

# **Mount Laurel Township Municipal Utilities Authority**

## **Quarterly Report**



1<sup>st</sup> Quarter 2010 (January to March)

***Authority Members***

Chairman	Carl V. Buck, III
Vice-Chairman	Irwin Edelson
Secretary	Frederick Braun
Member	Elwood Knight
Member	James Misselwitz
Executive Director	Pamela J. Carolan, P.E.

*Total Number of Customer Accounts:* 17,851

***Mission Statement:***

“Provide safe, dependable and affordable water and wastewater services to our customers in an environmentally conscious manner while remaining committed to our community’s needs.”

**Sewer Department**

***System Summary:***

The Mount Laurel MUA wastewater service area runs congruent with the Township boundary. Approximately 95% of residential properties and 98% of commercial properties are currently connected to the Mount Laurel Township MUA sanitary sewer system. The Mount Laurel Township MUA treats all sewage generated within the Township at the Hartford Road WPCF with the exception of the southwestern area (Laurelwood, Countryside, and Roland/Fellowship industrial area); in these areas, sewage is collected by the Mount Laurel Township MUA and pumped to the Camden County MUA for treatment.

***Wastewater Treatment Plant:***

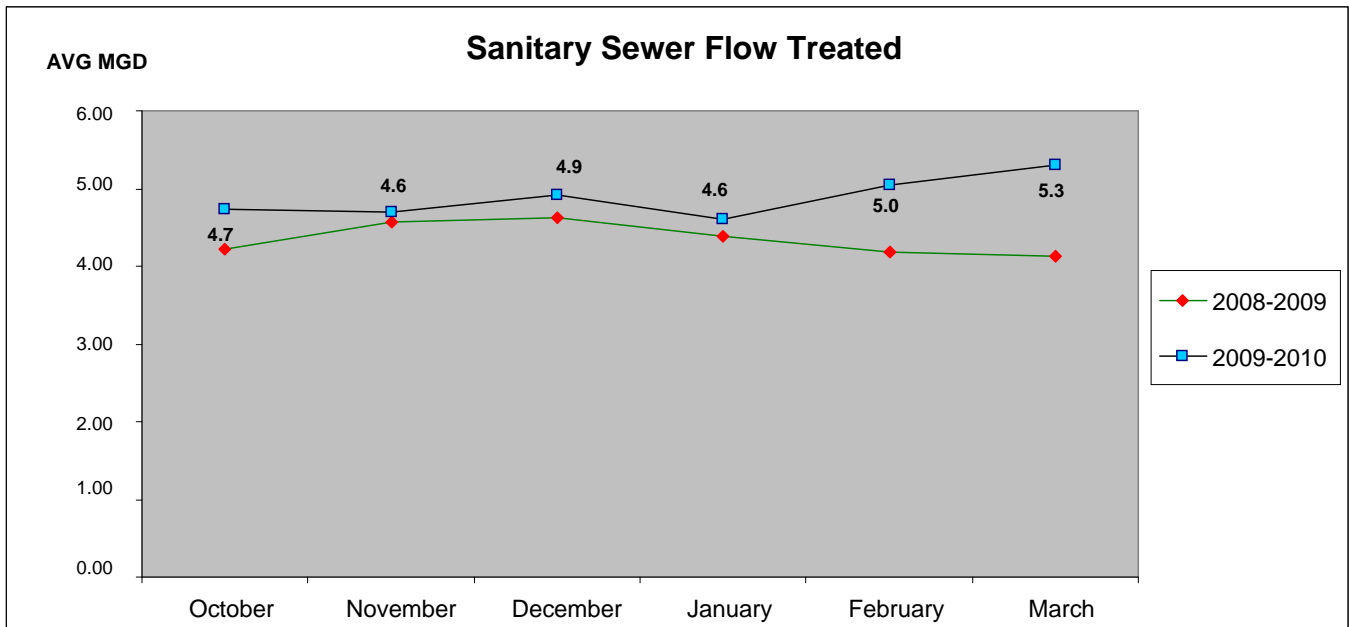
Hartford Road Water Pollution Control Facility  
6.0 Million Gallons Per Day (MGD) capacity  
Advanced secondary treatment using extended aeration and UV disinfection, sludge dewatered on-site with bio-solid disposal at the Burlington County Composting Facility

***Collection System:***

39 pump stations  
3822 manholes  
32 miles of force main  
147 miles of gravity main

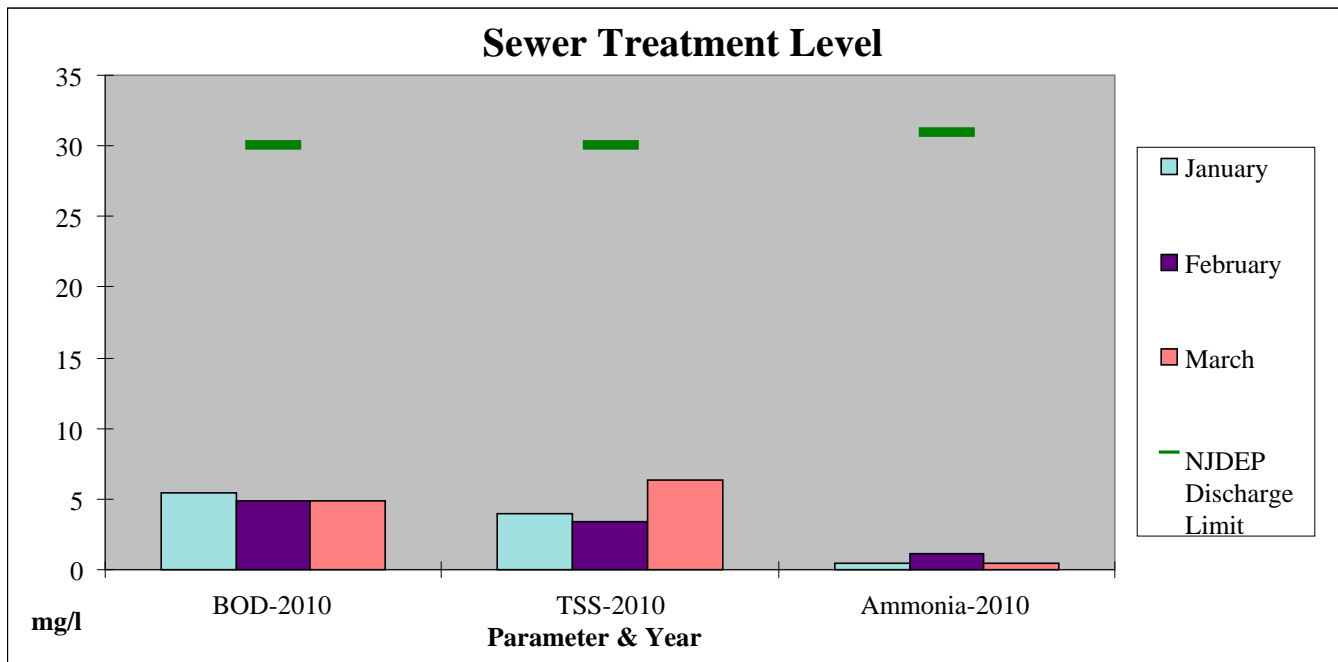
# Sewer Operations

## Treatment Plant:



Total Treated in Quarter = 448.688 Million Gallons (MG)  
= 4.985 Million Gallons Per Day (MGD)

Wastewater flows to the treatment plant in February and March reached an all time high. Leakage into the sanitary system otherwise known as infiltration and inflow (I/I) during the snowmelt off periods causing high groundwater elevation are deemed the primary factor. I/I is a concern because it elevates the potential for sanitary backups and increases sanitary system operational expense. As such, the Authority continues to monitor and correct I/I by televising and rehabilitating the sanitary sewer collection system.



Our wastewater treatment facility consistently produces an effluent discharge, which is substantially better than required NJDEP limitations. Although we routinely sample for dozens of parameters (hundreds at certain times of year) the three chosen parameters of BOD<sub>5</sub>, TSS, Ammonia Nitrogen are standards for the industry deemed representative of general treatment plant operations.

***Reclaimed Water for Beneficial Reuse:***

Due to the high quality effluent from our wastewater treatment plant operations, in 2003 the MUA obtained a permit from the NJDEP for reuse of wastewater effluent for various applications within Mount Laurel. The MUA currently uses the renewed water (treated wastewater treatment plant effluent) for the wastewater treatment plant site utility water system, pumping equipment seal water, process equipment wash down, sewer main cleaning, street sweeping, wastewater treatment plant irrigation, fire protection for the wastewater treatment plant, fire protection for the Mount Laurel Township leaf composting area, and vehicle washing. Use of renewed water reduces the quantity of potable (drinking) water required at the wastewater treatment plant and other MUA operations.

***Notice of Violation by NJDEP for air permits-***In late December 2009, NJDEP issued notice of 10 violations related to not obtaining air permits prior to construction and operation of equipment that was placed in service in 1996, 1997 and 2007. The MUA responded to NJDEP indicating that pursuant to NJAC 7:27-8.2, air permits are not required for any of the named equipment. We are awaiting a response from NJDEP regarding this matter.

## ***Sanitary Sewer Collection System:***

### ***Pumping Stations:***

- 1888 operation and maintenance checks were performed
- 151 in-house repairs performed
- 648 preventative maintenance repairs
- 150 sewer alarms checked
- 21 of 39 wetwells cleaned
- 12,342 feet of mains cleaned this quarter (jetter truck out of service for several weeks for repairs)
- No lines were televised as the TV truck was out for repairs

***Emergency Repairs at Hunter's Pumping Station***-On 2/10/10 the drywell flooded with raw sewage. Investigation determined that the cause was a corrosion hole in a wye fitting on the discharge side of the pumps. Emergency alarms were triggered however the sump pump could not match leaked flow. Both pumps and all controls became completely submerged and were damaged. Use of MUA emergency bypass pump was complicated by the 2<sup>nd</sup> seasonal snow storm and temperature. Emergency hauling of raw sewage occurred for one week until a modified bypass pumping system was borrowed from Gloucester City on 2/18. Pump/motor repair was performed by a contractor while the electrical and control system rehabilitation was handled by the MUA's electrical department. A custom manufactured replacement wye was needed. Cost attributable to this incident is \$26,458. A claim was filed with our insurance carrier.

***Winter Storm Events***-The storm events were a source for potential damage to MUA facilities. During these events, the MUA enacted preparatory preventative procedures from our Emergency Response Plan. Snow melt off and rain associated with storm events affect the daily operation of facilities. Pumping systems become overloaded and pressure in the high pressure sanitary force main increases to the point where some MUA pump stations are unable to overcome it. As a result, alternating operation of key pump stations is required which is manpower intensive.

During the February event, heavy icing caused numerous power outages throughout the Township. As a result, the majority of the MUA's emergency generators operated. All 39 sanitary sewage pump stations remained operational. Generators were kept fueled and there were no raw sewage backups or spills. Damage was minimal.

The MUA sustained damage as a result of the March 12-13 storm. Damage to wastewater pump stations ranged from fencing to pumps, with an estimated cost of \$46,500. The MUA recently learned of potential federal/state funding associated with this storm and has filed preliminary documents.

***Other Sewer Related Items:***

Responded to and resolved sewer service calls from 70 customers during the quarter

8 Sewer Vent Cap Broken/Missing    1 Locate Sewer Vent  
2 Broken/Noisy Manhole Lid        4 Misc Service Call Site Visits

2 Manhole Overflowing

- Laurel View Manor on Church Rd.-MUA personnel found the privately owned service manhole in the woods overflowing and advised maintenance personnel and contractor of proper cleanup and DEP notification protocol. Incident created a blockage at the MUA Laurelwood PS which was remediated with the customer's contractor's assistance.

29 Sewer Line Back Up

- MUA personnel checked our facilities to confirm proper operation of our system. In all cases, backups were determined to be within the property owner's lateral. We performed courtesy plunging of vents where applicable. The most common causes of clogged laterals are root formation and grease buildup. Owners advised to contact plumbers to ameliorate.

20 Vent Overflowing

- MUA personnel plunged the vents and broke blockages in the customer's lines.

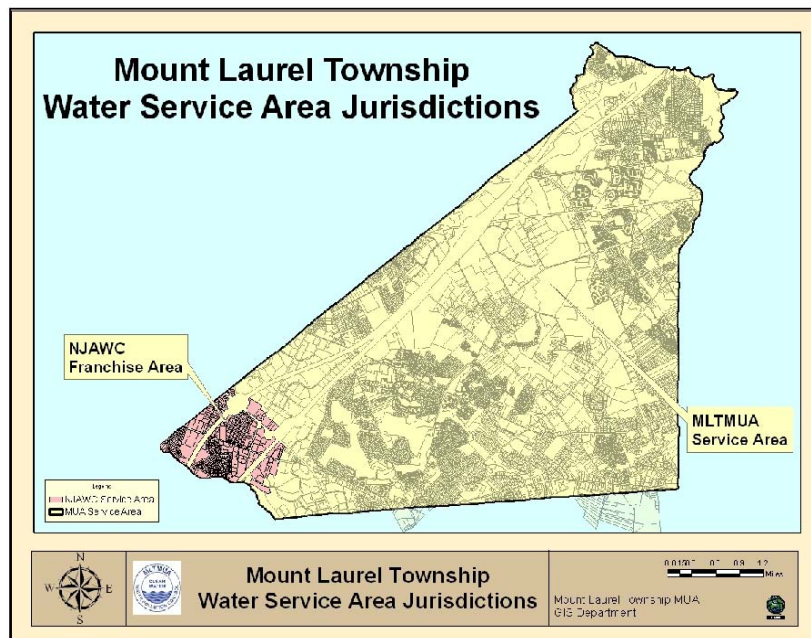
4 Sewer Service Line Break/Televised Lateral

- Banwell Lane - MUA personnel televised our sewer main and customers lateral. Conclusion- problem in lateral; customer advised to contact a plumber.
- Heather Drive - MUA personnel plugged the vent and broke the blockage. We checked the street and the flow was muddy. Advised homeowner to have lateral televised to find location of break.
- Saint David Drive - It appeared to be a broken or collapsed lateral. We jetted the line and remove any possible debris at the lateral connection. Homeowner stated the line would be repaired by the end of the day.
- Kettlebrook Drive - MUA personnel confirmed a break in the homeowners lateral. Advised homeowner to contact plumber and make repairs.

## Water Department

### *System Summary:*

The Mount Laurel Township MUA services the majority of Mount Laurel for water service with the exception of the southwest NJ American Water Company (NJAWC) franchise area. Water supply within the Mount Laurel service area comes from several sources: The Potomac-Raritan-Magothy aquifer system, the Kirkwood-Cohansey aquifer, and the Delaware River. Previous annual water demand ranged between 1400 millions gallons per year (MGY) and 1900 MGY; however in 2009 actual use dropped to a low of 1362 MG. The MUA supplied this water from its own wells (allocation limited to 717 MGY by Critical Water Supply Area # 2 Legislation) and via water purchase agreements with the NJAWC and Willingboro MUA (WMUA). The MUA fully utilized its ground water allocation, to satisfy 45% of total customer demand. The remaining 55%,  $\frac{3}{4}$  of a billion gallons of water, was purchased from NJAWC & WMUA to make up the allocation shortfall. The MUA continues to pursue alternative supplies of water in order to meet the current and increasing demands of the community.



### *Water Treatment Plants*

#### **Elbo Lane Groundwater Treatment Plant (Wells 3, 4 & 6, with capability of well 7 ASR)**

- This facility treats our native groundwater (from the lower Potomac-Raritan-Magothy aquifer) by removing naturally occurring minerals such as iron and manganese. In addition, we adjust pH, water hardness, disinfect and add fluoride. Many area water providers do not provide treatment other than required disinfection, which certainly affects operating expenses and probably water rates.
- Peak treatment capacity of 5.3 Million Gallons per Day (MGD) for summer months. Due to NJDEP allocation withdrawal limitations, actual operational level of 0 – 2.0 MGD during remainder of year
- The MUA has been waiting for NJDEP to issue an amended water allocation permit 3 years. However, NJAWC has requested that NJDEP hold a public hearing regarding our request, which has stalled the permit process within NJDEP. The amended permit will allow some increased pumping during the high use summer months, thereby reducing summer purchases at NJAWC peak billing rates.

**Aquifer Storage and Recovery Well (Well # 7)**

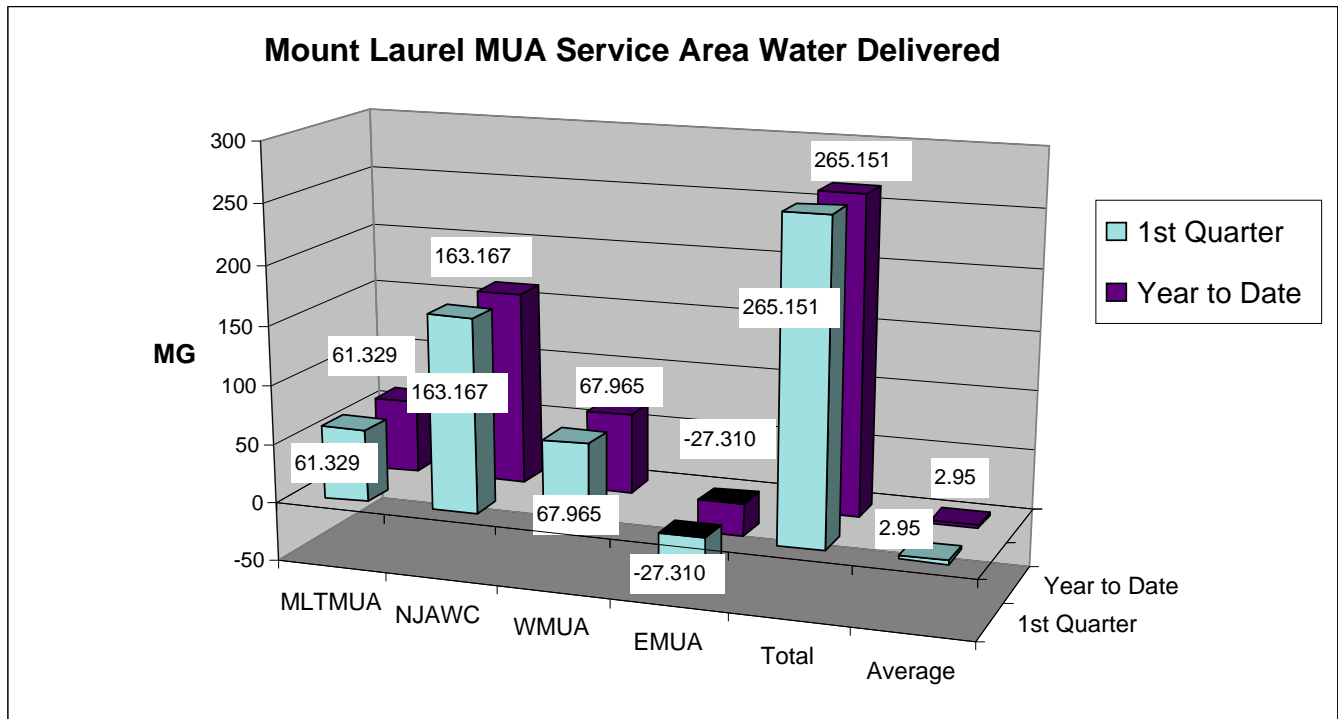
- This facility augments water supply sources in the high summer months. Water is pumped into the well in the winter when demand is low and supply is plentiful, and then withdrawn during times of peak demand.
- Approximately 200 MGY total storage capacity, 1.3 MGD recharge, 3 MGD recovery capacity

**Distribution System**

- 2 elevated water storage tanks; capacity of 500,000 gallons and 1 million gallons
- 2 ground level water storage tanks; each with a capacity of 1 million gallons
- 197 miles of water main
- 1490 fire hydrants
- 2844 water valves
- 5 bulk interconnections; Willingboro MUA, Evesham MUA, NJ American Water (3)
- 8 stand-by interconnections; Evesham MUA (4), Moorestown Township (2), Maple Shade Township (1), NJ American Water (1)

Customers are reminded that ownership and maintenance of the service lateral from the main to the premise is the responsibility of the property owner.

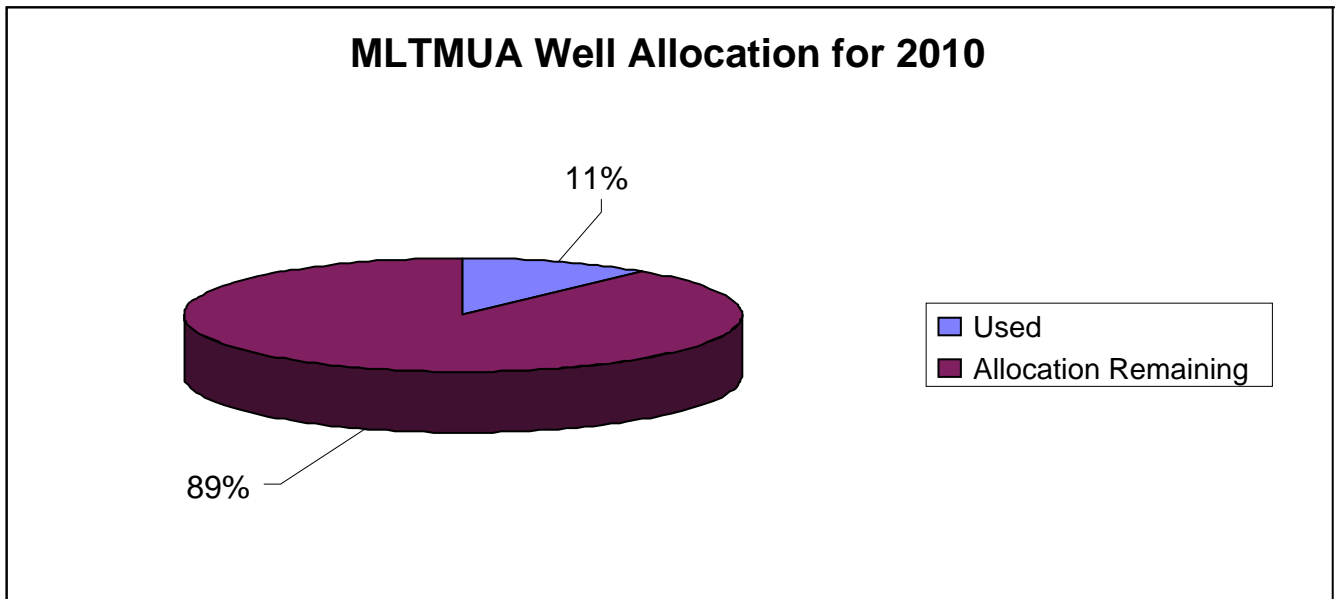
**Water Operations**



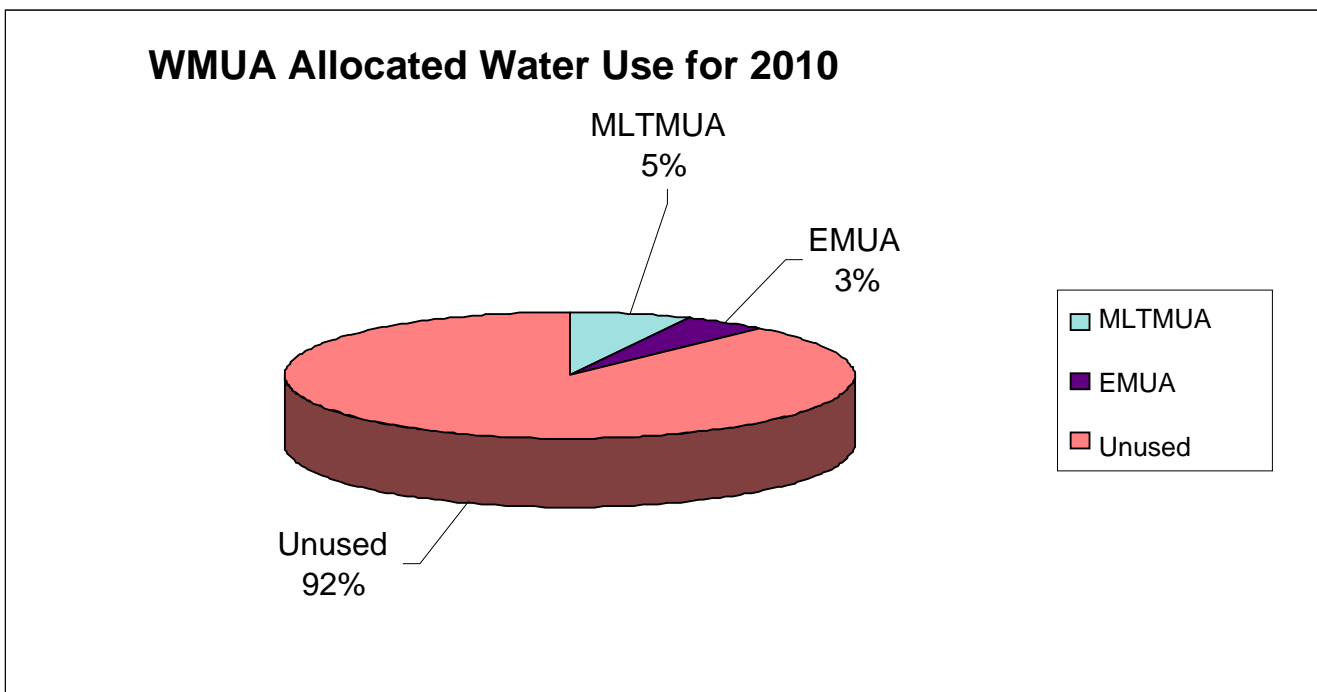
The total water supplied to MLTMUA customers during the quarter was 159.78 MG. We recharged an additional 105.368 MG to the ASR well for use during the peak summer season in 2010. The average daily use for the quarter was 2.95 MGD. Historical Daily Peak water usage by Mount Laurel MUA customers occurred on July 23, 2001 when a total of 9.380 MGD was utilized. The peak monthly use for



Mount Laurel customers was 166.523 MGM, which occurred in July 2009. Mount Laurel MUA demand (which includes water passed to EMUA) was 10.07 MGD and occurred on both July 17, 1999 and July 23, 2001. This quarter's use represents the lowest customer water use within the last 10 years, even though almost 2,000 new water customers connected during that period.



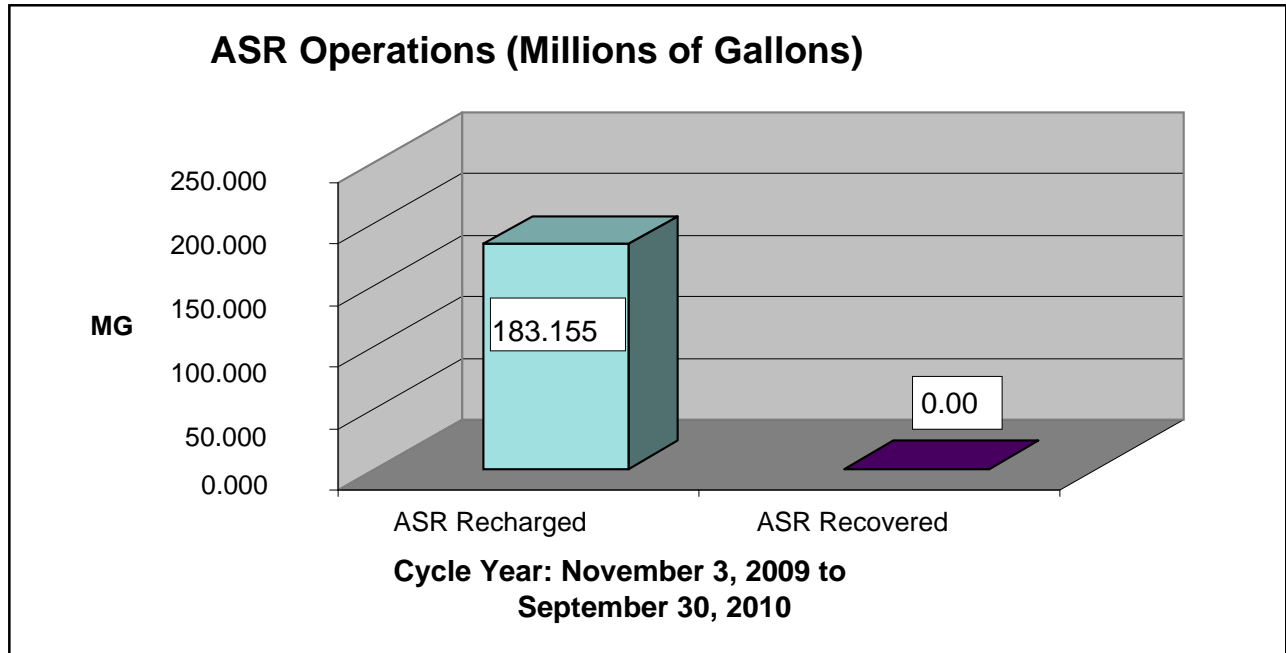
The MUA reserves its own well allocation for peak months and utilizes NJAWC during non-peak months when the purchase expense is least costly. This must be done to meet operational demands as well as for cost considerations.



- Assumed Total Gross Available from WMUA = 730 MG

## ASR Operations

In 2004, production Well # 7 was converted to an Aquifer Storage and Recovery Well (ASR). Approximately 200 Million Gallons (MG) of system potable water can be pumped into the well during the winter season (October-April), when the purchase of water from New Jersey American Water Company (NJAWC) is the least expensive. Between May and September, the entire recharge quantity is withdrawn, conditioned and supplied to the water distribution system to supplement supplies during peak use time.



Last cycle year (2008-2009), we experienced mechanical problems with the variable frequency drive. Our electrical department made temporary repairs in order to keep the well operational at a reduced capacity. Permanent repair is well underway, with a total estimated cost of \$120,000 and a completion date of May 1, 2010. Due to the reduced capacity of the well, we were unable to withdraw all stored water from the 2008-2009 cycle (109 MG worth \$310,000). We requested and NJDEP approved deferral to use that stored water in the following year; it must be used by September 30, 2010 or permanently lost. The plan for 2009-2010 ASR cycle is to recharge an additional 200 MG of water. Recharging for the cycle began on November 3, 2009; amount recharged for the cycle so far is 183.155 MG, plus 109 MG carried from last year for a total of 292.155 MG.

## **Distribution System: (This Quarter)**

### **Work Performed:**

- 12 System breaks / Service leaks repaired / Valve repairs
- 101 Curb boxes located / repaired (Part of FY2010 Meter Change Out Program)
- 12 Street boxes repaired
- 184 Meter change outs (FY2010 Meter Change Out Program)
- 64 Meters/ Touch Pads repaired / replaced
- 4 New Meter Connections
- 53 Shut-offs (For Non-Payment)
- 10 Hydrants painted, repaired or replaced (Preventive Maintenance)
- 1 Blowoffs repaired (Preventive Maintenance)
- 287 Door hangers delivered (Part of FY2010 Meter Change Out Program)
- 163 Main line valves exercised (Preventive Maintenance)
- 2 Flow Test - 2 Fire Hydrants

### ***Water System Breaks / Repairs Occurred:***

#### **Repaired by MUA Crew**

#### **Pipes (Crack)**

Ramblewood Terr.

Yorktown Road

Grant Road (2)

Saint Clair Drive

#### **Hydrants & Blow Offs Repaired & Replaced: (non-emergency)**

- Repaired Hydrant No. F16-01 Union Mill Road & Briggs Road - Hit by car
- Repaired Hydrant No. E12-08 Chapel Hill Road – Hit by a plow truck
- Repaired Hydrant No. H9-01 Elbo Lane – Spun by snow plow
- Repaired Hydrant No. G17-02 Union Mill Road
- Repaired Hydrant No. D23-04 Squirrel Tree
- Repaired Hydrant No. H16-01 Bradford Road @ Collin Court
- Repaired Hydrant No. J8-13 Grant Road @ Amsterdam Road
- Repaired Hydrant No. I9-02 Falmouth Road @ Emory Lane
- Repaired Hydrant No. F8-05 West Azalea Lane
- Repaired Hydrant No. F5-03 Ramblewood Parkway @ Oakmont Road
- Repaired Hydrant No. D21-05 Boothby Drive
- Replaced Hydrant No. F8-05 West Azalea Lane
- Replaced Hydrant No. F5-03 Ramblewood Parkway @ Oakmont Road
- Removed and Inspected Hydrant No. E12-08 Chapel Hill Road
- Repaired Blowoff Fairview Terr.

## Miscellaneous Repairs

- 10" valve installed at 145 Ramblewood Parkway – when a watermain break occurs on Ramblewood Parkway this additional valve will reduce the likelihood of having to shut the water off to Parkway School.
- Road Restoration – Grant Road, Brentwood Terr., & Saint Clair Drive
- Valve Boxes Repaired - Laurel Ln, Union Mill Rd. @ Elbo Ln, Hutchinson Rd @ Gwynedd Ct, Gaskill Rd @ Crossing Ct, Bastian Dr, Richland Dr, Bishops Gate Dr, Canterbury Rd, Ark Rd, Elkington Dr, Goldenrod Dr, Cornwallis Dr, Oleander Ct @ South Lake Dr, Juniper Dr @ Marigold Ct, North Larkspur Place, & Boothby Dr.
- Provided Colonial Pipeline (not a connected water customer) with 3,338,100 gallons of water to pressure test on-site tanks, charged \$24,870.
- Checked most water meters in the Timbercrest neighborhood in search of meters with plastic spuds (connectors) which were used many years ago in conjunction with plastic meters. We have found that using brass meters with plastic spuds increases the risks for leaks at the meter. We only found two sets of plastic spuds, which we replaced with brass. We will continue to reach out to the property owners who did not respond to our initial inquiries.

The MUA saved approximately **\$14,192.00** on repairs for the 1st Quarter 2010 by performing work previously contracted.

### Repaired by Outside Contractor:

#### Pipe (Hole)

Bradford Road  
West Berwin Way

#### Pipe (Crack)

Lincoln Drive  
Hooten Rd. & Canterbury Rd.

#### Replaced Fire Hydrant

Holiday Blvd. & Bastian Drive

Traditionally the frequency of water main breaks is high in this quarter due to freezing ground and the freeze/thaw cycle.

### Hydrant Valve Repaired:

- Union Mill Road & Briggs Road - Fire hydrant hit by a car replaced all nuts & bolts (Reimbursement from Insurance Company)

### Raw Water Line (Valve Box) Repair:

- Well # 6 Ramblewood Facility – Contractor dropped a tree stump on the valve box and broke the pipe (Contractor Charged for Repairs)

### Miscellaneous Repair:

- Gate Valve installed at CVS on Ark Road to isolate water main from Larchmont Medical Center - Performed by outside Contractor.

### **Service Leaks on Private Lines:**

All of the following repairs were initiated by the MUA either as potential main breaks or in the name of public safety. All costs were borne by the owners of these facilities:

- West Park Drive in front of D&N
- 330 Fellowship Road
- Laurel Acres Park – Restrooms Union Mill Side

### ***Other Water Related Items:***

The MUA responded to 111 water service calls of the following types:

#### 5 No Water

- Staghorn Drive - ball valve was mistakenly turned off inside premise by homeowners grandson
- Linden Lane - faucet aerators needed to be cleaned
- Saddle Drive - ball valve failed after the meter
- Saxony Drive - hot water heater shut off
- Sandhurst Drive - water was shut off at the curb

#### 2 Potential Water Main Breaks

- Ramblewood Terr. & Yorktown Rd.

#### 4 Particles In Water

- Fostertown Road, Ramblewood Parkway & East Peachtree Court- MUA personnel found the particles were from the dip tube in the hot water heater. Advised homeowners to flush the hot water heater.
- Old Centerton Pike - Customer complained of yellow water. Sediment was a result of turning on the pumps at Willingboro Booster Station.

9 emergency shut off / on

4 meter leaking/broken

1 noisy pipes/meter

2 frozen pipes/meter

4 lid missing

2 irrigation line leaking

2 ground water

4 service leaks

5 low/high water pressure

7 cloudy / rusty water

1 curb stop box misc.

9 valve lid missing/loose

3 hydrant broken / leaking

1 Bill Discrepancy

2 bad odor / taste in water

41 turn on water (off for non payment)

1 Street Valve Leaking

2 Misc Field Service-old well pump, sump pump

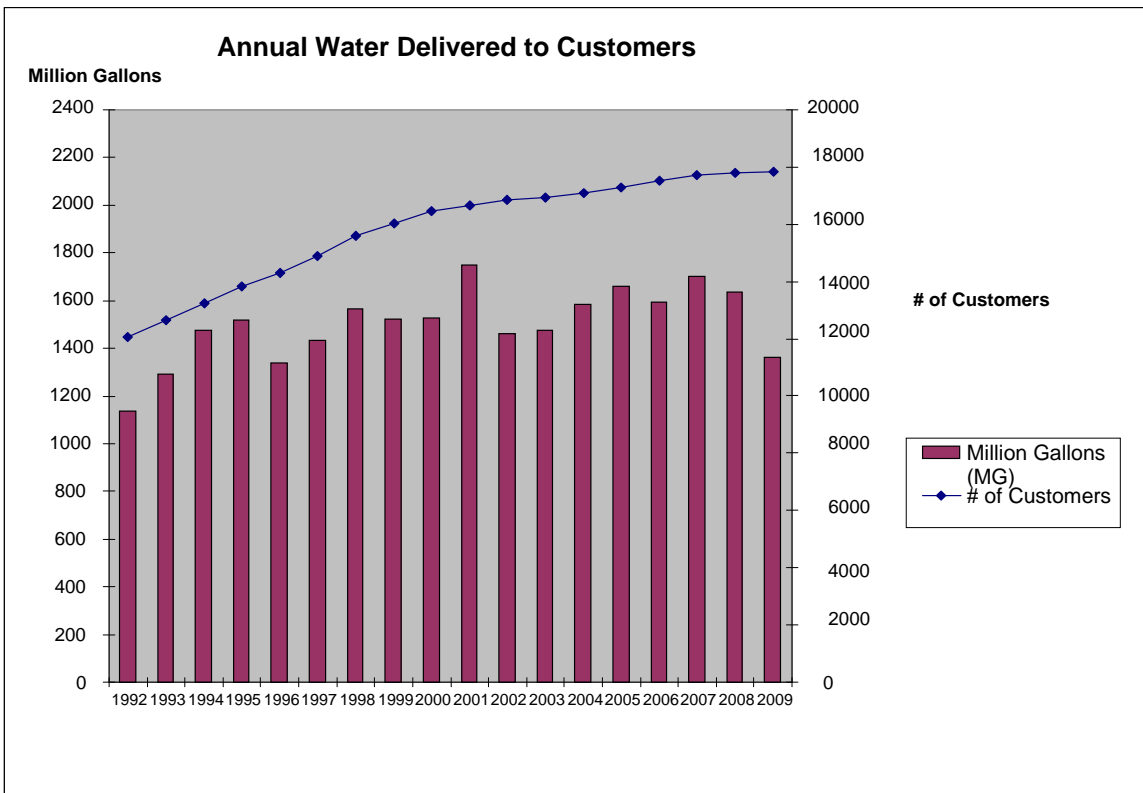
**Water Quality in the Mount Laurel MUA Water System:**

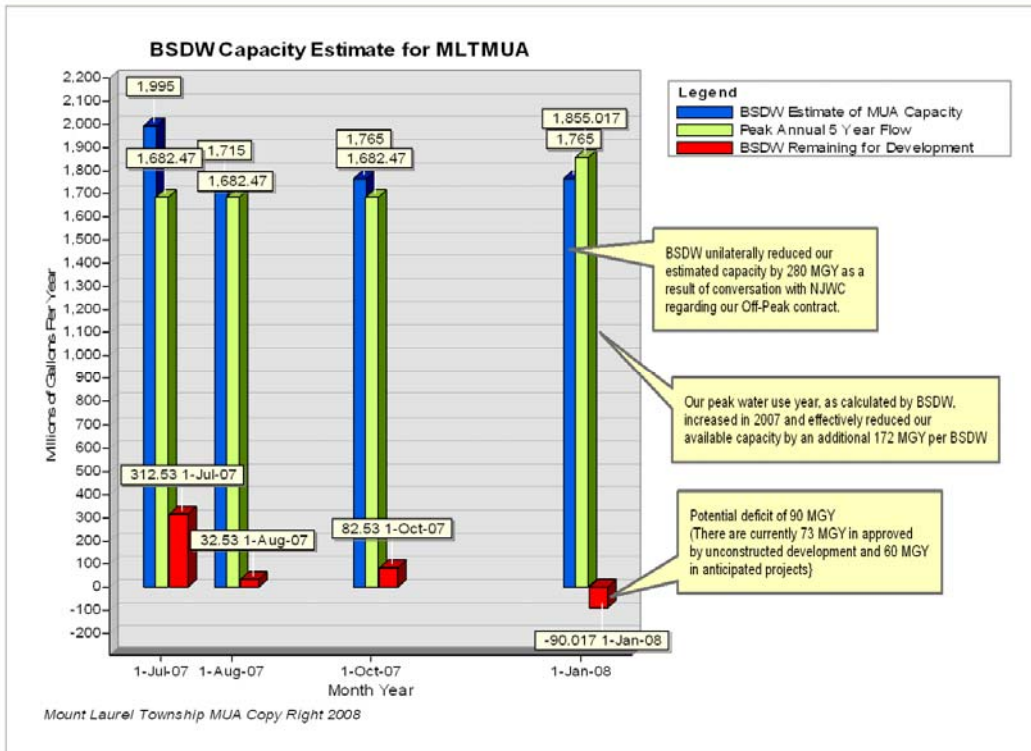
The three distinct categories of water quality that our customers bring to our attention are taste and odor, discoloration, staining, and particles in the water. We find most problems occur locally and the causes accredited to a handful of factors, which include water main breaks, hydrant use (legal and illegal), system maintenance work, and occasionally changes in water use. The remainder of the calls are further identified within the customer’s premise such as: hot water tanks (need flushing or have disintegrating dip tubes-a manufacturing defect from 1993-1996), and undersized/mis-installed point of use filtration systems.

We test the water in Mount Laurel year round, which includes daily operational sampling through compliance monitoring dictated by both state and federal regulations. In all cases, the water is consistently within or exceeds regulated parameters. This confirms that the water delivered to our customers is safe for use as potable water. We will continue to be sensitive to changes in water quality and regulatory compliance in order to protect all who use our water.

**Water Supply Availability Summary:**

The MUA continually monitors available water supply for the community by way of MUA customer historical use records and by using New Jersey Department of Environmental Protection (NJDEP) Bureau of Safe Drinking Water (BSDW) standards. Over time, actual water used by our customers is increasing proportionally to the increase in total number of customers. Annual variations are largely due to changes in weather (temperature rainfall) as indicated with 2009 use.





The NJDEP BSDW also tracks and calculates available water supply and demand by each water supplier. Although the BSDW calculations relate to actual use and supply availability, the customer demand figures used by BSDW are not the same as the actual historical use records. In addition, in August 2007, the BSDW unilaterally reduced our estimated available supply capacity by 280 million gallons per year (MGY) as a result of conversations with NJAWC regarding our off-peak purchase contract. The MUA began the NJDEP appeals process regarding these issues in September 2007; these issues have not yet been resolved.

This chart remains accurate in the fact that 2007 remains our peak use year in the previous 5-year NJDEP review window. However, because of the MUA increasing the annual NJAWC purchased nomination to 550 MGY in July 2008, the deficit was reduced by 50 MGY. NJDEP has not yet accounted for this change. Our water supply system remains in paper deficit, therefore NJDEP permits for new connections are on hold. Through our combination of water supply sources: our Elbo plant and purchased water contracts, the MUA continues to have adequate capacity to supply our customers.

**Water Allocation Permit #5193:**

Term – 2/1/2007 to 1/31/2017

Diversion –

Ground Water = 5800 gpm, 120 MGM, 717.452 MGY via wells 3, 4, 6 and ASR 7

Surface Water = 186 MGM, 1237.548 MGY via proposed Rancocas intake

The MUA is continuously compliant with allocation limitations.

The MUA is currently seeking an increase in annual allocation from NJDEP related to the proposed Rancocas surface water intake; MUA requested an adjudicatory hearing on February 14, 2007. NJDEP has not yet scheduled a hearing date therefore this issue remains unresolved.

The MUA is currently seeking an increase in monthly allocation (from 120 MGM to 165 MGM) related to the existing groundwater allocation from NJDEP. A draft permit was issued by NJDEP on April 15, 2008; final permit has not yet been issued, but was expected in May 2008. The MUA has requested the NJDEP hold the public hearing and issue the final permit.

We continue to work with NJDEP on a global settlement of our water supply appeals.

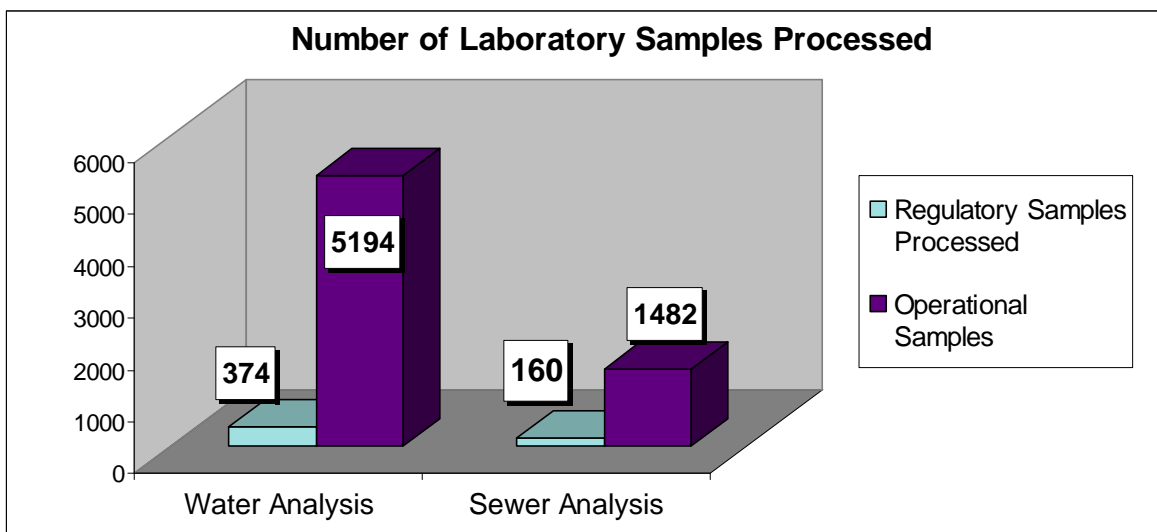
The second step in our three-part plan for the water supply system is nearly complete and is functioning as expected.

**Water Supply Plan:**

1. Implement ASR to augment summer requirement while reducing summer dependency on purchased water – complete
2. Replace out of date water treatment plants with one facility and controls for source management – almost complete (still waiting for NJDEP increased monthly allocation permit, for summer use.)
3. Construct a new alternative water supply source within Mount Laurel to reduce water purchases from other suppliers – in progress (still mediating terms of the NJDEP allocation for the Rancocas permit).

**Other MUA Departments**

***Certified Laboratory:***





The number of regulatory samples processed conforms to the requirements set forth by regulation or permit requirement. Additional operational samples (not required) are performed in order to refine treatment capability and to detect and react to changes in quality.

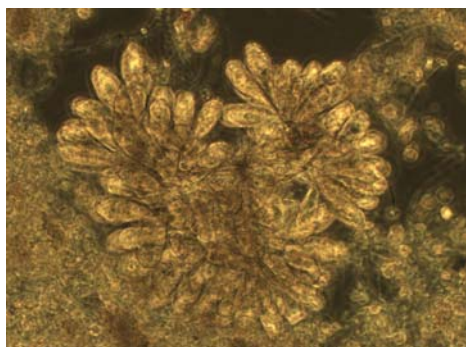
- Performed Soil Analysis from Water Main Breaks this Quarter:

South Brentwood Drive  
Lincoln Drive  
Yorktown Road  
Saint Claire Drive

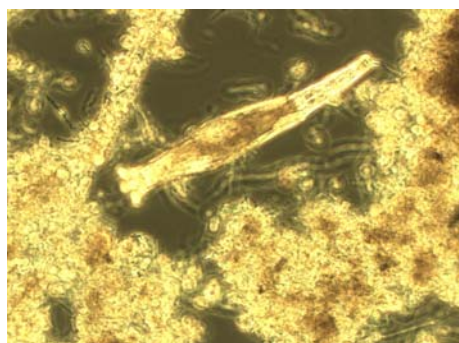
Union Mill Road  
West Berwin Way  
Cornwallis Drive  
Hooten Road

Bradford Road  
Ramblewood Parkway  
Grant Road (2)

- On January 14, 2010 NJDEP – NJPDES compliance sampling and inspection occurred – All in Compliance.
- We eliminated our orthophosphate certification effective March 2010 and will realize a cost benefit by purchasing less phosphorus standards.
- These are some typical photos of healthy microscopic organisms found in our wastewater treatment plant process. Our team continuously monitors the biomass so that changes or upsets can be handled quickly while maintaining treatment levels. Below are photos of a rotifer and a cluster of stalked ciliates magnified 100 times. These images were taken with our research grade phase contrast microscope utilizing a 3.0 mega pixel digital camera with enhanced imaging software.



Stalked Ciliates



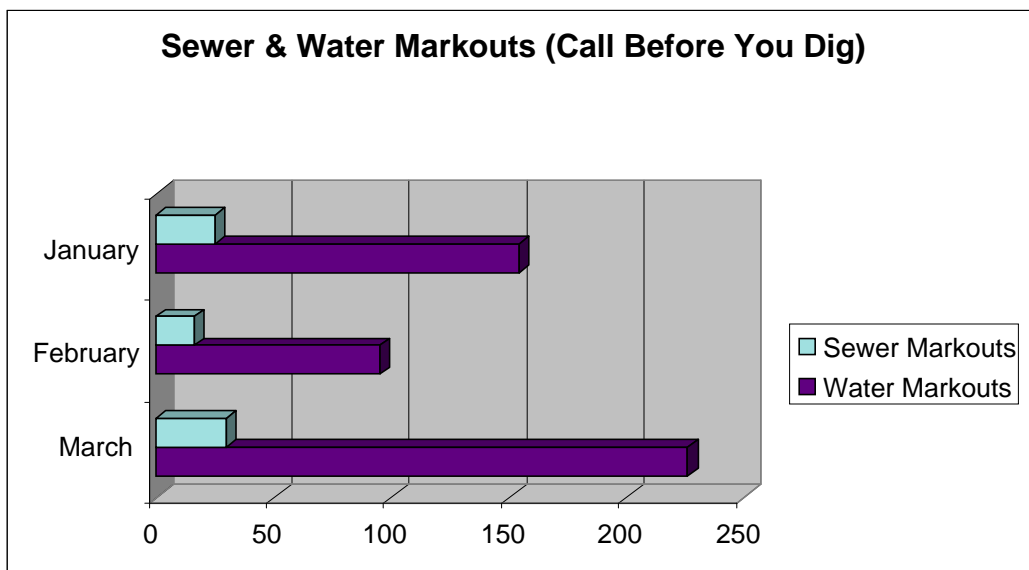
Rotifer

### ***New Construction/Connections/Extension of Water and/or Sewer Systems***

New construction has waned considerably during the past year. The major reason for this is the economy; however, the delay in issuance of new water main extension permits is also likely to be a contributing factor. Only 4 meters for new construction were installed this quarter.

- No TWA Sewer Permits issued or applications filed this quarter.
- No NJDEP Water Main Extension permits were issued this quarter.
  - Pending DEP water applications
    - Bishop's Gate South, Building 1B
    - Hilton Garden Inn
    - Ark Road Seniors

## Water & Sewer Mark Outs



533 Mark Out Requests Received for the Quarter

475 Mark Outs Performed by the Water Department

71 Mark Outs Performed by the Sewer Department

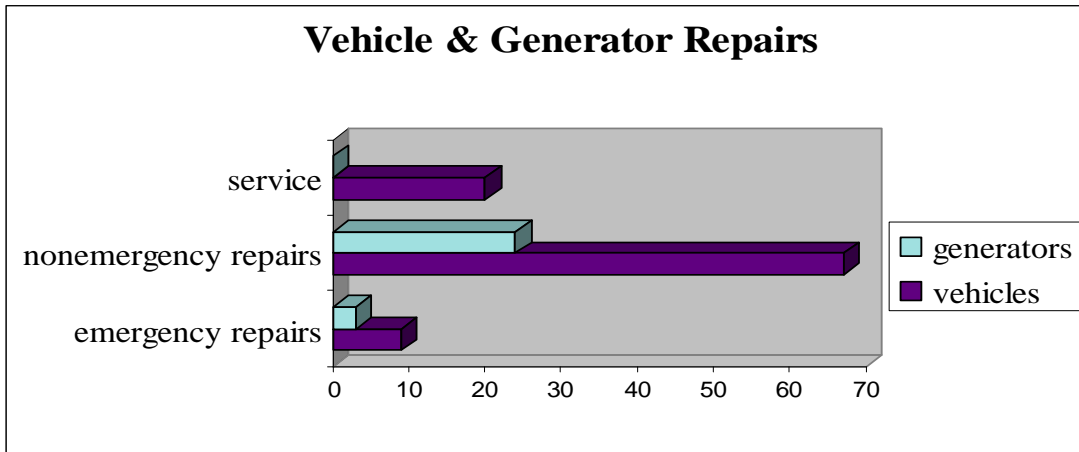
546 Total Mark Outs Performed by the Water & Sewer Departments

The MUA receives all requests for Mark Outs when digging is involved anywhere in Mount Laurel Township. The MUA pays for participation with the 1-800-272-1000 call before you dig service for verification management. Each request is reviewed by MUA field personnel to determine if a mark out is required. When a mark out is required, MUA field personnel are dispatched to each request location to identify MUA underground facilities.

### **Vehicle Maintenance & Power Equipment:**

The MUA maintains 39 Vehicles in its fleet, 17 pieces of equipment and 57 generators for emergency standby power. The MUA facilities are supplied with 100% backup emergency power via diesel powered standby generators. This enables the MUA to operate all facilities at full capacity during power failures or during periods of low voltage (brown outs). This is particularly important during storm events, when wastewater-pumping volume increases due to infiltration and inflow into the sanitary system.

Each generator operates under load once per week. During Philadelphia area poor air quality days, exercising of generators must be postponed until air quality is within normal range. In addition, all standby generators are load-banked once per year.



- To help add to the protection of the portable compressor for our Water Department our Vehicle Maintenance Department designed, fabricated, and installed a rear bumper. The material used for the bumper was left over steel from a previous project. The cost for this project was approximately \$50.00 for materials & \$276.00 for labor.



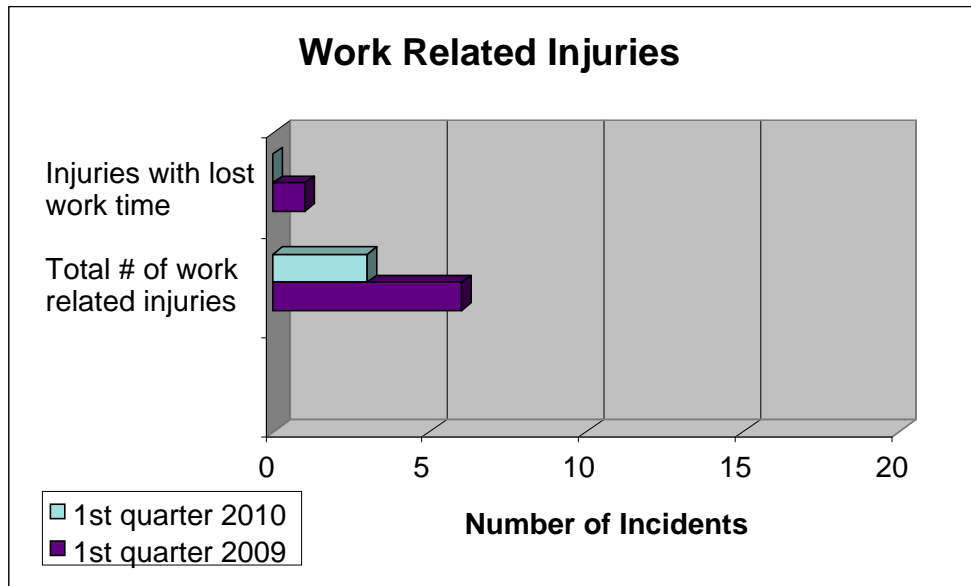
- The steel cage for the “Float Ball” inside the tank on vehicle 59 had corroded away and allowed the ball to fall into the tank. This Float Ball is what stops the flow of product from entering the vacuum pump once the tank is full. Our Vehicle Maintenance Department designed and constructed a new stainless steel Float Cage that is now serviceable from outside the tank. The original cage was welded inside the tank, which would require entry into the tank for it to be serviced or repaired. The cage they designed is much more durable, easier to access and safer to service. The cost for this project was approximately \$100.00 for materials & \$372.00 for labor.



**Safety:**

There were three minor injuries, all without lost time this quarter:

- Abrasion right calf, the employee hit her leg with truck door when exiting the vehicle.
- Strain right ankle, employee twisted his right ankle while walking through the snow to read water meters.
- Lower back strain, while existing the tanker truck the employee’s foot slipped off the step.



**Safety Training/Inspections:**

- Safety Committee Representatives performed a safety audit at Elbo WTP to select the best anti-fall retrieval system for the facilities confined spaces.
- The MUA installed anti fall safety systems at two more of our 39 pumping stations, Mill Stream and Holiday Village East.

**Human Resources:**

Our employees are licensed Water & Wastewater professionals. We have 27 MUA employees holding a total of 61 NJDEP licenses for operation of water and/or wastewater systems. The MUA must employ and designate a licensed operator for each of our four areas of service: Water Distribution (level W-3), Water Treatment (level T-4), Wastewater Collection (C-3), Wastewater Treatment (S-3). Employment of additional licensed operators in all operational areas adds value to the service we provide to the community.

- 11 operators with level 1 licenses, for operating systems with 101 to 1,500 people
  - 28 operators with level 2 licenses, for operating systems with 1,501 to 15,000 people
  - 12 operators with level 3 licenses, for operating systems with 15,001 to 50,000 people
  - 10 operators with level 4 licenses, for operating systems with 50,001 or more people
- In addition, we have (2) two ASE Certified (Automotive Services Excellence) Mechanics

- Members of our staff have formal post secondary education in the following disciplines:

Finance/Accounting	Chemistry	Biology
Computer Science	Business	Management
Safety	Civil & Environmental Engineering	

***Public Education:***

- The MUA presented an in school presentation on water supply and pollution, and a demonstration on watersheds for the Parkway Brownies on March 26<sup>th</sup>. Prior to the meeting, the girls were asked to locate the fire hydrant nearest their home. The purpose of this exercise was to get them thinking about their water supply and to understand that there are miles of pipes underground in Mount Laurel for the purposes of supplying drinking water and removing sanitary sewage (wastewater). They also learned about everyday activities within our community which can pollute our waterways. Most importantly they learned that storm sewers are not connected to the sanitary sewer system or the MUA’s wastewater treatment plant but drain directly to our streams and rivers.



***Finance Department:***

User Fees billed: \$ 3,662,516.47

User Fees budgeted: \$ 3,661,999.00

User Fees collected: \$ 3,868,096.15

Expenditures for the quarter:

Accounts Payable \$ 2,443,280.12

Payroll (including tax liabilities) \$ 1,021,683.61

Debt service \$ 1,561,486.59

Capital Projects \$ 960,065.04

Total Expenditures: \$ 5,986,515.36

- Increase in disposal tipping fees for grit & rag and trash effective January 1, 2010. From \$69.34/ton to \$71.18/ton (or 30%). Total annual increased cost is expected to be \$350.
- Two major snow events occurred this quarter, February 6 and February 10. Expense for snow removal for these storms was \$7048 and \$9324. The MUA has applied for reimbursement funding from FEMA through the Mount Laurel Township Office of Emergency Management. In addition, numerous street water valve boxes were damaged by snowplows this season. The MUA is in the process of repairing/replacing these appurtenances.
- Annual Fees Paid to the State of New Jersey:
  - The NJPDES permit fee for operating the Hartford Rd WPCF reduced slightly this year. The new annual fee paid the State of NJ is \$23,830.34. (a decrease from 23,867.74)
  - The NJPDES permit fee for operating the ASR well increase this year from \$6,792.57 to \$7233.89
  - The NJ Water Allocation fee to operate the water system remained the same as last year at \$15,720
  - The NJPDES permit fee for operating a stormwater system at the Hartford Rd WPCF is \$800
  - Annual water tax for 2009 paid by the MUA to the State of New Jersey was \$13,620
  - Lab certification fee \$1504
  - Lab PT testing verification \$1687.60
  - Lab water sample verification \$133.20
  - NJ Safe Drinking Water Fee \$1580
  - Underground Storage Tank Permit renewals, \$150 each (Birchfield PS, Hartford Rd WPCF)
  - Hazardous Waste Vehicle Permit \$30
  - Air Permit Hartford Rd WPCF \$880
  - Larchmont PS Backflow Preventer Permit \$200

## **Shared Services:**

### **Mount Laurel Township:**

#### **Public Works:**

The MUA responded to 3 public works service calls:

- 1 Storm Drain Clogged Elbo Lane - MUA personnel clear the storm drain of debris.
- 1 valve box continually dislodged-MUA investigation indicates that this valve is part of the PSEG system. MUA personnel filed with PSEG that a repair is required.
- 1 Rusty Water flowing down the Street Saint David Dr. & Saint Claire Drive – MUA personnel found that the Township had pumped out the underdrain. Public Works Department was notified and they were going to send out the street sweeper to clean the area.



## **Underdrains:**

The MUA and Mount Laurel Township have a maintenance and operational agreement for the lower level underdrain systems located in the Ramblewood developments. The agreement stipulates that the MUA will check operation of the Township's six underdrain pump stations and respond to all service calls from residents. In addition, the MUA checks the discharge inverts and outfalls from the Ramblewood underdrain system. Improvements to the underdrain system remain the responsibility of the Township. Underdrain related service calls are handled by the MUA. Service calls from areas not covered by the agreement have increased recently; the MUA continues to respond to these calls. The Township reimburses the MUA for these services.

The MUA is working with Mount Laurel Township to improve the underdrain plans. This project will continue until the MUA is confident that all known upper level and lower level underdrains are adequately mapped.

### ***Underdrain stations and system:***

This quarter our Pumping Station crews checked the 6 Underdrain Pump Stations twice per week and responded to 17 underdrain complaints.

January 6, 2010 Custer Court– Received call Problem with Underdrain - MUA personnel jetted underdrain 361', 351' & 551'.

January 26, 2010 Cornwallis Drive - Received call sump pump continuously running - MUA personnel found very little water in the basement and water around the foundation of the home. MUA personnel jetted the system (went into the culvert at Cornwallis & Grant – up underdrain 600' and broke a small blockage of iron). Notified customer that the problem should resolve in a couple of days.

January 26, 2010 Hunters Lane - Received call water coming into basement and sump pump continuously running- MUA personnel jetted the underdrain from the manhole in front of the home and went 149' where hose was stopped. Personnel then jetted from the further manhole back towards the home and went 94' before having the hose stop. A lot of rocks and stone came back with the hose. We believe the underdrain is cracked. Personnel marked the street where the hose has stopped. Public Works notified.

February 13, 2010 Saint David Drive - Received call water in the basement - MUA personnel jetted the underdrain 530'. Water had slowed down coming into the sump pump.

February 23, 2010 Saint David Drive - Received call from Bruce Basin Mount Laurel Twp. Public Works. Sump pump continuously running and water in basement. MUA personnel checked underdrain system at plug on the corner on Saint David Court & Saint David Drive which appeared normal. They jetted from culvert on Saint David Court 400' – brought back a lot of iron and some roots.

February 23, 2010 Hunters Lane - Received call water in the basement corner- MUA personnel checked the UD system up and downstream and it was clear and getting good flow, therefore functioning properly. We explained to the homeowner with the snowmelt and the heavy rains the water could be coming from the foundation. Asked the homeowner to contact us if the problem worsens.

February 24, 2010 Saint David Drive - Received call water in the basement - MUA personnel jetted the underdrain on Saint David Drive.

February 24, 2010 Saint David Drive - Received call water in the basement - MUA personnel found water seeping thru cracks in the floor. Explained to the homeowner we would be back in the morning to jet the underdrain. Underdrain jetted.

February 25, 2010 Custer Court - Received call water in the basement - MUA personnel explained to the homeowner that the ground is totally saturated and the underdrain systems are having trouble keeping up. MUA personnel jetted the underdrain to help flow to outfall

March 4, 2010 Haines Road - Received call water in the basement – MUA personnel checked underdrain system; it was flowing ½ full, but flowing. Twp advised to periodically pump the underdrain manhole until groundwater level drops.

March 5, 2010 Carteret Court – Received call from Bruce Basin Mount Laurel Twp. Public Works water in the basement – MUA personnel checked the underdrain system; all ok. Property does not appear to be connected to the underdrain system. Water is coming into to sump pump pit that homeowner installed.

March 15, 2010 Custer Court – Received call of a lot of water coming into sump pump – MUA personnel checked the culvert on Academy Drive – it was flowing good checked inside the home very little water.

March 16, 2010 Saint David Drive – Received call of water coming up from manhole – MUA personnel found UD manhole in front of #412 flowing out of lid. Notified supervisor of the problem. Sent U42 out to jet the line. Called Bruce Basin Mount Laurel Twp. Public Works to send someone out with a 3” pump, he was going to handle the manhole problem. MUA jetted the UD 195’ flow increased.

March 17, 2010 Saint David Drive – Received call from Bruce Basin Twp. water in basement – MUA personnel confirmed water in the basement. Checked the UD manhole – it was surcharged. Pull plug at top of Court – surcharged as well. Jetted UD system in Court and cleaned line also jetted Saint David Drive. Saint David Drive 278.3’ & Saint David Court 630.15’

March 30, 2010 Custer Court – Received call water in basement – MUA personnel found the underdrain running full. Customer not home left a hanger. MUA Collections Department jetted Custer Court & Academy Drive on April 6, 2010.



March 31, 2010 Lafayette Drive – Received call water in basement – MUA personnel found basement had a small amount of water. Homeowner had 2 shop vac’s running – not enough water to trigger sump pump. Checked UD manhole – ok. Checked double culvert – ok. Explained to homeowner about all of the rain and snow soaking the ground.

March 31, 2010 Belaire Drive - U42 found an underdrain plug surcharging while doing underdrain inspections. MUA Collections Department jetted 150’ down the street – brought a lot of iron back. They put the plug back on the underdrain. The underdrain was still surcharging slightly but not as bad as before. The plug does not fit correctly in underdrain.

- As a courtesy for Mount Laurel Township, the MUA Sewer Collections Department cleans out the Pond at PAWS Farm and tanks out the septic tank at Laurel Acres Park the 2<sup>nd</sup> Tuesday of each month.
- The Public Works Department used the sweep cleaner to clean Ramblewood Terr. after the water main break.
- The Public Works Department helped us get our dump truck unstuck from the back area of the Hartford Rd WPCF at the site of the temporary/permanent water main distribution yard.

#### **Mount Laurel Board of Education:**

- The MUA installed a valve in front of Parkway School on a Saturday to minimize disruption of school during work hours. This additional valve will reduce the chance of having to shut off water to the school when an area break occurs

#### **Mount Laurel Fire Department:**

- Mount Laurel Twp/Fire Department borrowed the MUA’s large dump truck (#U52) with snow plow for each of the February winter storm events. The Fire Department needed two plows to escort two of the emergency service task force teams to calls. MUA U52 is only lightly utilized during snow events; its main function is for water main break repairs. The MUA offered U52 to the FD, however due to its size and necessity of a CDL A driver, the FD traded U52 with DPW for another plow. Mount Laurel Department of Public Works (DPW) used U52 for street service for both storms. The plow was damaged in the Feb 10 storm and will be repaired by DPW.
- As a courtesy for the Mount Laurel Fire Department, we included a notice with our monthly invoices this quarter, which encouraged Mount Laurel residents to come out and vote for the Fire Department’s Budget on February 20<sup>th</sup>.

#### **Mount Laurel Emergency Medical Services:**

- As a courtesy of the Mount Laurel EMS, we included a notice with our monthly invoices, this quarter, which asked residents to consider becoming an EMS Volunteer.

**Moorestown Fire Department:**

- The MUA donated junked, out of service fire hydrants for fire fighting training.

**Gloucester City MUA:**

- The MUA loaned us a 4” self-priming emergency bypass pump with controls from February 18<sup>th</sup> to March 23<sup>rd</sup> which saved us approximately \$400/day in emergency sanitary sewage hauling expenses associated with the problems at the Hunters Pump Station.

**Burlington County:**

- Each year the MUA renews its data sharing agreement with Burlington County. By having a data sharing agreement, the MUA is able to obtain Geographical Information System (GIS) data for all properties in Mount Laurel free of charge. The County data was invaluable in developing and updating the MUA’s extensive GIS system. In return, the MUA supplies the County with data layers regarding the drinking water and sanitary sewer systems. The County is able to use this information for a variety of applications including those related to emergency response.
- In 2007, as part of the new Water Treatment Plant construction on Elbo Lane, the MUA installed a Supervisory Control and Data Acquisition (SCADA) system at the plant and at all water related facilities in Mount Laurel Township (28). Data is transmitted via radio signals as such an antenna was required in the vicinity of Briggs Road in order to reach most facilities. Burlington County agreed to host the MUA’s repeater antenna on their antenna tower located at the County Engineer’s Office. This service could cost between \$20,000 and \$35,000 annually when using a private tower, however the county has waived all fees to the MUA via a shared service agreement.
- The Highway Department assisted the MUA in leveling MUA ground located adjacent to Parker’s Creek. This was done in conjunction with installation of new fence as a preventative measure at the site.

## **Capital Improvement Projects**

### ***Water***

#### **Proposed Surface Water Treatment Facility - Rancocas Creek**

- The purpose of this facility is to supplement water supply while reducing purchased water.
- The pilot facility operated and produced drinking water in 2004 and 2005.
- The final water allocation permit was received from NJDEP in January 2007 however; it only allows a maximum diversion from all sources of 1,955 MGY, which is less than the ten (10) year projected demand of 2,201 MGY.
- The MUA appealed these permit conditions in February 2007. DEP Office of Administrative Law scheduled a hearing for May 20, 2008, which was postponed. An initial mediation session was held on July 25, 2008. No further sessions have been held; the MUA is waiting for information from the NJDEP.

#### **Water Main Replacement-Carlisle Court**

- This project included installation of three sections of 12" DIP water main at the intersection of Elbo Lane at a cost of \$8,000.
- Work was completed this quarter prior to the County resurfacing Elbo Lane.
- The replacement of the remainder of the water main on Carlisle Court will be included in the MUA's FY 2011 capital improvement program/budget.

#### **2009 Water Main Replacement**

- This project includes replacement of water mains on Sumac Court in Birchfield, Malvern Court & Ashby Court in Larchmont. These sections of main were chosen because of the number of breaks that occurred, and the condition of the existing pipe encountered during the repairs.
- The project was submitted to NJDEP for economic stimulus funding but was denied. Therefore, the MUA will fund via the capital improvement budget; \$348,000 is included in FY2010 with the remainder in FY 2011.
- The contract was awarded on March 18, 2010 in the amount of \$310,329.

#### **81 Elbo Lane**

- This project includes retrofitting the existing building to house administrative and warehousing operations allowing for synergy savings. Construction of this project will also offset anticipated costs for housing temperature dependent vehicles and plant equipment.
- The architect has completed the schematic design; this includes layout, interior and exterior finishes as well as necessary building modifications.
- Final design plans will be prepared in the next phase.

### **Well No. 3 Building Replacement**

- This project includes a complete rehabilitation of controls, installation of permanent standby power and equipment building for the last of the MUA's three production wells.
- The plans and specifications are prepared by the Engineer and the site plan application has been made to Mount Laurel Township and the Burlington County Planning Board for consideration.
- Due to recent unanticipated repairs to well #4, well #6 and the ASR this year, and budgetary constraints, this project is postponed to FY2011.

### **Hartford Rd Parker's Creek Crossing Water Main Replacement**

- In August 2009 a break occurred in the 12" DIP water main near the creek crossing, originally installed in 1989. Upon excavation for repair, the MUA noticed that the main was in substandard condition due to exterior deterioration.
- The main requires replacement, as it is a major transmission main and secondary feed in the distribution system and cannot be out of service for extended periods.
- Due to the number of permits required and potential environmental impact, replacement in kind below the stream bed was not viable. Therefore, alternatives explored were attaching to the County bridge and directional drilling, with directional drilling as the least cost alternative.

### **ASR Well #7**

- Emergency repair work continued associated with the variable frequency drive unit failure in the summer of 2009.
- Estimated cost is \$120,000.
- Repairs are scheduled to be complete in May in order to correspond with the end of the off-peak water purchase period.

### **Willingboro Booster Station**

- A second of the 4 variable frequency drive units for the pumps failed at the facility.
- Emergency repairs to one of the units should occur in April so that at least 3 of the pumps can be used for summer service.
- The 4<sup>th</sup> VFD repair will occur in the next budget year, after July 1<sup>st</sup>.

### *Sanitary Sewer*

#### **Teals Lane Pumping Station**

- This pump station was rehabilitated, with a complete replacement of deteriorating electrical controls.
- Total Contract Cost: \$ 49,000.00
- The project was finalized this quarter.

### **Lighting Surge Protection**

- This project is for lighting and surge protection study at the Hartford Road plant as the facility was struck by lightning on several occasions causing thousands of dollars in damage and disruption to the treatment process.

### **Boothby Drive Sewer Main Replacement**

- During routine MUA videotaping of sanitary sewer mains, we determined that the existing ACP gravity main has deteriorated to the point of replacement.
- A contract was awarded to D&D Utility Contractors for \$165,434.06.
- 850 linear feet of existing ACP main was replaced with PVC sewer main.
- Milling and paving the roadway occurred in March when the weather broke.



Milling Begins



Final Pass of Black Top

### **Sanitary Sewer Rehabilitation**

- This project includes slip lining of 7,700 feet of sanitary sewer mains and rehabilitating 43 manholes in the Ramblewood and Devonshire neighborhoods.
- Total estimated project cost is \$1,200,000. On March 18, 2010 a contract was awarded to EN-Tech in the amount of \$592,768.45.
- This project was fast-tracked and moved to FY2009/2010 due to the potential for federal stimulus funding. The project qualified for principal forgiveness funding but was beyond the fundable range of projects. The project also qualified for the stimulus loan funding; it is being financed with a 0% interest rate for 75% of the project cost; the remaining 25% of the cost will be at market rate at the time of closing in March 2010.

## Ramblewood Solar Array

- This project qualified for federal stimulus funding of \$2.6 million in grants (principal forgiveness loan) and \$2.6 million in low interest loans in order to cover the cost of the entire project. However, since the bid came in below the estimated cost, they were downsized to \$2.2 million each. Loan closings occurred in October and December 2009.
- The project includes installation of ground-mounted solar panels to provide electricity for the Ramblewood PS and adjacent potable water supply well #6. The solar panels (529 kW) are sized to provide, over the period of a year, all the electrical energy required to operate these facilities.
- The design-built project was awarded to Lighton Industries for \$3,257,000.
- The contractor has been working diligently to meet the August completion deadline.

