



Summary of Recent Projects

Area of Work: *Environmental Studies*

Project Description: Water9 Air Emissions Modeling for Municipal Wastewater Treatment Facility



AquAeTer provided the following services to its client for this project:

- Analysis of Influent Constituent Data;
- Development of a Water9 Model of the wastewater treatment facility;
- Emissions Estimates for the following:
 - Hazardous Air Pollutants; and
 - Total Volatile Organic Compounds ;
- Provided documentation of emissions from each treatment segment in the facility;
- Determined, based on modeling, that the plant should be considered a minor source for HAPs.

AquAeTer partnered with a civil engineering firm to provide an emissions model for a 100 million gallons per day+ (mgd) Publicly Owned Treatment Works (POTW) in the Midwest. The POTW receives both domestic and industrial wastewaters for treatment. The industrial sources included several volatile organic constituents that are listed as hazardous air pollutants (HAPs). Some of the industrial sources have added or improved their own pretreatment so that the mass of HAPs coming to the POTW has significantly decreased. The model consisted of the treatment processes, including grit removal, primary settling, aerobic degradation through trickling filters, final clarifiers, and others.

The model results predicted that the facility would emit a smaller amount of HAPs than the facility was previously estimating, based upon USEPA air emission AP-42 factors.

The facility's flow rate averages just over 100 mgd, with peaking flows of 350 mgd. After an initial site visit and meeting with the clients, **AquAeTer's** was also asked to conduct additional modeling for emissions estimate of total Volatile Organic Compounds (VOCs).



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BRENTWOOD, TN
(615) 373-8532

CENTENNIAL, CO
(303) 771-9150

HELENA, MT
(406) 449-6216