Wyoming Michigan

Utilities Department

Quarterly Report

2011

July
through
September

Southerly view across the grounds of the Clean Water Plant, August 2011.

Capital Improvements

Water Treatment Plant - Facilities Rehab Project

General Contractor Allied Mechanical Services, Inc. began work on the $1.85M Slow Mix Sedimentation Basin and Water Collection System Renovation project in the North Treatment Facility. The project includes demolition and removal of 1964 era mechanical equipment, troughs, baffles and drive mechanisms; installation of new sludge removal equipment; and concrete rehabilitation.

Cross-collection equipment removal in basin, above.

Excavation and prep of roof access hatches.

WTP maintenance staff, above, drained and flushed flocculation and sedimentation basins in preparation for the demolition project.

Example of mechanical equipment and redwood baffle walls to be removed.

Drive pit equipment, before demo.

After demo of drive pit equipment.

Grassy area above is the roof of the sedimentation basins. Equipment and demo material is removed through access hatches and disposed of in dumpsters.

Grand Valley Regional Biosolids Authority

The GVRBA is a cooperative effort between the Cities of Grand Rapids and Wyoming to manage wastewater and biosolids on a regional basis.

In July, several Biosolids Team members participated in the Michigan State Ag Expo in East Lansing. The MWEA Biosolids Committee annually hosts a booth at this event to promote the beneficial reuse of Biosolids.

Operations Team members: *back row,* ***Tom Wilson, Gary De Kock, Tim Dryer***

Front row, ***Laron Morgan, Kim Hackbardt, Dave Harris***

Missing: Jon Burke, Myron Erickson, Andrew Meyer and Dave Koch

Segment 2 - Pumping Facility

In order to minimize odors and prepare the Pumping Facility for each successive pumping cycle (those times when the farm fields are frozen or the fields have been planted with crops), CWP maintenance and operations staff perform regular flushing and cleaning of wet wells, mixers and supply lines to and from the facility.

Non-woven fiber such as baby wipes and personal care wipes continue to be a problem in the sanitary sewer and, as seen in the photo (right), accumulate even in the wet wells of the Pumping Facility. Staff installed a new 3" flushing line from the thickener building and will install grinder pumps at each of the primary tanks later this year.

Utility Staff

Gerald Caron, WTP Superintendant, was awarded Lifetime Membership with the American Water Works Association. An active member for 30 years, Jerry is a past Chair of the MI Section, having served on numerous committees over the years. Jerry served on the National AWWA Board as Director of the Michigan Section. He is currently the Vice-Chair of the Distribution and Plant Operation Division at AWWA.

Myron Erickson, Laboratory Services Manager, received recognition for serving on the Board of Directors of the Michigan Water Environment Association.

Tom Schulz retired from the WTP after 18 years of service in Operations and Information Technology.

Eric Hartman was hired as an Operator I at the WTP. Eric previously worked at the water plant in Howell, Michigan, and holds the S-2 and F-3 level, Michigan Operator licensure.

Jon Burke, CWP, was promoted to Operator II classification.

David Munch, WTP, was promoted to Operator II classification. He passed the State of Michigan F-2 water certification exam in July.

(Not Pictured)

Rick Vorenkamp, UM III at the WTP, retired this summer after 36 years of service.

Dave Bartz, CWP Utility Maintenance II, was promoted to Shop Foreman in August. Prior to joining the CWP maintenance staff in 2008, Dave worked at Public Works, Motor Pool.

Lisa Medukas, Lab Tech I, passed the State Municipal Wastewater certification, Level D.

Community Outreach Activities

The Drinking Water Treatment Plant hosted special guests from the Michigan Department of Environmental Quality; agency administrators, Liz Browne, Liane Shekter Smith, Lonnie Lee, Amy Lachance and Mike Bolf, toured the WTP during a day-long visit to area water plants.

Several groups of residents, Cub Scouts, a Brownie Troupe, and a Senior Neighbor group also toured the Utility facilities this summer.

Zeeland Township Board members attended a plant tour, conducted by WTP Superintendant, Gerald Caron (above, far right) in July. Wyoming's water supply serves portions of Zeeland Township through the Holland Township water distribution system.

Area Safety Training

Several times each year, the Utility arranges for area public health and safety agencies to provide training events at WTP facilities.

The future pump station property on 96th Street (left) was the site of recent Ottawa County Sherriff training this summer.

Wholesale Customer Water and Sewer Contracts

Many months of contract negotiations resulted in amended wholesale water contracts with the cities of Grandville, Kentwood and Byron and Gaines Townships late this quarter. These signed agreements were to be authorized by Wyoming's City Council in early October.

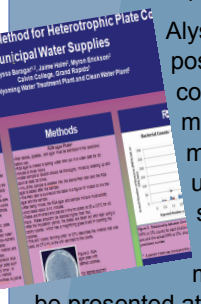
Tom Kent, Deputy Director of Public Works, led the collaborative review sessions and conducted numerous customer workshops to build consensus on contract language, rate methodology and cost of service allocations.

An amendment to the 2006 Wastewater Disposal Agreement between the City of Wyoming and Byron Township and Gaines Charter Township, was authorized to permit Byron Township to build a new connection to the sanitary trunk sewer located in 56th Street, west of Wilson Avenue.

Laboratory Services

Alyssa Baragar
Calvin College Intern

Having spent the early summer months at the WTP laboratory, Alyssa continued research at the CWP laboratory this quarter comparing various methods for the detection of waterborne pathogens.



Alyssa's poster project, comparing microbial methods using several types of media, will be presented at Calvin College in October.

Outstanding Utility Laboratory Performance

CWP Lab Staff; left to right, Lynn Kukin, Jaime Halm, Lisa Medukas, Kristen McLaughlin, Tom Kooistra, Katie Erickson

Laboratory Services staff at both CWP and WTP laboratories excelled in annual lab analysis proficiency testing in 2011. Most recently, CWP staff turned in outstanding results for analysis across a wide range of standard methods using blind samples of water or sludge from a certified proficiency testing company.

The 100% passing rate was achieved on the study known as the "Discharge Monitoring Report Quality Assurance Study" (DMR-QAS). This is a requirement of the discharge permit issued by the State of Michigan to the City's CWP. These external quality control studies assess laboratories on how closely their sample analysis matches the actual target concentration of standard parameters. These results may pass either high or low of the actual value, but must fall within a given range of the actual value. The State uses these proficiency testing scores to assess the credibility of the daily analysis performed at each laboratory.

As in years past, Wyoming reported sample analysis well within passable ranges. Additionally, this year a majority of results very nearly hit the "bull's-eye".

The Utility lab staff, made up of chemists, technicians and aides, as well as water plant operators, all contributed to the success of the 2011 proficiency testing. We are proud to recognize the high levels of analytical accuracy and skill of our outstanding Utility staff.

Wyoming Participates in Water Research Foundation Study

Wyoming is one of 12 municipal water suppliers in the nation, participating in the Water Environment Research Foundation (WERF) study currently underway titled, "Fate of Non-Regulated Disinfection Byproducts (DBP's) in Distribution Systems." The goal of this project is to develop new knowledge and modeling tools for predicting and preventing key non-regulated DBP's from forming in the municipal water supply system.

WTP Laboratory Supervisor Jaime Halm has been coordinating directly with lead project researchers from the University of Massachusetts and Yale, to gather water system samples for the study.

Wyoming's Utility provided multiple water samples from 13 sites across the distribution system during one sampling event this summer.

Samples were sent to the research universities for analysis of chlorine residuals, temperature, biomass and non-regulated DBP's.

Clean Water Plant

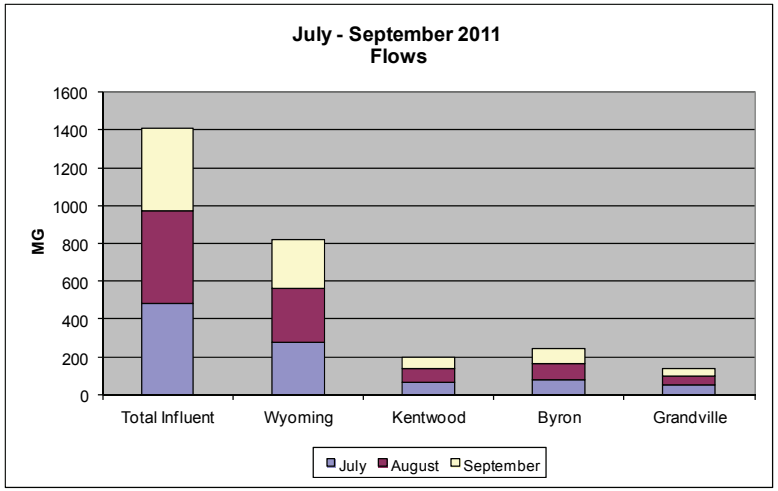
Facility Planning and SCADA Equipment

As engineering consultant Black & Veatch completes a 20 year facility plan for the Clean Water Plant, considerations for the end of life of the Supervisory Control and Data Acquisition System (SCADA) were to be included by way of a separate report from Tetra Tech of Michigan. This consulting firm was involved in the original SCADA system design in 1995. SCADA systems are used to control and monitor plant operations from various work stations throughout the facilities.

Tetra Tech will make recommendations for future upgrades to ensure that strategic control demands are met at the Clean Water Plant.

In-house staff responsible for leading this important system support will soon retire and Tetra Tech will also assist in training city staff and continue to handle programming changes for large projects.

Gelock Crane returned to place safety railing parts on the roof of the Clean Water Plant's Main Building. Maintenance staff removed the railing bases, which had quickly rusted and replaced them with powder-coat painted bases, provided by the supplier.



Sodium Hypochlorite Storage Tank Repair

An 8,000 gallon chemical storage tank (left) developed a leak which necessitated draining, removal, repair and re-coating and painting of the tank and concrete base. Maintenance staff worked with a contractor to accomplish the multi-stage repair.

In order to provide un-interrupted chemical feed to the odor control system during the repair, maintenance staff plumbed two, 275 gallon chemical totes to the sodium hypochlorite supply line.

Resupply of chemical totes using a spare tote (left).

Clean Water Plant continued...

Maintenance Staff

"Dirty Jobs"

Plummers Environmental vactor truck, above

Maintenance, Operations and Environmental Services staff coordinated efforts to drain and clean two of the 1970's era clarifier basins (above and right) which are still required to maximize plant treatment capacity.

Final Clarifiers

Maintenance staff performed preventive maintenance on four final clarifiers in the newest treatment train, and two of the plant's original clarifiers. This included draining, cleaning and thoroughly cleaning the equipment drive units and seals.

Environmental Services Supervisor Dave Oostindie, above, in trough.

UM I, Blues Heintzelman and UM I Aaron Rice at left.

UM I, Dennis Junghans, at work .

Meter and Lift Station Maintenance

Maintenance staff replaced a blower motor and re-aligned a pH probe in the Kentwood sewer meter station. Corrosion control, cleaning, and safety repairs were also performed at various lift stations throughout the sewer service system.

Environmental Services

Medication collected at the event, prior to disposal.

Medication Disposal Day - Lansing

The City of Wyoming assisted the Michigan Pharmacists Association in the 2nd annual medication disposal day at the State Capitol.

Environmental Services staff coordinated disposal needs for the medications collected from residents in Ingham and Eaton Counties.

Dave Oostindie, ES Supervisor, arranged for City of Wyoming law enforcement personnel to accompany staff in transporting the 560 lbs. of collected items to the Kent County incinerator for disposal. This is in accordance with current Department of Transportation regulations.

Wyoming's leadership in the county-wide "TakeBack Meds" initiative continues to drive efforts to ease regulatory hurdles and increase public awareness about proper medicinal disposal practices.

A total of nearly 10,000 lbs. of medication has been collected, burned and prevented from entering area waterways since the Wyoming initiative began.

Left, Interns, Josh Utivlugt and Dan Kneibel spent several weeks this summer using GPS equipment to locate, mark and catalog stop-box locations on water service lines throughout the city. Utility and Public Works staff will be able to quickly access information in the field, using REGIS software.

September Household Hazardous Waste Collection Day

Environmental Services staff assisted Kent County personnel in the hazardous waste collection day at the Clean Water Plant. The collection site here is available Monday through Thursday, by appointment.

This day, residents took advantage of drive-up and drop-off services, without appointments.

Drinking Water Treatment Plant

Utility Studies

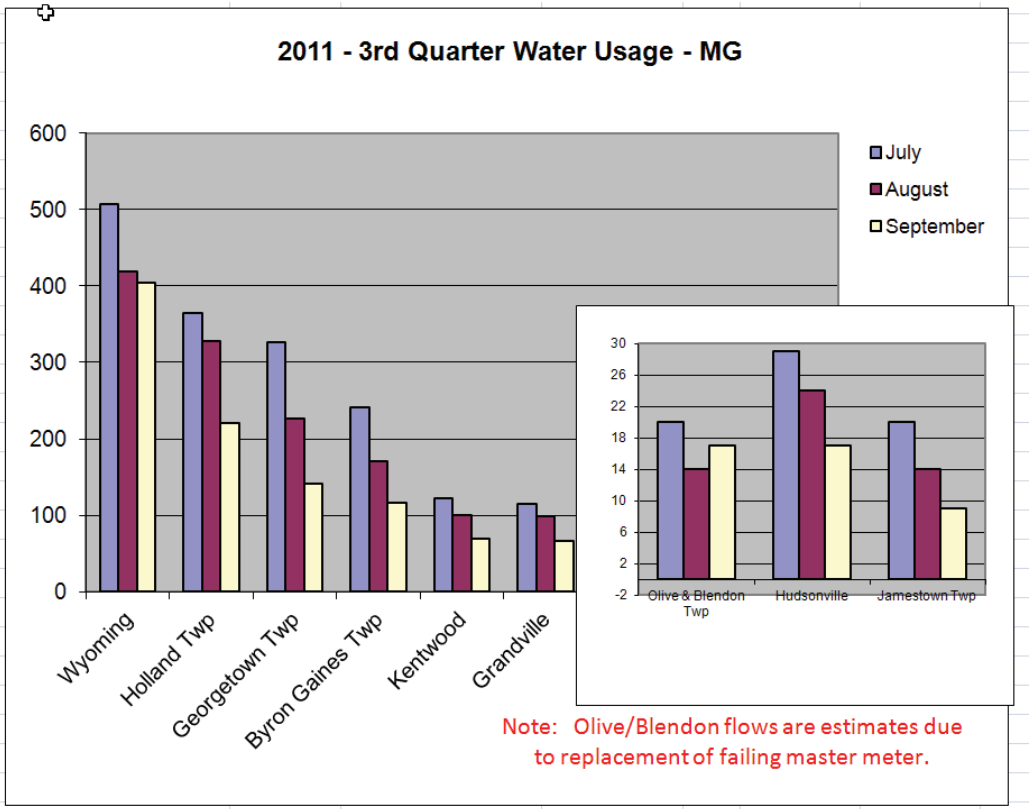
The Utility Department once again participated in the Federal Environmental Protection Agency's survey of drinking water infrastructure needs. As required by the Safe Drinking Water Act, this survey is sent out to selected facilities every four years in order to capture the 20-year capital investment needs of public water systems. The Michigan Department of Environmental Quality administers the survey on behalf of the EPA.

Additionally, Prein & Newhof completed a Water Reliability Study for Wyoming in compliance with Michigan's Safe Drinking Water Act. This is a 10-year projection of water demands and an evaluation of each of the water system components.

Water Quality

The City of Wyoming's Public Works Department annually undertakes a systematic program to flush water mains throughout the City. Beginning in August affected neighborhoods were notified and crews dispatched through the evening hours to operate, inspect and repair fire hydrants on the system. Evening work hours were scheduled to minimize disruptions and inconvenience to residents.

This two-man crew systematically operates each hydrant at its full capacity for a short time in order to flush any sediment from the waterman. This maintenance work ensures good water quality throughout the system. Approximately half of the City's hydrants had been operated (from 36th Street north to city limits) as of the end of September.



Overall, the department noted few water quality complaints this quarter. Seasonal taste and odor complaints often are related to lake water temperatures of 60 degrees or warmer and weather conditions that contribute to the growth of algae. As necessary, the treatment process includes the addition of carbon to reduce taste and odor in drinking water.

Drinking Water Treatment Plant continued...

In order to efficiently heat and cool the new maintenance shop area, contractors installed a block wall and double steel doors.

Chemical Feed Systems

Maintenance staff re-plumbed the sodium hypochlorite feed system (left and below) in the South Treatment Facility, adding air relief valves on the bench top pumps to maximize performance.

Polymer feed system plumbing changes and maintenance continued through the quarter as final performance testing of the sludge dewatering equipment was completed in September. Plant Operator Steve Smith worked with engineering consultants, contractors and plant staff to achieve satisfactory solids removal and operating procedures. The sensitive process of maintaining balance between sludge consistency, chemical dosage, hydraulic loading and mechanical operation of the centrifuges, required team effort from each of the work groups.

Dechlorination Tanks

Maintenance staff configured and installed an air mixing system and plumbing on two, 2,100 gallon tanks which will be used to dechlorinate finished water that will be drained from the transmission mains during future pipe replacement and repair projects. In order to protect aquatic life from the chlorine residual in drinking water, state regulations require water system suppliers to remove chlorine by means of an adequate dechlorination system. These portable tanks were designed to be trailered to work sites and will provide staff with the means to control water flow, chemical mixing, contact time and sampling, to ensure compliance with state discharge regulations.

Just prior to his retirement, UM II Rick Vorenkamp (at left) performed initial plumbing on the tanks and worked with staff to identify discharge sites when future repairs take place on the 42" transmission main.

The tank shown at right, with-completed mixing system and discharge valves attached.

Maintenance staff successfully tested both tanks.

Cross-Connection Team and Meter Shop

Diagnosing Taste and Odor Problems

Utility staff work diligently to determine the source of taste or odor complaints in our water system. They determine whether the problem is in the raw lake water, at the treatment plant, in the distribution system or with the customer's plumbing system.

An unusual back pressure situation from a garden hose caused a "chemical taste" complaint from a resident this summer. The source was traced to a lengthy garden hose attachment at the back of the house where a spray nozzle was left attached. As it happened, the hose and the kitchen faucet shared this water supply line. Water in the hose heated by the sun, expanded into the kitchen faucet affecting the taste of the water. Though not a contamination issue, the lesson: always remove a spray nozzle from the hose when not in use to minimize taste issues related to back pressure on the supply line. Great detective work by the Cross-Connection Team!

Underground Sprinkling Systems

The Cross-Connection team is responsible for ensuring that contamination from backflow or back-siphonage does not enter the water system.

In accordance with the Michigan Safe Drinking Water Act—1976—PA 399, the City's Cross-Connection Program requires regular inspection and testing of commercial/industrial facilities and residential homes that have underground sprinkling systems.

Environmental Services Specialist Dan Schuitman recently performed follow-up inspections at residential homes with underground sprinkling systems that had been identified as deficient during previous inspection activities. Dan provided homeowners with notices requiring completion of the necessary repairs to make the backflow prevention devices operational. Reminders were also sent to homeowners about the State of Michigan regulations regarding regular testing of the backflow prevention devices included in a properly designed and installed underground sprinkling system.

Public Works Supervisor, Shimo Svabic, (pictured at far right with Meter Shop crew, Steve Pucilowski, Brian Wolf and Jason Bartram) assumed direct supervisory duties with the work group in mid-September as the Shop Foreman position was vacated earlier this quarter.

As administrative positions throughout the City are reduced, the Utility Department continues to take advantage of opportunities to gain management efficiency. The development of a closer working relationship between Public Works and the Meter Shop is expected to benefit Utility customers with water service needs.

In-city Meter Activity

211 Meter Replacements
23 Meter Installs