



**HACKETTSTOWN
MUNICIPAL UTILITIES AUTHORITY**

QUARTERLY REPORT

2nd Quarter 2011

April, May & June



HMUA at a Glance:

Authority Board Members

Chairman	Edward Kelly
Vice Chairman	Gerald DiMaio Jr.
Board Member	John M. DiMaio
Board Member	Harry E. Brown
Board Member	William Harper

Authority Administrative Staff

Executive Director	Bruce D. Smith
Deputy Director	John C. Perry
Qualified Purchasing Agent	Deborah Palma

Mission Statement:

“The HMUA is committed to providing the community with safe, clean drinking water and quality wastewater management, while maintaining the highest standards of customer service.”

Water Customer Accounts	6,466
Sewer Customer Accounts	5,946

Welcome – John Perry

John Perry joined the HMUA as our Deputy Director on June 27th. John has twenty plus years of experience in the Water and Wastewater Industry and has a Bachelor’s Degree from Montclair State University and a Masters in Civil Engineering from Norwich University. John also holds New Jersey Operator Licenses in Water Treatment (T-4), Water Distribution (W-4), Wastewater Treatment (S-3), Wastewater Collection (C-3) and Industrial Wastewater Treatment (N-2). John is also an Adjunct Professor at Rutgers University – Cook College, Center for Adult Continuing Education and is a NJDEP Certified Coordinator/Trainer for NJ Licensed Water and Wastewater Operations.



Number of Employees with NJ Certifications

Public Wastewater Treatment

2 - S4 Classification, 2 - S3 Classification and 2 - S1 Classification

Wastewater Collection

1 - C4 Classification, 1 - C3 Classification, 1 - C2 Classification, 2 - C1 Classification and 2 - CN Classification

Industrial Wastewater Treatment

1 - N4 Classification and 1 - N2 Classification

Water Treatment

2 - T4 Classification, 4 - T2 Classification and 1 - T1 Classification

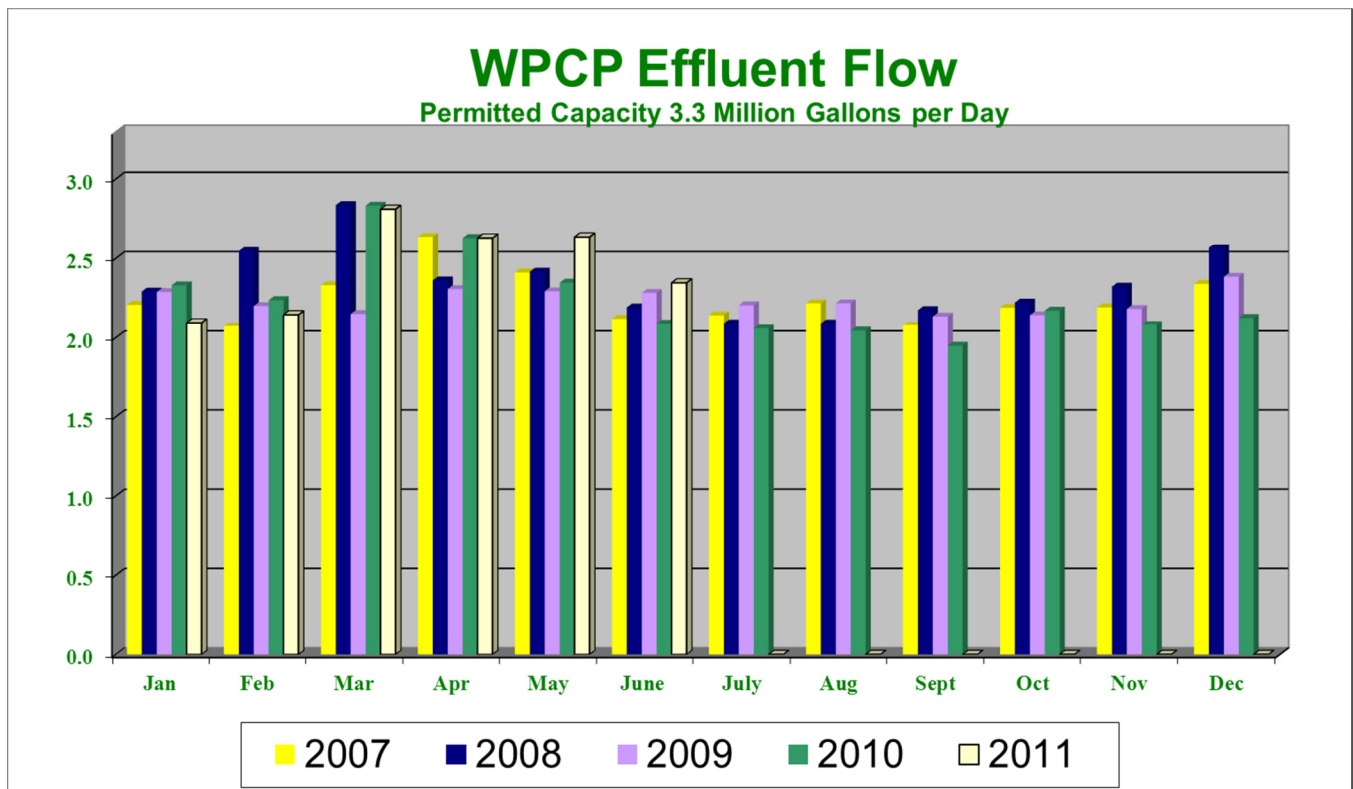
Water Distribution

2 - W4 Classification, 3 - W3 Classification, 1 - W2 Classification and 1 - W1 Classification

Qualified Purchasing Agent – 1

SEWER UTILITY

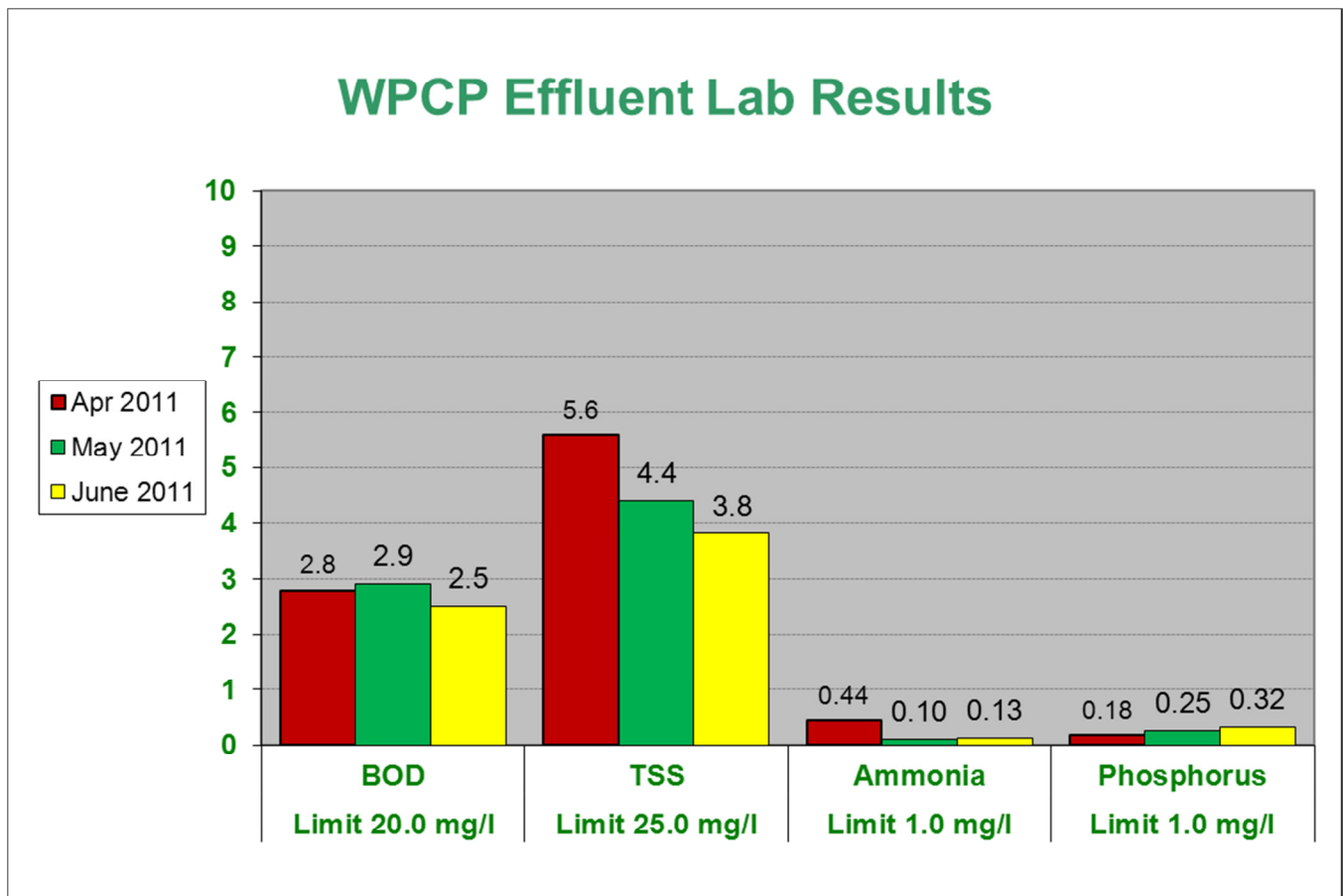
The HMUA wastewater service area is 6.74 square miles and includes nearly all of the Town of Hackettstown and portions of Independence and Mansfield Townships in Warren County and portions of Mount Olive and Washington Townships in Morris County. Wastewater is conveyed to the Water Pollution Control Plant via 79 miles of gravity sanitary sewer main. In addition, there are 2,130 manholes, four sewage pump stations and 1.4 miles of force-main.





The Water Pollution Control Plant (WPCP) was originally constructed and started operations in 1971. The facility was upgraded and expanded in 1993 and is now rated at 3.3 million gallons per day and is regulated under NJ Pollutant Discharge Elimination System Permit NJ0021369. The WPCP provides Advanced Tertiary treatment including removal of Nitrogen and Phosphorus, Ultraviolet Disinfection and Anaerobic Digestion of bio-solids.

WPCP Maintenance Work Orders Completed during 2nd Quarter = 147



HMUA’s Water Pollution Control Plant consistently produces an effluent that is below NJPDES Permit Limitations. Although we routinely sample many other parameters, the four parameters listed (BOD – Biochemical Oxygen Demand, TSS – Total Suspended Solids, Ammonia and Phosphorus) are important parameters deemed representative of general treatment plant operations.

Sanitary Sewer Collection System

The HMUA owns and operates Sewer Jetting Equipment and two Sewer Cameras. The Sewer Cameras enable staff to detect and monitor leaks, roots, and grease buildup, so that corrective action can be taken before emergencies occur. The second smaller camera is for use with customer sewer laterals. Sewer Utility staff can then use its sewer jetting equipment to clean sewer mains of grease buildup and silt. All video documentation is cataloged and is also used in evaluating the timing for repairs and asset management.

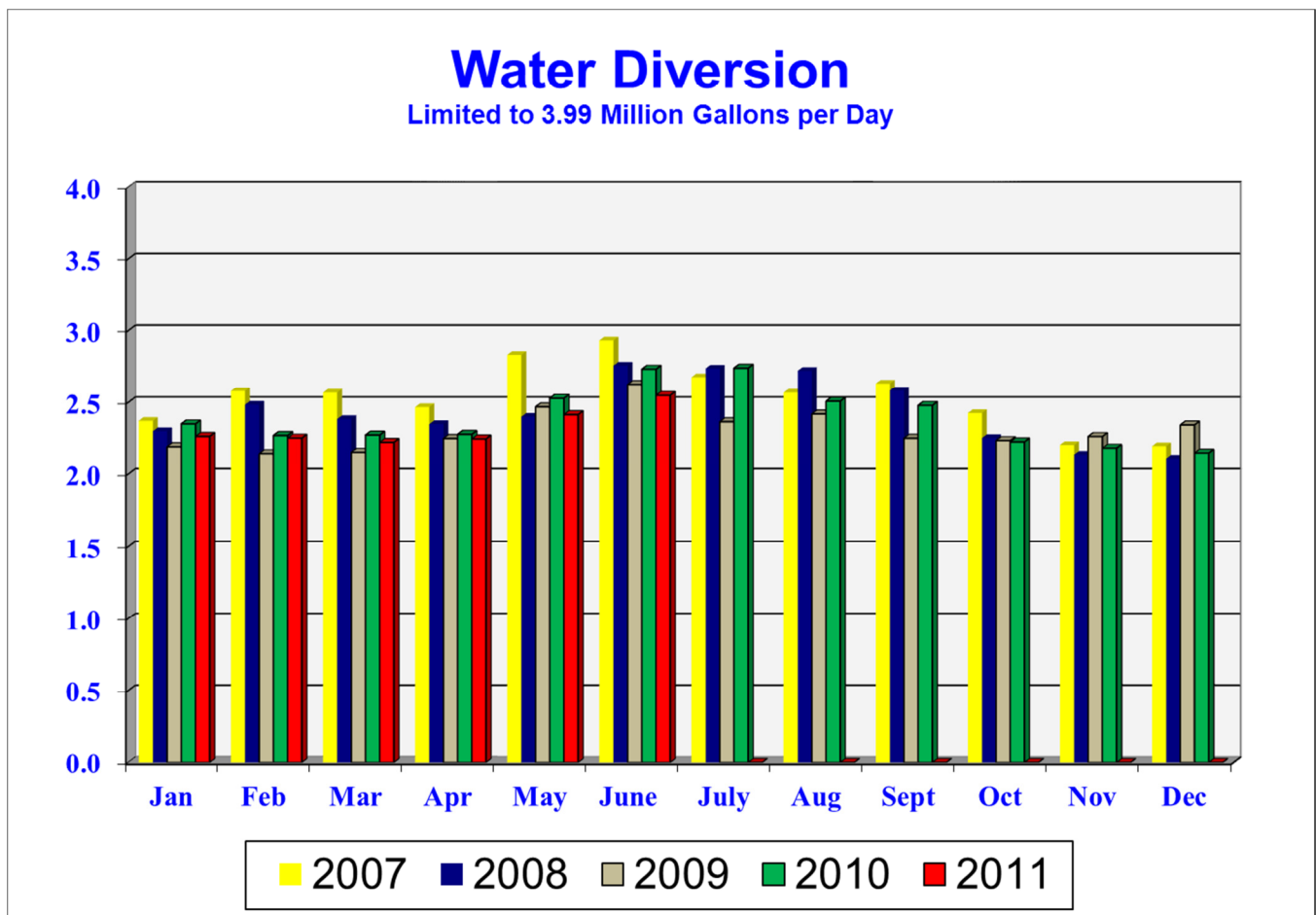
Customer Service Orders Completed during 2nd Quarter = 10



Manholes checked = 91
 Sewer Televised = 1,258 feet
 Sewer Cleaned = 8,780 feet
 Customer Sewer Laterals Televised = 10
 Sewer Main Blockages = 0
 Customer Lateral Blockages = 3 (all on owner's property)
 Raised Manhole Frame prior to paving = 1
 Repaired Leaking Manhole = 1

WATER UTILITY

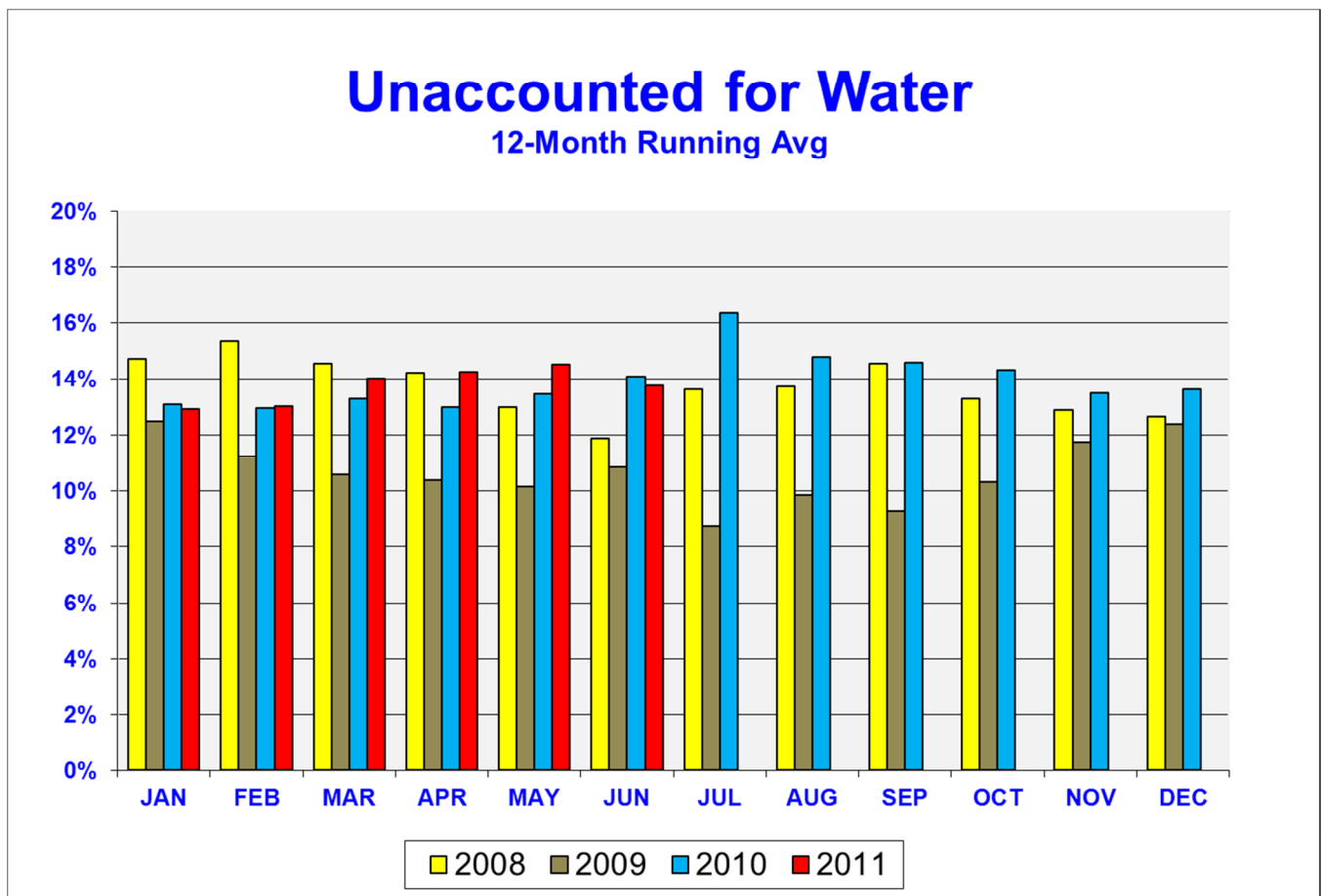
The HMUA water service area is 11.92 square miles and includes nearly all of the Town of Hackettstown and portions of Independence and Mansfield Townships in Warren County and portions of Mount Olive and Washington Townships in Morris County. Potable Water is distributed to customers from seven water supplies through 96 miles of water distribution main. In addition, there are 2.5 miles of raw water main, 700 fire hydrants, 2,224 valves, two water Booster Stations and four water tanks providing 4.3 million gallons of finished water storage.





The seven water supplies include six groundwater wells and a 1.0 million gallons per day water filtration plant completed in 1981. The Water Filtration Plant provides treatment of raw water from three water supply reservoirs. The HMUA Water System is regulated under Public Water System Identification (PWSID) number NJ2108001 and Water Allocation Permits WAP080001 (ID 5145) and WAP100001 (ID 5249).

Maintenance Work Orders Completed for 2nd Quarter = 8
 Customer Service Orders Completed for 2nd Quarter = 358
 Water Meter Change outs = 17
 Utility Markouts = 228
 Collections = 120
 Water off at curb for repairs = 22

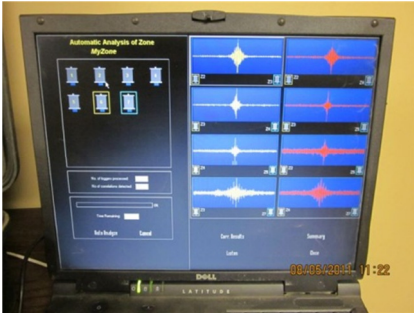


The Unaccounted for Water percentage for the 12-month period ending June 30, 2011 was 13.8%. The items contributing to Unaccounted for Water include system leakage, under-registration of customer water meters, theft of water from fire hydrants, illegal connections and fire-fighting.



Leak Detection Program

The HMUA purchased a Digital Correlating Logger Leak Detection System in 2002. The system includes a computer program and seven Leak Detection Sensors. In most cases seven sensors are placed directly on top of water valves. The Sensors are synchronized and listen for noise at pre-determined times in the middle of the night when water use is minimal. The Operator provides information on the type of pipe material and length of pipe between the two sensors. This information is obtained from HMUA's Geographical Information System. Upon completion of the leak noise listening period, the Sensors are retrieved and the information is downloaded directly into a computer program. The information is evaluated by Water Utility personnel. Personnel have become very proficient at evaluating the information to locate water system leaks. The Leak Detection System was used 48 times during the 2nd Quarter of 2011.



Speaking of Leaks

Water Utility Personnel discovered a leaking water service line (see picture left) in High Street. The



50+ year old galvanized water service was connected to the water main on the other side of the roadway and needed to be replaced with an up to date copper service. High Street is a busy road and has a concrete sub-base. An open excavation would have required removal and replacement of the concrete sub-base. To avoid the expense and the impacts of the road closure, a tool is used to drive a new water service across the road.



Personnel use a sight (see picture right) to ensure that the water service is driven straight and level.

Water Main & Fire Hydrant Flushing Program

Flushing of Water Mains and Fire Hydrants is an important part of the maintenance performed on the HMUA Water System. Flushing is performed every year during the month of May. To reduce any impact upon our customers, flushing is conducted between the hours of 10 PM and 6 AM over a three week period. The flushing program provides for the opening and operation of every fire hydrant. This procedure ensures that every hydrant is operating properly and that there are sufficient water flows for fire-fighting. The process also removes any sediment that may accumulate in the water mains, thus improving water quality. During the 2011 Flushing Program, 10 hydrants were hard to open and one hydrant was leaking. All hydrants have been repaired.



EMPLOYEE TRAINING

Four employees attended ESRI Geographical Information System (GIS) Training. The training was held on four successive weeknights. The employees were Mike Brady, Artie Klein, Dan Ubertaccio and Bud Volkert.



STATUS OF PROJECTS

Modification of Water Allocation Permit

The HMUA has submitted an application to the NJDEP to modify our Water Allocation Permit. The application provides for the addition of a new well (Heath Well #9) and to increase the capacity of existing Well #8 (Claremont Well). The HMUA is pursuing abandonment of our Surface Water Supplies and the NJDEP is considering implementing new Radon regulations. The new Heath Well #9 and the increase in the capacity of the Claremont Well will replace the lost capacity and enhance the reliability of HMUA's Water System. The NJDEP deemed the Application Administratively Complete on April 11, 2011. NJDEP review is underway.

Solar Project

A Solar Power Purchase Agreement was executed with Helio Sage on December 17, 2009. The Agreement has subsequently been revised and provides for the installation of a 30 kilowatt solar photovoltaic array on the Water Pollution Control Plant property. The solar array will be installed at no cost to the HMUA. The Authority will utilize all the electricity produced by the Solar Array at no cost for 15 years. The necessary Construction Permits were issued in early June. The construction is estimated to start in July with the facility to be operational by late August.

Application for Breaching Lower Mine Hill Reservoir Dam

The HMUA Board, on March 23, 2010, appointed Princeton Hydro to complete the engineering and permit applications for breaching the Lower Mine Hill Reservoir Dam. The plans and permit applications have been prepared and submitted to NJDEP Dam Safety, NJDEP Land Use Regulation Program, NJDEP Historic Preservation Office and the Morris county Soil Conservation District in December 2010. We are still awaiting response official response from the agencies.

Water Pollution Control Plant Improvements – Contract #36S & 37S

Portions of the project were recommended by both the Energy Audit and Energy Reduction Plan. The HMUA Board, on July 14, 2009, authorized O'Brien & Gere engineering plans and specifications for the construction of improvements to the Water Pollution Control Plant. The improvements include an Influent Screenings Removal Facility, an improved Anaerobic Digester Mixing system, Raw Sewage Pumping System upgrade (Motors & Variable Frequency Drives), and piping upgrades to eliminate the need for pumping and to provide enhanced Phosphorus Removal Treatment options. The project was bid and awarded in two phases. On February 9, 2010, JDV Equipment Corporation was awarded a contract in the amount of \$209,800 for Anaerobic Digester Mixing Equipment. A second Contract was awarded to Spectraserv Corporation in the amount of \$1,371,500 on March 23, 2010 for the balance of the project. As of June 30, 2011 the project is 75% complete.

Water System Improvements – Phase IV – Contract #38W

On October 14, 2009, the HMUA Board authorized O'Brien & Gere to prepare engineering plans and specifications for Water System Improvements - Phase IV. The improvements included replacing old 3, 4 and 6-inch water mains in Reese Avenue, Fifth Avenue, Liberty Street, Cook Street and Plane Street. Upon completion of the plans, the project was advertised and 14 bids were received. The project



was awarded to the low bidder (PM Construction) on May 11, 2010 in the amount of \$437,235. The project is essentially complete except for final punch list items. This project is expected to be complete during the 3rd quarter 2011.

Water Pollution Control Plant – Process Aeration Blower Replacement – Contract #39S

This project was recommended in both the Energy Audit and Energy Reduction Plan. The project was designed by Hatch Mott MacDonald and includes the replacement of two existing 125 HP Centrifugal Blowers with two new high efficiency Turbo style 75 HP Blowers. The project also provides the necessary piping, control valves, air metering and instrumentation necessary to provide Dissolved Oxygen control of the Blower operation. The project was awarded to the low bidder on May 10, 2011 in the amount of \$345,800.

Chemically Enhanced Phosphorus Treatment Study

On March 23, 2010, the HMUA Board authorized O'Brien & Gere to conduct a study to determine the effectiveness of chemical addition for the removal of phosphorus. Although the study is essentially complete, Sewer Utility staff is conducting further testing to obtain additional information. The information will be utilized by O'Brien & Gere to issue the final Study Report.

Water Pollution Control Plant Lighting Improvements – Contract WPCP-LI 2011

This project was recommended in both the Energy Audit and Energy Reduction Plan. The bid specifications were prepared in-house and provide for the retrofit or replacement of existing T-12 fluorescent lighting and new energy efficient T-8 lighting. The project also provides for the installation of Occupancy Sensors. The project was awarded to the low bidder on June 14, 2011 in the amount of \$9,743. The project is to be completed within 75 days of execution of the Contract.

Energy Reduction Plan

An Energy Reduction Plan for the Water Pollution Control Plant was prepared and submitted by CDM as part of the NJ Office of Clean Energy Pay for Performance Program. A potential Rebate of \$361,836 was approved by the NJ Board of Public Utilities on December 16, 2010. The following items are recommended measures included in the Energy Reduction Plan:

- Premium Motors for Raw Sewage Pumps #1 & #2 (Contract #37S - **Completed**)
- Variable Frequency Drives for Raw Sewage Pumps #1 & #2 (Contract #37S – **Completed**)
- Energy Efficient Blowers System for Nitrification Reactors (Contract #39S – Awarded May 10, 2011)
- Piping Upgrades for Intermediate Clarifier #1 to Division Box #2 flow to eliminate pumping (Contract #37S – **Completed**)
- Piping Upgrades for Primary Clarifier #2 to Trickling Filter #1 to eliminate pumping (Contract #37S – **Completed**)
- Lighting Improvements for WPCP Administration and Advanced Treatment Buildings including T8 ballast and lamps and Occupancy Sensors (Contract WPCP-LI 2011 – Awarded June 14, 2011)

The WPCP historically averages as much as 1,900,000 kilowatt hours of electricity per year (5,200 kWh per day). We are already seeing significant reductions in electric use.



PROCUREMENT OF ELECTRICITY

On June 14, 2011, the HMUA retained the services of New Energy Concepts to develop bid specifications and to assist the Authority in procurement of electricity. The bid specifications were developed and the Authority advertised for bids for the five facilities using the largest amounts of electricity. The five facilities include the Water Pollution Control Plant, Seber Road (Water Filtration Plant and Wells), Claremont Well #8, Heath Well #6 and the Mt. Olive Booster Station. The specifications requested bids for basic generation service electricity pricing for 12-month and 24-month periods. The HMUA decided to accept the bid from South Jersey Energy for a 24-month period in the amount of \$0.09031 per kilowatt hour (kWh). This will result in significant savings and provide energy budget stability during the next two years.