	77,000,000	947,508,000
Total Allocations to Date:	18,078,000	20,582,650	14,217,350	857,708,000	77,000,000	987,586,000
Remaining Balance:						1,180,920,000
Remaining Balance Change From Last Meeting:						(927,508,000)

*1 – The 2019 value engineering informed fully funded cost estimate was \$1.8B. The project cost was updated in February 2021 to \$2.17B that is reflected in this appropriations table. This update included sequential construction (vice concurrent) of Montgomery, Emsworth, and Dashields which moved the midpoints of those efforts into the future. It assumed that all value engineering proposals could be implemented, which proved to be an invalid assumption. Finally, the February 2021 estimated does not include the recent inflation. The project cost estimate is being updated and certification is expected near the end of calendar year 2022.

*2 – Total FY22 IIJA appropriation is \$934,708,000. This appropriation was not based on the \$2.17 B estimate, but rather an estimate prepared in October 2021 timeframe.



COST EVOLUTION – BY FACILITY



Estimate (millions)	Montgomery	Emsworth	Dashields	Fully Funded Total	Notes
2016 Authorized cost	\$1,050	\$1,016	\$1,080	\$3.1 B	- Certified Cost Estimate - Pre VE Study - Concurrent Construction
2019 VE Study	\$677.60	\$578.50	\$547.80	\$1.8 B	- Certified Cost Estimate - <u>Post</u> VE Study - Concurrent Construction
Feb-21	\$697.40	\$701.90	\$759.50	\$2.17B	- Escalated Cost Estimate - Post VE Study - <u>Sequential</u> Construction
Oct-21	\$873.40	\$867.90	\$950.10	\$2.7B	- Escalated Cost Estimate (30% design) - Post VE Study - Sequential Construction
IIJA 2021	\$897.80	\$741.70	\$715.90	\$2.3B	- Escalated Cost Estimate (30% design) - Post VE Study - <u>Concurrent Construction</u> of Emsworth/Dashields
IIJA 2022 Index	\$1,185.70	\$1,008.20	\$1,055.30	\$3.25B	- Escalated Cost Estimate (30% design, <u>new indices</u>) - Post VE Study - Concurrent, <u>but staggered</u> , Construction of Emsworth/Dashields



PROJECT ISSUES AND CHALLENGES



Issues and Challenges

- Facility failure prior to completion
 - ✓ Installed anchors in middle wall
 - ✓ Completing maintenance repairs prior to construction
 - ✓ Conducting routine inspections during construction
 - ✓ Continue maintenance during construction as needed
- Construction cost inflation
 - ✓ Evaluate transfer of risk contractually
- Resource competition
 - ✓ Contractors
 - ✓ Trades



THANK YOU



**Stephen Fritz, MEGA Projects
Program Manager**

Steve.fritz@usace.army.mil

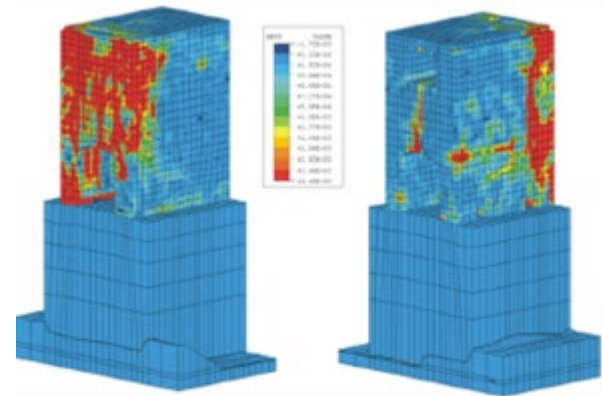
412-395-7273



Montgomery Lock



Monolith Joint Deterioration



**Middle Wall Cracking Pattern
Projected in Year 2060
Monolith Faces**