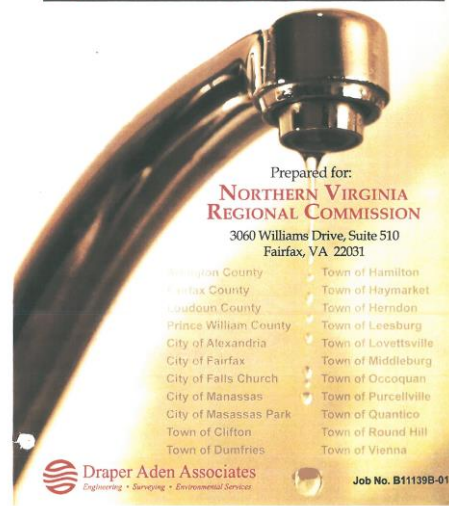




Northern Virginia
Regional Water Supply Plan



Northern Virginia Water Supply Plan 2023 Major Update

Prince William County Planning Commission Brief
May 5, 2021



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Water Supply Regulations

- In November 2005, the Commonwealth enacted the Local and Regional Water Supply Planning Regulation (9 VAC 25-780-10)
- Established required planning process and criteria localities were required to use in the development of a Local or Regional Water Supply Plan (WSP)
- Every Jurisdiction, regardless of size, was required to submit a Plan or participate in a Regional Plan
- WSPs must be Reviewed every 5 years and Revised where necessary (Minor Update); all WSPs must be Reviewed, Revised, and Resubmitted to DEQ every 10 years (Major Update).

Northern Virginia Water Supply Planning



2005 Regulation failed to:

- Most NoVa localities don't provide water, Independent Authorities do
- Understand complexity of water supply in NoVA

Multi Tiered Planning Approach

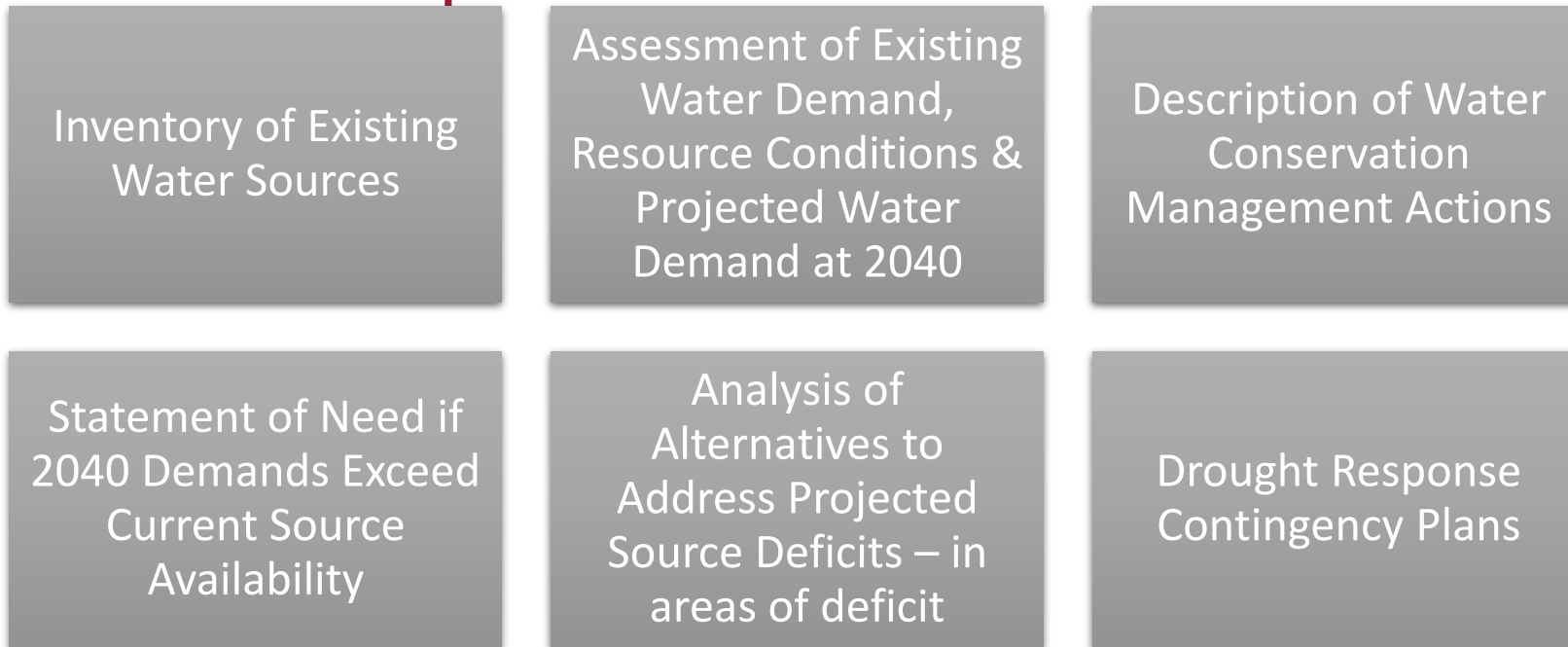
- Authorities and Local Planning Departments
- ICPRB Water Supply Operations on the Potomac (CO-OP)
- Northern Virginia Regional Report

2013 NoVa Regional Water Supply Plan

- Upon the recommendation of the CAOs, twenty-one jurisdictions within northern Virginia passed resolutions appointing NVRC as the Lead Agency for their respective jurisdictions to develop a Regional Water Supply Plan for Northern Virginia
- MOA executed mid-2007.
 - Partnership between Jurisdictions, Authorities and Commission.
 - Authorities lead for data collection within Service Areas.
 - Commission lead for data collection for Non-municipal Community Water Systems and Public/Private Wells.

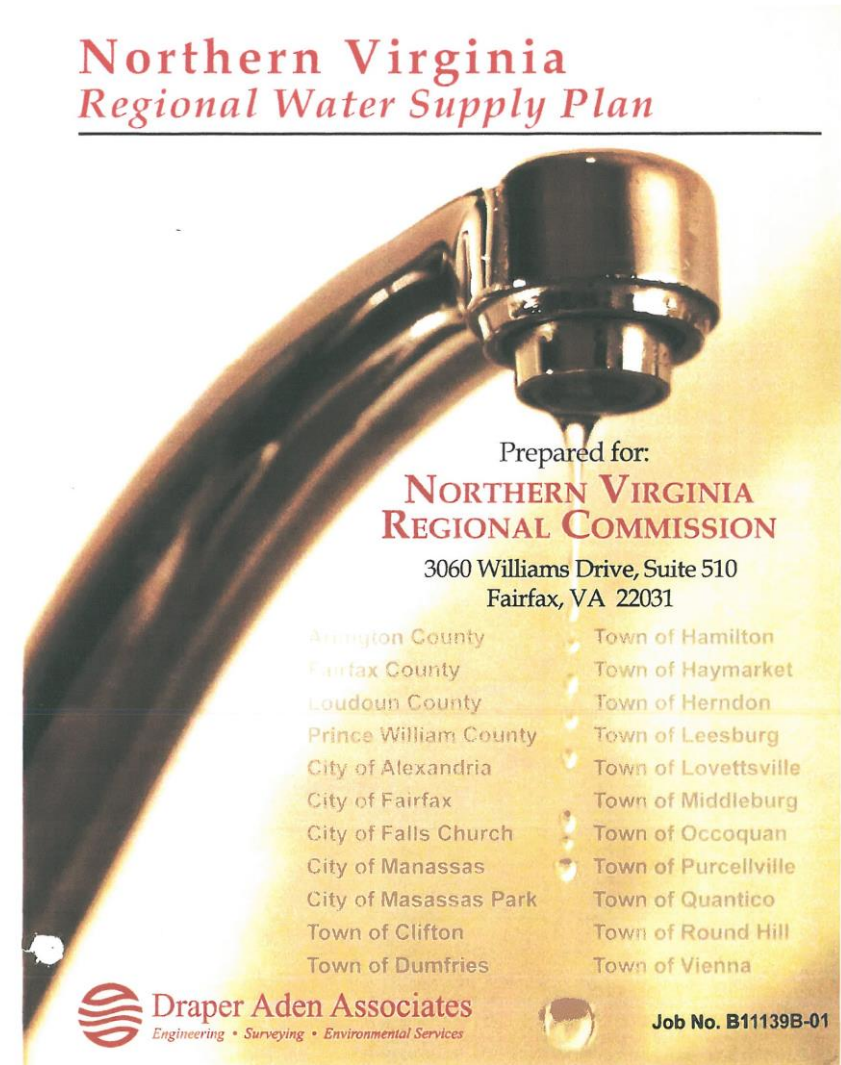
2013 NoVa Regional Water Supply Plan (cont.)

Components of the Plan



2013 NoVa Regional Water Supply Plan

- Water use has remained remarkably steady for almost three decades despite continuing population growth
- Future Demand Complex Matrix of Scenarios
 - Multiple Source Flow Conditions
 - Multiple Demand Conditions
 - Multiple Climate Change Scenarios
- Under severest scenario, current systems may not under all conditions meet unrestricted demands by 2040
- DEQ Approved Final Report – December 2013



Future Source Augmentation



Structural Alternatives

1. Luck Stone quarries in Loudoun County
 - i. Luck 1: 2.5 billion gallons in 2040
 - ii. Luck 2: 6.5 billion gallons by 2085
2. Vulcan Quarry in Fairfax County
 - i. Vulcan 1: 1.7 billion gallons by 2035
 - ii. Vulcan 2: >17 billion gallons by 2085
3. Reverse osmosis water treatment plant using the Occoquan Estuary as a water source

2018 NoVa Regional Water Supply Plan - Minor

- Primarily Commission effort w/coordination of Water Authorities
- No Approved Budget – Commission General Fund
- Final Memo w/ Updates Submitted to DEQ - December 2018
- DEQ Approval – January 2019



2023 NoVa Regional Water Supply Plan

- Major update to Plan required by DEQ
- No Guidance issued by DEQ to date
 - 2019 changes to Legislation – NORA to be published late 2020
 - Emphasis on Regional Plans
- Will require coordination w/ localities and data collection by Authorities and Commission similar to original Plan
- Work to commence July 2021
- Final Plan Due to DEQ - December 2023



Prince William County Service Authority

Prince William County Planning Commission
System Overview Presentation
May 5, 2021

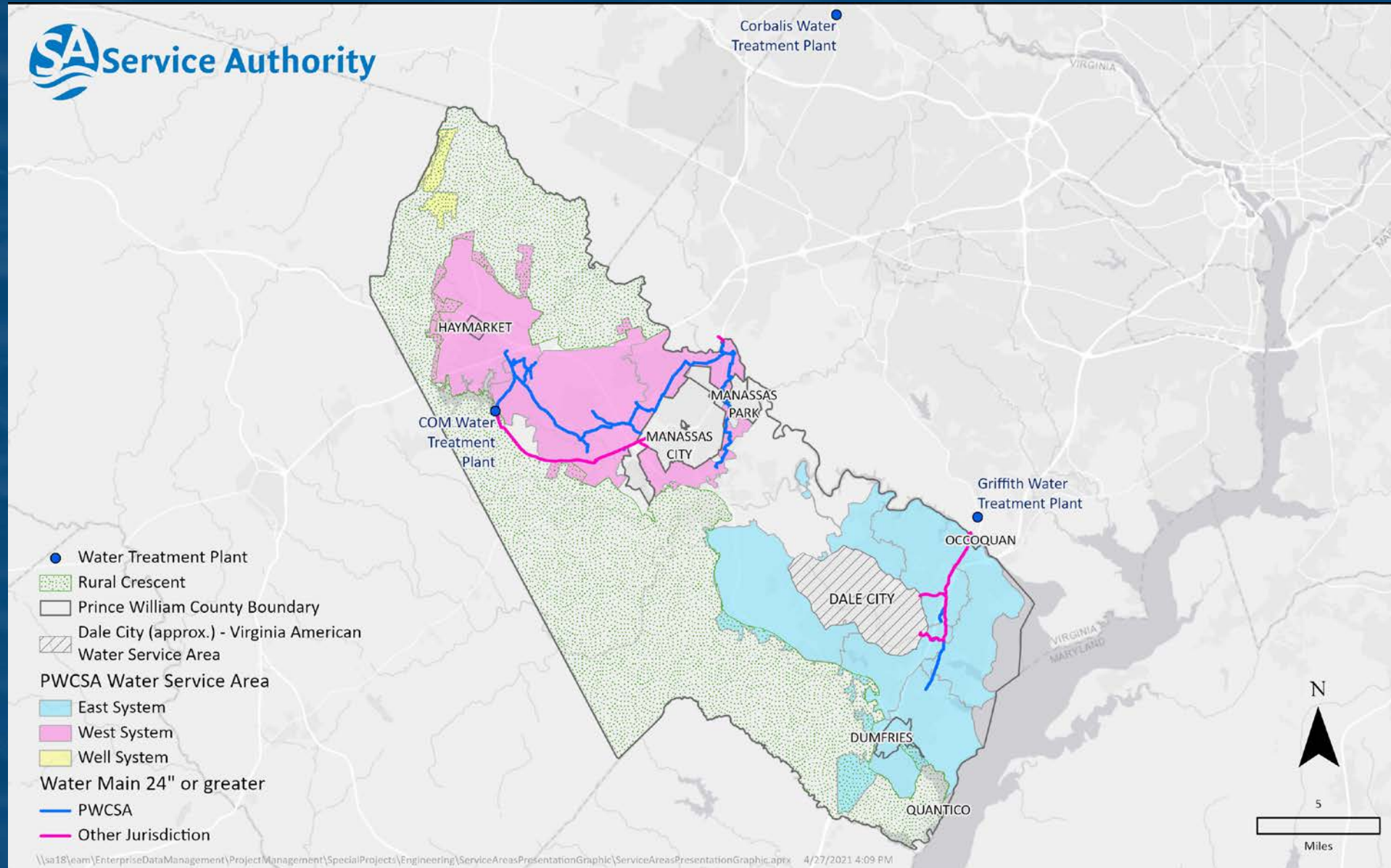


Service Authority
Exceptional Water Service

Topics of Discussion

- Description of Areas Served
- Water and Wastewater Capacities
- System Expansion
- Additional Learning Opportunities

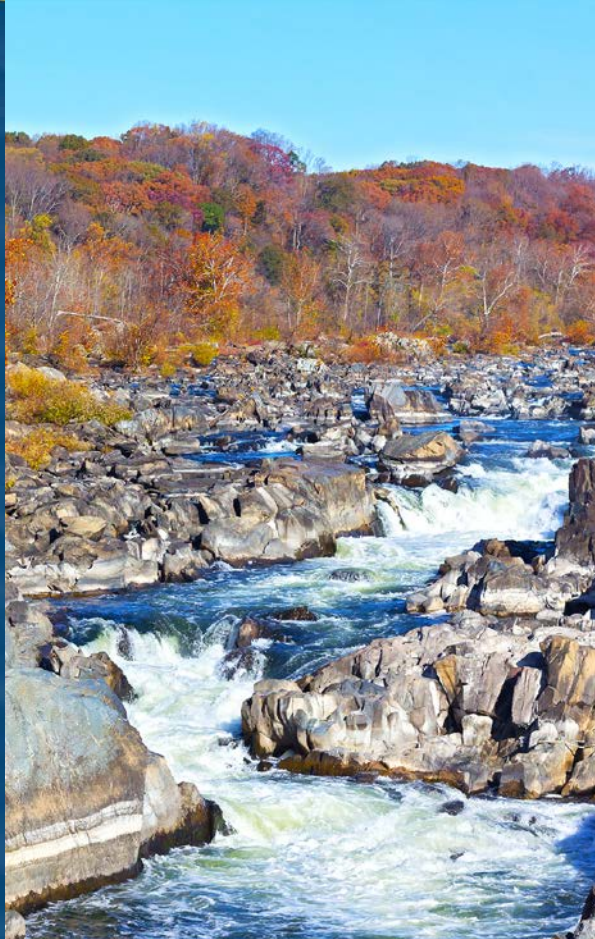
Areas Served by the Service Authority



Our Source Water



Occoquan Reservoir



Potomac River



Lake Manassas

Water Capacity

- ◆ Distribute 10.5 billion gallons of water per year
- ◆ Total water capacity: 67.8 MGD
 - ◆ Fairfax Water: 62.4 MGD
 - ◆ City of Manassas: 5.0 MGD
 - ◆ Service Authority wells: 0.4 MGD
- ◆ FY21 Max Day 49.3 MGD (July 2020)
- ◆ Based on anticipated growth, capacity is sufficient beyond 2040

Wastewater Capacity

- ◆ Treat 9.8 billion gallons of wastewater per year
- ◆ 5.1 H.L. Mooney AWRF
- ◆ 4.7 Upper Occoquan Service Authority (UOSA)
- ◆ Total sewer treatment capacity: 43.8 MGD
 - ◆ Mooney: 24.0 MGD
 - ◆ UOSA: 19.8 MGD
- ◆ Capacity expansion by 2030 (UOSA) and 2040 (Mooney)

System Expansion

- ◆ Aligned with PWC Comprehensive Plan which states that costs of system expansion and increases in system capacity will continue to be borne by new development
 - ◆ Applicant responsible for design and construction of extensions necessary to serve their development
 - ◆ New development pays for any needed expansions to existing facilities (through availability fees)

Additional Learning Opportunities

- ◆ Service Authority's Virtual Water Academy begins June 23:
 - ◆ Learn more about the SA's mission, operations, facilities and more
 - ◆ Free educational program for adults
 - ◆ Three 90-minute classes are held from 6 to 7:30 p.m. over three consecutive Wednesdays, June 23 through July 7
 - ◆ Apply before June 1 at: <https://www.pwcsa.org/water-academy>