

Olmsted Locks & Dam

Inland Waterways Users Board

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US Army Corps of Engineers

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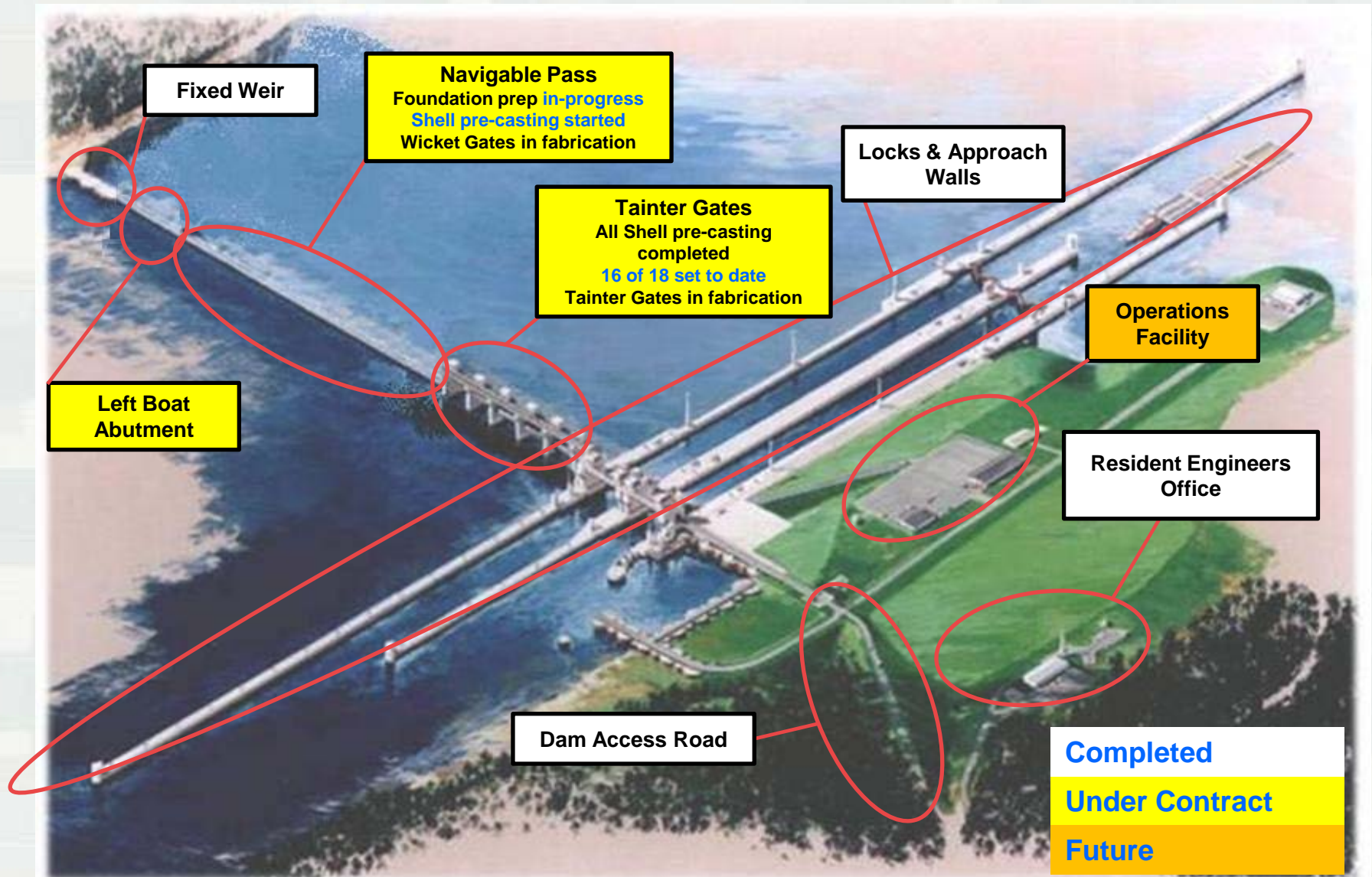


Agenda

- Overview
- 2013 LWS/2014 HWS Season Summary
- **2014 Low Water Season (LWS) Milestones**
- Earned Value Update/TEP (Total Estimated Price)
- Challenges
- Questions



Olmsted Locks & Dam Overview



2013 LWS & 2014 HWS Summary



2013 LWS (Low Water Season) Summary

- All TG (Tainter Gate) shells constructed with 16 of 18 set
 - ▶ LP-5 and LP-6 remain (LP – Low Pier)
- Completed all TG sheet pile, foundation pile and TG/NP(Navigable Pass) transition piling complete
- NP (Navigable Pass) Work
 - ▶ Foundation/Drainage stone through 50% of NP footprint
 - ▶ Grout mat through 37% of NP footprint
- Upper Pier Nos. 1 and 2 all concrete work complete
- Off Site Fabrication of TG No. 1 & 28 Wickets



2014 HWS (High Water Season) Summary

- Marine Activities:
 - ▶ **Driven 108 FP in NP Monolith 1 footprint**
 - ▶ Scheduled to resume 25 April 2014
- Casting Yard:
 - ▶ Began formwork/concrete for the RBA (Right Boat Abutment)
 - ▶ Placed the first concrete lift for NP-1 & NP-2
 - ▶ Fabrication of rebar for PB (Paving Block)
- Heavy Lift:
 - ▶ Strand Jack maintenance
 - ▶ Replacing the Ringer crane engine
 - ▶ Disassemble TG lifting frames



2014 Low Water Season Milestones

Scheduled Milestones

Shell	Baseline	Current
LP-5	27 Jun	27 Jun
LP-6	09 Jul	09 Jul
PB-4	08 Aug	08 Aug
PB-3	25 Aug	25 Aug
PB-2	20 Sep	07 Sep
PB-1	08 Oct	19 Sep
RBA(B)	05 Nov	11 Oct
NP-1	12 Dec	02 Dec

Tainter Gate	Baseline	Current
TG-1	22 Dec	22 Dec

Foundation	Baseline	Current
GM-9	01 Oct	01 Oct
M/SP-6	22 Oct	06 Oct
FP-3	10 Dec	07 Nov

Acronym Legend

LP – Lower Pier
TG – Tainter Gate
GM – Grout Mat
FP – Foundation Pile
M/SP – Master/Sheet Pile
RBA – Right Boat Abutment
PB – Paving Block
NP – Navigable Pass (Monolith)

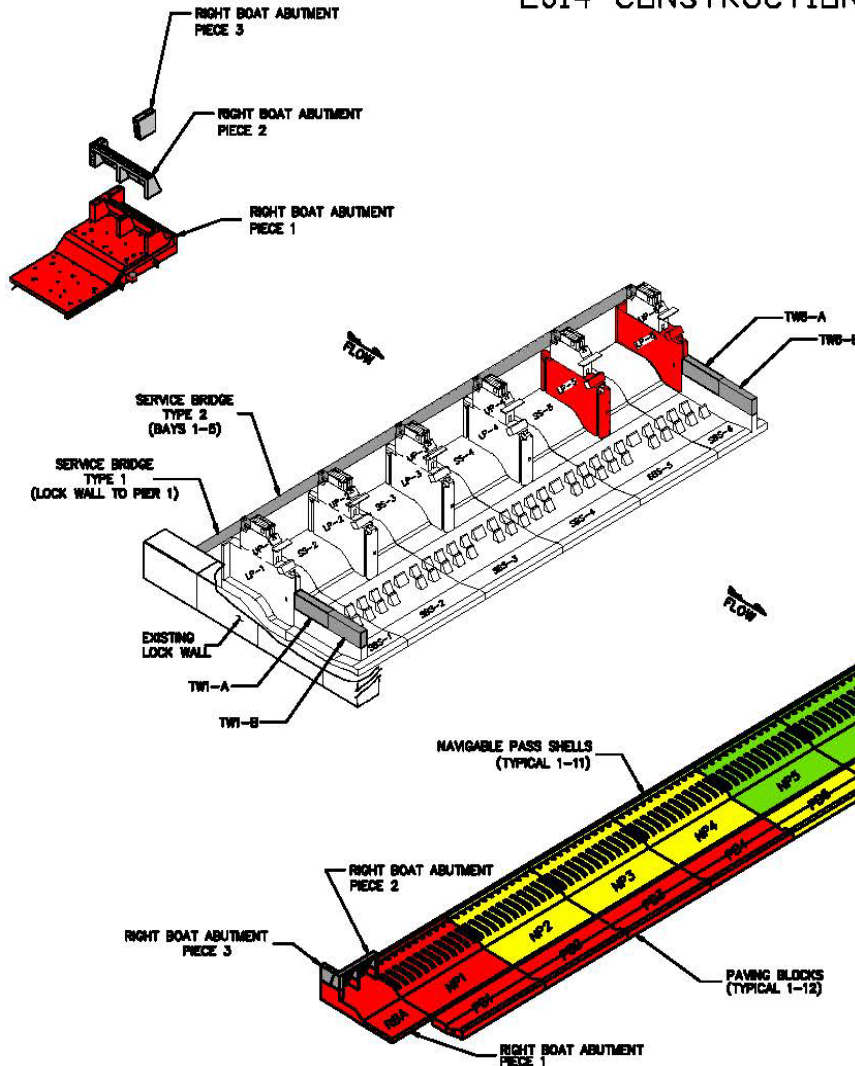
Stretch Goals

Shell	Baseline	Current
PB-5	LWS-15	LWS-14
PB-6	LWS-15	LWS-14
NP-2	LWS-15	LWS-14



Olmsted Dam Shell Placement By Low Water Season

2014 CONSTRUCTION PLAN

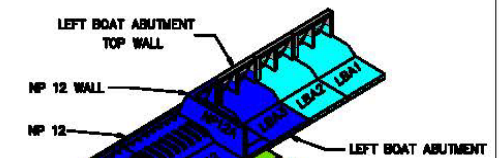


Ringer Barge Placements	
Shell	Weight (Tons)
RBA Piece 2	372
RBA Piece 3	81.5
LBA 1-3 Top Wall	350.5
TW1-A	347
TW1-B	302
TW6-A	308
TW6-B	316
Service Bridge Type 1	118
Service Bridge Type 2	283

15 TOTAL RINGER PLACEMENTS

Cat Barge Shell Placements	
Shell	Weight (Tons)
RBA Piece 1	2511.5
NP 1-11	4955
NP 12	4785.7
NP 12 Wall	1716
Paving Blocks 1-12	2562
LBA 1-3	2442
LP-5	2214
LP-6	2529

31 TOTAL CAT BARGE PLACEMENTS



- 2014 SHELL SETTING
- 2015 SHELL SETTING
- 2016 SHELL SETTING
- 2017 SHELL SETTING
- 2018 SHELL SETTING
- RINGER PLACEMENTS

Shell Setting Season	Shell Setting Sequence
2014	LP-5, LP6, PB1, PB2, PB3, PB4, RBA PIECE 1, NP1
2015	PB5, PB6, PB7, PB8, NP2, NP3, NP4
2016	PB9, PB10, PB11, PB12, NP5, NP6, NP7
2017	NP8, NP9, NP10, LBA1, LBA2
2018	LBA3, NP11, NP12, NP12 Wall

- NOTES:
1. AVERAGE TIME FOR LP AND PAVING BLOCKS IS 2 WEEKS.
 2. AVERAGE TIME FOR MONOLITHS IS 4 WEEKS.
 3. RINGER PLACEMENT SEQUENCES AND DATES WILL BE DETERMINED AT A LATER DATE.

Olmsted Dam Foundation Prep By Low Water Season

Foundation Construction (through Grout Mat Installation)

RBA	M1	M2	M3	M4	M5	M6	M7	M8	M9	M10	M11	M12	LBA3	LBA2	LBA1
	PB1	PB2	PB3	PB4	PB5	PB6	PB7	PB8	PB9	PB10	PB11	PB12			
					June 15, 2014 through September 30, 2014					June 15, 2015 through November 30, 2015					

Master/Sheet Pile Driving

August 11, 2014 through September 18, 2014					June 15, 2016 through October 15, 2016												
July 25, 2014 August 8, 2014	RBA	M1	M2	M3	M4	M5	M6	M7	M8	M9	M10	M11	M12	LBA3	LBA2	LBA1	Nov 6, 2015 Dec 8, 2015
		PB1	PB2	PB3	PB4	PB5	PB6	PB7	PB8	PB9	PB10	PB11	PB12				
June 16, 2014 through July 23, 2014					September 19, 2014 through October 17, 2014					October 2, 2015 through November 5, 2015							

Foundation Pile Driving

August 25, 2014 through November 20, 2014					July 6, 2015 through November 20, 2015					June 15, 2016 through November 30, 2016					
RBA	M1	M2	M3	M4	M5	M6	M7	M8	M9	M10	M11	M12	LBA3	LBA2	LBA1
	PB1	PB2	PB3	PB4	PB5	PB6	PB7	PB8	PB9	PB10	PB11	PB12			

Shell and Paving Block Setting

RBA	M1	M2	M3	M4	M5	M6	M7	M8	M9	M10	M11	M12	LBA3	LBA2	LBA1
	PB1	PB2	PB3	PB4	PB5	PB6	PB7	PB8	PB9	PB10	PB11	PB12			

■ River Season 2014
 ■ River Season 2015
 ■ River Season 2016
 ■ River Season 2017
 ■ River Season 2018

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Olmsted Project

Balanced Scorecard – March 2014

Expenditures

Planned (BCWS)	\$1.728B
Budgeted Cost of Work Scheduled	
Earned (BCWP)	\$1.713B
Budgeted Cost of Work Performed	
Actual (ACWP)	\$1.691B
Actual Cost of Work Performed	

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)

Milestone

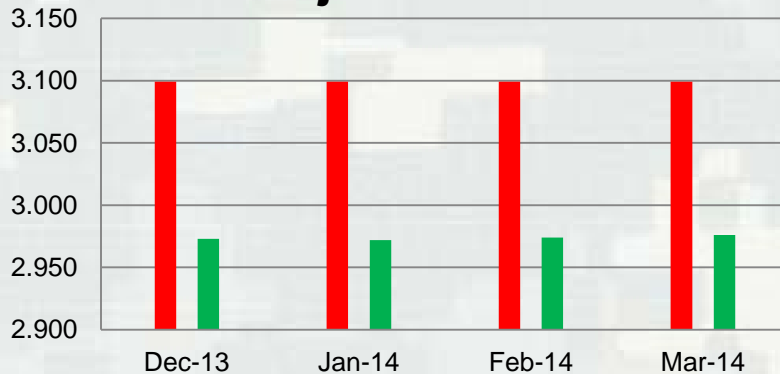
Rating

	<u>(PACR)/(Current)</u>
Project Complete	Sep 2024/Mar 2023
Dam Complete	Sep 2020/Mar 2019

Measures: Planned project completion and Dam contract completion dates

Target: Green; Current = PACR-12months, Yellow; Current = PACR-11 month to PACR- 7 months Red ; Current = PACR – 6months to after PACR date

Olmsted Project TEP Trend



■ PACR w/ risk

■ Estimated

Critical Schedule Forecast

NP-1 Install Wicket Gates-12 ea	23-Jun-14	NP-1 Install Wicket Gates-12 ea	
M-4 Inst M&S Piles, DIS 44-55	25-Jun-14	M-4 Inst M&S Piles, DIS 44-55	
M-3 Inst M&S Piles, DIS 32-43	03-Jul-14	M-3 Inst M&S Piles, DIS 32-43	
LP-5 Transfer vertical load of shell from Cat Barge to Landing Pile	27-Jun-14	LP-5 Transfer vertical load of shell from Cat Barge to Landing Pile	
LP-6 Clean/inspect landing site as required	07-Jul-14	LP-6 Clean/inspect landing site as required	
LP-5 Attach and pick Lift Frame with Crane Barge	03-Jul-14	LP-5 Attach and pick Lift Frame with Crane Barge	
M-2 Inst M&S Piles, DIS 20-31	14-Jul-14	M-2 Inst M&S Piles, DIS 20-31	
M-4PB Inst Lift Frame	21-Jul-14	M-4PB Inst Lift Frame	
LP-6 Transfer vertical load of shell from Cat Barge to Landing Pile	08-Jul-14	LP-6 Transfer vertical load of shell from Cat Barge to Landing Pile	
LP-6 Attach and pick LP-6 Lift Frame with crane brg	15-Jul-14	LP-6 Attach and pick LP-6 Lift Frame with crane brg	
M-1 Inst M&S Piles, DIS 8-19	22-Jul-14	M-1 Inst M&S Piles, DIS 8-19	
RBA-Inst M&S Piles DIS 1-7	28-Jul-14	RBA-Inst M&S Piles DIS 1-7	
Modify 34 barge - Template move	29-Jul-14	Modify 34 barge - Template move	
LP-3 Trunnion Girder - Stress Transverse Tendons & Perform Lift-Off Testing	29-Jul-14	LP-3 Trunnion Girder - Stress Transverse Tendons & Perform Lift-Off Testing	
LP-4 Trunnion Girder - Stress Transverse Tendons & Perform Lift-Off Testing	01-Aug-14	LP-4 Trunnion Girder - Stress Transverse Tendons & Perform Lift-Off Testing	
LP-3 Trunnion Girder - Graft Transverse Tendons inside Ducts	02-Aug-14	LP-3 Trunnion Girder - Graft Transverse Tendons inside Ducts	
LP-4 Trunnion Girder - Graft Transverse Tendons inside Ducts	04-Aug-14	LP-4 Trunnion Girder - Graft Transverse Tendons inside Ducts	
LP-3 Trunnion Girder - Stress Longitudinal Tendons & Perform Lift-Off Testing	07-Aug-14	LP-3 Trunnion Girder - Stress Longitudinal Tendons & Perform Lift-Off Testing	
M-4PB Clean found site as required	08-Aug-14	M-4PB Clean found site as required	
M-4PB Transfer vertical load from Cat Barge to Bedding Stone	08-Aug-14	M-4PB Transfer vertical load from Cat Barge to Bedding Stone	
LP-4 Trunnion Girder - Stress Longitudinal Tendons & Perform Lift-Off Testing	11-Aug-14	LP-4 Trunnion Girder - Stress Longitudinal Tendons & Perform Lift-Off Testing	
M-4PB Disconnect PB Lift Frame from Set Pavers and lift off Pavers	08-Aug-14	M-4PB Disconnect PB Lift Frame from Set Pavers and lift off Pavers	
RBA-Inst M&S Piles DIS 1-7	16-Aug-14	RBA-Inst M&S Piles DIS 1-7	
M-3PB Inst Lift Frame	16-Aug-14	M-3PB Inst Lift Frame	
M-1 Inst M&S Piles, DIS 8-19	25-Aug-14	M-1 Inst M&S Piles, DIS 8-19	
M-3PB Clean found site as required	22-Aug-14	M-3PB Clean found site as required	
M-3PB Transfer vertical load from Cat Barge to Bedding Stone	25-Aug-14	M-3PB Transfer vertical load from Cat Barge to Bedding Stone	
M-3PB Disconnect PB Lift Frame from Set Pavers and lift off Pavers	25-Aug-14	M-3PB Disconnect PB Lift Frame from Set Pavers and lift off Pavers	

Olmsted Locks and Dam, Ohio River, Olmsted, IL

Total Project Cost: \$3,082,777,000 *	CG	IWTF	Total
FY13 Allocation:	\$71,856,000	\$71,856,000	\$143,712,000
FY14 Allocation :	\$122,606,000	\$41,106,000	\$163,712,000
FY15 Budget:	\$80,000,000	\$80,000,000	\$160,000,000

Remaining Balance (after FY15):	\$504,292,000	\$585,792,000	\$1,090,084,000
Remaining Balance Change From Last Meeting			\$ 160,000,000

Changes

- Incorporated the \$160M of FY15 budget.

LWS - Low Water Season

Current Status of the Project

- CG / IWTF (75/25) for FY14 only; (50/50) beyond FY14

Next Steps

- Set Nav Pass 1 in 2014 LWS
- Set Right Boat Abutment in 2014 LWS
 - Set 4 Paving Blocks in 2014 LWS
 - Install Tainter Gate 1 in 2014 LWS



Note *: Cost and Schedule data are reflective of the latest Cost Estimate (as of 01 OCT 2012)

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Olmsted Locks and Dam, Ohio River, Olmsted, IL

Schedule of Remaining Work	Design Initiated	Contract Award	Construction Complete	Project Benefits	Capitalized Cost Closeout
Dam	26-Aug-96	28-Jan-04	30-Jun-21	1-Jul-21	30-Dec-21
Wicket Lifter	1-Oct-15	9-Feb-17	13-Feb-19	14-Feb-19	30-Jun-19
Building & Grounds	1-Oct-18	18-Jun-19	30-Apr-21	1-May-21	30-Sep-21
Demolition L&D 52	1-Apr-19	18-Oct-21	16-Feb-24	N.A.	30-Jun-24
Demolition L&D 53	1-Apr-19	1-Dec-21	1-Oct-23	N.A.	1-Jan-24
River Dikes	1-Oct-20	6-Jun-22	7-Jun-24	30-Jun-24	30-Sep-24



Olmsted Challenges

- Efficient Funding Stream
 - ▶ Minimum of \$150M/year through 2020
 - ▶ Less than \$150M would have direct impact on the schedule
- Optimal Funding of **\$180M/year** (base on latest cost estimate and contractor projections) in FY16 and FY17.
- Passing Traffic as Work continues into the Navigable Pass Footprint; no impacts in LWS 2014
- Continued Risk Management
 - ▶ Risk identification
 - ▶ Risk mitigation opportunities



Aerial – 18 Feb 2014



Discussion



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