

VILLAGE OF ROBERTS CHOOSES ABNR OVER OTHER TERTIARY TREATMENT OPTIONS TO ADDRESS WQBEL

VILLAGE OF ROBERTS WATER TREATMENT



FACILITY DATA:

Location: Roberts, St. Croix County, WI

Size: 0.15 MGD

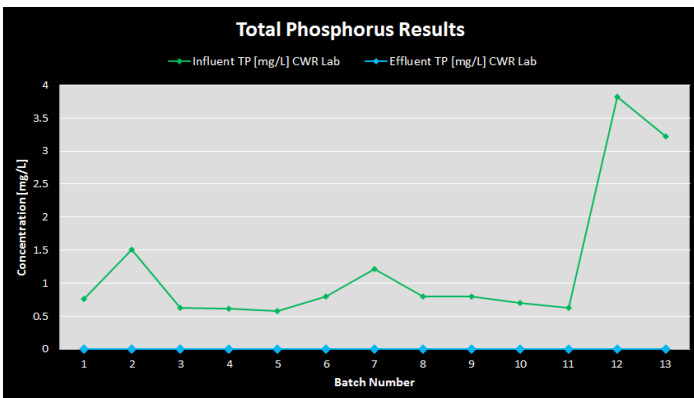
Target constituents: Phosphorus and ammonia

Average Influent (phosphorus): 1.24 mg/L

Average Effluent (phosphorus): 0.002 mg/L

OBJECTIVE

The Lake St. Croix Total Maximum Daily Load (TMDL) study resulted in the Village of Roberts being included on the list of Wisconsin facilities that are subject to a 0.04 mg/L total phosphorus limit. The Village of Roberts evaluated multiple tertiary treatment technologies to find the best solution to meet Water Quality Based Effluent Limits (WQBELs).



After outstanding TP reduction with the first 11 tests on secondary effluent, it was mutually decided to treat influent chemical phosphorus prior to alum dosing. The purpose was to eliminate existing upstream treatment and implement ABNR to save O&M costs.

RESULTS

The Village of Roberts implemented the CLEARAS Advanced Biological Nutrient Recovery (ABNR) system as a pilot. After the ABNR system successfully, and consistently, treated the facility's secondary effluent to nutrient levels below the proposed WQBEL for total phosphorus (a total of reduction of nearly 99%), it was decided to advance with commercial installation. The expectation based on pilot results is that Roberts will nearly eliminate chemical phosphorus removal upstream. Currently, it is in the design and engineering phase with target startup in Fall of 2019.

ABNR PILOT SUCCESS

"It went extremely well. Every test that was run, except the very first one, came out at the "no detect" level. In the very first test, the plant had only been running for an hour and it came out at 0.04. The detection limit is 0.03."

- John Bond, Public Works Director,
Village of Roberts, WI