Passaic Valley Sewerage Commission

Comprehensive Water Resource Management Plan

Ashley T. Slagle, PVSC

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Meadowlands Environmental Commission

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Separate Sewer Systems

- **DRY weather:**
  - Wastewater from homes and businesses flows through sanitary sewer to treatment plant

- **WET weather:**
  - Consistent volume of wastewater flow through sanitary sewer to treatment plant
  - Stormwater from runoff and downspouts flows through storm sewer to river
Combined Sewer Systems

- **DRY weather:**
  - Wastewater from homes and businesses flows through combined sewer to treatment plant

- **WET weather:**
  - Consistent volume of wastewater flow through combined sewer to treatment plant
  - Stormwater from runoff and downspouts ALSO flows through combined sewer to treatment plant
  - When total volume of wastewater + stormwater in combined sewer exceeds capacity of sewer or the treatment plant

**excess volume overflows to river**
  during Combined Sewer Overflow (CSO)
Combined Sewer Systems

- If the amount of stormwater entering the combined sewer system can be reduced or at least delayed until wet weather event subsides:
  - Create more capacity in the combined sewer for wastewater during wet weather
  - Reduce occurrence of CSOs to river
PVSC’s Plan for Reducing Combined Sewer Overflows (CSOs)

1) Increase Wet Weather Flow Capacity at PVSC

2) Reduce stormwater flows to Combined Sewer Systems by increasing Green Infrastructure (GI) throughout PVSC Sewerage District
PVSC’s Plan for Increased Wet Weather Flow Capacity

- PVSC has been actively working towards increasing WET weather flow capacity to a maximum of 720 MGD

- Multiple Capital Projects planned:
  - Several ongoing projects in different stages of development
  - Projects on hold due to damages from Superstorm Sandy – will resume as recovery progresses
PVSC’s Plan for Increased Wet Weather Flow Capacity

- **Added benefit:** PVSC will be able to treat sanitary waste from homes **AND** stormwater carrying various types of Nonpoint Source Pollution (fertilizers, oil/grease, etc.) at full Secondary Treatment levels
Current Wet Weather Flow Volume Captured at the Treatment Plant
Proposed Wet Weather Flow Volume Captured at the Treatment Plant
PVSC’s Plan for Promotion of Green Infrastructure (GI)

- The PVSC Sewerage District
  - 48 municipalities in 5 counties
  - Includes both Separate and Combined Sewer Systems
    - 9 with Combined Sewer Systems

- Combined Sewer Overflows (CSO)s and stormwater runoff can impact ambient water quality
  - Can be alleviated with use of Green Infrastructure (GI)

- Green Infrastructure components will be required in CSO Long Term Control Plans
PVSC’s Plan for Promotion of Green Infrastructure (GI)

- PVSC is dedicated to leading efforts throughout the PVSC Sewerage District to:
  1) intercept stormwater runoff
  2) reduce Combined Sewer Overflows (CSOs)
  3) manage existing water infrastructure
  4) minimize frequent flooding events

- PVSC has entered into a partnership with Rutgers Cooperative Extension (RCE) Water Resources Program to achieve these goals
PVSC’s Plan for Promotion of Green Infrastructure (GI)

- Green Infrastructure Program (Year 1)

3 Main Objectives:

1) Municipal Outreach and Education
2) Community-Based Technical Assistance
3) Green Infrastructure Demonstration Projects
PVSC’s Plan for Promotion of Green Infrastructure (GI)

Objective 1 – Municipal Outreach and Education

April – May 2013

- Initial Stakeholder meeting
- Development of educational materials and distribution to municipalities
- Kick-off Event @ PVSC
- Program website to be developed and hosted by RCE Water Resources Program
PVSC’s Plan for Promotion of Green Infrastructure (GI)

Objective 1 – Municipal Outreach and Education

June 2013

- 4 outreach sessions by county:
  - Bergen, Passaic, Hudson, Essex/Union
- Identify priority municipalities prepared to pursue a community-wide Green Infrastructure program
PVSC’s Plan for Promotion of Green Infrastructure (GI)

Objective 2 – Community-Based Technical Assistance

July – December 2013

- Work individually with interested municipalities

- PVSC & RCE Water Resources Program:
  - Complete Municipal-Wide GI Assessment and Opportunity Analyses for 6-8 individual municipalities through cost-sharing agreements between PVSC and the municipalities

- Municipalities must:
  - Provide available mapping, digital data, and other resources as necessary
  - Commit resources to complete 2 GI demonstration projects detailed in the final municipal assessment
PVSC’s Plan for Promotion of Green Infrastructure (GI)

Objective 3 – GI Demonstration Projects

April – December 2013

- RCE Water Resources Program will develop and install 2 GI demonstration projects with PVSC
  - 1st project on PVSC property
  - 2nd project within PVSC Sewerage District
- Projects may include rain gardens, bioswales, porous pavement, rainwater harvesting systems
- Demonstrate practical, cost-effective strategies that can be replicated throughout the PVSC Sewerage District
PVSC’s Plan for Promotion of Green Infrastructure (GI)

Objective 3 – GI Demonstration Projects

April – December 2013

- RCE Water Resources Program will hold GI training workshop for PVSC staff and interested municipal representatives
  - Learn planning, design, construction, and maintenance of GI projects
  - Opportunity to assist with construction of 2nd GI demonstration project
PVSC’s Plan for Promotion of Green Infrastructure (GI)

- Plan to renew partnership with RCE Water Resources Program for multiple years
- Continue to expand use of GI throughout PVSC Sewerage District

TOGETHER, we can improve water quality AND quality of life through the use of Green Infrastructure
Questions?

Ashley T. Slagle
aslagle@pvsc.nj.gov
(973) 817-5958