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# Waste not

## Discarding trash, cleaning wastewater becoming big biz on Long Island

By GREGORY ZELLER

Hurricane Sandy will not be remembered in a positive light, but among its few silver linings is this: The superstorm has confirmed that wastewater and solid-waste treatment will be a job-creating economic driver on Long Island for the next decade and beyond.

The October tempest revealed massive infrastructural shortcomings along the Eastern Seaboard, from low-lying waterfronts at the mercy of surging seas to entire power grids helpless before hurricane winds. On Long Island, a spotlight now shines on inadequate drinking water protection and waste management protocols; aside from creating immediate post-storm challenges, the storm revealed a dire need for long-term solutions.

There's plenty of bad news, starting with the thousands of tons of waste carted off Long Island daily by truck and train and the scheduled 2027 closing of the Brookhaven Landfill, one of the Island's few solid-waste repositories. The good news, according to some insiders, is that solid waste and wastewater management is a regional industry that's poised to explode.

### Economic opportunities

"Waste management creates jobs – recycling positions, technology, engineering, monitoring and more," said Adrienne Esposito, executive director of the Farmingdale-based Citizens Campaign for the Environment.

**PATRICIA ELS: The wastewater-treatment business will grow as water conservation becomes a greater priority.**

That's part of the thinking as corporate and government sectors discuss and debate Long Island's waste management needs and how the Island might benefit from them economically. For instance, the Island's wastewater infrastructure was a hot topic at last month's Vision Long Island Smart Growth Summit, where union leaders and environmentalists discussed "some of our failing infrastructure systems (and) new wastewater treatment technologies," according to Vision Long Island Executive Director Eric Alexander.

The heart of the discussions, Alexander noted, was that Sandy revealed both a desperate need and a rich opportunity.

"Basically, the consensus was that Hurricane Sandy provides an opportunity to upgrade existing plants ... and expand service to new areas to promote downtown growth using upgraded technology," Alexander said. "Financing mechanisms (mentioned in the discussions) included an increased public commitment for sewers from the state and federal levels, potential state pension fund investments and private sources."

Panelists discussed ideas like developers financing infrastructure improve-

ments in return for density bonuses, but that's putting the cart slightly ahead of the horse. The point is that wastewater management is on the minds of corporate and government powers in charge of shaping Long Island's future – and also those managing its present.

Electrocoagulation – a "green" technology that treats wastewater using electricity, not chemicals – has been successfully employed for decades at mines and waste treatment facilities in Texas, Colorado and California, among other places, and is now the main focus of Advanced Waste & Water Technology in Farmingdale. The science involves electrodes and hydrogen molecule compounds, but the nutshell is that electrocoagulation separates contaminants and clean water with 99 percent effectiveness and no environmental side effects, according to company President Patricia Els.

Advanced Waste & Water Technology, which formed about a year ago, holds patents on certain plating materials used in the electrocoagulation process and boasts mobile EC systems – including a tractor-trailer-sized unit that travels from site to site and can remediate a half-million gallons of tainted water per day, Els noted.

That could be useful not only in addressing Long Island's wastewater needs but also statewide needs as Albany makes critical decisions on "fracking," or hydraulic fracturing – basically, using water to open and maintain wells for oil, gas and other natural resources.

Els said there are several wastewater concerns in the fracking industry. It can take millions of gallons of water to create a single fracking well, she noted, and that water is then contaminated by a particular site's unique chemistry. To reuse it for another well, the water has to be cleaned, which could mean "trucking it through cities and towns" to and from a treatment facility. On-site options, like the one offered by Advanced Waste & Water Technology, obviates the need for this.

Even before Albany makes a decision on the hot-button fracking issue – likely to happen in 2013, though "we were hoping they would've made it already," Els noted – electrocoagulation would seem promising as an option for Long Island's long-term wastewater concerns. But it's unclear how that might play out – even post-Sandy problems with potable water supplies didn't drum up extra business, Els noted, even though her company contacted the Federal Emergency Management Agency and officials in both Nassau and Suffolk.

"As of yet, we have not heard anything about utilizing this EC system (to help with the Sandy cleanup)," she said.

## LI NEEDS A SOLID-WASTE MANAGEMENT PLAN, BUT DOESN'T SEEM READY TO TACKLE THE PROBLEM

But Els expects business to increase as the "global effort to see how we can conserve the most delicate asset we have, which is water," continues to gain steam.

"We need as a community here on Long Island to … see what we can do as a whole to keep water treatment as a priority," Els said.

### Solid considerations

For the moment, it appears Long Island's top waste treatment priority is dealing with the solid waste left in Sandy's wake. Esposito expressed particular concern with FEMA's ongoing strategy of burning hurricane debris at the Brookhaven Landfill, where, according to the CCE exec, as much as 5,000 yards of storm-related waste is being incinerated daily.

"The burning of debris at Brookhaven Landfill is totally unacceptable," Esposito said. "We have received numerous calls from community members who are concerned about the ash falling around them and health concerns with breathing it."

Operations at the Brookhaven Landfill are also on the mind of Fran Reid, the chief sustainability officer for the Town of North Hempstead. Reid is overseeing an $800,000 New York State Energy Research and Development Authority grant to study long-term, Islandwide sustainability options – one of seven regional grants NYSERDA doled out in June as part of a Cleaner Greener Communities initiative that will ultimately award $90 million over three years to fund the state's best sustainability plans.

North Hempstead partnered with the Sustainability Institute at Molloy College, Vision Long Island and other public and private entities on the grant application and is serving as the lead Long Island agency. With subcommittees including waste management, water management and economic development/housing already calculating the Island's future waste management needs, Brookhaven Landfill's operations were a priority long before Sandy struck, Reid noted.

But landfill operations are especially worrisome after Sandy, she added. "I don't think in any aspect of our lives we can continue saying something like ' … except if a major storm hits,'" Reid said. "I think we need to be prepared for that. I'm not someone who is hysterical by any means, but I think we need to address every aspect, including whether a storm hits us."

Just trying to calculate the amount of solid waste left in Sandy's wake is numbing (Reid cited 20,000 tons of downed trees ground up through Dec. 11 – just trees, in North Hempstead alone). So what was already a serious concern before has now been supersized by the superstorm, making the research done by Reid's consortium extra sensitive.

But this could all be promising news, in a way, for entrepreneurs and innovators who come up with greener waste management alternatives. Esposito, for one, is watching closely to see what Reid's researchers and private industry will do next.

"Long Island needs a solid-waste management plan but, as of yet, doesn't seem ready to tackle this important problem," she said. "Most of the waste taken at [Brookhaven] Landfill is ash from incinerators and (construction and demolition) debris. Therefore, a big question is, What do we do with the ash? Long Island needs an answer."