Binghamton-Johnson City
Joint sewage board flow management plan

John LaGorga | Service Group Manager
• **December 10, 2007**: The Sewage Board, Binghamton and Johnson City entered into a (third) consent order with NYSDEC

• **2008**: The Binghamton-Johnson City Joint Sewage Board (Sewage Board) began a three-step wastewater infrastructure study known as the Flow Management Plan planning process

• This plan is the product of a steering committee that included individuals from all tributary collection systems and the consulting engineers
Who is involved?

• Municipal Users
  (# of connections)
  – Town of Binghamton (987)
  – Town of Conklin (305)
  – Town Dickson (1,105)
  – Town of Fenton (351)
  – Town of Kirkwood (581)
  – Town of Union (230)
  – Town of Vestal (3,591)
  – Village of Port Dickinson (724)
  – Binghamton University (63)

• Treatment Facility Owners
  (# of connections)
  – City of Binghamton (13,999)
  – Village of Johnson City (5,300)

• Others
  – Broome County Government
Flow management plan process **Step one**

**Step one**
Assessment

- Locating and Mapping Sewers
- Flow Monitoring to Find I/I

**Step two**
Evaluation

- Understanding Sewer Capacity
- Understanding Pollutant Loads

**Step three**
Planning

- Flow Management Plan
  1. New/Modified Connection
  2. I/I Offset
  3. CMOM
  4. Treatment Management Plan
Step one Assessment

- Step One involved the mapping, evaluation and identification of infiltration and inflow (I/I) from Municipal systems (Flow Management Evaluation Report)
- The Service Area Map was developed from this stage
- Results showed that all areas have infiltration and inflow. Graphs and charts such as the following demonstrate the scientific basis for this conclusion
TB-7 (FM-6)
Sewage Flow and Rainfall Data
Town of Binghamton, NY

Source: (OBG 2006 I/I Study for City of Binghamton)
Flow monitoring results

- Wet Day Volume (July 23, 2008 or similar rainfall event day)
- Dry Day Volume (typical dry day from flow data collected during June through August 2008 and August through October 2006)
- Average Daily Water Use (billing records from 2006 & 2007)
Flow management plan process **Step two**

**Step one**
- Assessment
  - Locating and Mapping Sewers
  - Flow Monitoring to Find I/I

**Step two**
- Evaluation
  - Understanding Sewer Capacity
  - Understanding Pollutant Loads

**Step three**
- Planning
  - Flow Management Plan
    1. New/Modified Connection
    2. I/I Offset
    3. CMOM
    4. Treatment Management Plan
Step two Evaluation

- The capacity of the collection system was assessed and the wastewater pollutants were characterized by concentration and source area*

- A flow characteristics and sampling study was performed to identify variations in pollutant loadings within the collection system

- Results: this determined that the collection system is capable of conveying peak design flow rate to the Plant before the City’s and Village’s combined sewer overflows would activate

*Updated Collection System Mapping and Modeling, and Collection System Sampling Study
Significant findings in compliance

- No overflows up to 15 mgd
- No overflows up to 45 mgd

- Binghamton Side Flow (45 mgd)
- Johnson City Side Flow (15 mgd)
Flow management plan process **Step three**

**Step one**
Assessment

- Locating and Mapping Sewers
- Flow Monitoring to Find I/I

**Step two**
Evaluation

- Understanding Sewer Capacity
- Understanding Pollutant Loads

**Step three**
Planning

Flow Management Plan

1. New/Modified Connection
2. I/I Offset
3. CMOM
4. Treatment Management Plan
Step three Planning

- Proactive and not punitive
- Fosters economic development
- Least costly approach
- Protects the environment
- Customized to fit municipality needs
- NYSDEC approved within one month of submission
New/Modified Sewer Connection Approval Program

- Effective January 1, 2013
- The purpose of this program is to protect the sewage collection system and treatment plant by ensuring that the capacity exists to accept increased flows, especially in wet-weather conditions
- Sewer Connection Application is only to be approved/disapproved by Principal Municipal User
Offset program

- The goal is to **maintain balance between the collection system and treatment plant capacity to prevent increases in CSO discharges**
- For >+2,500 gpd flow change only: Goal is to not limit small residential developments
- DEC approved retroactive credits for completed I/I remediation projects (at 1:2 ratio)
- 1:1 offset for credits and applications beginning January 1, 2013
- Identifying, Funding and Constructing I/I Reduction Projects
**Capacity**, Management, Operation and Maintenance (CMOM) Program

Each Municipal User will be responsible for creating its own CMOM program. These requirements are:

- Annual Sewer Capital Improvement Program
- Sewer System Capacity Evaluation
- Sewer System Management
- Sewer System Operation
- Equipment and Sewer System Maintenance
Treatment Management Plan
Next steps

- November 1, 2012
- October 1, 2013
- April 1, 2014
- Submittals to Sewage Board
- January 1, 2015
- April 15, 2015
- January 1, 2038
**Steering committee thoughts**

- Lack of trust from long history of disagreements about sewer fees had to be overcome
- Early engagement developed trust, resulting in no legal challenges
- Opposition to the Flow Management Plan program was always present due to new associated costs
- Conversations were spirited, but respectful
- Owners listened to the opposition and made changes to the Flow Management Plan program
## Financial Information

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<tr>
<th>Item</th>
<th>(A) Current Annual Wastewater Costs</th>
<th>(B) Future Annual Wastewater Costs</th>
<th>(B) PLUS Flow Management Program Costs</th>
<th>(C) PLUS Annual Costs for 1% Sewer Rehabilitation</th>
<th>(C) PLUS Annual Costs for 2% Sewer Rehabilitation</th>
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Thank you