

Occoquan Forest Sewage Pumping Station and Force Main Replacement

Community Meeting #1

April 29, 2018

SA Project Manager:

Debbie J. Maxwell, P.E., CCM

Design Engineer:

Whitman, Requardt & Associates, LLP



Service Authority
Exceptional Water Service



Agenda

- ◆ Service Authority (PWCSA) Basics
- ◆ Definitions
- ◆ Existing Layout & Facility History
- ◆ Purpose of the Project
- ◆ Proposed System Improvements
 - ◆ Pump Station Design
 - ◆ Siting
 - ◆ Architecture
 - ◆ Landscaping
 - ◆ Access
 - ◆ Force Main Design
 - ◆ Alignment
- ◆ Site Activities and Notes of Interest
- ◆ Anticipated Construction Schedule
- ◆ Contacts & Q&A



PWCSA Basics



1.4

Billion Dollars in Assets

22

WATER
STORAGE
TANKS

10.4 Billion Gallons
of Water Distributed per Year



15

↑ WATER
BOOSTER
STATIONS

9.2 Billion
Gallons

of Wastewater Treated per Year

59 Wastewater
Pump Stations



338

EMPLOYEES

1,100 Sewer 1,200 Water

2,300 MILES OF PIPELINE

42,000
VALVES



Water Capacity

67.9

Million Gallons/Day

Wastewater Treatment
Capacity

43.8

Million Gallons/Day



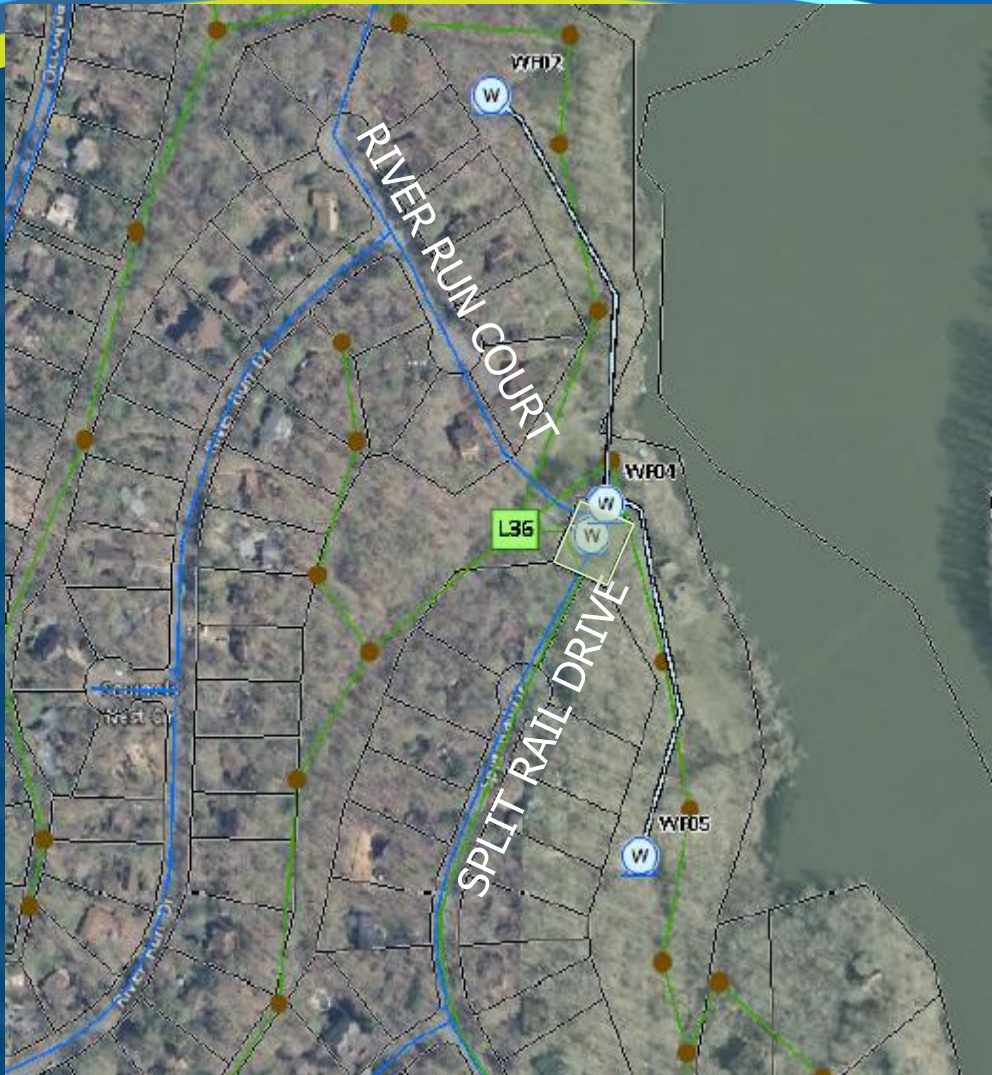
11,700

FIRE HYDRANTS

Definitions

- ◆ **Sewage Pumping Station**
 - ◆ A gravity sewer sump with a pump to lift accumulated sewage to a higher elevation
- ◆ **Force Mains**
 - ◆ A pressurized sewer line to convey wastewater from a lift station to another service level and gravity sewer
- ◆ **Gravity Sewer Lines**
 - ◆ Sewer lines constructed to allow the wastewater to flow based on a downward slope

Existing Layout



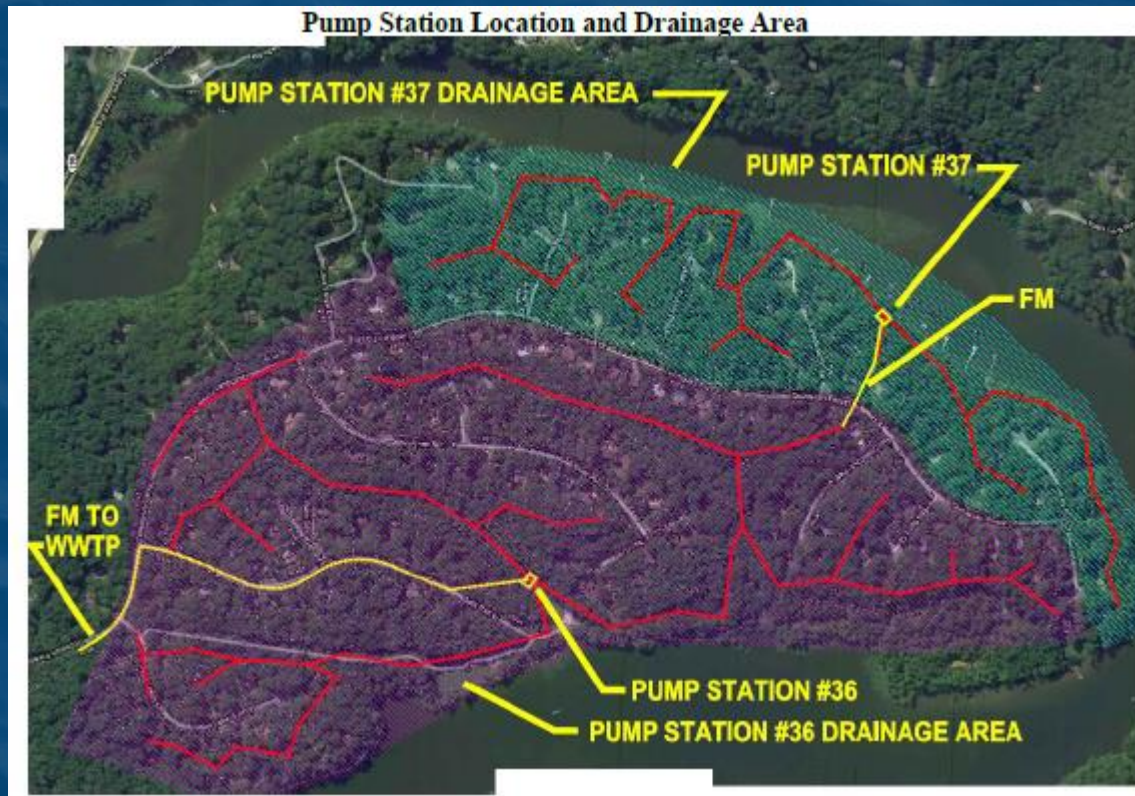
- ◆ W – Well Site
- ◆ L36 – Existing Sewage Pumping Station
- ◆ Shaded area - Service Authority owned property

Existing Facility History

- ◆ History of Sewage Pumping Station and Force Mains
 - ◆ Constructed in the early 1970s
 - ◆ The sewage pumping station has reached the end of it's useful life
 - ◆ The force main is old cast iron piping
- ◆ History of the Water Treatment Facility and Wells
 - ◆ Constructed in the early 1970s
 - ◆ Removed from service December 23, 2015 with the extension of the water main along Davis Ford Road into Occoquan Forest

Existing Facility History

Sewage Pumping Station and Force Mains



Existing Facility History



Sewage Pumping Station



Purpose of the Project

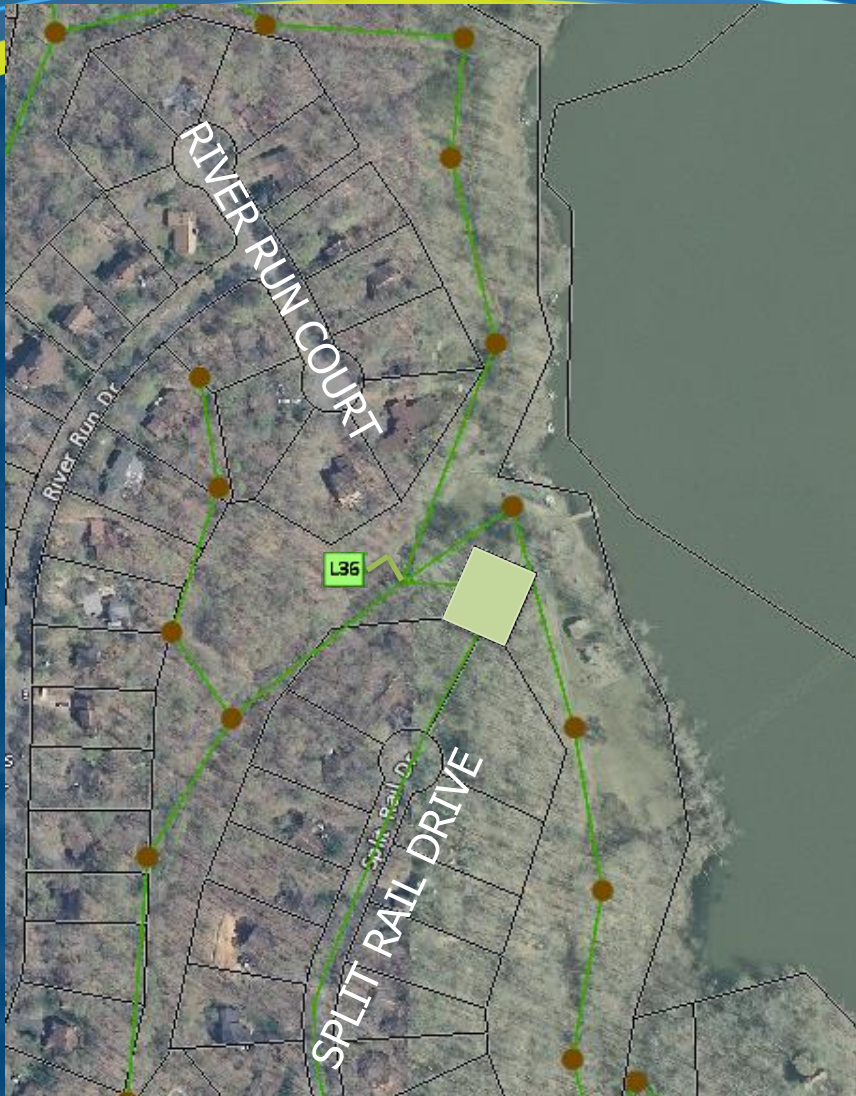
◆ Sewage Pumping Station and Force Mains

- ◆ Replace antiquated sewage pumping station and force main
- ◆ Provide a more aesthetically pleasing sewage pumping station
- ◆ Provide permanent emergency back-up power supply
- ◆ Improve safety conditions at the sewage pumping station
- ◆ Reduce maintenance
- ◆ Demolish existing sewage pumping station
- ◆ Extend electrical service to the pavilion
- ◆ Provide water access to the pavilion area

◆ Water Treatment Facility and Wells

- ◆ Demolish the existing facilities
- ◆ Regrade and stabilize the three sites

Proposed Layout of Sewage Pumping Station Site



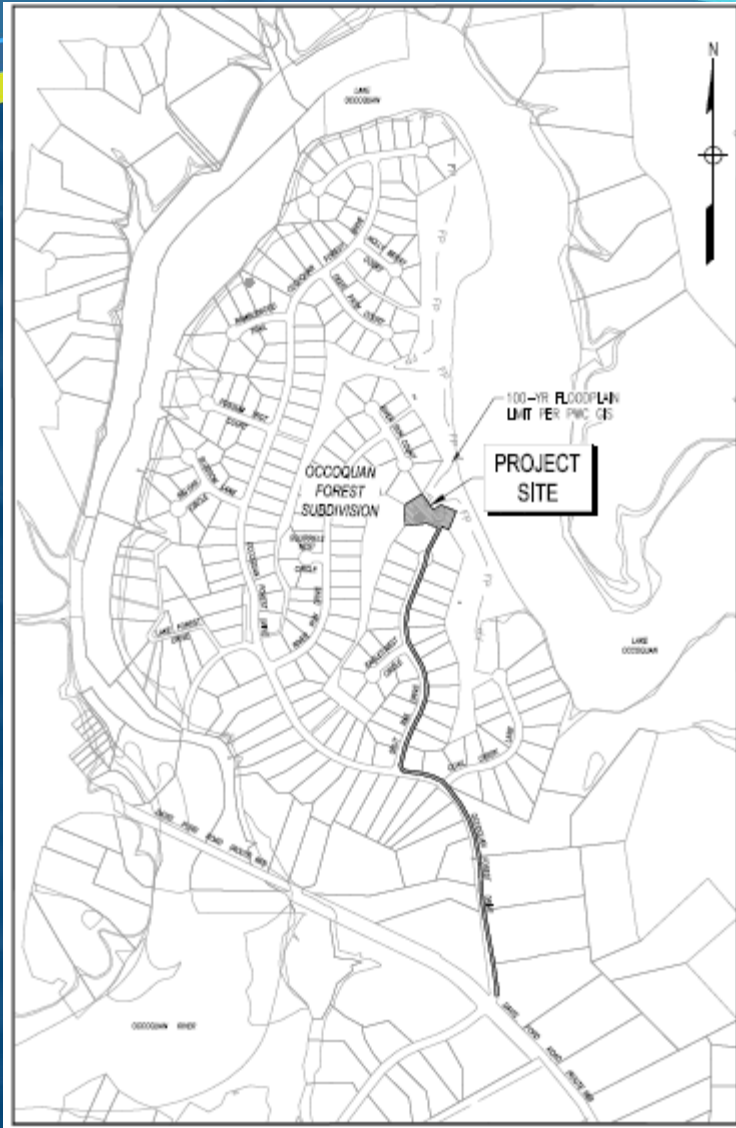
- ◆ **L36** – New, relocated Sewage Pumping Station
- ◆ Existing Sewage Pumping Station is demolished
- ◆ Wells are demolished
- ◆ Water Treatment Facility is demolished
- ◆ **Shaded area** - Service Authority owned property conveyed to the OFOA
- ◆ **Additional Items:**
 - ◆ Water service connection near the pavilion area
 - ◆ New electrical service to the pavilion
 - ◆ Storm inlet replaced at the cul-de-sac
 - ◆ Mill and overlay asphalt along access road to replace/repair existing asphalt
 - ◆ Install new gravel along access road
 - ◆ Additional landscaping near new sewage pumping station

Proposed Layout of Sewage Pumping Station Site



- ◆ Exterior façade
 - ◆ Precast, stamped concrete panels
 - ◆ Dark appearance
- ◆ Roof
 - ◆ Pitched
 - ◆ Brown Shingles
- ◆ Fencing
 - ◆ Black vinyl coated chain-link fence
- ◆ Landscaping
 - ◆ Evergreen shrubs/trees
 - ◆ Northeast side to provide some shielding

Proposed Force Main



- ◆ **Force Main**
 - ◆ Approximately 3,733 feet
 - ◆ 6-inch ductile iron pipe
- ◆ **Gravity Sewer**
 - ◆ Approximately 55 feet
 - ◆ 10-inch PVC pipe
- ◆ **Roadways**
 - ◆ Mill and Overlay

Summary of Proposed System Improvements

◆ Project Summary

- ◆ Demolition of treatment facilities,
- ◆ Demolition of existing Sewage Pump Station #36,
- ◆ Demolition of existing Well #2 and Well #5,
- ◆ Construction of a new sewage pumping station and associated yard piping,
- ◆ Installation of precast manufactured building,
- ◆ Installation of approximately 3,733 feet of 6-inch diameter sewer force main,
- ◆ Installation of approximately 55-feet of 10-inch diameter gravity sewer Installation of a water service connection near the pavilion,
- ◆ Installation of electrical service to the pavilion,
- ◆ Mill and overlay VDOT and Access Road, and
- ◆ Installation of additional gravel along Access Road

Site Activities

◆ Activities

- ◆ The Contractor will determine the final sequence of construction
- ◆ The existing pumping station must stay in operations while the new pumping station is being constructed
- ◆ Construction, demolition and restoration may happen concurrently
- ◆ The Service Authority is committed to restoring any property affected by the construction to original or better conditions

Notes of Interest

Construction Notes of Interest

- ◆ Notifications will be provided by the Service Authority and the Contractor for any anticipated interruptions
- ◆ Access will not be interrupted
 - ◆ Emergency Services, school buses, trash, mail and other services will not be disrupted
- ◆ Temporary parking or staging areas will be coordinated with the OFOA if needed by the Contractor prior to construction
- ◆ Daily clean-up by the Contractor is required
- ◆ A Service Authority Inspector will cover this project and others close by and will be on site on a daily basis

Anticipated Construction Schedule

- ◆ Project Duration (includes 3 projects)
 - ◆ 455 days / 15 months
- ◆ Anticipated Start Date:
 - ◆ Award Contract in September 2018
 - ◆ Notice to Proceed in November 2018
 - ◆ On-site Construction start anticipated for Winter 2019
- ◆ Anticipated End Date:
 - ◆ Spring 2020
- ◆ Weekday Hours of Operations
 - ◆ 7:00 a.m. to 5:00 p.m.

Contacts

Community Relations & Outreach Liaison

- ◆ Kathy Bentz
- ◆ 703.335.8944

Or

- ◆ Email: Occoquan36@pwcsa.org
- ◆ Website: www.pwcsa.org
- ◆ Project Specific Website: <http://www.pwcsa.org/Occoquan36-project>

Q & A

Any Questions?