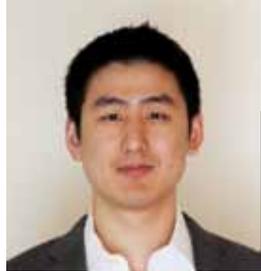


Compiled by WWD Associate Editor Amy McIntosh

# technology tools



Leveraging design tools to maximize efficiency

BRIAN YOUNG

**D**esign technology has evolved to allow the water and wastewater industry to assess the current state of infrastructure for better planning. WWD Associate Editor Amy McIntosh spoke with Brian Young, sustainable infrastructure program manager for Autodesk, about how these tools can benefit the industry.

**Amy McIntosh:** How can design tools be used to address the current state of water infrastructure?

**Brian Young:** We have a lot of aging infrastructure that needs to be repaired or replaced. We need new infrastructure to meet future demands; growing population calls for greater resilience. There is a need to build quickly, but there is a lack of money to pay for this infrastructure. Design technology can play a big role in unlocking a lot of funding and figuring out ways to design infrastructure more efficiently.

[We need to ask] what would make the public ratepayers more amenable to rate hikes. The key is to be able to prove the value of the infrastructure that you are proposing to build, not just in terms of its financial returns but also in terms of its environmental and social impact.

The industry has shifted to a new design paradigm called building information modeling (BIM), which is designing in three dimensions. This gives you a much greater insight into your projects, which translates into an understanding of some of the social, environmental and financial impacts. You can then communicate that to your ratepayers and private investors, so they get an understanding of what they are paying for and whether it is a project worth funding.

**McIntosh:** How can technology help utilities manage their resources more efficiently?

**Young:** When we are talking about water resources and we look at the challenges utilities are experiencing, whether securing a long-term water supply or facing drought issues, they point to some of the shortcomings of the ways in which we have thought of and managed water. We need an

approach that takes into account the water resources that are available.

With this shift, it is necessary to manage water more intelligently, and a whole new set of infrastructure will be required. The advent of these new types of infrastructure requires the ability to build and design and to analyze them with BIM. That requires insight into the project and the existing conditions and sizing those projects to meet the demand of the neighborhood. That is where BIM and design technology can really come in handy because they give you that insight and answer a lot of questions.

**McIntosh:** What are some sustainable benefits that can be realized using this technology?

**Young:** I think for all types of infrastructure in the water and wastewater industry, there are a lot of opportunities to plan and design projects that are more environmentally sustainable and benefit the community as well. The water industry is now taking a new approach with green infrastructure. Where design technology comes in is the ability to not only see these projects before they are built, but to analyze how they will perform and see what kind of social and environmental impact they bring. When talking about the water-energy nexus, we look for ways in which we can take wastewater treatment plants and find opportunities to recover energy, whether through anaerobic digestion or using some of the solids for fertilizer. This requires new ways of designing infrastructure and that is where these tools come in handy, because they allow for the analysis of some of these impacts before these projects get built, so utilities can get a good understanding before they break ground. **WWD**

**Brian Young is sustainable infrastructure program manager for Autodesk. Young can be reached at [brian.young@autodesk.com](mailto:brian.young@autodesk.com).**

**Amy McIntosh is associate editor for *Water & Wastes Digest*. McIntosh can be reached at [amcintosh@sgcmail.com](mailto:amcintosh@sgcmail.com) or 847.954.7966.**

For more information, write in 1114 on this issue's reader service form on page 42.

News Briefs compiled by Amy McIntosh

**President Obama Signs Water Resources Bill**



President Barack Obama signed the bipartisan Water Resources Reform and Development Act into law on June 10. The \$12.3-billion package reauthorizes flood control projects around the country and includes a major overhaul to the Clean Water State Revolving Fund program. The law also funds projects for flood control, water navigation, storm damage reduction, beach nourishment, ecological restoration, water supply, and dam and levee safety.

**Fracking Water Treatment Market to Increase**



In its report, "Fracking Water Treatment: The North American Market," BCC Research revealed the North American market for wastewater treatment equipment for hydraulically fractured gas and oil wells is expected to grow to \$350 million by 2018.

**WERF Awards Nitrogen Removal Contract**



The Water Environment Research Foundation awarded Columbia University a contract to explore sustainable nitrogen removal. The project, titled, "Development and Implementation of a Process Technology Toolbox for Sustainable Biological Nitrogen Removal Using Mainstream Deammonification," seeks to provide wastewater treatment facilities with a breakthrough in nitrogen management practices, allowing them to meet low nitrogen discharge limits at a lower cost, using less energy.

**AWWA President Begins Term**



At the conclusion of AWWA ACE14 in Boston, John Donahue, CEO of North Park (Ill.) Water District, accepted the ceremonial gavel and began his term as president. Donahue has been an active member of AWWA's Illinois Section for more than 20 years.

**Padre Dam Awards Water Purification Contract**



Padre Dam Municipal Water District's board of directors awarded a \$160,464 contract to Brown and Caldwell to design a new Advanced Water Purification Demonstration Project in East San Diego County, Calif. The contract includes the plan, design, installation and operation of a pilot demonstration plant that will use advanced water treatment technologies to provide a new source of water.

**Ultrasonic Flowmeter Market to Grow**



According to a series of studies from Flow Research, the market for ultrasonic meters totaled \$632 million in 2011, and is projected to grow at a compound annual growth rate of 9.6% through 2016.

**One Water Leadership Summit Set for September 15 to 17**



Registration is open for the U.S. Water Alliance's 2014 One Water Leadership Summit, to be held Sept. 15 to 17, 2014, in Kansas City, Mo. President of the U.S. Conference of Mayors and Mayor of Sacramento Kevin Johnson and U.S. Environmental Protection Agency Administrator Gina McCarthy are among invited keynote speakers.

**MWRD Celebrates 125th Anniversary**



The Metropolitan Water Reclamation District of Greater Chicago recently celebrated its 125th anniversary. Since 1889, the Sanitary District, later named the Metropolitan Water Reclamation District of Greater Chicago, has worked to improve water quality and prevent flooding in the Chicagoland area.

**DC Water, Washington Aqueduct, Partner With Veolia**



DC Water, in association with the Washington Aqueduct, is partnering with Veolia to implement operational and process improvements at the Washington Aqueduct, a federally owned and operated public water supply agency. Veolia's solution will help save up to \$12 million per year through efficiencies in water production management.

**Global Demand for Activated Carbon to Rise**



World demand for activated carbon is projected to rise 8.1% per year to 2.1 million metric tons in 2018, according to "World Activated Carbon," a new study from The Freedonia Group Inc. Tightening regulatory standards, particularly in the two largest markets—the U.S. and China—will drive growth.

**Industry News**

- Biwater named Paul Stevens CFO.
- RWL Water Group has changed its name to RWL Water.
- newterra acquired Crane Water. **WWD**

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