



Stafford County 2018 Water and Sewer Master Plan

Presentation to the Board of Supervisors | June 5, 2018

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AGENDA

Objectives of 2018 Water and Sewer Master Plan
Guiding Principles for the Master Planning Process

Overview:

- Changes in needs
- Investment priorities
- Operational enhancements

Alignment with Planned Development

Cost Summary

Questions and Answers



THE UTILITIES FUND IS FINANCIALLY INDEPENDENT

Funded entirely
by water sales,
Availability fees
and Connection
Fees

Water Sales and User Fees

Monthly billings and fees based on customer usage

Availability and Pro Rata Fees

Fees charged to developers and new connections:
“Growth pays for growth”

Enterprise Fund

- ✓ Utilities Division revenues collected into separate Enterprise Fund
- ✓ No County taxes used for Utilities Division operations



OBJECTIVES of the 2018 Water and Sewer Master Plan

Provide Capacity for Growth and Development

Provide adequate capacity in County's water and wastewater treatment facilities, and the water distribution and sewage collection systems, to meet projected growth and development

Meet or Exceed Regulatory Requirements

Meet or exceed current and anticipated future regulations governing the County's water and sewer system, such as the quality of drinking water and treated wastewater effluent

Maintain Reliability

Maintain reliable service through rehabilitation or replacement of critical water and sewer system assets



***GUIDING
PRINCIPLES***
for the Master
Planning process



Excellent Customer Services



Proactive Planning



Sustainability



Fiscal Responsibility



Adaptability

OVERVIEW:

Changes in Needs

(Since 2006 Water and Sewer Master Plan)

Completed projects

DPW completed approximately **35 water and sewer projects** recommended in the 2006 Water and Sewer System Master Plan, including the Lake Mooney water supply, addressing the key needs identified in 2006

Lower projected water demands and sewer flows at build-out conditions

Projected **water demands** under build-out conditions **reduced** from (2006 MP) 30.8 mgd avg./46 mgd peak to 22.7 mgd avg./34 mgd peak, **and**

Projected **sewer flows** under build-out conditions **reduced** from (2006 MP) 19.8 mgd avg./69.4 mgd peak to 19.2 mgd avg./55.7 mgd peak;

Due to:

- Changes in County's Comprehensive Plan and related land use
- Limiting new water service outside the Urban Service Area
- Changes in customer behavior
- Improved control of peak sewer flows (less infiltration and inflow)



OVERVIEW: Investment Priorities

Economic Development

Near-term investment priorities focus on **economic development**, reliability and regulatory compliance



County's water supply, water treatment and wastewater treatment facilities have available capacity to support economic development

- Water supply and treatment capacity is adequate through 2030, *even if there is a major new water user*
- Wastewater treatment capacity is also adequate for projected near-term growth (2028)



2018 Master Plan includes \$47 for near-term infrastructure projects to support planned economic development

OVERVIEW:

Investment Priorities

Reliability and Regulatory Compliance

Near-term investment priorities focus on economic development, **reliability** and **regulatory compliance**



Reliability

- Major treatment assets (Aquia WWTP, Smith Lake WTP, and Little Falls Run WWTP) are currently, or will be 30 years old in near-term, and require investments to maintain reliability
- Increased funding recommended for rehabilitation/replacement of water and sewer pipelines to address water quality and aging infrastructure



Regulatory Compliance

- DPW is preparing for more stringent wastewater treatment permit limits from regulatory agencies, which could be enacted in near-term
- “Placeholder” projects, will be updated when new NPDES Permits are issued in 2018 (Aquia WWTP) and 2020 (Little Falls Run WWTP)



OVERVIEW: Operational Enhancements

Recommended changes to water distribution system



Consolidate water system pressure zones from 10 zones down to 8 zones

- Takes advantage of the new Lake Mooney supply in southern part of County
- Simplifies operations
- Reduces water quality problems associated with dead-end water mains



Decommission four water storage tanks

- Avoids unnecessary tank maintenance

Recommended changes to sewer system



Decommission seven wastewater pumping stations which avoids unnecessary maintenance and operating costs



Master Plan Aligned With Planned Development

Updated planning methods and tools



Buildout flow projections coordinated with County Planning Department, based on County's current Comprehensive Plan

- Near-term CIP projects include capacity improvements at Centreport (\$19M) and Courthouse (\$28M) areas to support Economic Development (available 2018, complete 2022)

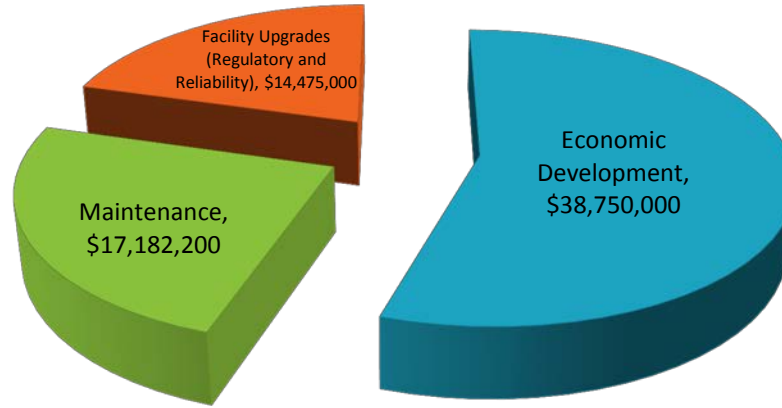


DPW's updated Water and Sewer System Computer Models allow rapid assessment of capacity for future developments

PROJECT CATEGORY BREAKDOWN

Economic
Development and
Capacity
Investments vs.
Pure Maintenance

Water Projects Breakdown FY19 - FY28 CIP



Wastewater Projects Breakdown FY19 - FY28 CIP



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QUESTIONS?

Thank you!