

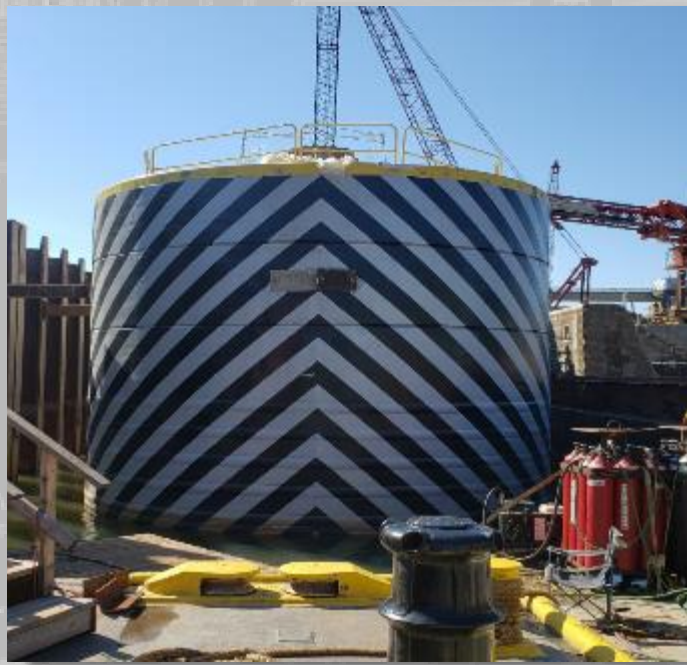
# LOWER MONONGAHELA RIVER 2-3-4 PROJECT UPDATE

## INLAND WATERWAYS USERS BOARD MEETING NO. 95

Mr. Steve Fritz, PE, PMP  
MEGA Project Program Manager  
Pittsburgh District  
30 October 2020



US Army Corps  
of Engineers®





# LOWER MON BOTTOM LIME UP FRONT



✓ Current Schedule: No change since last update

- December 2023 (Early Project Operational, 90% benefits)
- January 2025 (Early Project Complete)

✓ Current Cost: **On Budget**

- TEP – Total Estimated Price, assuming efficient funding, at **\$1.07 Billion**, \$1.23 Billion including all contingencies.

✓ Keys:

1. *Continue to effectively manage work areas conflicts.*
2. *Develop long-term Charleroi Land Chamber closure.*
3. *Identifying known and potential future acquisitions.*

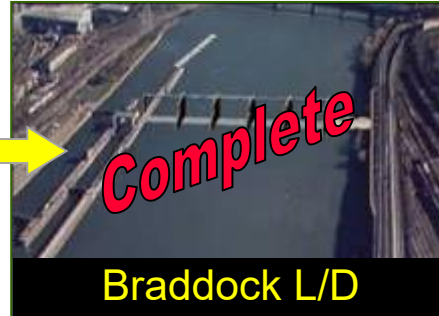
✓ Good news: **M22-M27 Contract is physically complete.**

NOTE: Funding & schedule information reported does not include the Charleroi Land Chamber or the Port Perry Bridge relocation.

# LOWER MON – PROJECT OVERVIEW

Pre-Project Condition

Post-Project Condition



- Major Project Features
  - New Dam at Braddock
  - New Locks at Charleroi
  - Dredging
  - Charleroi Dam Stilling Basin
  - Removal of Locks and Dam 3
  - Relocations
- Financial
  - 902 Limit: \$1.76 Billion
  - Current Estimate at Completion **\$1.07 Billion**, including reasonable contingencies <sup>\*1</sup>

<sup>\*1</sup> does not include Land Chamber nor Port Perry Bridge





# LOWER MON PROJECT SCHEDULE

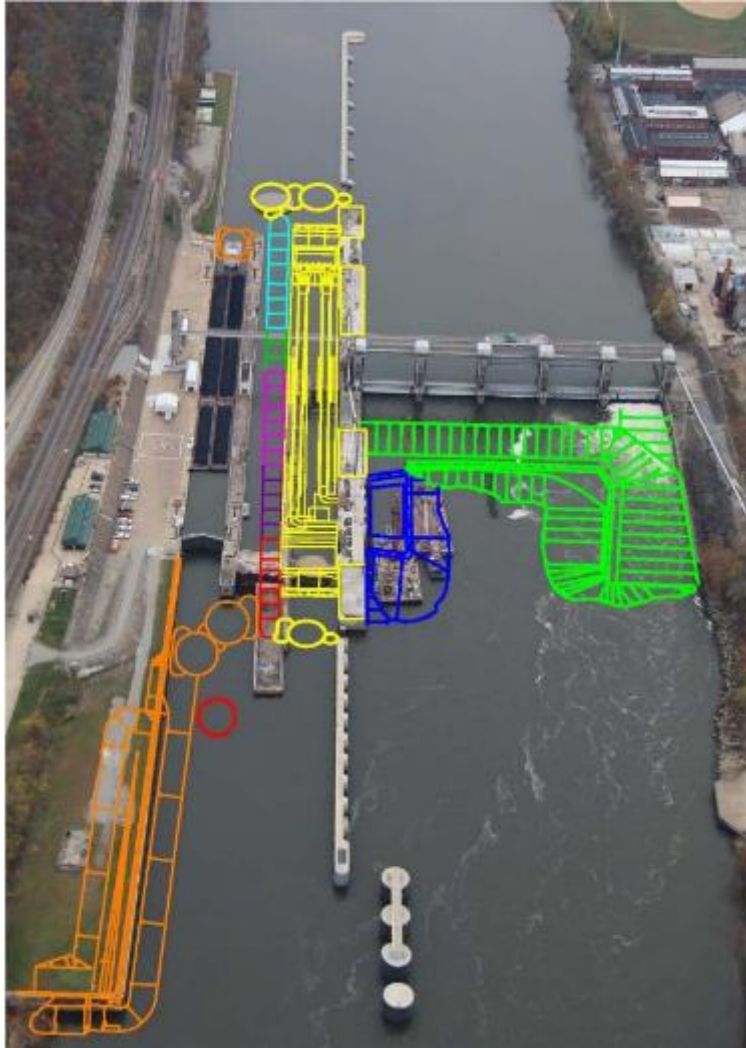


Major Feature Construction	Last Reported Completion (July 2020)	Revised
Charleroi M22-M27	July 2020	Complete
Charleroi Dam Stilling Basin	Nov 2022	
Charleroi River Chamber Completion (RCC)	Sep 2023	
Dredging Pool 3 Task Order 3	Not reported	July 2021
Relocations	Variable	
Lock and Dam 3 Removal	Feb 2025	



# LOWER MON – CHARLEROI ONGOING / PENDING CONSTRUCTION PLAN

5



Description	Last Reported Completion	Current Completion	Option Expires	% Complete
M22-M27	2020	Jan 2020	NA	99%
RCC Base	2023	Oct 2023	NA	99%
RCC Opt 1	2023	Oct 2023	NA	93%
RCC Opt 2	2023	Oct 2023	NA	79%
RCC Opt 3	2023	Oct 2023	NA	86%
RCC Opt 4	2023	Oct 2023	NA	1%
RCC Opt 5	2023	Oct 2023	NA	1%
Stilling Basin	2021	Nov 2022	Option 1 exercised Aug 20	40%
Pool 3 Dredging (Y3)		July 2021	NA	82%

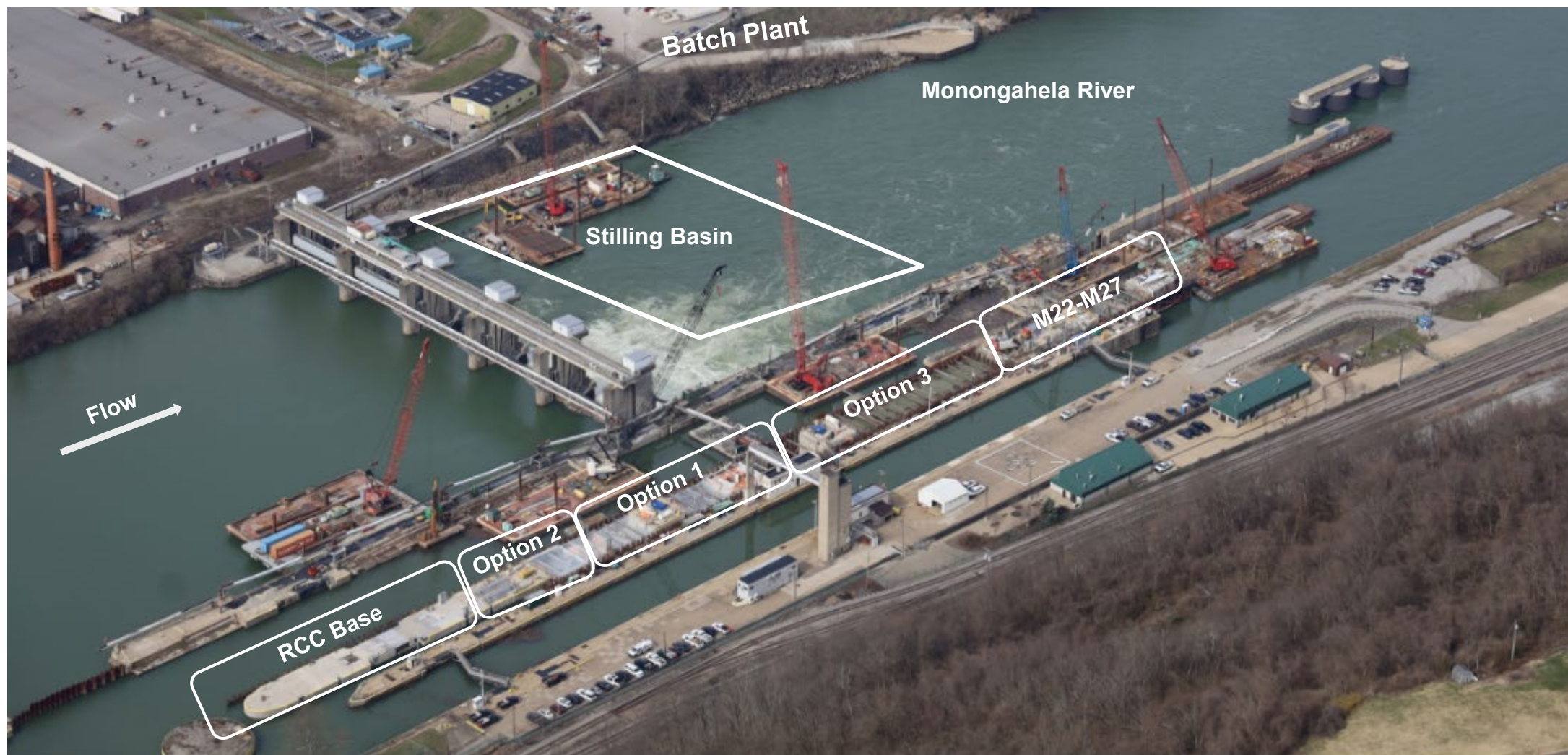
## Notes:

- Risk informed RCC completion is 2027
- Remaining project features not shown on this slide:
  - Pool Clearing (FY22 planned award)
  - Lock and Dam 3 Removal (FY22 planned award)
  - Relocations

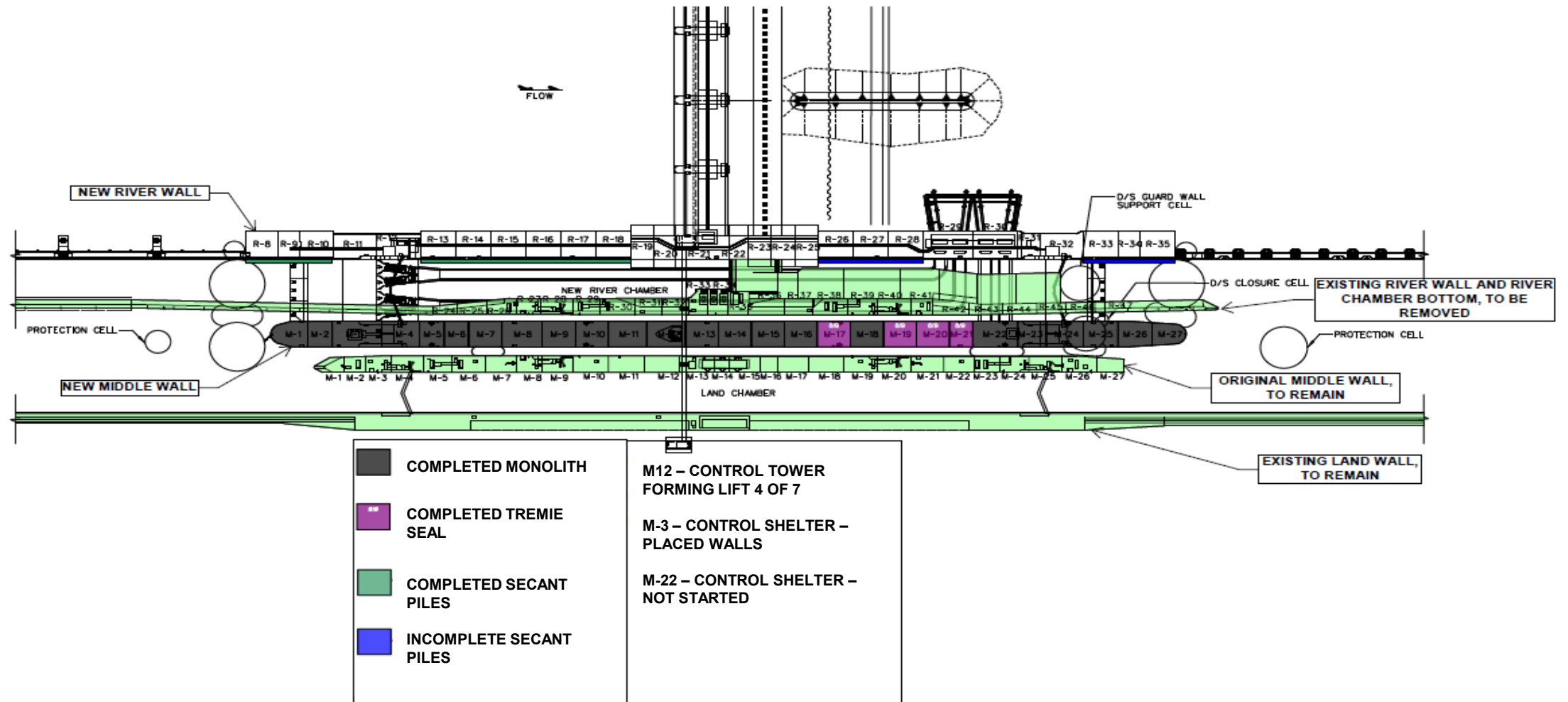


# CHARLEROI OVERALL CONSTRUCTION FOOTPRINT

6

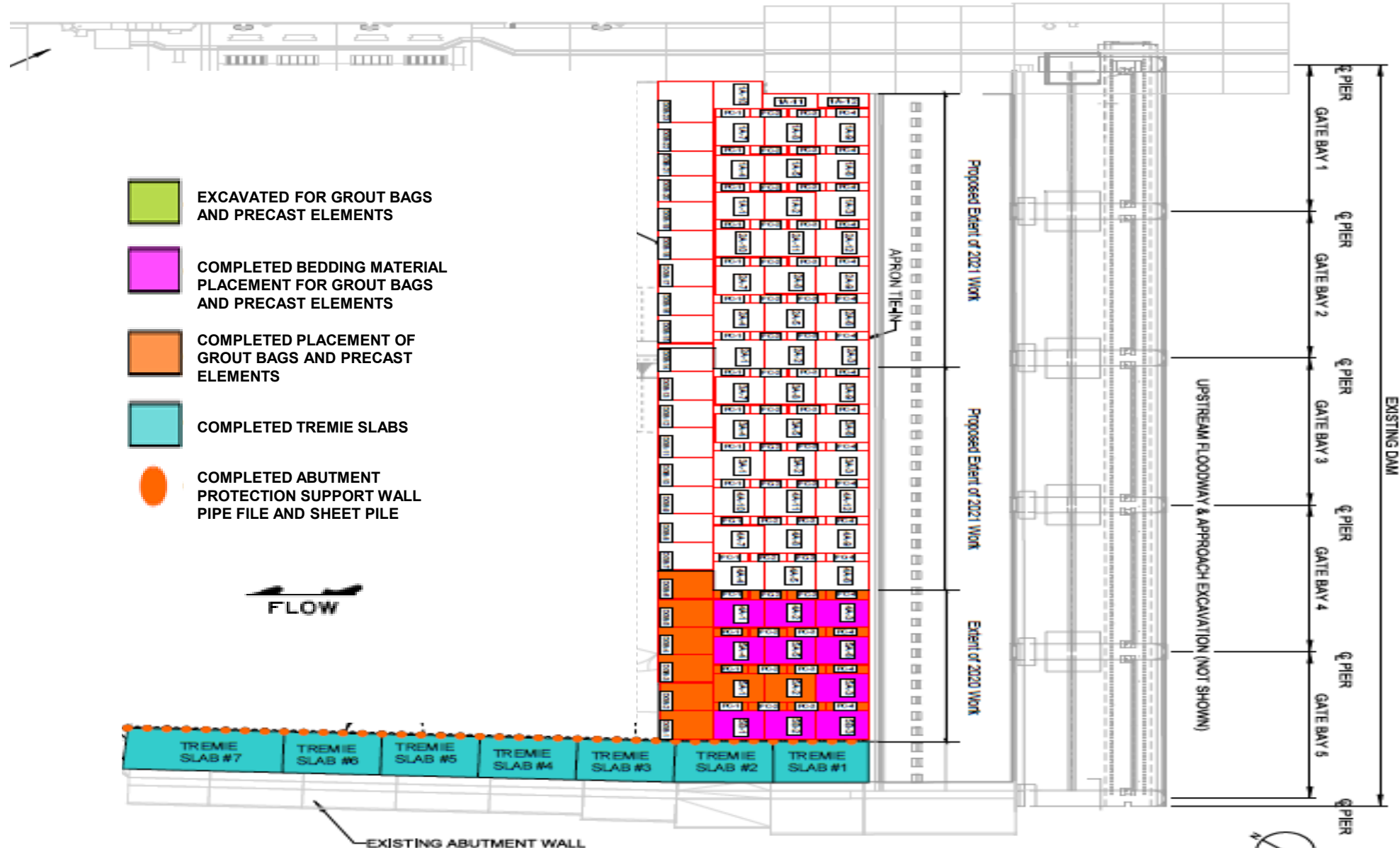


# CHARLEROI MIDDLE WALL PROGRESS





# CHARLEROI STILLING BASIN PROGRESS







# CHARLEROI CONSTRUCTION – M22-M27

## CONTRACT IMAGE

9



1



1 – M22-M27 complete.



# CHARLEROI – RCC CONTRACT IMAGES

1



2



1 – Construction of Control Tower on M12.  
2 – Option 3 monolith construction.





# CHARLEROI CONSTRUCTION – STILLING BASIN CONTRACT IMAGES

11



1



2



1 – Placing bedding stone in Gate Bay 5.

2 – Preparation for the first Grout Bag placement in Gate Bay 5.





# LOCKS AND DAMS 2, 3, AND 4, MONONGAHELA RIVER, PA

<b>Current Project Estimate*1: \$1.23B (\$2.76B)</b>	<b>ARRA</b>	<b>CG</b>	<b>IWTF</b>	<b>Total</b>
Allocations through FY2016:	\$68,261,203	\$338,640,646	\$338,640,652	\$745,542,501
FY17 Allocation:	NA	\$41,005,000	\$41,005,000	\$82,010,000
FY18 Allocation:	NA	\$48,150,000	\$48,150,000	\$96,300,000
FY19 Allocation:	NA	\$44,606,606	\$44,606,606	\$89,213,213
FY20 Allocation: (Final Funding)	NA	\$55,648,769	\$55,648,769	\$111,298,000
<b>Total Allocations to Date:</b>	\$68,261,203	\$472,402,253	\$472,402,258	\$1,124,363,248
<b>Remaining Balance:</b>		\$54,735,874	\$54,735,874	\$109,471,747
<b>Remaining Balance Change From Last Meeting:</b>				

**Changes: No Changes**

## Funding Overview

- Original Authorized Cost: \$556M
- 902 Limit: \$1.76B
- ARRA Funding (FY09-FY15): \$68.3M
- Engineering & Design Cost: \$694M\*2
- Supervision & Admin Cost: \$183M\*3
- Mitigation: \$12M
- Fully Funded Estimate: \$2.76B

## Next Steps

- **Removal of L/D 3 design continues with 60% ATR complete.**

## Current Status of the Project

- **Charleroi M22 – M27 – Physically complete, fiscal completion before February 2021.**
- **Charleroi RCC – All options awarded. 187 of 189 mass concrete lift placed. Control tower on M13 in progress.**
- **Pool 3 Dredging Task Order 3- scheduled completion July 2021.**

\*1. Total Project Cost update – May 2018. Cost for 90% of project benefits increased from \$1.22B to \$1.23B. Total project cost increased from \$2.73B to \$2.76B.

\*2. \$694M includes all Engineering & Engineering During Construction, including \$473M for the Charleroi Land Chamber, \$378 million of which is inflation.

\*3. \$183M includes all construction contract Supervision and Administration, including \$120M for the Charleroi Land Chamber, \$102 million of which is inflation.



# LOCKS AND DAMS 2, 3, AND 4, MONONGAHELA RIVER, PA

Schedule of Remaining Work	Design Initiated	Contract Award	Construction Complete *2	Project Benefits*3	Capitalized Cost Closeout*3
Charleroi River Wall	1-Oct-95	27-Sep-04	30-May-16	2023	2025
Charleroi Emptying Basin	1-Oct-95	30-Sep-13	11-Nov-15	2023	2025
Charleroi River Chamber (M22-M27)	1-Oct-95	15-Aug-14	14-July-20	2023	2025
Charleroi Dam Stilling Basin	1-Oct-95	30 Oct -18	FY 2023 S	2023	2025
Charleroi River Chamber Completion	1-Oct-95	16-Sep-15	FY 2024 S	2023	2025
L/D 3 Removal	12-Nov-19	2022 S	FY 2025 S	2023	2025
Dredging	1-Oct-95	29-Sep-17	FY 2021 S	2023	2025
Municipal Relocations *1	1-Oct-95	Multiple	Multiple	NA	2025

- \* 1: To complete all municipal relocations, multiple relocation agreements are required.
- \* 2: Dates are achievable based on the most efficient funding profile (early schedule).
- \* 3: Project benefit and close out dates are based on the most efficient funding profile & breaching of Dam 3. Early contract completion for Dam 3 removal extends into 2025.
- 4. Charleroi dam stilling basin completion is scheduled for November 2022.

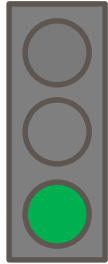
Actual

"S"= Scheduled



# LOWER MONONGAHELA RIVER PROJECT TIME AND COST SCORECARD (DATA DATE 30 SEP 2020)

14



## Expenditures

	No Contingency	Contingency Included
Planned (BCWS)	\$930.7M	\$743.5M
Earned (BCWP)	\$888.2M	\$944.9M
Actual (ACWP)	\$884.0M	\$884.0M
	CPI = 0.99	CPI 1.11

**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)

Values shown reflect project sunk cost of \$550.6M thru FY 2014.

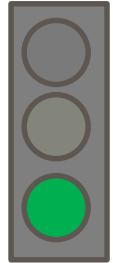
EAC = \$1.07 B TPC = \$1.23 B

## Schedule

(Baseline)/(Current Early)

Operational (Realize over 90% of project Benefits) 2027 / 2023

Project Complete 2029 / 2025



## Budget

Lower Mon Project TEP Trend



	Dec-19	Mar-20	Jun-20	Sep-20
Baseline Cost with Risk	\$1.230	\$1.230	\$1.230	\$1.230
TEP (billions)	\$1.090	\$1.086	\$1.078	\$1.074

■ Baseline Cost with Risk ■ TEP (billions)

## Major Activity Schedule

Activity	Baseline	Current
L/D 3 Removal Contract Award	30 June 2023	30 June 2022
Middle Wall Complete	29 Feb 2021	29 Feb 2021
Miter Gates and Misc. Metals Painting Complete	31 Oct 2022	31 Oct 2022





# DISCUSSION

