



COMMUNITY CHANGEMAKER

# National Waste & Recycling Association Honors "First of Its Kind" Leachate Disposal Innovation

## Republic Services, groundwater consultant partner on Mississippi landfill phytoremediation project



Before and after photos of how vigorously vetiver grass grows when nourished by leachate from the Gulf Pines Landfill and southern Mississippi sunshine.



Above, a look at the leachate pumping system. Right, Brad Granley shows just how high the grass can grow.



Right: The grass once it's removed. Vetiver grass is a versatile plant that can withstand harsh conditions and concentrated materials, like leachate, that normally would have to run through a wastewater treatment plant.



The National Waste & Recycling Association is proud to recognize groundwater consultant Brad Granley, P.E. of Leachate Management Specialists in Denver, and Tony Walker of Republic Services, Inc., as Community Changemakers for their groundbreaking work on a leachate disposal project in Biloxi, Miss.

Walker and Granley worked together to plant a vetiver grass system at Republic Services' Gulf Pines landfill site—the first of its kind in the U.S.— to remove leachate through a process called phytoremediation, turning the waste product into a resource. After two years of operation, the project has helped sustainably dispose nearly 3.3 million gallons of leachate from the site, resulting in environmental benefits and saving approximately \$300,000 in hauling and disposal costs.

Brad and Tony's work exemplifies the industry's innovative efforts and highlights the kind of forward-thinking approaches our Community Changemaker program honors," said Sharon H. Kneiss, president and CEO of the Association.

Leachate is a combination of water and contaminants that presents environmental hazards at landfill sites. Leachate disposal to prevent leakage and other adverse effects typically requires a costly truck and pipeline operation to haul the leachate to a wastewater treatment plant. But through phytoremediation, hardy plants like vetiver grass and poplar trees planted on landfill sites consume the leachate, which contains nutrients the plants need to grow.

Granley has worked on many phytoremediation projects across the country and touts the system-wide benefits of the process, which he said has removed 100 tons of carbon dioxide from the atmosphere each year at the Gulf Pines Landfill.

"There are a lot of good things about this technology," said Granley. "It reduces the carbon footprint of a facility, takes trucks off the road and out of local communities, improves safety, reduces liability and reduces costs. It's a win for the industry, the community and the environment."

Granley said Walker, senior manager of environmental management with Republic Services, initially asked him about using vetiver grass for the phytoremediation system at Gulf Pines. Vetiver grass, often used for water treatment and erosion prevention overseas, is a versatile plant that can withstand very harsh conditions and can handle very concentrated materials, like leachate, that normally would have to run through a wastewater treatment plant. It is also noninvasive—so it only grows where it is planted—and is U.S. Department of Agriculture-approved.

"For companies like Republic Services and a number of the largest waste companies in the U.S. and the world to be willing to invest in a new technology, it's exciting to be a part of," said Granley.

Walker called his work with Granley "a very sustainable green project" and said vetiver grass also has potential as an alternative biomass fuel resource. He said phytoremediation work is exemplary of the waste and recycling industry's efforts to develop new methods of sustainability.

"The waste industry over the last four or five years is really trying to move forward to new innovation," he said. "We have a product we pick up every day that has a potentially huge economic reuse to it, and that's what we're trying to accomplish. In reality, the whole waste stream in the long term has a beneficial reuse."

Through its Community Changemakers program, the National Waste & Recycling Association recognizes companies and individuals in America's private-sector waste and recycling industry who are making notable impacts through new innovations and advancements in waste management, recycling, environmental protection and other related activities—achievements that go above and beyond the call of duty. Community Changemakers are leaders and role models in their community



Brad Granley



Tony Walker