

TEAM



DES



*Celebrating
Sixteen Years of
Employee Recognition!*



Department of Environmental Services

*2011
YEARBOOK*

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Activated Sludge & Technical Operations Training

John Fiutko, Mary Jo Healy & Tom Posella

Do you know what the Modified Ludzak Ettinger Process is? Can you identify three priority pollutants? If the answer to these questions is yes, chances are you attended the Activated Sludge and Technical Operations class held at the Irondequoit Bay Pump Station Training Center last spring. This higher level Wastewater Operator certification training for 20 eager students followed Basic Operations training, sponsored by Monroe County in 2010.



Tim Miller

MCDES was very fortunate to be able to work with Tim Miller, a retired DEC Operations Facilities Section Trainer and wastewater plant troubleshooter, who coordinated the training. Tim has been teaching for more than three decades and has contributed a great deal to operator development and training throughout New York State.

Training was open to Monroe County employees and to soon-to-be operators from area municipalities. DES employees **Mary Jo Healy**, **John Fiutko**, **Tom Posella** and **Jane Naylon** were responsible for the class' inception. This endeavor would not have been possible without the high level of support for the training initiative from DES Director **Mike Garland**. BOCES was hired as a partner and academic intermediary and Sheryl Keegan was their very capable representative.

Tim was the primary teacher of the **Activated Sludge course**. DES Laboratory specialist **Steve Bland** taught a portion and assisted Tim in supplying laboratory equipment, samples of wastewater and lab data from two - NWQ & FEV - WWTP's. A portion of the class involved case studies and hands-on assignments in the plant in the wastewater aeration system.

After the **Activated Sludge course** was completed, the **Technical Operations course** was presented. These courses, as well as the 2010 Basic Operations Course, are required for NYS WWTP Operator certification. Without receiving a passing grade in each of these, one cannot become an Operator.

For the Technical Operations Course, we looked within DES for qualified, experienced, knowledgeable professionals to teach the technical material. DES instructors were:

Harry Reiter: Federal Pretreatment; Sewer Use Law; Max Allowable Headwork loading; Industrial User Surveys & Inspections; Sewer Use Permits &

Monitoring; Mercury Minimization Planning; Regulation of Radioactive & Scavenger Wastes & Spill Response

Gary Brown: Effluent Toxicity testing; Toxic Substance control; Human/Aquatic Environments; Wastewater Process Inhibition & Pass Through; Collection System Integrity/Personnel Exposure

Steve Peletz: Multimedia Pollution Prevention (air-water-soil) & Air and SPDES Regulations

John Fiutko: Understanding the formation of odors in the Collection System and Wastewater Plant; Detecting and Qualifying odors; Odors -Methods of containment & Treatment; Improving Community Relations – Responding to Citizen Odor complaints

Each of the courses was offered at a high technical level. Normally, courses of this nature are not offered by municipalities, but presented through NYS colleges. Due to a recent surge of Operator retirements, there were so many new employees requiring Operator certification that MCDES made the decision to undertake this training in-house. This instruction will lead to most of the students becoming certified operators in the future.

The knowledge transferred to the students will be used to better serve our communities and to protect NYS and local waterways for decades to come. The endeavor was unquestionably a resounding success.

DES Students: Mike Babij, Don Bell, Steve Bland, Bradley Clark, Mike Farace, John Hanscomb, Alex Kolody, Rob Maloney, Alan Oates, Steve Peletz, Tom Posella, Dan Post, Paul Siciliano, Drew Smith, Mark Smith & Sheila Wilbert

Other Students: Bryan Bundschuh, Doug Covell, Jeffery East, Don Havens & Andy Kujawski

Algae Herding / Pumping Study

Ontario Beach Park

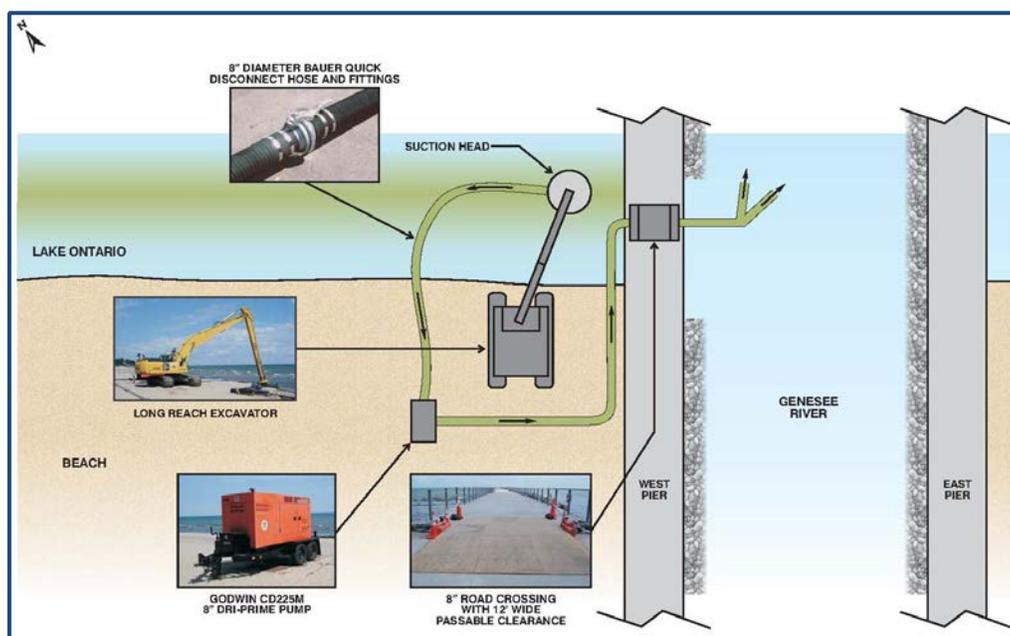
David Cross

Ontario Beach is a recreational bathing beach operated by the Monroe County Parks Department at Ontario Beach Park. In years of heavy algae accumulation, the beach is often closed during the prime summer months to protect public health.

In 2007, a feasibility study of alternative measures to manage the algae accumulation on the west side of the west pier at Ontario Beach Park evaluated a number of operational gathering, pumping and disposal techniques. Most of the methods studied were deemed to be too capital intensive, too impractical, or undesirable. As a result, none were implemented.

With the assistance of the US Army Corps of Engineers Contractor URS Corporation, Monroe County developed a procedure for gathering and removing algae from the beach area. This new plan involved fewer resource-intensive measures while making use of readily accessible equipment. Procedure and work action plans were tested during summer, 2011.

A field demonstration was conducted to test the effectiveness of the proposed algae removal method during July and August, 2011. This system consisted of a plan to herd waterborne algae via a bucket loader toward the west pier. A movable suction intake was deployed in the near-shore area, close to the west pier.



Schematic view of Algae Herding/Pumping Study

Piping was placed across the pier and a portable pump discharged the collected algae over the west pier, where it was dispersed into Lake Ontario at the outlet alongside the Genesee River.

Test results showed the experiment was successful in the management of algae accumulation. Results are currently being reviewed for potential long-term implementation.

This assignment required the efforts of many employees from the Health Department, Parks Department and Environmental Services.

Contributing Employees: Eric LaMendola, Chris Ross, Matt Rodgers, Al Proia, Bob Borelli & Drew Smith

Buckland Creek Restoration

Todd Stevenson

In the summer of 2011, a 350' section of Buckland Creek, which winds through Brighton Central School District's 12 Corners campus, was restored with coordination and assistance from DES. This section of the creek had been straightened and channelized throughout recent history to the point that it was no longer recognizable as a stream. During the past decade, a teacher and his students at Brighton High have conducted chemical and biological monitoring of this highly impacted urban waterway. To help increase community awareness of local water quality issues, students also installed H2O Hero storm drain markers, both on campus and throughout adjacent neighborhoods.

Inspired by student and community interest, the project was included in a Stormwater Coalition application for NYS grant funding. Grants are awarded to promote Green Infrastructure practices, an approach to stormwater management designed to protect water quality by infiltrating, evapotranspiring, or reusing stormwater while emphasizing the use of soils and plants rather than traditional hardscape collection, conveyance and storage structures.



Buckland Creek pre-construction, straightened & channelized, adjacent to Brighton High School

In 2010, the Coalition's grant application was funded by NYS. **Paula Smith**, a Coalition contract employee housed at DES, performed the engineering design and led the permitting process with the NYS DEC and Army Corps of Engineers. The design included the re-creation of a naturalized stream channel with meanders and gently sloped banks, riffle areas for habitat, rock cross vanes to protect the bridges and banks and a 50' wide corridor of native vegetation to filter runoff, minimize erosion and maintain proper stream temperature. **Todd Stevenson** developed the planting plan utilizing native plants, which are suitable for a high visibility location and adaptable to specific site conditions.



Paula Smith coordinating project construction

Town of Brighton employees began excavation and grading at the site in August. In addition to the \$21,000 in grant funding, DES staff contributions of time, equipment and supplies were critical to the success of this project. **Ralph Condit, Erin Magee, Karen Paris Tuori, Rose Przyklek, Andy Sansone, Paul Sawyko, Paula Smith, Todd Stevenson, Steve Stratton and Charles Yarrington** partnered with 75 community volunteers to plant more than 1,000 trees, shrubs and perennials during three planting events. DES' assistance included the loan of an excavator and a moving truck. Leaf compost was also provided by the County. Monroe County DOT, the towns of Brighton and Mendon and the Brighton CSD donated trucking, boulders, cobbles, mulch, and staff time. Despite some hot weather and hard packed clay soil that made rototilling and digging a challenge, the project was finished on schedule.



One of three community planting events at Buckland Creek

The project has been very well received in the community. As work was underway, DES employees received many thanks from pedestrians. The finished project was featured in stories in the *Democrat & Chronicle* and YNN.



A newly created riffle area at Buckland Creek will improve habitat

Building off this successful venture, Paul Sawyko prepared a grant application for the National Fish & Wildlife Foundation which promoted the use of green infrastructure practices, such as rain gardens and barrels, to residents of the Buckland Creek watershed. Funding was also requested to construct an interpretive trail at the restoration site. Both proposals were underwritten with work already underway. Additionally, Paula Smith and Todd Stevenson prepared yet another grant application, proposing the restoration of the remaining section of the creek which runs through the Brighton CSD campus and the retrofitting of an adjacent section of Monroe Avenue with green infrastructure. The application was funded by the NYS Environmental Facilities Corporation. Construction is scheduled to begin in 2013.

The Buckland Creek restoration project is visible from Winton Road, so the next time you are driving by Brighton High School be sure to check it out!

*Contributing Employees: **Ralph Condit, Erin Magee, Karen Paris Tuori, Rose Przyklek, Andy Sansone, Paul Sawyko, Paula Smith, Todd Stevenson, Steve Stratton & Charles Yarrington***

Buttonwood and Island Cottage Force Main Repairs

Steve Christensen

Buttonwood Pump Station

The Buttonwood pump station is the main pump station which feeds the Northwest treatment plant. While daily flows average 18 million gallons per day (MGD), the station has the capacity to output 50 MGD, utilizing four 500 hp pumps. Maximum capacity is not frequently experienced; when it is, everything must perform flawlessly. The station takes much, if not all, of the wastewater from Greece, Hilton, Hamlin and Brockport and as required from Gates and Spencerport. These conditions make it essential that this station run flawlessly 24 hours a day, 7 days a week, 365 days a year. Under normal conditions, there would be only one hour of downtime before backups and overflows could occur. This station is to NWQ what IBPS is to FEV.

This project began when operators performing a daily inspection noticed water on the floor near a force main joint. **Ken Kelsey** and **Jeff Shultz** immediately began a thorough inspection. That examination uncovered a 42” rubber expansion joint, a part of the force main header, which was deteriorated and leaking. This joint, located in the pipeline after the pump isolation valves, would take all four pumps - and ultimately the entire station - out of service for an indefinite amount of time if it failed. My personal thanks go to Ken and Jeff for acknowledging this problem.

After several meetings between operations, maintenance and management, a strategic repair plan was developed. Work would have to begin at midnight and continue into the wee hours of the morning. Multiple crews would be needed; contract pipefitters were utilized and DES would be required to install a 10 MGD bypass.



Charlie Smith inspects pumps before unloading



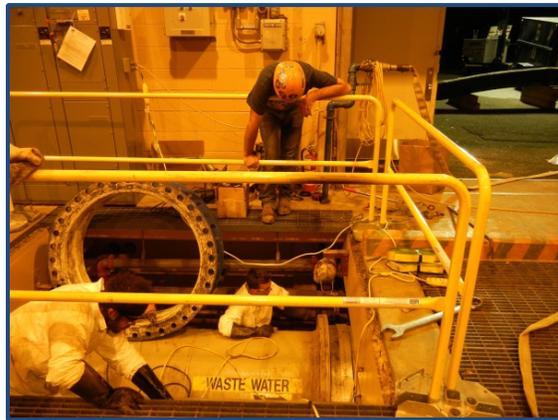
10 MGD bypass being setup by DES Maintenance

Four midnight shutdowns were scheduled. The first was utilized to test and maximize the actual downtime of the station. During each event, multiple crews were placed at crucial upstream pump stations to shut down and control flow. Simultaneously, other crews were draining the 10,000' 42" force main back to Buttonwood, disassembling and removing high point air releases to break vacuum and manipulating the station valves to maintain control. Another crew was stationed to operate bypass pumping equipment to utilize the storage capabilities of the western extension, a 42" pipe from Hilton, Hamlin and Brockport.

The first shutdown test of draining back took three hours. The second, after reviewing key facts learned from the first, took 30 minutes. This allowed the repairs to take place from 12:30am to approximately 6:00am for the remaining three shutdowns.



*Stritt & Prebe Industrial Valve Co
repairing 42" valve*



Danforth removes bad joint

The four shutdowns went off without a hitch and the planned work was completed without incident. Many people were involved in this project, which was a major undertaking that required critical coordination and teamwork between both employees and contractors.



I would like to thank each and every one of you for your help and commitment to getting the job done. Special thanks to NWQ Plant Operations. It was a very large job that could have affected the entire west side of the county. Great job guys!

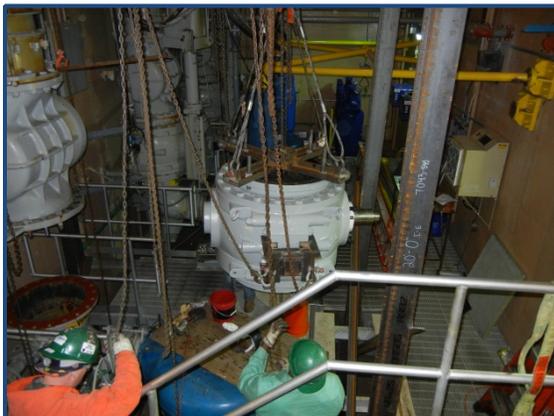
Contributing Employees: Steve Morse, John Palermo, Paul Sandle, Kyle Milne, Mike Weber, Paul Delvecchio, Mario Caletz, Dan Cavallaro Jr., Charlie Smith, Dan Smith, Al Proia, Frank Sunday, Bob Borelli, Matt Rodgers, Frank Powlowski, Tim Lemcke, Corky Kelsey, Manny Burgio & George Flint

Island Cottage Pump Station

Island Cottage is a pump station in Greece which pumps about 25 MGD to Buttonwood. At approximately the same time the problem was discovered at Buttonwood, Island Cottage experienced a major failure which rendered one of the pumps out of service for more than four months. During a routine operational inspection and pump back flush, **Mario Caletz** found that the check valve on pump 3 would not close reliably 100% of the time. Mario immediately isolated the pump and called for a televising crew. Upon visual inspection, it was found that the internal wear ring on the 40-year-old 24” ball valve had become loose and was floating, preventing it from closing properly. Operational strategies for the next four months were formulated, with Mario and **John Palermo** developing a way to run the pump - if necessary - before the new valve arrived.

During the waiting period, a plan was formulated to remove the 7,000-pound valve and install a new one. **Rick Benway** was called upon for his structural engineering expertise and collaborated with Danforth on the design of a self-standing gantry crane system. This partnership would prove crucial to the success of the project.

After about twenty long weeks waiting for the new valve and actuator, the day arrived to begin the installation. The work took two full weeks from start to finish, with every day posing a new obstacle.



Old valve being removed



New valve being unloaded

Mario Caletz, Bob Borelli, Paul Delvecchio, John Palermo, Ed Witzel and Bill Orbanek all collaborated to remove and reinstall the 300 hp pump in concert with valve rigging activities and worked alongside Danforth to prepare the valve for removal, reinstallation and startup.

Great job to all who helped make this repair happen!

Contributing Employees: John Palermo, Mario Caletz, Chris Ross, Bob Borelli, Paul Delvecchio, Ed Witzel, Bill Orbanek & Rick Benway

Careers in Construction Day 2011

Pat Slattery

For the 14th year, over one thousand students in grades 8 through 12 descended upon the Monroe County Fleet Center in October to take part in the annual Careers in Construction Day. This event provides these students a rare, hands-on chance to experience career opportunities in the construction industry. County Executive **Maggie Brooks** and UNICON's Ken Warner kicked off the event, joined by many exhibitors and partners representing the construction business.

This annual event helps to educate young adults about employment opportunities available in the skilled trades and specifically in professional construction. Interactive hands-on experiences and demonstrations, specifically designed to entice motivated area youth to consider a construction related career, included heavy equipment, electrical, mechanical, HVAC, architecture, interior design, engineering, CADD, site work, painting, plumbing, welding, framing, carpentry, pipefitting, forestry, landscaping and masonry, among others.



DES, DOT, GRIA and Parks Department employees manned static equipment displays of bucket trucks, jackhammers, Vactors and televising sewer inspection equipment. DES Fleet Manager **Melvin Rose** turned the fleet garage into an exhibition hall and was able to secure the Castle Chemical NASCAR race vehicle for viewing by students and teachers.

The efforts of **Melvin Rose, Dave Butters, Bill Hanna, El Sierra, Jeff McCormick, Pam Warner, Tony D'Onofrio** and Physical Service employees combined to make this a premier event in New York State.

Certification of Collection System Operators

Mary Jo Healy & Bill Putt

Year Seven: We took a vacation from the “formal” Sacramento Grade 1 training in 2011; however, we continued the pre-exam review sessions thanks to **Brian Gotham, Jeff Scheuch, Rob Tyndall, John Palermo** and **Mike Burkett** who helped to prepare employees to upgrade their current certification levels or to achieve the elusive Grade 1.

Over 50 DES employees now hold a Collection System Operator certification.

Please check out our “**Wall of Fame**” at the ROC!

Thank you to all who have made this program a success and we look forward to the class of 2012!

In 2011, eligible personnel took exams in April and September. We are pleased to announce that these employees have attained the following Collection System Operator certifications:

Grade 1	Grade 2	Grade 3	Grade 4
Jim Guerra	Bob Gessin	Chris Maier	Keith Dyer
	David Quayle	Tom O'Brien	Mike Quayle
		Keith Dyer	Bill Pierce
		Bill Pierce	Dale Adams
		Mike Quayle	Ken Smith
			Mike Burkett
			Mark Delavak

CityPlace Conference Room 7104

Upgrade

Charles Diamond

To facilitate customer service and security, the GIS records room customer service area on the 7th floor of CityPlace was redesigned. Part of this new design plan required the use of the space behind conference room 7104. This area originally housed the A/V control and rear projection systems, lighting controls and fiber and tele/data services for the conference room. The Control Technologies Group, DES Electrical and Facilities Maintenance and Construction were consulted to develop a design plan for the video display wall that did not require rear projection, while relocating the A/V, lighting, electrical and tele/data systems.

The Facilities Construction Group completed the demolition and new construction for the space, including framing, dry wall, painting, flooring and some custom cabinetry. This would comprise the core area of the new video wall and the entrance of the GIS customer service area.

DES Electrical was responsible for relocating the lighting controls and rewiring the electrical distribution in room 7104, while adding new outlets to support the display wall and the new equipment rack. Conduit was also run for a new floor box underneath the conference table for A/V, power and tele/data. This was a much cleaner and safer method to connect, compared to having cables run across the floor.



The Control Technologies group relocated all the fiber, tele/data and A/V systems, in a new video wall design which provided increased functionality and operation of the system. Presently, the conference room has two 32” Samsung LCD monitors flanking a larger 63” Samsung Plasma monitor. The larger monitor includes an integrated Smart Technology touch overlay. At either end of the room, this system also has two Crestron touch panels that

mirror each other. Other updated features include a table box with power, data, and laptop outputs, and VGA and audio outputs controlled by the A/V system.



Contributing Employees: John Zavacki, Martin Veck, Steve Mathis, Christopher Irwin, Mark Payne, Tony Rodriguez, Charles Diamond, Al Campione, Mike Chasman & Scott Lewis

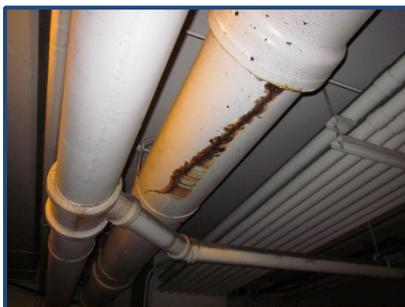
Civic Center Garage Pipe Repair

Rob Tyndall

The Civic Center Garage is an important downtown parking location. Every day, hundreds of cars park under its roof, both during normal working hours and in the evening for events. Additionally, there are a number of services (water, drainage, electrical, etc.) that run throughout the structure, making it vital that the garage remain open and functional without interruption. Problems must be resolved quickly and efficiently.

A 15” cast iron drain pipe developed a crack approximately 4’ long, causing a large amount of water to leak onto the garage floor. The fault could not have happened in a worse location: directly in front of the main entrance/exit to the War Memorial and in the middle of the driving lanes. The 15” pipe was very close to the ceiling and surrounded by other drain pipes and electrical conduits. A replacement of the pipe section would be a costly and time consuming job requiring disruption of both lanes.

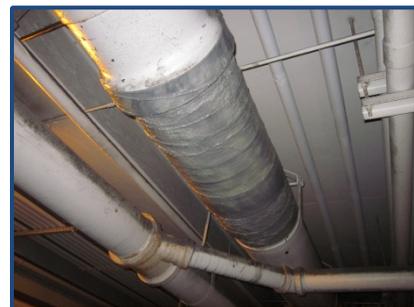
Facilities contacted **Bill Putt** to see what could be done to repair the pipe. Bill and **Rob Tyndall** devised an alternative to complete pipe replacement: repair the 15” pipe by sealing with a wrap. Technology used in the wrap is similar to pipe patch lining, which is typically performed only on the outside of a pipe. **Brian Gotham, Curt Young** and Rob Tyndall made the repair during the early morning hours before vehicles arrived. Using this technology, the restoration was completed in a short time compared to conventional pipe replacement and required no interruption of services or garage operation. Additionally, the wrap was much more cost efficient than a pipe replacement. Check out the repair yourself when you are in the Civic Center garage!



15” CI drain pipe crack



Repair being done



Repair complete

Contributing Employees: Rob Tyndall, Brian Gotham, Curt Young & Bill Putt

Collection System Sewer Matrix

Dale Adams

The Rochester Pure Waters District (RPWD) and the Gates-Chili-Ogden (GCO) Sewer District have an annual infrastructure repair budget of \$1,000,000 to administer repairs to the collection system, including main sewer spot repair/section replacement, cured-in-place pipe lining, catch basin replacement, horizontal directional drilling and surface restoration.

The Collection System Sewer Matrix is a proactive approach in which a work document is created to prioritize and monitor these sewer repairs, replacements and rehabilitation from initial investigation through evaluation and construction completion.

The Matrix is developed from data collected from field inspections, televising logs and Hansen reports. Monthly coordination meetings are scheduled with the City of Rochester Street Design Team for the review of upcoming street reconstruction projects which prompts DES to initiate a complete investigation of all the assets within the scope of a project. Additionally, often, the Technical Services (I&I) Team identifies stretches of sewer with known I&I issues in need of rehabilitation or replacement.

Once a sewer or asset has been investigated, it is reviewed by the Matrix Planning Team at the ROC. The group will review the gathered data and prioritize the project, determine the scope of work and method of repair. Prioritization is determined by many weighted factors, including impact to process, history of problems, the length of time on the Matrix, the cost of repair and if the project is a City of Rochester street reconstruction.

Methods of repairs may include spot/section replacement by open trench excavation, horizontal directional drilling or cured in place pipe lining. Depending on the length and depth of repair it may be executed in-house by DES construction personnel. The televising/investigation team is now capable of performing spot repairs via trenchless pipe patch liners. Once the project has been ranked and a method of repair has been established, the term construction coordinator will calculate an estimated cost for the proposed work. Upon completion of the estimate, a material request and subsequent purchase order will be processed and the work will be awarded to the contractor.

The Sewer Matrix is a valuable tool to help with the monitoring of the collection system operation budget. The Matrix provides a tracking system, allowing DES to remain proactive in identifying areas in need of repair while assuring that repairs or rehabilitation will be successfully completed in advance of future street reconstruction projects and areas of development. The

Matrix is continually updated throughout the year, as projects are added and work is completed.

LOCATION	DISTRIC	RANK	HANSEN WORK ORDER				TCC	STIMAT	ACTUAL COST	DESCRIPTION	
			#	INITIATE	COMPLETE	PRI.					UNIT ID
Earl Street	RPWD	1	340665	03/21/11	4/8/2011	1	SMH103267-103266	2	\$43K	\$44,132.70	90' Spot repair - 12" VT comb. w/5 wyes (8'-12' Deep)
36 Clairmont Street	RPWD	4	166538	7/20/07	5/6/2011	9	SMH105326-105345	2	\$40K	\$9,829.20	Spot Repair (1) 11' - 15" VT comb.sewer (11' Deep)
142 Harvard Street	RPWD	3	295109	4/1/10	5/13/2011	2	SMH108872-108873	2	\$110K	\$117,891.06	Sect. rplcmnt 278' 12" combined w/15 wyes (8'-12' deep)
Seward St./Jefferson Ave	RPWD	1	328640	1/6/11	4/15/2011	1	SMH110456	2	\$8K	\$8,990.40	Install new 4' Dia. MH (3-way) 10' Deep
2222 St.Paul Street	RPWD	2	330353	12/31/10	4/22/2011	2	SMH103857-114907	2	\$7K	\$9,908.96	10' Spot repair - 8" sanitary 12' Deep
Joseph C. Wilson Blvd	RPWD	1	354019	6/8/11	6/13/2011	2	STMH105718-105720	2	\$12K	\$10,210.34	24' Spot repair - 12" VT Storm sewer 6' Deep
Rodgers Drive	GCO	5	286865	2004	9/29/2011	2	SMH700414	2	\$12K	\$12,426.22	1&l - Replace 5' Diam MH; 9' Deep; 3 Connections
Glennville Dr	GCO	5	286862	2004	9/29/2011	2	SMH701940	2	\$12K	\$12,830.70	1&l - Replace 5' Diam MH; 8' Deep; 4 Connections
Luell Rd	GCO	5	286863	2004	9/29/2011	2	SMH702352	2	\$12K	\$8,750.00	1&l - Replace 5' Diam MH; 10' Deep; 4 Connections
Atwood Dr	GCO	5	286866	2004	9/29/2011	2	SMH710833	2	\$12K	\$12,586.36	1&l - Replace 5' Diam MH; 11' Deep; 4 Connections
Harvard Street	RPWD	1	368689	9/29/11		1	SMH108911-108924	2	\$55K	\$52,364.29	130' - 12" VT Combined Sewer w/4 wyes Spot Repair
St.Paul/Norton St.	RPWD	1	300798	6/27/05	8/19/2011	1	SMH102620-114368	1	\$15K	\$14,352.00	Replace tinted/stamped concrete crosswalk & asphalt
Parsells/Greely St.	RPWD	1	363558	8/29/11	8/29/2011	1	SMH107139-107138	6	\$4K	\$3,359.82	HDD 47' 8" HDPE for main sewer repair.
City Place	RPWD	1	361447	8/2/11	8/3/2011	1		7	\$3K	\$2,750.00	CIPP 15' - 6" sanitary lateral in basement of City Place
Seward St./Jefferson Ave	RPWD	2	299158	6/1/10	9/6/2011	1	SMH110456-105664	7	\$27K	\$29,700.00	CIPP 320' 12" VT Comb. Sewer 20 wyes, 10' Deep
Seward St./Jefferson Ave	RPWD	2	299162	6/2/10	9/7/2011	1	SMH103260-110456	7	\$31K	\$32,500.00	CIPP 350' 12" VT Comb. Sewer 19 wyes, 10' Deep
Flint St./Jefferson Ave	RPWD	2	299160	6/2/10	10/3/2011	1	SMH103212-110444	7	\$31K	\$32,230.00	CIPP 292' 18" VT Comb. Sewer 14 wyes, 10' Deep
Midvale Terrace	RPWD	2	88216	2005		3	SMH112815-112817	7	\$38K	\$36,940.00	CIPP 400' - 12" VT combined w/25 wyes (7' Deep)
Winchester Street	RPWD	3	221298	9/8/11		3	SMH113936-113934	7	\$23K	\$20,150.00	CIPP 305' - 8" VT Sanitary Sewer w/12 wyes

Contributing Employees on Matrix Team: Dale Adams, Dan Cavallaro, Glenn Kaiser, Bill Putt, Kevin Quinn, Joe Saurini & Rob Tyndall

Collections Mechanical

Team Highlights

Steve Christensen

This article is not about a single large project; it is summarizing a year of a team of employees who accomplish a great deal more than everyday mechanical repairs. The team, led by **John Palermo** and **Paul Delvecchio**, consists of **Charlie Smith, Mario Caletz, Chris Ross, Frank Powlowski** and **Bob Borelli**. **Al Proia**, a temporary member of this group, has been on special assignment to learn collection system operations. The following is a summary of some of the responsibilities and areas of support they have managed in 2011:

Operations

Within the collection system, there are approximately 55 pump stations, ranging from 5 hp to 10,000 hp. While the majority of the stations are monitored on a computer system, there is nothing that takes the place of a live person at a station to check actual equipment operation, performance and condition. This activity has been standard protocol approximately twice a week at every station for years. Before computer technology, this operation had to take place every single day at all 55 stations. John and Paul's group operates about 60% of these stations. Their attention to detail, proactive actions when small problems arise and targeting of poor performing equipment for replacement has resulted in a drastic reduction in priority problems, especially during heavy rain events. Thanks to their actions, equipment run time and reliability is at an all-time high.

Day to Day Preventive and Corrective Maintenance

Preventive maintenance (PM) is the key to equipment reliability. These five (sometimes six) employees are responsible for the PM at all 55 pump stations and approximately 25 deep rock tunnel control sites. These activities include maintenance on very large submersible pumps, large complex hydraulic systems, grinding systems, air compressor systems and much more. Equipment performance



Scheduled rebuild of a Buttonwood 500 hp pump

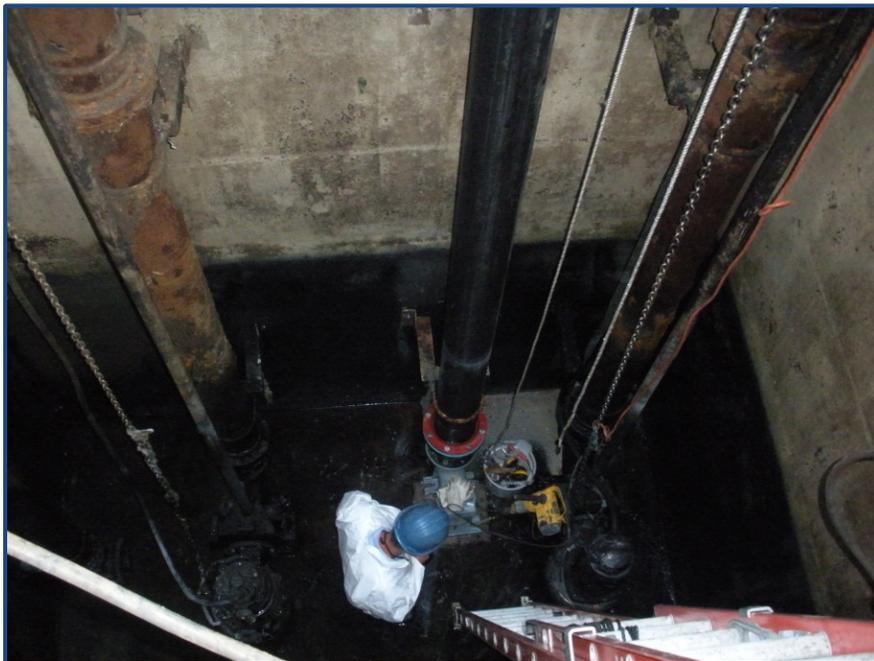
testing is a regular part of these PMs. A “PM” could include a scheduled rebuild of a 500 hp pump.

Small Upgrade Design

When poor performing equipment is identified (usually through the five year planning process) a small upgrade frequently, if not always, requires application engineering or review. While the majority of the five year plan projects do not require a consulting engineer evaluation and design, this application engineering is a necessity to ensure the new equipment is a good fit for its new home. John and company have done this for almost every small project in years prior to and including 2011. Some of these projects include the new pumps at Riverdale - 1, 2, 4 and 5, the Airport station upgrade, Union Station, Tarwood, Inglewood, Sunset Hills and Vantage Point, among others.

Five Year Plan Equipment Upgrades

Whether a five year plan project is to be contracted out or done in-house, there is always a level of support required from DES for the project. As much work as possible is done in-house, including new equipment installations and bypass jobs, to supporting larger projects in other areas. John and his team are always replacing, upgrading or constructing something from the Airport upgrade project (a total “in-house” three week upgrade and bypass), to installing many new pumps in the Riverdale’s, to building the bypass at Dearcop, to constructing the great wall at Densmore creek, a new grinder install at GCO, new pumps and valves at Forestview, new pumps at Thomas Creek and West Henrietta Rd, installing new air compressors at Island Cottage and many others.



Charlie Smith installing a new pump at West Henrietta PS

Capital Improvement Upgrade Support

From the Trolley pump station upgrade to McEwen, Clinton, Pattonwood, Riverton and Pinnacle, to the upcoming Brighton 5 and Central Gates and more, John and his team are regularly called upon to support various mechanical and operational activities related to these large capital upgrades. Until recently, they were responsible for providing all bypass pumping construction and operation. This critical activity is now included mostly in contracts, but John and his group constructed the bypasses at John Street, Charlotte, McEwen, Buttonwood low lift Station and Pattonwood, just to name a few.



Bypassing Pattonwood PS

Support to Facilities

When a call for support comes in from facilities, historically John's group has responded. From priority one jobs such as a Civic Center sanitary pump station failure to a four-week long scheduled rebuild of all of that building's chilled water pumps, the team's response and support has been nothing short of outstanding. Other recent projects include the new boiler pump installations at the AMES lab, installations at the new jail sanitary pump station, fan room 5 pump station repairs, old jail pump station repairs and more.

Support to Parks

Not as frequently of late, however most of the support to County Parks has been through John's group. From troubleshooting and repairing E-ONE lodge pump stations to totally rebuilding the water intake and pumping system for the Genesee Valley golf course, the work was accomplished in some scenic settings. Over the years, support has included culvert repairs at Durand, assisting with the boat launch upgrade at Charlotte and the most recent algae removal project at Ontario beach. Chris Ross and Al Proia committed two weeks of unwavering support to the algae project to ensure its success.



Charlotte Algae project



Charlotte boat launch support

Support to DOT, Towns and Festivals

Whether it's fusing HDPE pipe for the town of Penfield, assisting DOT in bypass pumping a stream in the Town of Chili, or helping out at one of the many festivals, the Collections Mechanical group's support over the years has been outstanding. These gentlemen unknowingly represent not just DES Mechanical but all of DES when working with or around outside customers such as Town Supervisors, Mayors, engineers, contractors and more.

I want to offer my personal thanks, gentlemen, for a great job. Your work has always been prompt, professional and complete. You are all great examples of "true professionals" and your work ethic is second to none. Keep up the good work!

County Recycling Program Expands

Pat Collins

County Executive Maggie Brooks was joined by representatives from Cascades Recovery, Inc. and Monroe County Department of Environmental Services (DES) at a May, 2011 press conference to announce the expansion of Monroe County’s residential recycling program to include the recycling/recovery of plastics numbered #3 through #7, metal pots and pans and aluminum foil and foilware. This expansion of the program (effective 6/1/11) provides residents with more options for recycling common household items.

“Our partnership with Cascades Recovery marks a historical moment for our recycling program and ultimately provides residents with more recycling options,” said Brooks. “The ability for our citizens to recycle more of their household plastics and metal emphasizes Monroe County’s commitment to protecting our environment and providing future generations with a sustainable community.”

After working closely with DES and with community refuse haulers, Cascades Recovery is ensuring that plastics numbered #1 through #7 are recycled or sent to a waste-to-energy facility for energy recovery. This included a trip by county staff to Elmira, Ontario, Canada to tour EFS Plastics, Inc. and its innovative plastics separation system. The majority of the plastics are turned into end-products like, waste baskets, shopping carts and household Rubbermaid-type containers. Cascades have also secured backup markets should an economic downturn stress the system.

Cascades and local haulers also determined that metal pots and pans could readily fit into recycling trucks and be economically hand and magnetically separated by recycling center staff. These metals, along with metal food and beverage cans, are recycled at a local scrap yard.

County Building Commingled Recycling/Recovery

Pantries and Break Areas

Acceptable Materials

All commingled materials accepted for recycling/recovery at home can be placed in recycling containers located in pantries and break areas. All materials should be rinsed clean/empty with caps/lids removed.

 <p>Steel Food and Drink Cans and Empty Aerosol Cans (No Paints or Pesticides)</p>	 <p>Aluminum Food and Drink Cans/Bottles and Foilware</p>	 <p>Metal Pots, Pans and Bakeware</p>
 <p>Gable-top Cartons and Juice Boxes (No Straws)</p>	 <p>#s 1 and 2 Plastics</p>	 <p>#s 3 through 7 Plastics (No Styrofoam or Prescription Bottles)</p>
 <p>Glass Drink Bottles or Food Jars (Clear, Brown or Green Only)</p>	 <p>Plastic and Metal Caps, Tops or Lids (Removed)</p>	 <p>Plastic Product Packaging, Flatware (No Bags, Wrap)</p>
 <p>License Plates (Defaced)</p>		



Maggie Brooks
County Executive

For questions on recycling in county buildings, e-mail mcdes@monroecounty.gov

Don't trash our future. Recycle.

“Cascades Recovery is happy to see that the market for these materials has matured to the point of sustainable recovery,” said Jeff Meyers, Cascades Recovery General Manager for U.S. Operations. “We see household plastics as a recoverable and recyclable material. When residents are finished using them, it’s ideal that this material is kept out of our landfills and appropriately handled in an environmentally-sound way.”

In addition to being accepted at the county’s recycling center from curbside collection, county buildings and the county’s new **ecopark** also accept the new material. Updated posters were made available for placement in pantries, break areas and on **ecopark** dumpsters.

A complete list of acceptable and unacceptable recyclable materials may be found by visiting the DES recycling webpages at www.monroecounty.gov/des-residentialrecycling.php.

DES Customer Service 2011 Requests

Sheila Tobias

From the Home Office on the 7th Floor of CityPlace ... here are the
2011 TOP 10 DES CUSTOMER SERVICE REQUESTS

(with apologies to the *Late Show with David Letterman*)

10. "There is a cockroach in the toilet.
Please come and take it out."

9. "The faucet needs to be replaced. It has germs on it."

8. "Please remove the raccoon from the roof of the Watts Building."

7. "There are feces on the windowsill in the courtyard of the HOJ."

6. "Please clean out and organize my desk drawer."

5. Basement back-up:

"I would like my basement cleaned out. There is 'sheet' in my basement."

4. From Long Island:

"Can I pull my boat up to the dock to drop off some gas for HHW?"

3. DURING A STORM EVENT:

"I'M STANDING ON MY TOILET LID AND THE WATER WON'T STOP COMING UP."

2. An elderly resident:

"I have too many Playboy magazines to put in a blue box and I don't want my wife to find them ... can I bring them to the **ecopark?"**

and the NUMBER 1

CUSTOMER SERVICE REQUEST for 2011:

**1. 'We need someone to pick up a
used condom in a courtroom.'**

Contributing Employees:

Diane Couch, Becky Lombardi, Laurie Stetzel & Sheila Tobias

DES Facilities 2011 Projects

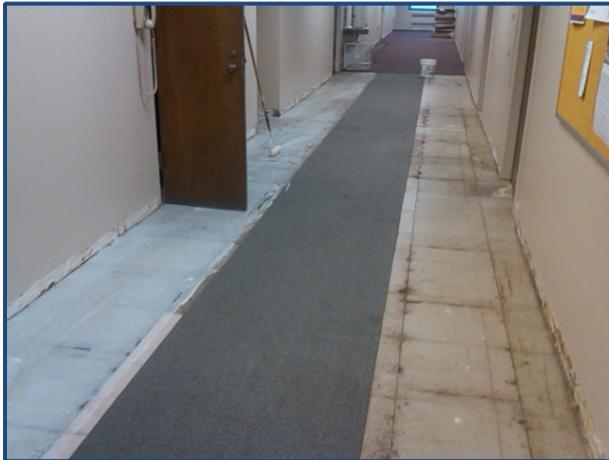
Russ Calcagno

2011 was another very busy year for the DES Facilities Division. All of the County's major building complexes were given the green light to proceed on various projects, including painting, electric, HVAC, ceiling work, room construction, new counters and flooring.

Nearly 12,000 square yards of flooring was installed in areas that included the Hall of Justice, County Office Building, Watts Building, Health and Social Services, Fleet, ROC, CityPlace and Van Lare. Every office and hallway that received new flooring also had its walls painted and repaired. In addition, the maintenance staff moved furniture, file cabinets and other office items for both construction and flooring projects.

Thousands of dollars in costs were saved by utilizing Monroe County maintenance personnel instead of external vendors. Additionally, staff kept pace with the many work orders they were called upon to complete.

Maintenance continues to anticipate the project challenges they will face in 2012, while improving processes and investigating ways to trim costs while delivering a high quality product.



Before



After

Thanks to all that contributed to these jobs. We have a great team!



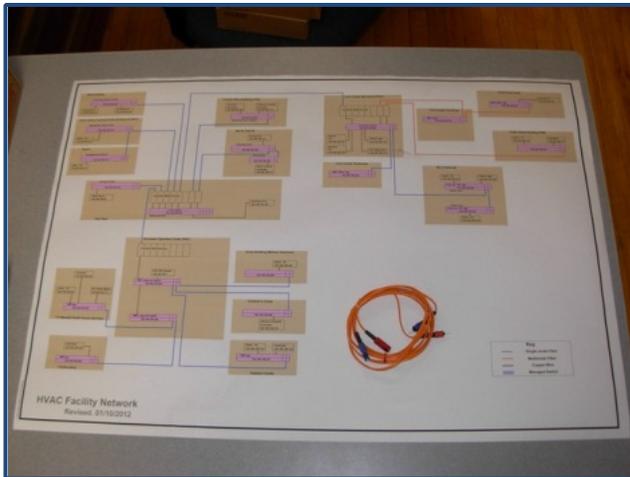
Contributing Employees: Willie Anderson, Greg Bodine, Russ Calcagno, George Hogan, Byron Ellerbe, Scott Lewis, Bart LoFurno, Mike Mammarello, Candido Martinez, Steve Mathis, Joe Miller, Irving Ortolaza, Satch Pitts, Tony Rodriguez, Willie Washington & Eliza Williams

DES Facility/HVAC Communication Network

Scott McEntee

In 2007, DES began to notice an upward trend in maintenance costs for heating, ventilation and air conditioning (HVAC) in all County buildings. Some charges were for routine repairs, and others were registered while supporting aging equipment. A significant factor in these expenses was travel time to and from facilities for making minor operational adjustments.

An idea was formulated: DES had fiber cable running in several buildings and many of these same buildings also had controls operating the HVAC equipment. Why couldn't that fiber be used to remotely control HVAC?



Facilities HVAC Net Drawing



Using the fiber optic network, DES hooked up a few sites in a test connection. Personnel were able to complete remote HVAC troubleshooting and adjustments, while demonstrating significant savings in time, labor and travel costs. From this small beginning, the Facility network has grown to include 18 County buildings and is housed in its very own Citect server.

Based on this success, plans are underway to add energy monitoring and management to the network's capabilities.

Contributing Employees: Daryl Maslanka, Rich Hamblett, Joe Doyle, Tim Raymond, Jim Costanza & Scott McEntee

Dig Safely New York Utility Stakeouts

Glenn Kaiser

The Department of Development and Review has been a part of Dig Safely New York for more than a decade. **Keith Dyer** and **John DiLucia** are largely responsible for marking out sewers and fiber optic locations. Recently, highway lighting was added to their responsibilities. Part of their job is to sort through thousands of stakeouts received each year, aided in part by a computer program called DigTrack. This program allows stakeout information to be processed, organized and dispatched to the field. Upon completion, the requestor of the stakeout can be notified in real time.



Both John and Keith have done an outstanding job in keeping pace with a very heavy demand. In 2011, 23,286 stakeout requests were sorted to determine if the areas in question were clear of Pure Waters utilities. Those needing marking totaled 5,740 stakeouts, most of which required some research into as-built records for main sewer and lateral locations.

Many forms of technology are utilized in the utility stakeout process, including data bases and computer programs like DigTrack, ArcMap, Digital Paper and the Combined Permits Report. Field instrumentation such as line transmitters and metal detectors has been heavily relied upon to help in increasing the efficiency and accuracy of the field marking of utilities.

Contributing Employees: Keith Dyer, John DiLucia, Chris Tatar, Rich Bianchi & Glenn Kaiser



Tom Sinclair & Pat Collins

DES has a long history of offering innovative environmental protection efforts, both internally and with private-sector partners. Examples include operating material collection programs such as household hazardous waste (HHW), pharmaceutical waste and in 2011, enhancing the curbside blue box program by adding #3-#7 plastics and metals to create an environmentally sustainable method for the management of these items for our residents.

On September 21, 2011, DES expanded its public/private partnership with Waste Management of New York, LLC (WMNY) by opening the first of its kind in the nation – **ecopark**. The aim of the **ecopark** complex is to provide a convenient “one-stop drop-off” facility for residents to properly manage household items that are typically not handled by curbside waste/recycling collection programs or conveniently by single item drop-off facilities. The concept of siting this facility, while less involved and expensive than creating a new facility, was not without its complexities.

A History

DES is responsible to compost fall leaf collection material for the City of Rochester via an intermunicipal agreement. Looking to add leaf composting capacity, DES approached WMNY about some idle space at its 10 Avion Drive property—a little-used, 1990 built solid waste transfer station, which included a 60,000 sq. ft. building and acres of associated land. WMNY had virtually mothballed the property when it decided it was more convenient to bring its trash transfer volumes to the County’s waste transfer station (corner of Lee and Emerson). In October 2008, DES opened a 5.5-acre leaf compost facility on a leased parcel of the property’s north end (close to Paul Road).

At the same time, DES was exploring options for moving its HHW and Recycling Drop-off Center operations from the E. Henrietta Road Rochester Operations Center (ROC). Possibilities included costly new construction or modifying existing buildings at the Monroe County Fleet Center. Using the Avion Drive building seemed like a less costly alternative with a great deal of upside. In 2010, after much study of similar facilities on the west coast by County and WMNY staff and with the overall goal of solid waste management focused on expanded materials recovery and sustainability, DES modified its lease agreement with WMNY to relocate its HHW and Recycling Drop-off Center programs from the ROC to the Avion Drive building. This jointly-operated facility would be named the **ecopark**. The **ecopark** complex would

have the ability to simultaneously accept household hazardous waste, pharmaceuticals and the broad range of recyclable/reusable materials.



10 AVION DRIVE



MAGGIE BROOKS
COUNTY EXECUTIVE



HOURS OF OPERATION

Drop-off for Monroe County Residents Only

Regular Collections (No Fee)

Wed.-Sat., 7:30 a.m. to 1 p.m. (Closed Holidays)

<ul style="list-style-type: none">• Electronic Waste• Appliances (without CFC/Freon)• Compost Give-Back (Seasonal)• Paper & Cardboard• Document Destruction• Recyclable Glass/Metal/Plastic Containers• Printer Cartridges• Clean Styrofoam Packing	<ul style="list-style-type: none">• Propane Tanks – 1#&20#• Bulky Plastic Items• Cooking Oil/Grease• Fluorescent Lights• Sharps & Syringes• Sneakers• Clothing• Scrap Metal• Empty Prescription Bottles
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Special Collections

The following will be accepted on select dates.

Visit www.monroecounty.gov/ecopark for schedule.

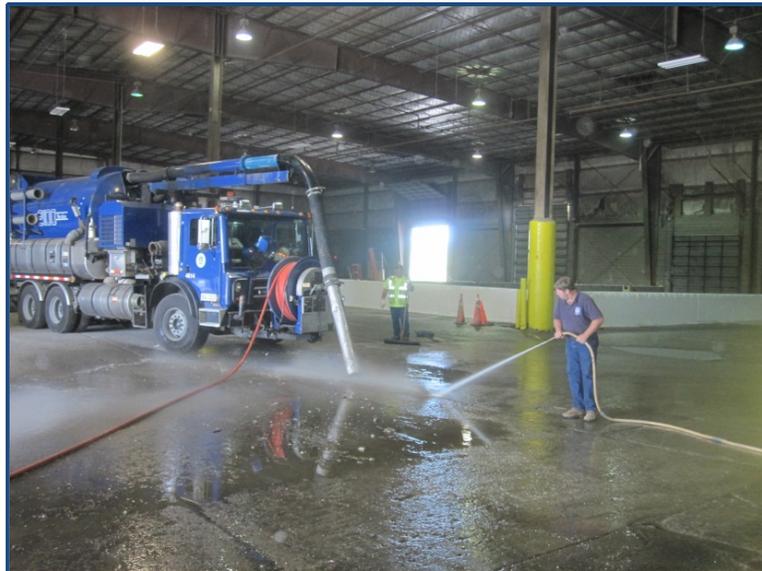
- Household Hazardous Waste (HHW)–**Appointment Required** (No Fee)
- Pharmaceutical & Medication Disposal (No Fee)
- Regular Collection Items – Listed Above (No Fee)
- Recycling **Fee** Items – Passenger Vehicle Tires (**\$3 each**), and Appliances Containing CFC/Freon (**\$15 each**). Waste Management only accepts credit/debit cards for payment.

Visit www.monroecounty.gov/ecopark or call (585) 753-7600 (Option #3) for more information.

Facility Rebirth

As can be imagined, a facility of its size sitting unused for a number of years would need a little tender love and care to get up and running. In spring of

2011, WMNY and DES began the facility upgrades that would be needed to reach the goal. This included WMNY updating the office areas of the facility with new paint, ceiling tiles, carpet and new floor tiles. WMNY also was responsible for converting the vehicle maintenance bay to house the County's HHW collection facility. Upgrades in the HHW area included adding two new garage doors and some fresh paint. DES was responsible for upgraded lighting throughout the facility, the overall cleaning of the facility and a little paint. It should be noted that the walls inside the facility were painted by DES with over 400 gallons of unwanted paint that was brought to the HHW program for disposal. Interior painting of the facility was done by **Tom Sinclair** and **Steve Stratton**. **Melvin Rose** (fleet manager) assisted in securing a large brush that was attached to the Bobcat for cleaning of the floors encrusted with years of garbage residue. Interior cleaning of the large collection area was completed by employees of the ROC, including **Tom Birdsall, Mike Quayle, Mike Ward, Steve Reiter, Chris Zarnosky, Matt James, Bob Gessin, and Jerry McCoullough**. **Tony Morelli** assisted with repairs/replacements of catch basins located on site. **Kevin Quinn** (project manager) secured everything needed to complete the tasks at hand – including equipment, contracts, lighting and signage and kept the overall project on track for its scheduled fall opening. Signage inside the building to direct customers to the proper collection areas was created by Chris Alexander and Liz Johnston of the County's Department of Transportation (DOT) sign shop. The DOT pavement and marking group (**Tony Collini, John Harper, Izzy Rivera, Ruben Cruz, Axel Martinez, Ray Albright, William Wilczewski and Bryan Salisbury**) also lent their talents to create striping leading up to the facility. DOT also striped the traffic pattern inside the building to assist customers.



Operations

While this undertaking was a massive project, it was completed in a relatively short time frame to make the scheduled September grand opening date. The **ecopark** facility is the ultimate residential recycling facility and has two levels of operations (see posting-prior page). Instead of residents having to drive to multiple places, the facility is a veritable one-stop facility to recycle, reuse or properly dispose of hard-to-handle items.

Residents are directed to facility by DES' dedicated customer service staff and via the **ecopark's** innovative Web pages (designed by Catalog and Commerce,

the county's Web contractor). The web pages include a "Prospector" tool which allows residents to search for alternative handling options for materials that may be repurposed instead of discarded (www.monroecounty.gov/ecopark). This web site directs residents to the **ecopark** while also providing options for other drop off facilities closer to their home.

Results

In the first few months of operation the facility serviced over 2,500 residents and has accepted:

- 60,000 lbs. of electronics for recycling
- Serviced 1,350 residents and collected 105 tons of hazardous waste through the HHW program
- Serviced 282 residents and collected 625 pounds of pharmaceutical waste through the Pharm waste program
- Collected 31 tires and 30 CFC (Freon) containing appliances
- three roll-off containers of documents for certified destruction, four 30 yard roll-off containers of paper/cardboard, one 20 yard roll-off of bulky plastics and two 20 yard roll-offs of scrap metal



The transition from the East Henrietta Road ROC facility will be complete with the upcoming relocation of the ROC's Recycling Drop-off Center (slated for 3/1/12) to the **ecopark**.

FEV Recirculation Pump Station Upgrades

Steven Morse

The 24” flow meter in the line measuring flow for the north thickener dilution water was in need of replacement. This flow meter is used to monitor water being sent to eight gravity thickener tanks, enabling operations to maintain fresh sludge until processed. The prevention of an excess of flow would cause suspended sludge to spill into the supernatant, sending the sludge back to the plant headworks rather than to the solids process. DES opted to replace the flow meter using in-house resources. **Kevin Blackburn** of the Electrical Department ordered the new meter, which arrived shorter than the previous one, therefore requiring a new expansion joint to be purchased by **Steve Morse**.

On the day of replacement, **Dwayne Reed** made the necessary plant adjustments and drained all lines. **Bob Werner** and **Jim Costanza** from I&E unwired the old meter, while **Phil Morgan**, **David Sam Tuccio**, **Steve Lupia**, **Keith Ehmann**, **Matt Rodgers** and Steve Morse from the FEV Maintenance Department began the replacement process. The old meter was unbolted and slid out on a pallet jack, while the replacement meter was installed along with a new expansion joint and hardware. The replacement was uneventful and completed in approximately five hours.



Contributing Employees: Phil Morgan, David Sam Tuccio, Steve Lupia, Keith Ehmann, Matt Rodgers, Steve Morse, Kevin Blackburn, Bob Werner, Jim Costanza & Dwayne Reed

The next phase of the upgrade project was to install solenoids on all the seal water lines on every pump. Since the station was installed, seal water ran continuously even when pumps were off. An RIT co-op, **George Flint**, performed a flow study to determine the amount of city water wasted per day and the associated costs. Our very own local plumber **Keith Ehmann**, with assistance from **Mike Weber**, designed a new seal water system containing the necessary components to upgrade the system. Keith & Mike pre-built part of the system for each pump, thereby lessening the amount of time each pump would be out of service. The installations were finished with fresh coats of primer and paint.

Average GPM per seal	1.16
Number of pumps	20
Number of pumps running	12
Number of pumps not running	8
Cost of water per gallon	\$0.00167
Gallons wasted a day	13312.00
Gallons wasted a month	399360.00
Gallons wasted a year	4792320.00
Cost of water wasted per day	\$22.23
Cost of water wasted per month	\$666.93
Cost of water wasted per year	\$8,003.17



*Contributing Employees: **Keith Ehmann & Mike Weber***

Fleet Adds Propane

Dave Butters

With help from outside grants, Monroe County Fleet added a new alternative fuel source to complement its already diverse fuel options – propane!

The grant was instrumental in the construction of the propane dispensing infrastructure at the County’s Scottsville Road fueling location in October, 2011.

Some advantages of propane are that it is a domestic fuel and clean-burning with very little greenhouse gas emissions. Propane is also inexpensive compared to and performs as well as – if not better than – unleaded gasoline.

The process began with the conversion of three existing gasoline powered pickup trucks to operate on propane. County drivers of these three vehicles are now able to fill their trucks with propane 24/7, utilizing the current “chip key” system.



Special thanks for making this project a success!

Contributing Employees: Dave Cross, Melvin Rose, Jeff McCormick & Justin Roj

Fleet Auction 2011

Dave Butters

Once again in 2011, the Monroe County Fleet Center hosted the Fleet auction. This annual event, which takes place during the first weekend of October, saw a record number of registered bidders ignore freezing rain and snow showers to bid on items ranging from construction equipment, passenger vehicles and lawn mowers to office supplies. A concession stand is available, providing hot beverages and food to help in keeping the bidders warm and full. For the third consecutive year, the event was managed by **Pat Slattery**, who has continued to build upon past success. Pat manages parking, traffic control and all the activities associated with the 1,500 people who visit Fleet on auction day. When crowds such as these are in attendance at an event, teamwork by the organizers is critical to eliminate chaos. As in years past, Team DES banded together to host another successful auction. Special thanks to all of the contributing employees that made this event a success.



Fleet Recognized as Second Greenest Fleet in America

Dave Butters

After competing against hundreds of government fleets from throughout the country, Monroe County Fleet Services was recognized as the second best Government “Green Fleet” in the United States for 2011. Fleet Manager Melvin Rose travelled to Dallas, Texas to receive the award on behalf of Monroe County.

Garnering top honors was an organization from Columbus, Ohio with a large fleet completely powered by compressed natural gas (CNG).

Government Fleet magazine examined criteria from various categories to determine the winners of the annual Green Fleet awards. Qualifications included: fleet composition, fuel usage and emissions, policy and planning, fleet utilization, education, executive and employee involvement and support programs.

This achievement is a huge step in reaching County Executive Brooks’ goal of breaking the County’s dependency on foreign fuels. The County’s Green Fuel station, located on Scottsville Road, offers more options for fueling than any other fuel station in the country, including bio-diesel, E-20 (Unleaded 20% ethanol), propane (LPG), hydrogen and compressed natural gas.

This prestigious honor would not have been awarded to Monroe County if not for the fleet mechanics and staff who are responsible for servicing and repairing the County’s alternate fuel fleet.



A special thanks to:

Contributing Employees: Ray Greer, Tim Barkley, Steve Christensen, Dan Fiorito, Charles Jackson, Joe Lupiani, John Maddock, Rich Masters, Jeff McCormick, Dave Reilich, Joe Staub, Pam Warner & Dave Butters

GCO Pump Station Grinder Project

Dan Ross

The Gates Chili Ogden Pump Station has experienced problems with pump vibrations. Extensive testing revealed that “soft clogging” - a build-up of rags - was the main culprit. As the pumps operated, rags would routinely build up in the impeller, reducing pumping capacity (efficiency) and causing vibration problems. The frequency of these issues caused operators to visit the station on an almost daily basis.

After thorough testing, it was decided that the best fix for the problem would be the installation of a channel sewage grinder. Installation was implemented through the five year plan. Logistical issues directed an electrically operated grinder and a jib crane to be installed over the influent channel, allowing for the safe and simple removal of the grinder for maintenance and service.



Installation of jib crane

The scope of this project required coordination between Mechanical, I&E and Collection Operations. From the installation of the electrical feeds and controls, removal of the concrete slab for access, installation of the jib crane and the grinder frame and diversion walls, all three concerns worked together to complete the project safely and efficiently.

Since the grinder has been in operation, pump maintenance has changed from reactive to preventative and reduced from once or twice each day to once a week or even every other week. Congratulations to all involved in another job well done!



The new grinder in operation

Contributing Employees: Curt Young, Ed Witzel, Gary Reilich, Frank Powlowski, John Palermo, Bill Orbanek, Tony Morelli, Phil Lupia, Eric LaMendola, Terry Kuchman, Brian Gotham, Mike Dugovic, Paul Delvecchio, Dan Cavallaro Jr., Mario Caletz, Bob Borelli & Kevin Blackburn

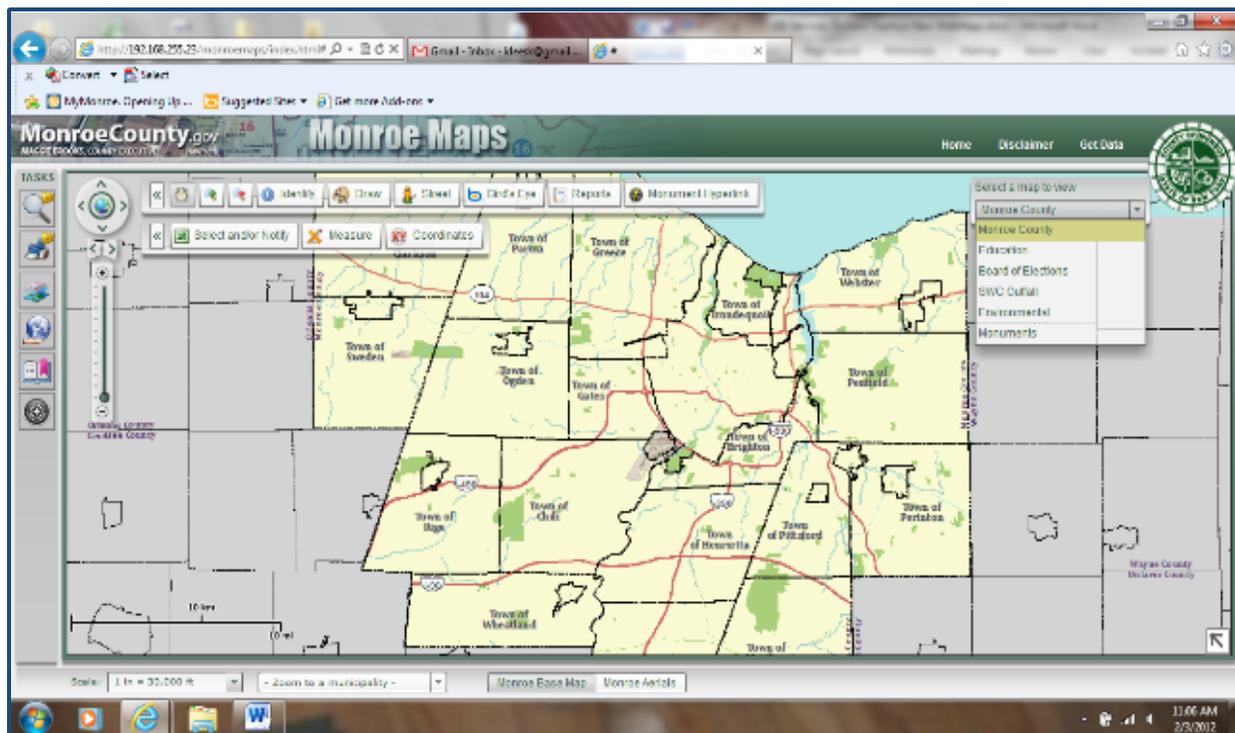
GIS Services Division Deploys New WebMaps

Kristina Daugherty

Keeping pace with the ever-changing face of Geographical Information Systems (GIS) technology, the Monroe County GIS Services Division is in the final stages of going live with the latest and greatest in online webmapping services. With help from Bergmann Associates and ESI, the GIS team was able to create new, sleek, intuitive webmapping applications for both internal and external use.

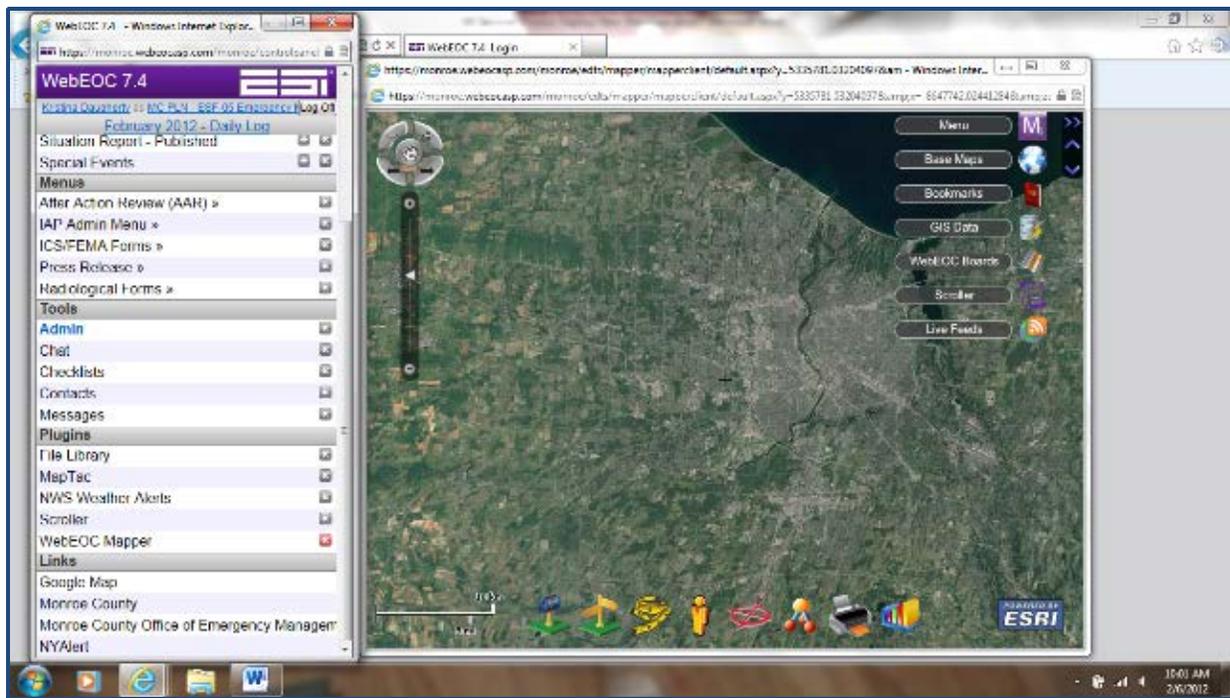
“*Monroe Maps*” is a new, comprehensive online application that enhances our previous, stand-alone webmaps. The new application includes a variety of operational maps that display information pertaining to education, environmental, Board of Elections, stormwater and monument themes. Currently, this data can be viewed over a cartographic basemap or an aerial photographic basemap. Other viewing functionality includes Google’s Street View and Bing’s Bird’s Eye View. In the coming months, the County’s Pictometry imagery will also be able to be viewed through this application.

With these maps, and a variety of built-in tools and widgets, the online viewer will have the unique ability to search, browse and analyze map features.



“Monroe Maps” user interface

Monroe County's Office of Emergency Management finalized the purchase of ESi's WebEOC software in 2011. Packaged with this purchase was the Mapper Professional extension. Together, these two new tools create a web-enabled Crisis Information Management System (CIMS) that can be used for both day-to-day operations and emergency situations. The GIS Services Division supports the County's installation of Mapper Professional, which utilizes ESRI's GIS technology platform. By using County-wide data and real-time data streams within a common operating picture, decision makers are able to get a detailed visual of a particular event (or wide-spanning events), assisting them in making informed decisions.



WebEOC CIMS interface (left) alongside of Mapper Professional (right)

Contributing Employees: Justin Cole, Scott McCarty, Alex Nies & Ron Sansone

GRIA Fuel Farm Remediation Site

Stephen Peletz

The Greater Rochester International Airport (GRIA) has provided commercial passenger flights to destinations throughout the country since 1927. In 1965, American Airlines provided the first flights in and out of Rochester on jet liners, Boeing 727s. During the 1960s, a large expansion of the airport terminal area resulted in more airlines providing flights to and from Rochester. The arrival of jet liners and an overall increase in flights required storage of both jet fuel and aviation gasoline. Four fuel farms were built in the 1960s which provided storage for jet fuel (kerosene) and aviation gas (leaded gasoline for use in piston engine aircraft).

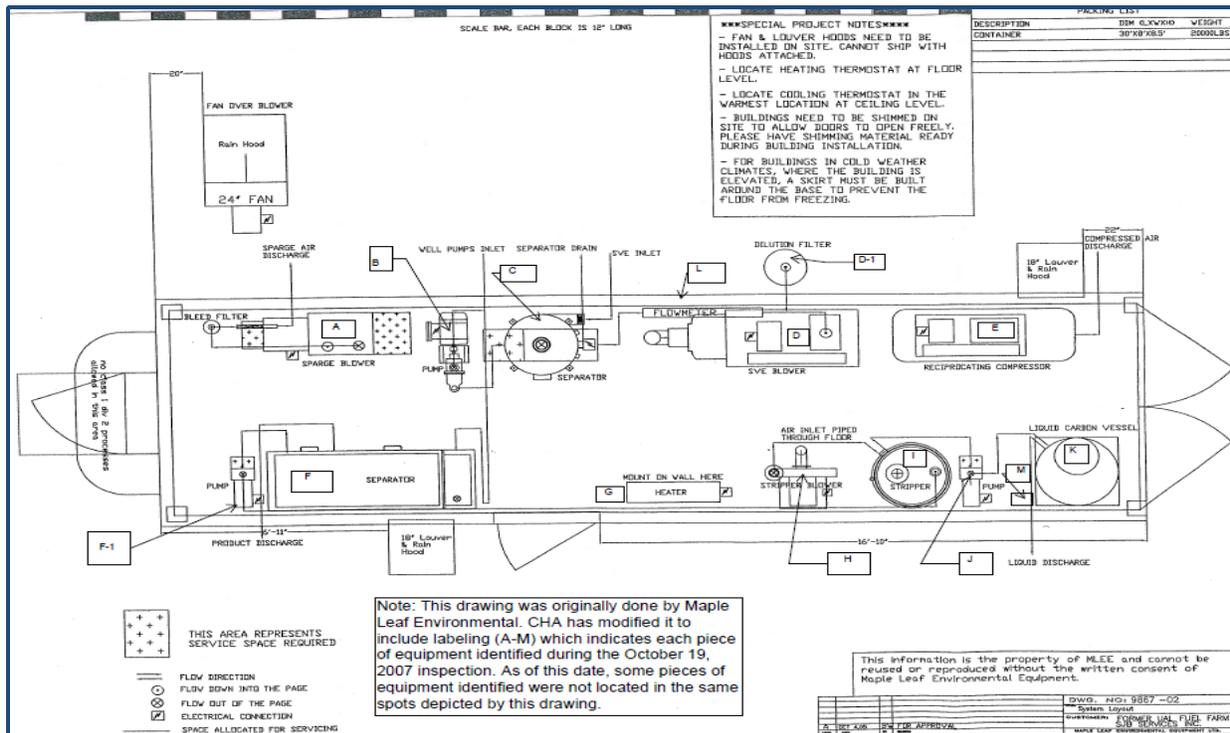
Aviation fuels at these four fuel farms (site) were stored in single walled steel underground storage tanks. Although two 30,000 gallon tanks were added to Fuel Farm 2 in the early 1980s, most tanks were in operation from the late 1960s through the 1990s. Fuel Farm 1 was shutdown in 1984 and in 1999; all tanks were removed from the site. The underground storage tanks at each fuel farm ranged in size from 500 gallons to 30,000 gallons with a total maximum storage capacity of 342,000 gallons. A lack of regulations for the handling, storing and monitoring of underground petroleum bulk storage tanks resulted in significant amounts of petroleum product leaking or spilling at the site.

The NYS Department of Environmental Conservation (NYSDEC) became aware of the extent of the petroleum contamination when site investigations and removal of the underground storage tanks took place in 1999. The NYSDEC sought out the responsible parties (the airline contractors and airlines who owned and maintained the fuel farms) to assist with the expenses incurred in the investigation of the petroleum contamination and the ultimate remediation (clean-up) of the site. At this time, the airline contractors and the airlines were already in or soon to be filing for bankruptcy. No monies were available from these sources to cover the clean-up costs so the NYSDEC took over these responsibilities. Fast forward a couple years and now the NYSDEC no longer has funds to continue the clean-up. Since the site is on GRIA property, the airport is a responsible party and in this case, was required to take over site clean-up responsibilities.

GRIA and its personnel specialize in operating and maintaining an international airport and not soil and groundwater remediation. In 2007, MCDES agreed to assist GRIA with the clean-up of the site by overseeing the operation and maintenance of the two remediation systems (Fuel Farms 1-3 & Fuel Farm 4), which were installed on-site to treat the petroleum contaminated soil and groundwater. By no means was this an easy task. The two remediation systems and associated equipment were found to be poorly operated and maintained by the previous NYSDEC contractor. Groundwater pumps in use were not properly designed to handle the petroleum

contaminated groundwater they were required to pump. These pumps and remediation equipment had either failed or were very close to failure. As a result, the remediation systems inconsistently operated during this time.

Although this job was extremely unappealing when it came to the required preventative maintenance and unexpected repairs that would be needed to keep the remediation equipment operational 365 days every year, DES Mechanic **Charlie Smith** graciously volunteered his assistance. For Charlie, it meant learning how each piece of equipment operated both on its own and in unison with other on-site equipment. With that, what preventative maintenance was required along with tearing down both pneumatic and electric (positive displacement and centrifugal) pumps, valves, blowers and pressurized vessels when unexpected failures occurred. Anyone who has worked on equipment involved with petroleum remediation knows it is nasty to deal with. The chemical and physical properties of petroleum have adverse effects on equipment and make it not easy to maintain. Every time Charlie's assistance was required, the work he completed was done correctly, timely and with a positive attitude. The continuous operation of the remediation systems under DES' watch would not have been possible without Charlie's assistance. Other mechanics that assisted with maintenance and mechanical upgrades at the site are **Steve Cagnina**, **Bob Borelli** and **Frank Castrechino** (retiree).



Schematic of Remediation Trailer

There was plenty of work at the site to keep other MCDES groups involved including Instrumentation, Electrical and Collections. Instrumentation and Electrical assisted as needed with troubleshooting, upgrading and repairing site electrical and communication equipment. **Richard Hamblett**, **Scott**

McEntee, Jim Costanza, Joe Doyle and Tim Raymond installed fiber at the site to make the 24/7 monitoring of equipment possible via CITECT. Electricians **Mark Payne, Kevin Blackburn, Phil Lupia, Steven Richardson and Edward Witzel Jr.** were responsible for troubleshooting and repairing electrical problems with existing equipment while rewiring new equipment. **Tom Birdsall** and his Vactor crew: **Rex Devalder** (retiree), **Bill Burgio, Jim Guerra, Phil Carris, Todd McDowell and Joe Bujak** were utilized multiple times to clean tanks and vessels.

Along with operating and maintaining equipment on-site, quarterly sampling and monitoring of the 110 groundwater monitoring wells was also required. Each quarterly sampling event took place over a three to five day period and could be considered both the best and worst of times at the site. Besides having to collect data from every well and samples from most



wells each time, the sampling and collection was done in whatever weather Mother Nature had in store. It is no easy task to collect data and water samples in extreme conditions which included negative wind chills in over three feet of snow in January, 100+ degree heat indexes on a hot muggy day in July, or thunderstorms and heavy rain events during April and October. Samplers occasionally lucked out with weather that could not be beat. Anyone who has ever worked outside at GRIA knows that the weather is never the same as the rest of the County: it is worse. These sampling events would not have been a success if it were not for the enthusiastic employees of Industrial Waste: **Ralph Condit, Kenneth Smith, Erin Magee, Stephen Stratton, Sean Keenan, Tom Sinclair, Andrew Sansone, Ingrid Schubert** (DES Lab) and **DES Co-ops**. The data and samples collected by these employees is what GRIA used to prove to the NYSDEC that the soil and groundwater was cleaned to an acceptable level.

With the extent of the on-site contamination, it was thought that cleanup could take up to 10 years, possibly more. Investigations of the site by NYSDEC in 2004 showed that there were groundwater wells with over 10 feet of petroleum product floating on the water table. Four and one-half years after MCDES assumed operation and monitoring of the site, official approval from the NYSDEC has been granted to permanently shut down the site. No further monitoring is required and the equipment currently on site is scheduled to be removed this spring! This project was a huge accomplishment by our department. Some wanted nothing to do with it and others questioned whether the site would ever be cleaned to an acceptable level. We would not be where we are today if it were not for the highly skilled and dedicated employees of MCDES. Congratulations and THANK YOU to all who assisted on this project!

Household Hazardous Waste Facility – Relocation to the **ecopark**

Tom Sinclair

In 2008, the DES permanent household hazardous waste (HHW) facility, which was housed in the front parking lot of the Rochester Operations Center (ROC) at 444 East Henrietta Road, was taken out of service and disassembled. Since that time, residents have been served by one day HHW collections held in the garage at the ROC. While this setup created a slight impediment to ROC operations, this arrangement was viewed as a logical temporary step which would enable the continuation of service until a new HHW facility could be located or constructed. Over the past four years, DES, with a consultant, has been actively searching for a new HHW home. Suggestions included the construction of a new facility on property at the Fleet Center and the retrofitting of an existing facility (Building #5) at Fleet. Each of these options came with a hefty price tag and the search for a more economical alternative continued.

In 2011, DES and Waste Management of NY (WMNY) entered into a lease agreement for property located at 10 Avion Drive (see related story – **ecopark**) where the HHW facility could be relocated. This situation allowed for a cost effective way to resurrect the permanent HHW program to better serve residents, with the program once again residing in a permanent home. This facility offers a great location without the cost of building a new HHW-specific facility.

The **ecopark** is the new home of HHW. This facility greatly enhances storage capacity while affording options never before available to the HHW program. The added storage capability allows large quantities of non-hazardous, non-regulated waste (mostly latex paint) to be stored on site until final disposal. By itself, this arrangement should result in annual savings of at least \$25,000 in disposal fees. Valuable man hours are also being saved. While operating out of the ROC each collection (plastic on the floors, tables, drums etc.) was set up a day prior and broken down immediately following. At the **ecopark**, this collection prep can remain in place. Additionally, HHW collections no longer interfere with ROC personnel or vehicles.

Moving the entire HHW collection process from the ROC to the **ecopark** was a challenge. All equipment used for HHW had to be relocated to the **ecopark** without losing the ability to operate collections. This task was completed by members of the Industrial Waste Control section, including **Harry Reiter, Tom Sinclair, Sean Keenan, Andy Sansone, Steve Stratton, Erin Magee, Ken Smith, Ralph Condit** and co-op **Charles Yarrington**. This was completed at the same time that the IWC offices were also being relocated from their ROC home of

the past 20 years to building #1 at the Fleet center. Laboratory operations were also moved during the same time period to building #5.

Thanks to the coordination and input of all involved, all of these moves were completed without any interruption in services for Monroe County residents. Much thanks to those who assisted in any way. It's so nice to finally have a place called *home*...



By the Numbers:

- 5,773 total residents served in 2011 by HHW program
- 216.93 tons of hazardous waste collected for proper disposal
- Five mobile HHW collections held servicing 1,987 residents

Infiltration and Inflow Abatement Program 2011

Rob Tyndall & Mark Delavak

Infiltration and Inflow (I&I) can be defined as the unwanted additional flow entering the sanitary collection system through direct (sump pumps, roof gutters, cross connections, etc.) or indirect (ground water seepage, cracked and broken pipe, etc.) means. Excessive I&I both pose significant challenges to wastewater operations, including the conveyance and treatment of wastewater. Additional problems encountered include the structural decline of the collection system and a reduction in the capacity of the system for future growth. Controlling I&I is critical to providing a quality level of service and protecting the environment. In the effort to combat wet weather induced peak flows which can lead to sewer backups, increased costs for energy and chemical treatment and less effective wastewater treatment, flows must be continually monitored and recorded. Accurate flow measurement combined with visual and physical inspections are a few of the tools used in I&I research.

Some of the projects & activities conducted by the team during 2011 include:

I&I Master Plan

This comprehensive engineering study is a joint venture with CDM/CHA and Monroe County DES. The mission of this analysis is to develop a district wide master plan while addressing I&I contributed to the system by separate community sewers. Goals include the accumulation of information in a central database, a comprehensive evaluation of infrastructure to maximize existing capacity, identifying and categorizing infrastructure O&M needs and major sources of I&I, reducing treatment and conveyance costs and public education. In 2011, workshops were held with all contributing towns and villages providing their respective infrastructure information. This polling, along with comprehensive flow and mapping data supplied by DES, was used to prepare the draft report presented in late 2011.

University of Rochester Flow Metering

The recent and proposed expansion on the University of Rochester campus required an area-wide overview of existing sewer hydraulic conditions. Flow meters were placed at strategic points to isolate the flows of the medical center, south of the river campus by Elmwood Avenue, mid-campus by Fraternity Road and the north end of campus near the tennis courts. Currently, there are four portable flow meters monitoring and archiving wastewater for the study. This metering study is expected to continue through early 2012.

Western Extension Interceptor Flow Metering

The Western Extension Interceptor provides significant wastewater conveyance in the Northwest Quadrant District. Several towns and villages in the western portion of Monroe County benefit from this service, including the Towns of Greece, Sweden, Clarkson, Hamlin, Parma and the Villages of Brockport and Hilton. Each of these municipalities maintains their own surface collection systems. In 2011, the I&I Team began monitoring specific segments of the Interceptor using portable flow meters. This flow monitoring is an effort to document the difference between dry and wet weather conditions, while isolating and identifying areas of increased flow and surcharging conditions. By partitioning the Interceptor into smaller sewer areas, it is possible to determine each municipality's contribution.

Located along the Interceptor at strategic points are Parshall flume metering structures, a very accurate method of measuring wastewater flow. Portable flow meters were installed at these flume sites and other strategic locations along the Interceptor. Currently, six sites are under observation using portable flow meters.

While current flow monitoring provides a great benefit in sub basin flow analysis and I&I research, there are limitations with data manipulation and deterioration of the portable meters. The goal of this project is to replace the current temporary portable flow meters with permanent equipment while merging their telemetry into the DES SCADA system (Citect). At remote locations where commercial power is not an option, obtaining power from solar panels is under investigation, creating a potential "green" project.

FEV Aeration Tank Flow Metering

The FEV aeration tank upgrade project involves the transition from surface mechanical to diffused air aeration technology. This project has progressed to require flow metering of the first two tanks completed. Each tank outfall consists of one 30" and one 60" Cipolletti weir, each contained in small individual vaults. These presented unique flow metering challenges, both in type of weir and constraint of vault size. The I&I Team, assisted by **Jeff Helfer**, installed four ultrasonic flow meters in the outfalls of these two tanks. This metering is expected to continue through early 2012.



Cipolletti weir & vault



Mark Delavak & Mike Burkett installing meter

Hillside / Highland Avenues Storm Sewer Monitoring & CB Flow Reduction

During heavy rain events, the Hillside/Highland Avenue sub-basin is prone to backups and flooding at its lowest elevation points. Upon examination, collection system operators have performed measures to insure clean storm and sanitary pipe conditions throughout the sub-basin. Flow reducers have been installed at selected catch basins in the sub-basin in an attempt to reduce the inflow rush during high precipitation events. This CB flow regulation can reduce the “wave” impact of high levels observed in storm sewer pipes at low elevation points, hopefully avoiding property flooding. A meter has been installed in the storm sewer at the lowest point of the basin to measure flow level during high flow conditions. This level monitoring is ongoing and expected to continue through 2012.

Sanitary Manhole Grouting and Bench Repair

During 2011, the I&I Team continued sanitary manhole rehabilitation using an injectable grouting product introduced in 2010. The manholes selected for this rehabilitation have pronounced infiltration, but are otherwise structurally sound. Ten manholes and vaults were rehabilitated with repairs made from the invert to the barrel sections. All affected manholes and vaults had different ground water infiltration rates with most in the 5 to 10 GPM range.

The math tells the story! 10 MH's x 5 GPM x 1,440 Minutes per day x 365 days per year = 26,280,000 gallons per year! If we change the infiltration rate to 10 GPM the yearly total is 52,560,000 gallons! At a conveyance and treatment cost of \$2.00 per 1,000 gallons that works out to \$52,560 to \$105,120 in savings!

This grouting procedure would not work with every infiltration application, but has proven cost effective and efficient when applied to proper locations.



Infiltration from crack before grouting



Infiltration sealed after grouting

Karenlee Drive (old Henrietta Chemical Feed) Flume Reactivation

The Karenlee Drive (the old Henrietta Chemical Feed) flume site is located off Edgemere Drive, south of the canal. This is a very important monitoring site

as large portions of flows from the towns of Henrietta and Brighton are conveyed through this flume. The building which formerly housed the flow meter was removed a number of years ago and easement issues have delayed replacement. In 2011, metering was re-established and re-incorporated into our SCADA system. We can now see current flow remotely at this site with the capability to trend data.



Old Henrietta Chemical Feed building



New Karenlee Drive flume cabinet

Other projects and activities in 2011:

- First Street flume site upgrade flow monitoring
- Pinnacle Road pump station upgrade flow data review
- Charlotte Port project flow metering
- Gleason building on University Avenue flow and level metering
- Dearcop pump station upgrade flow metering
- Charlotte basin follow up property investigations
- Former Kodak sewers on Lexington Avenue flow and level monitoring
- Linden Avenue drop chamber renovation
- Pattonwood pump station basin evaluation with the Town of Irondequoit
- I&I Team office relocation and shop construction



Mark Delavak & Mike Burkett in new I&I shop

Contributing Employees: Rob Tyndall, Mark Delavak, Mike Burkett, Sam Rinaldo & Tony Morelli

Innovative Green Infrastructure Projects in the RPWD

Andy Sansone

Current efforts to control combined sewer overflows (CSO) in the Rochester Pure Waters District (RPWD) include maximizing the use of the existing system, sewer separation, infiltration/inflow control, sluice gates, flow diversion, in-line storage and the deep tunnel system. These collection system and storage controls have existed for many years and undergo regular evaluations, ensuring their optimal performance. Recent Monroe County initiatives expanding the use of Green Infrastructure are also designed to enhance the source control component of the CSO Abatement Program. Currently, source control practices include street sweeping, catch basin cleaning and pet waste minimization. Additionally, Green Infrastructure assists with source control with their objective to reduce or slow down peak flows in the sewer system, eventually resulting in fewer instances of street and basement flooding and surface water overflows.

2011 saw the development of several innovative green infrastructure projects in the RPWD. These included the Crime Lab, Civic Center Garage Roof and Monroe Community Hospital.

Crime Lab

Project manager
Reinhard Gsellmeier
ensured that the
building's architecture
and engineering was in
full compliance with
Monroe County's Green
Building Policy by
incorporating
sustainable design
principles. As a result,
the County has been
awarded LEED
Platinum Certification
from the U.S. Green
Building Council,



making it the first such rated “green” government building in Monroe County. The building includes the use of porous concrete in the parking lot, a 1,500 gallon cistern to capture and reuse roof runoff and a rain garden. The rain garden is designed to capture sidewalk runoff and is the first of its kind in downtown Rochester.

Civic Center Garage Roof

In 2009, Monroe County was awarded \$3.24 million in Federal stimulus funding for the Monroe County Civic Center Plaza as part of a Green Innovation Grant Program. The funds were used to construct a green roof to control heavy rain and flooding. **Joe Cardinali** manages the project, which demonstrates the use of four management strategies associated with Green Infrastructure: infiltrate, evapotranspire, capture and reuse. Scheduled for completion in 2012, the Green Roof project utilizes an extensively vegetated green roof to infiltrate and evapotranspire. Rainwater that does not fall on the vegetation will percolate thru a gravel bed and be collected in an under-drain system. A cistern added to the original project design will capture 20,000 gallons of rainwater, which will be held for reuse in the roof irrigation system. It is estimated that the Green Roof will reduce runoff from an average storm by over 40%.

Monroe Community Hospital / Pediatric Center



Monroe County's new Pediatric and Visitation Center and the nearby Monroe Community Hospital exhibit a series of innovative stormwater practices, designed to improve the quality of the stormwater discharged from that site into the nearby Erie Canal. Pediatric Center project managers Reinhard Gsellmeier and **Gary Hettler** helped to design a series of swales, a grassy depression that collects stormwater and allows the water to infiltrate into the ground. The new swales on the Hospital and Pediatric Center site are examples of

simple and effective methods for the treatment of stormwater runoff.

These projects all demonstrate the use of five Green Infrastructure practices, and help to place Monroe County's stormwater program among the best in New York State.

Contributing Employees: Reinhard Gsellmeier, Joe Cardinali & Gary Hettler

FEV Lubrication Room



Oil safe lubricant transfer containers are critical for best-practice lubrication programs. Color-coded and fully sealing, these containers ensure the accurate delivery of clean lubricant from bulk storage to the gearbox.

NWQ Lubrication Room



To get the full effect,
stop by.

*Tours are always
welcome!*

Managing Lubricants & Oil Dispensing System

Where and how lubricants are stored should be critically evaluated. An oil container can inhale air when the temperature drops and exhale when it rises, leading to the entry of moisture and small airborne particles, which could cause degradation of the base stock and additives. All lubricants need to be stored in ambient controlled and clean conditions. Placing them in a climate controlled environment greatly reduces chemical degradation and oxidation in the lubricant's base stock. Interesting fact: oil does have a shelf life. Rotating oil supplies is just as important as a dairy employee rotating gallons of milk. Using the "First In-First Out" method helps in the prevention of lubricant degradation.

This new oil storage system helped to establish a Base Oil Cleanliness Benchmark. Clean oil provides better equipment protection and lasts longer. New oil is not always clean. It would have been perfect if this system had arrived already built - or even with the correct parts - however, this was not the case. Every valve, line, pump and container had to be assembled with no leaks. Building this system and making modifications was accomplished by Phil Morgan, Frank Sunday and Mike Weber. This six tank system now holds up to 70% of our gear lubricated equipment. **Squeezing maximum life out of lubricants and extending machine life starts with putting a healthy, clean lubricant into the machine.**



Oil Analysis Program

As-needed oil changes are a critical component in equipment operation. Rather than setting arbitrary change intervals, monitoring the condition of the oil indicates the stability of the lubricant and the condition of parts. Three main categories of oil analysis are: the health of the lubricant, the amount of contamination in the lubricant and condition and wear of the components. In 2011, two main changes were made in the oil analysis program. The first was the development of a seven-process procedure to assure an acceptable representative oil analysis. These included upgrading sampling devices, installing port locations on gear boxes, monitoring the conditions of oil sampling, obtaining a consistent sample size and tracking frequency factors; such as temperatures and age, bottle identification and the key element: experienced staff drawing representative samples with the proper training. The second area was the toughest and took the most time. After 15 years of working with the same oil analysis firm, DES felt it was time to compare quality and service. Partnering with an external oil analysis laboratory is a strategic decision. There are many aspects of an oil analysis service that need to be considered, such as the tests that are available, interpretation skills,

turnaround time and price. Early in the process, it was decided price was not going to be the determining factor. Other factors considered important included: a vendor who “put the customer first” and offered a range of quality testing, a broad depth of data interpretation and alert notifications and recommendations. **Steve Christensen, Steve Morse, Bob McAvoy, John Palermo, Dan Reider, David Sam Tuccio** and Lubrication Engineer representative, Don Wilkens, met with two oil lab companies to review their presentations. This process led to DES partnering with a new oil analysis vendor, who provides a fresh approach using new technologies and expanding available resources to ensure a quality sampling program.

Ultra Sonic and Vibration Monitoring



With oil lubrication, you can actually see the quantity of oil in a gearbox by using a site glass. The color of the oil may also indicate a developing problem. One of the most difficult (but not impossible) lubricants to see and check on is grease- based equipment. Bearings that run with too little lubricant can cause friction, which can lead to bearing failure and eventual seizure. Using too much lubricant can also produce heat, break seals and decrease acceptable tolerances. **Jeff Helfer** introduced a technology to help to tell if bearings are lubricated correctly through

ultrasound. Ultrasonic inspection and monitoring of bearings is a reliable method for detecting bearing failure or a lack of lubricant. The ultrasonic warning appears prior to a rise in temperature or an increase in driving torque.



NWQ Centrifuge getting the special treatment

Looking closely at the above left photo of the ultrasonic unit, you will see a centrifuge from FEV. These “Fuges” have two bearings, one at the feed end and one at the drive end. Manufacturers recommend 20 grams of grease for each bearing for every 200 hours of operation. Based on FEV’s 13 years of centrifuge history, it was discovered a better practice would be to lubricate based on condition - not time - to help to prolong the life of bearings. Jeff Helfer recommended the installation of a “wireless gateway” to indicate vibration inches per second and “g” (method of determining and acerbation rate equal to the acerbation of gravity) peak levels. This helps to determine

when an actual bearing needs lubrication, not simply because it was due on the calendar.

Equipment is able to tolerate localized g-forces to a certain level; however, higher g-forces can cause damage not only to the bearing, but other major equipment components. Below is one of the screens that provide a great “snapshot” of the health of our components:

Device	Device Desc	Parameter	Point	Name	Desc	Value	Units	Status
CENTRIFUGE 1	WIRELESS VIB	PV	CENTRIFUGE 1.PV	Cent 1 fd end overall in/sec	vibration sensor	0.429	in/s	●
CENTRIFUGE 1	WIRELESS VIB	SV	CENTRIFUGE 1.SV	Cent 1 fd end pk view g's	pk view reading	11.291	g's	●
CENTRIFUGE 1	WIRELESS VIB	TV	CENTRIFUGE 1.TV	Cent 1 dr end overall in/sec	vibration sensor	0.299	in/s	●
CENTRIFUGE 1	WIRELESS VIB	QV	CENTRIFUGE 1.QV	Cent 1 dr end pk view g's	pk view reading	3.214	g's	●
CENTRIFUGE 2	WIRELESS VIB	PV	CENTRIFUGE 2.PV	Cent 2 fd end overall in/sec	vibration sensor	0.404	in/s	●
CENTRIFUGE 2	WIRELESS VIB	SV	CENTRIFUGE 2.SV	Cent 2 fd end pk view g's	pk view reading	20.867	g's	●
CENTRIFUGE 2	WIRELESS VIB	TV	CENTRIFUGE 2.TV	Cent 2 dr end overall in/sec	vibration sensor	0.255	in/s	●
CENTRIFUGE 2	WIRELESS VIB	QV	CENTRIFUGE 2.QV	Cent 2 dr end pk view g's	pk view reading	61.204	g's	●
CENTRIFUGE 3	WIRELESS VIB	PV	CENTRIFUGE 3.PV	Cent 3 fd end overall in/sec	vibration sensor	0.011	in/s	●
CENTRIFUGE 3	WIRELESS VIB	SV	CENTRIFUGE 3.SV	Cent 3 fd end pk view g's	pk view reading	0.025	g's	●
CENTRIFUGE 3	WIRELESS VIB	TV	CENTRIFUGE 3.TV	Cent 3 dr end overall in/sec	vibration sensor	0.017	in/s	●
CENTRIFUGE 3	WIRELESS VIB	QV	CENTRIFUGE 3.QV	Cent 3 dr end pk view g's	pk view reading	0.039	g's	●
CENTRIFUGE 4	WIRELESS VIB	PV	CENTRIFUGE 4.PV	Cent 4 fd end overall in/sec	vibration sensor	0.017	in/s	●
CENTRIFUGE 4	WIRELESS VIB	SV	CENTRIFUGE 4.SV	Cent 4 fd end pk view g's	pk view reading	0.025	g's	●
CENTRIFUGE 4	WIRELESS VIB	TV	CENTRIFUGE 4.TV	Cent 4 dr end overall in/sec	vibration sensor	0.008	in/s	●
CENTRIFUGE 4	WIRELESS VIB	QV	CENTRIFUGE 4.QV	Cent 4 dr end pk view g's	pk view reading	0.032	g's	●

Bob McAvoy and Jeff Helfer installed a sensor on each of the two bearings in the six centrifuges at both FEV and NWQ. These values can now be trended along with real-time numbers in the Citect Scada system. This additional technology provides the opportunity to view how efficiently a piece of equipment is operating, rather than assuming because nothing which deviates from normal is observed. The chart above is one of the screens used to monitor real-time activity on all bearings.

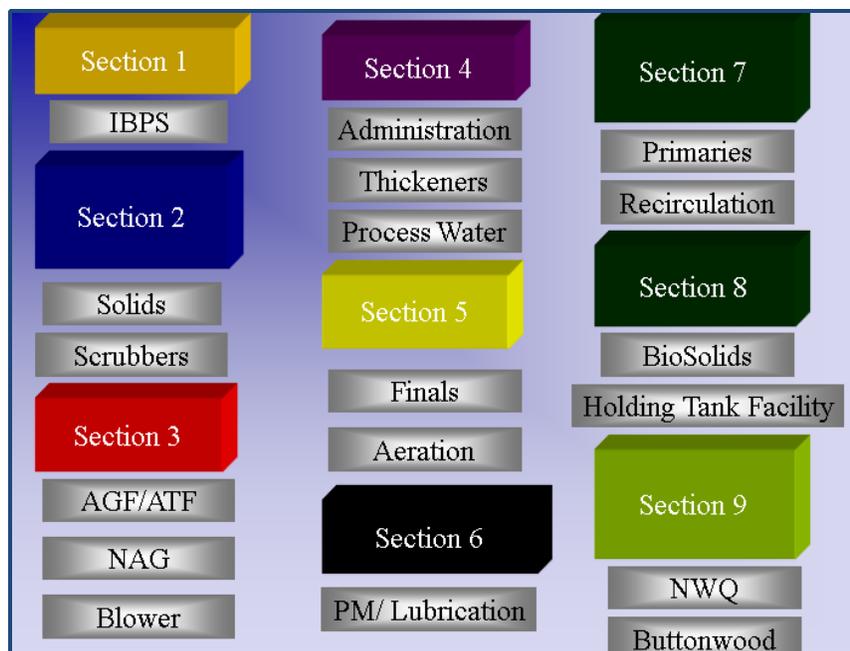
PM Geographic Management

Earlier, we discussed how important lubrication is to long equipment life and demonstrated some problems that are the direct result of insufficient or excessive lubrication. Basic lubrication, which consists of Preventative Maintenance (PM's), quantity, frequency, re-greasing, oil top-offs, decisions about how machine inspections are being performed and other task details are set up on a “PM Schedule”. As with lubrication, PM schedules can be insufficient or excessive. It is important to “right-size” lubrication PM schedules with frequency and task details, making sure they are based on sound lubrication fundamentals.

Rather than just having to staff PM crews assigned at a scheduled time, a “Geographical PM Program” was implemented utilizing all maintenance staff.

Each person has their “section” and is assigned to perform PM’s in a certain area during their rotation period. Every once in a while Steve Morse and Bob McAvoy schedules for us a “PM Day”, concentrating solely on PM’s. With this new program, staff members have the opportunity to develop new ideas to operate that section more efficiently, while at the same time developing an understanding of the process. Each section receives the walk thru and monitoring it requires, resulting in less down time and fewer major repairs. The goal of the Geographical PM program was to increase equipment reliability, plant process knowledge and general plant upkeep, while incorporating a sense of ownership and pride in each section. Carefully reviewing all lubrication PM’s for frequency and task details will insure that all equipment is properly lubricated. It is envisioned that workloads will decrease by the elimination of unnecessary maintenance activities, oil changes, etc.

In devising a strategic schedule, it is planned that total monthly PM’s are equally divided among each section. It is hoped that the Maintenance staff will become more efficient in the utilization of new technologies, including performance testing, ultrasonic trending and better data management, among others.



Pushing the Limits on PM

Creating a successful lubrication maintenance program takes desire. Staff should be willing to push the envelope of best maintenance practices and find ways to help equipment to last longer and cost less to operate. DES staff members listed below have adopted the “*This is our goal, what do we need to do to accomplish it?*” attitude.

Everyday Contributing Employees: Bob Borelli, Steve Cagnina, Dan Cavallaro Jr., Mario Caletz, Paul Delvecchio, Keith Ehmann, Steve Lupia, Kyle Milne, Phil Morgan, Frank Powlowski, Al Proia, Dan Reider, Matt Rodgers, Chris Ross, Paul Sandle, Charlie Smith, Dan Smith, Frank Sunday & Mike Weber

Mapping Monroe County's Fiber Optic Network ARC/FM FIBER MANAGER

Tod Clements

Over the last two decades, Monroe County D.E.S. has been building an extensive Fiber Optic network system. The initial intent of the project was to connect several of the County's main control systems, including Pure Waters Process control, Security & Video network, Wide Area network, Facilities and Radio Communications, among others.

Additionally, Monroe County DES has established other inter-departmental relationships, including Public Safety, Health & Social Services, the Greater Rochester International Airport, the Fleet Center, the Monroe County Correctional Facility, the Monroe County Water Authority, the Department of Transportation, etc. Besides the intra-County relationships, D.E.S. has collaborated with other Government entities, including the City of Rochester, surrounding Towns and New York State with the objective of eventually being able to connect with neighboring Counties to share data and streamline work flows.

The task of keeping a complete and accurate record of an ever-growing Fiber Optic Network, consisting of: 300 termination cabinets, 200 splice locations and 700 fiber optic cables can be overwhelming. The addition of a GIS-based database, ARC/FM FIBER MANAGER, has been critical to this assignment. ARC/FM FIBER MANAGER has increased productivity and saved time in planning, while helping to prevent potential field errors.

Project Purpose and Goals

The goal of the project is to unify all municipalities while providing access to County information and services. Part of this process involves the mapping and documentation of the existing network, including future expansion, throughout the County. The GIS Services Division has incorporated the use of ARC/FM FIBER MANAGER, an ESRI based product, to assist with this project. This mapping system allows the sharing of the County's Fiber Optic data in a commonly used ESRI ARCMAP format with the ability to link to other software, including the HANSEN work order database.

ARC/FM FIBER MANAGER Goals:

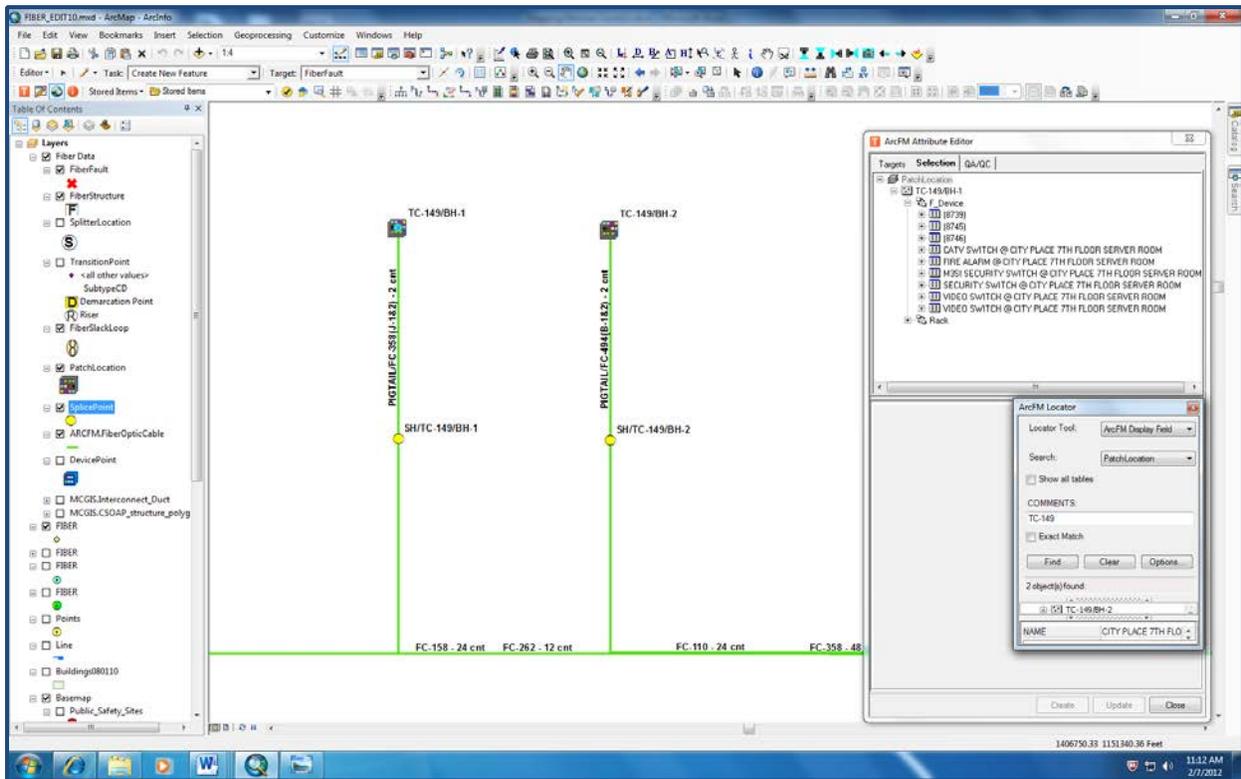
- Conversion of the pre-existing hard copy documentation of fiber optic network into an interactive multi-user database
- Creation of a GIS format graphical representation of the fiber optic network, showing fiber optic cable spans, fusion splice locations, termination cabinet patch panel locations, fiber duct banks and access points, attached equipment, etc.

Benefits of ARC/FM FIBER MANAGER:

- Ability to do time saving fiber network traces, fiber data reporting (trace reports, fusion splice schematics, termination patch panel schematics, etc.) interrelationship data between fiber network components, etc.
- Finding and troubleshooting Fiber Network problems and or potential errors
- Avoidance and prevention of potential field errors by network quality and continuity checks
- Graphical representations of Fiber Network assets and features such as: Termination Patch Panels, Splice Locations, Access Points, attached equipment and devices, etc.
- Ability to trouble shoot fiber network faults using distance input from an OTDR reading to pinpoint fault location
- Ability to assist in the planning of future fiber cable installations, route planning of new fiber connections, etc.
- Ability to breakdown the allocated and unallocated fibers, priority of fibers, cumulative lengths by capacity, etc.
- Ability to customize and configure reporting parameters to fit a wide array of reports per individual requests



Example of a Patch Panel Location at F.E.V. Administration Building



Example of a Patch Panel Location at CityPlace 7th floor in ARC/FM FIBER MANAGER

The screenshot shows the TELVENT Fiber Traces application. The table below provides a detailed view of fiber network traces, including class names, lengths, losses, and additional information such as patch panel locations and device names.

Class Name	Length	Total Length	Loss 1310	Total 1310	Loss 1550	Total 1550	Additional Information
DevicePort 23	0.00	0.00	0.00	0.00	0.00	0.00	PatchLocation_COMMENTS: TC-149/BH-1 PatchLocation_NAME: CITY PLACE 7TH FLOOR COMPUTER RM Device_NAME: VIDEO SWITCH @ CITY PLACE 7TH FLOOR SERVER ROOM DevicePort_Type: FC
FiberConnectionObject 36008	0	0.00	0	0.00	0	0.00	PatchLocation_COMMENTS: TC-149/BH-1 PatchLocation_NAME: CITY PLACE 7TH FLOOR COMPUTER RM
FrontsidePort 51	0	0.00	0	0.00	0	0.00	PatchLocation_COMMENTS: TC-149/BH-1 PatchLocation_NAME: CITY PLACE 7TH FLOOR COMPUTER RM PatchPanelCard_SLOTPOSITION: 9 FrontsideP
BacksidePort 51	0	0.00	0	0.00	0	0.00	PatchLocation_COMMENTS: TC-149/BH-1 PatchLocation_NAME: CITY PLACE 7TH FLOOR COMPUTER RM PatchPanelCard_SLOTPOSITION: 9 BacksideP
FiberConnectionObject 35932	0	0.00	0	0.00	0	0.00	PatchLocation_COMMENTS: TC-149/BH-1 PatchLocation_NAME: CITY PLACE 7TH FLOOR COMPUTER RM
Fiber 1 - Blue	1.04	1.04	0	0.00	0	0.00	FiberOpticCable_COMMENTS: PIGTAIL/FC-358(J-3&4) BufferTube_BufferTubeColor: Fiber_FiberColor: Fiber_FIBERNUMBER: 1
FiberConnectionObject 35858	0	1.04	0	0.00	0	0.00	SplicePoint_COMMENTS: SH/TC-149/BH-1
Fiber 9 - Yellow	207.06	208.10	0.08	0.08	0.06	0.06	FiberOpticCable_COMMENTS: FC-358 BufferTube_BufferTubeColor: Fiber_FiberColor: Fiber_FIBERNUMBER: 9
FiberConnectionObject 25287	0	208.10	0	0.08	0	0.06	SplicePoint_COMMENTS: SH/TC-183/BH-3
Fiber 1 - Blue	52.19	260.29	0.02	0.10	0.02	0.06	FiberOpticCable_COMMENTS: ZIP/FC-153/15&16TOFC-358/9&10) BufferTube_BufferTubeColor: Fiber_FiberColor: Fiber_FIBERNUMBER: 1
FiberConnectionObject 25283	0	260.29	0	0.10	0	0.06	SplicePoint_COMMENTS: SH/TC-162/BH-2
Fiber 15 - Green	2,457.37	2,717.66	0.98	1.08	0.74	0.82	FiberOpticCable_COMMENTS: FC-153 BufferTube_BufferTubeColor: Fiber_FiberColor: Fiber_FIBERNUMBER: 15
FiberConnectionObject 11189	0	2,717.66	0	1.08	0	0.82	SplicePoint_COMMENTS: SC-82
Fiber 15 - Green	73.95	2,791.61	0.03	1.11	0.02	0.84	FiberOpticCable_COMMENTS: FC-275 BufferTube_BufferTubeColor: Fiber_FiberColor: Fiber_FIBERNUMBER: 15
FiberConnectionObject 29253	0	2,791.61	0	1.11	0	0.84	SplicePoint_COMMENTS: SH/TC-50/BH-1
Fiber 1 - Blue	1.05	2,792.66	0	1.11	0	0.84	FiberOpticCable_COMMENTS: PIGTAIL/FC-275(A-3&4) BufferTube_BufferTubeColor: Fiber_FiberColor: Fiber_FIBERNUMBER: 1
FiberConnectionObject 29257	0	2,792.66	0	1.11	0	0.84	PatchLocation_COMMENTS: TC-50/BH-1 PatchLocation_NAME: 911 CENTER DATA ROOM
BacksidePort 3	0	2,792.66	0	1.11	0	0.84	PatchLocation_COMMENTS: TC-50/BH-1 PatchLocation_NAME: 911 CENTER DATA ROOM PatchPanelCard_SLOTPOSITION: 1 BacksidePort_PORTNUMBE

Example of a Fiber Network Trace from CityPlace 7th floor in ARC/FM FIBER MANAGER

Contributing Employees: **Tod Clements, Timothy Raymond & Bob Pollot**

Team DES 2011 ~ Celebrating 16 Years of Employee Recognition

MCC Building 9 Phase II Renovations Project

Reinhard Gsellmeier



Monroe Community College Building 9 is an 85,000 square foot building constructed in the 1960s. Also known as the Gleason Hall of Science and Technology, it is one of the few original campus buildings that has never seen major renovation. Half of the building is a two-story structure, primarily containing classrooms; the other half is a single-story edifice with high bays utilized as technology labs.

The Master Plan for Monroe Community College's proposed complete renovation of Building 9 had the following objectives:

- Maximize program space
- Provide facilities appropriate for future academic programs, especially right-sized classroom spaces
- Improve electrical, mechanical and architectural infrastructure
- Improve means of egress and provide plumbing facilities (restrooms and fire protection) that comply with current codes
- Improve horizontal & vertical circulation, building/restroom accessibility and wayfinding
- Incorporate principles of sustainable design and pursue LEED® Certification with the U.S. Green Building Council

Phase I was primarily an infrastructure project and was substantially completed before the Fall 2008 semester. Phase II, completed in the Fall of 2011, consisted primarily of the following:

- complete gut and rehab of approximately 76,000 sf of space into new classrooms, computer and learning labs and offices
- new student gathering area
- new furniture and fixtures
- structural infill of approximately 4,400 sf
- new mechanical, electrical, plumbing, tele/data, fire alarm and security system infrastructure
- green wall and skylights
- photovoltaic panels
- loading dock canopy, new sidewalks & landscaping



The project achieved U.S. Green Building Council LEED® **GOLD** Certification. LEED measures implemented for this project included:

- Highly reflective (white) roof to minimize the heat island effect
- Water usage: a 52% reduction in potable water usage through the installation of low-flow fixtures (toilets, urinals & sink fixtures)
- Energy usage: 32% cost reduction in energy usage through the incorporation of a thermally efficient building envelope, high performance window glazing, highly efficient lighting/controls, controls for unoccupied HVAC system operation and solar PV panels
- Construction waste management (83% of the generated construction waste was diverted from the landfill)
- Construction materials with an overall recycled content of 21%
- Use of FSC certified wood (wood from responsibly managed forests)
- Use of low-emitting adhesives, sealants, paints, carpet systems and composites

Notice-to-Proceed was given to contractors on April 5, 2010 and substantial completion was achieved in August, 2011. The project was completed in

multiple phases, with the completion of each phase tied to the academic calendar. Total project costs were \$14.1M.

Consultant Team

SWBR Architects (lead consultant; architect and structural engineer)

M/E Engineering (MEP design; commissioning agent)

Ravi Engineering (asbestos)

Construction Manager

DiMarco Constructors

Prime Contractors

Pepe Construction (General Contractor)

Hewitt Young Electric (Electrical)

Leo J. Roth (Mechanical)

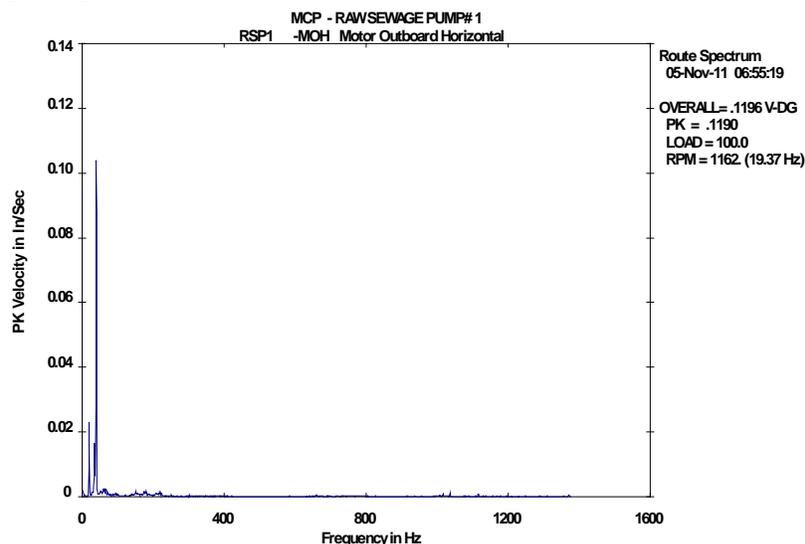
Unified Mechanical (plumbing)

Contributing Employees: Karen Ercoli, Irving Murph, Jane Naylor, Carol Richardson & Dennis Scibetta

McEwen Road Pump Station Vibrations

Jeff Helfer

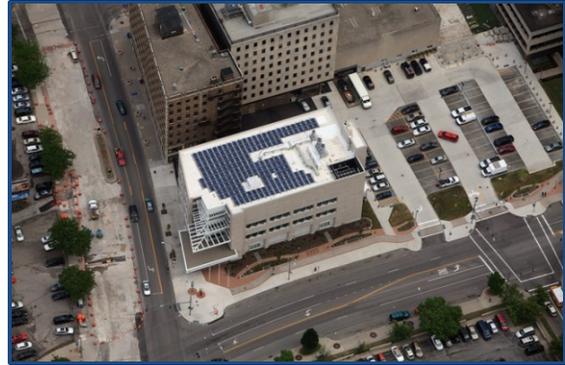
A request was made to verify the pump vibration readings at the McEwen Road pump station with the pump manufacturer representative. When first run, there were indications of .90 in/sec at 1,650 rpm. The contractor then asked me to take readings after completing a test to stiffen the unit. It was observed that 1,950 cpm cross-discharge and 2,000 cpm natural frequency, which was in line with the discharge. The pump was run up from minimum to maximum speed and a plot was taken. The readings are cross discharge vertical direction. The resonance activates 20% prior to 1,708 rpm and doesn't dissipate till 20% higher than 1,708 or about 2,110 rpm. Even at 100% speed, the pump was vibrating at .58 in/sec. These results were achieved after fully backflushing the units and checking for any debris buildup. 4x Diagnostics was brought in to perform an Operational Deflection Shape (ODS) to display where the vibration was coming from. The problem turned out to be the base design by the pump manufacturer, which was allowing too much flexing of the supporting legs of the stand. The solution was to weld gussets on the legs, which would stiffen them and raise the natural frequency just outside the range of activation. The gussets from the top of the baseplate to the top of the pump stand were completed and the natural frequency was raised to 2,062 cpm after a bump test. Then, it was run through the speed range, with the highest reading being .21 in/sec cross discharge and .18 in line with the discharge. The stand flexing has been eased enough to drive the frequency far enough out of the upper speed range, ensuring that the pump can run for years without additional stress caused by resonance. Resonance has been identified as a large problem with pumps that operate on variable frequency drives and it will be a continuing challenge for DES to assist engineers with the design of pump stations that are free of these issues.



Contributing Employees: Mario Caletz, John Palermo, Dan Cavallaro Jr., Brian Gotham, Steve Christensen, Dan Ross & Jeff Helfer

Monroe County Public Safety Laboratory (Crime Lab)

Reinhard Gsellmeier



In 2005, County Executive Maggie Brooks established a Crime Lab Task Force to assess the expansion and modernization of the existing Crime Lab. Primary users of the Crime Lab include the Rochester Police Department (RPD), the Monroe County Sheriff's Department (MCSD) and the Monroe County District Attorney (DA), all of whom have their main offices in downtown Rochester. In addition, the Crime Lab is utilized by the law enforcement agencies of towns and counties across and adjacent to Monroe County. To serve this diverse group, a centrally located site in Monroe County with easy access to major expressways and close to downtown court buildings was envisioned as the ideal location.

The Crime Lab Task Force provided advisory information which became the foundation for the new Monroe County Crime Lab, a \$23 million, four-story, 45,000 square foot building housing laboratories and lab offices offering modern scientific analysis of forensic evidence. Accredited by the American Society of Crime Lab Directors, the lab provides services in these forensic disciplines:

- Forensic Biology/DNA
- Fingerprint/Trace Evidence Analysis
- Firearms & Toolmarks
- Drug Analysis & Fire Debris Analysis
- Evidence Management
- High Sensitivity DNA
- Computer & Document Forensics/ Digital Evidence
- Crime Scene Response Team
- Vehicle Examination & Training Bay

While supplying much needed space, the lab gives staff state-of-the art tools to process evidence efficiently and effectively. The new laboratory provides expanded firearm and forensic services in biology (including DNA), trace analysis, fire debris and controlled substances. These increased services multiply the information available to the Alcohol Tobacco and Firearms (ATF) database and also increases the amount of evidence the lab can link to other cases and suspects. New services offered in the expanded facility include High Sensitivity DNA, Computer Forensics and Crime Scene Response & Vehicle Examination.



Site selection and building design also took into consideration the future growth of the lab. Building architecture and engineering incorporated sustainable design principles, as well as contemporary mechanical, electrical, and plumbing systems that comprise a modern science lab.

The design team was given the challenge of creating a 45,000 square foot state-of-the-art Crime Lab on the edge of downtown Rochester with the ultimate goal being LEED Platinum certification. The function of the lab drove the floor plan layout with its dominant north/south axis, while keeping the facade complimentary to the adjacent 1960s County Civic Center Plaza.

Crafted with modular masonry units, the envelope was scored with deep joints to mimic the rhythm of the limestone panels of the Plaza buildings. Large display cases were developed on the first floor, reflecting traditional storefronts which once lined the adjacent streets. The upper windows become multifaceted with a step glazing system that helps to diffuse the western sun. The building addresses the corner of the property by carving out a negative space of glass and polished masonry units. Users enter the building on the first floor, while staff is provided an opportunity to gaze onto the street from the upper floor common spaces. A cantilevered floating trellis system then re-introduces the floors to help the eye in completing the corner.

Project Schedule:

06/30/08: Final Master Plan is completed
 SEQR Lead Agency Letters are mailed

08/12/08: Legislative Referral is Adopted Creating \$30 Million Capital Project
 08/13/08: Detailed Design Begins
 07/2009: Advertise for Bids
 10/2009: Legislative Referral is Adopted to Award Construction Contracts
 11/2009: Construction Starts (Notice to Proceed)
 11/09-04/11: Construction Phase, Approx. 17 months
 04/2011: Occupancy

Leadership in Energy and Environmental Design (LEED)

The Crime Lab achieved a **PLATINUM** certification in the LEED for New Construction Rating System as awarded by the United States Green Building Council (USGBC) and is the only Platinum certified crime lab in the country.

Construction Activity Pollution Prevention: The project’s erosion and sedimentation control plan conforms to the 2003 EPA Construction General Permit. The permit issued by the DEC for the project is equal to and meets all National NPDES requirements.

Site Selection: The building site qualified for LEED credit as it is not prime farmland, not previously undeveloped land whose elevation is lower than five feet above the elevation of the 100-year flood as defined by FEMA, is not previously undeveloped land within 50 feet of a water body, is not identified as a habitat for any endangered species, is not within 100 feet of a wetland and is not acquired public parkland.

Brownfield Development: The project is located on a previously contaminated site, as documented by a Phase II Environmental Site Assessment. Environmental site analysis was performed and remediation efforts were undertaken prior to construction of the project. A Soil Management Plan (SMP) was developed and implemented to properly manage fill materials and other potential soil impacts that could be encountered for any ground intrusive work. In order to minimize the potential for vapor intrusion issues related from any low-level residual impacts in the subsurface, a sub-slab vapor mitigation system was included and all fill material was removed from beneath the footprint of the building.

Public Transportation Access: The project is located within ¼ miles of one or more stops for two or more public or campus bus lines usable by building occupants to reduce pollution and land development impacts from automobile use. The project is served by two bus lines within ¼ miles of the project site.

Bicycle Storage & Changing Rooms: Secure bicycle racks are provided within 200 yards of a building entrance for 5% or more of all building users. Also, shower and changing facilities are provided in the building for 0.5% of Full-Time Equivalent (FTE) occupants.

Low-Emission & Fuel Efficient Vehicles: The Crime Lab provides preferred parking for low-emitting and fuel-efficient vehicles for 5% of the total vehicle parking capacity of the site. Four preferred parking spots have been provided and labeled for LE/FE vehicles.

Parking Capacity: Parking capacity provides preferred parking for carpools or vanpools equal to 5% of the total provided parking spaces and does not exceed

the minimum local zoning requirement. Car/van pool parking has four reserved spaces.

Development Density and Community Connectivity: Construction was implemented on a previously developed site and within ½ mile of a residential zone or neighborhood with an average density of 10 units per acre net and within ½ mile of at least 10 basic services.

Stormwater Design - Quantity Control: The project has implemented a stormwater management plan that results in an 82% decrease (rate and quantity) in runoff from calculated pre-project conditions. The project's Stormwater Management Plan includes the installation of pervious concrete pavement, grass areas and a rain garden. Pervious concrete pavement provides an alternative to conventional asphalt and is designed to infiltrate rainfall through the surface, thereby eliminating stormwater runoff from the site. The rain gardens and grassy areas also assist in reducing impacts of impervious cover by augmenting the recharge of groundwater through infiltration, providing some pollutant uptake in underlying soils.



Stormwater Design - Quality Control: The project has implemented a stormwater management plan, which reduces impervious cover, promotes infiltration and captures and treats stormwater runoff from 100% of the average annual rainfall using acceptable Best Management Practices (BMPs). The project's BMPs are capable of removing 80-90% of the total suspended solids (TSS) from the average annual post-development runoff. Stormwater runoff is also captured and filtered through the grassy areas and rain gardens located around the site.

Heat Island Effect - Non-Roof: Paving materials with a Solar Reflectance Index (SRI) of 35, which consists of new grey concrete, have been incorporated in 78% of the hardscape areas. Open grid pavement systems (pervious concrete) have been incorporated into 18% of the hardscape areas. A total of 78% of the site's hardscape areas have been designed to mitigate heat island effect in this urban site.

Heat Island Effect - Roof: The roofing materials used on the project have a minimum Solar Reflectance Indicator (SRI) value of 100 for 92% of the roof surface. The building has incorporated a Pyramic coating which is a white, non-toxic, fire retardant roof coating formulated from a water-based, pure acrylic, self-curing latex. Pyramic coatings preserve asphaltic surfaces and reduce under-roof temperatures and heat island effects for surrounding areas.

Light Pollution Reduction: The project's interior and exterior lighting has been designed in accordance with LEED requirements. For interior lighting, non-emergency interior lighting fixtures have been automatically controlled to turn off during non-business hours. A manual override capability is provided for after-hours use. For exterior lighting, the lighting power densities (LPD) of exterior area fixtures do not exceed 80% of the ASHRAE.

Light Trespass: The project is located in an LZ-3 lighting zone (Medium Commercial/Industrial, High-Density Residential). The vertical foot-candles at the project site boundary range from 0 to .2 fc (foot candle). The horizontal foot-candles at the project site boundary range from 0 to .1 fc and at 15 feet beyond the project site boundary is 0 fc.

Water Efficient Landscaping: No permanent irrigation system has been installed as all plantings on the site are tolerant of drought conditions that periodically occur in this region. The Rain Garden area will be watered by runoff from adjacent paved areas, which includes a connection to the under-pavement stormwater collection system in the parking lot. Plantings will only be watered using designated exterior hose bibs (which are fed by the rainwater harvesting system) during the initial plant establishment period.

Innovative Wastewater Technologies: The project has reduced potable water use for sewage conveyance by 70.7% from a calculated baseline design through the installation of dual flush toilets and harvested rainwater use. The rainwater harvesting system utilizes a single 1,500 gallon rain water storage tank. The tank is sized for the anticipated area rainwater and building water usage. The tank stores stormwater collected from the building roof. The water is utilized for the supply to water closets, janitorial sinks and several exterior hose bibs.

Water Use Reduction: The project has reduced potable water use by 57% from a calculated baseline design (EPAAct 1992) through the installation of dual flush toilets, low flow faucets and showers and harvested rainwater use.

Optimize Energy Performance: The project has achieved an energy cost savings of 35.7% and an energy use savings of 47%. The annual savings is projected as \$79,741. Energy efficiency measures include an improved thermal envelope, high efficiency glazing, reduced lighting power density and energy efficient HVAC systems. Energy savings from the building design will provide societal benefits in the form of



reduced emissions from power generating plants including nitrogen oxides (NO_x), sulfur oxides (SO_x) and carbon dioxide (CO₂).

- 714 pounds of nitrogen oxides (NO_x)
- 274 pounds of sulfur oxides (SO_x)
- 387 tons of carbon dioxide (CO₂)

These savings are equivalent to removing 77 cars from the road.

On-Site Renewable Energy: 2.51% of the project's energy cost is being offset by renewable site generated energy. Building mounted photovoltaic panels are installed on the roof surface to offset energy costs and reduce the environmental and economic impacts associated with fossil fuel energy use.

Construction Waste Management: The project diverted 98% of construction and demolition debris from landfills and incinerators. Recovered resources were redirected back into the manufacturing process. Reusable materials were directed to appropriate sites. Materials recycled or reused include the

following: concrete, asphalt removed from the existing site, steel, drywall, metal studs, ceiling grid and tile, wood and carpeting, among others.

Recycled Content: The project utilized materials that included recycled content equaling 30% of all materials used by cost. Using these building products that incorporate recycled content reduces the impacts of the extraction and processing of virgin materials. Some of the materials with recycled content utilized were: building steel, concrete, drywall, metal studs, ceiling tile and grid, masonry, ceramic tile and insulation.

Regional Materials: The project utilized materials and products that were extracted and manufactured with the region (500 mile radius to the project site), thereby supporting the use of indigenous resources and reducing the environmental impacts resulting from transportation. The project utilized 30% of materials by cost that were extracted and manufactured regionally. Some of these materials include: landscaping materials, concrete and aggregate, insulation, gypsum board, carpet, casework, lumber, wood doors and some steel.

Low Emitting Materials: In order to reduce the quantity of indoor air contaminants that are odorous, irritating and harmful to the comfort and well-being of installers and occupants, all adhesives and sealants used on the interior of the building complied with the South Coast Air Quality Management District (SCAQMD) Rule #1168 which provides limits on Volatile Organic Compounds (VOC) products may contain. All adhesives and sealants installed within the building fell below or were in compliance with this standard. Paints and coatings used on the interior of the building complied with the Green Seal Standard GS-11, which provides limits on Volatile Organic Compounds (VOC) that products may contain. All carpet systems installed in the interior of the building complied with the Carpet and Rug Institute Green Label Plus Program which provides limits on Volatile Organic Compounds (VOC). Composite wood, agrifiber products and laminating adhesives used on the interior of the building contain no added urea-formaldehyde resins.

Fundamental Commissioning of Building Energy Systems: The project implemented Commissioning to verify that the building's energy related systems were installed, calibrated and performing according to the owner's project requirements, basis of design and construction documents. Commissioning was completed for the following systems: Heating, ventilating, air conditioning, refrigeration and associated controls; lighting controls, domestic hot water systems and renewable energy systems (photovoltaic panels).

Enhanced Commissioning: In addition to the fundamental Commissioning implemented on this project, additional activities were undertaken after the building system performance verification was completed. These activities included: Commissioning agent reviews and comments on the design phase documents; contractor submittals applicable to systems being commissioned for compliance with the design documents, development of a systems manual to provide for future operating staff the information needed to understand and optimally operate the building systems; verification that training for operating personnel and building occupants are completed; and reviewing the building

operation for 10 months after substantial completion with the operating staff and occupants to identify any problems.

Consultant Design Team

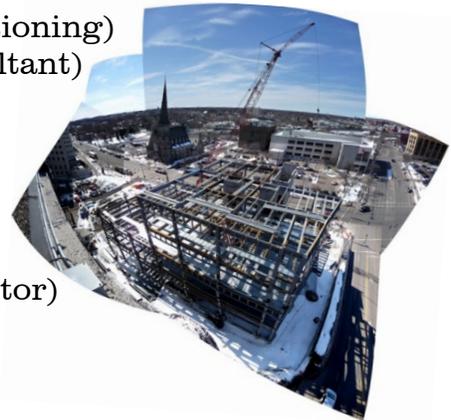
LaBella Associates (Lead Designer; Project Architect)
McLaren Wilson & Lawrie (Crime Lab Specialist)
DeWolff Partnership Architects (Design Architect)
M/E Engineering (Mechanical, Electrical, Plumbing)
McCord Landscape Architecture (Landscape Architect)
Sustainable Performance Consulting (LEED Coordinator)
Fisher Associates (Geotechnical Services)
Pathfinder Engineers (Commissioning Agent)
Seeler Engineering (Project Labor Agreement)
Camroden Associates (Building Envelope Commissioning)
Michael Constantinou (Structural Vibration Consultant)

Construction Manager

The Pike Company

Prime Contractors

Crane-Hogan Structural Systems (General Contractor)
John W. Danforth Co. (HVAC; Plumbing)
Kaplan-Schmidt Electric (Electrical Construction)
Dancker, Sellew & Douglas (Laboratory Casework)



Contributing Employees: This project took a real Team effort – there were many, many DES employees that contributed to the success of this project. At the risk of leaving out someone (my apologies), key contributors included: Kevin Blackburn, Rick Benway, Russ Calcagno, Al Campione, Charles Diamond, Art English, Karen Ercoli, Mike Garland, Rich Hamblett, Don Irvine, Jason Kennedy, Tim Levandoski, Bart LoFurno, Daryl Maslanka, Don Millar, Irving Murph, Kevin Muhs, Jane Naylor, Mike Patanella, Mark Payne, Tom Posella, Tim Raymond, Carol Richardson, Andy Sansone, Dennis Scibetta, Steve Schwartzmeier, Jesse Shaw, Pieter Smeenck, Marty Veck & John Zavacki

NWQ Equipment Upgrades For 2011

Steve Christensen

Tertiary Pump Station Upgrade

The tertiary tanks at NWQ are settling clarifiers which mark the last stop for water from the plant before it is deposited into Lake Ontario. The settled sludge at the bottom of the tank is pumped to the thickener tanks at a rate of 600 gallons per minute. The pumps used in this task are original equipment for this station which was installed in the early 1970s. Simple math says these pumps have been in service continuously for over 40 years and **Dan Reider** of the Preventive Maintenance (PM) crew has had the responsibility of keeping these pumps running. Through the years, Dan has been the common denominator responsible for the reliable operation of these pumps. 2010 saw the pumps ask for a well-deserved retirement; their request was approved in 2011. After the pump application engineering and final purchase was completed by mechanical, operations and electrical, installation of the replacement pumps could begin.

Kyle Milne, a new hire, was up for the challenge of being the lead installer. From demolition to form building and masonry work, through pipefitting, welding, plumbing and fabrication, Kyle installed the first pump from start to finish mostly by himself except for technical assistance from **Paul Sandle**. After the first installation, it became clear that this was not a one-man job. Enter **Dan Smith**, a veteran fabricator, installer and welder, among other trades. For the next three installations, at an average time of two weeks per pump, Dan and Kyle worked together to perform each install to DES' very high internal specifications. **Bill Orbanek** was responsible for finishing each package with wiring and control. The installation is absolutely beautiful and should be good for another 40 years. Thank you all! Kudos also to **Jim D'Amico** for support with operations and **Kevin Blackburn** for his assistance with electrical and control.



A proud installer, Kyle Milne, showing off his work

Primary Pump Station Upgrade

In 1995, the primary pump station was upgraded by replacing what had become very labor intensive and inefficient air diaphragm pumps. However, the replacement pumps were old Moyno models, which had been recycled from other areas of NWQ and FEV. It became time to replace these old, antiquated pumps. **George Flint**, a mechanical co-op, was asked to engineer the application to insure the newly purchased replacement pumps would be similar to those already used at FEV and NWQ. Having spare parts already in stock would be a benefit and would save money. George was able to accomplish the task by installing the larger pumps and smaller gear-motors, ultimately slowing down the output speed.



Another great new installation project

The new pumps were also fitted with new mechanical seals which help to prevent leakage of the pumped material onto the floor. To save money, the seals were purchased unassembled at half price and Dan Smith and Paul Sandle modified the pumps using the seals prior to installation.

DES mechanical and electrical partnered with contract electricians and pipefitters to install the new pumps, concrete bases, piping, seal water systems and pressure controls, among other items. The final project is another showpiece of great work.

Thank you to all who contributed: Paul Sandle, Dan Smith, George Flint, Dan Reider, Bill Orbanek, Kevin Blackburn & Jim D'Amico

Septic Hauler Pump Station Upgrade

While not a part of the plant process, the septic pump station (or scavenger pit pump station) is an important part of the plant because it generates revenue. Also re-built in the mid-1990s, the equipment was becoming problematic for customers, operators and mechanics. Dan Smith and Kyle Milne gutted the entire system and installed new vortex submersible pumps; complete with base elbows, slide rails, check and isolation valves. While not a large project (but not a small one), the system had to be back into service in three days. **Manny Burgio** had the force main cleaned while the system was down and **Steve Richardson** and **Ed Witzel** installed the wiring and pump protective devices. To date, there has been not one callback on this new install. Once again ... great job!



Kyle and Dan mounting new equipment

Organic Tank New Centrifuge Feed Pump

The organic tank is a holding tank used to accumulate sludge during the weekend when the centrifuges are not operational. Normally, this tank would have to be pumped to the lime holding tank which feeds the two centrifuge feed pumps. This project started with Jim D'Amico's idea: install a pump that would draw directly from the organic tank and send it to the centrifuge, eliminating the second tank. This mode of operation would allow the lime tank and centrifuge feed pumps to be taken out of service for much overdue maintenance. This time, the pump that was being replaced was still a serviceable pump, so it was recycled into another project at FEV. The extent of the installation was again a begin from scratch project, requiring all new concrete, piping, valving, grinders, seal water systems, electrical and control. The integration of the new system into the existing controls was a very large job in itself.



Demo complete, form building ready to begin

Great idea Jim and great install gentlemen: Paul, Dan, Kyle, Kevin, Jim and Dwayne Reed.

2011 also brought three new aerator gearboxes to NWQ. **David Tuccio, Jeff Helfer**, Dan Smith, Paul Sandle, Dan Reider and Kyle Milne were all contributors to making this once-every-25-years activity happen without incident. Oil analysis, vibration technology and equipment history all assisted in the decision making.

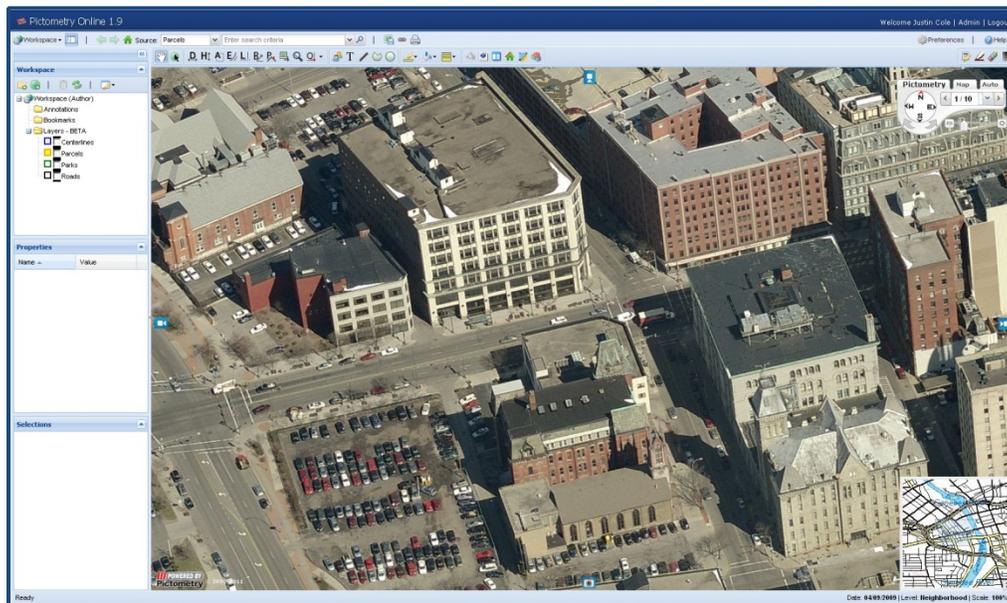


NWQ aerator gearbox #8 being retired after 20 years of non-stop running

Pictometry Online

Justin Cole

Pictometry Imagery has been a key tool for many Monroe County departments, as well as for many Towns, Villages, schools, fire departments, and ambulance districts. In the past, providing information to these various groups has consisted of the time-intensive task of bringing hard drives full of imagery and software to each authorized sub user. For each of these installs, approximately three hours was spent setting up and copying the library. In all, 57 different organizations had at least a one-year of photos installed on their system. Many required an update after each flight. In 2011, to help improve usability while providing the same level of service, Monroe County DES purchased the Pictometry Online self-hosted server.



Pictometry Online's Workspace

The Pictometry Online system is currently being utilized by 28 organizations outside of Monroe County and by 15 departments within the county. As of January 13, there were over 300 individual users on the system. This new system reduces the time the previous system required for distribution and maintenance by an incredible factor - what formerly took hours can be set up for an organization in about fifteen minutes. Organizations can also maintain their own system.

From a usability point, Pictometry Online has many of the same functions that were present in the Electronic Fields Study (EFS). Users can still find an address, measure a distance and see photos or maps of the area. The key difference is how GIS works with the new system. Any layers that a user needs

must be preloaded into the system by an administrator for an entire organization. This means that users in DES can view sewers or any other layers that would prove useful. A plus side is that there are shared workspaces.

Advanced users have also a new tool using the Pictometry ArcGIS Toolbar. This toolbar gives a user the ability to have all the functionality of EFS in ArcMap with the extra feature of overlaying the images (oblique and orthogonal) into a map document without first exporting the images.

To visit new Pictometry Online, go to <https://pol.monroecounty.gov/efs>. If you do not have an account, please email jcole@monroecounty.gov.

*Contributing Employees: **Bob Goodrich, Kristina Daugherty, Alex Nies & Scott McCarty***

Pipe Patch Saves Time and Money

Rob Tyndall & Dan Cavallaro

For more than four years, DES at the ROC has been utilizing “**No Dig**” technology to help to eliminate costly, disruptive and time consuming surface excavation work. Pipe Patch technology provides the ability to perform small spot repairs and I&I leaks in main sewers and lateral pipes with less time and manpower, while leaving the ground undisturbed and requiring no additional - and potentially costly - restoration work.

An estimate for a spot repair of an 8” sewer main, utilizing traditional excavation methods, would range from \$8,000 to \$10,000. This same repair utilizing Pipe Patch technology would cost between \$2,400 and \$3,500. The Pipe Patch repair system can be utilized to repair 4” and 6” diameter house laterals and 6” to 15” diameter main sewer lines.

Some facts about “No Dig” Pipe Patch technology:

- Pipe Patch saves time and money
- It removes the hazards of digging around other utilities
- Reduces crew size, heavy equipment and vehicles needed
- Saves on restoring streets, curbs, sidewalks and landscaping
- Less disruption of traffic flow

2011 DES Pipe Patch facts:

- DES performed **28** sewer main and lateral Pipe Patch repairs in 2011
- Total cost for the 28 patches was **\$67,200**
- Contracting out the Pipe Patching would have cost the county **\$140,000**
- DES Construction excavation would have cost nearly **\$248,000**



Crew making repair with Pipe Patch trailer & TV unit

Contributing Employees: Rob Tyndall, Dan Cavallaro, Jeff Scheuch, Scott English, Ed Mackey, Tony Morelli, Luis Martinez, Chris Tatar & Larry Steehler

Pump Station Upgrades Done In-House

John Palermo

During 2011, plans were developed to upgrade several pump stations that had been troublesome during rain or high flow events. The pump stations targeted were the Airport, Thomas Creek, Dearcop and a few of the Riverdale pump stations.

Airport Pump Station

The Airport pump station is located at 1285 Scottsville Rodd. The old pumps were 5 hp drive shaft driven pumps, which were having a hard time dealing with flows during wet weather events. The mechanical group worked together to find a pump that would handle the flows while requiring only one pump at a time. A Wilo dry pit submersible pump Model FA10.51, 7.4 hp was selected. This pump has a maximum flow of 600 gpm and was an improvement over the old pumps which together handled approximately 500 gpm. **Paul Delvecchio**, **Bob Borelli**, and **Dan Cavallaro Jr.** upgraded the station. Operational support was provided by **Matt Fitch** and **Brian Gotham**, with **Phil Lupia** and **Ed Witzel** from the electrical department who were responsible for the installation of a new flow meter, pump drives and wiring. During the three weeks it took to complete this station upgrade, we experienced a major rain event, a force main break, a city water line break and saw two portable bypass pumps fail. Anything that could go wrong did - but the upgrade was eventually completed and turned out well. The major obstacle, the force main break, took place during a rainstorm and the crew of **Tom O'Brien**, **Bob Gessin**, **Jerry McCullough**, and **Al Harewood** made the repairs and did a great job under poor conditions.



Old drive shaft driven pump



New Wilo dry pit submersible pump

Riverdale Pump Stations 1, 2 & 3

The Riverdale pump stations are due to undergo a capital upgrade in the next few years but reliability of a few of the pumps at Riverdale 1, 2 and 3 had been

called into question. During wet weather events, technicians are always travelling to one of these stations to set up bypass pumps because a pump has failed or the existing pumps could not keep pace with the flows. In 2011, one pump was replaced at Riverdale 1, two pumps at Riverdale 2 and one pump at Riverdale 3. All of the replacement pumps were Flygt model 3127's, with **Paul Delvecchio**, **Frank Powlowski**, and **Chris Ross** responsible for researching and ordering the pumps. Frank Powlowski headed up the mechanical team for the installation with help from Chris Ross, **Al Proia**, **Frank Sunday**, and **Bob Borelli**. We feel much better about the reliability at the stations.



New pumps installed at Riverdale 2

Dearcop Pump Station

Dearcop pump station is located at 90 Dearcop Drive in Gates. There were two, 10 hp pumps at this station, pumping a total of 400 gpm combined. The station was upgraded with two 23 hp Flygt model 3153 dry pit submersible pumps. Installation of these pumps was contracted out, but DES mechanics set up the bypass for the station, which consisted of two diesel powered pumps. Paul Delvecchio, **Paul Sandle** and Al Proia set up the pumps, fused the poly pipe and installed all the valves and fittings. The duration of the bypass was approximately six weeks. The electrical department also installed high water floats so alarm conditions could be monitored and portable pumps which ran automatically for the duration of the bypass.



*Paul Sandle, Al Proia & Paul Delvecchio
using poly fusion machine to make bypass lines*

Pure Waters

Special District Charges

Darcy Sewar

Pure Waters derives its billing authority from the Sewer Use Law. Rates and charges for each district are approved each year by the County Legislature. In turn, Pure Waters annually bills Monroe County residents for Capital and Operation & Maintenance (O&M) - sewer use. These charges materialize on the Town and County tax bills, appearing as separate line items which are also known as *Special District Charges*.

Levy Description	Value / Usage	Rate	Amount
P.W. 3 CAPITAL CRG	0.00		29.56
P.W. 3 O/M GAL	73.00	1.290000	94.17

The Special District charges shown above are for a residential property in District 03, which is part of the NWQ District. The first line is the Capital charge and the second is the O&M charge.

Why would a property owner have to pay for Capital?

Capital is borrowed money which is paid back over a period of up to 30 years and is utilized to maintain the infrastructure, pumps, pipes, clarifiers, etc. Capital funds are used in instances where the customer will derive a benefit over many years. For instance, if a belt is replaced on a large pump, the benefit is immediate in that the pump is now working until the next breakdown. This expenditure would be a good use of O&M funds. If the entire pump is replaced, then the customer will benefit from that new pump for many years to come and pay for that benefit over time. In this instance, Capital monies should be used for the repair.

Any property that is connected to the sewer or has sewer availability is charged for Capital. The Rochester District's Capital charge is Advelorum – based on assessed value (AV) (per \$1,000 times the rate/AV) of the property. If a property is located in one of the three suburban Pure Waters Districts (NWQ, GCO & IBSC), the Capital charge is based on two components: a unit charge (where the rate per unit varies by district) and a \$1 planning fee known as a 'parcel charge'. If the sewer is not available in one of the three suburban districts, the property is only charged the \$1 planning fee. The suburban districts are always *planning* for future growth and expansion. It is for that reason that a parcel charge of \$1.00 is assessed to every parcel in the suburban districts. The parcel charge pays for studies and investigations into the most efficient use of available and future sewage transmission and treatment resources.

Why would someone in NWQ, GCO or IBSC that is not connected to the sewer have to pay Capital charges?

Each district has an obligation to provide sewer service. If a new customer or a customer currently on septic wants to tap into an available sewer, then that sewer has to be constructed large enough for this eventuality. This is called 'reserve capacity' and all customers near a sewer, connected or not, must pay for that potential capacity. Otherwise, districts would have to build larger and larger sewers as the district grows to accommodate this growth, which would be outrageously expensive.

Why would a property owner have to pay for O&M?

These are the charges for the actual treatment of water, so property owners that are connected to the sewer are charged for O&M. The O&M Special District line item, on the prior page sample, lists a 'Usage' total and 'Rate'. These numbers are multiplied together, resulting in the 'Amount' of the charge. The 'Usage' is based on water consumption in thousand gallon increments from July 1st through June 30th of the previous year. The rate per thousand gallons of water varies by district. The following water providers supply Pure Waters with water usage data: the Monroe County Water Authority (MCWA), the Rochester Water Bureau, the Sea Breeze Water District, the Village of Brockport and the Village of Hilton. If a property owner is not on public water and uses well water, they are charged an average of 60,000 gallons.

Pure Waters Billing Calls

Each year the Billing/Revenue section of Business Services receives several calls from homeowners, landlords, businesses and towns/villages with questions regarding their Pure Waters charges. The reasons calls are received include high Pure Waters charges, property is vacant with an active water meter, new owner, fire, structure removed, leaks-which may or may not have gone into the sewer, water driven sump pump, clerical errors, questionable charges and landlocked parcels, among others. Some calls will result in a corrected tax bill and or a refund. The number of calls over the past three years has decreased significantly from 214 in 2009, 177 in 2010 and 98 in 2011.

Proactive Measures

Proactive measures are incorporated annually to help in reducing unnecessary corrections and refunds to Town and County tax bills. Such measures include many quality control queries and reports, including how the account is set up regarding sewer availability, the connection to the sewer, minimum Capital units, water consumption usage within the County's fiscal billing period, and the use of GISs Infrastructure Network View. If errors are glaring or accounts are incorrectly set up, they will be investigated and/or edited to assure account accuracy before the Pure Waters Special District Charges are submitted to Real Property for inclusion in Town and County tax bills.

Contributing Employees: Diane Couch, Becky Lombardi, Mary Ellen Lupia, Julia Papaleo, Darcy Sewar & Joe Tarricone

Pure Waters Uses CSOAP Tunnel for Spill Control

Harry Reiter

In December, collection system operators received a spill notification from an industrial user. Comprised of 50% sodium hydroxide, the spill occurred during the off-loading of a rail car. The volume was unknown and this became a concern given the volume of the rail car and the high concentration of caustic substance involved. Initially, **Steve Bland's** calculations showed that the potential existed to negatively impact the Frank E. Van Lare Treatment Plant (FEV). While industry personnel scrambled to quantify the spill volume, **Tom Tieppo, Bill Putt, Joe Saurini** and **Harry Reiter** discussed using the Combined Sewer Overflow Abatement Program (CSOAP) tunnels to hold the flow and dilute the caustic material. This process would allow for a controlled release and offer the best protection for FEV.

Via the FEV control room, Tom Tieppo closed the Glenwood Screenhouse gates, which diverted all the Westside and Lexington trunk sewer flows to the Lake Avenue CSOAP tunnel. The Glenwood Screenhouse is situated approximately three hours of sewer flow travel time from the location of the spill. Over the next 18 hours six million gallons of flow were collected.

The morning after the spill, **John Hanscomb** opened the gates to 1% and allowed flow to slowly drain to FEV. **Andy Sansone** collected samples at the Lake Avenue tunnel gates and ran field pH analyses. The pH readings were high, indicating the material had been successfully diverted. **Tim Keegan** collected samples at the treatment plant headworks where the pH analyses showed the influent to be well within normal range.

The tunnel was slowly drained under the watchful eyes of DES staffers. Quick notification by the industrial user allowed for preventative measures to be taken by DES staff to avoid a potential environmental incident.

*Contributing Employees: **Steve Bland, John Hanscomb, Tim Keegan, Bill Putt, Harry Reiter, Andy Sansone, Joe Saurini & Tom Tieppo***

Safety Manual Revisions

Mary Jo Healy

The DES Safety Manual has been an integral part of Environmental Services since the late 1970s. In nearly 40 years, the manual has had four revisions.

The revisions have included updates on OSHA requirements and most importantly, lessons learned through the years that are specific to DES operations.

This latest revision presents the manual in the standard 8.5" x 11" size to allow for future changes and updates to be inserted without re-publication.

Updating and revising the DES Safety Manual is not an easy task. Each DES section reviews the chapter(s) related to their work activities and recommends changes. Safety team incident solutions, changes in OSHA regulations and real life experiences are incorporated.



Jim Guerra & Scott English begin manual assembly

There are many people to thank for their assistance in each step of this process:

Review: Rob Tyndall & ROC review team, Steve Christensen (Mechanics), Kevin Blackburn (I&E), Russ Calcagno (Facilities), Melvin Rose (Fleet), Tom Tieppo (Plant Operations), Harry Reiter (IWC), Drew Smith (Laboratory), Dennis McDonald (Retired-HVAC), Joe Cardinali & Dennis Scibetta (Code Enforcement), George McAvinney (Retired-Field Operations), Steve Peletz (Bulk Storage), Sheila Tobias (Administration), Jo Guarino (Communications), Scott McEntee (CLA), Justin Cole (GIS Services) & Steve Peletz (Compliance)

Clarification: Dan Ross & Joe Saurini

Preparation: Amy Shiner (Print shop), Carol Richardson, Darcy Sewar & Kristina Klees Daugherty

Assembly: Rob Tyndall, Jim Guerra & Scott English

Delivery: Mike Farace, Mike Barlow & Paul Siciliano

Oversight: Jason Kennedy & Bill Putt

Safety Teams

Mary Jo Healy

Why is it important to have an effective safety team? Because every employer and employee owes it to themselves and their loved ones to work in the safest environment possible!

Every safety team has members that represent a section of DES. Each member brings in-depth, practical knowledge of specific tasks that are regularly performed to the table. Working together enhances cooperation among all parts of our workforce toward identifying and solving safety concerns.

In 2011, an additional team was formed – the Fleet Center Safety team, consisting of departmental representatives with offices at this location. Members include Mike Lockett (GRIA), Tim Joyce (DOT), Jim Donahue (Parks), Ken VanDuzer (Sheriff's Fleet), **Glenn John** and **Tim Barkley** (Fleet) and Terry Honan (Weights & Measures). This team has been charged with reviewing County vehicle crashes and site safety concerns.

Members representing DES functional groups in 2011 were: **Pete Foos** (Plant Ops) and **Joe Saurini** (ROC) (Chairpersons), **Curt Young** (ROC) (Scribe), **Doug Dumbleton** (Lab), **Bill Waghorn** (Plant Ops), **Steve Stratton** (Industrial Waste), **Scott English** (ROC), **Mike Burkett** (ROC), **Darl Drennon** (ROC), **Mike Ward** (ROC), **Al Harewood** (ROC), **Keith Dyer** (ROC), **Dan Cavallaro Jr.** (Mechanics), **Frank Saeva** (I&E), **Pete Kostraba** (HVAC), **David Tuccio** (Mechanics), **Steve Cagnina** (Mechanics) & **Paul Sandle** (Mechanics).

In monthly hour-long meetings, these teams, with supervisor involvement, have worked hard to:

Increase *YOUR* knowledge to work safely:

- Posted startup and shutdown procedures for the IBPS ozone generator
- Sponsored training for Electrical Safe Workplace, Hand Signals for mobile cranes and voluntary use of respirators

Evaluate equipment design to enhance *YOUR* safety:

- Updated the Excavation Procedure Guidelines to include Finn Form composite shoring boards, which weigh less than steel places but have the same strength
- Determined MSA gas detector sensor configuration must include a CO sensor
- Purchased breakaway lanyards for safety glasses
- Eliminated use of the rolling scaffold in FEV's cake off-load facility and will use the SkyTrak w/manlift attachment instead
- Upgraded disposal gloves to provide less tearing and more protection

Respond to conditions that contributed to **YOUR** safety incidents:

- Purchased Hilti anchors for use in overhead lifts
- Rented temporary lighting to provide illumination to the FEV aeration basins and purchased hardhat lights which were signed out to plant operations personnel for use at night and in dark areas
- TV truck rear doors had latches installed to keep them from unexpectedly closing

Provide information to increase **YOUR** awareness:

- Prepared and distributed a spreadsheet identifying the locations of asbestos containing pipe to ROC teams
- Reviewed and posted the protocol to follow in the event of a needle stick injury
- Developed a presentation on the hazards of different types of welding
- Developed and distributed a pre-operational checklist for overhead hoists which was posted next to disconnects

Facilitate improvements to **YOUR** working environment:

- The FEV solids “ladder to nowhere” now has a platform installed to work on equipment
- New ladders installed to reach FEV’s Herritt building fans replacing old, corroded ladders
- Lighting improvements made in ROC pedestrian walkway and FEV aeration basins
- Ventilation ordered to mitigate machine shop fumes at FEV and NWQ

Assure solutions from the past continue to be implemented to maintain **YOUR** safety:

- ROC updated employee emergency contact information
- Reviewed lockout program regarding personal locks on equipment when not being worked on
- New vehicles will continue to have strobes and reflectivity added as needed

Received updates on various safety activities and improvements:

- First Aid kits installed in various locations at Van Lare (**Jeff Schultz**)
- Reviewed plant locations of emergency eyewashes & showers and identified upgrades and replacements needed (Jeff Schultz and David Tuccio)
- Life ring holders were replaced at FEV
- Purchased circuit breaker lockout devices

*Thanks also to the Supervisors who have joined us at the meetings: **Steve Morse, Bill Putt, Bob McAvoy, Dan Cavallaro, Mike Patanella, Steve Christensen, Dale Adams, Tom Birdsall, Matt James, Rob Tyndall, Dan Ross, Kevin Blackburn & Phil Lupia***

Seneca Park Zoo Elephant Exhibit Improvements Project

Reinhard Gsellmeier



The American Association of Zoos and Aquariums (AZA), the organization that provides accreditation to the Seneca Park Zoo, requires that elephant exhibits contain at least three elephants. Since the existing exhibit at the Seneca Park Zoo (SPZ) only contained two, it became necessary to implement a capital project to enable the exhibit to meet this requirement. Among the AZA recommendations was to include a male elephant as the two existing SPZ elephants - Lilac and Genny C - are both females. With this addition, the exhibit would more closely emulate the herd dynamics that are found in the wild.

The existing elephant exhibit barn was designed to accommodate as many as five elephants without expansion. However, it became necessary to add additional interior containment stalls. Because bull elephants are bigger, stronger and more aggressive than their female counterparts and coupled with the fact that the design criteria for bull elephants have become more stringent since the current elephant exhibit was constructed in 2005, upgrades to the exterior perimeter containment fence were needed.

In summary, this project included the following improvements:

- two new elephant containment stalls within the building, each with sunken, sand-filled pits

- a new exterior elephant gate cut into the east side of the barn
- addition of a new exterior holding yard along the east side of the building and subdivision of the existing yard into two smaller yards
- a new, bull-resistant perimeter containment fence
- a raised concrete planter between elephant yards
- a new steel framed canopy shade structure with a “thatched” roof
- three new hydraulically operated exterior yard gates
- the addition of a hydraulic operator to an existing manually operated yard gate
- a new hydraulic gate control system
- a new elephant waterer and landscape plantings



Total project capital budget was \$1.8M. Contractors were issued a Notice-to-Proceed on 04/27/11 and the project achieved Substantial Completion on 11/20/11.

Consultant Design Team

- SWBR Architects (lead consultant, architect and structural design)
- Popli Design Group (associate architect)
- M/E Engineering (MEP design)
- Parrone Engineering (site/civil engineer)
- WDM Architects (zoological consultant)

Construction Manager

- The Pike Company

Prime Contractors

- Crane-Hogan Structural Systems (General Contractor)
- Kennedy Mechanical (Plumbing)
- Schuler-Haas Electrical (Electrical)

Contributing Employees: Kevin Blackburn, Karen Ercoli, Rich Hamblett, Don Millar, Irving Murph, Jane Naylor, Kevin Quinn, Carol Richardson, Andy Sansone & Dennis Scibetta

Sheriff's Jail Concrete Coating Projects

Russ Calcagno

DES Facilities was asked by the Sheriff's Department to engineer and oversee three major concrete coating projects at the downtown and Henrietta jail facilities. Each area had distinct issues that required extensive evaluation. Working with jail staff, DES personnel developed a coating process, which outlined the specifications for the application of materials and the scope of work. These details were essential in making sure the job would be completed with minimal effects on the jail population while providing maximum odor control. Given the nature of the environment, it was critical to the project to work with all vendors and the Sheriff's department to safeguard security.

The project was designed to be accomplished in three phases to lessen the disruption on the jail population. Jail personnel were able to move inmates to other floors and the vendor was essentially able to finish the work in one phase, which allowed completion several days ahead of schedule.



The reception housing area flooring required a concrete coating that was durable, water and skid resistant and would provide years of use. The first step was to remove the existing asphalt floor tiles. Using commercial grinding machines, the surface was ground and pitched. An epoxy coating was applied, which acted as a binder for the urethane top coat. This urethane coating had Flintshot quartz inserted to provide additional skid resistance and a color added for aesthetics.

Both kitchen projects had existing moisture concerns. At the Henrietta location, hot water was pitting the existing coating. These issues required extensive testing to ensure that underground moisture would not affect the new coatings. These examinations revealed no adverse effects at either site, so both locations were then able to have their floors machined with grinding equipment. Special leveling cement was applied to pitch areas toward drains, a

base coat of epoxy was spread and a poly-crete topcoat, (including a quartz aggregate) was added, providing additional slip resistance. This project also required equipment in each kitchen to be removed and re-installed at the completion of each project, requiring food to be shipped in from the other working kitchen.

Coordination was critical to this project and included the Sheriff's jail staff, vendors and DES HVAC staff. Project Manager, **Russ Calcagno**, developed the specs and scope of work for the project. **Michael Patanella** and the HVAC staff were responsible for venting the work areas, ensuring a minimum amount of odor. Mike Steeb and Todd Czebatol from the Sheriff's Department were very helpful in coordinating the moving of equipment and establishing vendor access, while providing valuable feedback on the project.

Take Your Child to Work Day 2011

Tina Stevens



Monroe County DES again hosted the children of employees on April 28, 2011 for the annual Take Your Child to Work Day celebration.

This is a much anticipated event, with parents looking forward to having children visit their workplaces and children hoping for a fun-filled day shadowing Mom and/or Dad. Kids and parents BOTH have fun and learn some new facts about Environmental Services and the varied activities that happen every work day.

The 2011 event took place at the newly refurbished Irondequoit Bay Pump Station Training Center. This venue proved perfect – students were self-contained with minimum of disruption in workplaces. In spite of a very rainy spring, even the weather cooperated for a sunny and somewhat breezy day.

The day began with DES' Director **Mike Garland** talking with participants about the many jobs their parents do. This was followed by GIS' own **Alex Nies**, presenting the morning's activity: the GIS Earth Quest Challenge. Kids were divided up – forcing them to meet and work with children they did not know – and placed on teams to complete challenges. Using GPS receivers, they had to search the yard outside the pump station to find egg caches which contained clues to get to the challenges, all of which had an environmental theme. Moms and Dads alike got into the action, either





by helping the kids with GPS navigation or as a station captain for activities like “Weighty Matter” or “Bottle Blast”. This was fun to watch as the kids got to know each other and learned how to work together.

The event was “won” (number of challenges answered correctly and shortest time to complete) by the team “coached” by **Steve Schwartzmeier** and **Scott McCarty**! For their efforts, the team was awarded passes to the

Seneca Park Zoo provided by the Parks Department.

After lunch, “Professor” **Steve Bland** was on deck with his amazing microscope that allowed participants to view microorganisms in the water supply, followed by a visit to the GIS Mobile Vehicle.



Lastly, **Ed Harding** was welcoming as the entire group converged on the Van Lare Compost Facility, where children learned about the



compost process, why it is important and what materials are currently composted. Everyone got a chance to have a seat in the County’s new windrow turner, which some likened to a transformer toy. Many held their noses at the concept of “Zoo-Doo” – Ed’s term for elephant and rhinoceros droppings currently being composted in that area – and everyone took home a sunflower seed planted in the rich earth.

2011 was a fun, educational, and rewarding day for the kids and parents who participated. The 2012 Take Your Child to Work Day is scheduled for **Thursday, April 26**. If you have a child between the ages of 9 and 18, please plan to join Team DES!

*Contributing Employees: **Steve Bland, Mike Garland, Ed Harding, Alex Nies & Tina Stevens***

Team DES Up to the “Challenge”

David Cross



On May 24, 2011, Team DES joined over 10,000 participants from 425 area companies for fun and friendly competition at the Rochester Institute of Technology in the 2011 Chase Corporate Challenge. The Challenge is a 3.5 mile race/walk that takes place in twelve cities around the world. Team DES did not go unnoticed with their striking black T-shirts and high spirited team members! Each year, proceeds from the race benefit local charities and organization, and in 2011 a donation was made on behalf of race participants to the Child Care Council.

Fourteen DES employees - joined by a few friends and family members - took part in the 2011 Challenge. Mild temperatures and a light breeze were the perfect combination to contribute to impressive race times. The top seven Team DES runners completed the race in 25:00 or less!

The race offered an opportunity for employees from the different divisions of DES to merge for fitness and fun. Building off this success, it is hoped that Team DES will continue to take on the Challenge in subsequent years. Plans are already underway for the 2012 Challenge on May 31. Join us to help make this team bigger and better - runners, walkers and joggers are all welcome!



Team DES 2011: Lauren Payne, Justin Cole, Dave Cross, Bill & Justin Putt, Mike Burkett, Chris Fiutko, Jason Kennedy, Steve Peletz, Andy Sansone, Paula Smith, Ken Smith, Anna Bower, Keith Newkirk, Fred Rion, Ed Harding & Barb & Don Dzialo (as spectators)

Van Lare Biosolids Pumps Receive Major Upgrades for 2011

Steve Christensen

The FEV biosolids pumps (or Schwing pumps as we call them) are complex; high pressure hydraulic pumps that transfer dewatered sludge from the centrifuges to the storage hoppers in the cake offload building. These 150 hp units are a key part of the plant's solids dewatering process. There are four units that are each approximately 13 years old and have approximately 40,000 hours of use. Each must be in service and ready for duty at all times. This required uptime necessitates an extremely aggressive and proactive preventive maintenance (PM) program. PM activities can encompass major upgrades or rebuilds, as was the case in 2011.

The project concept and scope of work began in 2010 during discussions at a Centrifuge Reliability Meeting. These meetings, comprised of key mechanical, electrical and operational personnel, were developed to regularly review the solids process performance and reliability. Systems were scrutinized in great detail, including a review of how long individual parts lasted, how long it took to get them and what the impact would be if the machine was operated to failure. My hat is off to **David Tuccio** for his very detailed and organized summary reports which were the foundation for all of the decisions that were made which resulted in the detailed project scope. Once the scope of work was defined, the work followed shortly thereafter.

Schwing 2	
Current Hours	39,324
Work needed	W/O#
Fabricate city water line to oil cooler system for asco operation	307358
Troubleshoot Schwing "brain" system.	308471
Investigate rust from lids to hydraulic power pak	311006
Inspect water box condition for corrosion	317646
Inspect discharge poppit housings for replacement	317649
Inspect hydraulic power pak covers and tank for corrosion	317650
Prime and paint Schwing pump and area.	316556
Slop gate condition requires inspection for replacement	317123
PLC upgrade to be scheduled	317224
4000 HR PM	317647
Past work completed	Date
3000 HR PM. New material rams	8/19/2010
2000 HR PM	6/4/2010
Vibration analysis	6/23/2010
Ultrasonic testing on screw feeder housing and transition elbow.	3/1/2010
Changed out pressure poppits	10/15/2010
Component Changes	Date
Poppits	7/10/2009
Poppit cylinders	6/10/2010
Rams	8/19/2010
Screws	5/1/2009

Bob McAvoy, who partnered up with John Christensen of Schwing, led the mechanical team of **Steve Lupia**, **Matt Rodgers** and **Charlie Smith** to replace many key components of the machines. These guys worked diligently in replacing the discharge poppit housings, (the \$50,000 business end of the pump), the hydraulic control brains (the business end of the hydraulics), the 24” slop gates, the water boxes, a 150 hp hydraulic pump and motor on Schwing 2, the material cylinders and more. **Jeff Helfer**, DES’s own vibration analyst, was instrumental in troubleshooting and guiding the activities on Schwing pump 2. His analysis and input assisted in the root cause failure analysis, not an arbitrary guess, which usually results in unnecessary work and costs.



A machine totally disassembled



Surgeons during & after the mechanical work

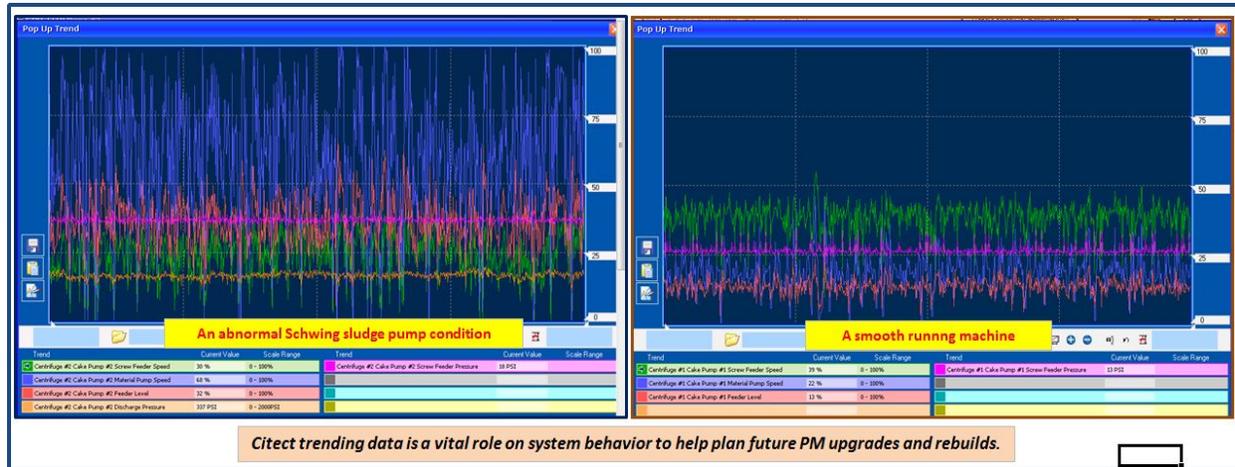
David Tuccio led the team of **Dan Reider**, Matt, Charlie, Bob and Steve in performing the very important task of inspecting and completely cleaning the entire internal workings in the sludge pump’s 200 gallon hydraulic power end. With a fine tooth comb, these guys used every BEST practice known to our trade in ensuring the system was in the best condition it could be. This is truly the key to reliability.



Dan Reider “digging in”

Kevin Blackburn led the electrical and control activities with **Phil Lupia**, **Bob Werner** and **Ed Witzel**. After the mechanical work was done, the team integrated the newly installed parts into the existing electronic control

system. Shortly thereafter, each machine received a very much needed PLC upgrade. The PLC upgrade, which is no small task, was literally like performing open heart surgery with 100+ wires leading to various places, programming ladder diagrams taking over the building and laptop connections plugged in everywhere.



The magnitude of the work could have easily resulted in chaos, but it didn't. It was well planned, well executed and the machines run great because of it. Again, you guys should be proud of yourselves for what you accomplished in a short period of time. Again, great job! A special thanks to **Mike Barrile** and his operations staff for coordinating all activities while maintaining all process goals.

During a recent visit by Schwing's lead service technician and their Parts and Service Manager for North America, they rated the condition of our equipment in the top 1% of all installations around the county.

Contributing Employees: Bob McAvoy, David Tuccio, Matt Rodgers, Charlie Smith, Steve Lupia, Dan Reider, Bob Werner, Phil Lupia, Kevin Blackburn, Ed Witzel, Mike Barrile & Schwing's John Christensen

Weather Events

Rob Tyndall

Weather events, storm events, system upsets.

We've heard about them and some of us get paged when they are declared but - what are they?

When there are conditions that adversely affect the plant or collection system it is called a **declared event**.

There are three levels of events:

- **Level 3** is the lowest, usually ½" of rain or a slow thaw.
- **Level 2** events involve more impact with greater than ½" of rain or FEV flow above 150 MGD for 24 hours (or 225 MGD for four hours).
- **Level 1** declared events are the highest, involving system wide disruption. An ice storm or other catastrophic situation merits a level 1 declared event.

Declared events may require additional staff and equipment to handle whatever needs arise. For example, a level 3 event may require only a dozen additional personnel, while level 1 events are considered "all hands on deck" with virtually everyone responding. Additional staff may be called on to monitor and adjust processes at the plant, respond to property investigations, relieve street flooding or address pump station and tunnel upsets.

In 2011 there were 16 declared events, six of these lasting two days. Of these 16 declared events twelve were level 2 and four were level 3. Below is a listing of the events with rain, collection system response, staff and FEV flows.

<u>Date</u>	<u>Rain</u>	<u>Property Investigations</u>	<u>Floods</u>	<u>MSU's</u>	<u>Surcharges</u>	<u>Staff</u>	<u>FEV Flow</u>
2/28	0.53"	5 East / 5 West	8	0	0	14	240 MG
3/10	0.76"	7 East / 6 West / 4 GCO	8	2	1	25	422 MG
4/13	0.88"	2 East / 5 West	6	0	0	10	191 MG
4/20	1.11"	9 East / 11 West / 1 GCO	39	1	0	40	569 MG
4/26	1.14"	7 East / 6 West / 1 GCO	26	0	0	16	444 MG
5/3	0.73"	1 East	5	0	0	3	190 MG
5/15	1.39"	4 West	6	0	0	14	459 MG
5/16	0.17"	3 East / 6 West	7	1	0	9	447 MG
8/9	1.08"	7 East / 2 West	4	0	1	12	470 MG
8/14	1.14"	38 East / 28 West / 1 GCO	32	0	15	19	640 MG
8/21	1.17"	42 East / 26 West / 1 GCO	28	0	26	14	434 MG
9/5	1.16"	1 East / 1 West	4	0	0	4	399 MG
9/15	0.38"	3 East	1	0	0	5	404 MG
9/28	1.22"	5 East / 1 West	26	0	0	14	526 MG
10/20	1.32"	4 East / 4 West / 1 GCO	54	1	0	11	480 MG
11/23	1.53"	5 East / 1 West	6	0	0	14	456 MG

A typical dry weather day would see five or six property investigations, no MSU's (main sewer up or obstructed) or surcharges and FEV dry plant flow at 100 MGD.

SYSTEM UPSET DECLARATION

Disclaimer/Reason: 120 Event pending Project Code: STRM110

DATE: 8/14/2011 TIME: 2:00 PM WEEKDAY: Sunday TEMP: 75
 LEAD SUPERVISOR: Tieppo DECLARED BY: Guarino
 CURRENT WEATHER CONDITIONS: Heavy downpours
 FORECAST: Rain through at least 6:00 pm

#3 SYSTEM UPSET EVENT
 [RAINFALL 0 TO 1/2 INCH/SLOW THAW]
 1 Supervisor
 1 Vector with 2-person crew
 1 Investigation Unit with 2-person crew

Declared: 8/14/2011 2:00 PM Upgraded: Canceled: 8/15/2011 3:00 PM

#2 SYSTEM UPSET EVENT
 [RAINFALL 1/2-INCH OR GREATER]
 PLANT FLOW 150mgd FOR MORE THAN 12 HOUR
 [PLANT FLOW 225mgd FOR MORE THAN 4 HOUR]
 2 Supervisor
 2 Vectors with 2-person crew
 Investigation Units with 2-person crew

Declared: 8/14/2011 Upgraded: Canceled: 8/15/2011 3:00 PM

#1 SYSTEM UPSET EVENT
 System-wide Upset is Occurring
 ALL ESSENTIAL PERSONNEL TO REPORT

Declared: Canceled:

COMMENT:
 Local meteorologists report record rainfall - Many rain gauges indicate an inch or more in one hour. Between 13:00 and 14:00 Central Gates went from 0.00 to 2.01"

System Upset Declaration form

SYSTEM UPSET DAY DATA

DATE: 8/14/2011 RAIN EVENT: 8/14/2011

Property Investigations	Floods		Personnel		Main Sewer Obstructions		Surcharged Mains			
	Open	Resolved	Count	Resolved	Count	Fixed	Count	Resolved		
Rich East	38	5	East	29	10	1	Operations	8	Rich East	9
Rich West	28	0	West	3	0	3	Dispatch	0	Rich West	6
GCO	1	1				0	Mechanical	0	GCO	0
						13	Collections	0	Other	0
						2	Administration	0		
						0	1 and 2	0		
Totals	67	6	32	10	19	8		0		15

CSOAP/Pump Station Upsets				Rain Gauge Data				
High Water	Much	Effect	Inst	Daily Reading	Daily Reading	Daily Reading	Daily Reading	
GCO Dist	0	0	0	0	NWQ	1.85	GCO	1.58
ROC Dist	2	2	0	0	IBPS	0.78	Cent Gates	2.53
NWQ Dist	0	0	0	0	Parma	1.40	ROC	1.08
IBSC Dist	0	0	0	1	Spencerport	0.61	SW	0.96
Tunnel Sites or CSOAP	0	1	0	0	Airport	1.21	Glenwood	0.96
Totals	2	3	0	1	Site 243	1.32	Industry	0.64
					Culver/Goodman	1.68	McEwen	0.78
					Churchville	0.37	First	1.14
					Charlotte	0.61	Trolley	0.00
					Average	1.14		

FEV	PEAK	AVG	PEAK	AVG	His	MG	His	MG
	640	268	220	146	9	121	8	13
	Total Flow 600 MGD MAX		Conventional Treatment 85 - 100 MGD Average		FEV 120" Flow		FEV Split Flow	

GCO	PEAK	AVG	NWQ	PEAK	AVG
	18	10		25	14
	Average Dry Flow 10 - 12 MGD			Average Dry Flow 10 - 20 MGD	

System Upset Day Data form

These sheets are the forms used when an event is declared. Every event has a Declaration form and a System Upset Day Data form to archive all relevant information. This event took place on August 14th, 2011. Rainfall for the day was high (1.14"), but that was not the major issue. Most of the rain fell in a very short period of time, most of it over less than an hour. The DES rain gauge network tracks total rainfall and precipitation rates at 16 sites throughout the county. During this particular event, the rain gauge at NWQ registered over 3.75" per hour and the rain gauge at the Culver Goodman Control Structure read over 4.25" per hour! This incident led to major street flooding (32), surcharged main sewers (15) and property investigations (67). The Van Lare plant saw a flow of 640 MGD for the day! While there were conveyance issues due to the high precipitation rate, there were no major issues at the plant or collection system pump stations – once again, a testament to the high level of preparedness and professionalism by Team DES!

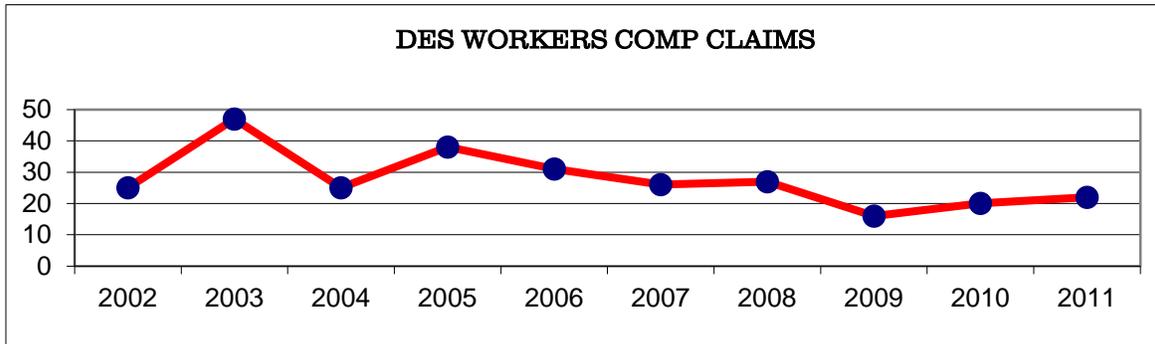


Contributing Employees: Jo Guarino, Bill Putt, Joe Saurini & Rob Tyndall

Worker's Compensation Summary 2011

Mary Jo Healy

In 2011 DES Worker's Compensation claims increased slightly; however, employee involvement, hazard correction and supervisory oversight has kept the number of claims to a minimum.



SECTION	YEAR	2011	2010	2009	2008	2007	2006	2005	2004	2003	2002
ADMINISTRATION		0	0	0	0	0	0	0	0	0	0
GIS		0	0	0	0	0	1	0	0	0	0
BUSINESS SERVICES		0	1	0	1	0	0	0	0	2	(2)
REGULATORY COMPLIANCE											
Lab & Industrial Waste		1	0	1	(0)	(1)	(1)	(0)	(1)	(2)	(0)
ENGINEERING											
Engineering		0	0	0	0	0	0	0	0	0	0
Facilities		1	4	0	5	2	1	8	4	6	(1)
Total:		1	4	0	5	2	1	8	4	6	(1)
FLEET MAINTENANCE		2	2	2	4	3	2	2	1	3	3
PLANT OPERATIONS		7	0	2	2	3	4	2	2	3	3
DES MAINTENANCE											
Mechanical		4	4	5	2	4	5	11	7	7	7
I & E		0	1	0	3	3	0	1	0	2	1
HVAC		3	(1)	(3)	(3)	(3)	(2)	(6)	(2)	(2)	(0)
Total:		7	6	8	8	10	7	18	9	11	8
FIELD MANAGEMENT											
Construction		3	4	1	3	5	13	0	3	2	4
Cleaning		0	0	1	1	2	1	0	0	4	3
Investigate/Televise		0	2	0	2	0	1	4	2	5	1
I&I/Data/Energy		0	0	0	0	0	0	0	0	0	0
Heavy Equip Train		0	0	1	1	0	0	2	1	6	0
Dispatch & Clerical		0	0	0	0	0	0	0	0	0	0
Operations		1	0	0	0	0	0	1	1	1	0
Development & Review		0	(1)	(1)	(0)	(1)	(1)	(1)	(1)	(1)	(0)
Total:		4	7	3	7	8	16	8	8	19	8
Totals:		22	20	16	27	26	31	38	25	47	25



Vincent Bruno

November 25, 2010
Heavy Laborer (Lake Ave/ROC)

Vinnie worked at Lake Avenue as a Heavy Laborer, primarily on the Cleaning Team. Those of us who were fortunate to know Vinnie realized that while he was indeed a hard worker, he was also one of the most caring and passionate men you will ever meet. We will miss Vinnie and his sense of humor.

Bill Putt

Don Hills

February 9, 2011
Stockkeeper (NWQ)

Don worked as the stock room supervisor for NWQ for many years. He was legally blind and would always let me know that when he was looking for a part. LOL! He also was an avid snow skier and took many trips to do just that. Don always was willing to help me out and someone I would consider a friend.

Kevin Blackburn

Don Hills and I remained friends long after he retired. He worked as a stock room supervisor at NWQ for many years. Don was legally blind but could see well enough to do his job. When Pure Waters went to a computer inventory system, Don was provided a special screen from an organization for the visually impaired and with large print Don was still able to perform his duties. He was never afraid to speak his mind, but once you got to know him, he was a great person if you wanted to vent or talk about your problems. After he retired and finally found his true soul mate in his wife Rose, he became quite a sentimental person. Rose's children from her first husband considered Don as a father and their children called him Grandpa. Don and his late wife and Rose and her late husband were all very close friends. Eventually after losing their first spouses they decided to get married and had been happily married for many years. I still stay in touch with Rose and I miss talking to Don very much.

Sue Scheuch

Val Gregory

May 17, 2011

Human Resources (Administration)

I worked closely with Val for my first three years with the County. I then moved to NWQ in 1984. Val and I worked under Bill Callahan doing personnel related jobs. Val was a Clerk I who did the payroll and all the personnel paperwork for Pure Waters, which was in turn submitted to the County's personnel department. Val was a true friend and was liked by all in Pure Waters. I continued working with her with personnel issues at Northwest. Each location in Pure Waters was responsible for their own payroll and personnel paperwork, which was forwarded to Val for final approvals from the Director. She had a great deal of knowledge of her job duties and was a great liaison between Pure Waters and the County personnel department. She was greatly missed when she retired. It was after she retired that Val received a double lung transplant and was one of the few recipients that lived beyond the expected life span for a lung transplant. Unfortunately, with years of taking anti-rejection drugs, other health problems developed causing her to finally pass away among family and friends. She was very thankful for the years she had to enjoy her children and grandchildren and was forever grateful to the family who lost their 16 year old son so that she could live.

Sue Scheuch

I remember Val had most of the females at Broad Street doing needle work in the conference room during breaks and lunch. Director Gerald McDonald always joked that "he wondered if they were ever going to finish making that rug." Val's nicknames were "Hook Shoot" and "Stretch" which were bestowed on her by Frank Hopkins, who came from Teeter Dobbins and the Pipe Plant to Pure Waters.

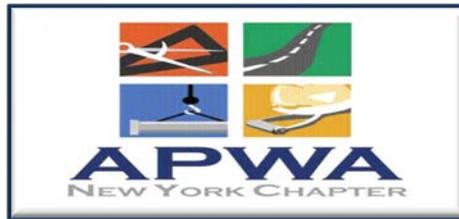
Barb Dzialo

AWARDS

ACEC *New York*

American Council of Engineering Companies of New York

David Cross
ACEC New York Gold Award
The Seneca Park Zoo Rocky Coasts
Animal Life Support System Improvements Project



Genesee Valley Branch

Reinhard Gsellmeier
APWA Project of the Year
Monroe County Crime Lab

Edward Harding
APWA Charles Walter Nichols Award

Maggie Brooks
APWA Technical Innovation Award
Monroe County **ecopark**

David Lukas – Retiree
APWA Donald C. Zefting Award

Monroe County GIS
2010 Special Services at the 911 Center's
25th Anniversary and Awards Ceremony



ESRI Special Achievement in GIS (SAG) Award



Monroe County Fleet
Government Fleet Magazine – 2nd Best Government
Green Fleet in North America



Ann Kupferschmid – Retiree
NYWEA Award for Member Recruitment



Department of Environmental Services
George W. Burke Jr. Award - WEF (Water Environment Federation)
NYWEA Award for Outstanding Safety Program

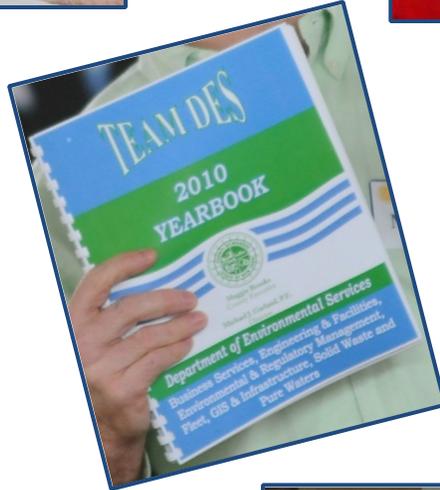
WINTERBUSTER 2010





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DES Employees 2011

Adams, Dale C
Anderson, Willie J
Babij, Michael R
Baker III, William
Barkley, Timothy E
Barlow, Michael J
Barrile, Michael A
Barrile, Michael J
Barton, Daniel J
Bastian, Randall H
Bell, Donald S
Benitez, Cresencio
Benjamin, Henry L
Benway, Frederick J
Best, Joni L
Bianchi, Richard J
Birdsall, Thomas W
Blackburn, Kevin P
Bland, Stephen N
Bodine, Gregory
Bohrer, William J
Borelli, Robert A
Boss, Regina M
Bower, Anna E
Bradt, Ronald D
Breedlove, Patricia A
Bremer, Scott A
Brown, Gary B
Burgio, William F
Burgio Jr, Emanuel
Burkett, Michael B
Butters, David K
Caceci, Josephine N
Cagnina, Stephen M
Calcagno, Russell
Calderon, Elba D
Calderon, Gregorio
Caletz, Mario A
Campiono, Albert
Cardinali, Serafino
Carris, Phillip L
Carroll, Robert P
Cassella, Thomas W
Cavallaro, Daniel M
Cavallaro Jr, Daniel M
Chasman, Michael A
Chiles, Jeffrey A
Christensen, Stephen A
Christensen, Steven P
Clark, Bradley J
Clements, Tod S
Coffaro, Darlene A
Cole, Justin D
Collins, Patrick R
Comstock, William E
Condit II, Ralph C
Costanza, James
Couch, Diane M
Cross, David J
Cruz, Zoraida
D'Amico, James R
D'Onofrio, Anthony M
Daniels, Vern W
Dano Jr, Kenneth L
Daugherty, Kristina K
Davis, Willie R
DeBellis, John
Delavak, Mark L
DeLucia, Anthony D
Delvecchio, Paul
Delvecchio Jr, Guy F
Dent, Krista J
Diamond, Charles E
Diaz, Lilybell
DiLucia, John V
Dinh, Tran H
Donovan, Michael J
Doyle, Joseph E
Doyle, Laurie A
Drennon, Darl J
Dugovic, Michael B
Dumbleton, Douglas B
Dyer, Keith A
Ehmann, Chris P
Ehmann, Keith
Ellerbe, Byron
Ellison, Mark W
English, Arthur M
English, Scott E
Ercoli, Karen
Fairchild, James A
Falk, Brian D
Farace, Michael
Fiorito, Daniel J
Fitch, Matthew S
Fiutko, Christopher J
Fiutko, John J
Flint, George C
Foos, Peter
Freville, John F
Furtner, Bryan J
Gabel, Scott A
Garland, Michael J
Gessin, Robert A
Gibbons, Sean
Gleichauf, Albert J
Glover, William
Gonzalez, Providenci
Goodrich, Christi L
Goodrich, Robert G
Gotham, Brian M
Greer, Ray A
Gsellmeier, Reinhard L
Guarino, Josephine A
Gulnick, Russell J
Guttmacher, Rachel C
Hale, John
Hamblett, Richard
Hanna, William D
Hanscomb, John E
Harding, Edward J
Harewood, Allister D
Healy, Mary Jo
Helfer, Jeffrey
Herring, Lauren N
Hettler, Gary A
Hitesman, Derek J
Hogan, George R
Housman, Susan
Houston, John F
Hutchinson, Jonathan B
Infantino, Michael P
Irvine, Donald T
Irwin, Christopher M
Jackson, Billy C
James, Matthew
John, Glenn D
Joyner Jr, Jerry
Justiniano, Iraida
Kaiser, Glenn A
Keegan Jr, Timothy D
Keenan, Sean P
Kelly, Elizabeth A
Kelsey, Kenneth L
Kennedy, Jason R
Kennell Jr, David
Kinch, Thomas
Kircher, Douglas J
Kohlmeier, John P
Kolaski, John
Kolody, Alex J
Kostiw, John P
Kostraba, Peter A
Kuchman, Terence S
Kunow, Robin A
LaMendola, Eric T
LaVair, Wayne C
Lemcke, Timothy
Letts, Neslyn
Levandoski, Tim J
Levandoski, John K
Lewis, James S
Lewis, Scott
Lo Furno Jr, Bart F
Logel, Peter C
Lombardi, Rebecca M
Lupia, Phillip J
Lupia, Steven J
Lupia, Mary Ellen
Lupiani, Joseph J
Mackey, Eddie J
Maddock, John R
Magee, Erin A
Mahns, Frank M

DES Employees 2011

Mahns, Michael P
Maier, Christian C
Maira, Jon
Maloney, John
Maloney, Robert S
Mammarello, Michael A
Maneiro, Mary A
Martinez, Candido
Martinez, Luis
Maslanka, Daryl K
Masters, Richard F
Mathis, Stephen
Mc Carty, Scott
Mc Entee, Scott M
McAllister, Jane Ann A
McAvoy, Robert C
McCann, Phillip J
McCormick, Jeffrey M
McCullough, Jerry
McDowell, Todd
Mercado, Carmen I
Merner, Mary E
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Miller, James M
Miller, Joseph D
Miller, Roger
Milne, Kyle G
Monroe, Debbie L
Moon, David A
Morelli, Anthony M
Morgan, Phillip G
Morse, Steven R
Morthorst, Robert P
Muhs, Kevin M
Murph, Irving G
Nacca, Audrey M
Naylon, Jane P
Newkirk, Keith C
Nies, Alexander J
Nitti, John C
O'Brien, John P
O'Brien, Thomas W
Oates, Alan
O'Keefe, Martin T
Oliver, Anthony
Orbanek, William J
Ortolaza, Irving
Palermo, John K
Papaleo, Julia A
Paris Tuori, Karen
Patanella, Michael
Payne, Mark J
Peckham, John S
Peletz, Stephen L
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Pierce, Daryl
Pierce, William J
Pitts, Satchral
Pollot, Robert E
Popp, Steven W
Pusella Jr, Thomas J
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Powlowski, Frank M
Proia, Alphonse N
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Putt, William J
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Quayle, Michael J
Quinn, Kevin T
Raghunathan, Shravan
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Raymond, Timothy J
Reed, Dwayne L
Reider, Daniel C
Reilich, David W
Reilich, Gary R
Reiter, Harry M
Reiter, Steven M
Reyes, Ennett
Richardson, Carol
Richardson, Steven C
Rinaldo, Samuel T
Roberson, Olympia Y
Roberts, Hunter C
Robinson, Oscar
Rodgers, Matthew E
Rodriguez, Jesus A
Roj, Justin C
Rose, Melvin J
Rose Jr, Melvin J
Ross, Christopher M
Ross, Daniel J
Rutkowski, Russell P
Sadler, William A
Saeva, Frank A
Samowitz, Bryan N
Sandle, Paul E
Sansone, Andrew J
Sansone, Ronald
Santwani, Hardevi M
Sapienza, Paul
Saurini, Joseph A
Sawyko, Paul M
Scheuch, Jeffrey J
Schubert, Ingrid E
Schultz, Jeffrey E
Schuth, David L
Schwartzmeier, Stephen A
Scibetta, Dennis K
Scriven, Harry L
Sewar, Darcy A
Shaw, Jesse
Sheppard Jr, Kevan B
Siciliano, Paul L
Sierra, Elias
Sinclair, Thomas M
Slattery, Patrick R
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Smith, Charles E
Smith, Daniel W
Smith, Fenton A
Smith, Kenneth D
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Steehler, Larry
Stetzal, Laura C
Stevenson, Todd R
Stratton, Stephen M
Sunday, Frank A
Tarricone, Joseph R
Tatar, Christopher M
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Thesing, Daniel M
Thomas, David J
Tieppo, Thomas
Tobias, Sheila M
Tran, Dong V
Tuccio, David S
Tyndall, Robert
Veck, Martin W
Verno Stevens, Tina
Waghorn, Jennifer L
Waghorn, William J
Wallace, Steven L
Ward, Michael B
Warner, Pamela A
Washington, Willie C
Weathers, Petrina Ann
Weber, Michael J
Werner, Michael D
Werner, Robert W
Wilbert, Sheila A
Williams, Eliza A
Witzel Jr, Edward P
Wurzbacher, John K
Yarrington, Charles S
Young, Curtis E
Zarnosky, Christopher R
Zavacki, John H



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future.
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Monroe County Department of Environmental Services



Maggie Brooks, County Executive ~  Michael J. Garland, P.E., Director

2011 DES WINTERBUSTER / PEER RECOGNITION

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Yearbook Article Editing ~ Tina Stevens

2011 WinterBuster Committee

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March 9, 2012