



MOVING WATER FORWARD

# Biosolids

Making beneficial use of waste – a story of innovation.

In developed nations like the U.S., water and wastewater systems are often taken for granted. We press a handle and our indoor plumbing systems make wastewater disappear. Most people don't want to know any more about what happens to the water and biological and foreign materials that get flushed away, but what if we told you many of these biosolids were being kept out of landfills and put to good use helping flowers bloom?

The private water industry is implementing innovative wastewater treatment solutions that turn the water—and the biosolids that came with it—into valuable resources for landscaping use. Our members have developed processes to decrease the odor and bacterial concerns traditionally associated with wastewater treatment locations, and to allow for a more environmentally-friendly approach to addressing an issue that impacts all of us.

## Growing Opportunity

*Veolia Water • Baltimore-Washington, DC*

A privatized solution was required for the beneficial use of biosolids from the City of Baltimore's Back River Wastewater Treatment Plant. The facility is operated through a partnership that began in 1984 with a Veolia Water predecessor providing comprehensive services to support the new Baltimore City Composting Facility. Today, Veolia Water owns, operates and directs all marketing activities for the 45-dry-tons-per-day in-vessel biosolids composting facility that processes anaerobically digested, dewatered sludge sold to public and private users.

To date, the facility has processed over 650,000 dewatered tons (wet tons) of biosolids and has produced in excess of 825,000 cubic yards of exceptional quality Orgro® High Organic Compost. With a design capability of 210 wet tons per day, and a minimum processing time of 44 days, the in-vessel process ensures a Class A product can be put to market as it meets the standards of the U.S. Environmental Protection Agency and the State of Maryland.

Processed biosolids are received from Baltimore City's Back River Waste Water Treatment Plant and mixed with wood, which provide a carbon source for the composting process and act as a bulking agent. The mixed material is placed into a "cell" in the composting reactor and is computer monitored for oxygen, moisture and temperature. The final step is screening to provide a fine, homogenous material that is sold for use on golf courses, athletic surfaces and the lawns of the White House and residence of the Vice President of the United States.

Known as one of the most successful privately operated biosolids facilities, the plant has hosted tours for engineering students from Johns Hopkins University, as well as for leaders interested in public-private partnerships.



### OVERVIEW:

State-of-the-art facility produces Class A product used at the White House

### IMPACT:

Produced 825,000 cubic yards of exceptional quality Orgro® High Organic Compost

### DETAILS:

[www.veoliawaterna.com](http://www.veoliawaterna.com)

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**About the NAWC:** The NAWC is the voice of the private water industry and the only organization that represents this group of quality water service providers, innovation drivers and responsible partners. In conjunction with our members, we engage with others looking for fresh and powerful solutions to water-related challenges.

### Substantial Benefits

*CH2M HILL • Lebanon, Oregon*

CH2M HILL provides services to reuse biosolids collected from wastewater treatment plants in several communities, including in Lebanon, OR, where city council members reaffirmed the partnership when they voted for renewal of CH2M HILL's contract for continued operations and maintenance of the city's wastewater and water systems.

In an effort to lower disposal costs and reduce the amount of biosolids produced by at least 85 percent, CH2M HILL also designed and built a Siemens Cannibal® Solids Reduction System at the wastewater treatment plant. The system uses a patented bioreactor vessel that encourages the growth of an organism that eats sludge, the solid biodegradable material produced by the wastewater treatment process. In addition, a screen was added to remove fine trash and inert material, e.g., plastics. The process meets all state environmental requirements and substantially reduces the amount of sludge, which is then stored, trucked and spread on approved sites to fertilize nonfood agricultural land, such as hayfields, instead of going to a landfill.

CH2M HILL first began working with Lebanon's 3-million-gallon-per-day wastewater facility back in 1982, and two years later it was named Plant of the Year by the Pacific Northwest Pollution Control Association for its energy-conserving techniques. CH2M HILL has partnered with the Water Environment Research Federation (WERF) on research tackling the identification and reduction of biosolids-odor issues, and has won several Biosolids Exemplary Management Awards from the EPA for its wastewater work in Oregon.



#### OVERVIEW:

Siemens Cannibal® Solids Reduction System lowers disposal costs

#### IMPACT:

Benefits agriculture and reduces sludge sent to landfills

#### DETAILS:

[www.ch2m.com](http://www.ch2m.com)

### Vital Operations

*Veolia Water • Schenectady, New York*

Wastewater treatment is a dirty job, but somebody's got to do it. And Veolia Water has done it so well in Schenectady, NY, that their partnership with the city received the 2011 Excellence in Public-Private Partnerships Award from the U.S. Conference of Mayors for its successful, long-term biosolids program and significant operational improvements at the city's wastewater treatment plant.

Made famous as the headquarters of the General Electric Company in 1892, the City of Schenectady has relied on Veolia Water for the management and operation the city's compost facilities since 1991. In the years since, the partnership has reduced odor complaints about the wastewater plant while meeting stringent environmental standards. Over the term of the now twice-renewed contract, the city's partnership with Veolia has saved the city more than \$1.5 million and has been credited with improving neighbor relations.

Working with a private water service provider like Veolia Water helps Schenectady "address the things that are most vital to the operation and safety of the facilities," according to Schenectady Mayor Brian Stratton.



#### CONTRACT:

Partnering since 1991

#### SAVINGS:

Saved the city more than \$1.5 million




#### DETAILS:

[www.veoliawaterna.com](http://www.veoliawaterna.com)

We invite you to contact us to learn more about the private water industry and the solutions our members are creating. Together, we're moving water forward.

**CALL:** 202.833.8383 to speak about a wide range of water issues

**VISIT:** [www.nawc.org](http://www.nawc.org) for access to additional resources

**JOIN:**    for the very latest information

