

Hampton Manor Water District Source, Treatment & Distribution

Town of East Greenbush, Rensselaer County, New York

Presented by Delaware Engineering, D.P.C.

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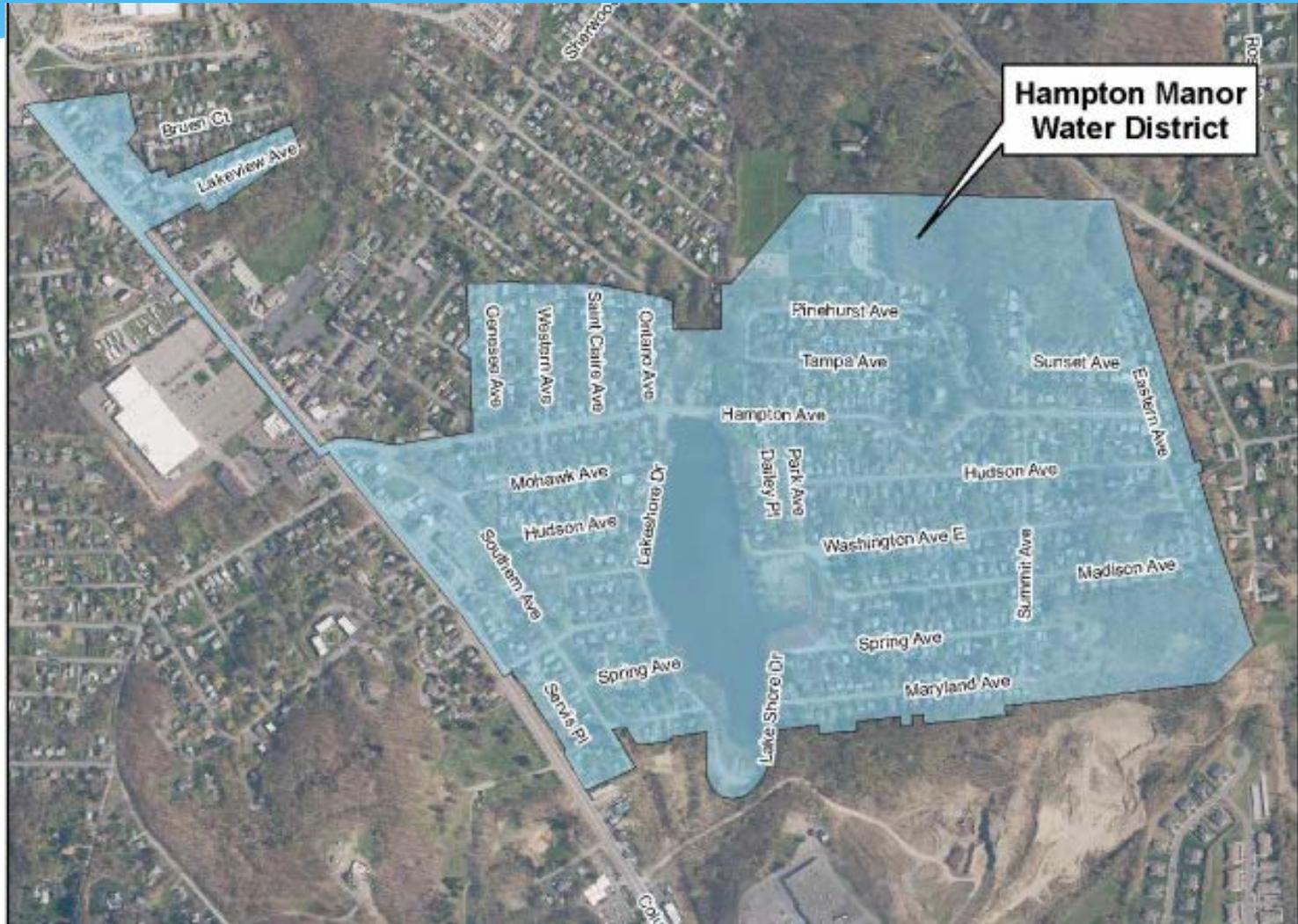
Genet Elementary School

29 Englewood Ave, East Greenbush, New York

Hampton Manor Water District

- * Customers = 655+ (~2,240 persons)
- * Residential = 92%; Apartments & Commercial = 8%
- * Source Water: Two Groundwater Wells
- * Water Treatment: Chlorination (disinfection) & Ortho-Phosphate (corrosion control)
- * Water Storage: Two Tanks (60,000 gal & 140,000 gal)
- * Ave. Day Demand: 109,000 GPD; Peak Day: 205,000 GPD
- * Pipe Length: 7.7 Miles; Water Valves: >120; Hydrants: ~45

Hampton Manor Water District



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Current Water Quality

- * Meets National Primary Drinking Water Regulations for Human Health
- * Aesthetic Concerns (taste, color & odor):
 - * Alkalinity – measure of the ability of water to neutralize acids which impacts taste and corrosively
 - * Total Dissolved Solids (TDS) and Conductivity – hardness deposits on fixtures and salty taste
 - * Iron – rust colored water; metallic taste, stains
 - * Manganese – black or brown colored water; metallic taste, stains
 - * Sodium – above 20 mg/L recommended for persons on a sodium restricted diet

Hampton Manor Water District Current Infrastructure Conditions

- * Well pumps and equipment aging and in need of replacement or extensive repair
- * Water tanks in need of replacement (60,000 gal tank) or extensive repair (120,000 gal tank)
- * Water meters needed to ensure equitable cost assessment and to encourage water conservation
- * Water line replacements required:
 - * Tampa Ave (1,000 LF)
 - * Hudson Ave (700 LF)
 - * Washington Ave (800 LF)
 - * Madison Ave (1,000 LF)
 - * Spring Ave (300 LF)

Hampton Manor Water District Minimum Infrastructure Investment

- * Water Meters

- * Meters (installed) : 630 @ \$495/each = \$311,850

- * Meter Pits: 158 (+/-) @ \$1,067/each = \$168,586

- * Total Meter Cost: \$480,436

- * Water Line Replacement

- * 3,800 LF @ \$220/LF = \$836,000

Hampton Manor Water District Water Quality Improvement Options

- * Maintain Existing Water Resources (two wells)
 - * Water Treatment to Address Aesthetic Concerns consisting of Sand Filters, Pumps, Controls, Housing, etc. = \$315,000 capital
 - * Water Storage Tanks
 - * Rehabilitate Two Existing = \$605,000
 - OR
 - * Replace Two Existing with One New = \$710,000
 - * Total Capital Cost = \$920,000 - \$1,025,000
 - * Added Annual Operating Costs = \$24,000 estimated

Hampton Manor Water District Water Quality Improvement Options

- * Connect to General Water District as Source of Supply
 - * Install a Master Meter at Point of Interconnection; Decommission Wells and Tanks; and Install Pressure Control (valve) = \$379,000
 - * No added Annual Operating Costs
- * General Water District
 - * Approximately 11,200 customers demanding 3,303,000 GPD
 - * Cross Street Pump Station directs City of Troy water to two – 5 million gallon tanks at the top of Grandview Drive jointly owned by the Town and the City of Rensselaer from which water is distributed to the General Water District

Hampton Manor Water District Status and Summary of Options

* Status

- * Current aesthetics (color, taste and odor) are unacceptable and will no longer be tolerated
- * Water meters are required for billing and to encourage water conservation
- * Water line replacements are necessary to maintain the integrity of the water system

* Solution Options

- * Maintain a separate water system with new treatment
- * Interconnect to the General Water District for water source

Hampton Manor Water District Benefits and Drawbacks of Options

Factors	Stand-Alone Source	General District Source
Capital Cost	Higher	Lower
Operating Costs	Higher	Lower
Water Quality	Good	Good
Economy of Scale	Poor	Excellent
Sustainability	Low	High

Hampton Manor Water District Concerns

- * Disinfection By-Products from Troy Water
 - * THMs are caused when chlorine used to disinfect the water to prevent diseases is in contact with naturally occurring organics present in water
 - * See your doctor to determine your personal risk from exposure to THMs, sodium (current system), or any other health concerns
- * Reliability
 - * Water main breaks can affect any system; well pumps in current system highly vulnerable to failure and disruption
- * Cost to Users
 - * To be Determined - Stay tuned!

Hampton Manor Water District

* QUESTIONS?

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