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New Biological Water Treatment Facility 'first of its type' in the world designed by Magna Water District and Carollo Engineers.

National Application of Green Technology showcased at Open House.

(Magna Utah) September 6, 2009. Twelve years of engineering design and innovation in water and wastewater treatment culminated in a Ribbon Cutting and Open House for the Magna Water District on Thursday, September 3, 2009. The Ribbon Cutting Ceremony was followed by media tours and interviews. Open House for the general public continued throughout the day at the District's Barton Well Field drinking water treatment facility located at 2820 South 6750 West, West Valley City, Utah.

"This is an historic event for the District as it unveils two ground-breaking water and wastewater treatment technologies that work in tandem to treat drinking water and provide a reusable water resource for secondary water irrigation," said Edwin J. Hansen, General Manager in his opening remarks. Hansen has served the District for four decades and spearheaded the project.

"It will be an important commemoration, not only for the District, but for the community we serve. Additionally, this technology has national application for other communities faced with similar water contaminant challenges," he added.

In 2004, the District sought voter participation during a General Obligation (GO) Bond election to construct the new water treatment and bioremediation facilities, make system improvements, and expand the secondary water system. These actions were necessary to comply with a national unfunded EPA mandate to reduce arsenic in the drinking water and address other contaminants in the ground water supply. The bioremediation facility treats the wastewater from the water distribution process, converting it to a source that may ultimately be used for secondary reuse applications. An overwhelming 71% of District's constituency voted in favor to construct the new facilities.

"The new water treatment facility implements the use of Electrodialysis Reversal (EDR), a cost-effective, high performance method to enhance Magna's current drinking water. It is an industry standard water treatment that water entities throughout the Country uses", said Rick D. Wheadon, P.E., Partner-in-Charge, Carollo Engineers, Utah branch. Carollo is a nationally recognized water and wastewater engineering firm retained by the District for

design of this project. "EDR is a highly regarded industry standard that is also environmentally conscious."

EDR reduces the concentrations of the arsenic in the water through a process that uses an adjustable DC electric field, which is applied across ion exchange membranes, or resins, to remove unwanted particles from the drinking water. Water does not pass through EDR membranes; only salts are removed. An additional benefit is an improved water quality and taste.

A newly patented process for bioremediation, called BIOBROx, an acronym for *Biodestruction of blended residual oxidants*, developed by Mr. Hansen, Mr. Wheadon, and Jess C. Brown, PhD, PE, Carollo Engineers, treats the water from the EDR process, converting it to a source that may ultimately be used for secondary water reuse applications and groundwater aquifer recharge. The BIOBROx technology was developed to treat contaminants in the water supply from years of nearby industry activity that potentially could impact one of the District's well fields. If not addressed, the availability of quality water resources for the region the District serves would have been reduced.

"This area is growing, and we needed to take action in order to preserve and sustain our water resources not only for those we serve now, but for those in the future," said Hansen.

"We needed to create technology that didn't produce a by-product which would require additional treatment or disposal in a landfill. We are confident that we are achieving this with the EDR and BIOBROx systems working in tandem," said Dr. Brown, based at Carollo, Sarasota, Florida.

During the past decade, the team had spent substantial time and energy brainstorming, testing, tweaking, retesting, and fine-tuning the idea to ensure the delivery of a highly efficient, sustainable contaminant treatment process. The patent and full-scale demonstration facility at Magna are the culmination of the combined effort and provide important validation of their work. "Green" water treatment philosophies gain traction as regulatory residual handling constraints tighten.

"The use of biological drinking water treatment technologies and processes will become worldwide," Brown added. "What we've accomplished and been able to showcase here today is the highlight of my career."

"This was a remarkable project," said Bruce Alder, President & CEO, Alder Construction. Alder was the general contractor on the project and is highly regarded for their experience in water and waste water construction in the Western United States. Alder is the first contractor to build this type of state-of-the-art-facilities for this new technology.

"Together, (Hansen, Wheadon, and Brown) they have exemplified their environmental stewardship by attaining a higher standard to provide safe, quality drinking water and to the preservation and sustainability of water resources," said Daniel Tuttle, Chair, and Henry "Hank" Johnson and Douglas Bezzant, Trustees in a joint statement by the Magna Water Board of Trustees.

"Their many years of collaboration and forward thinking have allowed them to overcome many challenges to develop this concept, all the while focusing on the needs of community to ensure its future. I'm very proud of them," added Chairman Tuttle.

Part of the challenge the team faced was to attain buy-in from elected officials and others in the water industry to support their effort. Hansen and Wheadon in particular met repeatedly with Utah and other Federal officials to educate them about the project and its application for water suppliers and delivery systems across the Nation.

"I am impressed with the potential for the national application of this technology for which Magna Water and Carollo were recognized in their patent. These organizations are setting new levels of environmental stewardship of our water resources," said Salt Lake County Mayor Peter Corroon who was present when Hansen and Carollo Engineers Wheadon and Brown were awarded their patents in 2007. The Mayor has been following the development of the project for several years and supports the clean water initiatives upheld by the District.

"It is a compliment to the District, our Utah based water municipality, to be the model for other states to implement this technology. On behalf of Salt Lake County, congratulations," the Mayor added.

"It is exciting to know that the project continues to be an efficient and cost effective solution to the problem of water contamination. I strongly support this important project," said Senator Orrin G. Hatch (R) in a letter sent to the District in 2005 complimenting the team for their forward thinking and proactive approach. Senator Hatch made a special visit to the District at their open house and toured their facilities.

Last fall, Hatch sponsored senate bill S.745 *Magna Water District Water Reuse and Groundwater Recharge Act of 2009*, a bill to "amend the Reclamation Wastewater and Groundwater Study and Facilities Act to authorize the Secretary of the Interior to participate in the Magna Water District water reuse and groundwater recharge project, and for other purposes."

In May of this year, Congressman Jason Chaffetz (R-Dist 3) introduced H.R. 2265, The Magna Water Bill, a companion bill to Hatch's SB.745. Representatives Rob Bishop and Jim Matheson are cosponsors of the bill.

"Seeking authorization is the fiscally correct approach to obtaining federal funding for local projects of this scale," said Rep. Chaffetz. "This bill will go through an open and transparent process. This is a great project, meriting federal support. Given our water needs in Utah, this bill also plays an important role in conserving this precious resource."###

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