

## UV Disinfection of Effluent Started May 1, 2019

The Gloversville Johnstown Joint Wastewater Facility (GJJWTF) installed an Ultra-Violet (UV) disinfection system. The operational UV disinfection system cost was \$2.1 million dollars. This cost was offset by a NYSDEC \$1.1 million grant. This project was necessitated when the NYSDEC raised the Cayadutta Creek's classification from a Class D water body to a Class C water body. As a result, GJJWTF was required to seasonally disinfect the facility's effluent from May 1 to October 31.

GJJWTF's SPDES requirements for fecal coliform is 200 MPN/100 mL monthly average and 400 MPN/100 mL maximum weekly average. MPN means the most probable number of fecal coliform colonies. Per SPDES permit requirement, the effluent is sampled twice a week for fecal coliform. Since the UV disinfection system's initial startup on April 29, 2019, the overall average monthly fecal coliform MPN value during this 3-year time frame was 1.6 MPN per 100 mL. The maximum weekly average of fecal coliform MPN was 9 MPN. The highest maximum fecal coliform MPN sample was 43 MPN which occurred on July 13, 2020. GJJWTF is well below the SPDES requirements for fecal coliform.

The UV disinfection equipment is housed inside a dedicated building to protect the system from adverse weather events, allow easier maintenance and cleaning of ballasts and bulbs, and provide bulb storage during seasonal shut downs.



Figure 1 - UV Disinfection Building at the end of the Final Tanks.



Figure 2 – UV disinfection modules and UV bulbs.



Figure 3 – UV disinfection control room.