

PUBLIC UTILITY SYSTEM

Part 1: Background

Section 1: Introduction

The Town of Round Hill utility system experienced very rapid growth from the mid- 1990s through 2005, followed by a period of minimal/no growth from around 2005 to present. Utility system growth has generally been driven by residential development in and adjacent to the Town. Development in the area dropped to near-zero for a number of years as part of the overall national economic slowdown. Signs of development activity returned to the area in 2014 and have significantly increased over the past two years.

Several initiatives have been completed by the Town that increased quality and capacity of the utility systems. A significant upgrade of the Wastewater Treatment Plant (WWTP) was completed to add enhanced nutrient removal capabilities and to expand the facility to a capacity of 750,000 gallons/day. The Goose Creek and Westlake Water Treatment Plants (WTPs) and associated wells were completed to improve and increase the Town's water supply.

Section 2: Water System

The current Round Hill water system service area covers approximately 1,700 acres. The service area includes properties within the Town limits and out-of-town properties contained within the JLMA. Approximately 1,509 active water/sewer accounts were served by the water system as of June 2016. The Town's drinking water consistently meets or exceeds the requirements and maximum contaminant levels (MCLs) as established by the Virginia Department of Health (VDH) and the Environmental Protection Agency (EPA).

Water supply is provided by 12 active groundwater wells that withdraw from the fractured bedrock aquifer(s) in the region. On average, the Town withdraws approximately 200,000 gallons per day. The Town is exploring the location of more wells to add to the system within the next 5 to 10 years.

The Round Hill water system treats for disinfection, Methyl Tertiary Butyl Ether (MTBE), iron, and manganese. Pressure and reserves are maintained using the elevated 500,000-gallon Evening Star tank, and the 900,000 gallon Stoneleigh tank. An additional tank is projected in the near future.

Section 3: Wastewater System

As with the water system, the current Round Hill wastewater system service area covers approximately 1,700 acres. The service area includes properties within the Town limits and out-of-town properties contained within the JLMA. Approximately 1,424 customers were served by the wastewater treatment plant as of June 2016. The wastewater system consists of an underground gravity collection system, and five raw wastewater pump stations. All wastewater in the Town

system flows and/or is pumped to the Round Hill Wastewater Treatment Plant where nitrogen and phosphorus are removed. Unless regulations change that would impact treatment system capacity or capability, the current treatment system capacity of 750,000 gallons per day appears to be sufficient to accommodate expected growth within the JLMA.

Public Utility System

Goals, Objectives & Strategies

Goal 1: To provide drinking water for the Round Hill community that is safe, reliable and sustainable

- a. Objective: Provide water that is safe to drink and meets customer expectations for quality.
 1. Strategy: Maintain strict compliance with state water quality standards and testing regimen.
 2. Strategy: Perform testing beyond state requirements to better understand and diagnose local quality issues such as water hardness and secondary contaminants.
 3. Strategy: Consider operations strategies and capital improvement projects to eliminate secondary contaminants and hardness where cost-effective and providing a significant improvement in customer satisfaction.
 4. Strategy: Closely monitor groundwater sources known to be under the influence of Methyl Tertiary Butyl Ether (MTBE), and to not accept any new groundwater sources with MTBE levels above 5 parts per billion without specific treatment.
 5. Strategy: Educate customers regularly about the quality of their water and how to report water quality concerns.
- b. Objective: Minimize the risk of service interruptions and guarantee water service to the maximum number of customers in the event of system failures or drought.
 1. Strategy: Build a new southern water tank as recommended by the 2015 Water System Planning Study.
 2. Strategy: Add loop connections where possible to reduce single point of failures in the water distribution system.
 3. Strategy: Track water connections, usage and well production to monitor system supply and demand continuously, and establish water restrictions as necessary in times of drought or system outage.
- c. Objective: Secure and maintain adequate and sustainable water supplies to serve current and projected growth in Round Hill
 1. Strategy: Participate in regional water supply plan studies.

2. Strategy: Forecast future needs by regular updates to town water system study.
3. Strategy: Develop new water resources to meet 100% of projected service needs for the maximum month at buildout with the highest producing well offline.
4. Strategy: Encourage water conservation through promotion of high-efficiency plumbing fixtures, rain collection and reuse systems, landscaping design, and consumer educational materials.

Goal 2: To provide wastewater treatment for the Round Hill community that is reliable, sustainable and environmentally sound.

- a. Objective: Operate and maintain the existing wastewater treatment plant.
 1. Strategy: Evaluate upgrades to the existing system to improve operations reliability such as remote sensing and control.
- b. Objective: Recommend that the Town not expand wastewater system capacity beyond the current State mandated limits.
 1. Strategy: Forecast future needs via regular updates to the water planning study, and monitor current treatment capacity and demand continuously.
 2. Strategy: Prevent extensions of the system that will exceed current capacity at buildout.
- c. Objective: Protect the Round Hill environment through sound operations practices and improvements as necessary.
 1. Strategy: Investigate sources of infiltration and inflow (I&I) and reduce where cost-effective.
 2. Strategy: Maintain strict compliance with state wastewater effluent and discharge standards.
 3. Strategy: Use monitoring, enforcement and most importantly public education, to discourage the introduction of substances to the system that are harmful to treatment systems and the environment.

Goal 3: Maintain and protect utility capital and financial assets to guarantee future service and protect Town taxpayers as bond guarantors.

- a. Objective: Establish fair water and wastewater rates that fund operations and future capital improvements.

1. Strategy: Maintain a written fiscal policy that establishes financial reserve guidelines and other key financial targets. Monitor town performance against these targets at least annually.
 2. Strategy: Set water and wastewater rates in accordance with a prepared rate study updated at least once every 5 years and more often if town boundaries are adjusted or other key financial conditions change.
 3. Strategy: Use debt financing for large capital improvements to distribute their costs across the useful life of the improvement
- b. Objective: Ensure town taxpayers as owners of the utility system and guarantors of Town debt are financially protected.
1. Strategy: Consider the under-payment of availability fees by Consent Decree connections and the guarantee of town property taxes on utility debt when setting water and wastewater rates.
 2. Strategy: Limit the maximum out-of-town rate differential to 50%.
- c. Objective: Implement capital improvements that sensibly expand and upgrade the utility systems.
1. Strategy: Maintain a 5-Year Capital Improvement Plan showing all current and upcoming capital projects and their sources of funding.
 2. Strategy: Perform a cost-benefit analysis on improvements and upgrades.
 3. Strategy: Maintain key assets, for example regular tank inspections and painting, to maximize their useful life.
- d. Objective: Operate the system in a cost-efficient manner and establish reasonable billing policies.
1. Strategy: Avoid sole source acquisitions and reevaluate equipment and service providers periodically.
 2. Strategy: Periodically reevaluate staffing levels and roles and responsibilities, and establish compensation in accordance with market studies of our employment peers.
 3. Strategy: Share personnel and resources where cost-effective with the Town General Fund, such as office personnel, public works employees, facilities such as Town Office

and vehicles. Use generally accepted accounting methods and record-keeping to appropriately assign costs to each Fund.

4. Strategy: Establish billing processes and communications that are clear and understandable by customers. Institute shutoff and leak adjustment policies that balance the financial obligations of the system with consideration for individual circumstances.
- e. Objective: Review the inventory of utility system assets and either sell or transfer to the General Fund any properties that no longer are required to provide utility service and are not planned for any future utility system use.
1. Strategy: Consider the sale of the large reservoir site while retaining any easement rights for possible water sources.
 2. Strategy: Investigate the division of the Wastewater Treatment Plant and Sleeter Lake Park sites that best provides for independent operations of each.
 3. Strategy: Review any other utility sites that are currently not in operations, including sites of abandoned wells and other properties associated with previous water supply infrastructure for their future utility to the system.

Goal 4: Ensure that extensions of utility services are supported by current capacity and compatible with the Town’s land use goals and objectives.

- a. Objective: Make utility extension decisions which are compatible with land use objectives.
 1. Strategy: Maintain utility financial health so that it is not dependent on new sources of revenue.
 2. Strategy: Do not guarantee utility service in the JLMA unless it is shown to be compatible with the objectives of the Comprehensive Plan.
- b. Objective: Ensure new development does not burden existing system users.
 1. Strategy: Enter into water and sewer supply fee and construction agreements with new developments in the JLMA that require additional capacity demands.
 2. Strategy: Require flow projections for major commercial and mixed-use development in the service area, including the Eastern Commercial District, avoiding uses that have demand exceeding current allocations.
 3. Strategy: Will-serve letters should include provisions that do not guarantee service if capacity is not available at time of connection.