Seeing Farther

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An interesting stop along the water cycle

Did you know that restaurants, food processing and manufacturing facilities in Michigan are required to meet pre-treatment standards for the water that they are discharging to municipal wastewater treatment plants?

Michigan's Industrial Pretreatment Program (IPP) protects our wastewater treatment plants and outfalls from harmful commercial and industrial discharges. The goal is to identify and restrict discharges that could interfere with the operation or performance of our Publicly Owned Treatment Works (POTWs) and/or could pass through to the discharge source untreated.

The City of Grand Rapids' pretreatment standards apply to facilities that:

- use more than 25,000 gallons of water per day for processing items or services,
- contribute 5% or more of the average dry weather or organic capacity of the POTW system, and
- have a reasonable potential for adversely affecting the POTW or violating any standards or requirements.

The acceptable discharge standards are established by the US Environmental Protection Agency (EPA), and the Michigan Department of Environmental Quality (MDEQ) defines the industry-specific testing criteria. Prein&Newhof's Laboratory provides both IPP sampling and testing services for a variety of restaurants, food processing and manufacturing businesses. **Jon Anderson**, P&N Technical Specialist, who does much of this work, explains that there are two types of sampling techniques—time-based and flow-based—for IPP work.

Time-based sampling
Used for industries that have a steady discharge flow, time-based sampling takes a 100 ml sample every 15 minutes for 24 hours to create a composite sample that is representative of the entire day.

Flow-based sampling
For industries that discharge water in irregular increments, we use flow-based testing. We attach a sampler to a flow meter that sends a pulse to the sampler when the flow reaches a certain level. The sampler then collects a sample after a specified number of pulses over 24 hours to create a composite that is representative of the entire day.

Sometimes a slug discharge sample is required. In these cases we collect a specified volume of the effluent discharge at increments during the time that the industry is dumping a tank or cleaning part of its equipment.

Time for testing
Once the sample is collected, it's time for testing. "Our field tests are site-specific and can include (but are not limited to) pH, dissolved oxygen, dissolved sulfides, temperature, and free chlorine," Anderson explains. Some of the testing, however, must be performed in the Laboratory. While the municipality to which the industry is discharging its wastewater ultimately determines the reporting criteria, there are some commonalities in testing. The food industries must test for BOD (Biological Oxygen Demand), TSS (Total Suspended Solids), and TPO4 (Total Phosphorus). Other industries with paint lines, powder coat lines, etc. are typically tested for cyanide, pH, a list of metals, and possibly a list of organics. Prein&Newhof's Laboratory Technicians are certified to perform all of these tests.

Whether testing is done in the field or in the laboratory, P&N makes this process hassle-free for businesses. "We see our role," says Anderson, "as helping clients with their permit compliance monitoring needs in a timely and cost-effective manner. We are able to establish a routine sampling and testing schedule with an industry or business and then we go there without having to bother the client each trip. If something is out of compliance, we automatically return to resample."

This is just one way we work to help protect our environment and the investments we've all made in our treatment plants, while keeping businesses in Michigan running smoothly. That's what we're all about. You may not see our work at your favorite restaurant, but it's very possible we've been helping behind the scenes to give it access to our natural resources while at the same time protecting those resources.

If you are interested in learning more about IPP sampling and testing or about other testing services Prein&Newhof provides, contact **Jon Anderson** at (616) 364-7600.

Prein&Newhof selected for PSMJ 2014 Circle of Excellence

PSMJ Resources, Inc., a leading management consulting firm for the architecture/engineering industry, conducts a yearly financial performance benchmark survey.

Prein&Newhof was selected as a 2014 Circle of Excellence member. This award distinguishes those firms that are not only good at their practice but also at running their practice as a business.

Prein&Newhof recognizes that this honor reflects the quality of our clients, the relationships our employees have with them, and the foundation of integrity on which our business stands.

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Infrastructure for where you're going.

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P&N welcomes six more professionals to its team

Kristen Soloway is a Laboratory Technician who earned her Bachelor of Science degree from Michigan State University. Kristen is a former Trimatrix and Nestle/Gerber employee.

Ryan Stone, PE is working from our Grand Rapids office as a design engineer. Ryan earned his Bachelor of Science in Civil Engineering from Western Michigan University and has worked for URS and the Holland Board of Public Works.

Devin Brown, PE is a structural engineer who works from our Grand Rapids office. Devin holds a Bachelor of Science in Civil Engineering from New Mexico State University and a Master of Civil Engineering degree from the University of Notre Dame. He was previously a structural engineer, project manager, and regional manager for R2H Engineering in San Diego, CA.

Daniel Sorek, PE is a municipal engineer in our Grand Rapids office. Dan has a Bachelor of Science in Civil Engineering from Michigan Technological University. He joins us from the Holland Board of Public Works, where he worked as a Water and Wastewater Services Superintendent.

Bob Streng is a CAD technician in our Grand Rapids office. Bob holds Bachelor of Science degrees from Grand Valley State University, and is pursuing a degree in CAD design from Grand Rapids Community College. He previously worked as a Site Project Document Control Coordinator for Black & Veatch.

Tom Hall, PS is a licensed Professional Surveyor working from our Cadillac Office. Tom has a Bachelor of Science degree in Survey Engineering from Ferris State University and is a former Atwell and Wilcox employee.

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