



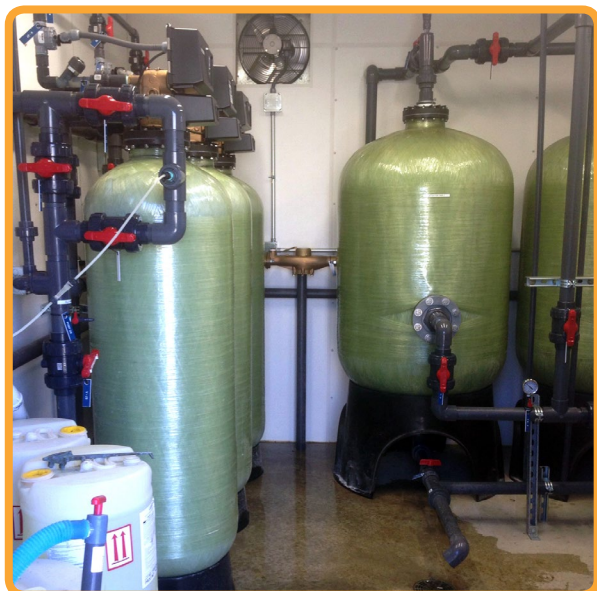
MUNICIPAL WTP

IFM DESIGNED AND INSTALLED A NEW WATER TREATMENT SYSTEM FOR SULFUR REMOVAL

IFM was contacted by a long-standing municipal client to aid with high sulfur content at two facilities. The sulfur content in the wells at the two facilities was high enough to cause drastic fluctuation in chlorine residuals. This resulted in regular exceedance of the OEPA chlorine residual regulations.

DESIGN SOLUTION > IFM designed a system to chemically oxidize the sulfur from the water prior to chlorination, thus using the chlorine only for disinfection. This resulted in consistent chlorine residuals, meeting OEPA regulations.

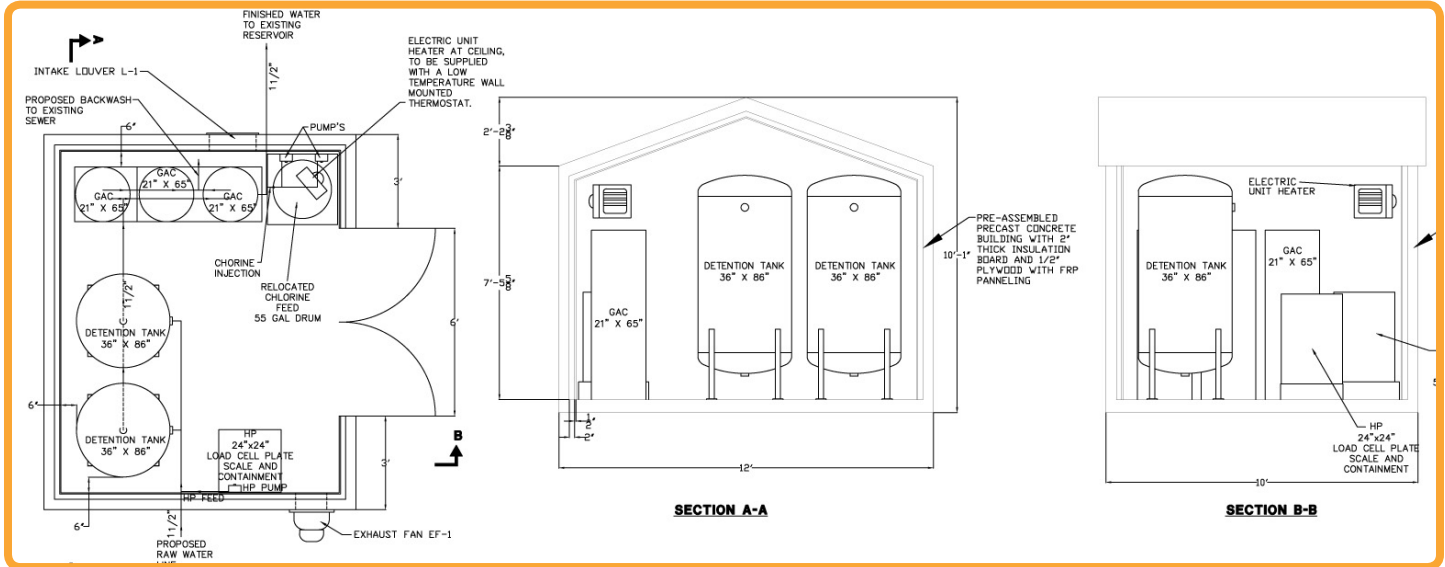
- To incorporate all the equipment necessary for the new water systems, a dedicated water building was built at each facility.
- In preparation for the new buildings, IFM technicians were on site during tree removal, hydro-excavation and installation of the underground utilities.
- Upon completion of the site work, IFM constructed the two 10' x 14' x 8' buildings, including insulation, heat, ventilation and electrical panels.
- Both buildings were inspected prior to the installation of the treatment system.
- The new water treatment system consisted of new well pumps and raw waterline meters for each facility.
- The well water is fed into the building to pressure tanks where Hydrogen Peroxide oxidizes the sulfur allowing the sulfide ions to precipitate out of the water.
- Hydrogen Peroxide is a much better oxidizer than chlorine or potassium permanganate.
- The detention tanks then feed Granular Activated Carbon (GAC) filtration units to remove the precipitate and excess Hydrogen Peroxide that is not consumed in the oxidation process.
- This is a critical step in the disinfecting process because Hydrogen Peroxide reacts with the Sodium Hypochlorite (liquid chlorine).



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- The treated water then flows to the clear well (holding tank) where it is available for the facilities use.
- IFM Operators visit these sites 365 days a year to observe plant operations and record EPA required chlorine residuals.
- In addition to daily checks, operators check well water sulfide and Hydrogen Peroxide levels before and after the GAC filters, then again before flowing into the clear well.
- This ensures proper sulfur removal and disinfection is occurring throughout this facilities.
- IFM designed this system entirely in house, receiving treatment plan approval from OEPA and building approval from Ohio Department of Commerce.

