

OVERCLIFF BOOSTER PUMP STATION & STORAGE TANKS

TOWN OF ST. JOHNSBURY, VERMONT



Completed Pump Station & Storage Tanks



Pump Station Interior

High elevation customers create a criterion for minimum water tank levels in order to maintain 20 psi for these customers. This criterion limits the amount of available water storage in the event of a fire or during emergencies to only the upper amount of the water storage tank. In some cases, much of the water in a water storage tank can be referred to as “dead storage”. It is not available to the system if low tank levels create pressure less than 20 psi for nearby customers.

This was the case in the Overcliff area of St. Johnsbury and most of the Overcliff tank storage was “dead” and not available to the system as resulting pressures dropped below 20 psi if the tank dropped to less than 90% full. The use of the Overcliff Water Booster Station created a boosted zone for these upper elevation customers regardless of tank level. The entire volume of Overcliff tanks is now available to the water system without any pressures within the distribution system dropping to below 20 psi.

The project included replacing the existing dual tanks and installing a booster pump station. Site limitations and an existing vertical ledge face required tanks that could be constructed using only the existing tank footprint. Glass-fused-to-steel bolted panel tanks were recommended as the best solution to these constraints.

KEY FEATURES:

PUMP STATION:

- Constant pressure VFD controlled pumps provide both domestic demand and fire flow capabilities.
- LP gas standby generator.
- PLC Controls and RTU SCADA Communication.
- Security/Fire/Smoke/Flood Alarm System.
- Standby booster chlorination capability.

STORAGE TANK:

- Starter ring for future vertical expansion.
- Security hardened vent and access hatch.
- Limited site access due to property line configuration.