

Peekskill●



Peekskill
Wastewater Treatment Plant



Materials
Recovery Facility

2013 ANNUAL REPORT

Wastewater
Treatment

Solid Waste
Water Agency
Operations

Ossining●



Ossining
Wastewater Treatment Plant



Bluff Brook
Wastewater Treatment Plant



Mamaroneck
Wastewater Treatment Plant

Port Chester●



Port Chester
Wastewater Treatment Plant

●Rye

●Mamaroneck

●Yonkers

●New Rochelle



Yonkers
Wastewater Treatment Plant



New Rochelle
Wastewater Treatment Plant

Westchester County Department of Environmental Facilities

2013 Annual Report

Water and Wastewater Operations Solid Waste Operations

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Nicholas Benevento	Superintendent, Mamaroneck WWTP
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Edmond Pellegrino	Superintendent, Blind Brook and Port Chester WWTP
Joseph LaBella	Superintendent of Maintenance
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Michael Ferraro	Water Districts Superintendent
Mario Parise	Director of Solid Waste Operations
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INTRODUCTION

The County of Westchester's Department of Environmental Facilities is responsible for the operations of various facilities that deal with the environment. The Wastewater and Water divisions are responsible for the operation of seven wastewater treatment plants and their auxiliaries and two water districts. The Solid Waste Management division is responsible for the recycling and solid waste disposal programs for Westchester County.

The wastewater treatment plants are located in Yonkers, New Rochelle, Mamaroneck, Rye (Blind Brook Treatment Plant), Port Chester, Ossining and Peekskill. A map of the County sewer districts indicating the locations of these treatment facilities is on page 10. The water districts serve the cities of Yonkers, Mount Vernon and White Plains, the Village of Scarsdale and the Westchester County facilities at Grasslands.

The auxiliaries include forty-two pump stations, two overflow retention facilities, twenty storm-flow regulating chambers, and about 194 miles of County-owned trunk sewers and force mains. They serve several municipal collection systems with locally maintained sewers and pumping stations.

On October 29-30, 2012 Superstorm Sandy moved through the area causing massive flooding due to an approximate 4 foot storm surge. Private homes, businesses and industries were effected, including several DEF facilities. The greatest damage due to flooding was at Yonkers Joint WWTP and North Yonkers, Alexander Street, Ludlow, Magnolia and Crotonville Pumping Stations. Due to widespread power outages from storm winds at least 20 pumping stations were on emergency generator power for up to 2 weeks.

As a result of the damages and need for emergency repairs the Board of Legislators approved 2-2012 Capital Budget Amendment's to fund the emergency work; SY043 for Yonkers Joint WWTP and SW005 for all other facilities. Although the facilities were for the most part back on line within days, and Yonkers Joint was meeting SPDES permit limits within 26 days, long term repairs are still underway. As a result of the storm, a 2013 Capital Budget Amendment for project SW006 will fund Vulnerability Assessments at the 7 WWTP's and 31 of 42 wastewater pumping stations and 2 Overflow Retention Facilities (ORF). In 2013 work continued on Sandy recovery projects including two consultant design contracts at the Yonkers Joint WWTP, and design of the effluent building roof replacement at Mamaroneck WWTP.

Several new initiatives begun in 1999 and 2001 were continued in 2013 and are covered in the next section. Generally they include:

- Enhanced training
- Computerized Operation & Maintenance manuals
- Odor hotline and Odor reporting on the County Web site
- County-wide sewer rehabilitation program and Capacity Management Operations and Maintenance (CMOM) activities

- Computerized preventive maintenance has been upgraded from MP2 to Infor Datastream 7i system.
- Expansion of Safety Section and In-house Safety Training
- 5 year Capital Improvement Program.

Significant actions in 2013 were:

- On February 26, 2013 the County requested an extension on certain completion milestone dates in the 2012 Consent Order based on the NYSDEC Commissioner Emergency Findings of November 6, 2012 for Superstorm Sandy. On June 21, 2013 NYSDEC granted the extension request which changed the construction end dates for both Mamaroneck and New Rochelle WWTP's and the 12 Month Rolling Average (12MRA) milestone dates.
- Construction of the BNR facilities at Mamaroneck Wastewater Treatment Plant continued in 2013. Notice to proceed was issued 12/30/09 with the completion date set at 9/30/12. The construction completion date was extended from June 30, 2013 to July 30, 2013 as noted above. Construction of the BNR facilities at Mamaroneck Wastewater Treatment Plant was substantially completed on July 9, 2013.
- Construction of the composite collection (Non-BNR) facilities at the New Rochelle Wastewater Treatment Plant began in 2010 and continued during 2013. The projected project completion date 6/16/2014. Construction delays included changing ConEd requirements and Superstorm Sandy work requiring ConEd. The new anticipated completion date is 7/30/2014.
- Design of the BNR Facilities Upgrade at New Rochelle Wastewater Treatment Plant was completed in 2010 and submitted to NYSDEC on 12/21/10, fulfilling the County's Consent Order requirements. Notice to proceed with construction was given on July 1, 2011 with a completion date of June 30, 2014 as required by the 2008 Consent Order with NYSDEC. Construction continued in 2013. As noted above the Consent Order completion date was extended to July 30, 2014.
- Design for Superstorm Sandy repairs at Yonkers Joint continued as 2 consultant agreements were awarded in the total amount of \$2.207 million. Design completion is expected in the 1st quarter of 2014. A CBA will be required to bid the construction contracts in 2014.
- Design to replace the Effluent Building roof at the Mamaroneck WWTP was kicked off with an anticipated completion at the end of 2013.
- Continued new sampling schedule for Croton Landfill and for Railroad I landfill.
- The ISO 14001 Environmental Management System which includes the Operation and Maintenance of a Wastewater Treatment System and the Pretreatment Program; Operation of a Solid Waste Management System; and Operation and Maintenance of a Water Treatment and Distribution System, including Administration and Capital Construction across all divisions was independently certified on December 5, 2011 and is effective through December 4, 2014. Program implementation continued in 2013. Audits are scheduled for 2014.
- A Vulnerability Assessment of the departments 7 wastewater treatment plants and 31 of 42 wastewater pumping stations was kicked off in December 2013. The

project will produce reports that identify various critical assets and estimate the possible extent of damage for each type of severe event and the cost of the proposed mitigation measures.

- The Blind Brook Performance Maintenance III construction Notice to Proceed was given on 1/12/10 with project completion anticipated for 3/12/2011. The new anticipated completion date was 9/23/2012. Additional construction delays have further delayed the project and no completion date has been determined.
- Continued with facility inspections and structural review of all facilities.
- Continued review of alternatives to provide UV treated water to County Water District No.1. During 2013 the USEPA and the USDOJ filed a lawsuit against the County for failure to provide water compliant with the Long Term Enhanced Surface Treatment Rule (LT2) for a significant portion of County Water District No. 1 (CWD #1). By the end of 2013, DEF on behalf of CWD#1 had settled on a permanent solution by installing two (2) UV facilities on City of White Plains pumping station sites.
- In reference to the status of the study of alternatives for a southern connection for CWD #1, the NYCDEP has offered CWD#1 another alternative source of water from in-city. During 2014, DEF will explore that alternative.
- The construction to upgrade the facilities at CWD#1 Shaft 22 Pump Station kicked off in 2010. Notice to Proceed was issued 7/6/2010 with an anticipated completion date of 4/2/2011. The anticipated completion date was extended to 11/1/2012. This project includes a significant change from using gaseous chlorine to a tablet disinfection system. Continuing construction delays have resulted in a new construction completion date of 10/31/13. The new construction completion date is anticipated to be June 30, 2014. Startup of tablet #1 took place in 2013 with unit #2 scheduled to be on line early 2014.
- Design was completed in 2010 for the Chlorine Contact Tank and Gas Pipeline Upgrade at Yonkers Joint Wastewater Treatment Plant. Construction Notice to Proceed was issued 12/7/10 with a projected end date of 9/2/11. Construction is now projected to be completed during the second quarter of 2012. This project was impacted by Superstorm Sandy including flooding of installed equipment. The new expected completion date is 5/31/2014.
- Notice to proceed to construction for the Yonkers Joint HVAC Upgrades-Phase I was issued 1/9/2012 with a projected completion date of 3/4/2013. Design of Phase II kicked off February 2011 and was completed at the end of 2011. Design of Phase III kicked off 1/31/2012 and was completed 1/2/13. There have been construction delays related to the continuous emissions monitoring equipment. The new anticipated construction completion date for Phase I is 8/1/2014.
- Phase II construction bidding of the Yonkers HVAC is anticipated in 2014.
- Design for the replacement of the Emergency Generator at Yonkers Joint was completed 11/9/2011. Construction bids were received 2/8/2012. Construction Notice to Proceed was given 7/9/12 with construction completion anticipated 9/24/13. Delays in the approval of the new switchgear portion of the work has resulted in an anticipated construction completion date of 11/1/14.
- Design of a NYPA sponsored ADG Engine Generator project was completed in 2010 and construction bids were received 6/3/11. Construction Notice to Proceed was given 7/26/12 with construction completion anticipated 11/7/13. Delays in

the Emergency Generator project have resulted in a new anticipated construction completion date of 11/1/14.

- Notice to proceed with construction for Woodbine and Magnolia Pump Stations was issued 6/6/2011 with a projected completion date of 7/9/2012. Construction delays including ConEd issues and flooding due to Superstorm Sandy have changed the anticipated completion date to 7/8/13. Construction was completed 4/30/14 and project is in close out.
- Design for Upgrades to Highland Avenue Pump Station was completed in 2011, with construction programmed for 2012. Construction bids were received 6/5/13 and awarded 12/12/13 with Notice to Proceed to construction 3/3/14.
- A pilot project at Port Chester WWTP as outlined in the BNR Second Engineering Plan was designed in 2012 (5/25/12 1/24/13) and will be bid for construction in 2013. Construction award date 4/11/13 and Notice to Proceed to construction 5/20/13 anticipated construction completion date 12/16/13. Construction delays due to unforeseen circumstances involving asbestos containing materials has extended the anticipated completion date to 5/31/14. The process testing duration will be shortened.
- Design of RBC Replacement at Port Chester kicked off 5/25/12 with anticipated 100% design by 8/31/13. The consultant was then asked to divide the work into two phases and those contract documents will be available in 2014.
- The Mamaroneck WWTP structural rehabilitation of the Administration Building Roof and Tower project design kickoff was 4/8/11. Design was completed 4/30/12 with construction Notice to Proceed 9/4/2012 and anticipated completion on 9/18/2013. This project was impacted by Superstorm Sandy but the completion date was not impacted. The project was substantially completed as of 5/31/14.
- The Primary, Secondary, Heating and Chemical Upgrades at Mamaroneck WWTP kicked off 7/28/11 anticipated design completion 8/2/13. A delay due to energy reviews and owner reevaluation has resulted in a new anticipated 100% completion of 8/1/14.
- The Alexander Street Pumping Station Influent Channel Repair project design was kicked off 5/20/11 and completed April 2012. Construction Notice to Proceed for the Tower rehabilitation only was 12/3/12 with anticipated completion 10/13/13. The new anticipated completion date is in 8/1/14. Design for the second phase influent channel rehabilitation is nearing completion and construction funding was received in July 2013.
- Design of the upgrade of West Basin and Edgewater Point pumping stations began 2/14/13 with anticipated design completion 11/15/13. Design completion was delayed by Village residents concerns and meetings with residents. Anticipated design completion is 6/15/14.
- Design for CMOM work in Yonkers Sewer Districts kicked off 2/2/11 and continued through 2013. The 60% meeting is scheduled for 6/17/14.
- On August 22, 2013 the County entered a Consent Order with NYSDEC over the breaks that occurred on the Tarrytown force main in 2010 and 2012. The schedule of compliance required a schedule for design and construction of the force main replacement and pumping station upgrade. As a result the two designs were advanced on a parallel track. The first milestone in the approved schedule

requires the final design documents to be delivered to NYSDEC for review and approval on 6/1/14. The first milestone was met on 5/27/14.


- Phase 2 design of the Yonkers Joint Cellular Bulkhead kicked off 3/19/12 and was completed 11/7/12. Construction Notice to Proceed was given 6/10/13. Construction proceeded through the summer and fall until the winter shutdown. Contractor was scheduled to remobilize in Mid-April 2014.
- Design for the upgrade of the Ludlow Street Pumping Station Piping and Forcemain Replacement kicked off 8/22/12 with an anticipated completion on 7/15/13. This station was flooded during Superstorm Sandy. The design was delayed by easement issues and the new anticipated design completion date is 6/30/14.
- The Hutchinson Pumping Station design kickoff was 6/29/10 with actual design completion 4/8/13. Construction bid 5/8/13 with bids returned 6/12/13. Construction contract was awarded 9/26/13 with construction notice to proceed 12/23/13. Construction is underway in 2014.
- The Peekskill Mechanical Sludge Handling Upgrade project design was completed in October 2013 and advertised November 22, 2013 with the award on January 23, 2014 and Notice to proceed to construction on April 28, 2014.
- The Peekskill Secondary Process and Heating System Upgrade project will consist of two phases. The first phase is digester roof replacement and ancillary piping and equipment upgrades and phase two is the upgrade of the heating boilers and various aeration valve and piping. Phase I design began June 17, 2013 and 60% design was completed April 18, 2014. It is anticipated that the design will be complete and construction bid and award will be by the end of 2014.
- On May 1, 2013 the Sewage Pollution Right to Know Law went into effect. The IT Department provided an electronic form that notifies the regulatory community by email and simultaneously posts the required information on the County website which makes the department compliant with the notification requirements of the law.

Environmental Management System

Management Review for the Westchester County Department of Environmental Facilities (DEF) Environmental Management System (EnvMS) was held on June 11, 2013 at the County Office Building in White Plains, New York. The purpose of Management Review is to ensure that Top Management (the Steering Committee) reviews and monitors the continuing suitability and effectiveness of the EnvMS and ensures progress towards continual improvement. The EnvMS is structured so as to conform to the ISO 14001 Environmental Management System Standard. At the time of Management Review, the scope of the EnvMS included those operations and activities occurring at the seven wastewater treatment plants. Those operations and activities of the New Rochelle department offices which are related to the treatment plants, solid waste, water and pretreatment are also included within the scope of the EnvMS. The review was performed in accordance with the EnvMS procedure for Management Review.

The 2013 EnvMS presentation is available in the electronic Operations and Maintenance (O&M) Manual.

The electronic Operations and Maintenance (O&M) Manual contains links to the EnvMS as well as the Preventive Maintenance System, Drawings, Standard Operating procedures

 Department of Environmental Facilities		
Headquarters O&M Manual		
<i>Solid Waste Division</i>	<i>Wastewater Division</i>	<i>Water Division</i>
Landfills O&M Manual including: Sprout Brook, Croton Main, Ballfield, and Railroad 1	WWTP O&M Manuals Blind Brook Mamaroneck New Rochelle Ossining Port Chester Peekskill Yonkers	Water District O&M Manual
Operations O&M Manual including: Transfer Stations (White Plains, Yonkers, Mt. Vernon), MRF, H-MRF, Northern Tier Collection Site and Recycling		
Recycling Office O&M Manual		
 Certified to ISO 14001	Pump Station O&M Manuals Hutchinson North Yonkers Tarrytown	Other EnvMS Links DEF Chemical File Prices/Contracts DEF EnvMS for County Departments DEF EnvMS for Contractors, Vendors & Consultants DEF Service Contracts
	Outside Maintenance O&M Manual including: Rye Garage, Yorktown Garage, Welding Shop, Machine Shop, Hawthorne Manhole	Emergency Contacts ISO 14001:2004 Standard
	Pretreatment O&M Manual	<small>First Environment, Inc.</small>

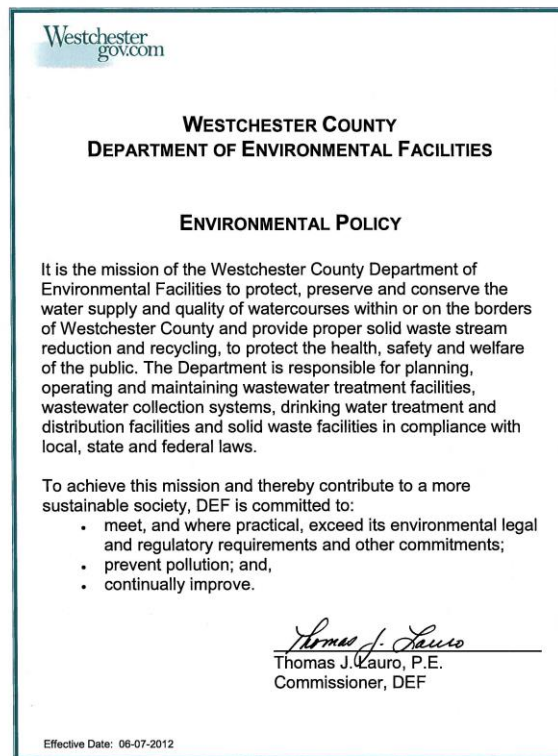
and Operational Guidelines. The links are updated as new information and electronic equipment manuals become available. The Datastream 7i Computerized Maintenance Management System is used for mechanical as well as environmental work orders.

In 2011 the EnvMS was implemented in all the DEF Divisions with the certification effective on December 5, 2011 through December 4, 2014. 2013 Compliance audits were

scheduled and completed at Peekskill WWTP, Ossining WWTP, North Yonkers Pumping Station and Outside Maintenance.

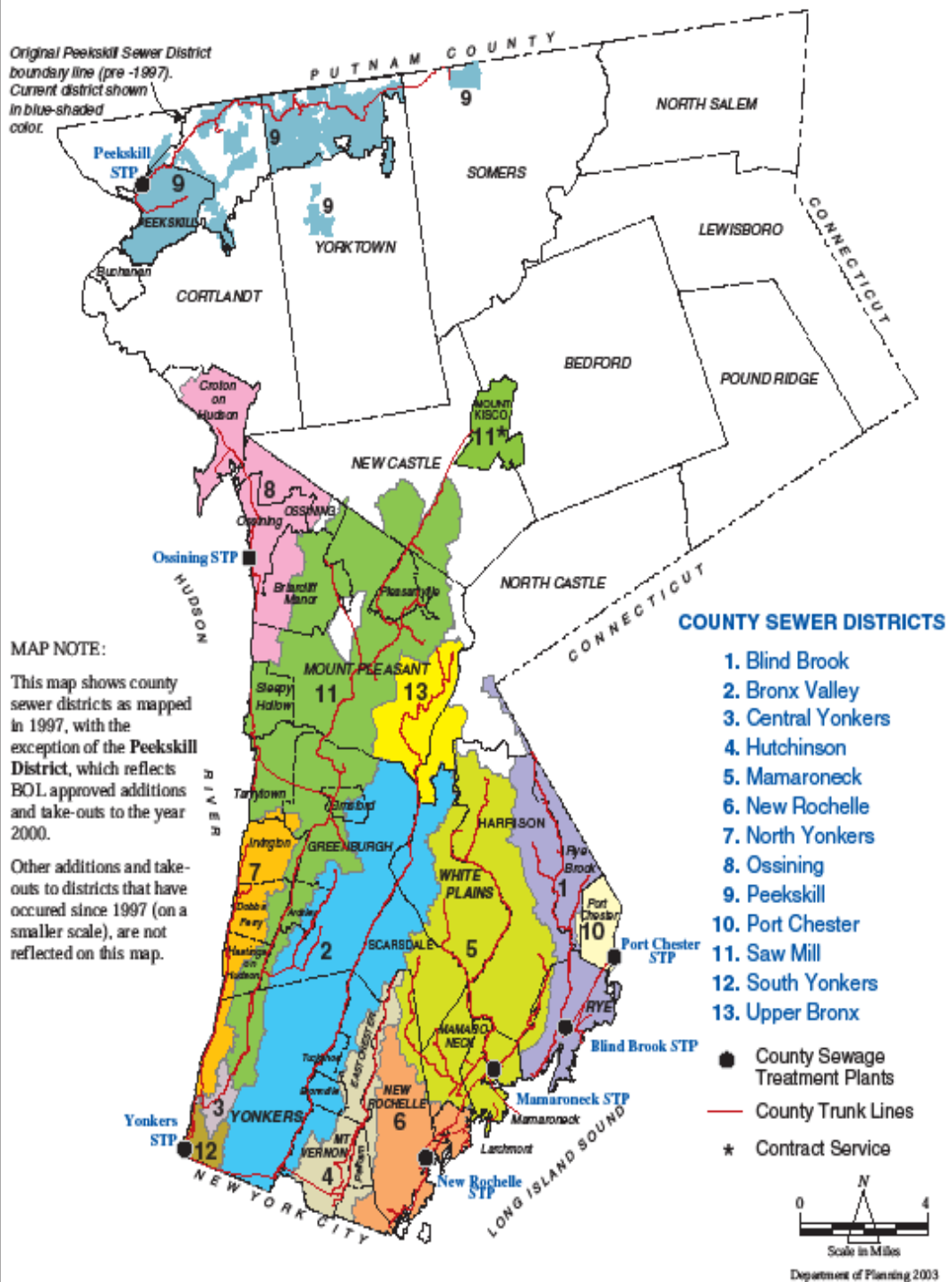
EnvMS Objectives for 2013 included:

- Provide a secondary source of supply for District #1 that is compliant with the Long Term Enhanced Surface Water Treatment Rule (LT2).
- Integrate new equipment and Standard Operating Procedures at Gate of Heaven & Shaft 22 into O&M Manual and 7i system
- Extend natural gas to Thruway TS in anticipation of CNG filling station (Con Ed construction)
- Purchase medication collection units for Police Departments as part of county-wide drug collection program
- Conduct and promote food recovery education forums; *ongoing*
- Investigate feasibility of landfill gas-to-energy project at Croton and Railroad 1 Landfills



The Department is committed to the EnvMS and its goal of continual improvement.

WESTCHESTER COUNTY, NEW YORK



WASTEWATER DIVISION

The seven wastewater treatment plants generally operated well in 2013. The total flow treated by all seven plants averaged 119.0 MGD or a total of 43.4 billion gallons, which is an 8.0% decrease from 2012. Our overall efficiency was 94% for suspended solids and 95% for carbonaceous biochemical oxygen demand. Our average cost of operation was \$2.43 per 1000 gallons of sewage treated.

The Department initiated a number of programs during the year which should enhance our long term performance:

1. In 2011 DEF and WCDOH developed a Notification System for municipalities in the event of wastewater releases or bypasses. The system consists of three levels of notification from minor to major and a notification process and distribution for each. In 2012 the departments cooperated in this program, and began meeting in order to comply with the anticipated Sewage Pollution Right to Know Law. On May 1, 2013 the Sewage Pollution Right to Know Law went into effect. The IT Department provided an electronic form that notifies the regulatory community by email and simultaneously posts the required information on the County website which makes the department compliant with the notification requirements of the law.
2. An odor Complaint Hotline continued in 2013 to enable residents near the County's Treatment Plants to report odor complaints. Callers may dial (914) 231-2786 and will be instructed to press a certain number on their telephone keypad to reach the plant in their area. Phone calls will be returned during regular business hours. Odor complaints may also be sent in over the internet via e-mail and through the County's website. In 2013, there were a total of 15 odor complaints filed against Yonkers Joint.
3. Black & Veatch in 2001 performed an audit and evaluation of the department's safety program to assure compliance with regulations and improve the work environment. In 2013 the department continued to implement Black & Veatch's recommendations. All DEF field personnel receive OSHA required and other safety training including the 5 day Initial HazWoper and Confined Space course and annual 1 day refreshers. In 2012 Workplace Violence Prevention Training was added to the annual training requirement and was continued in 2013.
4. The department as part of its meetings with the Ludlow Park Citizens Advisory Committee developed an automated notification system for the neighborhood. If there is an event at the Yonkers Joint WWTP that could impact the neighborhood (i.e. odors, noise, construction, etc.) automated phone calls would be sent out to pre-subscribed households to describe the event. This procedure was continued in 2013.

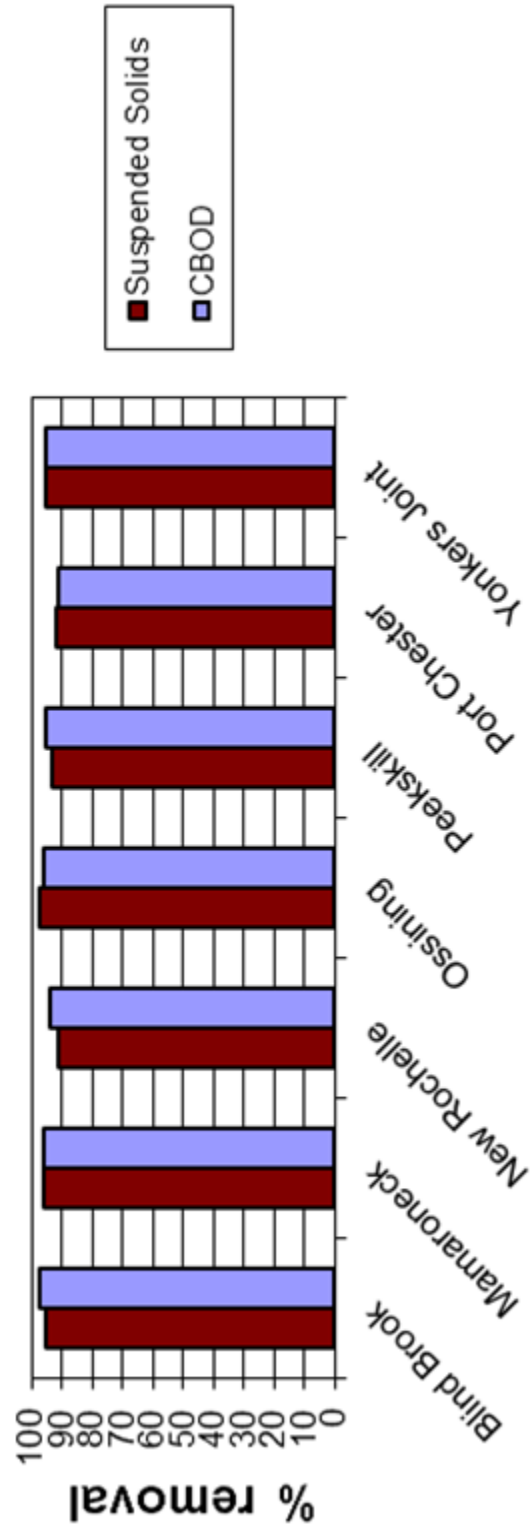
5. During 2007 a Comprehensive Odor Study Update to the 1991 Odor study was conducted at the Yonkers Joint WWTP. In 2008, a report was issued identifying the next steps to reduce odors at Yonkers Joint WWTP. Design commenced on Phase I in 2009 and Notice to Proceed with construction of Phase I was issued 1/9/2012. Construction continued throughout 2013 and is anticipated to be completed in 2014 and construction of Phase II is anticipated in 2014.

During 2013 the four treatment plants on Long Island Sound continued to meet the interim nitrogen loading limit of 5085 pounds per day. The 2013 level was 3,449 pounds per day reflecting the startup and operation of the IFAS tanks at Mamaroneck WWTP as well as the continued operation of the MLE process at Blind Brook WWTP. Reduced nitrogen in the discharges helps reduce oxygen demand in the Sound by eliminating nutrients and minimizing hypoxia.

The number of authorized employees in the wastewater division Operations and Maintenance at 2013 year end totaled 262. This included 195 employees working in the seven plants, and 68 employees in pumping stations and collection systems.

Plant Efficiencies

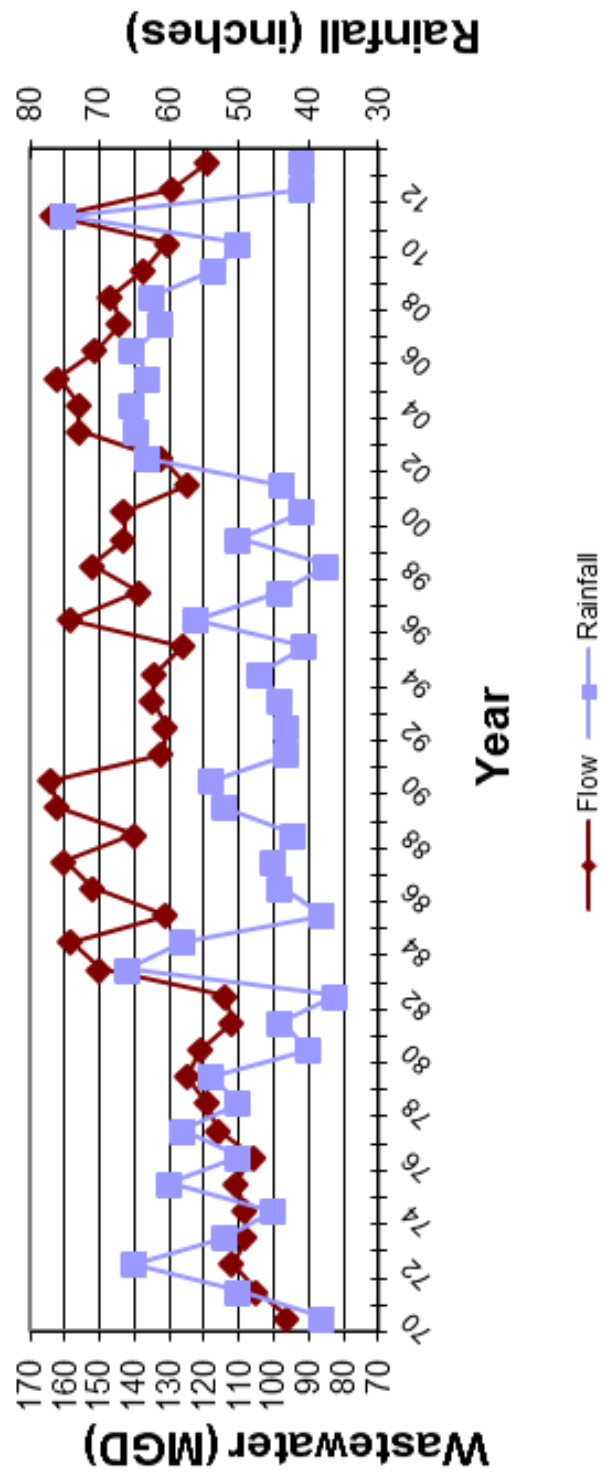
2013



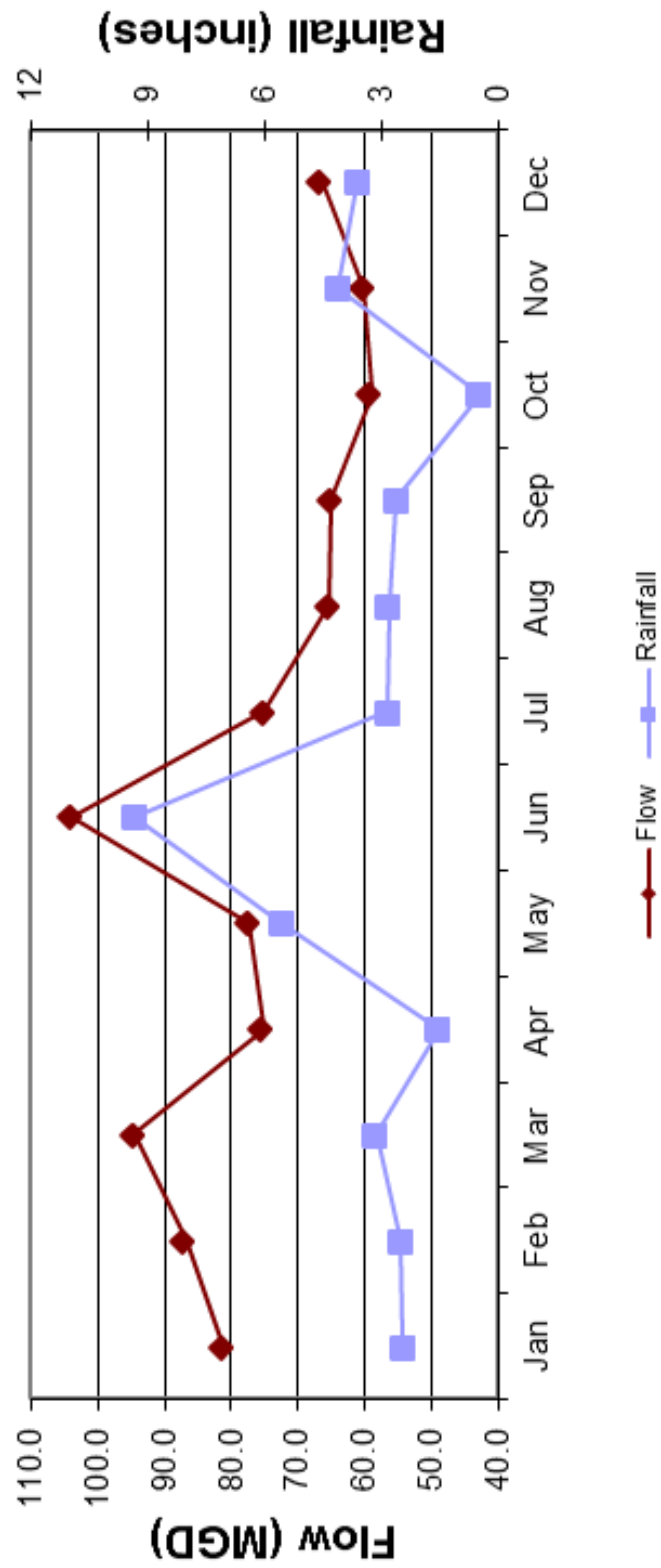
Average Flow and Precipitation									2013
Month	Blind Brook	Mamaroneck	New Rochelle	Ossining	Peekskill	Port Chester	Yonkers Joint	2012 Rainfall	2013 Rainfall
	MGD	MGD	MGD	MGD	MGD	MGD	MGD	inches	inches
January	3.2	12.3	13.9	4.5	6.5	4.4	81	3.25	2.45
February	3.7	14.1	15.9	4.9	6.9	4.8	87	1.64	2.50
March	3.9	14.8	17.0	5.2	7.6	5.1	94	0.94	3.13
April	2.9	11.1	11.8	4.5	6.4	4.1	75	3.15	1.52
May	2.8	11.7	11.9	4.9	6.7	4.0	77	7.12	5.55
June	5.1	20.8	19.2	6.6	8.5	6.2	104	3.88	9.33
July	2.8	11.7	12.6	4.5	6.1	4.2	75	3.87	2.82
August	2.3	10.1	10.1	4.1	5.9	3.8	65	3.06	2.81
September	2.3	9.7	9.8	4.0	5.8	3.9	65	5.16	2.60
October	2.1	9.1	8.8	3.7	5.5	3.5	59	3.77	0.45
November	2.1	9.2	10.2	3.7	5.5	3.7	60	0.93	4.11
December	2.6	12.1	12.2	3.9	6.0	4.1	66	4.06	3.60
Average	3.0	12.2	12.8	4.5	6.4	4.3	76	3.40	3.41
Maximum	5.1	20.8	19.2	6.6	8.5	6.2	104	7.12	9.33
Minimum	2.1	9.1	8.8	3.7	5.5	3.5	59	0.93	0.45
Permitted flow	5.0	20.6	19.2	7.0	10.0	6.0	120		
TOTAL							40.83	40.87	

Flow vs. Rainfall

All Plants



Yonkers Joint vs. Rainfall 2013



BLIND BROOK TREATMENT PLANT

TREATMENT PROCESS:	Screenings, grit removal, primary sedimentation, activated sludge process, final clarification, sodium hypochlorite disinfection. Blind Brook sludge is pumped to Port Chester for processing.
COUNTY TRUNK SEWERS:	23 miles
SITING ACRES:	3
MUNICIPALITIES SERVED:	City of Rye; Towns of Rye, Harrison, and North Castle; Westchester County Airport; State University at Purchase.
TRIBUTARY POPULATION:	27,296
EMPLOYEES:	13
2013 EXPENDITURES:	\$7,640,033

<u>YEAR BUILT</u>	<u>CAPITAL COST</u>
1962 - Primary Treatment	\$ 1,500,000
1985 - Secondary Treatment	\$ 13,200,000

<u>FLOW CAPACITIES</u>	
2013 ACTUAL FLOW:	3.0 MGD
DESIGN FLOW:	5.0 MGD
HYDRAULIC CAPACITY:	15.0 MGD
PERMITTED FLOW:	5.0 MGD

<u>PUMPING STATIONS</u>	<u>DESIGN CAPACITY</u>	<u>ACTUAL FLOW</u>
Playland	4.32 MGD	0.333 MGD

BLIND BROOK 2013 HIGHLIGHTS:

- Screen and Grit Area Containment pad and drainage system completed (Non-Recurring).
- Performance Maintenance III upgrade project (Bar screen) still on-going.
- Installed Motion detector security lighting throughout plant (In House staff).



Blind Brook Wastewater Treatment Plant

Month	Flow MGD	Suspended Solids			Carbonaceous Biochemical Oxygen Demand			Sludge to Port Chester	
		Influent mg/l	Effluent mg/l	Efficiency % removal	Influent mg/l	Effluent mg/l	Efficiency % removal	Gallons/ Day	Dry Tons
January	3.2	107	4	96	125	2	98	201,785	68
February	3.7	117	6	95	126	3	98	212,234	60
March	3.9	119	6	95	124	3	98	212,249	68
April	2.9	154	5	97	153	3	98	209,400	76
May	2.8	116	6	95	144	4	97	202,039	63
June	5.1	92	8	91	92	7	92	179,855	55
July	2.8	134	7	95	123	3	98	194,877	58
August	2.3	147	4	97	168	2	99	180,250	61
September	2.3	145	5	97	154	3	98	176,255	49
October	2.1	178	5	97	180	3	98	163,715	56
November	2.1	165	6	96	175	5	97	176,940	57
December	2.6	116	8	93	134	3	98	177,640	60
Average	3.0	133	6	95	142	3	97	190,603	61

Blind Brook Annual Performance Report 2013

Month	Sodium Hypochlorite	Fuel Oil	Water	Electric Usage	Screenings	Grit
	gallons	gallons	cubic feet	kWh	cubic feet	cubic feet
January	2,309	2,523	1,548,910	371,600	61	21
February	2,120	2,976	1,298,883	339,600	55	21
March	2,168	2,155	1,466,120	358,900	61	28
April	1,687	794	1,355,926	353,200	60	35
May	2,069	53	1,364,459	384,400	63	28
June	2,761	79	1,318,810	379,000	57	70
July	2,117	14	1,402,635	387,800	61	35
August	2,084	44	1,572,136	374,700	61	28
September	1,957	46	1,585,034	368,400	59	35
October	1,664	387	1,714,852	380,400	62	56
November	1,514	1,900	1,713,658	364,800	58	21
December	2,250	Not Reported	1,742,542	378,400	62	35
Total	24,700	10,971	18,083,965	4,441,200	720	413
Average	2,058	997	1,506,997	370,100	60	34
Daily Average	68	30	49,545	12,168	2	1

MAMARONECK TREATMENT PLANT

TREATMENT PROCESS:	Screening, Grit Removal, Primary Sedimentation, Activated Sludge, Final Clarification and Sodium Hypochlorite Disinfection. Sludge pumped to New Rochelle for processing.
COUNTY TRUNK SEWERS:	39 miles
SITING ACRES:	4
MUNICIPALITIES SERVED:	Cities of New Rochelle, Rye, and White Plains; Towns of Harrison, Mamaroneck, North Castle, Rye, and Scarsdale; Villages of Larchmont and Mamaroneck.
TRIBUTARY POPULATION:	90,884
EMPLOYEES:	17
2013 EXPENDITURES:	\$16,369,984

<u>YEAR BUILT</u>	<u>CAPITAL COST</u>
1929 - Original Screen Plant	\$ 700,000
1965 - Primary Treatment	\$ 3,800,000
1989 - Secondary Treatment	\$ 100,000,000

FLOW CAPACITIES

2013 ACTUAL FLOW:	12.2 MGD
DESIGN FLOW:	20.6 MGD/ 23.2 MGD*
HYDRAULIC CAPACITY:	90.0 MGD
PERMITTED FLOW:	20.6 MGD/23.2 MGD*

* Design flow was increased when the BNR upgrade was substantially completed

<u>PUMPING STATIONS</u>	<u>DESIGN CAPACITY</u>	<u>ACTUAL FLOW</u>
Beaver Brook	0.058 MGD	0.005 MGD
Cove Road	0.58 MGD	0.056 MGD
East Basin	2.88 MGD	0.220 MGD
Edgewater Point	1.73 MGD	0.101 MGD
Fenimore Road	1.87 MGD	0.155 MGD
Saxon Woods	0.52 MGD	0.056 MGD
Weaver Street	4.32 MGD	0.311 MGD
West Basin	5.80 MGD	0.929 MGD

MAMARONECK 2013 HIGHLIGHTS:

- Rehabilitation of historic plant tower was completed in November, 2013.
- Plant maintenance staff completed installation of 1” spacing on influent bar screen.
- Plant maintenance staff completed installation of new raw sewage pump and transfer sludge pump.
- Primary sludge removal pilot project was completed by plant staff and will move forward for design and then installation of primary pumps in each primary tank.



Mamaroneck Wastewater Treatment Plant

Mamaroneck			Annual Performance Report						2013	
Month	Flow	Suspended Solids			Carbonaceous Biochemical Oxygen Demand			Sludge to New Rochelle		
		Influent mg/l	Effluent mg/l	Efficiency % removal	Influent mg/l	Effluent mg/l	Efficiency % removal	Gallons	Dry Tons	
January	12.3	72	3	96	88	3	96	22,006,300	196	
February	14.1	96	5	95	86	3	96	19,863,900	173	
March	14.8	89	4	96	74	3	96	19,975,100	197	
April	11.1	109	3	97	115	3	98	19,609,000	196	
May	11.7	124	4	97	112	10	91	21,861,700	190	
June	20.8	98	7	93	95	3	97	21,898,500	157	
July	11.7	126	4	97	111	3	97	22,965,400	169	
August	10.1	143	4	97	135	3	98	22,946,000	154	
September	9.7	153	6	96	136	3	97	22,282,500	146	
October	9.1	166	7	96	150	4	97	21,729,900	161	
November	9.2	142	6	96	134	5	96	22,513,800	307	
December	12.1	126	6	95	126	5	96	23,076,200	178	
Average	12.2	120	5	96	114	4	96	21,727,358	185	

Mamaroneck			Annual Performance Report			2013
Month	Sodium Hypochlorite	Fuel Oil	Water	Electric Usage	Screenings	
	gallons	gallons	cubic feet	kWh	cubic feet	
January	11,376	19,002	120,400	955,200	1,215	
February	8,719	17,276	141,500	806,400	790	
March	9,129	15,578	185,700	806,400	918	
April	9,214	4,611	185,300	710,400	946	
May	8,183	---	134,800	672,000	1,069	
June	9,134	---	291,900	715,200	1,206	
July	6,924	---	440,100	667,200	1,161	
August	8,207	---	450,400	691,200	---	
September	10,819	---	322,800	676,800	891	
October	8,896	---	325,400	676,800	2,295	
November	8,508	12,500	263,400	686,400	---	
December	11,508	14,500	269,100	768,000	729	
Total	110,617	83,467	3,130,800	8,832,000	11,220	
Average	9,218	13,911	260,900	736,000	1,122	
Daily Average	303	229	8,578	24,197	31	

NEW ROCHELLE TREATMENT PLANT

TREATMENT PROCESS: Screening, Primary Sedimentation, Pure Oxygen Activated Sludge, Final Clarification, Sodium Hypochlorite Disinfection, Gravity Thickening, Belt press dewatering, and sludge disposed for beneficial use by private hauler.

COUNTY TRUNK SEWERS: 10 miles

SITING ACRES: 14

MUNICIPALITIES SERVED: City of New Rochelle; Town of Mamaroneck; Villages of Larchmont and Pelham Manor.

TRIBUTARY POPULATION: 65,364

EMPLOYEES: 35

2013 EXPENDITURES: \$17,572,328

YEAR BUILT

1956 - Primary Treatment

1982 - Secondary Treatment

CAPITAL COST

\$ 4,100,000

\$ 18,000,000

FLOW CAPACITIES

2013 ACTUAL FLOW: 12.8 MGD

DESIGN FLOW: 13.6 MGD

HYDRAULIC CAPACITY: 54.0 MGD

PERMITTED FLOW: 13.6 MGD SPDES Permit, 19.2 MGD NYSDEC Consent Order

PUMPING STATIONS

Beach Avenue
Circle/Park Avenue
Fifth Avenue
Flint Avenue
Glen Island Administration
Glen Island Casino
Magnolia Avenue
Sutton Manor
Woodbine Avenue

DESIGN CAPACITY

0.72 MGD
1.31 MGD
4.90 MGD
5.80 MGD
0.70 MGD
0.25 MGD
1.44 MGD
0.52 MGD
1.44 MGD

ACTUAL FLOW

0.172 MGD
0.083 MGD
0.219 MGD
1.594 MGD
0.071 MGD
0.032 MGD
0.019 MGD
0.047 MGD
0.137 MGD

NEW ROCHELLE 2013 HIGHLIGHTS:

PHASE I (Non-BNR)

Primary Settling Tanks:

- Primary Settling Tank Nos. 1, 2, 3 and 4 had new aluminum support frames and covers installed over all open tank areas. The Odor Control support system and ductwork was installed.
- Exposed concrete surfaces in the primary tanks were painted.

Control Building:

- New utility gas service was run to and through the building to feed the new boiler and hot water heaters in the basement area.
- Installed three new gas fired boilers with all pumps, piping, appurtenances and controls in the basement area.
- Installed two new gas fired hot water heaters with city water piping, and domestic hot water piping throughout including all appurtenances and controls in the basement area.
- Continued installing new service water (SW) piping throughout the plant.
- Installed two of the new sodium hypochlorite storage tanks, pumping skid units, double wall containment piping and controls in the Control Building basement.
- Demolished the existing influent wet well.

East and West Sludge Pump Station:

- Continued electrical work.
- Continued painting work on piping.
- HVAC automatic temperature controls.

Thickener Building:

- Completed the Installation of two (2) of the four new sludge recirculation pumps in the Thickener Building basement.
- Completed the Installation of three (3) of the five new GBT feed pumps in the Thickener Building basement.
- Completed the Installation of four (4) new BFP feed pumps in the Thickener Building basement.
- Completed the Installation of the new sludge wet well scum pump in the Thickener Building basement.
- Continued painting work on process and heating piping throughout the Thickener Building basement area, Tunnel.
- Installed saddles, insulation and jacketing on new Effluent Water piping, Plant Service Water piping and heating piping in various locations throughout the Thickener Building basement area, Tunnel area.
- Continued installation of HVAC equipment, piping, ductwork and associated appurtenances.
- Continued work on major electrical work items to include; installation of VFD's for GBT and BFP pumps.

Sludge Processing Building:

- Continued work on the installation of four (4) new effluent water pumps in the Old Sludge Processing Building basement, with associated piping and appurtenances.
- Continued work on the installation of new effluent flushing water (EFW) piping throughout the plant.
- Continued work on the installation of new piping two (2) new 3300 gallon polymer storage tanks and associated dosing / pumping skid in the Sludge Processing Building basement.
- Continued work on the installation of piping for the two (2) new 1000 gal. polymer aging tanks and associated BFP and GBT dosing / pumping skids in the Sludge Processing Building basement.
- Continued work on the Installation of three (3) thickened sludge pumps and associated piping and appurtenances in the Sludge Processing Building basement.
- Continued work on the installation of five (5) new dewatered sludge bins and screw drives on the second floor of the Sludge Processing Building.
- Continued work on the installation of the three (3) Putzmeister DSL pumps and associated hydraulic units and appurtenances, as well as the new sludge piping, and related control panels on the second floor of the Sludge Processing Building.
- Installed HVAC equipment, roof top units, piping, ductwork and associated appurtenances.

- Continued efforts to finalize major electrical work which includes; new 13.2 kVA Switchgear, new MCC-SP-1 and MCC-SP-3. Installed 125 VDC battery racks and DC distribution panels for the battery back-up system, installed LCP's for Belt Filter presses, and started-up and tested three standby diesel generators.

Oxygenation Tanks / Building:

- Set up four (4) new oxygenation mixers and monitoring instrumentation on new Oxygenation Tank No. 3. The system was tested and placed in operation and continues to run on automatic controls.
- Major electrical work includes: set MCC-OB, set 480 V SWGR-OB. LCP panels and VFD's for oxygenation mixers.

Headworks:

- Performed demolition of the existing influent pumps and screening equipment.
- Installed five (5) new influent pumps, motors and associated piping and appurtenances.
- Installed three (3) new grit screening units and associated piping and appurtenances.
- Installed two (2) grit screw conveyors, drives and air diffusers in the Headworks grit tank.
- Installed two (2) grit classifiers and distribution screws in the Grit Loading Bay of the Headworks building.
- Installed HVAC equipment, rooftop units, piping, ductwork and associated appurtenances.
- Major electrical work includes: set MCC-HW and installed substation transformers T-HW-A and T-HW-B.
- Influent pumps, piping and appurtenances were started and tested. The pumping system was set to run and continues to run on automatic controls.
- The bar screens, compactors and conveyor system was started and tested and continues to run on automatic controls.

Biofilters:

- Continued work on the three (3) Biofilter units, with installation of the FRP arches, internal and external piping and began filling with media. Associated ductwork and piping was installed in the Headworks building.

Wet Scrubber:

- Two (2) Wet Scrubber FRP vessels and three (3) blowers were delivered to the site. Some of the foundation work was completed. Sodium Hypochlorite and Sodium Hydroxide tanks and metering pumps and associated piping, valving and appurtenances were installed.

PHASE II (BNR)

Process Control Building:

- Continued work on installing reinforced concrete slabs, walls, floors, columns and decks for the various levels of the Process Control Building.
- Continued work on installing HVAC equipment, piping, ductwork and associated appurtenances, including duct and piping insulation.
- Continued work on installing waste, drain and vent piping for the bathroom facilities.
- Continued work on installing lighting and receptacles and main power feeds throughout the facility.
- New utility gas service was run to and through the building to feed the new boilers and hot water heaters.
- Continued work on installing the two new gas fired boilers with all pumps, piping, appurtenances and controls in the Boiler Room at the garage level. Heating piping was extended throughout the facility.
- Continued work relating to the installation of the two new gas fired hot water heaters with city water piping, and domestic hot water piping throughout, including all appurtenances and controls in the Boiler Room.
- Installed SGFT, metal studs and sheetrock.

BNR Facility:

- Reinforced Concrete slabs, walls, floors, columns and decks were formed and poured for the various levels of the BNR Facility.
- Installed lower air grid piping and upper and lower backwash piping in the N galleries.

- Installed upper and lower air grid piping and backwash piping in the DN galleries.
- Installed sluice gates in the N and DN backwash tanks.
- Nozzle slabs were installed at the N and DN facilities.
- HVAC ductwork was installed throughout the BNR facility.
- Lighting and receptacles were installed, delivered switchgear “NR” and set transformer.
- Installed the Fine Screens and sluice gates.

Sodium Hydroxide Building:

- Reinforced Concrete slabs, walls, floors, columns and decks were formed and poured for the various levels of the Sodium Hydroxide Building.

UV Facility:

- Reinforced Concrete slabs, walls, floors, columns and decks were formed and poured for the various levels of the UV Facility.



New Rochelle Wastewater Treatment Plant

New Rochelle			Annual Performance Report						2013
Month	Flow	Suspended Solids			Carbonaceous Biochemical Oxygen Demand			Sludge Removed	
	MGD	Influent	Effluent	Efficiency	Influent	Effluent	Efficiency	dry tons	% solids
		mg/l	mg/l	% removal	mg/l	mg/l	% removal		
January	13.9	90	6	93	120	4	97	404	19.3
February	15.9	103	13	87	128	9	93	354	18.6
March	17.0	93	13	86	104	9	91	483	21.4
April	11.8	120	12	90	137	12	91	448	20.8
May	11.9	124	14	89	136	14	90	467	21.4
June	19.2	100	13	87	108	11	90	445	22.4
July	12.6	114	16	86	137	11	92	441	20.3
August	10.1	118	8	93	149	4	97	390	20.0
September	9.8	147	6	96	160	6	96	432	22.6
October	8.8	164	6	96	165	5	97	418	20.7
November	10.2	130	9	93	163	6	96	411	20.9
December	12.2	106	7	93	149	6	96	531	22.9
Average	12.8	117	10	91	138	8	94	435	20.9

New Rochelle		Annual Performance Report						2013
Month	Sodium Hypochlorite	Natural Gas	Water	Electric Usage	Polymer	Potassium Permanganate	Oxygen Delivered	Screenings
	gallons	cubic feet	cubic feet	kWh	gallons	pounds	pounds	cubic yards
January	10,428	---	95,957	574,400	761	6,930	48,548	90
February	9,600	---	108,953	553,600	606	6,270	47,209	90
March	11,075	---	103,912	584,000	579	5,940	125,112	90
April	10,310	---	111,451	462,800	693	12,210	34,625	90
May	19,960	5,000	80,123	412,700	716	10,560	47,777	90
June	21,300	---	118,043	368,400	559	21,120	62,561	90
July	17,340	---	95,146	326,000	648	14,850	63,339	90
August	18,920	3,000	113,604	299,280	631	12,540	58,592	---
September	9,620	---	75,290	259,200	473	11,880	45,411	90
October	7,790	3,000	75,459	242,400	570	10,560	47,361	90
November	18,680	---	70,586	250,400	598	10,890	37,323	90
December	10,840	3,000	79,031	322,400	597	13,860	58,701	90
Total	165,863	14,000	1,127,555	4,655,580	7,431	137,610	676,559	990
Average	13,822	3,500	93,963	387,965	619	11,468	56,380	90
Daily Average	454	38	3,089	12,755	20	377	1,854	3

OSSINING TREATMENT PLANT

TREATMENT PROCESS:	Screening and Grit removal, Primary Treatment, Activated sludge, Final Clarification, Sodium Hypochlorite Disinfection, Sodium Bisulfite dechlorination, gravity thickening, disposal of liquid sludge by contract.
COUNTY TRUNK SEWERS:	8 miles
SITING ACRES:	4
MUNICIPALITIES SERVED:	Towns of Mount Pleasant and Ossining; Villages of Briarcliff Manor, Croton-on-Hudson, and Ossining.
TRIBUTARY POPULATION:	39,757
EMPLOYEES:	15
2013 EXPENDITURES:	\$4,584,739

<u>YEAR BUILT</u>	<u>CAPITAL COST</u>
1981 - Secondary Treatment	\$ 42,000,000

FLOW CAPACITIES

2013 ACTUAL FLOW:	4.5 MGD
DESIGN FLOW:	7.0 MGD
HYDRAULIC CAPACITY:	26.0 MGD
PERMITTED FLOW:	7.0 MGD

PUMPING STATIONS

Archville
Country Club Lane
Croton
Crotonville
Kemey's Cove
Croton Landfill (Ballfield)
Croton Landfill (Seeps)
Croton Landfill Station #1
Croton Landfill (Condensate)
Croton Landfill Station #2

DESIGN CAPACITY

0.14 MGD
0.10 MGD
5.30 MGD
13.40 MGD
2.02 MGD
0.27 MGD
0.19 MGD
0.56 MGD
0.075 MGD
0.79 MGD

ACTUAL FLOW

0.008 MGD
0.0011 MGD
0.635 MGD
0.882 MGD
0.244 MGD
0.0001 MGD
0.0021 MGD
0.0068 MGD
0.000019 MGD
0.0495 MGD

OSSINING 2013 HIGHLIGHTS:

- Capital Project of high efficiency boilers, low emission generator and HVAC replacement had the 60% meeting.
- Primary tank #1 the drive unit was leveled so it no longer scraped the bottom of the tank.
- Security – the front gate was painted and hung new “No Trespassing” signs there and the property perimeter.
- Outside Maintenance crew from the Yorktown Garage cleaned of a lot of grit buildup out of the splitter box.
- Process- piped hypo with carry water now injected at each thickener for more efficient settling and filament control.
- Rebuilt truck transfer pump #1 with parts superior to parts that came with the pump to lessen constant pin shearing.



Ossining Wastewater Treatment Plant

Ossining		Annual Performance Report										2013	
Month	Flow	Suspended Solids				Carbonaceous Biochemical Oxygen Demand				Sludge Removed			
		Influent mg/l	Effluent mg/l	Efficiency % removal		Influent mg/l	Effluent mg/l	Efficiency % removal		gallons	% solids	dry tons	
January	4.5	141	6	96		138	6	95		490,000	2.9	58	
February	4.9	167	5	97		147	7	95		434,000	3.6	59	
March	5.2	170	5	97		143	5	97		581,000	2.7	59	
April	4.5	196	8	96		214	8	96		469,000	3.4	60	
May	4.9	177	8	96		148	8	95		721,000	2.8	76	
June	6.6	175	4	98		140	4	97		693,000	2.9	75	
July	4.5	162	5	97		161	5	97		847,000	2.3	68	
August	4.1	210	8	96		177	6	96		714,000	2.9	62	
September	4.0	219	8	96		193	8	96		595,000	3.2	68	
October	3.7	231	7	97		219	6	97		805,000	2.3	48	
November	3.7	182	6	97		206	7	96		665,000	2.5	50	
December	3.9	206	7	97		203	9	96		602,000	3.0	65	
Average	4.5	186	6	97		174	6	96		634,667	2.9	62	

Ossining Annual Performance Report 2013						
Month	Sodium Hypochlorite	Water	Electric Usage	Natural Gas	Removed from Sewage	
	gallons	cubic feet	kWh	cubic feet	Screenings cubic feet	Grit cubic feet
January	5,587	34,490	354,400	1,449,000	693	80
February	6,125	32,000	348,000	1,272,000	598	160
March	4,845	45,900	375,200	1,060,000	597	80
April	9,436	40,710	316,800	466,000	674	80
May	17,256	36,040	352,000	2,000	693	160
June	15,349	35,050	332,800	9	597	80
July	15,874	40,570	335,200	0	617	80
August	17,302	43,940	344,000	0	655	80
September	13,722	48,240	325,600	0	674	168
October	14,569	48,060	307,200	192	616	0
November	8,119	38,900	354,400	1,182	385	88
December	8,930	42,050	395,200	1,368	673	80
Total	137,114	485,950	4,140,800	4,251,751	7,472	1,136
Average	11,426	40,496	345,067	354,313	623	95
Daily Average	376	1,331	11,345	11,649	20	3

PEEKSKILL TREATMENT PLANT

TREATMENT PROCESS: Screening and Grit removal, Primary Treatment, Activated sludge, Final Clarification, Ultraviolet Light Disinfection, Gravity Thickening and Anaerobic Digestion. Liquid sludge removed by contract.

COUNTY TRUNK SEWERS: 15 miles

SITING ACRES: 35.6

MUNICIPALITIES SERVED: City of Peekskill; Towns of Cortlandt, Somers and Yorktown.

TRIBUTARY POPULATION: 45,097

EMPLOYEES: 16

2013 EXPENDITURES: \$4,224,616

YEAR BUILT

1953 - Primary Treatment

1980 - Secondary Treatment

CAPITAL COST

\$ 19,443,000

\$ 55,000,000

FLOW CAPACITIES

2013 ACTUAL FLOW: 6.4 MGD

DESIGN FLOW: 10.0 MGD

HYDRAULIC CAPACITY: 22.5 MGD

PERMITTED FLOW: 10.0 MGD

PUMPING STATIONS

Mill Street

Water Street

DESIGN CAPACITY

9.72 MGD

10.15 MGD

ACTUAL FLOW

1.019 MGD

2.165 MGD

PEEKSKILL 2013 HIGHLIGHTS:

Capital Projects:

Replacement of Manual Scum Removal Equipment on Primary Tanks and Final Clarifiers was due to begin in 2013, but has been rescheduled to begin in 2014.

Digester Rehabilitation Project had the kickoff meeting in 2013.

Mechanical and Sludge Handling Upgrades Construction Contract was awarded.

Maintenance Highlights:

#2 blower discharge valve and actuator were replaced to make operational again.

#2 return pump suction valve was replaced to make operational again.

#3 grit pump suction valve was replaced to make operational again.

Process supernatant is being decanted every day from the secondary digester which has resulted in less sludge trucks hauling out and less filaments in the plant.

Outside Maintenance crew from the Yorktown Garage re-dug the ditch along the driveway to allow for better water drainage coming off the hill.



Peekskill Wastewater Treatment Plant

Peekskill		Annual Performance Report										2013	
Month	Flow	Suspended Solids			Carbonaceous Biochemical Oxygen Demand			Sludge Removed					
	MGD	Influent	Effluent	Efficiency	Influent	Effluent	Efficiency	gallons	% solids	dry tons			
		mg/l	mg/l	% removal	mg/l	mg/l	% removal						
January	6.5	187	10	95	217	10	96	602,000	2.1	47			
February	6.9	183	7	96	191	9	95	623,000	2.0	46			
March	7.6	180	11	94	190	10	95	861,000	1.8	60			
April	6.4	186	13	93	209	12	94	658,000	1.9	47			
May	6.7	188	14	93	198	13	93	665,000	1.8	45			
June	8.5	147	13	91	166	10	94	434,000	2.2	36			
July	6.1	212	11	95	216	10	95	672,000	2.0	52			
August	5.9	212	15	93	219	9	96	791,000	2.4	73			
September	5.8	188	18	90	192	12	94	805,000	2.8	87			
October	5.5	211	11	95	227	10	95	840,000	2.3	72			
November	5.5	213	11	95	258	16	94	693,000	2.1	55			
December	6.0	201	15	92	226	9	96	525,000	2.8	57			
Average	6.4	192	12	93	209	11	95	680,750	2.2	56			

Peekskill		Annual Performance Report							2013
Month	Sodium Hypochlorite	Fuel Oil	Water	Electric Usage	Digester Gas		Removed from Sewage		
	gallons	gallons	cubic feet	kWh	Produced	Wasted	Screenings	Grit	Grease
					CF x 1000	CF x 1000	cubic feet	cubic feet	cubic feet
January	670	2,097	4,011	288,000	1,902	12	442	340	---
February	584	1,577	4,144	278,400	1,849	---	364	340	78
March	1,461	2,064	7,353	307,200	1,950	---	422	340	---
April	148	211	14,572	283,200	1,900	120	389	340	78
May	2,257	421	10,428	307,200	1,759	627	413	170	78
June	1,824	0	22,727	312,000	1,820	774	408	510	78
July	4,896	0	8,021	326,400	1,698	777	416	170	78
August	2,575	0	9,225	331,200	1,653	842	403	340	156
September	4,836	0	12,032	312,000	1,430	588	393	170	156
October	3,572	414	6,684	321,600	1,397	335	397	340	78
November	3,537	808	17,513	288,000	1,731	---	392	340	156
December	0	1,348	4,011	283,200	1,535	---	403	170	78
Total	26,360	8,940	120,722	3,638,400	20,624	4,075	4,842	3,570	1,014
Average	2,197	745	10,060	303,200	1,719	509	404	298	101
Daily Avg.	72	24	331	9,968	57	11	13	10	3

PORT CHESTER TREATMENT PLANT

TREATMENT PROCESS: Screening and Grit Removal, Primary Settling Tanks, Rotating Biological Contactors, Final Settling Tanks, Sodium Hypochlorite Disinfection, Gravity thickening and liquid sludge removed by contract

COUNTY TRUNK SEWERS: None

SITING ACRES: 3

MUNICIPALITIES SERVED: Town of Rye; Village of Port Chester.

TRIBUTARY POPULATION: 27,272

EMPLOYEES: 15

2013 EXPENDITURES: \$3,181,092

<u>YEAR BUILT</u>	<u>CAPITAL COST</u>
1989 - Secondary Treatment	\$ 43,100,000

FLOW CAPACITIES

2013 ACTUAL FLOW: 4.3 MGD

DESIGN FLOW: 6.0 MGD

HYDRAULIC CAPACITY: 13.4 MGD

PERMITTED FLOW: 6.0 MGD

PUMPING STATIONS

None

PORT CHESTER 2013 HIGHLIGHTS:

- 1) RBC Train 608 Replacement with High Density Media and chemical addition for BNR project is ongoing with Yonkers Contracting Co.
- 2) Rebuilt and installed #2 Final effluent pump. (In House Staff).
- 3) Had roof drains on Process building repaired and coping work done on Process, Admin, and Effluent building.



Port Chester Wastewater Treatment Plant

Port Chester		Annual Performance Report										2013	
Month	Flow	Suspended Solids				Carbonaceous Biochemical Oxygen Demand			Sludge Removal				
	MGD	Influent	Effluent	Efficiency	Influent	Effluent	Efficiency	Gallons	% solids	Dry Tons			
		mg/l	mg/l	% removal	mg/l	mg/l	% removal						
January	4.4	162	9	94	188	13	93	896,000	5.1	172			
February	4.8	102	10	90	171	22	87	784,000	4.6	136			
March	5.1	97	11	88	157	21	87	833,000	5.4	171			
April	4.1	112	12	89	192	21	89	938,000	3.7	132			
May	4.0	124	8	93	192	16	92	917,000	4.4	153			
June	6.2	104	9	92	164	15	91	798,000	4.8	145			
July	4.2	124	9	93	179	12	93	938,000	3.8	135			
August	3.8	128	12	91	212	14	93	1,120,000	2.8	120			
September	3.9	137	15	89	207	19	91	917,000	3.2	110			
October	3.5	139	15	89	220	22	90	1,050,000	3.9	154			
November	3.7	272	14	95	290	20	93	763,000	3.8	110			
December	4.1	265	10	96	260	17	94	924,000	4.0	140			
Average	4.3	147	11	92	203	18	91	906,500	4.1	140			

Port Chester Annual Performance Report 2013

Month	Sodium Hypochlorite	Natural Gas	Fuel Oil	Water	Electric Usage	Sewage Removals	
						Screenings	Grit
	gallons	cubic feet	gallons	cubic feet	kWh	cubic feet	cubic feet
January	8,248	855	6,141	27,037	423,200	350	336
February	7,933	784	6,737	27,659	400,000	266	294
March	7,356	643	6,465	29,633	451,200	280	266
April	5,790	271	4,062	28,790	361,600	266	266
May	9,143	40	86	28,601	361,600	336	322
June	10,554	7	217	25,182	383,200	336	350
July	11,162	5	29	31,853	368,000	280	364
August	13,006	5	149	35,351	355,200	336	322
September	12,337	7	59	29,853	338,400	294	308
October	13,014	95	1,217	39,640	347,200	336	322
November	13,099	582	6,145	29,357	399,200	336	294
December	9,180	813	7,571	28,320	424,000	280	294
Total	120,821	4,107	38,878	361,276	4,612,800	3,696	3,738
Average	10,068	342	3,240	30,106	384,400	308	312
Daily Avg.	331	11	107	990	12,638	10	10

YONKERS JOINT TREATMENT PLANT

TREATMENT PROCESS:	Screening and Grit removal, Primary Treatment, Activated Sludge, Final Clarification, Sodium Hypochlorite Disinfection, dechlorination with sodium bisulfite, Gravity and Dissolved Air Flotation Thickening, Anaerobic Digestion, Dewatering by Centrifuge, sludge cake removed by contract for beneficial use, with a landfill as a backup site.
COUNTY TRUNK SEWERS:	100 miles
SITING ACRES:	27
MUNICIPALITIES SERVED:	Cities of Mount Vernon, New Rochelle, White Plains, and Yonkers; Towns of Bedford, Greenburgh, Mount Pleasant, Mount Kisco, New Castle, North Castle; Villages of Ardsley, Briarcliff Manor, Bronxville, Dobbs Ferry, Elmsford, Hastings, Irvington, Pleasantville, Scarsdale, Sleepy Hollow, Tarrytown, and Tuckahoe.
TRIBUTARY POPULATION:	506,166
EMPLOYEES:	72
2013 EXPENDITURES:	\$57,224,438
<u>YEAR BUILT</u>	<u>CAPITAL COST</u>
1931 - Original Screen Plant	\$ 583,000
1961 - Primary Treatment	\$ 10,300,000
1979 - Secondary Treatment	\$ 84,800,000
<u>FLOW CAPACITIES</u>	
2013 ACTUAL FLOW:	75.8 MGD
DESIGN FLOW:	120 MGD
HYDRAULIC CAPACITY:	330 MGD
PERMITTED FLOW:	120 MGD (12-month rolling average)

YONKERS JOINT (Continued)

<u>PUMPING STATIONS</u>	<u>DESIGN CAPACITY</u>	<u>ACTUAL FLOW</u>
Alexander Street	12.60 MGD	1.198 MGD
Briarcliff	4.90 MGD	0.450 MGD
Dobbs Ferry	0.29 MGD	0.0192 MGD
Hastings	1.44 MGD	0.181 MGD
Hutchinson	28.80 MGD	3.374 MGD
Irvington	11.23 MGD	1.504 MGD
Jackson Avenue	3.46 MGD	0.556 MGD
Ludlow Street	3.90 MGD	0.435 MGD
Main Street	8.10 MGD	0.823 MGD
North Yonkers	74.00 MGD	25.4 MGD
Sprain Lift	1.44 MGD	0.152 MGD
Tarrytown	26.00 MGD	2.488 MGD

Highlights for 2013:

- The Capital Project for the ADG cogeneration engine is approximately 95% complete.
- The Capital Project for the Screen & Grit Building HVAC is approximately 90% complete.
- The Capital Project for the new emergency generator and switchgear is approximately 50% complete.
- A Capital Project was started to rehabilitate several sections of the Bulkhead
- Plant Staff installed a new Digester Gas measuring system
- Plant Staff are in the process of installing a new Automatic D. O. system



Yonkers Joint Wastewater Treatment Plant

Yonkers Joint Annual Performance Report 2013													
Month	Flow	Suspended Solids			Carbonaceous Biochemical Oxygen Demand			Sludge Removed			Removed from Sewage		
	MGD	Influent	Effluent	Efficiency	Influent	Effluent	Efficiency	wet tons	% solids	dry tons	Screenings	Grit	cubic yards
		mg/l	mg/l	% removal	mg/l	mg/l	% removal				pounds		
January	81	148	6	96	164	7	96	3,842	21.7	834	34,000		100
February	87	132	8	94	154	7	96	2,980	22.8	679	32,000		100
March	94	139	11	92	134	10	93	3,280	21.6	709	36,000		140
April	75	202	9	96	167	8	95	3,090	23.2	716	40,000		100
May	77	200	7	97	153	6	96	3,373	22.5	758	44,000		140
June	104	150	8	94	120	8	93	2,753	25.3	696	36,000		120
July	75	184	7	96	142	6	96	3,219	24.2	778	40,000		140
August	65	216	13	94	175	11	94	2,206	23.4	517	34,000		100
September	65	209	13	94	171	11	94	3,053	22.9	700	42,000		100
October	59	231	7	97	194	6	97	2,966	23.8	707	32,000		120
November	60	199	5	97	192	5	97	2,948	21.5	632	38,000		120
December	66	155	10	94	169	18	89	2,922	21.6	630	44,000		140
Average	75.8	180	9	95	161	9	95	3,053	23	696	37,667		118

Yonkers Joint Annual Performance Report 2013									
Month	Sodium Hypochlorite	Liquid Polymer Used	Potassium Permanganate	Sodium Bisulfite	Fuel Oil	Water	Electric Usage		Digester Gas
	gallons	Dewatering	pounds	gallons	gallons	cubic feet	Used	Demand	Produced
		pounds					kWh	kW	CF x 1000
January	56,597	43,125	---	15,862	39,303	615,100	2,760,933	4,046	14,680
February	48,451	36,995	---	12,620	38,425	359,400	2,429,777	4,046	35,788
March	48,185	43,530	---	18,865	45,597	569,646	2,667,390	4,046	35,557
April	41,431	42,254	---	17,569	38,245	376,641	2,417,595	4,046	37,306
May	54,661	47,732	3,000	23,752	1,005	299,221	2,592,383	4,046	27,385
June	57,398	34,048	300	19,426	87	250,441	2,466,701	4,046	29,765
July	53,429	42,795	---	17,907	0	371,197	2,685,581	4,046	28,886
August	57,561	33,012	900	17,730	3,536	404,880	2,578,862	4,046	29,899
September	46,168	38,795	1,200	18,030	822	466,760	2,635,375	4,046	27,257
October	46,255	40,900	---	17,362	957	387,276	2,771,761	4,046	25,556
November	41,522	40,710	---	13,718	15	329,023	2,757,878	4,046	23,060
December	44,364	45,767	---	15,173	1,867	445,958	2,881,354	4,226	24,227
Total	596,022	489,663	5,400	208,014	169,859	4,875,543	31,645,590	48,732	339,365
Average	49,669	40,805	1,350	17,335	14,155	406,295	2,637,133	4,061	28,280
Daily Avg.	1,633	1,342	15	570	465	13,358	86,700	134	930
									839

MAINTENANCE SECTION

The Maintenance Section has 68 people in various duties. The Maintenance section is responsible for maintaining the County's sewage pumping stations, interceptor sewers and forcemains.

Pump Stations - 36 people

- A total of 42 pump stations and 2 Overflow Retention Facilities (ORF's) located throughout the County including the Croton Landfill are operated, repaired, and maintained by this section.
- Emergency generators have been installed at all Pump Stations, except for Beaver Brook, Circle Avenue, Country Club and the Croton Landfill stations. These stations will obtain emergency power from portable generators
- Pump Station Major Rehabilitation Program 2013 status: Woodbine, Magnolia, and Hutchinson Pump Stations are under construction. Tarrytown, East Basin, West Basin and Edgewater pump stations are in design. Design for all five (5) Croton Landfill pump stations is complete and construction has been bid.

Outside Maintenance (Collection System) - 28 people

- Sewer maintenance: repair and clean all County sewers, manholes, regulators and air release valves as needed.
- Receives requests and performs markouts for the Dig Safely New York Program. (Formerly called the UFPO - Code 753). In 2013, there were a total of 23,010 Dig Safely New York requests that were received from April 1 on in 2013. There was a database issue with Dig Safely NY from January 1 to March 31 that prevented counting the total number of requests received for this time period. A total of 757 requests required mark out by outside maintenance crews. This covers the entire calendar year for the number of mark outs performed by our crews, as this was tracked internally.
- Picks up garbage, rags and screenings from the seven Treatment Plants and the three major Pump Stations and transports it to the RESCO facility.
- Provide emergency hauling of sludge or Airport deicing fluid and transports it for disposal to the Hawthorne Receiving Manhole.
- Provide bypass trucking of sewage in the event of a sewer break or similar emergency.
- Specialized crews: Electricians, machinists, welders, and instrumentation mechanics, handling all those specialized crafts primarily at the pump stations.
- Operates and Maintains the Hawthorne Receiving Manhole for septage disposal by licensed private septage haulers.

Projects that were performed in 2013 include the following:

- The outside maintenance and/or pump station crews were used for sewer overflow response at the following locations: Mount Kisco Force Main Air Release Valve in Chappaqua, Central Avenue lateral sewer in Rye, West Basin Pump Station in Mamaroneck, the New Rochelle West Interceptor behind Shore/ Pelham Road in the Village of Pelham Manor and the City of New Rochelle, the McGregory Brook Interceptor located behind 1821 Main Street in Peekskill, at the Odell Avenue and Wells

Avenue Regulators in the City of Yonkers, and at the Kinderhogen Sewer located at Taconic Parkway and Pleasantville Road in Briarcliff Manor.

- The outside maintenance and pump station crews were used in conjunction with the County's Emergency Contractor for pipe breaks on the Blind Brook sludge force main, the Saxon Woods PS force main, Edgewater PS force main, Fenimore Road PS force main, the Glen Island Administration PS force main and the Park Avenue Sewer (Saw Mill Section K-2 Branch) blockage in Greenburgh.
- The outside maintenance crews performed regular sewer cleaning and inspections at the following locations in 2013:
 - North Yonkers Hastings Low Level Sewer approximately every two months
 - Kinderogen Sewer approximately every six months
 - Brookdale Sewer in Rye approximately every month
 - Greenhaven Sewer in Rye approximately every month
 - South Yonkers Trunk Sewer Low Level from Pier Street Regulator to Ludlow Street Pump Station approximately every six months
 - Westlake Sewers in Mount Pleasant once per year.

Engineering - 4 people

- This section receives Dig Safely New York (Code 753) requests for utility markouts and processes the requests with the help of our Outside Maintenance Section.
- This section also tracks and processes the sampling and data collection for the Hawthorne Receiving Manhole and Croton Landfill. Reports are generated according to regulatory requirements for the operation of these facilities. In early 2014, this responsibility was passed over to the Solid Waste Division.
- This section monitors and compiles the data for the operation of the Combined Sewer Overflow (CSO) facility at the North Yonkers Pumping Station to satisfy all NYSDEC SPDES permit requirements for this operation.
- This section compiles, edits, and produces the Annual Report for this Department.
- This section performs review of plans and specifications for various Department projects, and new connections to the County Trunk Sewer System.
- To ensure compliance with the Best Management Practices and forthcoming CMOM Regulations, a new software program has been developed to automate the Manhole Inspection Program. This program will also enhance the Dig Safely New York markout request lookup.
- Capacity, Management, Operations and Maintenance (C.M.O.M.) Program has begun with locating and digital mapping of all 3,500 County sanitary manholes and 155 miles of County gravity sewers using Global Positioning Satellites (GPS). The program of inspecting all County owned manholes continued in 2013. A total of 295 manhole inspections were performed.

Major Projects that were performed in 2013 include the following:

- Completed the design of an inverted siphon replacement on the Ossining North Interceptor sewer at the intersection of Water Street and Snowden Avenue. The inverted siphon has been a source of odor complaints by the surrounding businesses for a number of years. The replacement of the siphon with a relocated gravity sewer through Snowden Park was proposed with the Village of Ossining's input in order to reduce the impact of odors in the area. The project is currently on hold, pending allocation of funding.

- Selected a consultant, executed a contract and started the design of repairs of pipe defects identified during the Phase I and Phase II CCTV work performed in the CMOM program. Project is currently at the 60% Design Phase.
- Completed a flow monitoring project with the help of an outside contractor on the Hutchinson River High Level Trunk Sewer in the Village of Scarsdale/ City of New Rochelle in response to complaints of recurring sewer backups during storm events in the Village of Scarsdale. The outside contractor, along with our CMOM consultant, performed a new flow monitoring program. The results of this flow monitoring were compared with the results from the previous flow monitoring program. It was determined the effectiveness of the heavy cleaning performed in April, 2012 by our outside contractor was sufficient to restore the flow capacity to the pipe. This area was cleaned again by our outside contractor in 2013, and it is scheduled to be cleaned and televised in 2014. It was also determined during this study that both municipalities contribute flow to the trunk sewer in excess of 150 gallons per capita per day.
- Continued design of repairs of eroded areas along the North Yonkers Trunk Sewer in the City of Yonkers, Village of Hastings-on-Hudson and the Village of Dobbs Ferry. Our consultant is currently at 90% design on this project.
- A project to construct a new driveway access to the Sprain Lift Pump Station from Jackson Avenue has begun. The current access to the station is the northbound left lane of the Sprain Brook Parkway. A consultant has been selected and design has commenced.
- Began Phase III of the C.M.O.M. CCTV work. Awarded the first contract for Phase IIIA of this work to an outside contractor to perform an internal CCTV, Sonar and 3D Laser profile of the 78" diameter Saw Mill Trunk Sewer Tunnel (total inspection approximately 9,788 feet). Additionally, the contractor is to perform a heavy cleaning and internal CCTV of the 20" and 24" diameter North Yonkers Low Level Trunk Sewer Section K along Alexander Street. All work is located in the City of Yonkers, and involves an inspection of approximately 11,948 feet (2.26 miles) of sewer, 9 manholes and 5 tunnel shafts. Work will be completed in 2014 on Phase IIIA.

North Yonkers				Annual Performance Report					2013	
Month	Flow to YONKERS	Flow to CSO	Sodium Hypochlorite	Chlorine Dosage	Grit	Fuel Oil	Natural Gas	Electric Usage	Water	
	MGD	MGal	gallons	mg/L	cubic feet	gallons	cubic feet	kWh**	cubic feet**	
January	19.4	--	--	--	--	6,900	--	O/S*	O/S *	
February	27.8	--	--	--	540	4,030	1,217	177	O/S *	
March	30.6	--	--	--	--	5,000	917	165	O/S *	
April	26.2	--	--	--	540	--	209	166	O/S *	
May	31.4	9.58	874	13.7	--	--	17	166	O/S *	
June	38.5	15.46	6,476	62.8	1,080	--	1	188	O/S *	
July	25.6	--	--	--	1,080	--	--	173	O/S *	
August	22.2	--	--	--	540	--	--	139	O/S *	
September	21.1	2.27	851	56.2	540	--	--	139	O/S *	
October	20.0	--	--	--	540	--	48	151	O/S *	
November	20.7	--	--	--	--	--	486	192	O/S *	
December	21.1	3.04	994	49.0	1,080	2,700	1,316	189	O/S *	
Total	n/a	30.35	9,195	n/a	5,940	18,630	5,781	1,845	**	
Average	n/a	7.59	2,299	45.4	743	4,658	526	168	**	
Daily Average	25.4	0.08	25	n/a	16	51	16	5	**	
**City Water meter broken during Main Pump upgrade and out of service as of 1/14/2009										
** No Electric Reading for January Due to loss of utility power and electrical damage from October, 2012 storm										

**City Water meter broken during Main Pump upgrade and out of service as of 1/14/2009

** No Electric Reading for January Due to loss of utility power and electrical damage from October, 2012 storm

Yonkers Joint Districts											2013
Pump Stations											
Month	Alexander St	Briarcliff	Dobbs Ferry	Hastings	Hutchinson	Ivington	Jackson Ave	Ludlow St	Main St	Sprain Lift	Tarrytown
	gal/day	gal/day	gal/day	gal/day	gal/day	gal/day	gal/day	gal/day	gal/day	gal/day	gal/day
January	881,419	741,855	11,054	127,680	3,131,612	1,516,666	477,736	344,356	706,240	140,700	2,333,000
February	997,071	514,800	18,936	221,142	3,213,857	1,676,714	494,963	386,806	826,885	160,928	2,540,000
March	964,451	660,748	20,833	254,032	3,147,870	2,014,741	688,701	422,406	983,806	216,483	2,732,516
April	844,800	515,970	19,767	200,700	3,281,200	1,472,066	586,432	515,966	548,733	159,900	2,397,033
May	1,021,935	510,686	21,447	180,000	3,261,677	1,605,548	565,823	395,653	890,825	219,774	2,847,258
June	1,718,640	617,253	28,240	237,000	4,727,612	2,126,433	813,729	532,684	1,121,200	195,800	3,422,800
July	1,297,219	327,335	26,609	170,225	3,346,400	1,498,645	545,999	561,560	939,677	156,387	2,669,742
August	1,209,419	227,470	20,806	90,580	3,324,387	1,244,290	418,690	453,609	668,012	111,580	2,419,064
September	1,153,066	238,602	20,644	255,900	3,070,400	1,210,966	494,352	439,299	758,720	117,900	2,200,047
October	1,319,903	380,270	15,224	128,806	3,184,645	1,272,387	338,782	425,881	806,593	84,387	2,046,774
November	1,201,366	239,421	13,186	196,200	2,910,000	1,175,600	579,862	343,178	792,160	111,000	2,099,133
December	1,767,096	425,161	13,186	110,903	3,893,747	1,232,967	663,550	396,389	828,503	152,806	2,142,839
Avg. GPD	1,198,032	449,964	19,161	181,097	3,374,451	1,503,919	555,718	434,816	822,613	152,304	2,487,517
Avg. MGD	1.198	0.450	0.0192	0.181	3.374	1.504	0.556	0.435	0.823	0.152	2.488

Pump Stations							Ossining & Peekskill Districts			2013
Month	Archville	Country Club	Croton	Crotonville	Kemey's Cove	Mill St	Water St			
	gal/day	gal/day	gal/day	gal/day	gal/day	gal/day	gal/day			
January	11,453	1,383	623,954	916,257	267,290	1,082,825	2,111,996			
February	8,006	1,647	476,100	614,428	313,071	1,091,828	2,335,346			
March	8,580	1,922	590,800	1,073,031	381,870	1,275,120	2,635,356			
April	6,891	1,288	694,248	1,008,600	226,600	980,320	2,179,050			
May	7,873	553	733,606	1,032,790	286,064	1,078,141	2,123,896			
June	16,275	870	1,040,607	1,285,300	470,800	1,377,640	2,664,266			
July	7,409	874	698,799	866,612	196,258	930,387	2,046,606			
August	10,977	896	577,978	796,880	154,258	878,012	2,092,674			
September	3,633	962	572,828	776,300	149,600	863,280	2,019,400			
October	5,159	679	523,161	741,676	143,806	798,812	1,953,658			
November	4,125	1,070	538,170	721,680	155,400	848,320	1,859,680			
December	5,362	1,196	545,319	752,128	180,387	1,028,748	1,963,625			
Avg. GPD	7,979	1,112	634,631	882,140	243,784	1,019,453	2,165,463			
Avg. MGD	0.008	0.0011	0.635	0.882	0.244	1.019	2.165			

Pump Stations			Croton Landfill Pump Stations			2013
Month	Ballfield	Seeps	Pump Station No. 1	Condensate	Pump Station No. 2	
	gal/day	gal/day	gal/day	gal/day	gal/day	
January	36	2,116	6,146	10	43,405	
February	0	2,343	7,140	11	46,756	
March	0	2,770	8,877	30	54,709	
April	0	1,701	5,096	10	42,868	
May	0	2,796	6,753	50	38,392	
June	150	5,346	12,387	42	94,001	
July	36	993	6,070	0	49,697	
August	0	993	5,463	10	54,496	
September	38	945	5,410	10	43,970	
October	109	235	4,021	10	37,432	
November	188	1,377	5,096	42	33,280	
December	146	3,371	8,953	0	54,496	
Avg. GPD	59	2,082	6,784	19	49,458	
Avg. MGD	0.0001	0.0021	0.0068	0.000019	0.0495	

Blind Brook & Mamaroneck Districts										2013
Month	Beaver Brook	Cove Rd	East Basin	Edgewater	Fenimore	Playland	Saxon Woods	Weaver St	West Basin	
	gal/day	gal/day	gal/day	gal/day	gal/day	gal/day	gal/day	gal/day	gal/day	
January	6,195	59,341	240,677	89,256	189,426	309,677	72,603	294,387	1,316,114	
February	6,724	64,692	275,142	110,738	245,825	378,571	81,887	341,035	868,114	
March	6,125	68,709	319,258	139,320	252,443	396,774	70,722	369,870	1,178,167	
April	5,004	41,575	222,700	86,508	138,021	233,333	52,200	263,700	819,840	
May	4,604	48,352	195,580	133,780	143,847	274,193	49,505	304,258	737,032	
June	7,638	111,000	417,800	169,452	294,489	646,666	43,618	598,200	1,590,080	
July	3,553	64,170	157,741	106,188	130,800	309,677	82,260	304,838	634,993	
August	3,187	41,893	166,548	85,180	87,083	219,354	36,232	232,838	1,505,961	
September	3,960	42,775	151,200	72,492	80,301	526,666	35,784	225,600	855,840	
October	3,402	42,000	142,258	79,850	69,193	193,548	36,092	227,903	744,619	
November	2,532	28,785	142,600	61,236	71,487	170,000	49,752	238,500	408,160	
December	4,047	56,772	207,580	81,418	154,447	338,709	56,299	327,774	492,696	
Avg. GPD	4,748	55,839	219,924	101,285	154,780	333,097	55,580	310,742	929,301	
Avg. MGD	0.005	0.056	0.220	0.101	0.155	0.333	0.056	0.311	0.929	

Pump Stations				New Rochelle District				2013	
Month	Beach Ave	Circle/Park	Fifth Ave	Flint Ave	Glen Island Admin	Glen Island Casino	Magnolia	Sutton Manor	Woodbine
	gal/day	gal/day	gal/day	gal/day	gal/day	gal/day	gal/day	gal/day	gal/day
January	155,632	76,064	228,067	1,582,083	69,096	42,225	11,000*	29,212	90,000
February	212,665	97,821	256,839	1,592,485	64,285	36,642	11,000*	42,467	163,853
March	195,330	99,483	277,348	1,579,954	63,000	39,300	11,000*	48,600	165,174
April	142,588	44,785	211,586	1,587,080	68,200	42,000	11,000*	28,512	91,270
May	165,452	63,967	223,841	1,579,954	67,935	32,661	11,000*	27,644	115,964
June	314,674	181,000	313,896	1,746,140	128,400	32,760	46,650	97,254	214,500
July	174,690	97,451	204,251	1,586,129	78,516	31,935	19,838	32,504	121,000
August	142,565	66,677	174,722	1,589,748	69,225	30,687	13,645	32,347	130,000*
September	148,608	61,000	178,470	1,577,180	69,677	28,800	11,600	32,076	130,000*
October	122,258	51,000	169,635	1,580,167	58,645	31,500	9,580	38,200	130,000*
November	124,184	60,400	177,503	1,589,940	55,741	19,290	15,267	58,698	130,000*
December	169,947	95,516	210,864	1,538,651	61,387	20,129	19,225	91,503	130,000*
Avg. GPD	172,383	82,930	218,919	1,594,126	71,176	32,327	19,401	46,585	137,394
Avg. MGD	0.172	0.083	0.219	1.594	0.071	0.032	0.019	0.047	0.137
* Magnolia flow metering out of service due to Super Storm Sandy. Flow estimated January through May									
** Woodbine under rehabilitation August through December. Flow estimated.									

Sludge and Septage Disposal at Hawthorne						2013
Month	Sanitary Waste Disposal Contractors	Peekskill WWTP	Yorktown Garage	Other Green Tickets	Sprout Brook	Westchester County Airport
	gallons	gallons	gallons	gallons	gallons	gallons
January	813,050	---	2,000	300	---	115,000
February	582,950	3,000	---	---	---	105,000
March	892,750	45,000	---	---	---	110,000
April	1,324,350	10,000	---	---	20,000	75,000
May	1,412,875	5,000	---	2,000	---	---
June	1,371,300	5,000	---	---	---	---
July	1,226,925	5,000	---	---	---	15,000
August	1,209,650	10,000	---	1,000	---	15,000
September	1,129,395	5,000	---	1,000	---	---
October	1,362,205	5,000	---	---	---	---
November	1,158,385	10,000	---	---	---	5,000
December	957,050	2,500	---	2,500	---	169,000
Total	13,440,885	105,500	2,000	6,800	20,000	609,000
Average	1,120,074	9,591	2,000	1,360	20,000	76,125
Daily Average	36,824	289	5	19	55	1,668

WATER DIVISION COUNTY WATER DISTRICT No. 1

TREATMENT PROCESS:	<p>Kensico Dam Facility - Disinfection using sodium hypochlorite, pH adjustment with sodium hydroxide (caustic soda) and corrosion control using orthophosphate.</p> <p>Shaft 22 Facility - Disinfection using gaseous chlorine, pH adjustment using caustic soda and corrosion control using orthophosphate.</p>
MUNICIPALITIES SERVED:	Cities of Mount Vernon, White Plains and Yonkers; Village of Scarsdale.
GENERAL INFORMATION:	<p>The Cities of Mount Vernon, White Plains and Yonkers and the Village of Scarsdale formed the District in 1964. The District purchased the 48" Kensico-Bronx pipeline from the City of New York, rehabilitated it, and built a metering and chlorination facility at the source inside New York City's Kensico Dam. An emergency connection to Shaft No. 22 of the Delaware Aqueduct in Yonkers was also constructed. Since 1978, this connection has been used full time to supply approximately half the District's water.</p>
EMPLOYEES:	4
2013 EXPENDITURES:	\$17,298,657

COUNTY WATER DISTRICT No. 1 2013 HIGHLIGHTS:

- Started up first of 2 new chlorine tablet systems at Shaft 22.
- Installed new generator at Kensico.
- Began "in-house" design for replacement of all chemical feed pumps and control and monitoring systems for Kensico.
- Began design for new UV treatment facilities for WD # 1.
- Fire Hydrant replacement project continued in 2013.

Kensico Annual Performance Report 2013						
Month	Flow	Raw Water Chlorination		Sodium Hydroxide	Turbidity	Orthophosphate
	MGD	Sodium Hypochlorite	Residual	gallons	Finished Water	gallons
		gallons	mg/L		NTU	
January	12.1	5,417	1.50	1,121	1.26	1,617
February	11.8	4,895	1.48	1,077	1.46	1,490
March	11.8	5,479	1.50	1,124	1.41	1,550
April	13.1	5,487	1.44	1,230	1.20	1,774
May	13.6	8,217	1.45	2,171	0.75	2,271
June	15.4	9,151	1.61	3,168	0.67	2,373
July	18.7	10,217	1.79	4,452	0.54	2,750
August	16.9	9,210	1.74	5,276	0.49	2,349
September	15.2	8,449	1.79	6,584	0.53	2,916
October	12.1	7,272	1.62	7,284	0.58	2,071
November	11.4	5,339	1.59	4,336	0.71	1,592
December	10.8	5,389	1.56	1,671	1.11	1,596
Total	n/a	84,522	n/a	39,494	n/a	24,349
Average	13.6	7,044	1.59	3,291	0.89	2,029
Daily Average	n/a	232	n/a	108	n/a	67

Shaft 22 Annual Performance Report 2013									
Month	Flow	Raw Water Chlorination		Sodium Hydroxide	Turbidity		Orthophosphate		
	MGD	Chlorine pounds	Residual mg/L	gallons	Finished Water	NTU	gallons		
January	14.1	2,853	1.29	6,420		1.03	3,242		
February	11.3	2,684	1.26	5,999		1.19	2,874		
March	11.2	2,933	1.19	6,793		1.09	3,193		
April	12.2	2,998	1.25	6,256		1.08	3,210		
May	12.0	2,605	1.17	5,725		0.93	1,925		
June	13.6	1,850	1.31	6,378		0.76	1,795		
July	14.3	1,552	1.39	7,541		0.83	3,069		
August	13.8	1,455	1.35	8,356		0.91	2,848		
September	13.2	3,394	1.37	8,806		0.98	3,016		
October	11.8	4,950	1.35	7,112		0.97	2,990		
November	11.7	4,950	1.45	5,935		0.91	2,805		
December	11.2	5,060	1.46	5,064		1.12	3,151		
Total	n/a	37,284	n/a	80,385		n/a	34,118		
Average	12.5	3,107	1.32	6,699		0.98	2,843		
Daily Average	n/a	102	n/a	220		n/a	93		

COUNTY WATER DISTRICT No. 3

TREATMENT PROCESS:	Disinfection using ultraviolet light and corrosion control using sodium hydroxide (caustic soda) and orthophosphate. Treated water is pumped to a 1.5 million gallon elevated storage tank that equalizes pressure within the distribution system.
POPULATION SERVED:	5,500 (per NYC water supply agreement). Serving over fifty separate County, State, and private facilities including: Westchester Medical Center, Westchester County Correctional Facility, New York Medical College, Fire Training Center, and the New York State Department of Transportation.
GENERAL INFORMATION:	The Gate of Heaven Pump Station connects via Commerce Street to the Delaware Aqueduct south of Kensico Reservoir and provides treated water to the Grasslands Reservation. In addition to the primary supply, there is one supplemental/emergency supply from the Town of Greenburgh.
EMPLOYEES:	2
2013 EXPENDITURES:	\$2,705,632

COUNTY WATER DISTRICT No. 3 2013 HIGHLIGHTS:

- The new UV Disinfection system operated successfully throughout the year.
- Construction for District Improvements at Gate of Heaven Pump Station was completed.
- Installed new storage shed on Valhalla Campus.
- Fire hydrant, valve and water meter replacement contract continued.

Month	Flow from NYC	Raw Water Chlorination		Sodium Hydroxide	Turbidity	Orthophosphate
	Average MG per day	Sodium Hypochlorite	Residual	gallons	Finished Water	gallons
		gallons	mg/L		NTU	
January	0.50	1,348	0.82	300	1.15	232
February	0.52	1,256	0.78	176	1.10	200
March	0.54	1,536	0.85	152	1.24	208
April	0.59	1,378	0.75	140	1.18	260
May	0.76	1,244	0.68	134	1.27	250
June	0.74	1,548	0.67	160	1.39	280
July	0.88	1,432	0.77	161	1.42	181
August	0.96	1,359	0.73	178	1.38	164
September	0.81	1,337	0.77	180	1.45	160
October	0.67	1,274	0.80	176	1.22	148
November	0.57	1,250	0.80	165	1.32	138
December	0.53	1,263	0.82	164	1.38	132
Total	n/a	16,225	n/a	2,086	n/a	2,353
Average	0.67	1,352	0.77	174	1.29	196
Daily Average	n/a	44	n/a	6	n/a	6

SAFETY AND TRAINING

DEFs newly implemented internal I2P2 “Safety First” Emphasis Program is showing significant results this past year with only 64 reported accidents, half of which had no loss-time. This Incident & Injury Prevention Program’s is centered on employee safety awareness through training efforts. It is important to mention DEF is still undergoing a significant level of infrastructural upgrades at the Wastewater Treat Facilities and Pump Stations. With all the construction & challenging weather patterns, DEF employees are experiencing even more obstacles when trying to get the job done. DEF relies heavily on its educated staff, who are encouraged to get involved and be aware of potential hazards. Involving employees in the process of maintaining a safe workplace, promotes safety-mindedness and results in cooperation with a sense of wellbeing.

In addition to the OSHA-required training and medical surveillance provided to DEF employees, DEF continues on a path of Staff Development by offering outside technical and job-advancement training. A significant amount of employee turnover due to retirements and new hires has kept DEFs Training Division busy.

DEF recognizes its employees are its greatest asset. The Health & Safety Plan will continue to focus on the employees ability to problem solve and risk prevention, which are the key factors to maintain a safe work place.

SAFETY TRAINING, CONFERENCES & MEDICAL SURVEILLANCE

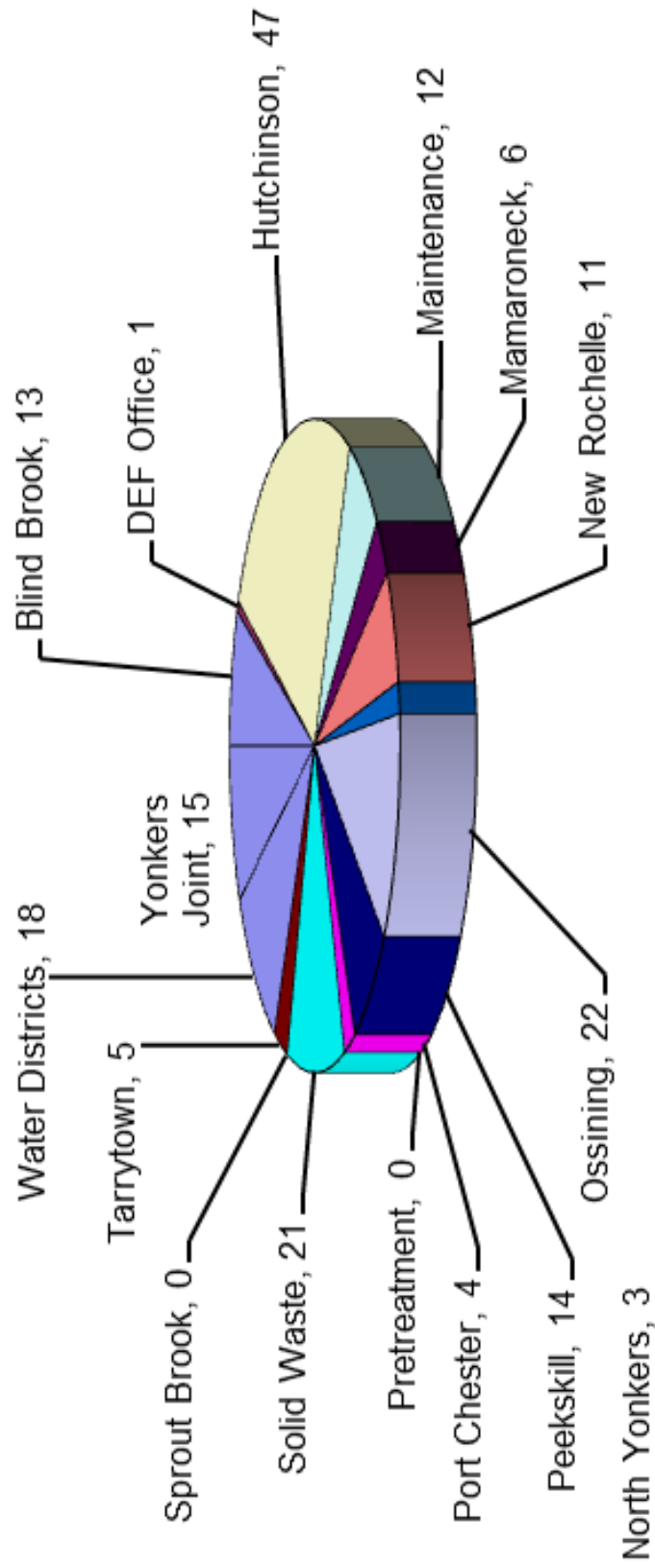
2013

<u>Program</u>	<u>Number of Attendees</u>	<u>Provider</u>
HAZWOPER Initial	17	DEF/P. McDonough
HAZWOPER Refresher	276	DEF/P. McDonough
Confined Space Entry Initial	8	DEF/P. McDonough
Confined Space Entry Refresher	257	DEF/P. McDonough
Lock-out/Tag-out Refresher	257	DEF/P. McDonough
Forklift/Skid Steer Operator	52	DEF/P. McDonough
Adult CPR (w/AED)	59	DEF/P. McDonough
Respiratory Fit Testing	247	DEF/P. McDonough
Scott 4.5 AirPak (SCBA)	45	DEF/P. McDonough
Workplace Violence Prevention	332	DEF/County
Spill Drills	25	DEF/P. McDonough
Hazard Awareness Training/Croton HS	5	DEF/P. McDonough
WWTP Grade 3/Technical Operations	1	BOCES Monroe College
WWTP Basic Operations/DEC	8	Morrisville State College
WWTP Grade 4/Management	3	Morrisville State College
Proper Sampling for Process & Reporting	1	NEIWPCC
Intro. To Predictive Maint. & Machinery	3	NEIWPCC
Chemical Metering: Pumps Alternatives...	8	NEIWPCC
Clarifier Optimization & Flow Measure...	2	Suffolk CTY DPW
2013 NYWEA Tech Conf. & Exhibition	15	NY Water Envir. Assoc.
DMR-Electronic Reporting & Proper Com...	7	NYWEA
Annual Meeting	1	NYSSPE
CNA Environmental Water Workshop	1	CNA Environmental Inc.
Drinking Water Systems & Your Future	1	Westchester Water Works
Rockwell Automation on the Move	6	HESCO, Horizon Sol., Mid-Is...
OSHA Training Inst.-Instructor Meeting	1	OSHA Train, Keene College
Electric, Fire & Machine Safety	1	NENY Safety & Health Council
Respiratory Clearance Physicals	21	Partners-in-Safety
Hazwoper Physicals	26	Partners-in-Safety

Accident Summary							2013
Facility	Employees	Total Hours Worked	Injuries		Days Lost		
			number	per 100,000 hours	number	per 100,000 hours	
Blind Brook	13	23,660	3	13	28	118	
DEF Office	45	81,900	1	1	0	0	
Hutchinson	7	12,740	6	47	68	534	
Maintenance	28	50,960	6	12	8	16	
Mamaroneck	17	30,940	2	6	36	116	
New Rochelle	35	63,700	7	11	40	63	
North Yonkers	18	32,760	1	3	0	0	
Ossining	15	27,300	6	22	27	99	
Peekskill	16	29,120	4	14	12	41	
Port Chester	15	27,300	1	4	117	429	
Pretreatment	4	7,280	0	0	0	0	
Solid Waste	8	14,560	3	21	0	0	
Sprout Brook	4	7,280	0	0	0	0	
Tarrytown	11	20,020	1	5	21	105	
Water Districts	6	10,920	2	18	4	37	
Yonkers Joint	72	131,040	20	15	184	140	
Total	314	571,480	63	192	545	1,698	
Average			4	12	34	106	

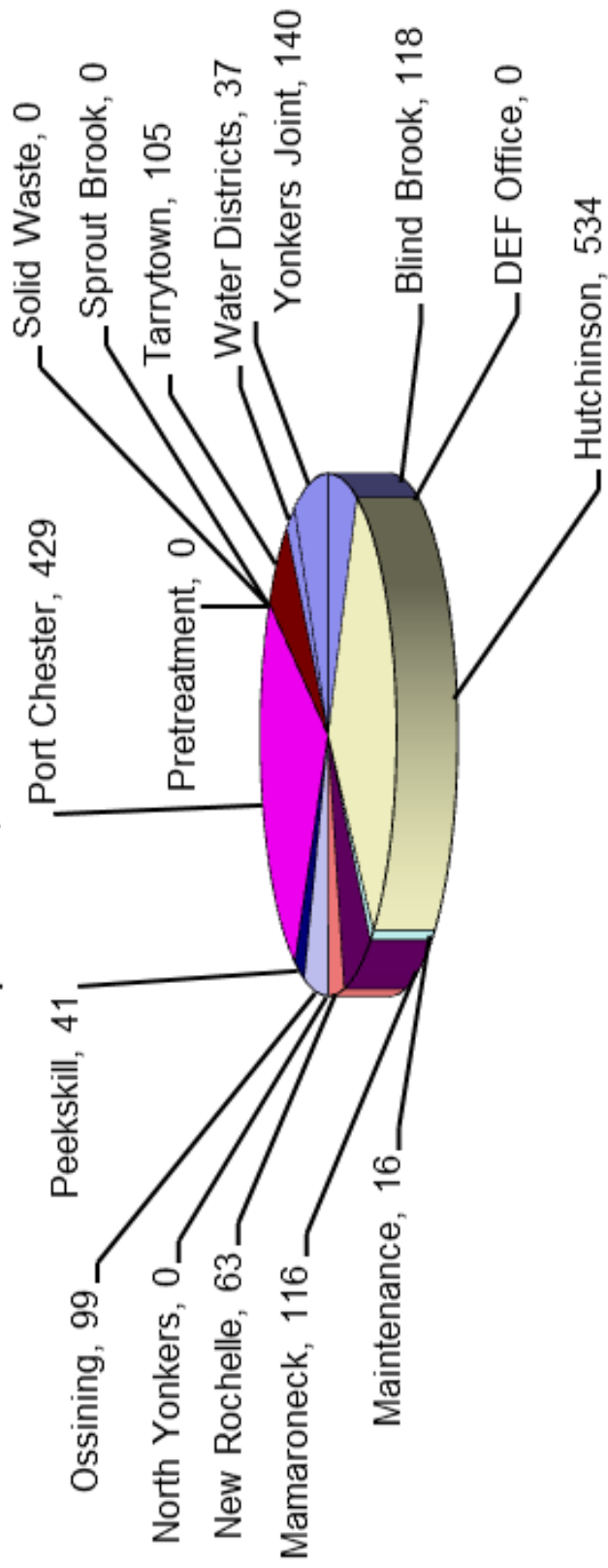
2013 Injuries

per 100,000 hours worked



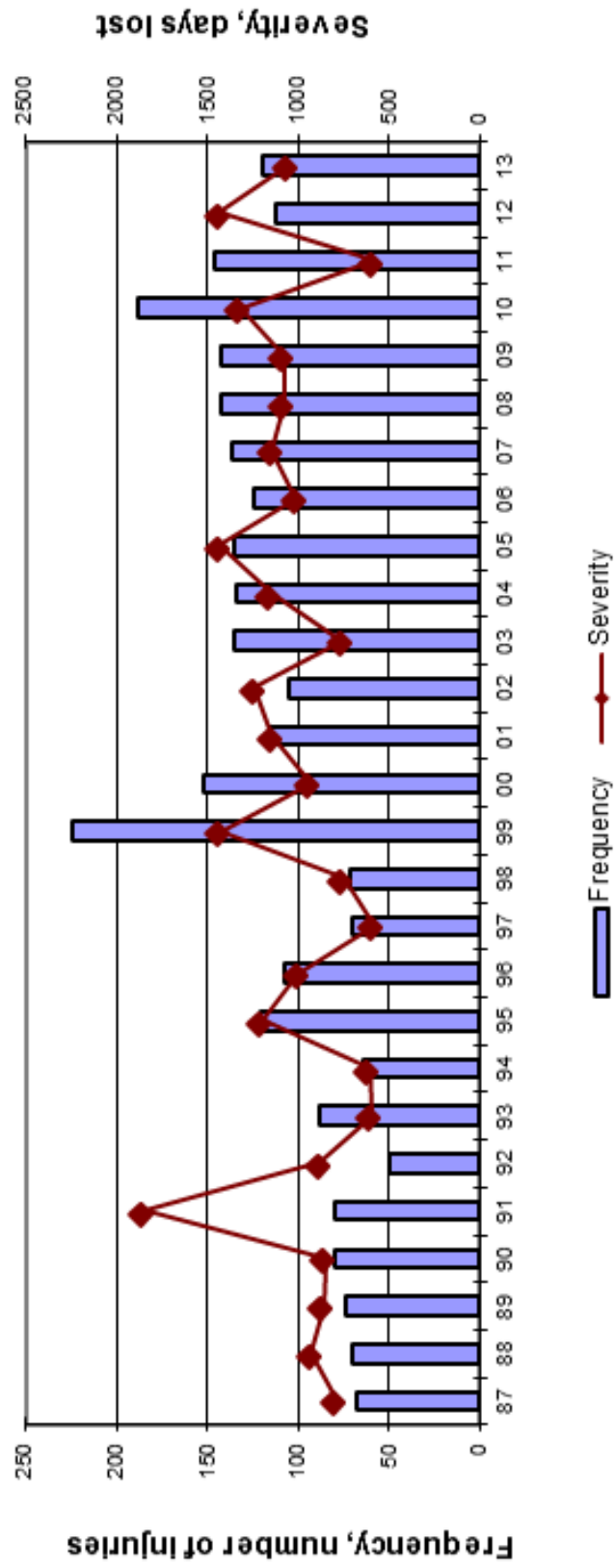
2013 Days Lost

per 100,000 hours worked



Annual Accident Statistics

per 1,000,000 hours worked



DEF Division of Solid Waste Management Annual Summary

The Westchester County Department of Environmental Facilities (DEF) serves as the State's designated Planning Unit for Westchester's 43 municipalities, and manages Refuse Disposal District (RDD) No. 1, to which 36 of the County's municipalities belong. DEF oversees several solid waste and recycling facilities, which handle about 90% of the residential waste stream, as well as several countywide recycling and waste reduction programs and services.

Over the past three decades, Westchester County has positioned itself in the vanguard of municipal waste management. In 2013, the County continued to demonstrate why it is considered a regional leader in the field of environmental management by posting a recycling rate of 50%, far outpacing the EPA national average of 34% and the New York State average of 36%. The EPA places waste reduction at the top of its solid waste management hierarchy, meaning that reduction of waste at the source is the most preferred method of solid waste management. In keeping with that, Westchester County promotes waste reduction practices at home and in the workplace. In 2013, Westchester County generated almost 120,000 tons less solid waste (which includes recyclables and garbage) than in 2012, a 7% decrease in total waste generation.

The County's overall recycling rate of 50% includes a wide variety of materials that municipalities collected and diverted from the waste stream beyond cans, bottles and paper collected curbside, such as roadway millings, large bulk metals, construction debris, and composted organic waste.

In December 2010, the New York State Department of Environmental Conservation finalized its Solid Waste Management Plan, which outlines a course of action for the next twenty years. The State's Plan, titled "Beyond Waste", identified a new goal for all Planning Units to drastically reduce solid waste disposed (i.e., non-recyclable waste), eventually reaching 0.6 pounds per person per day ("PPD") by 2030. In 2013, the County's average of 3.71 PPD improved upon the 2012 average of 3.81 PPD. The County's PPD was again substantially lower than the EPA national average of 4.43 PPD. Toward this goal, the volume of residential trash generated within the County decreased for the sixth consecutive year. In 2007, residents, countywide, disposed of a record high 502,239 tons of garbage, compared to 392,720 tons in 2013, ***a reduction of over 27%***. (These figures include tonnage reported by all 43 local municipalities.)

In April 2013, Westchester initiated a Food Rescue Program and campaign, followed by a summer long program to address food waste composting technologies and food waste reduction and recovery initiatives to local businesses, schools, and institutions. More on this initiative is in this report.

DEF believes that the environmental programs in place in Westchester County, including daily tours at the County's newly renovated Material Recovery Facility's Education Center, the recycling of municipally collected yard waste under the Organic Yard Waste Transfer Station IMA Program, daily recycling enforcement activities, operation of the Household-Material Recovery Facility, the support of Food Rescue and Diversion efforts, and other programs that will be discussed in this report, all contribute to Westchester's excellent performance. The

County and DEF remain committed to serving as a leader in the environmental field in 2014 and beyond.

DEF/Recycling & Solid Waste Facilities

1. Material Recovery Facility (MRF):

The MRF continues to serve as the primary recycling facility for the municipalities in the Refuse Disposal District. The items delivered and processed at the MRF, and sold to recycling markets include: aluminum (cans and foil); ferrous metals; plastics (coded 1–7); plastic boat wrap; newspaper; corrugated cardboard; telephone books and assorted paper, including paper from the Mobile Shredder.

In 2011, the MRF underwent a significant renovation, replacing all of the equipment that sorts metal, glass and plastic recyclables. The new equipment includes state of the art optical sorters, which allow the County to process all plastics coded #1–7. The previous commingled sorting system was equipped to handle only plastics coded #1–2. The new system also offers greater efficiency, capturing plastic material that was previously rejected as garbage under the old system. Following the retrofit, the quantity of plastics recycled and the revenue from those plastics increased by over 50% (3,351 tons in 2010 compared to 5,187 tons in 2012 and 5,033 tons in 2013).



In 2013, 72,000 tons of recyclables were brought to the MRF and processed, generating more than \$5.4 million in revenue. Over the past three years the County has realized \$18.8 Million in revenue from the sale of MRF recyclables- an average of about \$6.3 Million annually. In addition, in 2013 the RDD saved over \$7.3 million by not having to dispose of these recyclables as garbage.

2. Charles Point Resource Recovery Facility: _

The Waste-to-Energy facility in Peekskill, known as the Charles Point Resource Recovery Facility (CPRRF), and operated by Wheelabrator Westchester, L.P., utilizes municipally and privately collected solid waste as a feedstock to create electricity. The plant has a magnetic separation system that extracts ferrous metals from the ash, which is subsequently recycled. The incineration of solid waste at Charles Point provides several Westchester communities the opportunity to reduce the volume of, and potential health problems inherent in, solid waste disposal. It also provides competitively priced, clean, renewable electricity to the City of Peekskill. In 2013, the facility processed 680,143 tons of solid waste to generate electricity, while 11,666 tons of ferrous metal were extracted from the ash residue and properly recycled.

The total amount of solid waste delivered to the CPRRF by RDD municipalities (which includes 36 of Westchester's 43 municipalities) in 2013 was 352,642 tons, a 0.8% decrease from 2012 (355,673 tons). In 2013, the volume of residential trash generated within the County decreased for the sixth consecutive year (540,217 tons to 352,642 tons).

In 2013, White Plains Linen and Wheelabrator Westchester initiated a first-of-its-kind renewable energy partnership in Peekskill, which enabled the County's largest commercial laundry

operation to reduce its carbon footprint by 90 percent. Under a long-term supply agreement, steam from the Wheelabrator Westchester waste-to-energy plant is being piped directly to White Plains Linen's adjacent 100,000-square-foot commercial laundry facility via a newly-constructed steam line.



Located locally in Peekskill, the Charles Point Resource Recovery Facility operated by Wheelabrator Westchester is a waste-to-energy plant providing dependable, environmentally safe disposal of municipal solid waste for Westchester County, while generating clean, renewable electricity for sale to the local utility. Designed, constructed and operated by Wheelabrator, Wheelabrator Westchester supports over 900,000 residents by processing up to 2,250 tons per day of municipal solid waste. Wheelabrator Westchester has an electrical generating capacity of 60,000 kilowatts; the equivalent of supplying the electrical needs to 88,000 New York homes.

In 2013, the volume of residential trash generated within the County's Refuse Disposal District – which accounts for about 90 percent of the county's population – decreased.

3. County Transfer Stations:

Three County Transfer Stations located in White Plains, Mount Vernon and Yonkers offer RDD municipalities reduced costs and travel time to conveniently deliver municipally-collected solid waste to the CPRRF in Peekskill. In 2013, District municipalities delivered 278,944 tons of solid waste to these three transfer stations; this makes up 79% of the solid waste collected by RDD municipalities for disposal at the CPRRF. In 2013, RDD municipalities in the northern part of the county delivered 73,698 tons of solid waste directly to the CPRRF.

4. Household-Material Recovery Facility (H-MRF):

The H-MRF, located on the County's Grasslands Campus in Valhalla, opened on April 12, 2012 and provides a central location for residents to dispose of hard-to-get-rid-of household wastes, including hazardous chemicals, cleaning products, tires, rechargeable batteries, Freon-containing devices, appliances, electronic waste, propane tanks, and expired or unwanted medications. The H-MRF also offers confidential document shredding services. Residents of the Refuse Disposal District are able to use the facility at no cost, while Westchester County residents that do not reside within or contribute tax fees to the District are required to pay a small fee based on the types and amounts of materials they are dropping off. Whenever possible, materials collected at the facility are recycled; all other materials are disposed of in a safe and



environmentally sound manner.

4,072 households visited the H-MRF in 2013. During the year, the following household wastes were collected at the H-MRF:

- 45,013 lbs. of flammables
- 16,851 lbs. of pesticides
- 12,617 lbs. of corrosive liquids
- 90 lbs. of mercury
- 4,361 lbs. of fluorescent bulbs
- 3,109 lbs. of fire extinguishers
- 38,504 lbs. of bulk metals
- 14,427 lbs. of tires
- 80,212 lbs. of electronic waste
- 2,850 lbs. of oxidizers
- 5,101 lbs. of rechargeable batteries
- 1,386 lbs. of non-hazardous liquids
- 1,844 lbs. of Other Regulated Materials (ORM)
- 60 lbs. of asbestos
- 38 lbs. of water reactive wastes

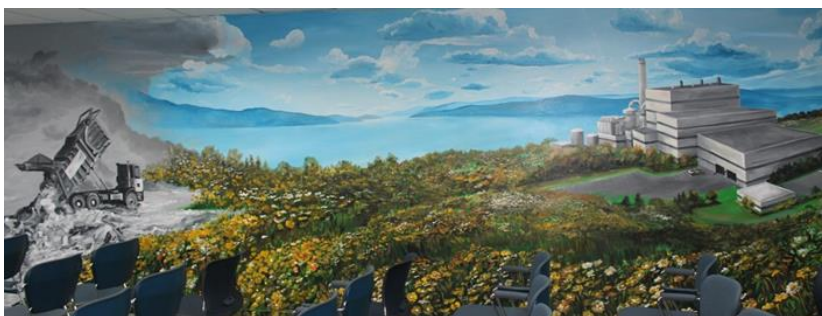
A total of 226,463 lbs. of household wastes were collected at the H-MRF in 2013. In addition, 96,960 lbs. of documents were shredded and recycled.

In 2013, the H-MRF services expanded to accept chemicals and fluorescent lights bulbs from Conditionally Exempt Small Quantity Generators (CESQGs). This has enabled small businesses, schools, municipal and County departments to deliver chemicals and fluorescent bulbs for proper disposal. Waste delivered to the H-MRF is off loaded by contractor or County staff, then weighed and measured.

RECYCLING PROGRAMS

5. Recycling Education:

The MRF Education and Conference Center allows visitors to observe the operation of a garbage and recyclable transfer station. MRF tours are free of charge and given on an appointment basis. Tours educate participants on the recycling process in Westchester County. Groups are taken to an observation tower to view equipment that separates, sorts and prepares materials to be sold to third party manufacturers. From the tower, viewers can also see the tipping floor, where truckloads of recyclables are delivered. A brief presentation and educational video is shown to explain the benefits of recycling. Tours are given to students and persons of all age groups (kindergarten and above) and typically last between 45 minutes to one hour.



In 2013, the DEF began renovations to the Education Center, which included installing a *Recycled Material Art Gallery*. All of the art pieces are created out of

recycled and reused materials and are made by Westchester County artists.

The MRF Education and Conference Center accommodates about 6,000 visitors yearly, including thousands of students from schools throughout Westchester. DEF staff also conducts Collection Crew Info Sessions for local municipal sanitation departments. The sessions review the Source Separation Law and collection protocols.

6. Food Rescue and Diversion:

The New York State Department of Environmental Conservation estimates that 18 percent of all garbage that is thrown away is composed of food scraps. Nationally, only about 3 percent of food waste is diverted from disposal by means of composting or food recovery initiatives.

Food recovery is one of DEF's top priorities. The County supports the distribution of untouched, fresh or packaged food to local houses of worship, food pantries and soup kitchens to feed the hungry, through cooperative efforts with the Food Bank for Westchester and Rock & Wrap It Up!, Inc. These organizations, along with the DEF, held two well-received Food Rescue Forums in April and August of 2013 at the Food Bank for Westchester and the County's Household-Material Recovery Facility (H-MRF), respectively. The County is always exploring ways to reduce the amount of food that is wasted within Westchester and will continue to support food rescue programs that donate excess untouched food to those in need. Furthermore, the County encourages the diversion of unsalvageable food from the waste stream by alternative methods such as composting.

In 2013, DEF held a summer-long demonstration of a unique food waste dehydration unit at the County's H-MRF located on the Grasslands Campus in Valhalla. The unit was on loan to the County to demonstrate to Westchester's local businesses, schools, and other institutions, an innovative alternative for converting food scraps into a useable soil amendment in under 24 hours. Kitchen prep food waste was picked up daily from the Westchester Medical Center and delivered to the H-MRF for processing; an average of 225 lbs. was processed each day. Over the course of the summer, the Ecovim™ model Eco-250 reduced and converted over 11,000 lbs. of food scraps down to almost 3,000 lbs. of a dry, pathogen-free, soil amendment. The resulting soil amendment was given to the Westchester County Department of Public Works for curing in their compost pile on the Grasslands Campus.

7. Medication Take-Back Program:

Residents can drop off unwanted or expired medications at the H-MRF on the first Tuesday of every month. Following the close of business, Westchester County Department of Public Safety personnel supervise transportation of the collected medications to the Charles Point Waste-to-Energy Facility for destruction. In 2013, 366 households disposed of 3,483 lbs. of medications at the H-MRF. In addition, a total of 21 Westchester County Police Departments participated in the Medication Take-Back Program by hosting MedReturn Units at their stations. These MedReturn Units allow residents to drop off unwanted medications confidentially and conveniently, 24/7. Of the 3,483 lbs. of medication collected in 2013, 2,086 lbs. was collected by the Police Departments and brought to the H-MRF on the first Tuesday of each month. The number of police



departments wanting to host a MedReturn Unit continues to grow.

8. Mobile Shredder Events:



In 2013, DEF continued to conduct Mobile Shredder events at various locations throughout the County. Residents are permitted to bring up to four file-size boxes of personal papers to be shredded and recycled to each event. In 2013, a total of 11,500 households utilized the Mobile Shredder and over 596 tons of paper were shredded and recycled. The County sold the shredded paper for \$120 to \$150 per ton.

9. Boat Shrink Wrap Recycling Program:

In 2013, Westchester County's Boat Shrink Wrap Recycling program collected 35 tons of plastic used to protect boats during the winter from participating Long Island Sound and Hudson River marinas. An average boat can use as much as 14 lbs. of recyclable wrap (low-density polyethylene or LDPE), which would normally thrown away in the spring. The County sells the collected plastic recyclers to generate revenue.

Each spring, marinas along Long Island Sound and the Hudson River bring the wrap to any of the twenty designated collection points along the waterfronts. DEF picks up and delivers the material to the MRF. In 2013, collected boat wrap was sold for about \$110 per ton.



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10. Westchester County's Recycling HelpLine:

The County's Recycling HelpLine at (914) 813-5425 serves as an informational tool, assisting both residents and businesses by providing accurate answers to questions regarding waste management in general, or recycling in particular. The HelpLine is the number to call for residents looking to make an H-MRF reservation over the phone. It is operated by staff of United Way who are trained to answer frequently asked recycling questions, and to transfer more involved recycling questions to appropriate DEF staff. The Recycling HelpLine also provides residents with information for participating in various County sponsored events such as residential shredding events featuring the Mobile Shredder. Additionally, the HelpLine assists residents with questions related specifically to their particular locale, since waste collection programs vary from one municipality to another. In 2013, the Recycling HelpLine handled over 9,200 inquiries.

11. Electronic Waste Recycling Program:

DEF provides electronic waste (e-waste) collection containers for 27 RDD municipal sites throughout the County, where RDD residents can dispose of their unwanted electronics. In 2013, the County diverted over 1,700 tons of e-waste from the solid waste stream through this program. Following enactment of the Electronics Manufacturer Responsibility Law in Spring

2011, the County has eliminated its e-waste disposal costs (which averaged about \$100,000 per month before Spring 2011) and is *being reimbursed* \$0.03 per pound (almost \$100,000 for the year) for recyclable e-waste collected in 2013 by Regional Computer Recycling & Recovery, a leading electronics recycler based in Victor, New York.

12. Organic Yard Waste Transfer Station IMA Program:

In 1998, the Westchester County Board of Legislators authorized the County to enter into 5-year Inter-Municipal Agreements (IMAs) with RDD municipalities to operate the Organic Yard Waste Transfer Program. Registration is open to all 43 local municipalities—both RDD and non-RDD member municipalities. A new contract period is scheduled to commence in 2014.

Each participating municipality collects yard waste at a municipal depot. The County arranges for collection from the depot and transport to commercial composting facilities. As an economic incentive to divert yard waste from the solid waste stream, RDD member municipalities pay less per ton for collected yard waste than for municipal solid waste. The program allows participants to increase local recycling rates and to save money by diverting yard waste from the waste stream. In 2013, the program collected 169,940 tons of waste. Municipalities that currently host an Organic Yard Waste Transfer station are: Briarcliff Manor, Cortlandt Croton, Eastchester, Greenburgh, Harrison, Irvington, Larchmont, Village and Town of Mamaroneck, Mt. Kisco, Mt. Vernon, New Rochelle, Ossining Village, Peekskill, Port Chester, Rye City, Scarsdale, Sleepy Hollow, Tarrytown, White Plains and Yonkers. By hosting a site, these municipalities also agree to accept yard waste from neighboring municipalities.



13. Recycling Enforcement:

In 2013, DEF inspectors and inspectors from the Solid Waste Commission (SWC) continued to inspect loads dumped at both private and municipal transfer stations located within Westchester County, looking for improperly mixed loads of garbage and recyclables in violation of the Source Separation Law (SSL). They also continued to inspect businesses, schools and other institutions throughout the County to ensure compliance with the SSL.

During 2013 they inspected 5,625 loads of garbage and recyclables delivered to transfer stations in Westchester County; the inspections consisted of 1,989 loads hauled by municipal haulers and 3,636 loads hauled by private haulers. In addition, DEF inspectors conducted 1,089 waste generator site inspections.

In 2013, DEF issued 199 Notices of Hearing to haulers and waste generators for recycling violations. Of the violations issued, 19 were issued to municipal haulers, 14 were issued to private haulers, and 166 were issued to waste generators. The predominance of violations issued to waste generators reflects DEF's emphasis on tracing the violation back to the source of the infraction.



In 2013, DEF collected a total of \$17,650 in recycling violation fines.

REFUSE DISPOSAL DISTRICT #1

14. Refuse Disposal District Advisory Board:

County law requires this board to be composed of 14 volunteers and 4 ex-officio members to advise the Solid Waste Division. It advises the RDD on solid waste issues that may occur during the course of the year. All six of the County's cities are represented, five members represent the towns, and three members represent the villages.

The 2013 board members were:

City Representatives:

1. Jesse Crell, P.E. - White Plains
2. George Mottarella, P.E. - City of Rye - Chair
3. Brian Havranek - Peekskill
4. Alex Tergis - New Rochelle
5. Thomas Meier - Yonkers
6. Curtis Woods - Mount Vernon

Town Representatives:

1. Jeffery Coleman - Cortlandt
2. Benedict Salanitro - Town of Rye
3. Peter Sciliano - Mt. Pleasant
4. Peter Ligouri - Greenburgh
5. Stephen Altieri - Town of Mamaroneck

Village Representatives:

1. Michael Gunther - Hastings
2. Rocco Circosta - Village of Ossining
3. Steve Johnson - Mount Kisco

Attachment 1: Westchester County Recycling Rate 2013

MUNICIPALLY COLLECTED WASTE & RECYCLING IN TONS	
Curbside Commingled Containers and Mixed Paper	80,351
Yard Waste Recycled	244,564
Bulk Metal Recycled	14,078
Construction & Demolition Debris and Sewage Sludge Recycled	128,698
Other Recyclables: Tires, Electronics, Anti-freeze, Motor Oil, Vehicle Batteries, Textiles, and Deposit Beverage Containers	17,037
TOTAL RECYCLED WASTE	484,728
TOTAL DISPOSED WASTE	392,720
TOTAL RECYCLED & DISPOSED	877,448
MUNICIPAL RECYCLING RATE	55%

PRIVATELY COLLECTED WASTE & RECYCLING IN TONS	
Source Separated Recyclables & Scrap Metal	138,935
Yard Waste Recycled	47,662
Construction & Demolition Debris (C&D) Recycled	119,576
Construction & Demolition Debris Disposed	132,578
Garbage Disposed	249,839
TOTAL RECYCLED WASTE	306,174
TOTAL DISPOSED C&D AND GARBAGE	382,417
TOTAL RECYCLED & DISPOSED	688,590
PRIVATE HAULER RECYCLING RATE	44%

WESTCHESTER COUNTY TOTAL COLLECTED WASTE & RECYCLING IN TONS	
TOTAL RECYCLED WASTE	790,901
TOTAL DISPOSED WASTE	776,137
TOTAL RECYCLED & DISPOSED	1,567,038
PPD Recycled*	1.36
PPD Disposed*	3.71
WESTCHESTER COUNTY 2013 RECYCLING RATE	50%

*PPD (pounds per person per day), does not include yard waste, C&D debris, bulk metal or sludge.

Attachment 2: Municipally Collected Waste & Recyclables

Westchester County 2013 Municipal Recycling Rate			
Municipality	Total Solid Waste Generated *	Recycled	Percent Recycled
ARDSLEY	4,318	2,133	49
BEDFORD	42,236	35,461	84
BRIARCLIFF	10,958	7,901	72
BRONXVILLE	8,355	6,083	73
BUCHANAN	1,793	545	30
CORTLANDT	24,839	10,239	41
CROTON-ON-HUDSON	7,926	4,354	55
DOBBS FERRY	9,303	4,029	43
EASTCHESTER	17,815	9,831	55
ELMSFORD	3,755	2,103	56
GREENBURGH	42,355	25,591	60
HARRISON	17,769	6,519	37
HASTINGS-ON-HUDSON	5,639	2,158	38
IRVINGTON	8,009	4,684	58
LARCHMNT/M'MARNCK	21,657	13,484	62
LEWISBORO	11,828	4,684	42
MAMARONECK (V)	14,222	5,650	40
MT. KISCO	8,812	4,978	56
MT. PLEASANT	23,463	14,990	64
MT. VERNON	39,932	11,430	29
NEW CASTLE	16,683	10,170	62
NEW ROCHELLE	66,949	37,281	56
NORTH CASTLE	9,240	4,172	45
NORTH SALEM	3,875	1,045	27
OSSINING (TOWN)	3,425	1,644	48

Attachment 2/ Continued: Municipally Collected Waste and Recyclables

Westchester County 2013 Municipal Recycling Rate (cont.)			
Municipality	Total Solid Waste Generated *	Recycled	Percent Recycled
OSSINING (VILLAGE)	22,643	13,144	58
PEEKSKILL	13,425	5,890	44
PELHAM	6,739	3,986	59
PELHAM MANOR	4,721	2,467	52
PLEASANTVILLE	5,184	2,840	55
PORT CHESTER	27,426	14,650	53
POUND RIDGE	5,211	1,045	20
RYE BROOK	9,277	6,362	69
RYE CITY	15,876	10,453	66
SCARSDALE	30,406	23,250	76
SLEEPY HOLLOW	11,416	7,043	62
SOMERS	11,779	3,653	31
TARRYTOWN	7,958	3,744	47
TUCKAHOE	6,440	3,711	58
WESTCHESTER CO.*	31,636	27,123	n/a
WHITE PLAINS	71,192	41,465	58
YONKERS	146,920	59,541	41
YORKTOWN	36,302	22,950	63
TOTAL	877,448	484,728	55%

* **Note for Total Solid Waste Generated:** Tonnage in this column titled "Solid Waste" represents combined totals for tonnages of garbage (non-recyclable material) and various recyclables diverted for beneficial reuse & recycling (glass, plastic, metal, paper, cardboard, electronics, bulk metals, road millings, asphalt, construction & demolition debris, motor oil, antifreeze, tires, vehicle batteries, rechargeable household batteries, textiles, furniture, used vegetable oil, fluorescent bulbs, sewage sludge, chemicals, boat wrap, yard and food waste).

* **Note for Westchester Co. Line Item:** Included are materials that were disposed and recycled in Westchester, but cannot be allocated between the municipalities. Recycled tonnage includes 10,671 tons of metal that was recovered from the Charles Point Waste-to-Energy facility, 9,544 tons of composted sewage sludge, and additional tonnage for collected chemicals, electronic waste, confidential documents, boat wrap and tires are include in the Westchester County total.