

**WEBSTER ENVIRONMENTAL ASSOCIATES, INC.**

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ENVIRONMENTAL AND ODOR CONTROL ENGINEERING

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**THE COMPANY**

**WEBSTER ENVIRONMENTAL ASSOCIATES, INC. (WEA)** is a consulting environmental engineering firm. Incorporated in November, 1981, WEA provides services in the wastewater, odor and corrosion control and solid waste management fields. Clients include engineering firms, municipalities, industries and government agencies.

**Webster Environmental Associates, Inc. has become a leader in environmental and odor control engineering and has completed hundreds of projects by providing personalized service, a unique understanding of the issues and creative solutions.**



Bruce, Michele, Neil and Buz

**TECHNICAL ENGINEERING SERVICES**

WEA offers clients a wide range of technical and engineering support services, including:

- ✓ Odor and corrosion control services
- ✓ Air treatment system performance and compliance testing
- ✓ Air dispersion modeling
- ✓ Air permitting
- ✓ Wastewater treatment plant design and process evaluations
- ✓ Residual biosolids management studies and design
- ✓ Engineering studies and reports
- ✓ Value engineering
- ✓ Construction management
- ✓ Energy audits and energy management plants
- ✓ Treatment plant evaluations and testing for expansion
- ✓ Industrial waste treatment studies and design
- ✓ Report graphics and computerized drafting

## SUMMARY OF ODOR CONTROL EXPERIENCE

### Odor Studies:

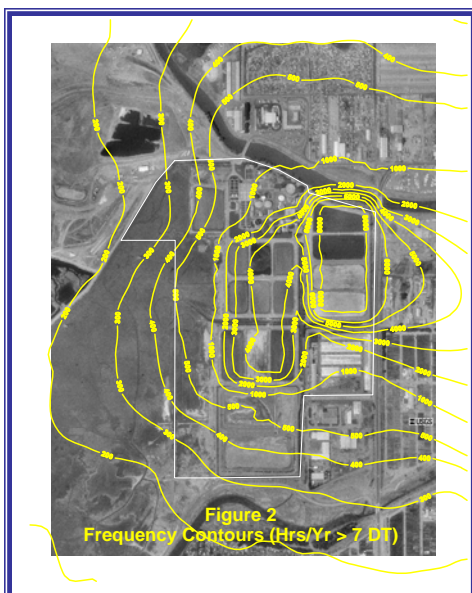
WEA has completed hundreds of odor studies for municipalities and industrial clients. WEA has all the experience and equipment necessary to evaluate treatment processes, collect air samples, conduct on-site testing of hydrogen sulfide, ammonia and other compounds, perform community odor surveys and evaluate the performance of existing odor control systems.



**WEA has completed odor studies in all climates and all sizes of wastewater treatment plants throughout the world. We will organize the study to fit your particular needs and obtain the information that is needed to resolve your odor issues.**

### Odor Dispersion Modeling:

Odor dispersion modeling is essentially a computer program designed to predict the impact an odor source, or group of odor sources, will have on designated study area based on a number of factors that are input into the program. The primary inputs include odor emission rates from individual odor sources, odor source dimensions and characteristics, local meteorological data, local site data such as building and other structure dimensions, and local topographical information. Odor dispersion modeling is used as a reliable and cost-effective approach for predicting off-site odor impacts from odor sources and to evaluate odor mitigation alternatives.



**WEA has completed dozens of modeling evaluations and frequently prepares them for other engineering firms who do not have this capability.**

## Odor Control System Design:

WEA has designed all types of odor control systems including the following:

- Chemical Scrubbers – Designed several scrubber systems ranging in size from 2,000 cfm to 60,000 cfm.



**HDPE Crossflow Scrubber**

- Biofilters – Designed more than twenty (20) biofilters, in all shapes, sizes and types of media from in-ground using a railroad cross-tie air distribution system and wood chip media in an abandoned sludge drying bed to a custom-built coated concrete system with FRP support system and synthetic media.



**Wood Chip Biofilter**

- Bioscrubbers – Bioscrubbers are like scrubbers in that they are typically built inside of a FRP or plastic vessel and contain layers of packing or media but instead of using chemicals odors are controlled by biological growth on the media that breaks down the odor. WEA has designed 3 bioscrubber systems. The accompanying picture is of a typical Bioway installation.



- Carbon Adsorbers – WEA has designed numerous carbon adsorption systems using a variety of layouts and carbon types. Our experience in these many situations allows us to select the carbon system that will work best in each situation.



- Activated Sludge Diffusion – Odors are removed via ASD by injecting the odorous air through the air diffusers in aeration basins at wastewater treatment plants. WEA has designed several of these systems with great success.



- Chemical Feed – Chemicals are commonly used in wastewater collection systems to control odors at pumping stations and along forcemains. WEA has designed several chemical feed systems to feed a variety of chemicals.

