

# Rivanna Wastewater Pumping Station Update

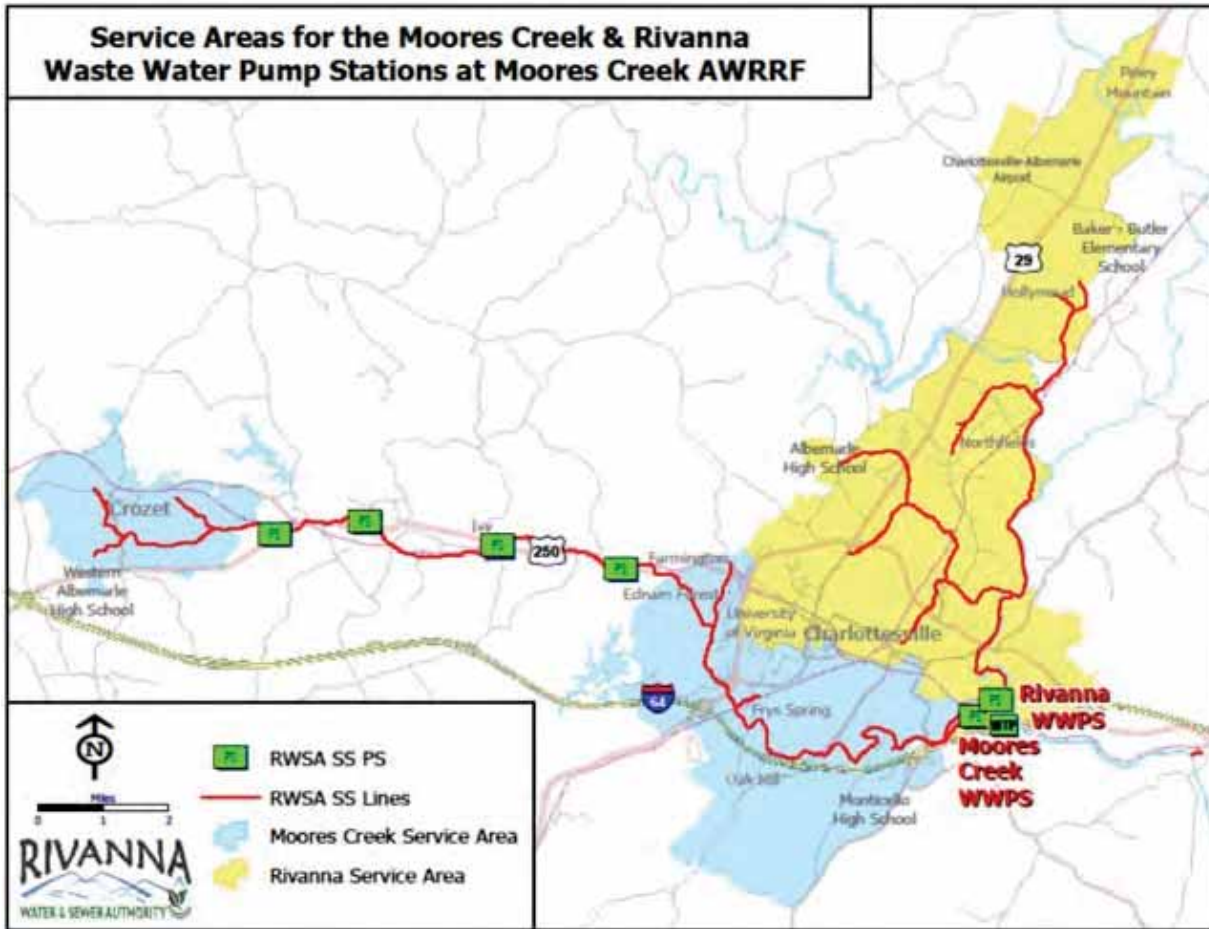
*Jan 9 – March 15, 2024*



Presented to the Rivanna River Basin Commission  
By Bill Mawyer, Executive Director

*March 19, 2024*

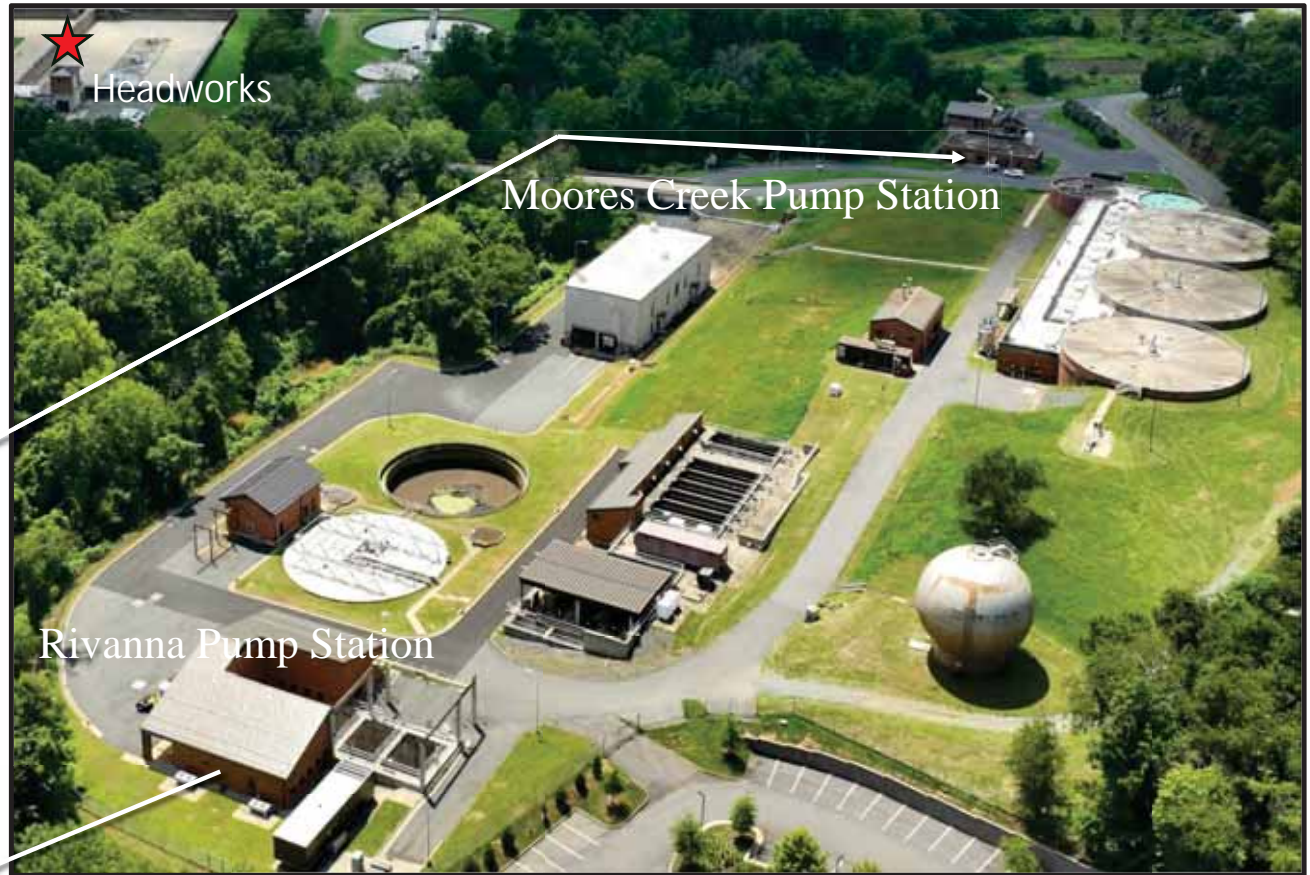




## Service Area of the Rivanna Wastewater Pump Station

- Largest pump station
- Serves about 60% of the Urban wastewater system

# Sewer Pump Stations at Moores Creek

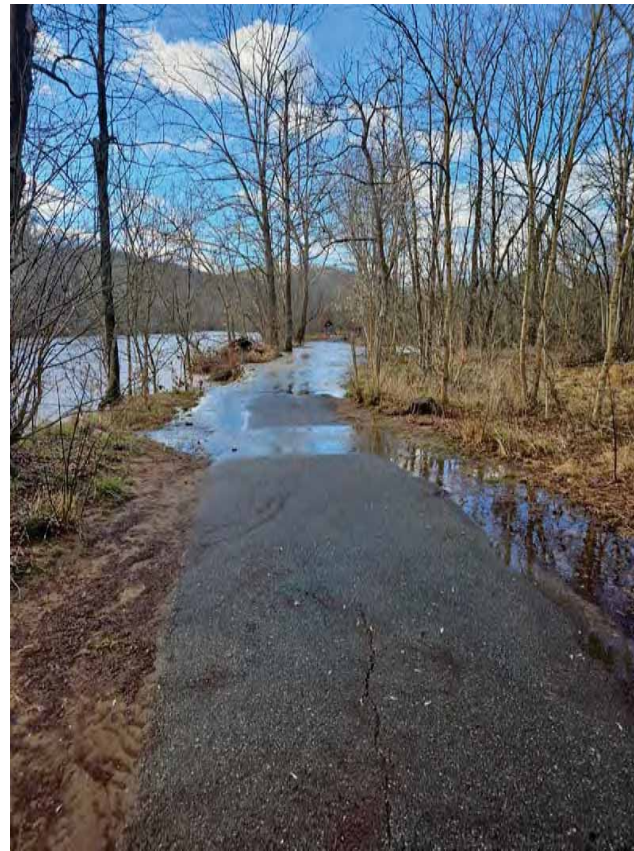
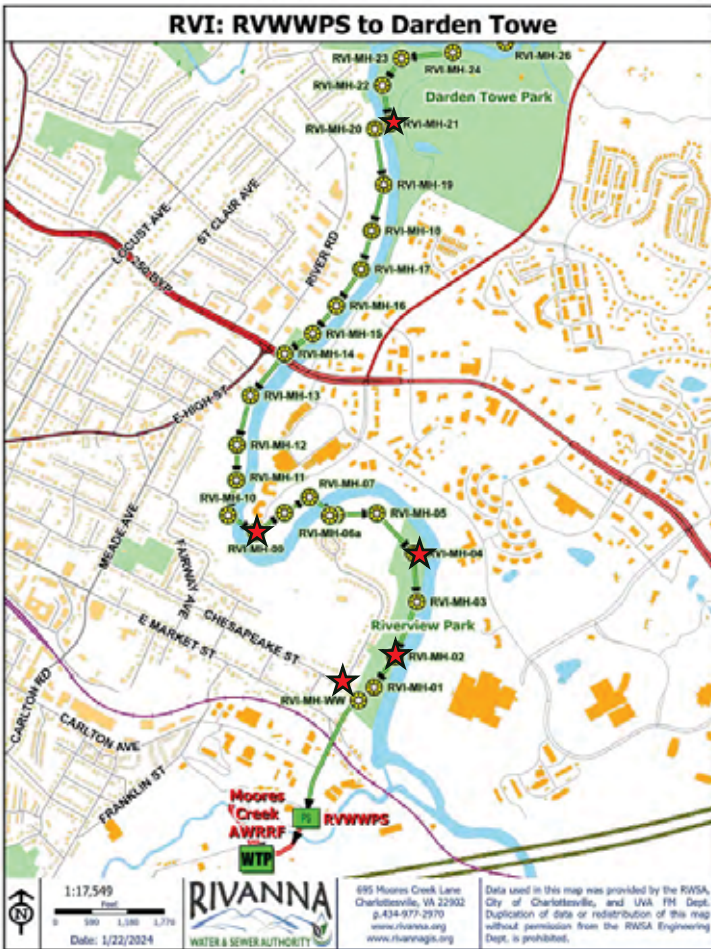


## Rivanna Wastewater Pump Station:

- Constructed 2017; \$31.5 M
- 53 million gallons per day pumping capacity
- Lifts wastewater 110 feet to the headworks for treatment



# Manhole – 2 Riverview Park



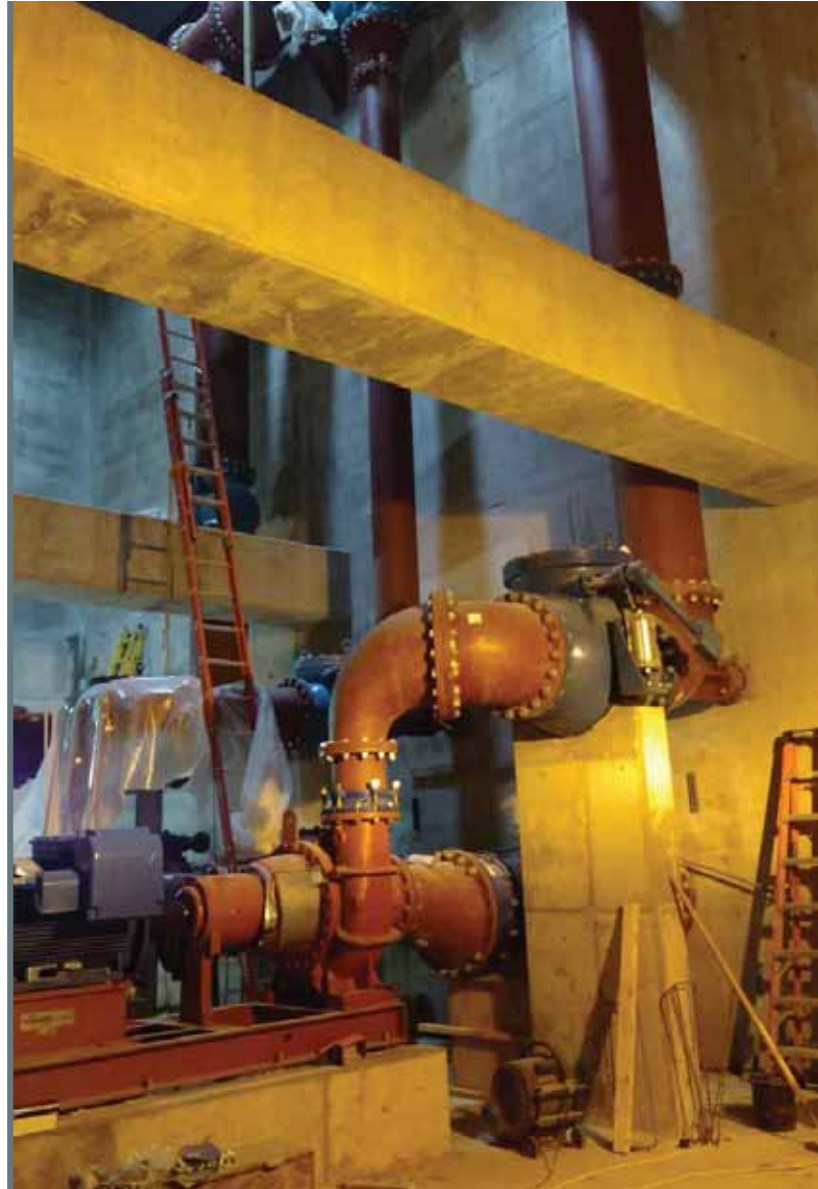


Flow  
Control  
Gates and  
Channel  
Covers in  
the Wet  
Well  
~2017



7 – 17 feet of wastewater below the covers

Dry Pump Room  
Under Construction  
~2016



## Two Pump Rooms each with 3 Pumps

- Four 13 mgd pumps
- Two 7 mgd pumps



~2017





Submerged Pump Room on Jan 10, 2024

# Temporary Bypass Piping – 10 mgd

Jan 10, 2024



# 10 MGD Bypass piping assembly in wet well

➤ boat required

Jan 11, 2024



# Excavating to Construct Bypass Piping Connection

Jan 11-13, 2024



Existing force main



Installing bypass pipe connection

# Bypass Connection

Jan 13, 2024



# 10 MGD Bypass Piping Connection

Jan 13, 2024



# Temporary Bypass Piping

Jan 18, 2024



# Wet well covers off

Jan 19, 2024







Hot Water Steam Cleaning of Wet Well and Fall Protection Installation



Installation of 4 Mid-Level Support Steel Beams

# 13 MGD Temporary Pump

Feb 8, 2024





Date: 1/30/24

Installation of 7 pumps and piping for the 53 MGD bypass in deep section (17 feet) of wet well



Date: 1/31/24

Overnight Installation of the 53 MGD Emergency Pumping Connection



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Overnight Installation of the 53 MGD Emergency Pumping Connection



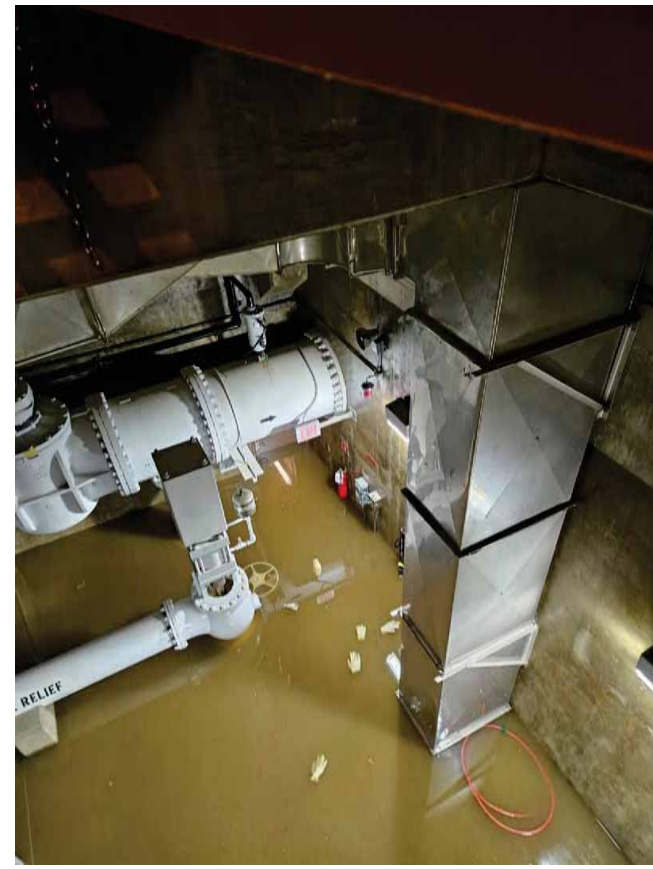
# 53 MGD Bypass Pumps and Piping in the Wet Well

Feb 14, 2024

# Damaged Wet Well Access Door

Jan 11, 2024





# HVAC Wall Penetrations

Jan 9, 2024





# 53 MGD Bypass System

Feb 16, 2024

# Preparing to Inspect the Pump Rooms

Feb 8-14, 2024





# Dewatered Pump Room

Feb 21, 2024

# Estimated Cost of Restoration

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1. Temporary Pumping and Piping System thru Dec 2024	\$ 6 M
2. Construction to Restore the Pump Station	\$15 M
3. Engineering Support Services	<u>\$1.5 M</u>
	\$20 - 25 M

# Plan Forward

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- |                                                                                                                                                                                                              |             |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|
| Phase 1 – Completed 10 MGD Bypass System                                                                                                                                                                     | Jan 26      |
| Phase 2 – Completed 53 MGD Bypass System                                                                                                                                                                     | Feb 14      |
| Phase 3 – Dewater, Test and Inspect Equipment                                                                                                                                                                | Feb – March |
| <ul style="list-style-type: none"><li>▪ Accessed Pump Rooms Feb 8 – 13; initial testing of pipes, valves and pumps. No significant defects were apparent. Engineer “causation analysis” continues.</li></ul> |             |
| Phase 4 – Sanitize Spaces and Restore Pumping System                                                                                                                                                         | April – Dec |
| <ul style="list-style-type: none"><li>▪ Cleaning contractor on site - Feb 20 -29</li></ul>                                                                                                                   |             |

# Summary

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- 7 temporary pumps and pipes installed by Feb 14 to provide 53 MGD capacity
- Pump rooms have been dewatered and cleaned
- Initial testing of submerged equipment completed. Pumps will be removed and shipped to factory for evaluation
- Engineers completing a causation investigation. Planning and estimating replacement requirements
- No wastewater discharge or overflow since Jan 19

Questions ?