

# Emergency Interconnection Between Norwich Public Utilities and Sprague Water and Sewer Authority distribution Systems: A Drinking Water State Revolving Fund (DWSRF) Project

Sprague Water and Sewer Authority (SWSA) operates five production wells (Wells #1, #2A, #3, #4, and #5) as sources of drinking water supply serving 1,058 customers which consist mostly of residential homes. These wells are located in two separate wellfields. Wells #1, #2A and #3 are located in a field between River Street and the Shetucket River in the Baltic section of Sprague. Water from these wells is treated with sodium hypochlorite for chlorination, soda ash for pH adjustment and phosphate (Carus 8600) for corrosion control. Wells #4 and #5 are located near the Baltic Reservoir (off of Bushnell Hollow Rd) and



water from these sources of supply is treated for radon removal and chlorinated before it enters into a small storage tank in the pump house. The treated water from the two wellfields is being blended in the distribution system to make the water quality consistent and lower the radionuclide levels. SWSA operates two distribution storage tanks located near the individual treatment buildings.

The Town of Sprague is identified on 2021 Distressed Municipalities List of the State Department of Economic and Community Development.

## Issues Facing the Water System

DPH's recent Sanitary Survey report cited SWSA with several deficiencies. SWSA also experiences occasional water main breaks due to the age of

the pipes used in the distribution main. SWSA was in need of a reliable backup source of supply to meet their water demands in the event of a public drinking water supply emergency due to a low margin of safety in water supply from their groundwater sources.

## Were there technical, financial, or managerial (TMF) capacity issues at the system?

As a distressed municipality, the Town of Sprague has a financial capacity issue. The Town was been planning to make significant improvements to its water system components but unable

### Town of Sprague Demographics:

Population: 2,967

Median Household Income: \$72,989

CT MHI: \$79,855

Poverty: 9.7%

Employment Rate: 66.6%

Bachelor's Degree or Higher: 21.8%

Homeowner Rate: 61.9%

U.S. Census: 2020 American Community  
Survey 5-Year Estimates

to pursue its plan since it does not have a financial capability to secure the needed funding to support the necessary project costs.

### What approach was ultimately selected to solve the problem(s)?

Norwich Public Utilities (NPU) approached SWSA and offered to extend its distribution system along Baltic Road (Route 97) up to a property located at 186 Main Street in Sprague. This water main extension connected the existing SWSA's distribution system and provide adequate water supply to meet the demand in the event of a public drinking water supply emergency.

### What funding and/or technical assistance was provided?

NPU secured a funding assistance from the State of Connecticut Department of Public Health's (CT DPH) DWSRF program to support the project construction. A total of \$2,783,089.00 from the DWSRF program was provided to the NPU to support the costs for engineering and construction of the water main extension project. Of this amount, approximately \$1,477,113 was in the form of State grant-in-aid from the DWSRF. The project was completed on October 18, 2019.



### How have things turned out?

SWSA received this \$2.8 million emergency interconnection with NPU at no cost to the Town or their residents. Norwich Public Utilities used DWSRF financing to pay for the project and received significant funding subsidization (50% of the total project cost) from the DWSRF to successfully complete the project. As a result of their assistance to this distressed community, NPU also received approximately \$3.6 million in additional state grant support for approximately \$13.5 million in upgrades to both of their water treatment plants, a storage tank and a transmission main. This important interconnection between SWSA and NPU will provide additional resiliency to the Town of Sprague in the event of a public drinking water supply emergency.

### Lessons Learned:

- It requires proper collaboration among the team players (CT DPH, Elected Town Officials, and Public Water Systems) to move this project forward to benefit the public.
- SWSA realizes that reliable backup source of supply is essential to provide adequate water supply to meet the demand in the event of a public drinking water supply emergency.