

**Update on  
Princeton Farms/Hopewell Hunt  
Sewer Service Provided by  
SBRSA**

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# Topics to be Covered

- Review history/background SBRSA Hopewell Twp Service for Princeton Farms/Hopewell Hunt
- Princeton Farms/Hopewell Hunt Flow History
- SBRSA Rate Structure/Opportunities for SBRSA bill reduction for Princeton Farms/Hopewell Hunt service
- Great effort by Hopewell Township & Homeowners to eliminate major leaks early in 2009 to reduce SBRSA supplemental bill to a manageable level
- Inspections following 8/22/2009 major storm/flood found additional leaks that need repair
- Forecast for SBRSA base gallon charge rate
- Expansion of the Pennington SBRSA plant

# **Stony Brook Regional Sewerage Authority (SBRSA) History**

- **Established 1970 to provide advanced wastewater treatment**
- **River Road SBRSA Sewage Treatment Plant (STP) on line in late 1978**
- **Pennington SBRSA STP Plant (off Pennington Rocky Hill Road near BMS) and Hopewell SBRSA STP Plant (Aunt Molly Road) on line in 1985**

# Communities Served by SBRSA

<b>Member &amp; Participant</b>		<b>2009 GPD</b>	<b>% of Flow</b>
	<b>Princeton Township</b>	<b>1,662,770</b>	<b>15.7</b>
	<b>Princeton Borough</b>	<b>2,015,112</b>	<b>19.1</b>
	<b>South Brunswick</b>	<b>4,043,136</b>	<b>38.3</b>
	<b>West Windsor</b>	<b>2,396,493</b>	<b>22.7</b>
	<b>Pennington Borough</b>	<b>272,608</b>	<b>2.6</b>
	<b>Hopewell Borough</b>	<b>170,546</b>	<b>1.6</b>
<b>Member – Contract Service</b>			
	<b>Hopewell Township</b>	<b>93,988</b>	<b>0.9</b>

# SBRSA Board Members

<b>Community</b>	<b>Board Member</b>	<b>Years</b>	<b>Position</b>
West Windsor Township	Dr. Robert Bartolino	28	Chairman
Hopewell Township	Dr. Gale Downey	17	Vice-Chairman; Construction Com. Chairman
Hopewell Borough	Mr. Sky Morehouse	11	Personnel Com. Chairman
Princeton Borough	Dr. David Miller	9	Treasurer; Finance Com. Chairman
South Brunswick	Mr. Bharat Patel	7	Finance Com.; Personnel Com.
Princeton Township	Mr. Jim McKinnon	1	Construction Com.; Oversight Liaison
Pennington Borough	Mr. Charles Watson	<1	Finance Com.; Construction Com.

# **SBRSA Performance**

- **Consistently out performs NJPDES permit wastewater effluent levels**
- **Consistently out performs NJDEP Title V air permit requirements**
- **Consistently meets Budget**
- **Provides advanced levels of waste water treatment at cost conscious rates**

# **SBSRA Cost Savings Actions**

- **Implementation of SCADA system**
- **Reduction of staff from 60 to 45**
- **Installation of Energy Saving Equipment & Lighting**
- **Pooled energy purchasing with other authorities**
- **JIF**
- **Sludge Business**
- **Heat Recovery through Regenerative Afterburner Project**

# **SBSRA Good Neighbor Policy**

- **Covered River Road Modified Aeration Tanks/Replaced aging aerator impellers to significantly reduce off-site odors**
- **Installed silencers on incinerators**
- **Attractive site landscaping/wildflower meadow**
- **Certified River Friendly by Stony Brook Millstone Watershed Association**

# How Did I Get Involved in Sewers?

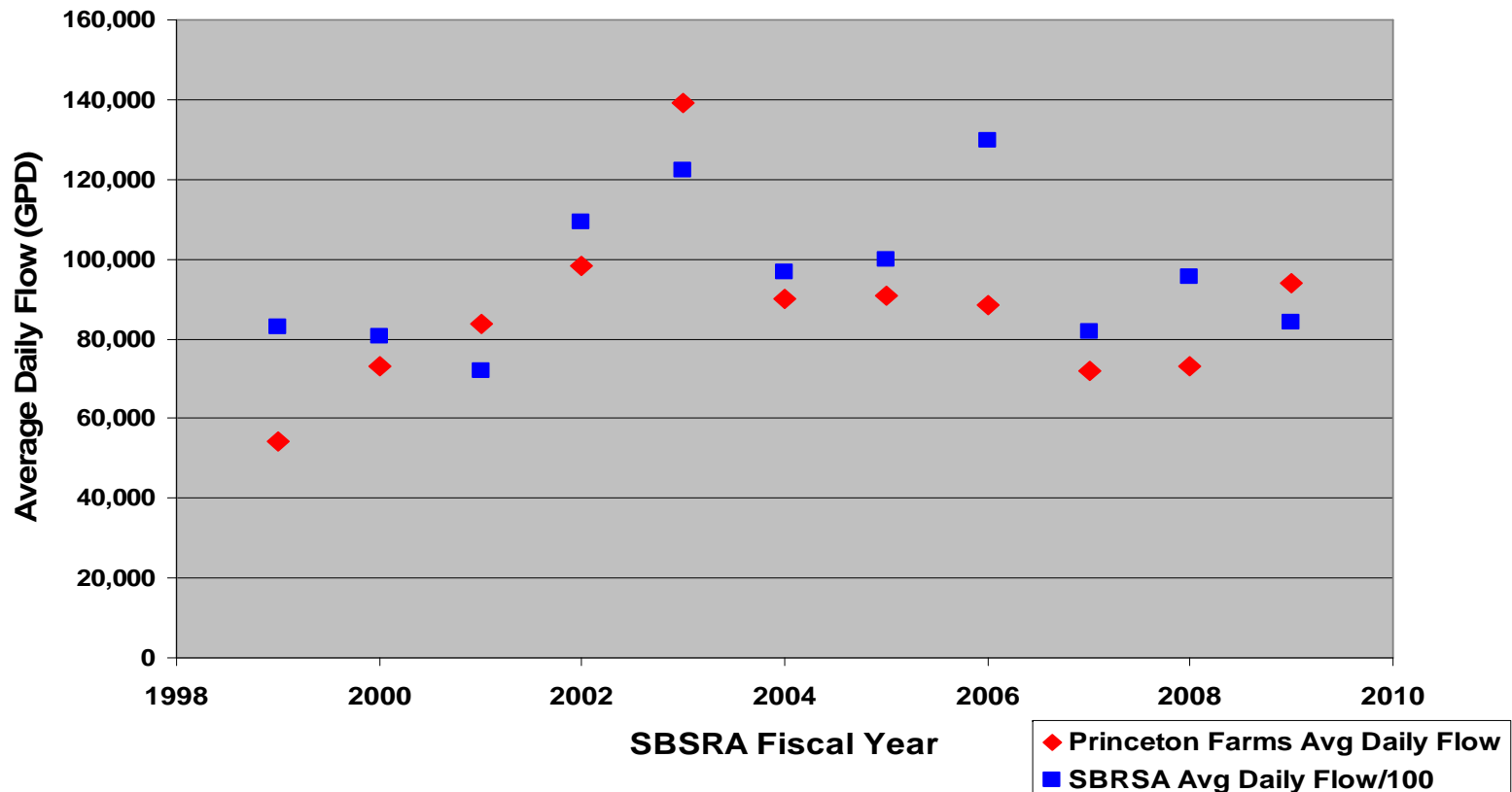
- Moved into Princeton Farms 1976 – Free Sewer Service
- Hopewell Twp Takes over sewer plant - formed MUA – Sewer Fee
- Mid 1980's received letter from MUA to replace lateral without any inspection data to show that our sewer lateral is leaking
- NJDEP sues Hopewell Twp over Performance of Princeton Farms Sewer Plant
- Hopewell Twp contracts with SBRSA/Special Assessment Ordinance passed to cover costs of 5 mile uphill force main/pump station
- Ray Altieri forms Princeton Farms Homeowner Association (PFHA)
- Elected Vice-President (PHFA) & Chairman of Sewer Committee
- Hopewell Twp spends \$160K to install risers
- TV inspections/Riser inspections show major leaks/points of infiltration
  - Emergency Twp Construction spending of \$300K repairs street leaks
  - Approx. 20 homeowners replace their laterals
- 1992 Appointed as Hopewell Township SBRSA Board Member by Mayor Doris Hoyer

# SBSRA Sewer Bill Rate Formulas

- **Member & Participant (1978)**
  - **(Total Gallons)\*(Base Charge) + Debt Service Adj.**
- **Hopewell Township Member Contract (1988)**
  - **(Total Gallons)\*(Base Charge)\*2**

# Comparison of Princeton Farms Flow to Total Authority Flow

Impact of Wet Weather on Both SBRSA and Princeton Farms Average Daily Flow



## **Rapid Action by Hopewell Township & Homeowners Prevented Huge Supplemental Bill From SBRSA for SBRSA's 2009 Fiscal Year**

- **Riser Inspections by Hopewell Township/Van Cleef Engineering in 12/2008, 1/2009, 5/2009 identified three huge points of rainwater infiltration**
  - **Two Homeowners replaced their laterals by mid-June**
  - **Hopewell Twp replaced cracked riser by mid-August**
- **Riser Inspections by Hopewell Township/Van Cleef Engineering following 8/22/2009 Flood identified**
  - **Two More Homeowner laterals that need to be replaced/Repairs to be completed by 11/30/2009**
  - **Six Leaks (One Very Large) in Lines under the Street to be repaired soon (Hopefully repair contract is awarded tonight)**

# Princeton Farms Flow Data for SBRSA 2009 Fiscal Year

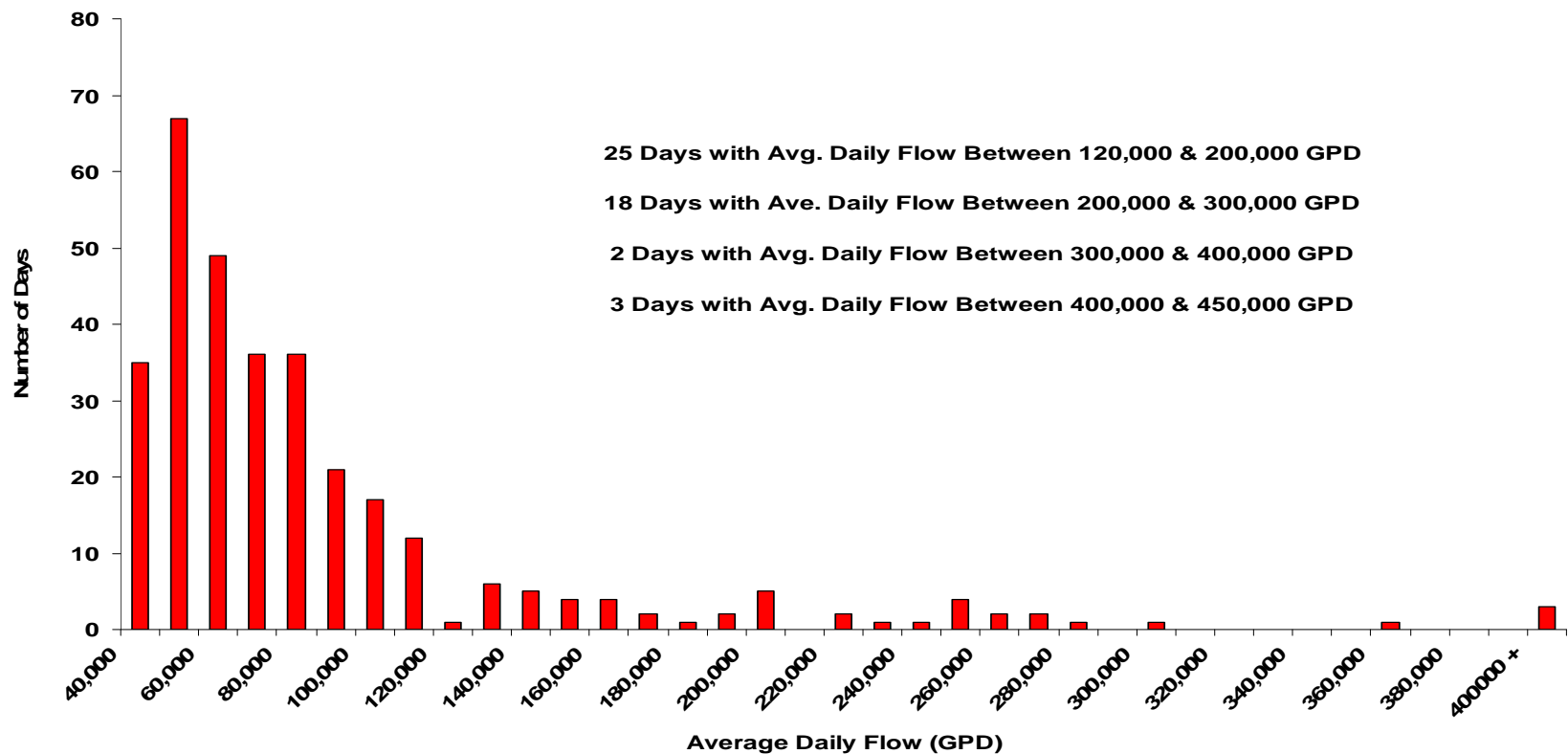
Month/Year	Princeton Farms Flow (GPD)	Rainfall (in)	% Total Flow Hopewell SBRSA
December 2008	149,826	6.54	38.4
January 2009	84,901	3.70	33.8
February 2009	75,428	2.42	35.5
March 2009	63,651	1.42	36.1
April 2009	101,968	3.59	40.5
May 2009	99,424	7.61	34.8
June 2009	103,973	7.89	34.9
July 2009	66,502	8.32	32.9
August 2009	124,457	13.65	36.1
September 2009	69,752	3.55	30.3
October 2009	94,283	6.75	35.4
<b>Average To Date</b>	<b>94,015</b>	<b>5.95</b>	<b>35.3</b>

## **Major Opportunity for Sewer Bill Reduction Short Term is to Reduce Flow**

- **For 200 homes, NJDEP assumes 300 gpd or an expected total average daily flow of 60,000 gpd**
  - **This is considered a generous allowance**
- **Drought weather Princeton Farms average daily flow is typically between 40,000 and 50,000 gpd**
- **If the system is sufficiently sealed to prevent major rainwater infiltration SBSRA rate to achieve yearly daily average flow of 65,000 gpd, SBSRA bill could be reduced by 30%**

# Two Major Contributors to Excess Flow in Princeton Farms Sewer System

**Number of Days in 2009 That Princeton Farms Average Daily Flow Rate (GPD) for each 10,000 GPD Flow Increment**



## **Eliminating High Flow Days Would Reduce SBSRA Sewer Bill by 33%**

- **The 63 days where flow exceeds 120,000 GPD accounts for 33% of billing flow in 2009**
- **Thus eliminating sump pump flows and repairing large leaks to prevent rain water infiltration would reduce SBRSA bill to Hopewell Township by 33%**
- **\$1098.00 is (SBRSA bill for 2009)/200 homes**
- **Thus potential savings per home of \$362.00**

# Long Term SBRSA Rate Reduction

- **Renegotiate the 2X billing factor after 2018**
  - **Requires reduction in Flow to what SBRSA would consider normal infiltration**
  - **Rationale exists for revising 2X factor once Debt Service Adjustment Agreement expires in 2015 and Average Daily Flow is successfully reduced**
  - **Will be happy to champion this if still living in Hopewell Township and still SBRSA representative in this future time period**

# **SBSRA Per Gallon Rates to Remain Constant for Next Five Years**

- **SBRSA successfully started up 4 MM dollar heat recovery unit for authorities two sludge incinerators achieving a 30 to 40% reduction in natural gas usage**
- **Low natural gas prices locked in for next 3 years**
- **Per Gallon Rates to:**
  - **Decrease 2% in 2010**
  - **Remain constant for 2011, 2012, & 2013**
  - **Possible 2% increase in 2014**

## **SBRSA Recently Obtained NJ DEP Approval to Expand Pennington Plant**

- **Start-up of new capacity three to four years out**
- **Awaiting issuance of draft permit to start the design/construction process**
- **Approved to accept flow up to 445,000 GPD once construction is complete**
- **Expansion will be to the forecasted hydraulic limit of the final orbital oxidation stage**

# Implications of SBSRA Sewer Bill Rate Formulas for Future Service

- **Member & Participant (1978)**
  - **(Total Gallons)\*(Base Charge) + Debt Service Adj.**
- **Hopewell Township Member Contract (1988)**
  - **(Total Gallons)\*(Base Charge)\*2**