



Vol. 29, No. 1

Update to Clients

Update

SAI Conducts Energy Audit for Camden County Municipal Utilities Authority

SAI recently completed a review of energy savings and green power generation potential for the Camden County Municipal Utilities Authority. The strategic energy evaluation focused on alternatives for energy savings in addition to many planned improvements already in the design stage at the CCMUA.

Two potentially promising energy related opportunities were identified. The first involves potential use of flocculents in the primary clarifier to enhance BOD removal and thereby diminish the energy requirements for the secondary treatment system which uses pure oxygen for aeration. Another promising opportunity is the potential to use the significant wastewater flow (approximately 55 million gallons per day) to drive a hydropower generator. This innovative form of hydropower has been utilized to a very limited degree in some other countries and in one location in the US. Both of these energy related improvements were identified at the conceptual stage

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SAI Celebrates 25 Years of Service in New Jersey

SAI is proud to be celebrating our 25th anniversary this year! From our humble beginnings as a small, boutique environmental engineering firm, we have grown into an established, successful international firm with a solid reputation for creativity, innovation, and an ability to get things done.

Marwan M. Sadat, Ph.D., P.E., founded the company in 1986. Dr. Sadat has been a leading figure on the environmental engineering scene for more than 30 years. When asked why he started the firm, he laughed and said, "I didn't know what else to do! I'd been with NJDEP for eleven years, and it was time for something new. I thought there was a need for a small, innovative firm that could come up with original solutions to environmental problems." He started with a staff of two, and twenty-five years later SAI is a proud testament to Dr. Sadat's vision, perseverance and talent.

We feel there are several qualities that have contributed to our longevity and success. First is our list of "firsts":

- We were the first firm in the state of New Jersey to get approval from the NJDEP to use contaminated dredge spoils for construction projects (Jersey Gardens Mall);
- We were the first to redevelop a closed landfill into a thriving commercial center (also Jersey Gardens Mall);
- We were the first to recycle everything possible from a landfill, close it, and cap it with an athletic field (Passaic County Community College);
- We were the first to close an illegal dump and cap it with a parking lot (Edison Twp);
- We were the first to redevelop a closed landfill into a residential development (The Tides at Seaboard Point); and

- We were the first engineering firm to partner as a redeveloper with a municipality to use grant monies from the Hazardous Discharge Site Remediation Fund for the remediation of a contaminated site (Canal Crossing in South Bound Brook).

Then, there are our awards:

- Dr. Sadat has been recognized as a leader in the field of solid and hazardous waste management and was named "Engineer of the Year" by *Engineering News-Record* for his pioneering work in the development and implementation of the State of New Jersey's hazardous waste program;
- SAI was awarded USEPA's Phoenix Award in 2001 for the redevelopment of a municipal landfill into the largest mall in the New York metropolitan area;
- SAI received an award from the New Jersey Business and Industry Association for engineering the first residential project developed on a former municipal landfill; and
- SAI received a prestigious award from the Technology Council of New Jersey, as Environmental Firm of the Year in 1997.

In addition to our accomplishments, we believe two main factors have contributed to our success over the years: our clients and our staff. SAI has been fortunate to have worked for well over a thousand clients since our founding. Many of our current projects are for some of those original clients, while at the same time our "client family" continues to grow and diversify. We have strong standing here in New Jersey, but also have the opportunity to work overseas in many different countries, which is appealing to our international and culturally diverse staff. We have

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Watershed Restoration work in Kearny. *see page 2*



SAI Assists with Permitting Issues for Disch Construction

Disch Construction (Disch) of Summit, New Jersey, operates a dredging business. Mr. Warren Disch, President, has spent several years investigating potential waterfront sites to relocate its dredging operations. Mr. Disch purchased an underutilized 1.5 acre parcel along the Passaic River to minimize environmental impacts and provide an economic benefit to the City of Newark, NJ. SAI assisted Disch with the acquisition of NJDEP and US Army Corps of Engineers (USACOE) permits for a mooring and pier installation for the project.

In accordance with N.J.A.C. 7:7E (NJDEP's Coastal Zone Management Rules), SAI prepared the NJDEP Waterfront Development permit as well as the applicable USACOE wetlands permits. As part of the application process, SAI prepared the environmental compliance statement supporting these applications, detailing technical compliance with the Coastal Zone Management Rules. The environmental compliance statement included an analysis of and protection for various environmental resources, such as finfish migratory pathways, navigation channels, flood hazard areas, wetlands, wetland buffers, riparian zones, and historic and archaeological resources. SAI also assisted Disch with the preparation of an alternatives analysis for the proposed mooring and pier installation project.



View of the Passaic River from the project site. Photograph by Randy Kertes of SAI.

This project is an example of SAI working collaboratively with a client in the interest of saving money. Disch prepared the design of the project and completed the engineering plans, while SAI focused on preparing the NJDEP and USACOE permit application packages, including the required NJDEP supporting documentation, technical documents, and the permit applications. Our teamwork enabled Disch to bring the project in under budget, which provided additional funding for the development of the site.

SAI Assists Client with Watershed Restoration Project in Coordination with Parking Lot Expansion

Hurricane Associates (HA) owns a 21-acre property in Kearny, NJ, where the United States Postal Service (USPS) operates a parcel processing hub. In fact, this USPS facility facilitates mail to and from our soldiers overseas. However, recent budget cuts and consolidation efforts have resulted in the need for additional parking on the HA property. HA retained SAI to assist in the development of a parking lot expansion project that includes the relocation and restoration of approximately 1,100 linear feet of Frank's Creek and Dead Horse Run (located within the Passaic River watershed).

Frank's Creek and Dead Horse Run are severely deteriorated as a result of development activities within the watershed. Prior to the development of the site,

this area of Kearny was composed of a low-lying tidal marsh. Fill material was brought in to facilitate development of the site and surrounding area. The fill material, which comprises the shorelines of Frank's Creek, is contaminated with organic compounds (such as polycyclic aromatic hydrocarbons, or PAHs), and heavy metals have been detected in the water in the creek.

A benthic survey was performed as part of the environmental assessment of the area, and the results of that survey reinforced the findings that the creek is a severely impaired waterway. The survey revealed both highly degraded water quality, and found that the

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CCMUA Energy Audit

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and require further evaluation for economic feasibility.

CCMUA has already undertaken a series of treatment system upgrades designed to increase treatment efficiency and save energy. In addition, CCMUA recently authorized a solar developer, HelioSage (of Charlottesville, VA), to install solar panels at various locations at their Camden City treatment plant site. (SAI will provide the engineering services for this CCMUA project.) Having undertaken energy audits and upgrades over the last decade, finding additional opportunities for energy savings and green power generation is challenging for the CCMUA but, nevertheless, worthy of consideration.

“We always expect something novel from Sadat Associates, with whom we have worked in the past on some challenging issues,” said Andy Kricun, Deputy Executive Director of the CCMUA. “They are not afraid to offer new ideas and we welcome new opportunities for energy savings and green power, even if they are at the earlier stages of feasibility. Hopefully, one or more of these ideas will turn into viable projects.”

From the Editor -

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If you would like to receive a full-color electronic version of our newsletter in Adobe PDF format via email, or if you want additional information about SAI and its services, please send an email to: lthompson@sadat.com.

Thanks — we look forward to hearing from you.

Watershed Restoration Project

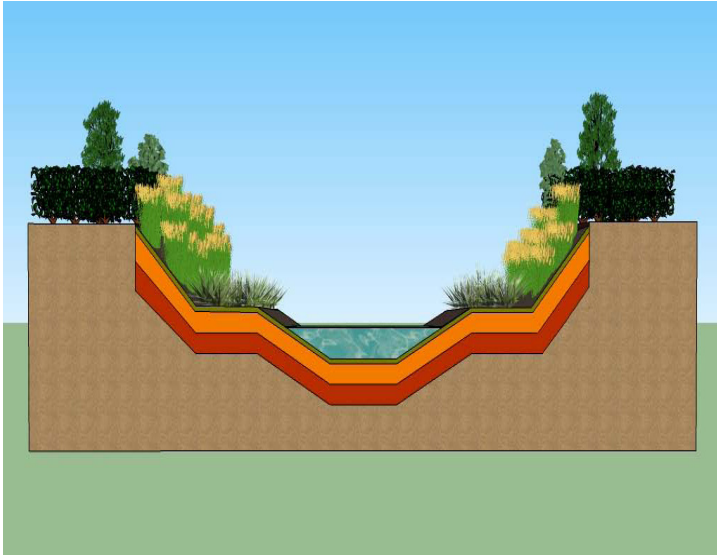
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dominant species in the substrate are known to be tolerant of pollution. A wetlands/ecological evaluation revealed that the wetlands along the border of the creek are heavily impacted by urban activities on and around the site. Even though these wetlands are considered intermediate in value, they have little or no ecological value.

To initiate the project, SAI completed an alternatives analysis for five options. These options were: 1) utilize parking in lots on an adjacent property; 2) acquire other properties for parking; 3) vary the hours of operation for the USPS facility; 4) restore Frank's Creek/Dead Horse Run; and 5) do nothing. Based on these analyses, the restoration and relocation of Frank's Creek and Dead Horse Run to the eastern portion of the property provided the only practical solution for the proposed parking expansion project.

This alternative was chosen because it:

- minimizes safety issues encountered by mail trucks crossing Harrison Avenue;
- mitigates current inefficient parking patterns;
- proposes a newly restored stream corridor, riparian buffer, and wetland habitat along Frank's Creek;
- allows for the USPS to continue to provide needed services to the area;
- permits the USPS to remain as a tenant on the property and continue to provide valuable and necessary tax income to the Town of Kearny (and therefore to the region as a whole); and
- precludes the need for the USPS to relocate to a new facility elsewhere, thus saving both time and money.



A cross-section of the final configuration of Frank's Creek at low tide.

This proposed stream corridor restoration project solves two problems. First, it allows the USPS office to function more efficiently with necessary increased parking. Second, this portion of Frank's Creek,

which has very little habitat value in its current state, could be improved beyond its present ecological value by using native wetlands plants to provide a functional habitat for birds, amphibians, reptiles, and many other animal species. The planned ecological enhancement will result in a stream that is lush with native vegetation and appealing to

water fauna and birds.

There will be a community service aspect to this project as well. SAI anticipates that this project will be part of a watershed restoration project involving local high school and college science majors, enabling them to document the growth and establishment of the restored riparian system. SAI personnel will donate their time to provide expertise and guidance during these follow-up studies.

SAI has secured permits from the New Jersey Department of Environmental Protection Land Use Regulation Program and Hudson County Planning Board, and is in the process of obtaining Meadowlands Commission, United States Army Corps of Engineers, and Soil Conservation Service approvals. Once completed, this project will demonstrate how human and environmental needs can be addressed jointly and effectively, and will provide a spot of natural beauty in a busy urban landscape.

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worked in Africa, China, Mexico, and a number of countries in between.

SAI is also in the unique position of having most of our senior staff on board for over twenty years. That kind of longevity is hard to come by in today's professional climate, where people often change jobs every two to three years. Our "newest" senior staffer has been with us for over ten years! While we can't make quite the same claim for our staff at the next level, we are proud to say that our senior project managers have all been with us for several years as well. This provides a measure of stability and continuity to our project work that can be hard to find in larger firms. Many of our junior staff hold advanced degrees in their fields, and hail from all over the world. This brings a new, fresh perspective to today's environmental issues.

Dr. Sadat's view is that, "As a firm, we have always tried to nurture innovation and to maintain a collegial atmosphere." But the staff will tell you we have nurtured (perhaps inadvertently) a sense of family as well. When asked why she likes working for SAI, Dr. Amira Fahim, P.E., Vice President of Geotechnical Services, said, "Everyone here is friendly and I feel like we're all one family." Larissa Sawicki, SAI's Office Manager, put it this way: "I believe

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that SAI is successful because the employees are dedicated not so much to their own individual goals, but to the aims of the entire company. The company's culture cultivates an environment where employees like what they do and share the company's ideals. We are trusted and empowered to do our jobs because SAI fosters success in setting professional and personal goals."



SAI Office Manager Larissa Sawicki and Trenton Mayor Tony Mack at Kidstock 2010.

(of the Cincinnati Bengals) and Reggie Brown (of the

SAI Staff Helps with Kidstock2010

Larissa Sawicki, SAI's Office Manager, helped out this fall with Kidstock2010, an event promoting health and wellness. Kidstock2010 was held at Waterfront Stadium in Trenton and was billed as "combining fun, fitness activities and entertainment for children with networking and education for parents to combat the epidemic of childhood obesity". Local children and their parents had the opportunity to meet some of their sports and entertainment heroes, such as former NFL Pro players Lonnie Allgood

(Philadelphia Eagles), World Champion Martial Artist Sifu Louis Diaz, International Fencing Artist Gabrielle Roux, and Beatles Promoter Sid Bernstein.

Larissa designed a flyer entitled, "Childhood Obesity: Sizeable Problem," which she distributed at the event. The flyer serves to educate the public about childhood obesity and its causes, and suggests ways to prevent it. "Many overweight children suffer emotionally as well as physically, so I was happy to volunteer in the hope that Kidstock2010 could make a difference in their lives," she states. Larissa was pleasantly surprised a few weeks later when she received a letter of commendation from First Lady Michelle Obama, thanking her for her contribution towards solving childhood obesity! We too are proud of Larissa for the time and effort she put into volunteering locally at this worthwhile event.

For more information, go to www.kidstock2010.com.



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