PURE WATER SPRING HILL

“*A comprehensive* framework to expand capacity, improve resiliency, and guide long-term system planning”

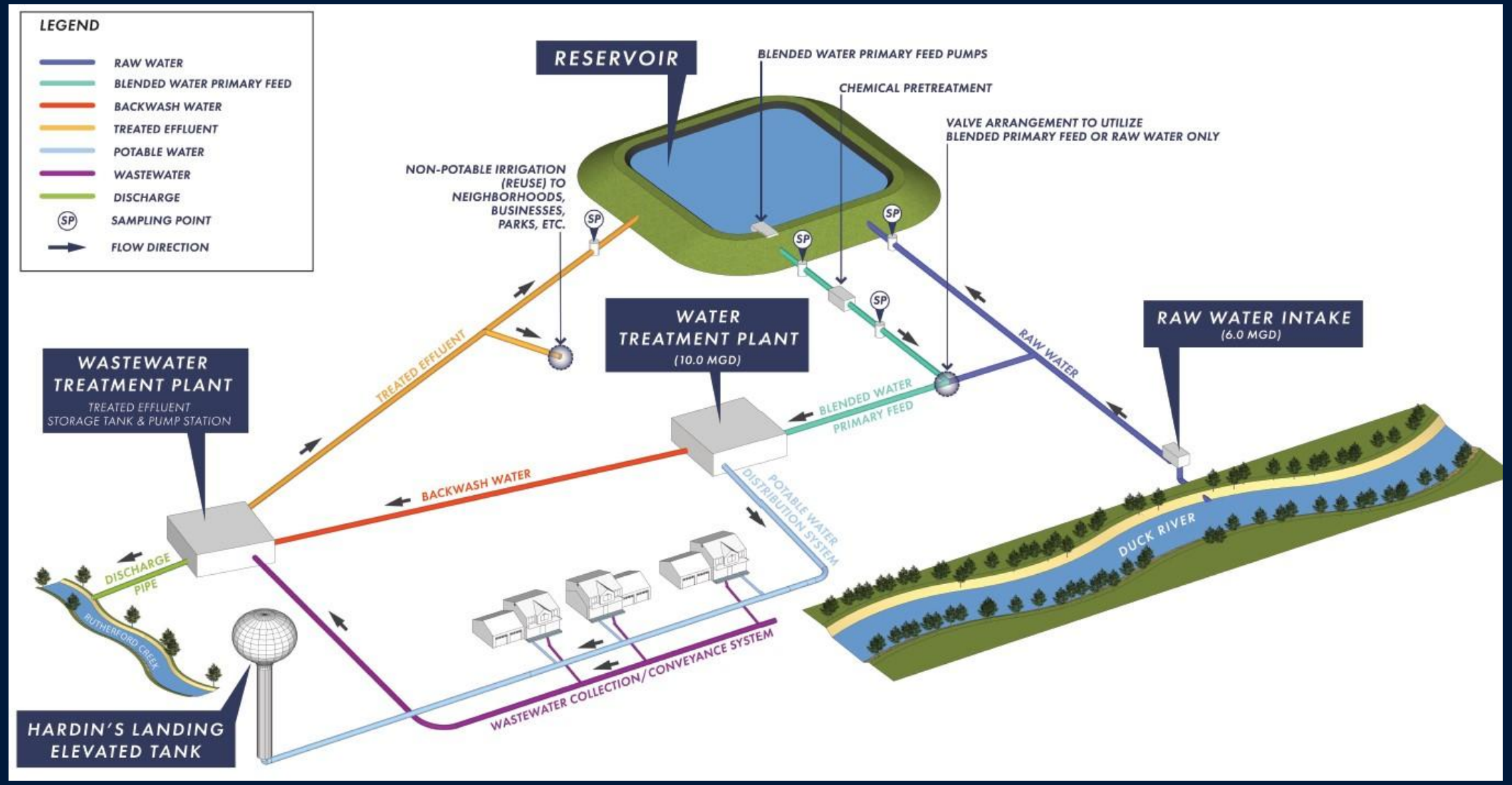
TDEC Utility Infrastructure Investments Workshop
June 4th, 2026

Executive Summary

Spring Hill is planning for sustainable growth to a population of 150,000

- Current raw water intake permit: 6.0 MGD (will not be increased)
- Current discharge permit: 5.0 MGD (will not be increased)
- Solution => Pure Water Spring Hill!

Program Conceptual Plan



Program Objectives

- Increase Water Reclamation Facility capacity to 7.5 MGD
- Enhance drought resiliency
- Enable advanced purification
- Support long-term growth
- Maintain regulatory compliance

How Did We Get Here, Or Why We Learned to Love Assimilative Capacity

- Effluent Discharge Limited to 5 MGD into Rutherford Creek.

- No other discharge locations likely to be approved due to various water protections.

One of the long-term challenges facing Spring Hill is the **limited assimilative capacity of Rutherford Creek.**

As our community grows, treated wastewater effluent represents an increasingly large percentage of the creek's total flow. Over time, the creek can become effluent-dependent, limiting future discharge opportunities and creating additional regulatory and environmental constraints.

Water reuse allows us to beneficially recycle that water instead of relying solely on discharge to a finite receiving stream.

Pure Water Spring Hill

Water Reclamation Facility Expansion

- EQ Basin (Relocate Public Works)
- Headworks Peak Flow Expansion
- Centrifuge Project
- Digestion

Advanced Purification Plant

- Phase 1: Pilot Facility
- Phase 2: 2.5 MGD Facility
- Land acquisition

Reservoir “Reuse, Restore, Reconnect”

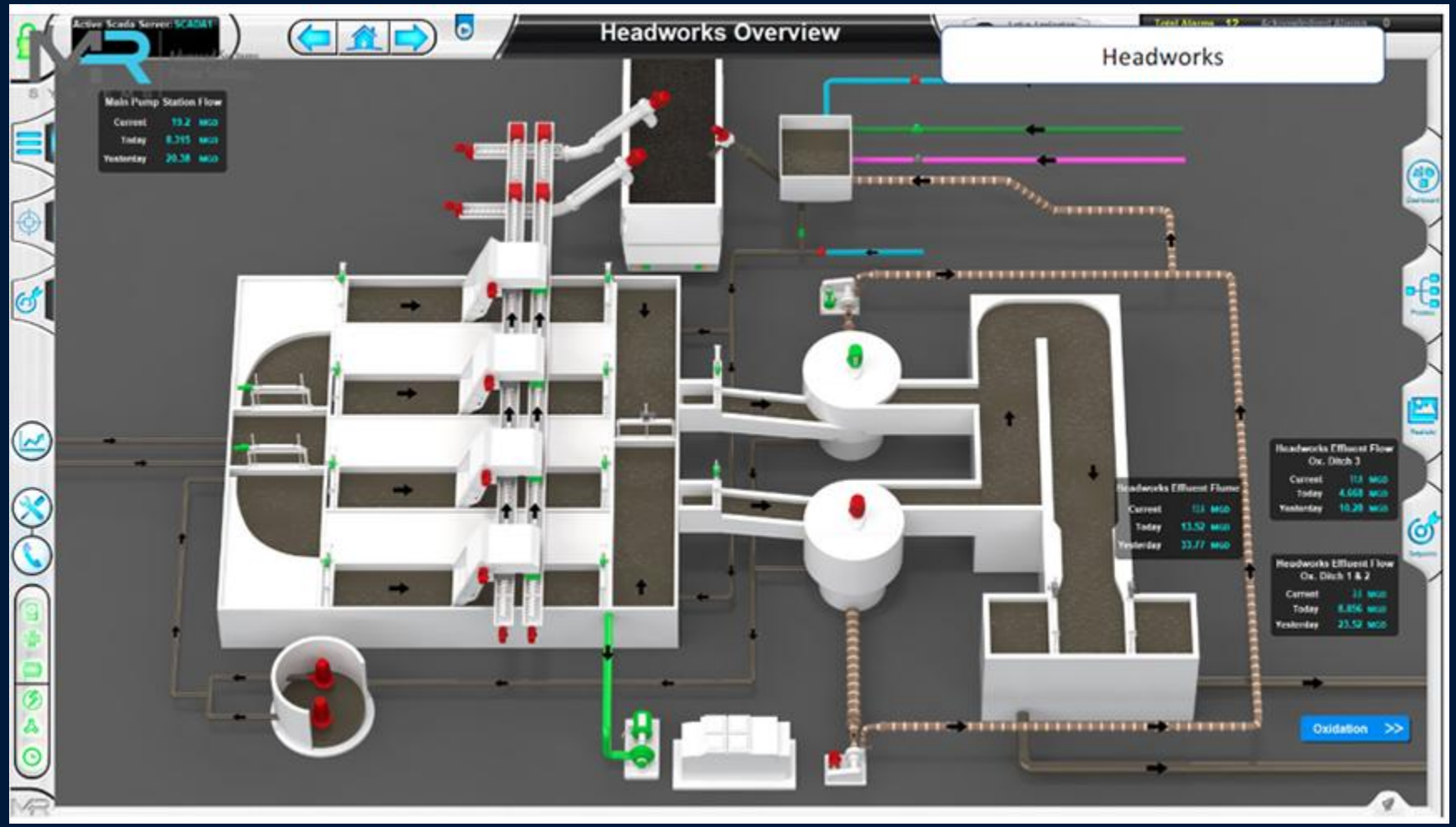
- PureWater Community Park
- Target: 200 Million Gallons of Storage

Total Program Cost ~ $250 Million

Water Reclamation Facility (WRF)
5.0 MGD – 7.5 MGD

Headworks

Headworks Expansion	564 days	Fri 1/1/27	Wed 2/28/29	$6,000,000.00



Digester

New Digester Project	783 days	Thu 7/1/27	Sun 6/30/30	$15,000,000.00

EQ Basin

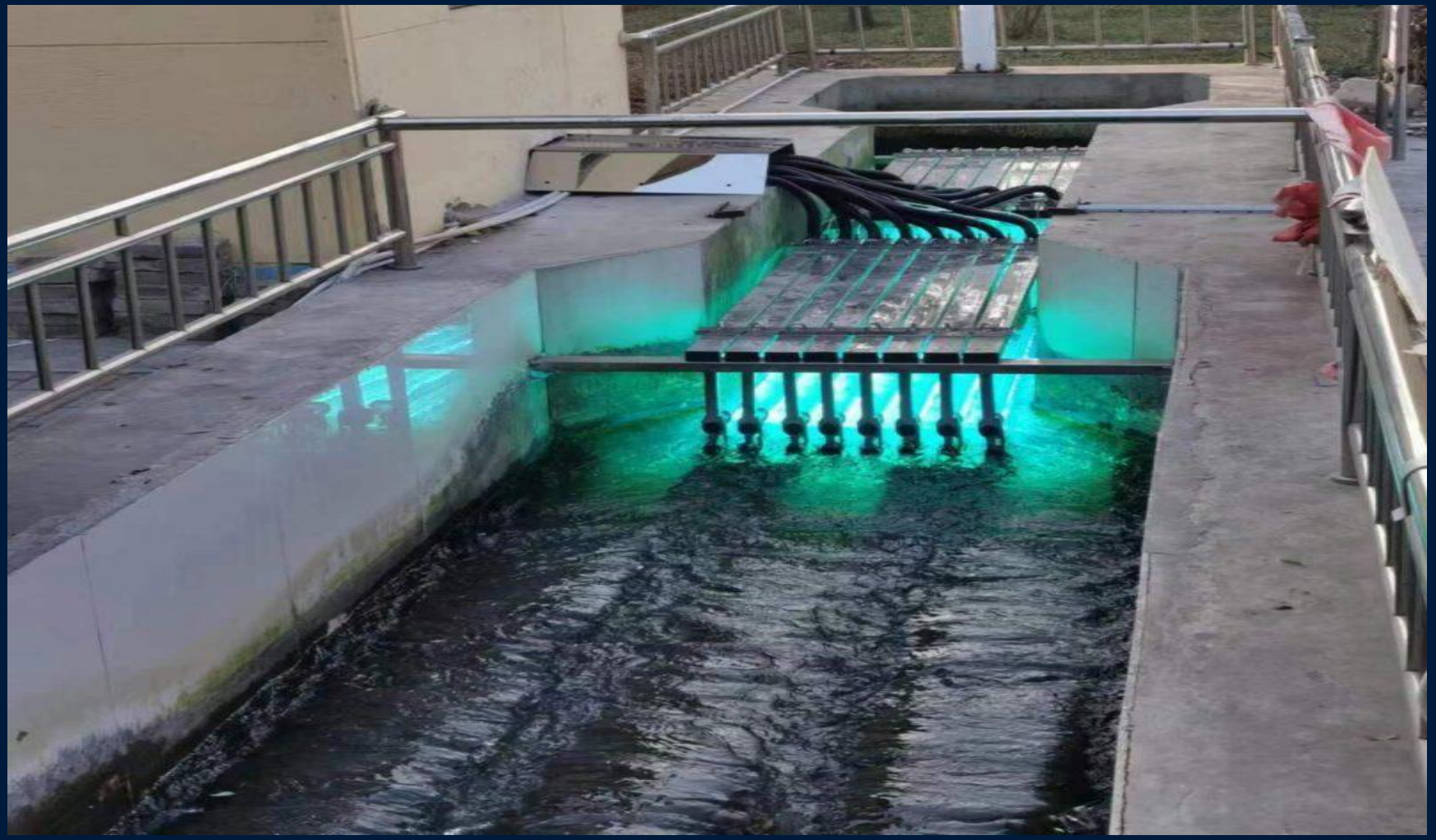
EQ Basin	718 days	Thu 7/1/27	Sun 3/31/30	$10,000,000.00

Filtration

Filtration Pretreatment	587 days	Sat 1/1/28	Sun 3/31/30	$8,000,000.00

Ultraviolet (UV) Disinfection

UV Treatment Train Expansion	391 days	Fri 1/1/27	Fri 6/30/28	$3,000,000.00



Design

Expansion to 7.5 MGD capacity

- Enhanced nutrient removal capabilities
- Main Lift Station integration
- Reuse water diversion design to advanced purification

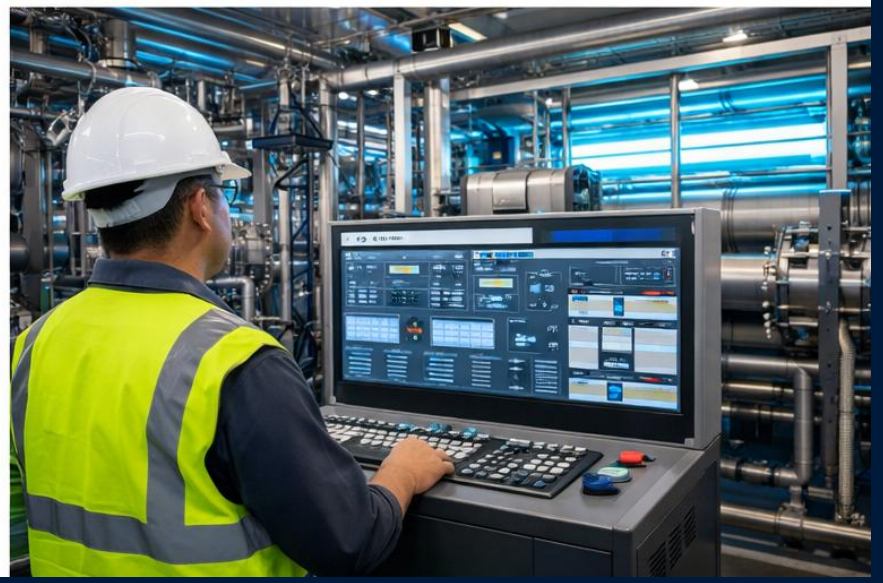
Construction

- Installation of additional equipment
- Integration with reuse facility
- Performance testing and compliance verification

Timeline: 2027 – 2030

Cost: ~ $75 Million

Advanced Water Purification (AWP)




BRINGING OUR W TER FULL CIRCLE

Advanced Water Purification Treatment Process

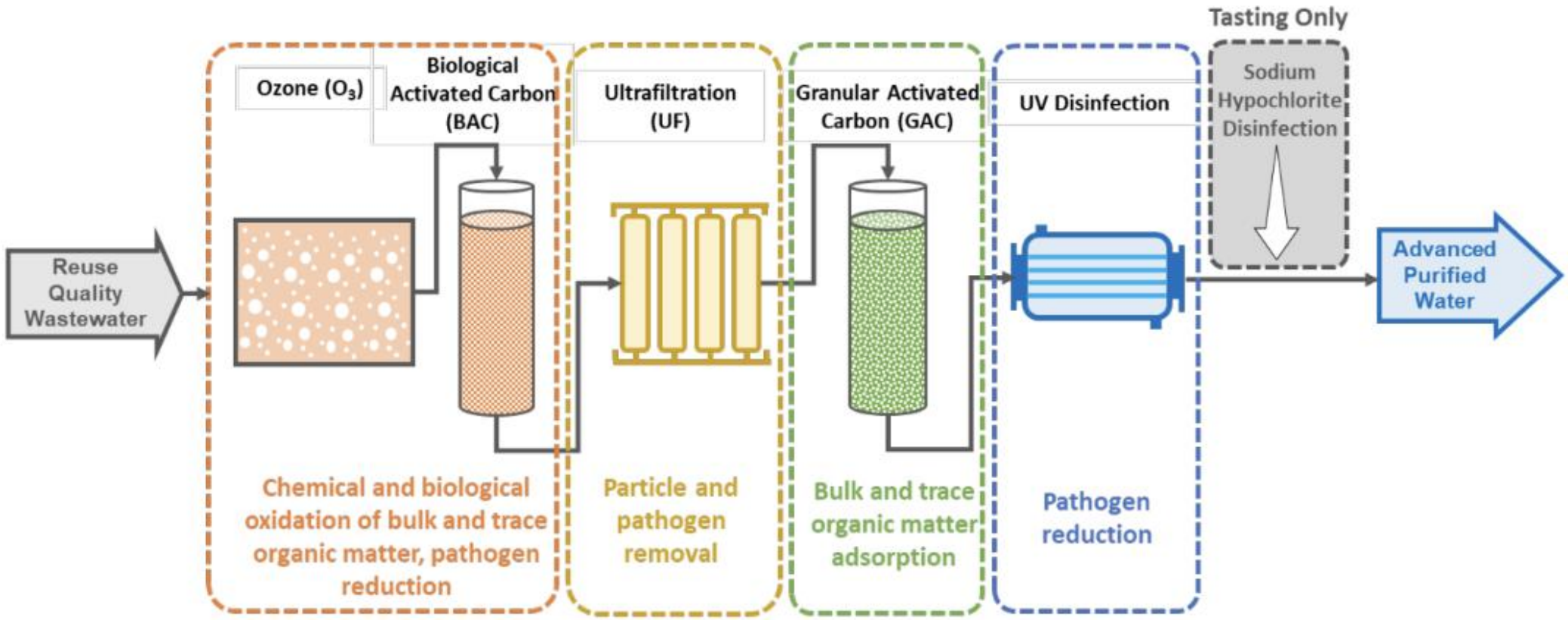


Figure 13 Proposed Advanced Purification Processes for the City of Spring Hill Pilot

Pilot Package Train

Ozonation & Biological Activated Carbon (BAC)

Ozone (O3):

- Oxidizes organics
- Reduces pathogens

BAC: Biological degradation of organics

Purpose: Reduce organic load and improve downstream performance

Pilot Chemical Feed

Ultrafiltration (UF)

Membrane filtration process

Removes

- Suspended solids
- Bacteria & protozoa

Benefits:

- Consistent water quality
- Protects downstream treatment

Pilot Filtration System

Granular Activated Carbon (GAC)

Adsorption Process

Removes:

- Dissolved organics
- PFAS & trace compounds

Benefits:

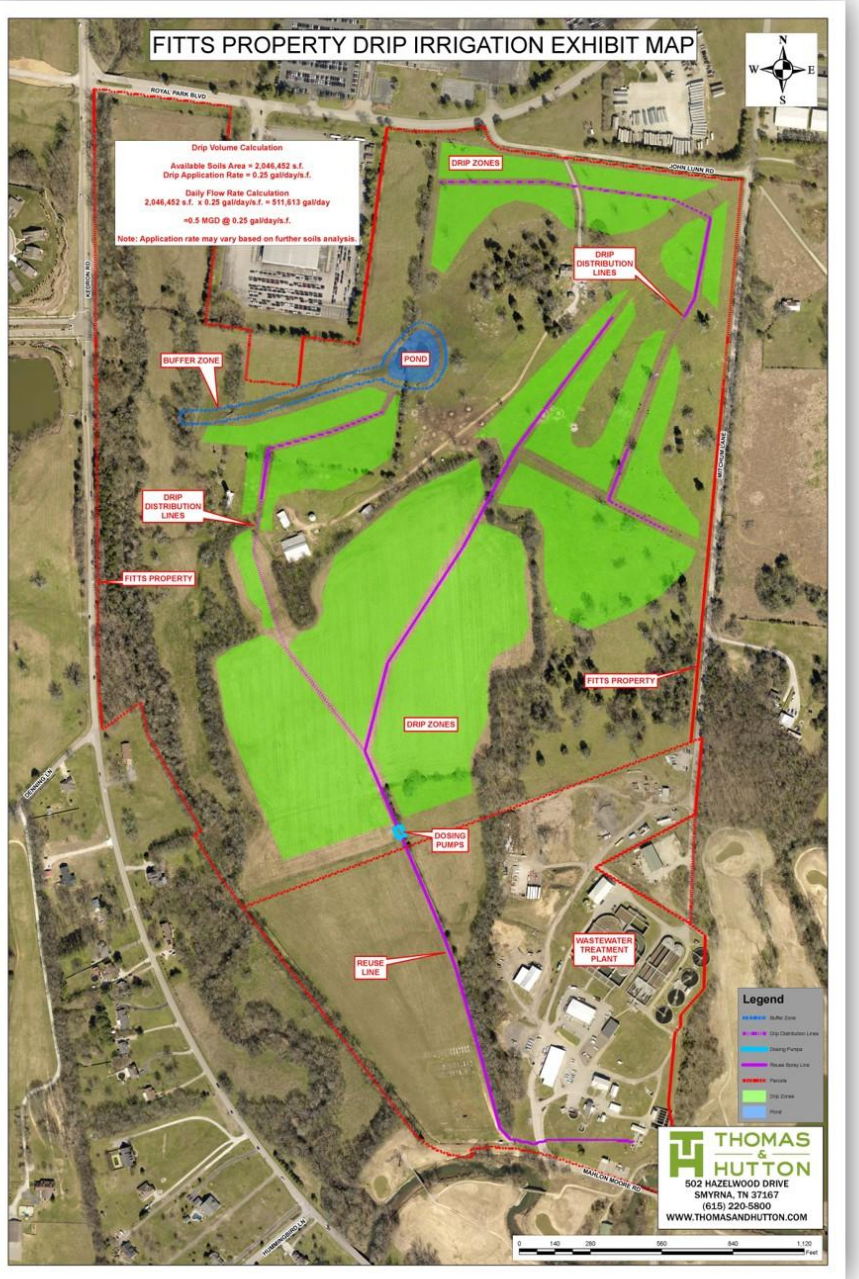
- Polishing step
- Improves water quality

UV Disinfection & Final Disinfection

- UV: Inactivates pathogens
- Chlorine: Provides residual
- Outcome: Advanced Purified Water suitable for reuse

Pilot UV Disinfection

Advanced Purification Facility Location



AWP Overall Facility Plan

- Pilot: 34 GPM = 48,960 GPD
- Main facility: 2.5 MGD expandable to 10 MGD
- Multi-barrier treatment (Ozone, UF, GAC, UV)

Pilot → Regulatory Approval → Construction

Timeline: 2026 – 2030 Cost: ~ $75 Million


NaCL
PURE
WATER

Reservoir

Features:

~ 200 MG Storage

Pump Stations

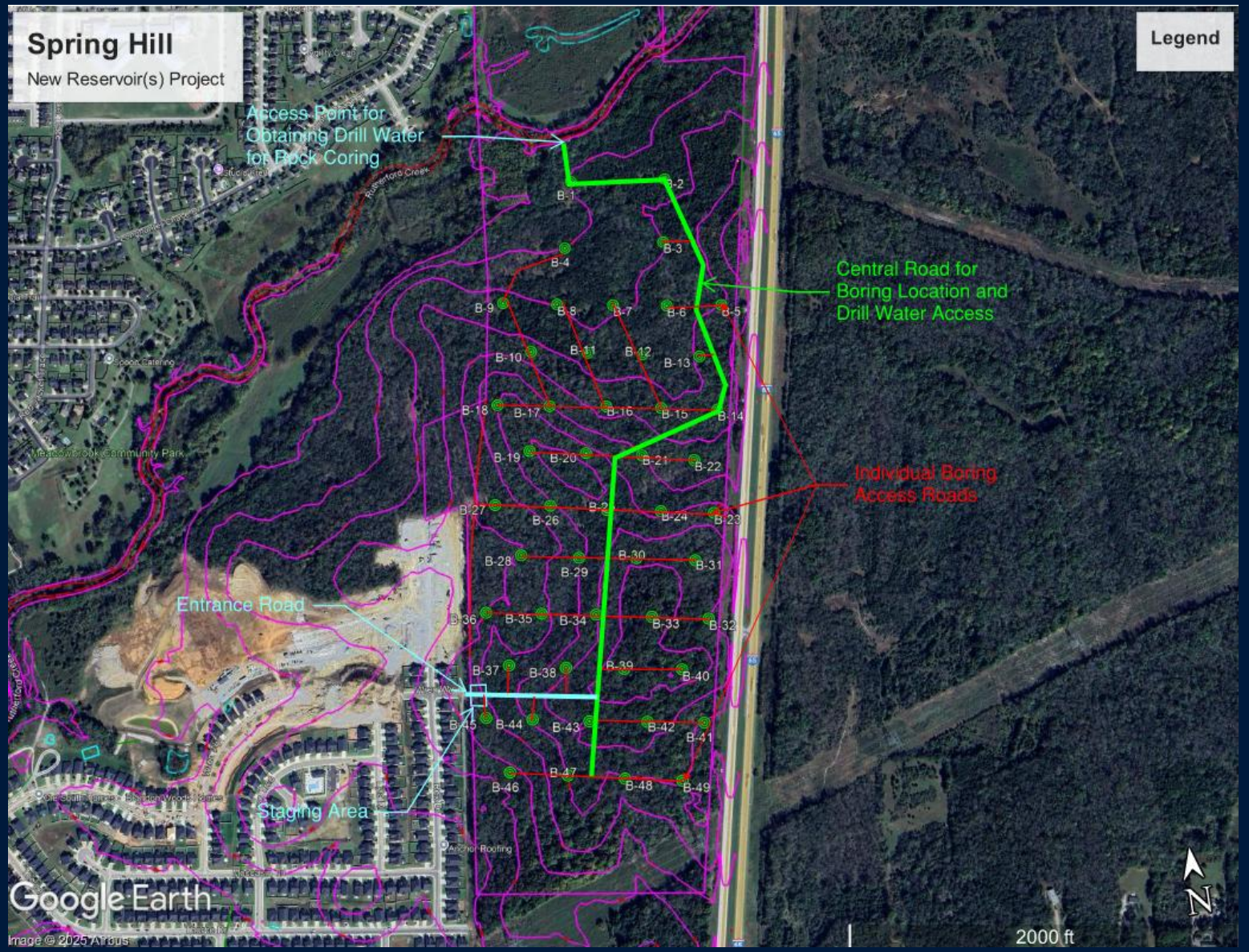
Underground Piping

Community Park

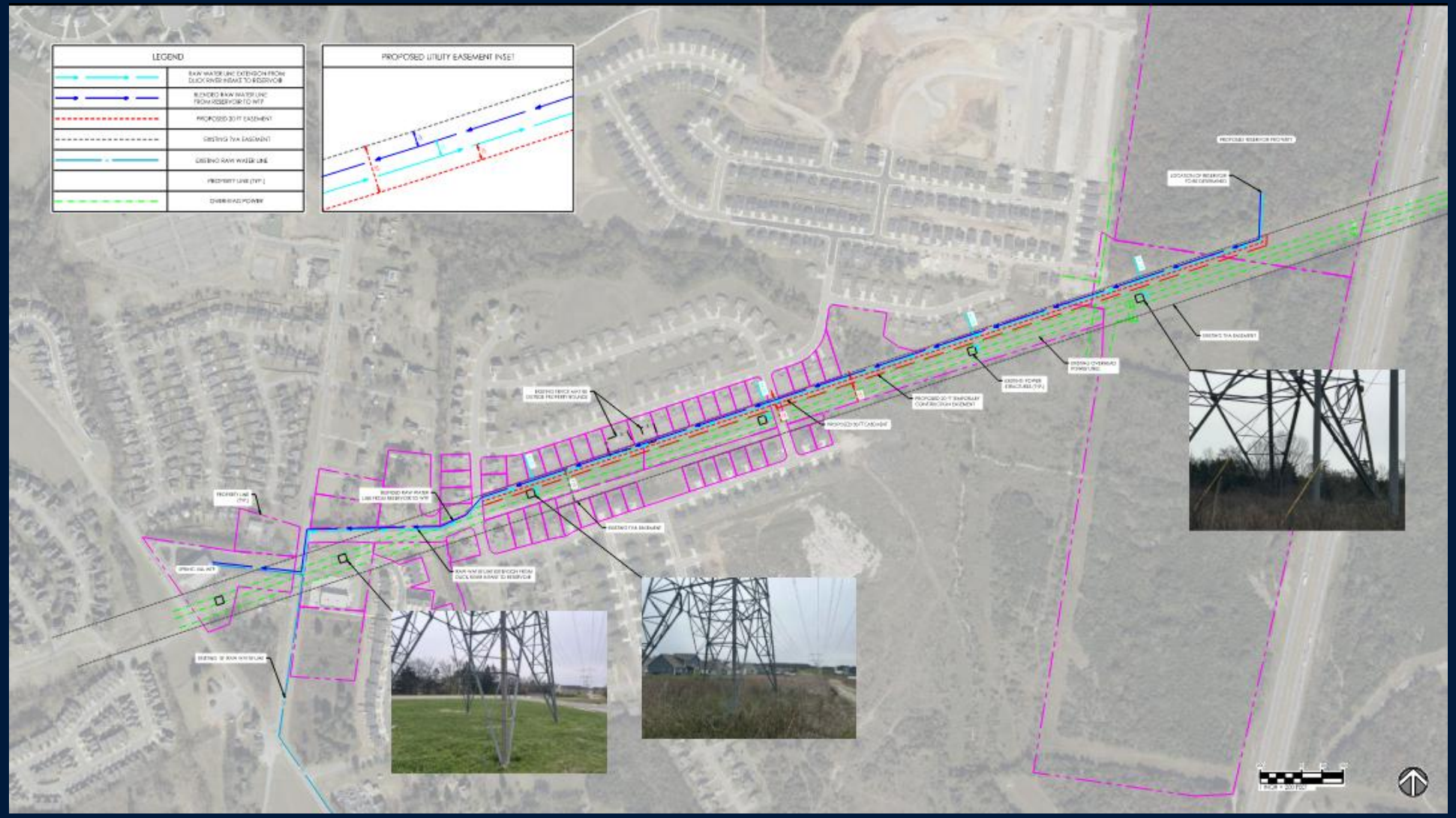
Includes:

- Walking trails
- Park amenities
- Boardwalks
- Educational overlooks

Site Geotechnical Exploration



WTP / Reservoir Pipeline Routing



Reservoir Planning

Design

Equipment Procurement

Construction

- Ponds
- Water Transmission Pipelines
- Supporting Infrastructure

Timeline: 2026 – 2028

Cost: ~ $75 Million

Pure Water Program Timeline

- 2026–2027: Planning & Pilot
- 2027–2029: Core Infrastructure
- 2028–2030: Treatment Expansion
- 2030: Full System Integration
- 1,453 days to Substantial Completion

Critical Path & Risks

- APF regulatory approval
- Facilities construction
- Reservoir excavation
- Equipment procurement
- Mitigation: Design / Build delivery, early procurement

Financial Strategy

- BOMA has authorized $320M in utility rate supported General Obligation Bonds (AA+ Rating)
- 3 year rate increase to cover capital and operations costs. Final 30% increase automatically goes into effect July 1, 2026.
- In order to move quickly, financial models were developed assuming no SRF or Grant funding support.
- Paves the way for a $150M Progressive Design Build Package.

Why Pure Water Spring Hill?

- Potential Environmentally Friendly Alternative to Mega Projects
- Decentralized Offsite Reservoirs with Effluent Blending provide local utility assets to assist with drought resiliency as well as being scalable to keep pace with future growth.
- Enables a possible regional framework for Spring Hill to provide water purchase opportunities to neighbors and promote further interconnection between systems.
- This program is a solution for Spring Hill that scales to serve not just this generation, but every generation to come.
- Protects public health, and provides our citizens some of the cleanest drinking water in the nation.

A few shall stand, so that all may rise …