

JAMIE WHITTEN LOCK CLOSURE 2020



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MAJOR DESIGN FLAW DISCOVERED THROUGH FEA

- 8 LOCATIONS ON DOWNSTREAM MITER GATES
- **APPROXIMATELY 6' x 7' HALF INCH WELDING REMOVED**
- REPLACED WITH SHOP-MILLED THICKER PLATES WITH TRANSITIONS
- **ADDITIONAL LONGITUDINAL AND TRANSVERSE STIFFENERS ADDED**
- SUBSTANTIAL WELDING
- **48 STRAIN GUAGES STRATEGICALLY LOCATED TO MONITOR POTENTIAL CHANGE IN STRESS**

UNFORESEEN CULVERT ISSUES

REMAINING WORK SCHEDULED FOR FY23

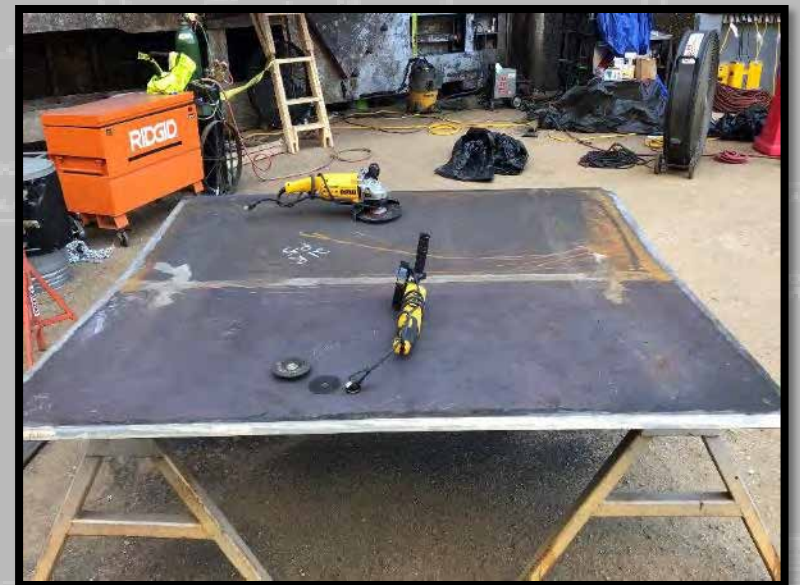
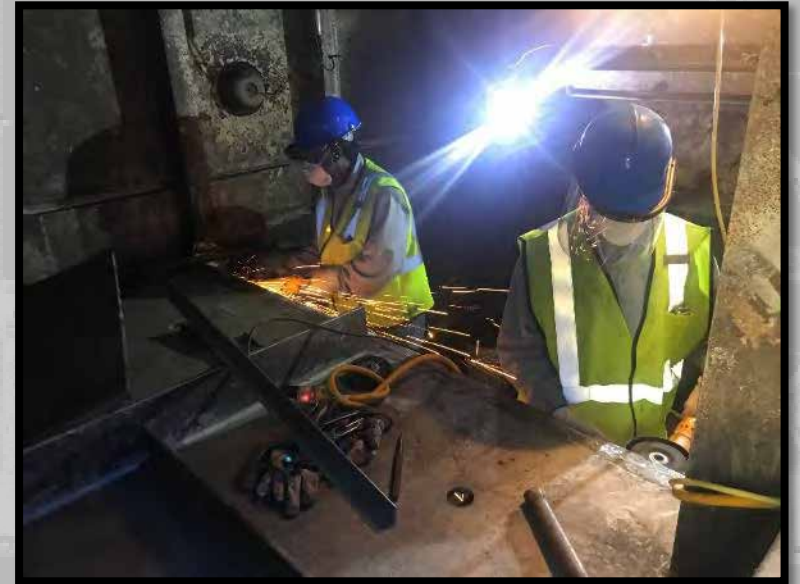


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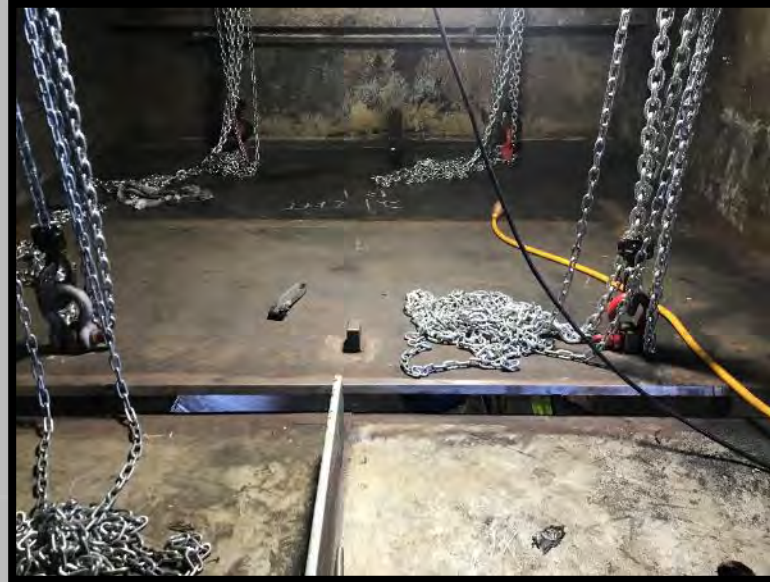


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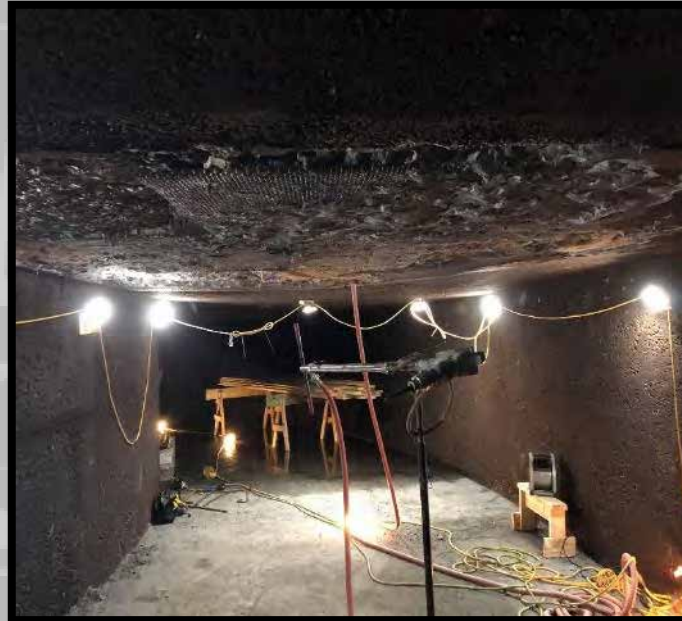
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MOBILE DISTRICT: JOHN C. STENNIS SPILLWAY GATE DAMAGE



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- 09 JUNE 2021
- Damages evident over 80% of width and 65% of height
- Significant damage to upstream apron
- Scour holes downstream of stilling basin
- HSS inspection determined gate not fit for service & replacement is required.



Barge sunk on the spillway



Impact damage to Gate #2



GOAL 2

*Deliver Integrated
Water Resource
Solutions*

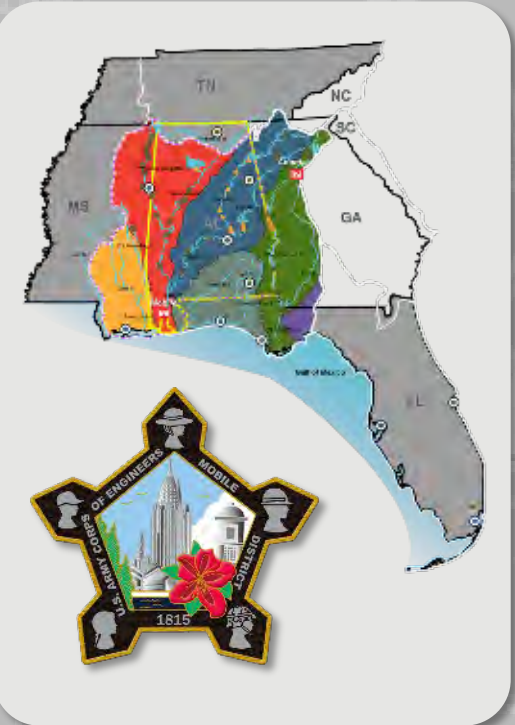
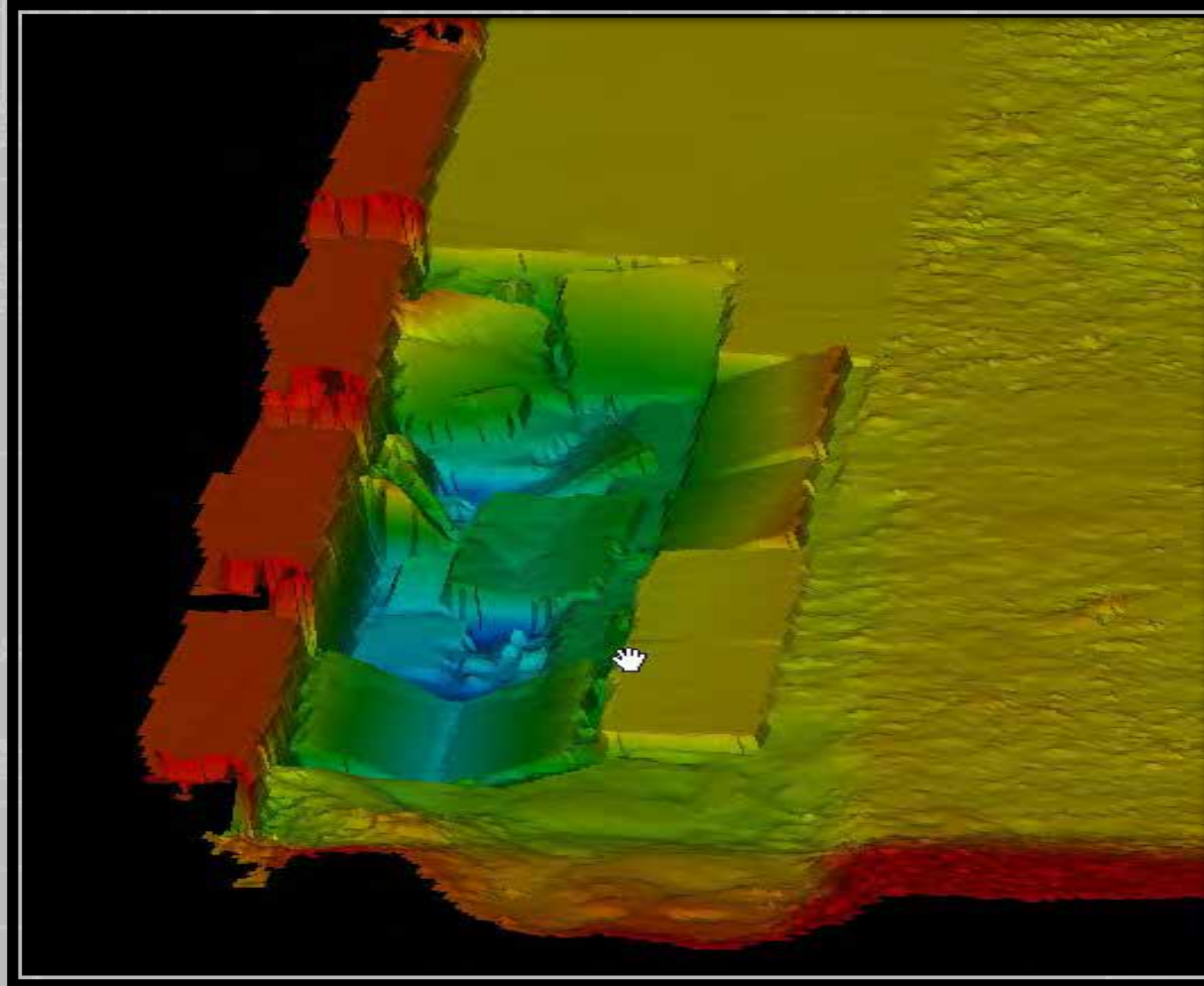
MOBILE DISTRICT: JOHN C. STENNIS SPILLWAY GATE DAMAGE



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UPSTREAM APRON DAMAGE

- Approximately 150' X 60' concrete apron damaged
- Scour varies with deepest location ~20'
- At deepest location, within 5' of undermining structure
- Approximately 3,000 tons of rock displaced downstream of stilling basin



GOAL 2

*Deliver Integrated
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MOBILE DISTRICT: TOM BEVILL SPILLWAY GATE DAMAGE



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- 10 JUNE 2021
- Little to no damages to spillway gate
- Busted concrete piers upstream of gate
- Damaged handrail along abutment wall
- Loss of pool (~3' below normal pool)
- Regained pool within 12 hours



GOAL 2

*Deliver Integrated
Water Resource
Solutions*

MV TENN TOM REPAIRS



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EXPECTED DRY-DOCK: SEPTEMBER/EARLY OCTOBER

- APROXIMATELY 6-8 WEEKS
- REPLACE OUTDATED AND PROBLEMATIC GEARS
- UPDATE GENERATOR POWER TO ALIGN WITH NEW CRANE AND BARGE ARRANGEMENT



MV TENN. TOM
BUILT 1995 BY PATTI SHIPYARDS

R.W. DAVIS REPLACEMENT



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R.W. DAVIS SCHEDULED FOR REPLACEMENT

- REPLACE FIXED PEDESTAL MOUNT CRANE WITH CRAWLER CRANE ON BARGE
- 300 TON CRANE FOR HEAVY LIFT AND DUTY CYCLE WORK
- APPROXIMATELY \$25M PRIP FUNDS
- CRANE AND BARGE CURRENTLY IN FABRICATION STAGE
- EXPECTED DELIVERY EARLY 2022



CRANE BARGE R.W. DAVIS
BUILT 1993 BY VANGUARD SERVICES

TTWW MANAGEMENT CENTER OFFICE



- LOCATION OF EXISTING FACILITY
- TWO-STORY WITH 16,625 SQUARE FEET
- MINIMIZE MAINTENANCE
- ESTIMATED COST: \$9M
- DEMO OF OLD OFFICE COMPLETE
- ~ 18 TO 24 MONTHS TO CONSTRUCT



2021 – BWT HIGH-WATER EVENTS

Although flooding levels did not reach historic levels of 2019 & 2020, there have been multiple high-water events in 2021 causing:

1. High flows, changing conditions
2. Hazardous out drafts around spillways/locks.
3. Shoaling, hopefully not as significant as '19 & '20
4. Flooding in late June caused 3-day delay at start of Oliver Lock Closure



2021 BWT LOCK CLOSURES

Black Warrior-Tombigbee Waterway:

1. Bankhead Lock, RM 365, (30 Days)
2. Oliver Lock, RM 338, (30 Days)

Dates: **24 June – 23 July 2021***

***Oliver Opened early on 21 July**

***Bankhead Opened 27 July, opening delay due to rain effecting painting operations and cure time.**

Bankhead



Oliver



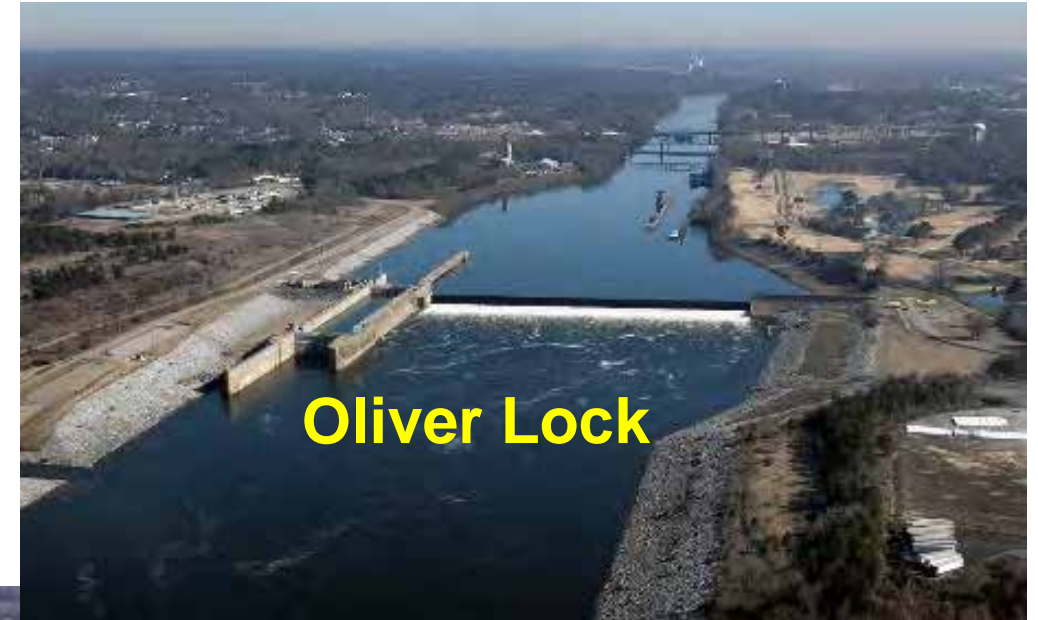
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OLIVER & BANKHEAD LOCK - 30 DAY CLOSURES

Work Activities (FY21):

- Fully dewatered the locks
- Inspected all under water components of miter gates and lock valves.
- Repaired/Replaced miter gate seals
- Repaired miter gate cracks/damage
- Repaired valve grease lines
- Repaired cathodic protection (corrosion prevention)
- Painted all miter gates
- Checked miter gate and valve operation

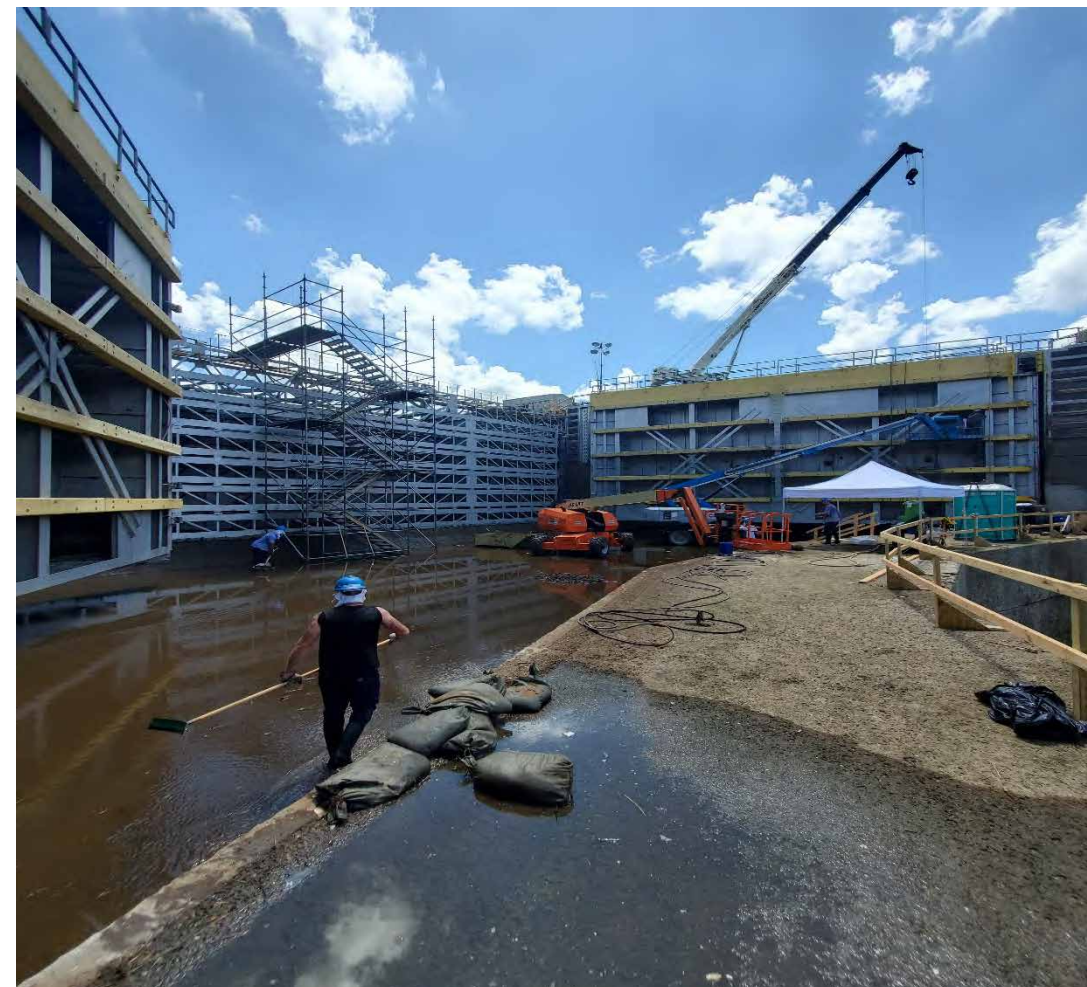


Oliver Lock



Bankhead Lock

LOCK DEWATERED – STOP LOGS AND PUMPS SET



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BANKHEAD LOCK - DEWATERED



BANKHEAD LOCK



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Dewatered Lock – Allows for full inspection



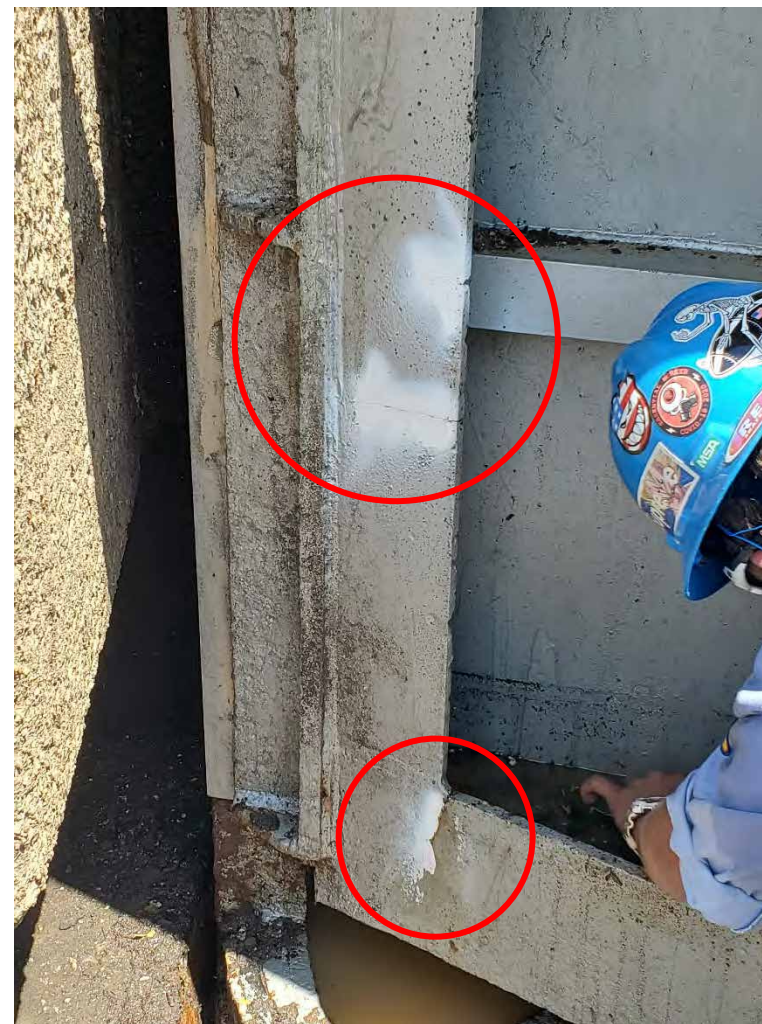
Lock Emptying / Filling Valve Repairs inspected and repairs made



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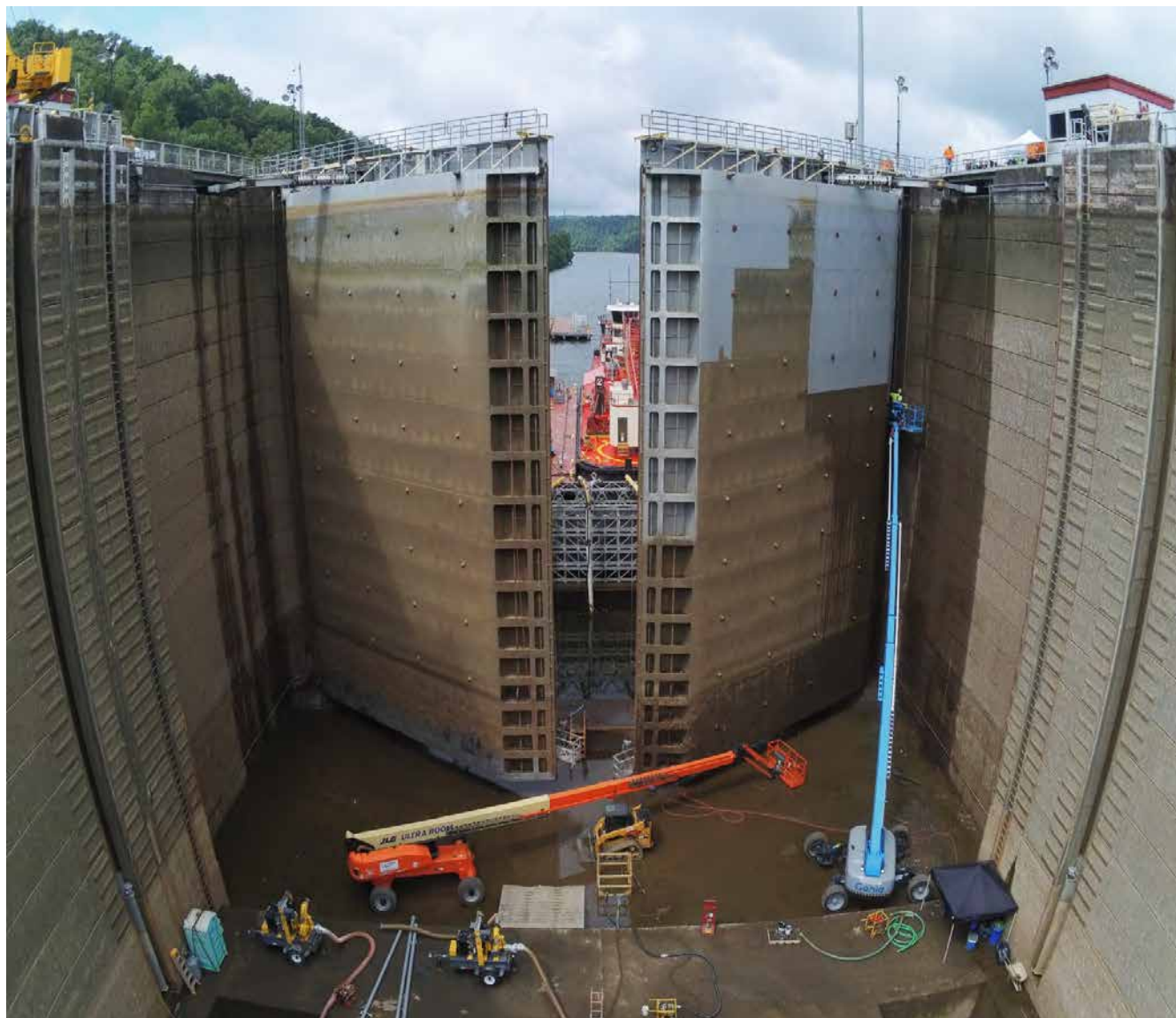
INSPECTION – CRACKS FOUND AND REPAIRED ON UPPER MITER GATE



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BANKHEAD LOCK – REPAIRS AND PAINT PREP



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