

## **Appendix 1-1: Public Participation Plan**

**Buffalo Sewer Authority**  
**Combined Sewer Overflow Long-Term Control Plan**  
**Public Participation Plan July 2010**  
**Revised/Final September 2010**  
**Amended June 2011**

The Buffalo Sewer Authority offers the following public participation plan to educate and engage project stakeholders and to comply with Federal and State regulatory direction relative to Long-Term Control Plan (LTCP) development. The purpose of public participation is to inform, consult with, and involve stakeholders in the LTCP development process. By completing public participation activities, the LTCP will better reflect the diverse ideas and interests of the stakeholder group.

Ultimately, the intent of public participation is to represent the interests of the stakeholder base in the implementation of the LTCP. A partial list of potential stakeholders is included below. Additional stakeholders will be considered with a partial, potential list in Attachment A. The stakeholders will be invited to participate in the execution of the public participation plan.

This public participation plan is offered to cover the time frame during development of the revised LTCP. Implementation of capital improvements and operations and maintenance activities as a result of the approved revised LTCP is not the subject of this public participation plan. A future public participation plan will be developed accordingly to address the implementation/execution phase.

The BSA will administer the public participation plan with the assistance of Malcolm Pirnie and a specialist in public meetings facilitation (firm to be determined).

A detailed implementation plan for the BSA's public participation program is included as Attachment B. The implementation plan provides a detailed approach to the public participation activities being carried out as part of the LTCP efforts.

**BSA LTCP Stakeholders:**

- BSA's residential ratepayers.
- BSA's contractual customers.
- BSA's commercial and industrial customers.
- General public.
- Visitors to the City and Region.
- City elected officials.
- County elected officials.
- State elected officials.
- Federal elected officials.
- Environmental groups.
- Environmental regulators with jurisdiction.

The first item of business of the Public Participation Plan will be to form a Stakeholder Panel that will guide the process. The Stakeholder Panel will include:

- Two City Council members.
- Mayor's representative.
- One County Legislator.
- Representative of State Legislature.
- Representative of elected Federal delegate.
- Representative of Buffalo Niagara RiverKeeper.
- Representative of regulators.
- Kim Irvine (Buffalo State College) or Joe Atkinson (University of Buffalo).
- BSA General Manager.
- Representative of Malcolm Pirnie.
- Olmsted conservancy representative.
- Fishing club/organization representative. There are several fishing clubs and organizations in western New York and the BSA will ask for representation from one of these organizations.
- Three representatives of City taxpayer groups. There are several taxpayer/civic organizations in the City and the BSA will ask for representation from three of these organizations.

The Stakeholder Group will meet bimonthly to receive status updates on the project, review proposed public participation materials, and establish direction for public materials to be developed. The Stakeholder Group is proposed to serve in an executive oversight function. At the initial Stakeholder Group meeting, rules of conduct and administration will be defined. The members of the Stakeholders Panel have been selected to represent a wide range of interests and viewpoints and will be the primary parties involved in discussions at public information meetings and at supplemental workshops as defined below.

As stated, the underlying elements of the Public Participation Plan will include:

- Inform.
- Consult.
- Involve.

### **Inform**

At this initial level of public involvement, activities will be performed to present project information to the stakeholders and to the interested public. Tools such as newsletters, web sites and public presentations are utilized to provide general information to a large number of people, typically customers and the community-at-large. To the extent practical, notices of public participation activities will be included as handouts in water and sewer bills or through other public notice, such as newspaper ads, distribution to email lists, web page announcements, etc.

For this project, many of the stakeholder activities will be focused at the Inform level. We propose to initiate the public participation program by advertising the advent of the public participation program and the initial tools and events planned in support. Representatives of local media outlets will be engaged in the process at various stages as determined by the BSA. They will be invited to workshops as observers and will be allowed a segment of the event for questions and comment, if desired. Communication such as press releases and fact sheets will also be provided to the media representatives.

Inform tools will further include a webpage link on the City of Buffalo's website, a newsletter to be prepared on a quarterly basis, and a series of public information presentations. The webpage will include general information concerning project purpose, goals, schedule, and status. Also, any public participation activities scheduled will be identified on the webpage. The webpage will include an area for the public to post comments.

The newsletters will be posted on the webpage, handed out during routine service calls, and made available at City Hall, at the Bird Island Wastewater Treatment Plant, at City public libraries and universities, at some grocery stores and shops, at community centers, at City Council representative's offices, and at other locations as appropriate. The content of the newsletters will include ongoing project activities, news and notes, project status, frequently asked questions, and references to other LTCPs developed in other communities. These documents will serve to increase access to information for those individuals who are not comfortable with electronic access to documents via a project website and for those who lack access to a computer.

Three distinct, subject specific, public information meetings will be organized and delivered, including materials preparation (handouts and displays). Each meeting will be held at three different locations across the City. The locations at this time are proposed for south Buffalo, east Buffalo, and north Buffalo. Exact locations and times will be coordinated with local elected representatives. The public information content will include project description, project goals, project status, current findings, planned progress, schedule, and financial information as may be available. The first meeting series will be held just prior to completion of the water quality model and will focus on the purpose and goals of the project, including the Federal guidance on combined sewer overflows, collection system metering and modeling, water quality metering and modeling, real time control evaluation, and long term control plan document outline. The second meeting series will be held during the CSO control alternatives analysis part of the project so that the public can be informed and potentially provide input for BSA consideration on the selection of control alternatives. The third meeting series will be held during completion of the LTCP document and will focus on solutions to the problems/challenges identified during the modeling and investigative project phase.

LTCP documents will be made available to the public on the website and hard copies will be offered at public libraries within the City.

### **Consult**

The second level of involvement is more dynamic than the Inform phase and will engage a more targeted, smaller group of stakeholders, including advocacy groups, contractual customers, and civic organizations. The intent is to engage this stakeholder group under the premise that they have more detailed knowledge on the subject matter than the general public. At this level, the stakeholders will be given more detailed project information and asked for input. Tools will include smaller meetings to elicit comment, input, and facilitate discussion.



Small group meetings will be held to directly engage contractual parties, taxpayer groups, and environmental advocacy groups. At least six meetings are anticipated for this project. The benefit of small group meetings will be a condensed agenda and a focused discussion to make the most use of available time and resources. All discussion and decisions made will be documented and presented to all engaged parties.

### **Involve**

The next level of public involvement beyond Consult utilizes tools such as workshops and deliberative polling to engage the stakeholders in the process after being provided with detailed technical information about the project. This level begins to transfer some ownership of the decision-making process to the stakeholders without relinquishing control over final decisions by the leading agency. The primary method of involvement will be the performance of workshops with the Stakeholder Panel and others either invited to attend or attending based on their interest.

Workshops will be scheduled two months in advance and advertised through the outreach tools defined (webpage, newsletters, media outlets). The agenda for the workshops will be prepared by the BSA and will be finalized as approved by the Stakeholder Panel. Preliminary comments and issues may be solicited from stakeholder groups prior to the workshops to better tailor the agenda to the stakeholder concerns. Throughout the project, stakeholder input will be logged as part of the project administrative record. Input received by the BSA/City directly, through public comment cards, website comments and other feedback, will be included in the project documentation. If requested by the stakeholder representatives, confidentiality of input will be preserved by logging of comments as anonymous.

Workshops are proposed to focus on technical issues and other matters deemed important by the Stakeholder Panel. These matters may include communication, areas of interest, activities of interest, finances, regulatory guidance, and socioeconomic equity. Results from ongoing technical elements of the LTCP will largely drive the workshops, supplemented with specific activities such as the planned Watershed Recreational Use Study.

To supplement the Stakeholder Advisory Panel, a wide range of observers will be invited to the stakeholder workshops. The observers will be provided with opportunities to comment during public comment periods in the workshops and via written comment cards during or after the workshops. The observers may include elected officials and members of the press.

A professional workshop facilitator will lead the workshops and public meetings. However, BSA will lead all communication with the press, elected officials, general public, and other observers. Invitations to workshops will be issued by the BSA. Public comments and input will be reviewed with the Stakeholder Panel and integrated into the LTCP process as requested by the Panel and as approved by the BSA. BSA, as responsible party for the LTCP, will be the final arbitrator of what is ultimately included in the LTCP in consultation with the EPA and DEC.

Workshops are preliminarily planned to be held at the beginning of the LTCP alternatives evaluation process, during alternatives screening and vetting, and again prior to final selection of alternatives and once cost and rate impact information is defined.

The use of surveys and focus groups will allow BSA to continue to identify and address public concerns and issues related to the project. These will also serve as a “snapshot in time” of the

effectiveness of communication with the public and the establishment of meaningful dialogue. In this application, they will provide feedback for any adjustments that might need to be made in the project approach to public involvement. They can also be used to gauge public understanding/ concerns/ opinions about the various key issues of the project, goals, and objectives. Surveys will be posted on the webpage and handed out to the Stakeholder Advisory Panel for completion by voluntary participants and then interpreted by the Stakeholder Advisory Panel.

To conclude the public participation plan, a public participation plan summary will be developed in written format and distributed to the Stakeholder Panel and posted on the webpage. The summary will include a description of activities conducted, notable modifications to the process, key decisions made, schedule of any follow up activities, and references to technical documents.

### **Public Participation Plan Implementation Checklist**

- ✓ Create Stakeholder Advisory Panel
- ✓ Advertise creation of public participation plan
- ✓ Hold first Stakeholder Advisory Panel meeting
- ✓ Create webpage link, format and content
- ✓ Create and distribute first newsletter
- ✓ Schedule and conduct first series of public information meetings
- ✓ Hold second Stakeholder Advisory Panel meeting
- ✓ Schedule and conduct first workshop
- ✓ Update webpage
- ✓ Conduct small group meetings
- ✓ Create and distribute second newsletter
- ✓ Hold third Stakeholder Advisory Panel meeting
- ✓ Schedule and conduct second workshop
- ✓ Update webpage
- ✓ Create and distribute survey
- ✓ Schedule and conduct second series of public information meetings
- ✓ Hold fourth Stakeholder Advisory Panel meeting
- ✓ Schedule and conduct final workshop
- ✓ Create and distribute third newsletter
- ✓ Update webpage
- ✓ Prepare Public Participation Plan summary report

## Attachment A – Possible LTCP Interested Parties and Stakeholders

- Environmental Concentration of the University at Buffalo Law School (The State University of New York).
- Niagara Group of Sierra Club.
- Buffalo Olmsted Parks Conservancy.
- WNYCOSH.
- Community Foundation for Greater Buffalo.
- Buffalo Greens.
- Great Lakes Sport Fishing Council.
- Grassroots Gardens.US Steel Workers District 14/WNY.
- Buffalo First, Inc.
- Buffalo Audubon Society.
- Partnership for the Public Good.
- Apollo Alliance.Community Action Organization of Erie County.
- University at Buffalo Department of Chemistry.
- The Nature Conservancy of Central and WNY.
- Family Environmental Health Resources.
- Great Lakes United.
- League of Women Voters of Buffalo/Niagara.
- Massachusetts Avenue Project.
- Tuscarora Nation.Seneca Babcock Community Organization.
- Citizens Campaign for the Environment.
- Buffalo NYPIRG.
- Cornell ILR/WNY.
- Southtowns Walleye Association of WNY, Inc.
- Western New York Environmental Alliance.
- Niagara River Greenway Commission.
- Olmsted Parks Conservancy.
- Erie County Health Department.
- Erie County Water Authority.
- Town of Tonawanda Water.
- Environmental Justice Action Group of Western New York LISC Buffalo/Groundwork Buffalo Impacted First Nations.
- PUSH Buffalo.
- GO-Buffalo (Green Options Buffalo).
- Town of Grand Island Water.

## **ATTACHMENT B**

### **Buffalo Sewer Authority LTCP Public Participation Detailed Implementation Plan for LTCP Update Efforts June 9, 2011**

This plan details the specific approach for the final Public Participation activities of the BSA's LTCP, as discussed with the BSA staff. The Public Participation Plan submitted to the USEPA in September 2010 outlined the general components of a final public participation plan for the BSA to educate the public and engage project stakeholders in accordance with Federal and State regulatory direction relative to the LTCP development. This effort builds upon the public outreach conducted during the prior LTCP effort that culminated in the 2004 Draft LTCP.

Malcolm Pirnie has prepared this document to present the specific activities to be carried out during development of the updated LTCP (through completion of the Updated LTCP Report in 2011). Malcolm Pirnie will support the BSA in executing these public participation activities, along with assistance from the public relations firm, e3communications. The proposed schedule for the final public participation activities is attached.

#### **Background**

Prior to this detailed implementation plan of the formal public outreach program, the BSA has had extensive interaction and outreach with key stakeholders in the area, such as the Buffalo Niagara Riverkeepers (BNRK), about LTCP-related issues and cutting edge green infrastructure (GI) opportunities. They have involved the BNRK in a rain barrel pilot project and the BNRK have shared their draft *Green Infrastructure Solutions to Buffalo's Sewer Overflow Challenge* report with the BSA and Malcolm Pirnie for review and use in the LTCP development.

The BSA has also conducted additional public outreach with other ongoing projects and initiatives. For example, the BSA has included several GI pilots in their CSO 060 Sewer Separation project (being designed by URS), such as rain gardens, porous pavement, and stormwater treatment structures (in lieu of/as catch basins). As part of this project, the BSA has involved the BNRK to help with the GI components (submitting a joint grant application) and the Buffalo Olmsted Parks Conservancy to obtain their input on the overall project (meeting with their board, incorporating their comments into design).

#### **Final Stakeholder Panel**

Malcolm Pirnie and e3commiunications will develop a list of potential members to be invited to serve on the Final Stakeholder Panel. The purpose of this Final Stakeholder Panel is to engage the members in the development and evaluation of CSO control alternatives for the updated LTCP. The list will be drafted based on the potential list of members included in Attachment A and discussions with the BSA. The BSA will then present this list to the Mayor's office for approval. Once approved, letters requesting participation on the panel (to be drafted by e3communications) will be issued by the BSA.

The kickoff meeting for the Final Stakeholder Panel will include a site tour at the WWTP and informational meeting to present the purpose and goals of the LTCP project and engage the Final Stakeholder Panel in the process. Three Stakeholder Panel workshops will be held during the course of the project

Three workshops will be held with the Final Stakeholder Panel to be scheduled in conjunction with the public information meetings timeframe. Each workshop will present a summary of the recent public information meetings and the next steps in the project. Malcolm Pirnie and e3communications will prepare materials for the workshops and assist with technical material presentations and facilitation of the meetings. As the sponsor, the BSA will kick-off and lead all meetings.

**Status Update:** The Final Stakeholder Panel has been formed and consists of the members listed below. Two meetings have been held with the Panel: the first one was a kickoff/informational meeting and the second meeting included a tour of the Bird Island Wastewater Treatment Plant (WWTP).

- Julie Barrett-O'Neill, Buffalo Niagara Riverkeeper
- Dr. Kim Irvine/Mary Perrelli, Buffalo State College
- Jeff Konsella, PE, NYSDEC (advisory role)
- Robert Locey, NYSDEC (advisory role)
- Brian Dold, Buffalo Olmstead Parks Conservancy
- Stephanie Barber, Hamlin Park Taxpayer's Association
- Marge Ryan, South Buffalo Alive
- Honorable Mark J.F. Schroeder, New York State Assembly
- Honorable Barbara Miller-Williams, Erie County Legislature
- Honorable Joseph Golombek, Jr., North District Common Council Member
- Honorable Darius G. Pridgen, Ellicott District Common Council Member
- Charles Martorana, Hiscock & Barclay, LLP (advisory role as BSA's attorney)

### **Information Activities**

Throughout the project, the BSA will present project information and updates to the stakeholders and interested public through a series of information activities. This includes the following:

- **Newsletters:** These newsletters (up to two) will be in electronic format for posting to the webpage (listed below), email via distribution lists, and potential handouts at public meetings. Malcolm Pirnie will draft these newsletters with input from the BSA and e3communications.
- **Webpage Link:** e3communications will provide assistance in the development of a webpage link on the City of Buffalo's website. This includes developing the project webpage design with assistance from the Project Team on site content, production, updates, and maintenance of the webpage. The webpage will include general information about the project purpose and goals, schedule, status, as well as post the newsletters and other documents, and public information meeting announcements.  
**Status Update:** The project website is up and running, and will continue to be updated as more information becomes available ([www.bsacsoimprovements.org](http://www.bsacsoimprovements.org)).
- **Public Information Meetings:** Three separate public information meetings will be held through the project as outlined in the September 2010 Plan. The content for Meeting No. 1 will focus on project background, purpose and goals, regulatory requirements, and the approach for the LTCP. Meeting No. 2 will present the CSO control alternatives analysis. Meeting No. 3 will be held during the completion of the LTCP and will present the proposed LTCP findings and recommendations. Malcolm Pirnie will prepare the technical content for each meeting. e3communications will also coordinate the logistics of the public meetings, including venues and other needs such as recording comments. Each meeting will be held at three different locations

within the City: one in the north, one in the south, and one in the center. Within each of the general locations, each meeting location will be rotated around the City Council Districts; as shown in Table 1.

**Status Update:** The first round of public meetings was held in early May (as noted on the schedule).

**Table 1**  
**Public Information Meeting Locations**

| City Location | Meeting No. 1 | Meeting No. 2 | Meeting No. 3 |
|---------------|---------------|---------------|---------------|
| North         | University    | North         | Delaware      |
| Central       | Niagara       | Masten        | Ellicott      |
| South         | South         | Fillmore      | Lovejoy       |

- **Small Group Meetings:** Based on input from the Final Stakeholder Panel and other interested parties, the BSA will hold up to six small group meetings to directly engage contractual parties, taxpayer groups and environmental advocacy groups in the LTCP process. At least one meeting with the Buffalo Niagara Riverkeepers will be held in support of this activity.

**Status Update:** One small group meeting has been held with the Buffalo Niagara Riverkeepers. Another small group meeting is scheduled for late June with the tributary municipalities. A meeting is also being planned with local businesses.
- **Project Fact Sheet:** Project fact sheets will be developed on an as needed basis, for handouts at Stakeholder meetings, public information meetings and posted on the webpage.

**Status Update:** Handouts developed for the first round of public meetings have been posted on the website.
- **Frequently Asked Questions Document:** If deemed necessary or requested by interested parties during the project, the project team will develop a frequently asked questions document for distribution via email and posting to the webpage.

**Status Update:** A list of questions asked at the first round of public meetings was compiled and will be uploaded to the website.
- **Media Relations:** While the BSA will be the lead for the project, e3communications will help manage all aspects of media relations activities, including writing news releases, media alerts, and advertising public meetings.

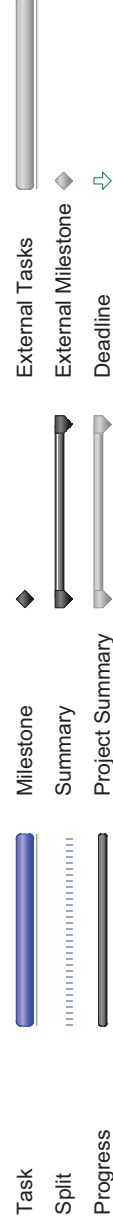
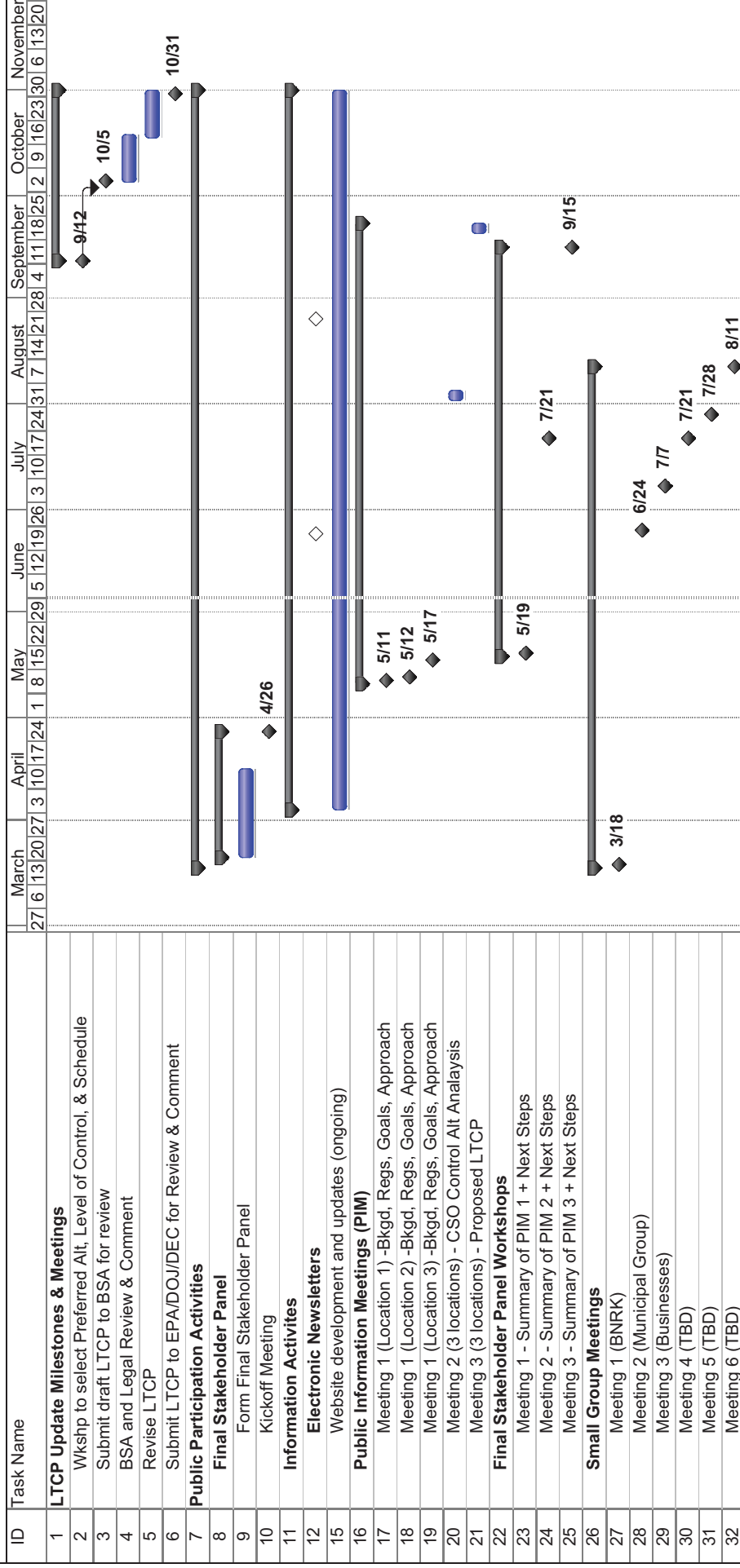
**Status Update:** Press releases for the first round of public meetings were issued by e3communications.



# Buffalo Sewer Authority

## Long Term Control Plan Update

### Final Public Participation Project Schedule (June 2011)



Project: BSA LTCP & Public Participat  
Date: Sun 6/5/11

# **Buffalo Sewer Authority Development of LTCP for CSO Abatement**

Public Meeting  
Wednesday, June 11, 2003



## **Agenda**

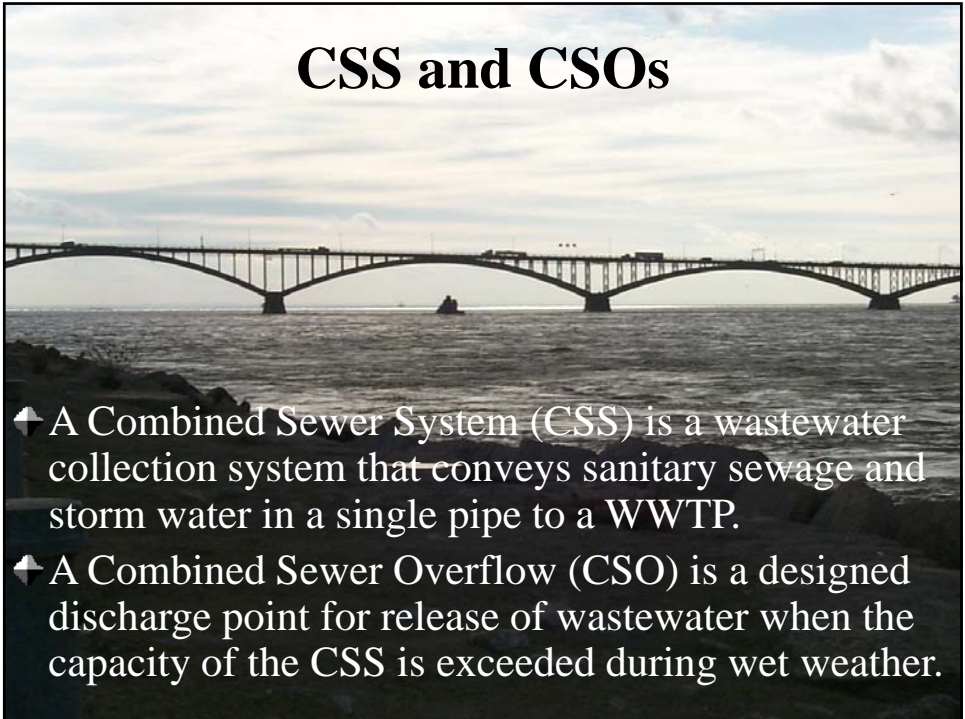
- ◆ Background
- ◆ BSA's LTCP Development Framework
- ◆ System Mapping, Data Collection, and Model Development (Products from Stage 1)
- ◆ Development of District-specific LTCP's (Products from Stage 2)
- ◆ Development of System-wide LTCP (Current Stage 3 Activities)
- ◆ Questions/Open Discussion



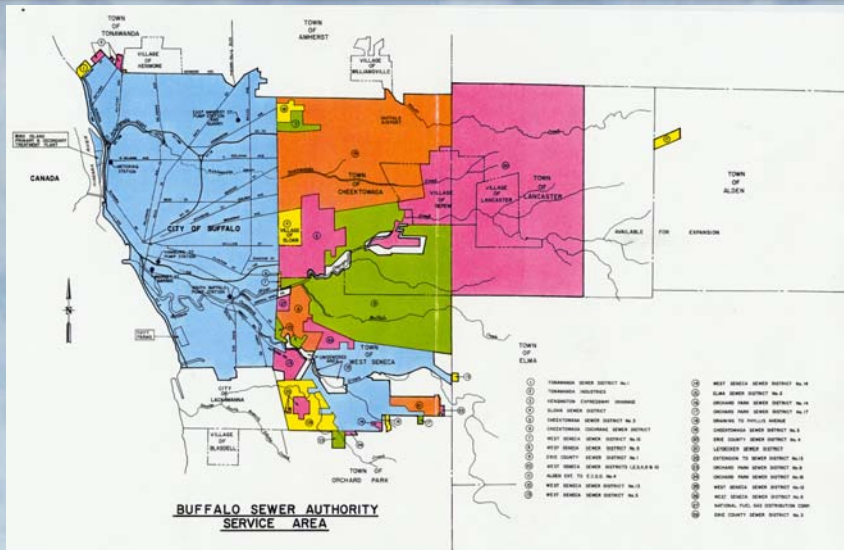
## The BSA Collection System

- ✦ Consists of:
  - ✦ Separate Sanitary Sewer Systems (SSS)
  - ✦ Separate Storm Sewers
  - ✦ Combined Sewer Systems (CSS)
- ✦ More than 840 miles of sewers
- ✦ 790 miles of sewer are combined
- ✦ 258 Sewer Patrol Points (SPPs)
- ✦ 59 Permitted CSOs
- ✦ Serves 550,000 people including suburbs with SSS
- ✦ Covers an area of approximately 110 square miles

## CSS and CSOs

- 
- ✦ A Combined Sewer System (CSS) is a wastewater collection system that conveys sanitary sewage and storm water in a single pipe to a WWTP.
  - ✦ A Combined Sewer Overflow (CSO) is a designed discharge point for release of wastewater when the capacity of the CSS is exceeded during wet weather.

## The BSA Collection System Service Area



## The BSA Bird Island WWTP

- ◆ Second largest plant in New York State
- ◆ 144 mgd average daily flow
- ◆ 118 mgd average dry weather flow
- ◆ Primary and secondary treatment facility
- ◆ Maximum capacity of WWTP = ~520 mgd
- ◆ Over \$30 Million of capital improvements in past 10 years

## BSA SPDES Discharge Permit

Requires:

- ◆ Best Management Practices for CSOs
- ◆ Development of Abatement Plan for CSOs
- ◆ Abatement plan must satisfy requirements for a LTCP as per USEPA CSO Control Policy
- ◆ To date BSA has invested over \$7.5 Million in development of the LTCP

## Approach to Development Of The CSO LTCP Included:

- ◆ Development of a project team comprised of:
  - + Overall Systems Modeling Consultant – Malcolm Pirnie, Inc.
  - + North District Consultant – O'Brien & Gere
  - + Scajaquada District Consultant – Stearns & Wheeler
  - + South Central District Consultant – URS Corp.
  - + Water Quality Modeling – Buffalo State College

Each of the above was retained by the Buffalo Sewer Authority in January, 2000, where initial efforts centered on data collection, model development, and waste stream characterization.

Data collection efforts commenced in April 2000 and were completed in November 2000.

## BSA's LTCP Development Framework

- ◆ Orderly staging of activities to achieve goals

**Stage 1**  
**System Mapping, Data Collection, and Model Development**

**Stage 2**  
**Development of District-Specific Alternatives**

**Stage 3**  
**Development of System-Wide LTCP**

## Products From Stage 1

- ◆ System mapping
- ◆ Flow monitoring report
- ◆ Water quality sampling report
- ◆ System model
- ◆ Existing condition assessment report

## Enormous Effort To Complete Stage 1

- ✦ System Mapping
  - ✦ 15,000 element GIS and digital map
  - ✦ All pipes 24 inches and larger
  - ✦ Over 300 miles of sewer pipes
  - ✦ Foundation for the system model
  - ✦ \$1,000,000 to develop
- ✦ Flow Monitoring
  - ✦ 85 flow meters
  - ✦ 21 rain gauges
  - ✦ 8 month flow monitoring period
- ✦ Water Quality Sampling
  - ✦ 3 wet weather, 2 dry weather events
  - ✦ Over 12,000 samples collected
  - ✦ About 80 personnel involved
  - ✦ 4 laboratories
  - ✦ 14 hydrolabs

## Enormous Effort To Complete Stage 1 (cont.)

- ✦ System Model
  - ✦ All pipes 30" or greater
  - ✦ Over 1,000 mini-basins (sewer sheds)
  - ✦ Calibration and verification
  - ✦ Analysis tool to support development of LTCP
  - ✦ Predicts CSO frequency and volume
  - ✦ Estimate benefit of alternatives
- ✦ Existing Condition Assessment
  - ✦ System model used to simulate existing system during wet weather
  - ✦ Single event storms
  - ✦ Continuous simulations
  - ✦ Pollutant loading to RWB's
  - ✦ Establish baseline conditions

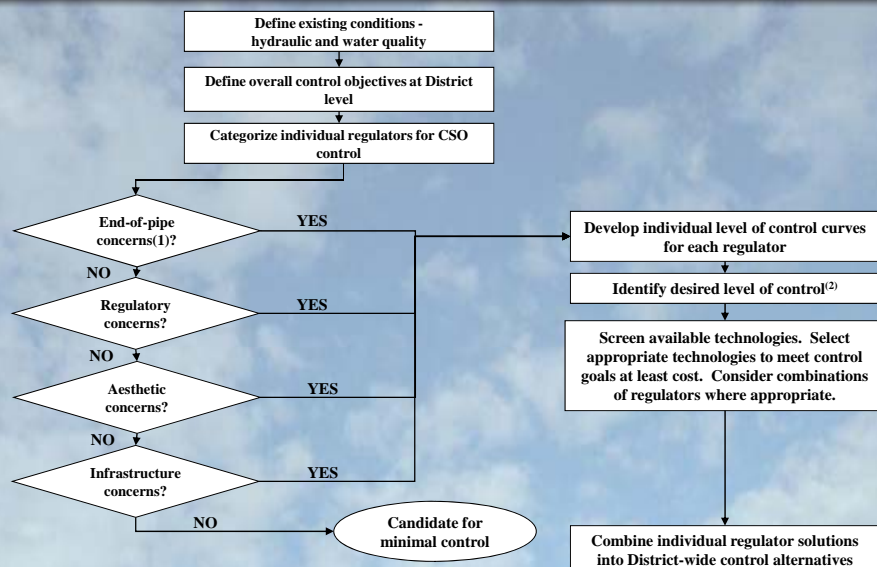


## Products From Stage 2

### ◆ Development of District-specific LTCPs

- ✦ Preliminary control objectives
- ✦ SSP/CSO prioritization
- ✦ Screening of technologies and alternatives
- ✦ Alternative analysis

## Technology Screening and Alternative Selection Flow Chart



# Buffalo Sewer Authority Development of LTCP for CSO Abatement

Public Meeting  
Wednesday, June 11, 2003  
North District Service Area  
O'Brien & Gere Engineers, Inc.

## North District



## BSA's North District CSOs

- Total of 6 CSOs in 3 Subdistricts

- Ontario Basin

CSO 054: Crowley @ Niagara River

- Hertel Basin

CSO 055: Cornelius Creek

- Parish Basin

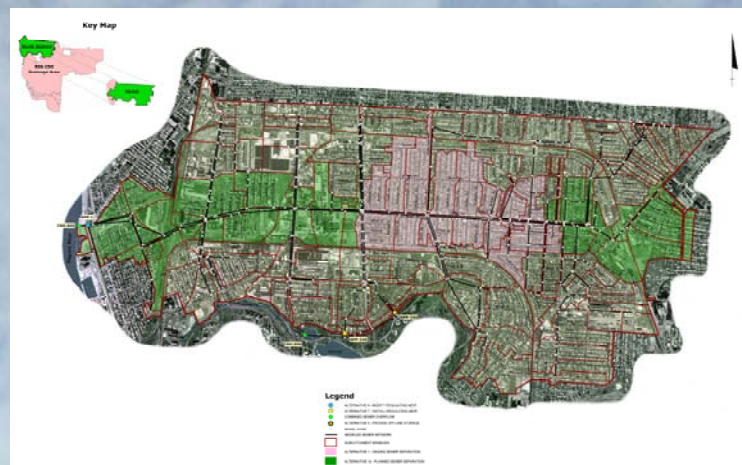
CSO 003: Austin @ Niagara River

CSO 056: Nottingham Terrace

CSO 057: Tonawanda Street

CSO 058: West Avenue on Tonawanda

## Hertel Basin





# Ontario Basin



# Parish Basin



## North District Sewer Patrol Points

| <u>CSO Number</u> | <u>No. of Sewer Patrol Points</u> |
|-------------------|-----------------------------------|
| CSO 054           | 7 (was 8)                         |
| CSO 055           | 1                                 |
| CSO 003           | 11                                |
| CSO 056           | 2                                 |
| CSO 057           | 1                                 |
| <u>CSO 058</u>    | <u>3</u>                          |

Note: No wastewater sources are received from outside the District

## ND Annual Overflow Statistics

| <u>CSO No</u> | <u>Volume, MG</u> | <u>Peak Flow, cfs</u> | <u>No. Events</u> |
|---------------|-------------------|-----------------------|-------------------|
| 054           | 24.2              | 240                   | 36                |
| 055           | 900.2             | 2000                  | 37                |
| 003           | 22.9              | 230                   | 32                |
| 056           | 1.8               | 30                    | 11                |
| 057           | 0.8               | 7                     | 8                 |
| <u>058</u>    | <u>12.2</u>       | <u>45</u>             | <u>60</u>         |
| Total         | 962.1             | N/A                   | N/A               |

## **ND Water Quality Issues**

- Dissolved oxygen is not adversely impacted
- Elevated bacteria levels were noted in the River during wet weather events. However, recovery to background levels occurred quickly
- Heavy metals from CSO were not identified as a significant concern
- Aesthetic concerns (solids and floatables) appears to be the dominate water quality issue in the ND

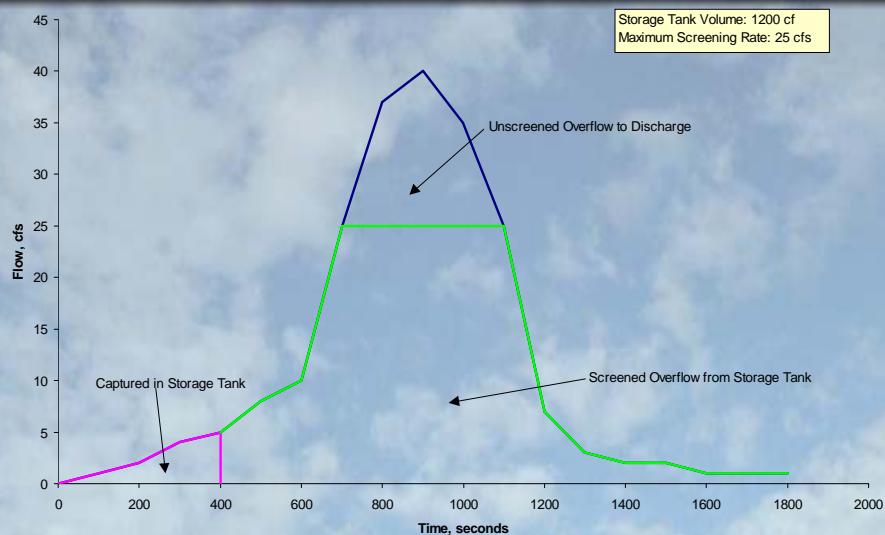
## **CSO Alternatives - BMP and Ongoing**

- Raising overflow weir elevations
- Enlarging orifice openings locations
- Elimination of CSOs, where possible
- Completion of sewer separation projects currently under way
- Completion of separation by Erie County Public Works in Ontario Basin
- Continue implementing planned separation activities by BSA

## CSO Advanced Control Alternatives

- Off-line storage at existing CSOs
- Multiple upstream storage facilities
- Off-line storage with screening
- Off-line storage with separate force main for dewatering directly to WWTP
- In-line storage using inflatable dams
- Solids and floatables screening facilities

Example Schematic of Storage Followed by Screening



## Cornelius Creek CSO Alternatives

- Off-line storage at existing outfall \$ 67.8 million
- Multiple upstream storage facilities \$ 99.0 million
- Off-line storage with screening \$ 77.3 million
- Off-line storage with force main parallel to existing interceptor \$ 60-90 million
- In-line storage using inflatable dams \$ 6.3 million
- Solids and floatables screening facilities \$ 8.8 million

## North District Preliminary CSO Controls

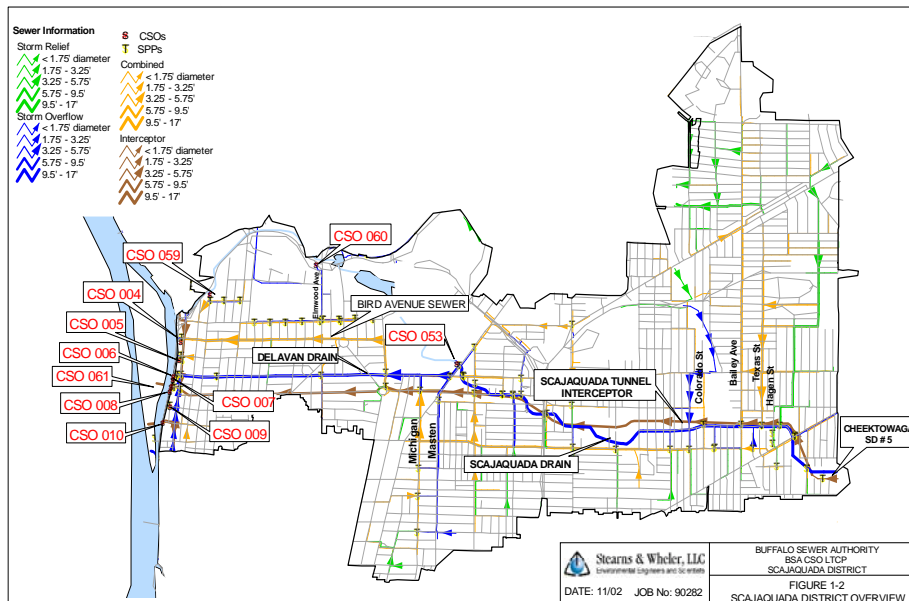
| <u>CSO</u> | <u>Action</u> | <u>Cost</u> | <u>Avg Annual Fraction Treated</u> |
|------------|---------------|-------------|------------------------------------|
| 054        | S & F         | \$ 395,000  | 71%                                |
| 055        | S & F         | \$8,800,000 | 78%                                |
| 003        | S & F         | \$ 890,000  | >99%                               |
| 056        | S & F         | \$ 350,000  | 45%                                |
| 057        | Closure       | \$ 10,000   | 100%                               |
| 058        | S & F         | \$ 430,000  | >99%                               |

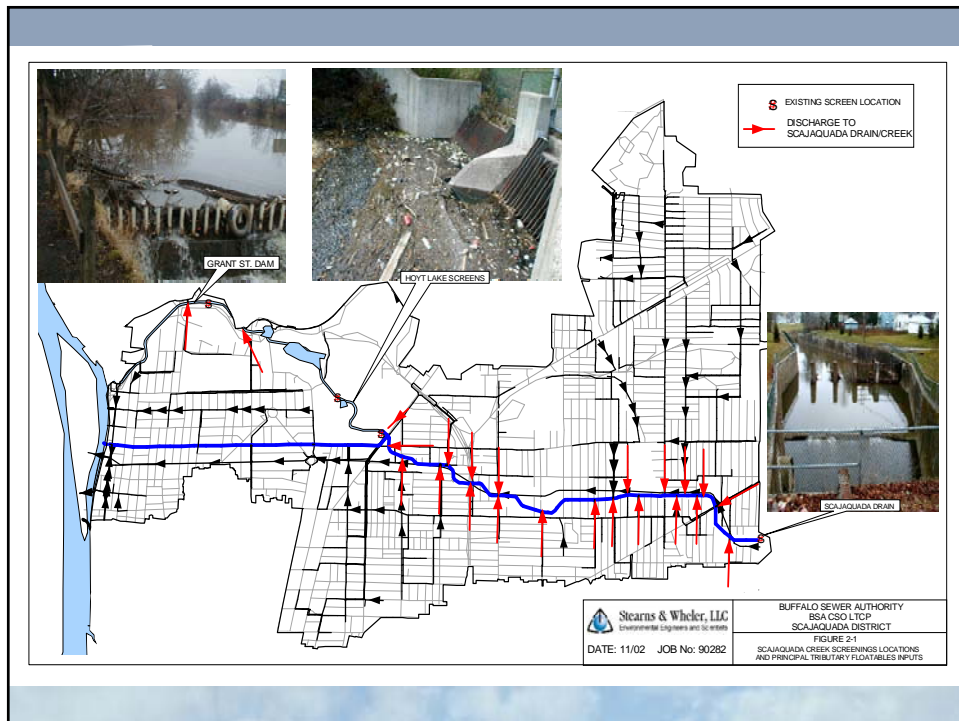


# Buffalo Sewer Authority Development of LTCP for CSO Abatement

Public Meeting  
Wednesday, June 11, 2003

Scajaquada District Service Area  
Stearns & Wheeler, LLC





### ANNUAL OVERFLOW STATISTICS – CURRENT CONDITIONS SCAJAQUADA DISTRICT

| CSO No. | Location            | Volume, MG | No. Events | Rank |
|---------|---------------------|------------|------------|------|
| 004     | Bird Avenue         | 80.2       | 13         | 3    |
| 005     | Potomac Avenue      | 1.7        | 9          | 9    |
| 006     | W. Delavan Avenue   | 588.02     | NA         | 1    |
| 007     | W. Delavan Avenue   | NA         | NA         | NA   |
| 008     | Brace Street        | 24.4       | 95         | 6    |
| 009     | Auburn Street       | NA         | NA         | NA   |
| 010     | Breckenridge Street | 29.7       | 53         | 5    |
| 061     | STI                 | 52.5       | 15         | 4    |
| 053     | Scajaquada Drain    | 301.5      | NA         | 2    |
| 059     | Dewitt Street       | 15.7       | 19         | 8    |
| 060     | Elmwood Avenue      | 22.7       | 84         | 7    |

## SCAJAQUADA CREEK LOADINGS SUMMARY

| Parameter                 | Upstream Mass Loading<br>To Scajaquada Creek<br>(Metric Tons) |             | CSO Mass Loading<br>To Scajaquada Creek<br>(Metric Tons) |             |
|---------------------------|---|-------------|--|-------------|
|                           | 06/09 Event   | 08/23 Event | 06/09 Event  | 08/23 Event |
| Total Suspended Solids    | 50.71   | 41.06       | 4.23   | 3.167       |
| Biochemical Oxygen Demand | 1.92  | 1.25        | .499   | .376        |
| Total Kjeldahl Nitrogen   | .75   | .89         | .092   | .102        |
| Fecal Coliform            | 2.27E+13  | 1.14E+14    | 1.922E+13  | 2.746E+13   |
| Mercury                   | ND  | ND          | .000003  | .000003     |
| Copper                    | .0034   | .01         | .001   | .001        |
| Lead                      | .004  | .007        | .002   | .0014       |
| Zinc                      | .042  | .106        | .005   | .005        |

## WATER QUALITY ISSUE SUMMARY SCAJAQUADA DISTRICT

- Dissolved oxygen in Black Rock Canal and Scajaquada Creek are a concern.
- Elevated bacteria levels were noted in Black Rock Canal and Scajaquada Creek.
- Heavy metals from CSO were not identified as a significant concern.
- Aesthetic concerns (solids and floatables) appears to be the dominate water quality issue.







**PROJECTED WATER QUALITY IMPROVEMENTS  
SCAJAQUADA DISTRICT**

| <b>FLOATABLES &amp; GROSS SOLIDS</b> | <b>TREATED VOLUME (CF)</b> | <b>TOTAL OVERFLOW VOLUME (CF)</b> | <b>PERCENT TREATED</b> |
|--------------------------------------|----------------------------|-----------------------------------|------------------------|
| Black Rock Canal                     | 96,309,500                 | 103,813,700                       | 92.77%                 |
| Scajaquada Creek                     | 43,025,400                 | 45,520,000                        | 94.52%                 |
|                                      |                            |                                   |                        |
| District Total                       | 139,334,900                | 149,333,700                       | 93.30%                 |

| <b>BACTERIA &amp; OTHER POLLUTANTS</b> | <b>TREATED VOLUME (CF)</b> | <b>TOTAL OVERFLOW VOLUME (CF)</b> | <b>PERCENT TREATED</b> |
|--|----------------------------|-----------------------------------|------------------------|
| Black Rock Canal                       | 20,116,700                 | 106,229,700                       | 18.94%                 |
| Scajaquada Creek                       | 10,052,600                 | 50,210,000                        | 20.02%                 |
|  |                            |                                   |                        |
| District Total                         | 30,169,300                 | 156,439,700                       | 19.28%                 |

**ESTIMATED TOTAL PROJECT COST OF PRELIMINARY  
LONG-TERM CONTROL PLAN BY PHASE**

| <b>PROJECT GROUP</b> | <b>PROJECTS</b>  | <b>TOTAL</b>        |
|----------------------|--|---------------------|
| 1                    | Separation projects for CSOs 059 , 060, and 053  | \$ 5,200,000        |
| 2                    | Remaining separation of areas contributing to the Black Rock Canal   | 9,400,000           |
| 3                    | Floatable control facilities and in-line storage at Hagen, Texas, Colorado, and Bailey                           | 14,200,000          |
| 4                    | Remaining floatable control facilities on the Scajaquada Drain   | 10,900,000          |
| 5                    | In-line storage/RTC for Bird Avenue trunk sewer and floatable control facilities for Black Rock Canal discharges | 9,000,000           |
|                      | <b>TOTALS</b>  | <b>\$48,700,000</b> |

# Buffalo Sewer Authority Development of LTCP for CSO Abatement

Public Meeting  
Wednesday, June 11, 2003  
South Central District Service Area  
URS Corporation



## South Central District

- 12,650 Acres In the District
- Roughly Albany Street South to Lackawanna
- 42 Permitted CSO's/30 Represented in the Model (71%)
- 147 Tributary Regulators/103 Represented in the Model (70%)
- Collection System Features

## South Central District Collection System Features



URS

## South Central District

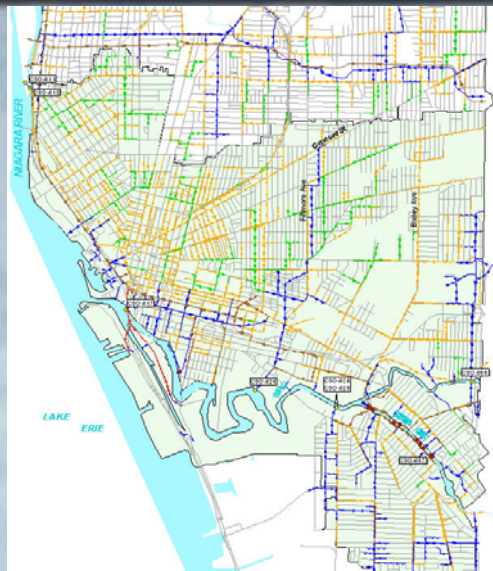
### Model Update #4

- 535 Million cu.ft. Total Discharge Citywide Annually
- 7 of Top 10 CSO's 178.4 million cu.ft./417.5 million cu.ft. (43%)
- Smith Street, Hamburg Drain, Albany, Swan Trunk, Boone, S. Ogden and Salem

## Ranking of CSO's Based Upon Annual Discharge Volume

| Rank                                      | CSO | Location         | Annual Volume |
|---|-----|------------------|---------------|
| 1   | 055 | Cornelius Creek  | 120,213,333   |
| 2   | 006 | Delevan Drain    | 78,630,000    |
| 3   | 026 | Smith Street     | 46,773,333    |
| 4   | 017 | Hamburg Drain    | 40,760,000    |
| 5   | 053 | Scajaquada Drain | 40,300,000    |
| 6   | 012 | Albany Street    | 23,937,333    |
| 7   | 011 | Albany Street    | 20,918,667    |
| 8   | 028 | Boone Street     | 20,285,333    |
| 9   | 066 | S. Ogden Street  | 14,693,333    |
| 10  | 037 | Salem Street     | 11,029,333    |
| Total Volume Discharged Annually          |     |                  | 535,000,000   |
| Total Volume Discharged from SCD Annually |     |                  | 243,982,615   |
| Percent Total Annual Discharge            |     |                  | 46%           |

## South Central District Top 7 CSO's





## South Central District

### Assess Available CSO Control Technologies

- System Optimization BMP's
  - Raising Weirs
  - Supplemental Capacity
  - Redirection of Flow
  - Floatables Control
- Resultant CSO Discharge Reduction 10.0% District Wide (Annually)

### Example Discharge Reduction/Increase

| CSO                         | Location         | Original Volume | Volume After BMP Implementation | % Reduction/Increase |
|-----------------------------|------------------|-----------------|---------------------------------|----------------------|
| 013                         | Virginia Street  | 6,093,000.00    | 1,246,000.00                    | -79.50               |
| 044                         | Stevenson Street | 2,769,000.00    | 1,285,000.00                    | -53.60               |
| 014                         | Swan @ Georgia   | 6,957,000.00    | 3,595,000.00                    | -48.30               |
| 050                         | Seneca Street    | 1,729,000.00    | 1,038,000.00                    | -39.90               |
| 051                         | Frank Street     | 1,877,000.00    | 1,347,000.00                    | -28.30               |
| 052                         | S. Ogden         | 4,648,000.00    | 3,757,000.00                    | -19.20               |
| 017                         | Hamburg Drain    | 40,760,000.00   | 33,669,000.00                   | -17.40               |
| 011                         | Swan Trunk       | 20,919,000.00   | 17,565,000.00                   | -16.00               |
| 016                         | Erie Street      | 1,195,500.00    | 1,042,000.00                    | -12.80               |
| 026                         | Smith Street     | 46,773,000.00   | 42,356,000.00                   | -9.40                |
| 028                         | Boone Street     | 20,258,000.00   | 20,000,000.00                   | -1.40                |
| 012                         | Albany Street    | 23,937,000.00   | 23,916,000.00                   | -0.10                |
| 037                         | Salem Street     | 11,029,000.00   | 11,449,000.00                   | 3.8                  |
| 033                         | Bailey Avenue    | 10,436,000.00   | 10,908,000.00                   | 4.5                  |
| 025                         | Hamburg Street   | 1,024,000.00    | 1,071,000.00                    | 4.6                  |
| 027                         | Babcock Street   | 7,000,000.00    | 8,713,000.00                    | 24.5                 |
| 046                         | Mumford Street   | 656,000.00      | 1,035,000.00                    | 57.8                 |
| Net Reduction District Wide |                  |                 |                                 | -9.9                 |

## South Central District Hamburg Drain Outfall



## South Central District

- System Optimization Partial Sewer Separation
  - Includes BMP's & Plus Partial Sewer Separation
- Resultant CSO Discharge Reduction -17.4% District Wide (Annually)
- BMP's & Partial Sewer Separation Result in 91.7% Capture Rate for SC District
- CSO Policy Target Capture Rate 85%



## Volume Reduction/Increase Comparison Following Implementation of BMP's & Partial Sewer Separation

| CSO                                | Location             | Original Volume      | Volume After BMP's & Partial Separation | % Reduction/Increase |
|------------------------------------|----------------------|----------------------|---|----------------------|
| 013                                | Virginia Street      | 6,093,000.00         | 1,200,000.00                            | -80.30               |
| 044                                | Stevenson Street     | 2,769,000.00         | 1,043,000.00                            | -62.30               |
| 050                                | Seneca Street        | 1,729,000.00         | 702,800.00                              | -59.30               |
| 051                                | Frank Street         | 1,877,000.00         | 765,000.00                              | -59.20               |
| 014                                | Swan @ Georgia       | 6,957,000.00         | 3,443,000.00                            | -50.50               |
| <b>037</b>                         | <b>Salem Street</b>  | <b>11,029,000.00</b> | <b>7,579,000.00</b>                     | <b>-31.3</b>         |
| 052                                | S. Ogden             | 4,648,000.00         | 3,231,000.00                            | -30.50               |
| 025                                | Hamburg Street       | 1,024,000.00         | 716,000.00                              | -30.1                |
| <b>017</b>                         | <b>Hamburg Drain</b> | <b>40,760,000.00</b> | <b>31,221,000.00</b>                    | <b>-23.40</b>        |
| <b>011</b>                         | <b>Swan Trunk</b>    | <b>20,919,000.00</b> | <b>16,315,000.00</b>                    | <b>-22.00</b>        |
| <b>026</b>                         | <b>Smith Street</b>  | <b>46,773,000.00</b> | <b>39,000,000.00</b>                    | <b>-16.50</b>        |
| 046                                | Mumford Street       | 656,000.00           | 548,000.00                              | -16.4                |
| 016                                | Erie Street          | 1,195,500.00         | 1,040,000.00                            | -13.00               |
| 033                                | Bailey Avenue        | 10,436,000.00        | 9,940,000.00                            | -4.8                 |
| <b>028</b>                         | <b>Boone Street</b>  | <b>20,258,000.00</b> | <b>19,651,000.00</b>                    | <b>-3.10</b>         |
| <b>012</b>                         | <b>Albany Street</b> | <b>23,937,000.00</b> | <b>23,880,000.00</b>                    | <b>-0.20</b>         |
|                                    |                      |                      |   |                      |
| 027                                | Babcock Street       | 7,000,000.00         | 7,392,000.00                            | 5.7                  |
| <b>Net Reduction District Wide</b> |                      |                      |   | <b>-17.4</b>         |

## South Central District

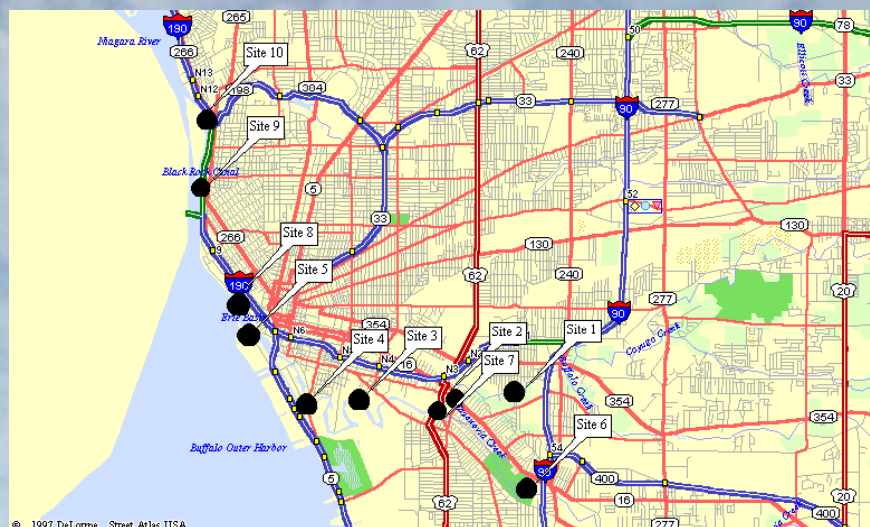
### Advanced CSO Control Alternatives

- Off-Line Storage
  - Below Ground Basin
  - Deep Rock Tunnel
- Off-line Treatment
  - Swirl Concentrator
  - Sand Filters
- Capacity Based Upon Design Storm Total Volume Treated

## Estimated Construction Cost

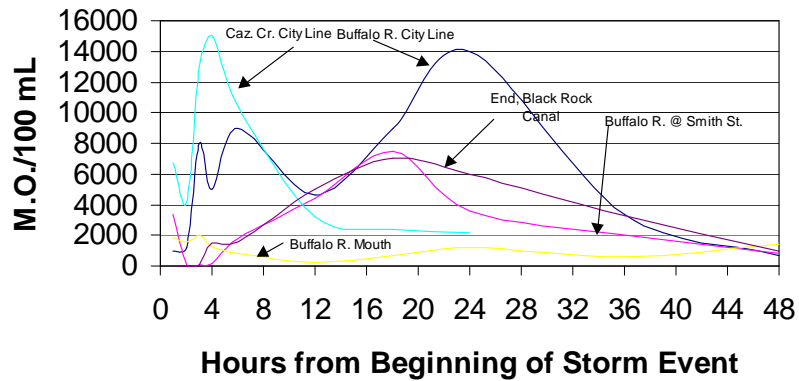
| <b>BEST MANAGEMENT PRACTICES</b>                           |                              |
|--|------------------------------|
| Weir Modification  | \$919,200                    |
| New Sewer Installation                                     | \$3,207,500                  |
| Dynamic Regulator  | \$843,700                    |
| Floatables Control   | \$15,232,000                 |
| <b>TOTAL - BEST MANAGEMENT PRACTICES (2002)</b>            | <b>\$20,202,400</b>          |
| <b>TOTAL - PARTIAL SEWER SEPARATION (2002)</b>             | <b>\$110,957,000</b>         |
| <b>TOTAL</b>   | <b>\$131,159,400</b>         |
| <br>   |                              |
| <b>Advanced Control Alternatives Estimated Cost Ranges</b> | <b>\$77.2 to \$3,123.3 m</b> |

## Water Quality Sampling Sites



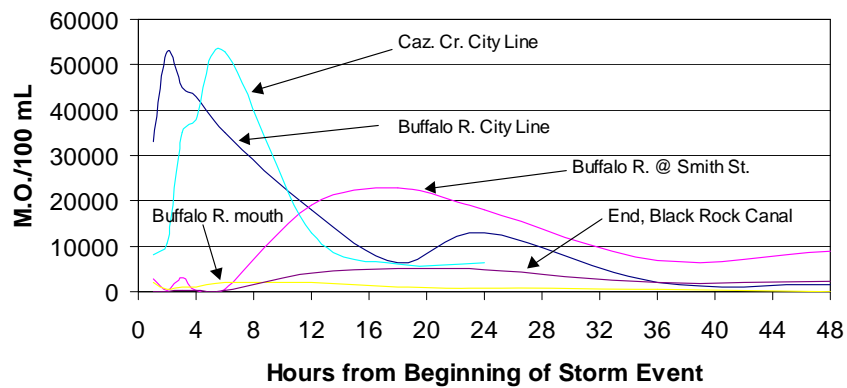
## South Central District

### Fecal Coliform Levels, Event 1, June 9-11, 2000



## South Central District

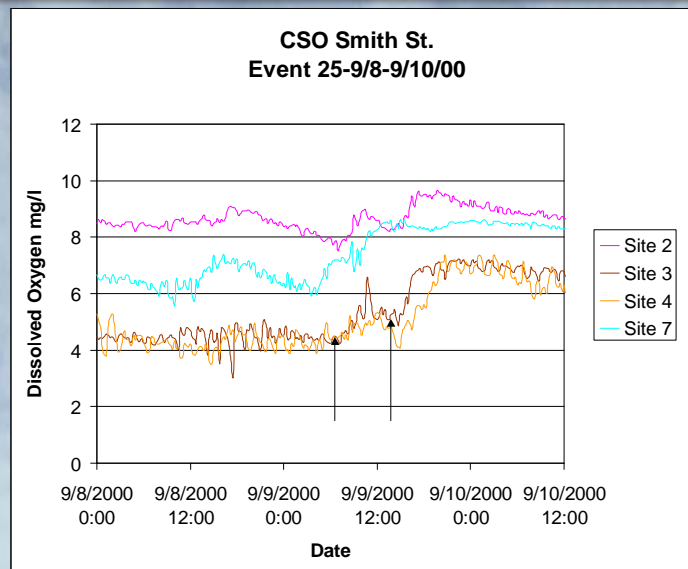
### Fecal Coliform Levels, Event 2, August 23-25, 2000



## Dissolved Oxygen, Non-compliance (<4 mg/L) Periods, 4/17-11/18/00

| Site           | S1   | S2 | S3   | S4   | S5   | S6 | S7  | S8 | S9   | S10  |
|----------------|------|----|------|------|------|----|-----|----|------|------|
| Hrs <4 mg/L    | 17   | 0  | 589  | 760  | 298  | 0  | 131 | 0  | 570  | 366  |
| % Time <4 mg/L | 0.62 | 0  | 21.5 | 27.8 | 10.8 | 0  | 4.7 | 0  | 20.8 | 13.4 |

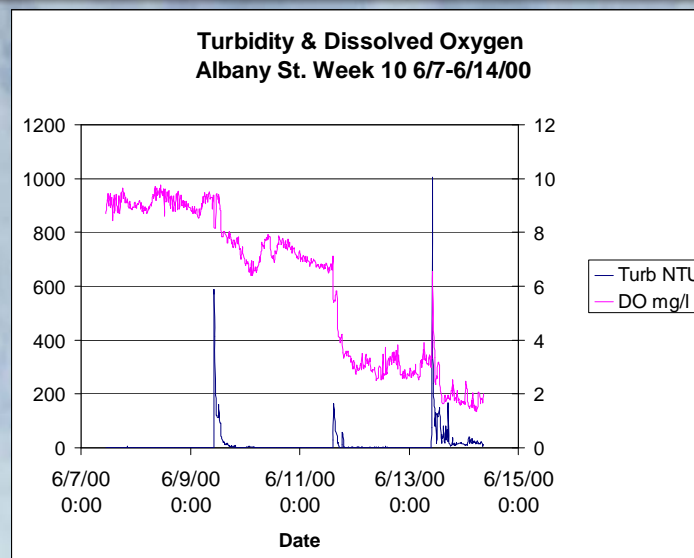
## South Central District



## UB D.O. Studies Concluded:

- Stratification in river at low flows reduces aeration due to mixing
- High SOD, together with long residence times due to hydraulics of system, and background BOD can produce low D.O.
- CSOs had minimal impact on D.O. in the river (see also our Hydrolab data)
- increased BRIC pumping during low flows could improve D.O. levels

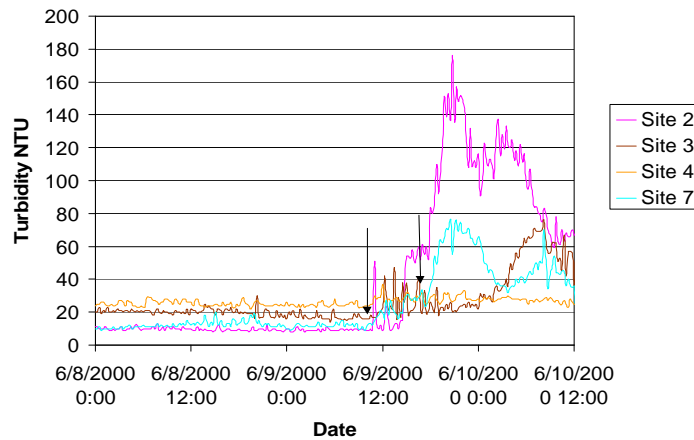
## South Central District



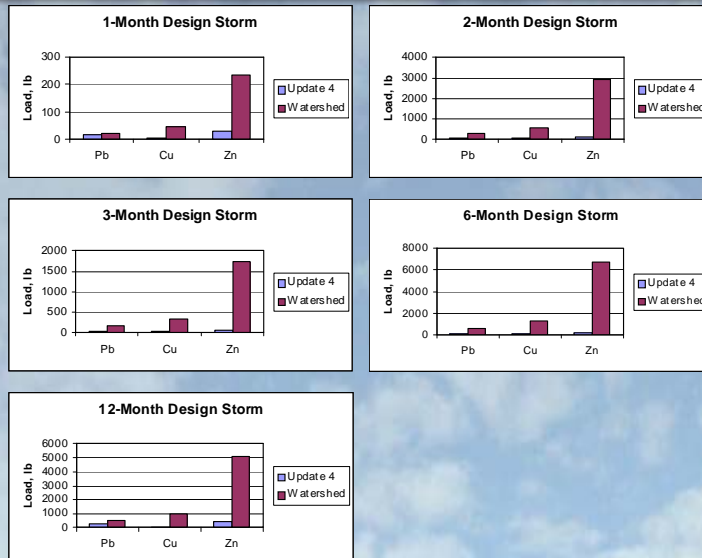


## South Central District

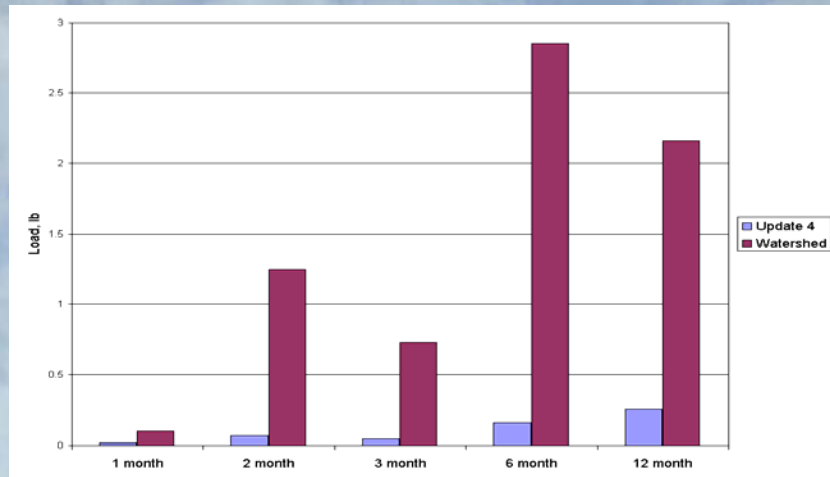
**CSO Smith St.  
Event 7- 6/8-6/10/00**



## Buffalo River Metals Loadings



## Hg Loadings for Design Storms and Buffalo River Watershed



## Current Stage 3 Activities

- ◆ Integrate the District-specific LTCPs
- ◆ Establish system-wide alternatives
- ◆ Analyze system-wide alternatives
- ◆ Ongoing WWTP efforts
- ◆ Perform cost-affordability analysis
- ◆ Rank alternatives and select preferred plan
- ◆ Develop implementation schedule and post-construction monitoring plan

## **Integrate The District – Specific LTCPS**

- ◆ Establish system-wide control objectives
- ◆ Establish system-wide prioritization of CSOs
- ◆ Define level of control goals at targeted regulators
- ◆ Refine and consolidate technology selections

## **Establish System-Wide Alternatives**

- ◆ Baseline alternative to represent short-term improvements
- ◆ Combination of District-specific plans

## Analyze System-Wide Alternatives

- ◆ Use collection system model to estimate benefit of alternatives during single events and continuous periods
  - + Volume reduction
  - + Frequency reduction
  - + Duration reduction
- ◆ Combine end-of-pipe measures with water quality assessment to estimate water-quality benefits

## Ongoing WWTP Efforts

- ◆ Development of wet weather operating plan
- ◆ Replacement of RAS/WAS pumps
- ◆ Construction of grit removal system modifications
- ◆ Installation of supplemental influent channel

*Improvements will increase maximum capacity of WWTP from 520 to 600 mgd.*

## Current Stage 3 Activities

- ◆ Integrate the District-specific LTCPs
- ◆ Establish system-wide alternatives
- ◆ Analyze system-wide alternatives
- ◆ Ongoing WWTP efforts
- ◆ Perform cost-affordability analysis
- ◆ Rank alternatives and select preferred plan
- ◆ Develop implementation schedule and post-construction monitoring plan

## Schedule for Activities

- ◆ Complete wet weather operations plan – July
- ◆ Prepare cost affordability analysis – July
- ◆ Analyze system-wide alternatives – July/August
- ◆ Rank system-wide alternatives and select preferred plan – September
- ◆ Prepare draft LTCP – October/November
- ◆ Submit LTCP to NYSDEC – December 2003
- ◆ Review and Comment Period – Commences December 2003
- ◆ Conduct public meeting – Early 2004



## Questions/Open Discussion





## INTRODUCTION

- Project Background
- Overview of the BSA
  - the Organization
  - the Collection System
  - the Wastewater Treatment Plant
- The LTCP Project
- Stakeholder Involvement
- Questions and Answers

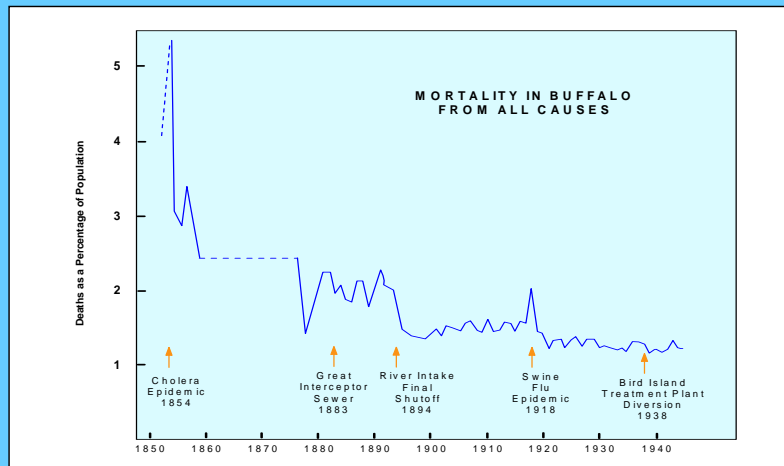
A decorative vertical bar with horizontal stripes in shades of blue, yellow, and black is positioned on the left side of the slide. The title 'INTRODUCTION' is in a large, bold, black font, and the list items are preceded by square bullet points.

## INTRODUCTION: BSA LTCP FOR CSOS

- Multi-million dollar 10-15 year program to abate impacts of CSOs and improve the environment
- Drivers
  - EPA CSO Policy
  - NYSDEC Permit
- Requires public participation
- Requires stakeholder issues to be addressed



## FORMATION OF BSA: HISTORY OF WASTEWATER PROBLEMS



## FORMATION OF BSA

- Before the BSA:
  - 39 mgd of raw sewage entering the Niagara River
  - Bacterial pollution in evidence 17 miles below Buffalo
  - Significant health problems
- Act of State Legislature 1935 created the BSA
- The BSA today:
  - Covers 110 Square Miles
  - Serves 550,000 people



## THE BSA: REGIONAL SERVICE

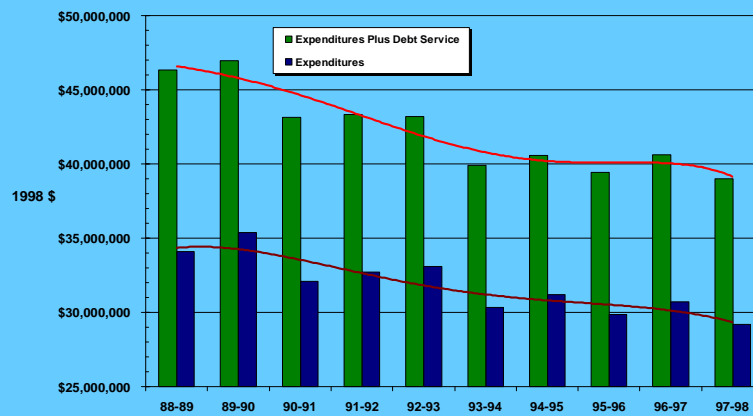
- Towns & Villages
  - Cheektowaga
  - Lancaster
  - West Seneca
  - Village of Sloan
  - Village of Depew
- Sewer Districts
  - Tonawanda #1
  - Cheektowaga #3, #5, #6 and Cochrane
  - West Seneca #1-6, #8, -10, #12-15
  - Elma #2
  - Leydecker
  - Orchard Park #8, #14, #16, #17
  - County of Erie #1, #3, #4,







## Total Expenditures show Record Decline in BSA Operating Costs



## THE BSA: MAJOR OPERATING DIVISIONS

■ Collection System



■ Treatment Plant



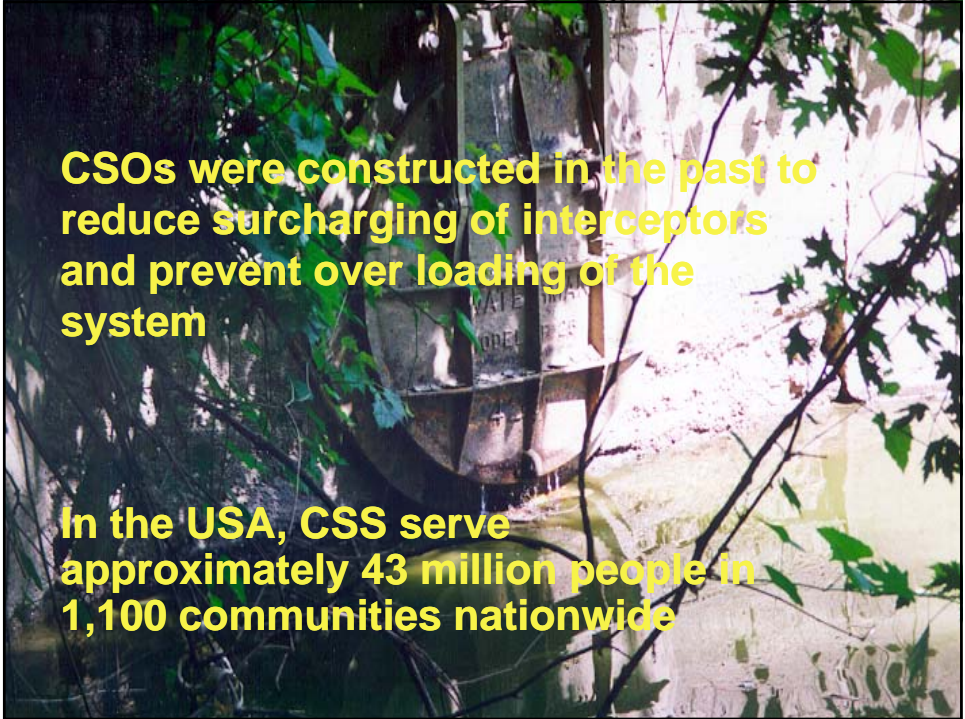
# THE BSA COLLECTION SYSTEM



- Consists of:
  - Separate Sanitary Sewer Systems (SSS)
  - Separate Storm Sewers
  - Combined Sewer Systems (CSS)
- More than 840 miles of sewers,
- 790 miles of sewer are combined
- 258 Sewer Patrol Points (SPPs)
- 68 Permitted CSOs (3 at WWTP)
- Suburbs with SSS

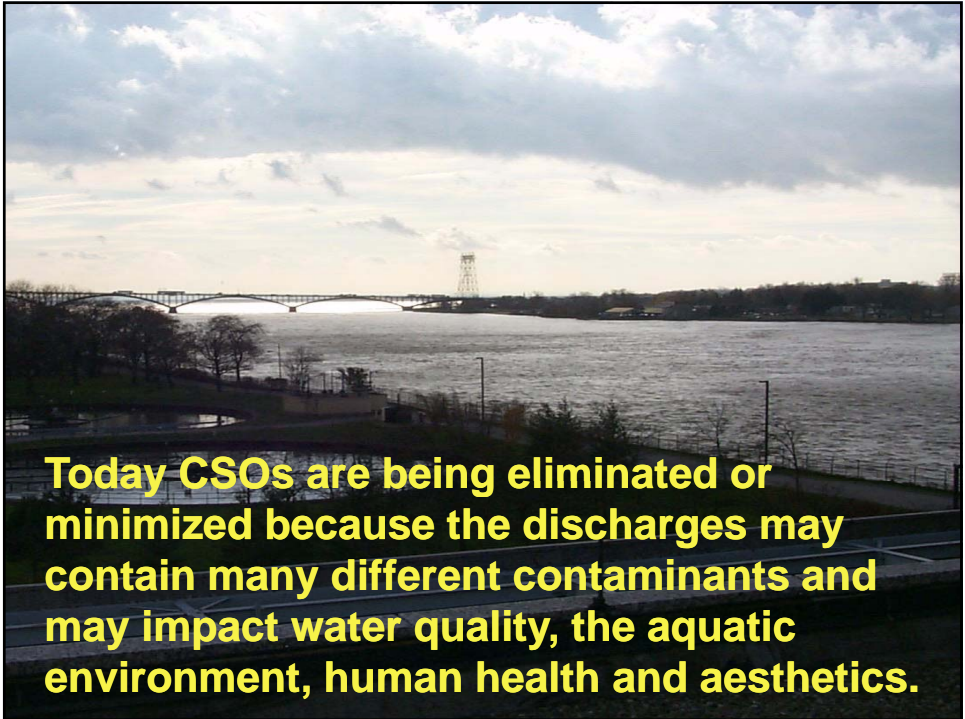
## CSS AND CSOs

- A Combined Sewer System (CSS) is a wastewater collection system which conveys sanitary sewage and storm water in a single pipe to a WWTP
- A Combined Sewer Overflow (CSO) is a designed discharge point for release of wastewater when the capacity of the CSS is exceeded during wet weather



**CSOs were constructed in the past to reduce surcharging of interceptors and prevent over loading of the system**

**In the USA, CSS serve approximately 43 million people in 1,100 communities nationwide**



**Today CSOs are being eliminated or minimized because the discharges may contain many different contaminants and may impact water quality, the aquatic environment, human health and aesthetics.**



## THE BSA COLLECTION SYSTEM

- ARC VIEW MAP OF Location of the CSOs with watersheds



## CSS IMPROVEMENT PROJECTS

- CSO Planning and Improvements 1988 -1992 > \$28 million
- Storm Water Sewer Improvements > \$10 million
- Scajaquada Tunnel \$40 million
- CSO LTCP \$7.5 million



## CSO ABATEMENT PLANNING INVOLVES HIGH- STAKE DECISIONS

- Northeast Ohio Regional Sewer District:
  - Mill Creek Tunnel @ \$180M dollars
  - Westerly District \$120 million
  - Addresses two of four service areas.
- City of Akron - Integrated system alternative @ \$100M to \$200M
- City of Fort Wayne - \$100M to abate CSOs for service area of 200,000 people



## CSO SIGNS

**N.Y.S. PERMITTED DISCHARGE POINT  
(Wet Weather Discharge)  
SPDES PERMIT NO.: 0028410**

**OUTFALL NO., \_\_\_\_\_**

For information about this permitted discharge contact:

Permittee Name :**Buffalo Sewer Authority**

Permittee Contact: **Plant Superintendent**

Permittee Phone: **(716) 883 1820 extension 201**

or

NYSDEC Division of Water Regional Office Address:

**NYSDEC Region 9**

**270 Michigan Avenue**

**Buffalo NY**

NYSDEC Division of Water Regional Phone **(716) 851 7070**



## BSA WASTEWATER TREATMENT PLANT

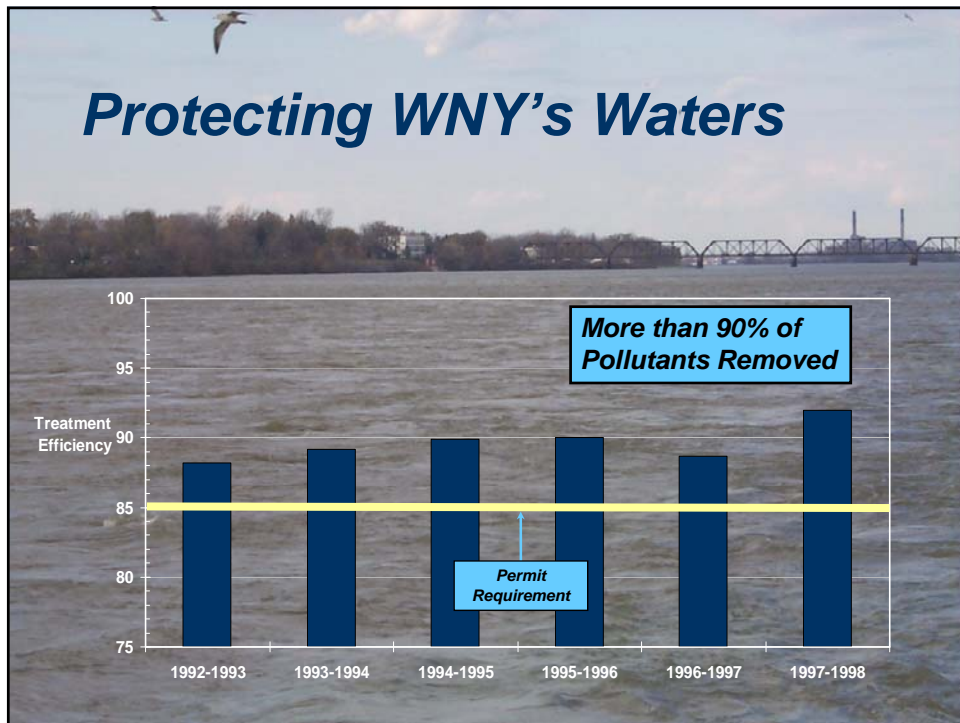
- 2nd Largest Plant in New York State
- 20th Largest in Country
- \$20 Million of Capital Investments in Past 5 Years



## DEVELOPMENT OF BSA WASTEWATER TREATMENT PLANT


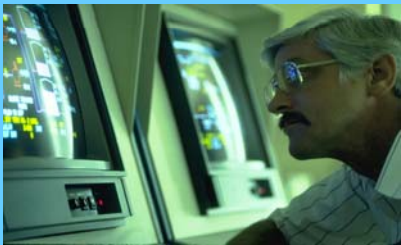
- 1936-1939: Primary Treatment Facility
- 1975-1979: Secondary Treatment Facility





## BSA: ON-GOING IMPROVEMENTS

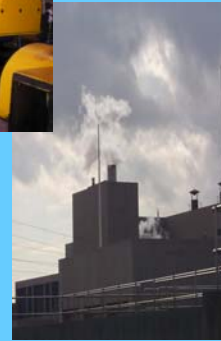
- **1994-1999:** \$30 Million in Capital Improvements to Enhance Treatment
  - Bar Screen
  - Fine Bubble Diffusers
  - SCADA



## BSA: PLANNED PROJECTS

*\$25 Million in Planned Projects Critical to Long-Term Reliability*

- Grit
- Centrifuges
- Incinerators
- Pump Stations
- Wet Weather Operating Plan
- CSO Abatement  
(Real Time Control)



*Cost of Services is amongst the Lowest in the Region*

Treatment Cost Comparison

|                                 | BSA   | Town of Tonawanda        | Town of Amherst | Erie County STA          | Erie County-Lackawanna |
|---------------------------------|-------|--------------------------|-----------------|--------------------------|------------------------|
| Design Capacity (Avg. MGD)      | 180   | 30                       | 36              | 16                       | 4.5                    |
| Current Average Flow (MGD)      | 144.2 | 17                       | 22.5            | 14.3                     | 4                      |
| Cost per MG Treated:            |       |                          |                 |                          |                        |
| WWTP Only                       | \$293 |                          | \$877           | \$1,268 <sup>(1)</sup>   | \$1,033                |
| WWTP + Collections              | \$345 |                          |                 | \$1,487 <sup>(1,3)</sup> |                        |
| Total Operations <sup>(2)</sup> | \$722 | \$1,030 <sup>(1,3)</sup> |                 |                          |                        |

**NOTES:**

(1) Based on customer sewer rates.

(2) BSA total operations includes Admin, WWTP, Industrial, Engineering, Sewer, Fring Benefits & Other Costs, and Debt Service costs.

(3) Possibly total operations.



## BSA SPDES DISCHARGE PERMIT

- 68 permitted outfalls - 3 at WWTP, 65 in the collection system
- Discharge notification requirements
- Discharge effluent limitations
- Monitoring requirements
- Industrial Pretreatment Program requirements
- Best Management Practices for CSOs
- Abatement Plan for CSOs including LTCP as per USEPA National CSO Policy Requirements
- Schedule for compliance



## BSA SPDES PERMIT: BMPS

- 13 Best Management Practices to Control CSO impacts (Equivalent to EPA Nine Minimum Controls)
- Include
  - CSO maintenance/Inspection
  - Maximizing use of CSS for storage
  - Industrial pretreatment
  - Maximizing flow to WWTP
  - Wet Weather Operations Plan



## BSA SPDES PERMIT: BMPS (cont)

- Prohibition of Dry Weather Overflows
- Control of Floatables
- CSS Separation
- Control of Runoff
- Public Notification



## THE LTCP PROGRAM: TEAM MEMBERS

- BSA
- Malcolm Pirnie: Overall LTCP Coordinator
- URS: South Central District Analysis
- O'Brien & Gere: North District Analysis
- Stearns & Wheler: Scajaquada District Analysis
- Dr Kim Irvine: Technical Advisor (Buffalo State College)



## FEDERAL CSO POLICY

### ■ Drivers

- Water Quality
- Clean Water Act
- Aquatic Biota
- Public Health
- CSO Control Complexity and Variability
  - site-specific variables
  - significant financial impacts (EPA estimated CSO abatement costs for the 1100 communities at \$41.2 billion)







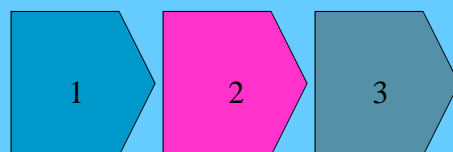
## FEDERAL CSO STRATEGY/ POLICY

- CSO Strategy 1989
- CSO Policy 1994
  - Dry weather overflows prohibited
  - CSO impacts on water quality, aquatic biota and human health must be minimized
  - States charged with developing state-wide permitting strategies to reduce and eliminate CSOs
  - Ensures public involvement in the decision making process.
  - Allows a flexible and phased approach to implementing CSO controls
  - Requires permittees to implement the Nine Minimum Controls
  - Requires permittees to develop LTCPs



## FEDERAL LTCP REQUIREMENTS

- 3 main steps
  - #1 System characterization monitoring and modelling of the CSS for selection and design of CSO controls
  - #2 Evaluation of alternatives
  - #3 Selection and implementation of controls



## FEDERAL LTCP REQUIREMENTS

- Key elements to address in the 3 steps include
  - A public participation process actively involving affected public in decision making to select long-term CSOs
  - Cost performance considerations
  - Operational plan revision to include CSO controls
  - Implementation Schedule
  - Post-Construction compliance monitoring program

## STATE CSO PROGRAM

- SPDES Permit Requirements
  - Implementation of NMC through BMPS
  - Development of LTCP
  - Schedule for Compliance
  - Monitoring



# BSA LTCP PROGRAM COMPONENTS



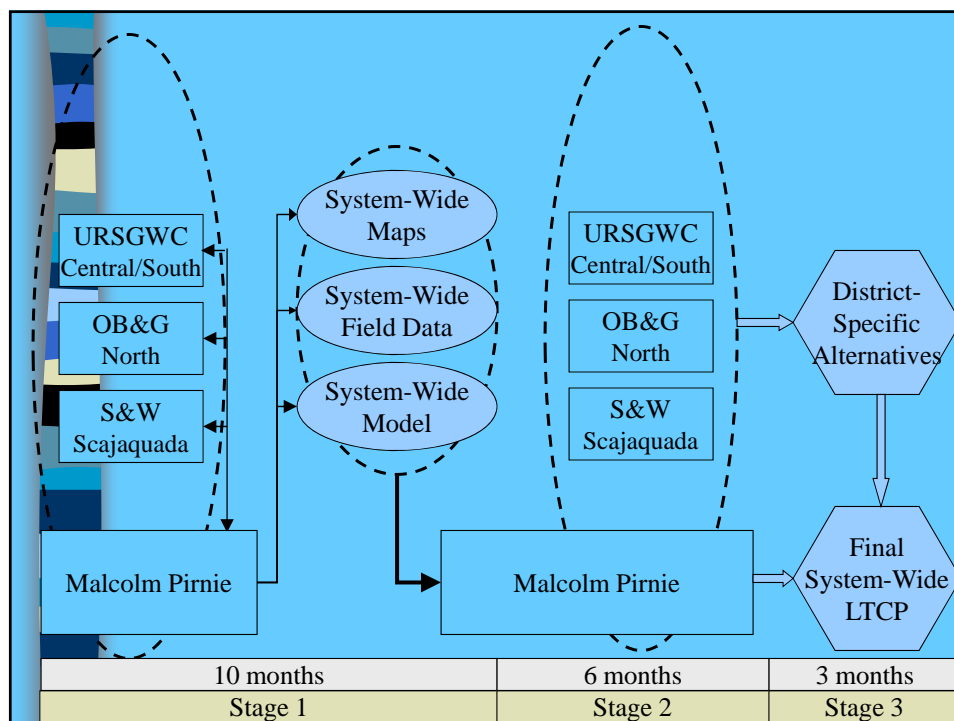
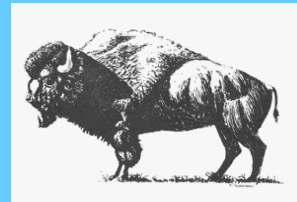
## 1 Define Existing Conditions

- Map System
- Flow and Rainfall Monitoring Program
- Water Quality Sampling Program
- Develop SWMM model

## 2 Develop LTCP

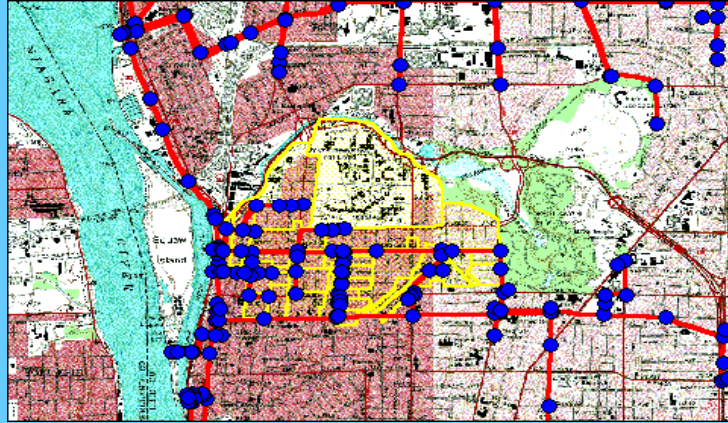
- Analysis of Alternatives
- Balance Cost-Benefits
- Recommend Schedule

## 3 Implement



## #1 DEFINING EXISTING CONDITIONS

### ■ System Mapping



## #1 DEFINING EXISTING CONDITIONS

- ### ■ Flow Monitoring: April-May 2000
- 71 flow monitoring locations
  - 18 rain gauges installed
  - 60 day monitoring of rainfall and dry and wet weather flows at 5 minute intervals
  - Weekly data download, review and validation
  - Input to SWMM model



## ARC VIEW OF FM LOCATIONS



## #1 DEFINING EXISTING CONDITIONS

- Water Quality Monitoring: April-May 2000
  - 36 Water Quality Monitoring Stations
    - In-system (CSS) location: key overflows
    - Buffalo River
    - Black Rock Canal,
    - Scajaquada Creek
    - Cazenovia Creek
    - Cornelius Creek
    - Erie Basin Marina

# #1 DEFINING EXISTING CONDITIONS

## ■ Water Quality Monitoring:

April-May 2000

- Real time weather monitoring
- 3 wet weather and 2 dry weather events
- Analysis of 23 different parameters
- Builds on previous studies

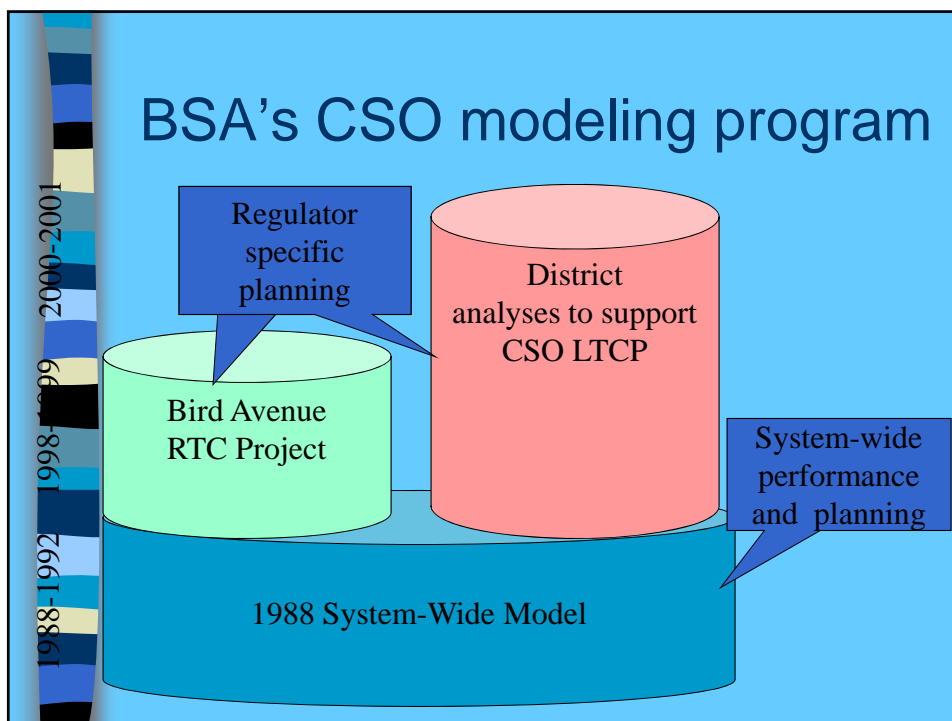


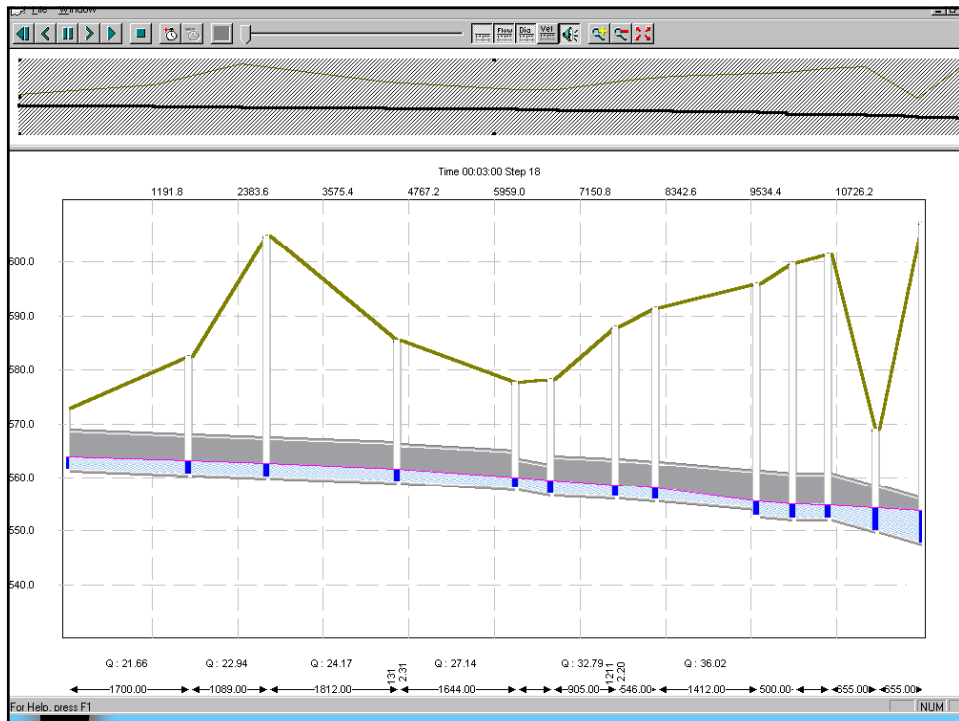
## ARC VIEW of WQ locations



## #1 DEFINING EXISTING CONDITIONS

- Collection System SWMM Modeling
  - Builds on previous BSA modeling
  - Provides information on CSO response





## #2 DEVELOPMENT OF LTCP

### Schedule for LTCP Development

July 2001

- Alternative Analysis
- Cost-Benefit Analysis
- Consideration of
  - Stakeholder Objectives
  - Regulatory Requirements
- Recommend Schedule



## #3 IMPLEMENTATION

- Phased Implementation
- Schedule **to be determined by:**
  - Stakeholders
  - NYSDEC
  - BSA
  - Rate Impacts



## STAKEHOLDER INVOLVEMENT

- Public participation:
  - involvement in program scope
  - involvement in evaluation and selection of alternatives
  - informing citizens/businesses
    - scope of program
    - areas affected by construction
    - impacts on user fees and rates
    - cost-benefits of selections
    - water quality impacts

## PUBLIC PARTICIPATION PROGRAM SCHEDULE

- First Public Meeting: April 13th 2000
- Written Comments: May 13th 2000
- Special Interest Group Meetings
  - RAPs
  - Rate Payers
- Flow Monitoring and Water Quality Data Reports: July 2000
- Biannual Newsletter
- Draft LTCP: Spring/Summer 2001
- Public meeting to discuss Draft LTCP: Spring/Summer 2001

## BSA LTCP GOALS/BENEFITS

- Public Awareness
- WWTP efficiencies
- Minimized Operational Costs
- Understood system
- Regional Cooperation
- Environmental benefits
  - WQ benefits
  - Aesthetic improvements



# STAKEHOLDER GOALS

What are they?





**Buffalo Sewer Authority**  
**Long Term Control Plan Update / Public Participation**  
**Stakeholder Panel Meeting (No. 2)**

**BSA WWTP**  
**May 19, 2011**

**AGENDA**

- Tour WWTP
- Summary of Round 1 Public Meetings
  - Attendance
  - Questions Fielded at Meetings
- Suggestions for Next Round of Public Meetings
- Update on USEPA/NYSDEC Negotiations
- Next Stakeholder Meeting





**Buffalo Sewer Authority**  
**Long Term Control Plan Update / Public Participation**  
**Stakeholder Panel Kickoff Meeting (No. 1)**  
**April 26, 2011**

**Sign In Sheet**

| Name             | Organization                    | Phone Number | Email                             |
|------------------|---------------------------------|--------------|-----------------------------------|
| Robert Locay     | NYS DEC                         | 851-7070     | RLLOCEY@GW.DEC.STATE.NY.U         |
| Jeff Karselle    | NYS DEC - Buffalo               | 851-7070     | jakarselle@gw.dec.state.ny.us     |
| Earl Wells       | e3communications                | 854-8182     | ewells@e3communications.com       |
| BRIAN DOLD       | BOPC                            | 280-8118     | BRIAN@BOPCPARKS.ORG               |
| OLIVOLE A. MCFOY | BUFFALO SEWER AUTHORITY         | 851-4664     | omcfoy@sac.ci.buffalo.ny.us       |
| Marquel Ryan     | South Buffalo Alive             | 826-3158     | _____                             |
| Stephanie Barber | Getter Holden Park Typographers | 826-8148     | sabarbarb@hotmail.com             |
| Julie O'Neill    | Buffalo Niagara Riverkeeper     | 852-7483     | jboneill@bnriverkeeper.org        |
| Patrick Curry    | NYS assembly - Schneider        | 826-0152     | curryp@assembly.state.ny.us       |
| DAVE COMENFUM    | ASA                             | 851-4664     | dpc @comenfum@sa.ci.buffalo.ny.us |
| Mike Guinn       | MPI / Arcadis                   | 667-6610     | Michael.T.Guinn@arcadis-us.com    |
| Lisa Derrigan    | Malcolm Pirnie / Arcadis        | 667-6644     | Lisa.Derrigan@arcadis-us.com      |
|                  |                                 |              |                                   |
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# Buffalo Sewer Authority Long Term Control Plan for Combined Sewer Overflows

Stakeholder Panel  
Kickoff Meeting  
April 26, 2011

## Agenda

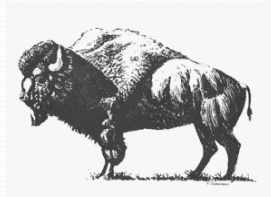
- **Introductions**
- Overview of the BSA Facilities
- Project Drivers
- Project History
- Public Participation / Stakeholder Panel
- Questions

## Agenda

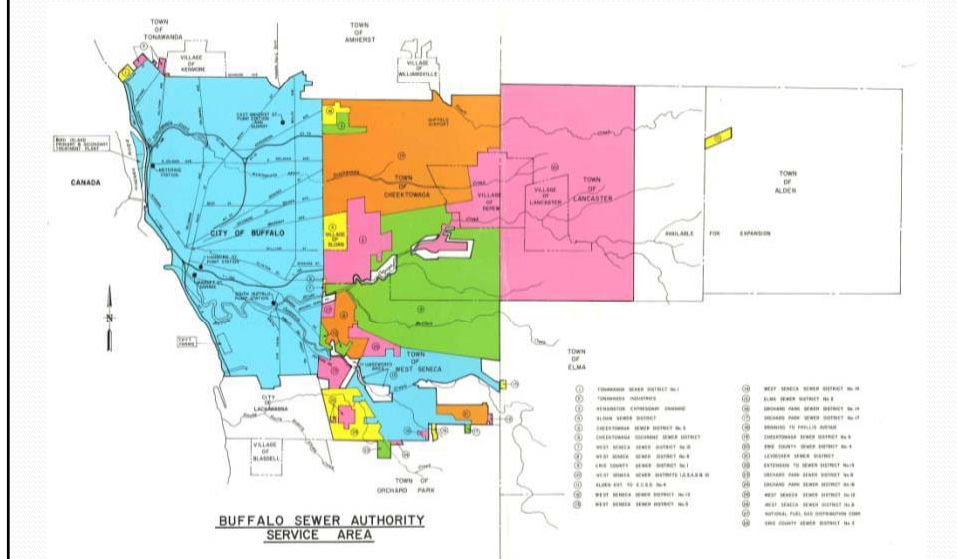
- Introductions
- **Overview of the BSA Facilities**
- Project Drivers
- Project History
- Public Participation / Stakeholder Panel
- Questions

## Formation of BSA

- Before the BSA:
  - 39 mgd of raw sewage was entering the Niagara River
  - Bacterial pollution evidence 17 miles below Buffalo
  - Significant health problems
- Act of State Legislature 1935 created the BSA
- The BSA today:
  - Covers 110 Square Miles
  - Serves 450,000 people

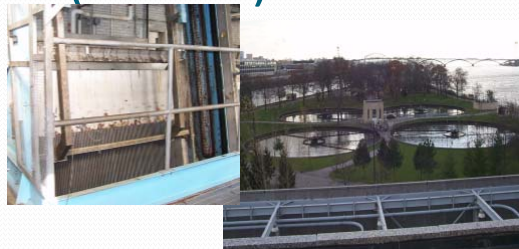


## BSA Service Area



## Development of BSA Wastewater Treatment Plant (WWTP)

- 1936-1939: Primary Treatment Facility



- 1975-1979: Secondary Treatment Facility



## BSA Bird Island WWTP

- Second largest plant in New York State
- 144 mgd average daily flow
- 118 mgd average dry weather flow
- Primary and secondary treatment facility
- Maximum capacity of WWTP over 550 mgd
- Treat 85% of combined wastewater entering the system
- Tens of millions in capital improvements over past 15 years



## WWTP Improvements

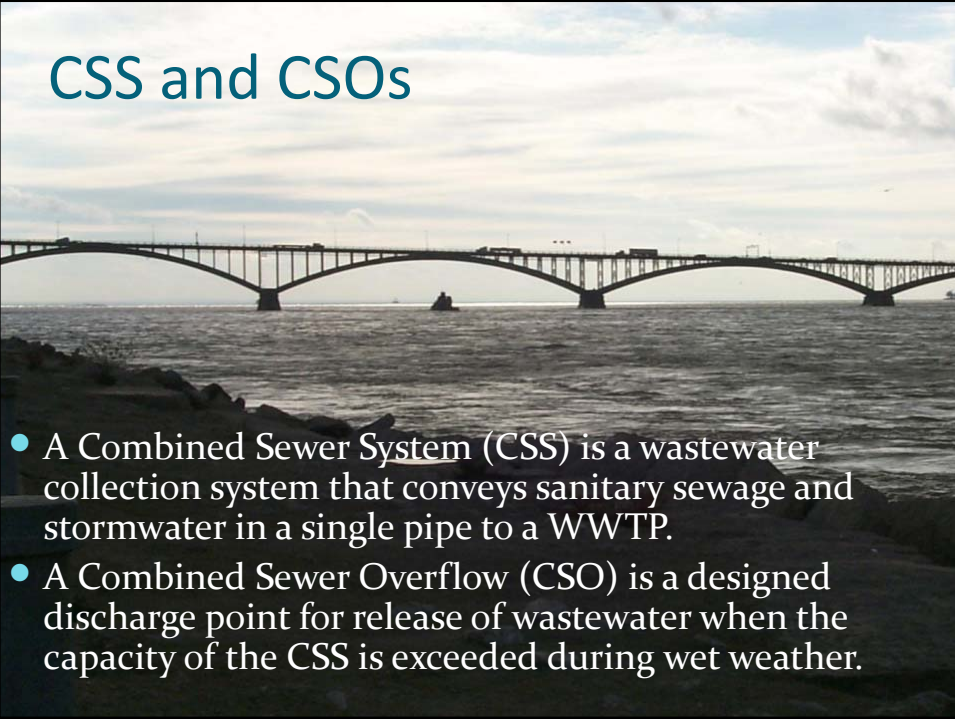
- *1994-2010 Capital Improvements to Enhance Treatment*
  - Bar Screen
  - Fine Bubble Diffusers
  - SCADA
  - Grit
  - Centrifuges
  - Other



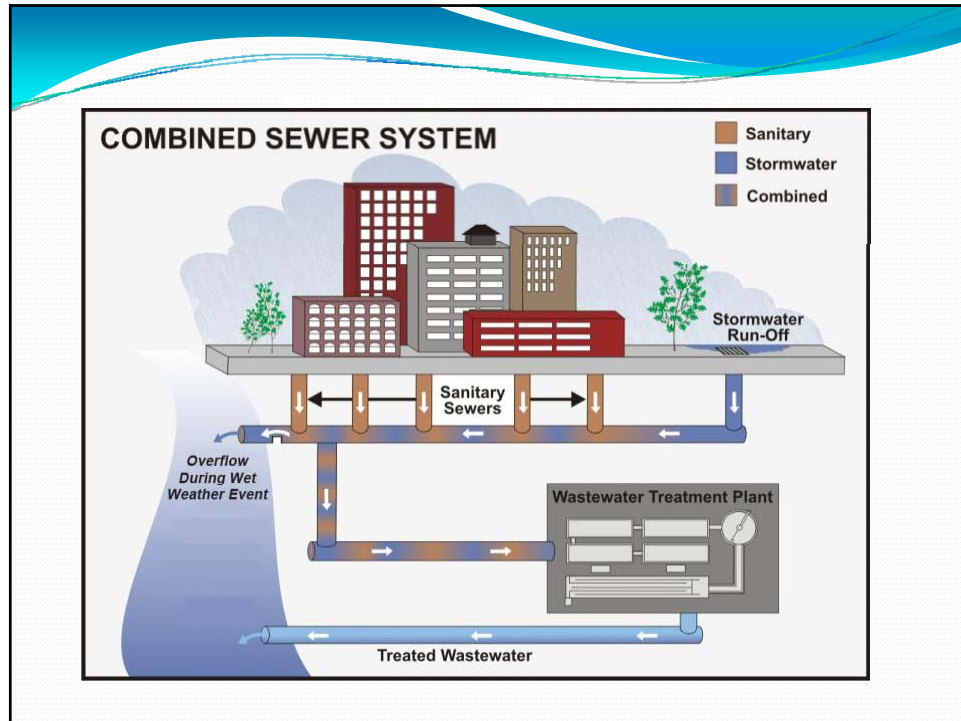
## BSA Collection System

- Consists of:
  - Separate Sanitary Sewer Systems (SSS)
  - Separate Storm Sewers
  - Combined Sewer Systems (CSS)
- More than 850 miles of sewers
- 790 miles of sewer are combined
- 258 Sewer Patrol Points (SPPs)
- 59 Permitted Combined Sewer Overflows (CSOs)

## CSS and CSOs

- 
- A Combined Sewer System (CSS) is a wastewater collection system that conveys sanitary sewage and stormwater in a single pipe to a WWTP.
  - A Combined Sewer Overflow (CSO) is a designed discharge point for release of wastewater when the capacity of the CSS is exceeded during wet weather.

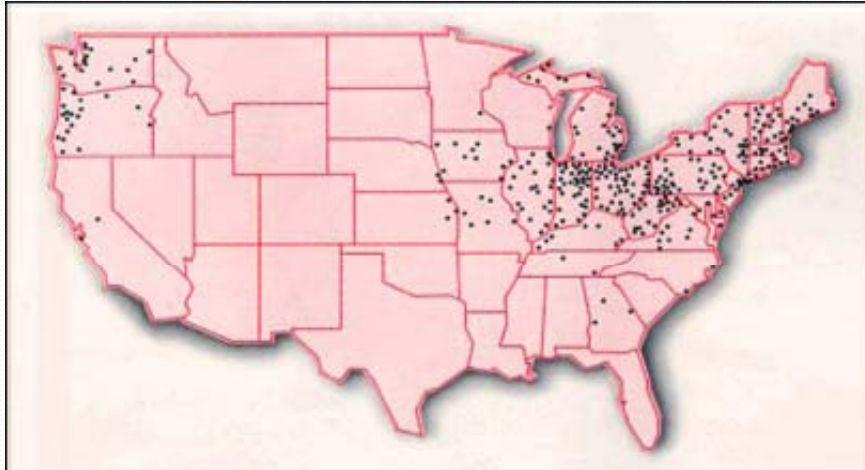




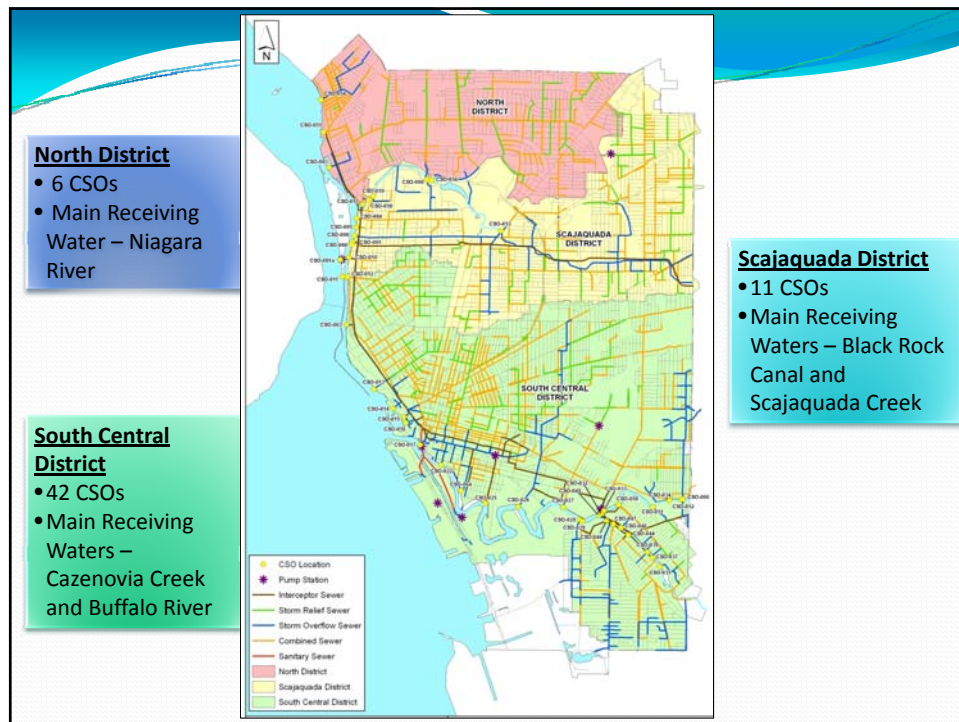
**CSOs were constructed in the past to prevent over loading of the system and basement / street flooding.**

**In the U.S., CSS serve approximately 43 million people in 1,100 communities nationwide**

## CSS Communities in the U.S.



**Today CSOs are being eliminated or minimized, pursuant to the Clean Water Act, because the discharges may contain many different contaminants and may impact water quality, the aquatic environment, human health and aesthetics.**

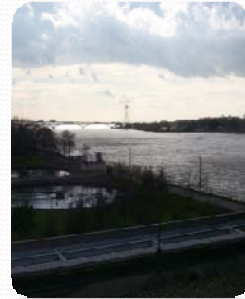


## Agenda

- Introductions
- Overview of the BSA Facilities
- **Project Drivers**
- Project History
- Public Participation / Stakeholder Panel
- Questions

## Federal CSO Policy

- Basis for Policy:
  - Water Quality
  - Clean Water Act Compliance
  - Aquatic Biota Protection
  - Public Health
  - CSO Control Complexity and Variability
    - Site-specific variables
    - Significant financial impacts

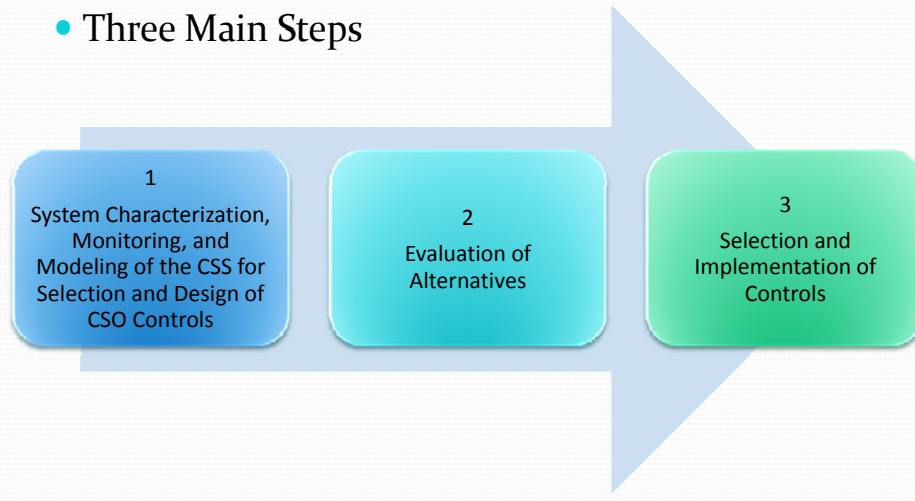


## Federal CSO Strategy/ Policy

- CSO Strategy - 1989
- CSO Policy - 1994
  - Dry weather overflows prohibited
  - CSO impacts on water quality, aquatic biota and human health must be minimized
  - States charged with developing state-wide permitting strategies to reduce and eliminate CSOs
  - Ensures public involvement in the decision making process.
  - Allows a flexible and phased approach to implementing CSO controls
  - Requires permittees to implement the Nine Minimum Controls (operations and maintenance efforts)
  - Requires permittees to develop LTCPs

## Federal LTCP Requirements

- Three Main Steps



## Federal LTCP Requirements

- Key Elements to Address in the Three Steps Include
  - A public participation process actively involving affected public in decision making to select long-term CSOs
  - Cost performance considerations
  - Operational plan revision to include CSO controls
  - Implementation Schedule
  - Post-Construction compliance monitoring program



## State CSO Program

- SPDES Permit Requirements
  - Implementation of Nine Minimum Controls (NMC) through Best Management Practices (BMPs)
  - Development of LTCP
  - Schedule for Compliance
  - Monitoring



## What is a Consent Decree?

A Consent Decree is a legally binding document with environmental regulators outlining an accelerated program of activities designed to further improve water quality and ensure compliance with the Clean Water Act.



## Advantages of a Consent Decree

- Compliance with the Clean Water Act
- Protection of Water Resources
- Protection of Public Health and Welfare
- Avoid Costly Litigation
- Facilitates Bonding with State Agencies

## Agenda

- Introductions
- Overview of the BSA Facilities
- Project Drivers
- **Project History**
- Public Participation / Stakeholder Panel
- Questions

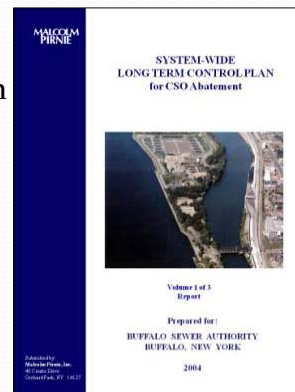
## BSA LTCP For CSOs

- Multi-million dollar multi-year program to abate impacts of CSOs and improve water quality
- Drivers
  - USEPA CSO Policy
  - NYSDEC Permit
  - Consent Decree
- Requires public participation
- Requires stakeholder issues to be addressed
- To date BSA (since 2000) has invested over \$10 Million in development of the LTCP



## 2004 BSA LTCP Program Components

- 1 Define Existing Conditions
  - Map System
  - Flow and Rainfall Monitoring Program
  - Water Quality Sampling Program
  - Develop SWMM (hydraulic) Model
- 2 Develop LTCP
  - Analysis of Alternatives
  - Balance Cost-Benefits
  - Recommend Schedule
- 3 Implement



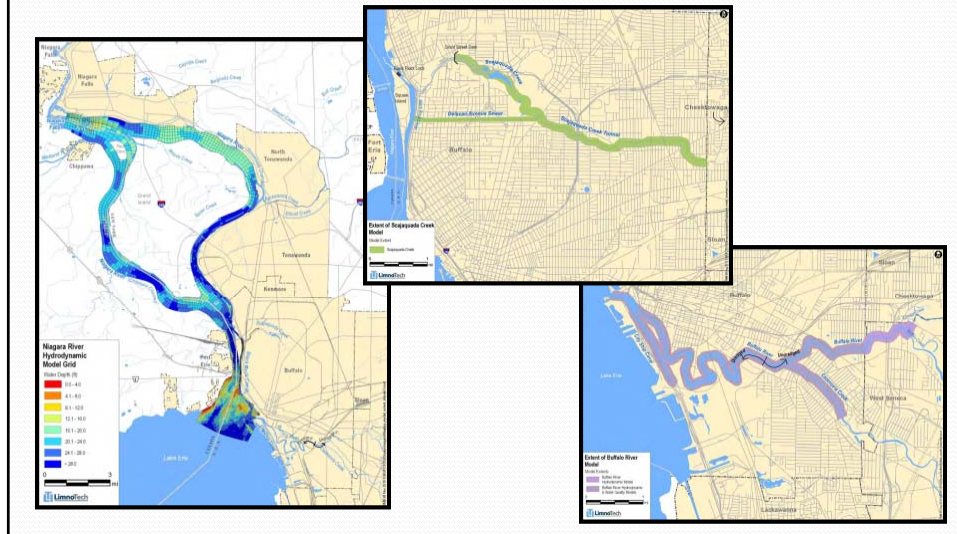
## Project Since 2004 LTCP Submitted

- Submitted LTCP Report to NYSDEC – July 2004
- Received Comments from NYSDEC in 2006
- NYSDEC/USEPA Requested Additional Evaluations
- Additional LTCP Work Started in 2008 and Consisted of:
  - Additional Flow/Rainfall Monitoring
  - Collection System Model Refinement
  - Water Quality Sampling
  - Receiving Water Quality Model Development
  - Revised Financial Capability Analysis
- Over \$30 Million Invested in CSO Controls Since 2004
- Negotiation of Consent Decree began in 2009

## Additional System Monitoring and Sampling

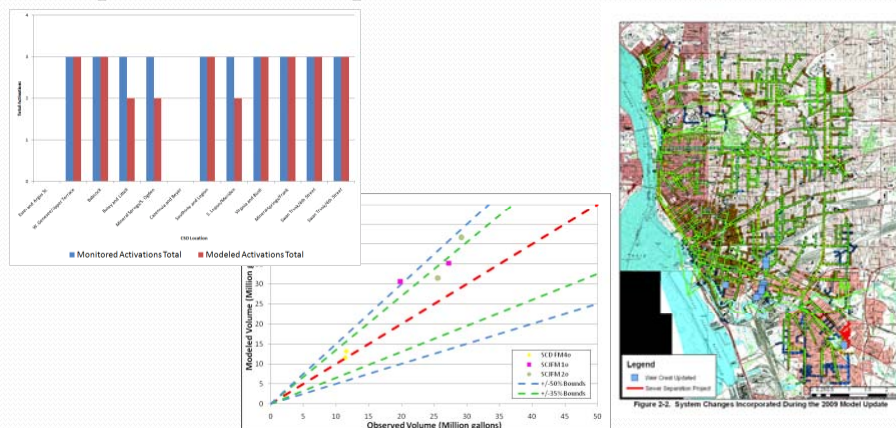


## Water Quality Model Development



## Hydraulic Model

- Hydraulic Model Updated to Include all System Improvements Completed since 2004



## Financial Capability Analysis (FCA)

- Goals
  - Achieve water quality goals
  - Evaluate the financial resources available
  - Consider the financial impact on residential users
  - Establish an implementation schedule for the long term control plan (LTCP)

## USEPA's Financial Capability Indicators

| Financial Capability Indicators Score | Residential Indicator |                     |            |
|---------------------------------------|-----------------------|---------------------|------------|
|                                       | Low (<1%)             | Mid-Range (1 to 2%) | High (>2%) |
| <b>Weak</b> (<1.5)                    | Medium                | High                | High       |
| <b>Mid-Range</b> (1.5 to 2.5)         | Low                   | Medium              | High       |
| <b>Strong</b> (>2.5)                  | Low                   | Low                 | Medium     |

**Some Factors:** Mean Household Income, Indebtedness, Unemployment, Revenue Collection Rates, and Property Values

## Next Steps for Updated LTCP

- 2011 Updated LTCP to Build Upon Previous Efforts
- Develop and Evaluate Abatement Alternatives to Reflect New Data and Modeling
- Traditional Technologies (Gray Infrastructure)
  - Storage
  - Treatment
  - Separation
- Emerging Technologies
  - Green Infrastructure
  - Real Time Control (RTC)

## Traditional Technologies





## Emerging Technologies

- Green Infrastructure Examples

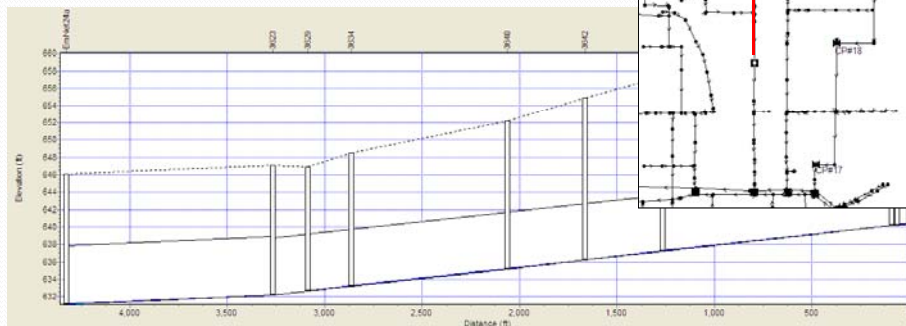
- Rain Gardens
- Rain Barrels
- Permeable Pavement



## Emerging Technologies

- RTC Examples

- Inline Storage
- Offline Storage



## BSA Updated LTCP Objectives

- Meet USEPA/NYSDEC Water Quality Goals
- Satisfy Consent Decree
- Improve Water Quality in Local Water Bodies
- Provide Affordable Solution and Reasonable Implementation Schedule
- Utilize Appropriate Mixture of Traditional (Gray) and Emerging (Green) Technologies

## Agenda

- Introductions
- Overview of the BSA Facilities
- Project Drivers
- Project History
- **Public Participation / Stakeholder Panel**
- Questions

## Public Participation

- Purpose
  - Involvement in program scope
  - Involvement in evaluation and selection of alternatives
  - Informing citizens/businesses
    - Electronic media information
    - Public meetings
- Groups
  - Stakeholder Panel
  - General Public
  - Focus Groups



## Stakeholder Panel Role

- Engage the Panel Members in the Development and Evaluation of CSO Control Alternatives for the Updated LTCP
- Provide Public Participation Oversight
- Assist in Development of Public Meeting Agenda(s)

## Project Contact Information

- BSA: Dave Comerford, General Manager
  - 851-4664
  - LTCP@sa.ci.buffalo.ny.us
- Malcolm Pirnie/ARCADIS: Mike Quinn, Project Manager
  - 667-0900
  - Michael.J.Quinn@arcadis-us.com

## Questions





**Buffalo Sewer Authority**  
**Long Term Control Plan Update / Public Participation**  
**Stakeholder Panel Meeting (No. 2)**

**BSA WWTP**  
**May 19, 2011**

**AGENDA**

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- Next Stakeholder Meeting



**Buffalo Sewer Authority**  
**Long Term Control Plan Update / Public Participation**  
**Stakeholder Panel Kickoff Meeting (No. 2)**  
**BSA WWTP**  
**May 19 2011**

**Sign In Sheet**

| Name                 | Organization          | Phone Number | Email                       |
|----------------------|-----------------------|--------------|-----------------------------|
| NICOLE LIPP          | BNRK                  | 852-7483     | nlippe@bnriverkeeper.org    |
| Mark Bogdan          | BNRK                  | 11           | mbogdan@bnriverkeeper.org   |
| Jeff Konsella        | NYSDEC Reg 9          | 851-7070     | jakonsel@gw.dec.state.ny.us |
| Earl Wells           | e3communications      | 854-8182     | ewells@e3communications.com |
| Mark Schroner        | 145 AD                | 826-0152     | markjf.schroner@gmail.com   |
| Tom Paul             | Hiscock + Barclay     | 315-350-1330 | tpaul@hblaw.com             |
| Rob Locey            | NYSDEC                | 851-7070     | RLLOCEY@GW.DEC.STATE.NY.U   |
| Mary Perrelli        | Buffalo State College | 878-3699     | perrellmf@buffalostate.edu  |
| BRIAN DAD            | Bope                  | 2808118      | BRIAN@BROOKPARKS.ORG        |
| CHARLES R. MARTORANA | Hiscock + Barclay     | 716-566-1517 | CMARTORANA@HBLAW.COM        |
| Stephanie Barber     | Franklin Park Twp     | 716 566-8148 | sabarber@hotmail.com        |
|                      |                       |              |                             |
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**TECHNICAL MEMORANDUM**

To:

Buffalo Sewer Authority  
Long Term Control Plan  
Stakeholder Panel

Copies:

D. Comerford, BSA  
O. McFoy, BSA  
C. Martorana, Hiscock & Barclay

From:

Malcolm Pirnie/ARCADIS

Date:

August 18, 2011

ARCADIS Project No.:

01777122.0000

Subject:

Long Term Control Plan Update

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This memorandum is intended to provide the Stakeholder Panel with a report on the current status of the development of the Updated Long Term Control Plan (LTCP) for the abatement of the Buffalo Sewer Authority's (BSA) combined sewer overflows (CSOs).

Since the last meeting of the Stakeholder Panel on May 19<sup>th</sup>, the BSA team has continued to work toward the submission of a final Update to the LTCP document that will provide for a cost effective approach to the CSO abatement program and provide for the protection of water quality. The following sections highlight the major developments since our last meeting:

- **Project Schedule** – During our last meeting, the anticipated due date was identified as June 30, 2011. However, over the course of the last few months, the USEPA/NYSDEC have offered a number of comments on documents and other information that has been submitted for review, which has required that the schedule be revised to reflect a new due date of October 31, 2011. The October 31 date was subsequently accepted by all parties. More recently, the USEPA has asked that the BSA revisit a number of our original assumptions and in particular to update the data that was used to develop the hydraulic model used for the LTCP update efforts. In light of this development, the BSA has requested additional time to respond to the additional information requested by the USEPA before the submission of the Updated LTCP document. To date, this revised date has yet to be established.

- **Consent Decree** – In parallel with the development of the LTCP, the BSA continues to negotiate the Joint USEPA/NYSDEC Consent Decree. Currently the BSA legal and technical teams are working with these Agencies to address a few remaining items required to finalize the documents.
- **Technical Update** – Since the last Stakeholder Panel meeting and the first round of Public Meetings, the BSA team has continued to refine the hydraulic and water quality models. Recently the BSA has placed an increased emphasis on water quality to the extent that the alternatives being developed will be based primarily on options that improve water quality in impacted water bodies with less focus on those areas where CSO abatement will have little impact on improving water quality. In general all areas of the BSA system located in the city of Buffalo will receive attention but the bulk of the work will focus on areas tributary to the Black Rock Canal, Erie Basin Marina and Scajaquada Creek.

With regard to the abatement alternatives, the BSA has shifted its approach to include significantly more Green Infrastructure (GI) in the program than was originally anticipated. As stated previously, green infrastructure, although largely unproven in this environment, shows the promise of being equally effective but less costly than traditional gray infrastructure alternatives, such as storage tanks and tunnels for example. Since our last meeting, the BSA has begun the implementation of three demonstration projects intended to evaluate the effectiveness of GI as compared to traditional sewer separation projects. In conjunction with these efforts, the BSA has requested that the construction schedule for a number of projects that are to be completed early in the program be extended to accommodate a full evaluation of the effectiveness of GI. Assuming that GI techniques prove effective it is the intention of the BSA to ultimately substitute GI for originally planned separation projects.

- **Watershed Recreational Use Study** – This document has undergone a significant revision since the last round of meetings. In general the document has been revised to include a much more robust evaluation of sensitive areas. Under the USEPA guidance, any CSO tributary to a sensitive area, defined to include areas of primary contact (swimming), those having endangered species, etc., must receive additional focus in the LTCP. Following this evaluation, two sensitive areas were identified, Scajaquada Creek and the Erie Basin Marina. As required, both of these areas will receive additional consideration in the final LTCP.
- **Rain Barrel/Downspout Disconnect Program** – The BSA is continuing efforts to implement the pilot program in the Hamlin Park neighborhood. To date, rain gauges and flow meters have been installed and are collecting baseline rainfall and flow data. It is anticipated that the downspout disconnect/rain barrel installation phase will begin in late August with the focus being placed on the area of Meech Street between Hughes and Hedley. During this pilot, the BSA anticipates the focus to be on downspout disconnects with rain barrels being installed if requested or where necessary based on site conditions. All installation work will be completed by BSA staff. In

parallel, the BSA is also going to revisit the 2009 First Ward pilot area using a similar approach. No flow monitoring will be completed in the First Ward. The BSA continues to work with the Buffalo Niagara Riverkeeper on public outreach efforts associated with both of these programs.

- **Public Participation** – Needless to say, the originally anticipated schedule for the second round of public meetings has been deferred to address new and additional USEPA/NYSDEC comments and subsequent revisions. For planning purposes, and assuming an October 31 due date, it is anticipated that the next round of public meetings, including the associated Stakeholder Panel meetings, will be held in mid to late September.

During the time since the last Stakeholder Panel meeting the BSA has continued other aspects of the public participation program including population of the project website and conducting small group meetings. The updated website can be viewed at [www.bsacsoimprovements.org](http://www.bsacsoimprovements.org). With regard to the small group meetings, the BSA established and met with a group of officials representing the areas outside of the City of Buffalo that are tributary to the BSA system. This meeting was held to introduce the group to the project and to discuss the interrelation of the municipalities and potential impacts of the program. Finally, the BSA has begun the process of establishing a small advisory group made up of local business leaders. As a precursor, the BSA met with representatives from the Buffalo Niagara Enterprise and will soon be meeting with the Buffalo Urban Development Corporation to discuss the update of the LTCP project.



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**TECHNICAL MEMORANDUM**

To:

Buffalo Sewer Authority  
Long Term Control Plan  
Stakeholder Panel

Copies:

D. Comerford, BSA  
O. McFoy, BSA  
C. Martorana, Hiscock & Barclay

From:

Malcolm Pirnie/ARCADIS

Date:

January 4, 2012

ARCADIS Project No.:

01777122.0000

Subject:

Long Term Control Plan Update

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This memorandum is intended to provide the Stakeholder Panel with an update on the current status of the development of the Updated Long Term Control Plan (LTCP) for the abatement of the Buffalo Sewer Authority's (BSA) combined sewer overflows (CSOs).

Since the last update provided to the Stakeholder Panel (technical memorandum dated August 18, 2011), the BSA team has continued to work on evaluating CSO abatement alternatives, addressing technical comments from the USEPA and NYSDEC, as well as continued ongoing Consent Decree (CD) negotiations with the USEPA, NYSDEC, and USDOJ.

A summary of the recent LTCP developments and activities are presented below:

- **Project Schedule** – Previously we had indicated that all involved parties had agreed upon an October 31, 2011 due date for the delivery of the LTCP documents; however, the USEPA/NYSDEC had asked that the BSA revisit a number of our original assumptions and in particular to update the data (typical year precipitation data) that was used to develop the hydraulic model used for the LTCP update efforts. Following an assessment of this request, the BSA agreed to reevaluate the typical year precipitation data and rerun the hydraulic and water quality models using the new data. In order to complete this effort, the BSA requested additional time for the submission of the Updated LTCP document. The BSA later submitted a revised schedule, attached, to the USEPA/NYSDEC that was contingent upon the regulatory agencies

acceptance of the updated hydraulic model data (typical year), and proposed a new LTCP submittal date of January 20, 2012. Following a lengthy review of the new information and in particular the BSA's approach to the development of the typical year precipitation data, the USEPA/NYSDEC subsequently questioned the method by which the precipitation data was developed, as well as the updated hydraulic model data, and provided additional comments. The USEPA/NYSDEC (Agencies) also provided an agency-preferred approach for developing the typical year and requested that the BSA again revisit the typical year data used in the hydraulic model. The BSA team has finalized its re-evaluation and conducted a conference call with the regulatory agencies to discuss the outcome on December 20, 2011. The conference call resulted in the Agencies and the BSA agreeing that a new typical year may be beneficial to both parties. Due to this delay and potential rework, the previously submitted schedule is on hold and the BSA anticipates developing an updated schedule for submission of the Updated LTCP following the meeting.

- **Consent Decree** – In parallel with the development of the LTCP, the BSA continues to negotiate the Joint USEPA/NYSDEC Consent Decree. Currently the BSA legal and technical teams are working with these Agencies to address the remaining items required to finalize the documents. The major outstanding Consent Decree items include:
  - Green Infrastructure language
  - Program schedule
  - Dispute resolution clause
- **Technical Update** – Since the last Stakeholder Panel update, the BSA team has been working to address the USEPA/NYSDEC comments/requests for additional data evaluation of the typical precipitation year for the hydraulic model and running both the hydraulic and water quality models based on the revised data. The models have been used to begin the development of a number of alternatives for CSO abatement. In general the team has been developing system-wide alternatives as requested by the regulatory agencies as well as the BSA preferred receiving stream-specific water quality based alternatives. Recall, however, that currently the precipitation data is in question and the typical year evaluation must be resolved prior to final modeling of the improvement alternatives. The BSA team is committed to evaluating alternatives that focus on improving water quality in the most cost effective manner. The alternatives will include an appropriate blend of traditional/gray technologies (tunnels, storage, and treatment) and green infrastructure technologies (rain gardens, permeable pavement, etc.). The BSA is currently in the process of designing two real time control (RTC) demonstration projects (Bird Avenue and Texas Street) that will evaluate the effectiveness of automatically controlled in-system storage. Also, construction of a green infrastructure demonstration project for CSO 060 will begin in spring 2012, which will help establish metrics to determine the role of green infrastructure in future projects.

Finally a concept is being developed for the construction of a wetland treatment system at the foot of Smith Street, which will collect and treat the overflow from a nearby CSO.

- **Rain Barrel/Downspout Disconnect Program** – The pilot program in the Hamlin Park neighborhood began in October 2011. The BSA, Malcolm Pirnie, and Buffalo Niagara Riverkeeper attended the Hamlin Park Taxpayer Association monthly meeting on October 6, 2011 and gave a brief presentation on the pilot program. A letter describing the pilot program was mailed to Hamlin Park residents on October 17, 2011 (copy attached). The Buffalo Niagara Riverkeeper will soon be conducting a door-to-door canvassing of the Hamlin Park study area, as well as revisiting the First Ward area (initial pilot program from 2010), to disseminate information about the program. Note that while the focus of the program will be downspout disconnection, the BSA will provide rain barrels free of charge where necessary and if requested by the homeowner. All installation work will be conducted by the BSA staff beginning in the spring of 2012. To date, approximately 34 homeowners have signed up for the program (either downspout disconnection or rain barrels). The BSA continues to work with the Buffalo Niagara Riverkeeper on public outreach efforts associated with these programs.
- **Public Participation** – The BSA team recently completed its second round of public meetings in the Fillmore, Masten, and North council districts (December 5, 6, and 8). This round presented an update on the project as well as introduced the approach to the process and control alternatives being evaluated to reduce or eliminate the combined sewer overflows as part of the LTCP Update. We plan to hold the follow-up Stakeholder Panel meeting in early January. The project website has been updated to include the presentation and will be updated with the list of questions from the second round of public meetings, as well as other project updates, including a summary of the recent CSO 060 Green Infrastructure project and the real time control demonstration project. The updated website can be viewed at [www.bsacsoimprovements.org](http://www.bsacsoimprovements.org).
- **Small Group Meetings** – The BSA continued to hold various small group meetings to introduce the program. During recent months, the BSA met with leaders of the nine satellite or tributary communities. The focus of this meeting was to provide some background on the project and to discuss the risks that the municipalities face since by contract the municipalities will pay a portion of the program costs. In addition, the BSA met with representatives of the Buffalo Niagara Enterprise to again introduce the program and to solicit input from the business community on the impact of a program of this size on the already diminishing commercial base in the area.




***DRAFT***

**Buffalo Sewer Authority  
Long Term Control Plan Update Schedule  
(Remaining Activities as of October 31, 2011)**

**NOT APPROVED**

| ID | Task Name  | Duration | Start        | Finish       | Aug | Sep | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May |
|----|--|----------|--------------|--------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 1  | Long Term Control Plan Update (Remaining Activities)                         | 128 days | Fri 10/28/11 | Wed 4/25/12  |     |     |     |     |     |     |     |     |     |     |
| 2  | Governmental Agency Activities   | 103 days | Fri 11/4/11  | Wed 3/28/12  |     |     |     |     |     |     |     |     |     |     |
| 3  | Approve BSA's Modified 2006 Typical Year (as submitted)                      | 0 days   | Fri 11/4/11  | Fri 11/4/11  |     |     |     |     |     |     |     |     |     |     |
| 4  | Legal Conference (date to be finalized)                                      | 0 days   | Thu 11/10/11 | Thu 11/10/11 |     |     |     |     |     |     |     |     |     |     |
| 5  | Attend 'Presentation of Findings & Preferred Alternative' Meeting            | 5 days   | Mon 1/16/12  | Fri 1/20/12  |     |     |     |     |     |     |     |     |     |     |
| 6  | Receive signed CD (see Note 1)   | 0 days   | Tue 1/31/12  | Tue 1/31/12  |     |     |     |     |     |     |     |     |     |     |
| 7  | Receive LTCP   | 0 days   | Wed 2/8/12   | Wed 2/8/12   |     |     |     |     |     |     |     |     |     |     |
| 8  | EPA/DOJ/DEC Review & Comment on LTCP   | 5 wks    | Thu 2/9/12   | Wed 3/14/12  |     |     |     |     |     |     |     |     |     |     |
| 9  | Attend meeting to discuss and resolve final LTCP comments                    | 5 days   | Thu 3/22/12  | Wed 3/28/12  |     |     |     |     |     |     |     |     |     |     |
| 10 | LTCP Technical Team Activities   | 128 days | Fri 10/28/11 | Wed 4/25/12  |     |     |     |     |     |     |     |     |     |     |
| 11 | LTCP Update - Modeling & Report Update                                       | 73 days  | Fri 10/28/11 | Wed 2/8/12   |     |     |     |     |     |     |     |     |     |     |
| 12 | Collections System Model Runs of Alternatives                                | 6 wks    | Fri 10/28/11 | Fri 12/9/11  |     |     |     |     |     |     |     |     |     |     |
| 13 | Water Quality Model Runs (no SOD modeling of Buffalo River)                  | 7 wks    | Fri 10/28/11 | Fri 12/16/11 |     |     |     |     |     |     |     |     |     |     |
| 14 | Construction Cost Estimating   | 7 wks    | Fri 11/11/11 | Fri 12/30/11 |     |     |     |     |     |     |     |     |     |     |
| 15 | LTCP Chapter Updates - Background, etc. (Chpts 1-8)                          | 13 days  | Fri 10/28/11 | Tue 11/15/11 |     |     |     |     |     |     |     |     |     |     |
| 16 | LTCP Chapter Updates - Alternatives (Chpts 9-14)                             | 4 wks    | Thu 12/8/11  | Wed 1/4/12   |     |     |     |     |     |     |     |     |     |     |
| 17 | Review Modeling Results w. BSA & Legal Team & Select Preferred Alternative   | 0 days   | Wed 12/21/11 | Wed 12/21/11 |     |     |     |     |     |     |     |     |     |     |
| 18 | Develop Preferred Alternative Presentation for Gov't Agencies                | 2 wks    | Thu 12/22/11 | Wed 1/4/12   |     |     |     |     |     |     |     |     |     |     |
| 19 | Submit Gov't Agencies Presentation & Final LTCP Chpts to BSA & Legal Team    | 0 days   | Fri 1/6/12   | Fri 1/6/12   |     |     |     |     |     |     |     |     |     |     |
| 20 | Present Findings Analysis & Recommended Plan to Gov't Agencies               | 5 days   | Mon 1/16/12  | Fri 1/20/12  |     |     |     |     |     |     |     |     |     |     |
| 21 | BSA Consent Decree   | 0 days   | Tue 1/31/12  | Tue 1/31/12  |     |     |     |     |     |     |     |     |     |     |
| 22 | BSA submits signed Consent Decree (see Note 1)                               | 0 days   | Tue 1/31/12  | Tue 1/31/12  |     |     |     |     |     |     |     |     |     |     |
| 23 | Finalize LTCP based on BSA and Legal Team Comments                           | 2 wks    | Thu 1/26/12  | Wed 2/8/12   |     |     |     |     |     |     |     |     |     |     |
| 24 | Submit LTCP to EPA/DOJ/DEC for Review & Comment                              | 0 days   | Wed 2/8/12   | Wed 2/8/12   |     |     |     |     |     |     |     |     |     |     |
| 25 | LTCP Update - Public Participation Plan Activities                           | 73 days  | Fri 11/11/11 | Wed 2/22/12  |     |     |     |     |     |     |     |     |     |     |
| 26 | 2nd Round of Public Information Meetings - CSO Control Alternatives Analysis | 2 wks    | Fri 11/11/11 | Fri 11/25/11 |     |     |     |     |     |     |     |     |     |     |
| 27 | 3rd Round of Public Information Meetings - Preferred Alternative             | 2 wks    | Thu 2/9/12   | Wed 2/22/12  |     |     |     |     |     |     |     |     |     |     |
| 28 | Final revisions to LTCP based on EPA/DEC and Public Comments                 | 20 days  | Thu 3/29/12  | Wed 4/25/12  |     |     |     |     |     |     |     |     |     |     |
| 29 | Finalize LTCP based on Public and EPA/DEC Comments                           | 2 wks    | Thu 3/29/12  | Wed 4/11/12  |     |     |     |     |     |     |     |     |     |     |
| 30 | Final LTCP updates based on Legal Team Comments                              | 1 wk     | Thu 4/19/12  | Wed 4/25/12  |     |     |     |     |     |     |     |     |     |     |
| 31 | Submit final LTCP document to EPA/DOJ/DEC                                    | 0 days   | Wed 4/25/12  | Wed 4/25/12  |     |     |     |     |     |     |     |     |     |     |
| 32 | LTCP Update - Legal Team Activities  | 123 days | Fri 10/28/11 | Wed 4/18/12  |     |     |     |     |     |     |     |     |     |     |
| 33 | Develop & Implement Consent Decree   | 123 days | Fri 10/28/11 | Wed 4/18/12  |     |     |     |     |     |     |     |     |     |     |
| 34 | Resolve (i) level of control (ii) schedule (iii) cost (iv) GI projects       | 8 wks    | Fri 10/28/11 | Fri 12/23/11 |     |     |     |     |     |     |     |     |     |     |
| 35 | BSA & Legal Team have drafts of Background Chapters                          | 0 days   | Tue 11/22/11 | Tue 11/22/11 |     |     |     |     |     |     |     |     |     |     |
| 36 | BSA & Legal Team have drafts of Alts/Remaining Chapters                      | 0 days   | Fri 1/6/12   | Fri 1/6/12   |     |     |     |     |     |     |     |     |     |     |
| 37 | Final BSA and Legal Review & Comment of all Chapters                         | 9 wks    | Wed 11/23/11 | Wed 1/25/12  |     |     |     |     |     |     |     |     |     |     |
| 38 | Legal Team review and comment on Presentation of Findings to Gov't Agencies  | 0.5 wks  | Mon 1/9/12   | Wed 1/11/12  |     |     |     |     |     |     |     |     |     |     |
| 39 | Final Legal Review of revised LTCP   | 1 wk     | Thu 4/12/12  | Wed 4/18/12  |     |     |     |     |     |     |     |     |     |     |
| 40 | SEQR Process (BSA as Lead Agency)  | 117 days | Mon 10/31/11 | Wed 4/11/12  |     |     |     |     |     |     |     |     |     |     |
| 41 | Identify Involved Parties and Interested Parties                             | 4 wks    | Mon 10/31/11 | Mon 11/28/11 |     |     |     |     |     |     |     |     |     |     |
| 42 | Develop EAF documents  | 4 wks    | Mon 12/26/11 | Fri 1/20/12  |     |     |     |     |     |     |     |     |     |     |
| 43 | Prepare Public Comment Documents   | 2 wks    | Mon 2/6/12   | Fri 2/17/12  |     |     |     |     |     |     |     |     |     |     |
| 44 | Post final EAF documents & public comment documents                          | 0 days   | Fri 2/17/12  | Fri 2/17/12  |     |     |     |     |     |     |     |     |     |     |
| 45 | 30-day Public Comment Period   | 4.6 wks  | Mon 2/20/12  | Wed 3/21/12  |     |     |     |     |     |     |     |     |     |     |
| 46 | Negative Declaration Preparation   | 2 wks    | Thu 3/29/12  | Wed 4/11/12  |     |     |     |     |     |     |     |     |     |     |
| 47 | Negative Declaration   | 0 days   | Wed 4/11/12  | Wed 4/11/12  |     |     |     |     |     |     |     |     |     |     |

|              |          |   |           |   |                     |   |                    |   |                 |   |                  |   |
|--------------|----------|---|-----------|---|---------------------|---|--------------------|---|-----------------|---|------------------|---|
| Mon 10/31/11 | Task     |  | Milestone |  | Rolled Up Task      |  | Rolled Up Progress |  | External Tasks  |  | Group By Summary |  |
|              | Progress |  | Summary   |  | Rolled Up Milestone |  | Split              |  | Project Summary |  | Deadline         |  |

Notes:

1. Date shown for CD signature assumes general Agency concurrence of Preferred Alternative Presentation. If Agencies need additional time, BSA will deliver a signed CD within 7-days of receiving general Agency concurrence of Preferred Alternative.



ADMINISTRATIVE OFFICES

1038 CITY HALL  
65 NIAGARA SQUARE  
BUFFALO, NY 14202-3378  
PHONE: (716) 851-4664  
FAX: (716) 856-5810

WASTEWATER TREATMENT PLANT

FOOT OF WEST FERRY  
90 WEST FERRY STREET  
BUFFALO, NY 14213-1799  
PHONE: (716) 883-1820



October 17, 2011

Attention: Hamlin Park Home Owners/Residents:

The Buffalo Sewer Authority (BSA) is conducting a downspout disconnect/rain barrel pilot program in your neighborhood starting this fall. This program is a joint effort by the BSA and the Buffalo Niagara Riverkeeper. The purpose of this program is to protect water quality and control future sewer rate increases. The BSA staff will perform the necessary work to disconnect your downspouts from the sewers for diversion to green areas, or install a rain barrel to capture the stormwater from the downspouts for beneficial reuse, all at no charge to the home owner. In some cases, a rain barrel may need to be installed if a traditional downspout disconnect is not feasible at a particular site. Although this is currently a pilot program with voluntary participation, please be aware that the downspout disconnect program may eventually become mandatory within the City, and when it does, the BSA will no longer fund the work as it is doing so now. The BSA and Buffalo Niagara Riverkeeper strongly encourage you to participate in this important pilot program. Data obtained will be used to fashion a city wide program in the near future.

If you are interested in participating in the downspout disconnect/rain barrel program, please contact Kerri Bentkowski Li of the Buffalo Niagara Riverkeeper at [kbentkowski@bnriverkeeper.org](mailto:kbentkowski@bnriverkeeper.org) or 852-RIVER, ext. 11 to sign up for the program. You may also contact the Buffalo Sewer Authority at 851-4664 with questions.

Sincerely,

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David P. Comerford  
General Manager, Buffalo Sewer Authority



**Buffalo Sewer Authority**  
**Long Term Control Plan Update / Public Participation**  
**Stakeholder Panel Meeting (No. 3)**  
**BSA WWTP**  
**January 18, 2012**

**AGENDA**

- Summary of Round 2 Public Meetings
  - Attendance
  - Questions Fielded at Meetings
- Website Updates
- Questions Received through LTCP email
- LTCP Construction Projects Update
  - Hamburg Drain Screens
  - Smith Street
  - Real Time Control Demonstration
- Status of Consent Decree Negotiations
- Update on LTCP Development Process
  - Schedule
  - SEQR
- Round 3 Public Meeting Timeframe
- Other Outreach Opportunities (Hamlin Park)
- Next Stakeholder Meeting



**Buffalo Sewer Authority**  
**Long Term Control Plan Update / Public Participation**  
**Stakeholder Panel Kickoff Meeting (No. 3)**

**BSA WWTP**  
**January 18, 2012**

**Sign In Sheet**

| Name            | Organization                 | Phone Number    | Email                           |
|-----------------|------------------------------|-----------------|---------------------------------|
| Robert Looney   | NYSDEC                       | 851-7070        | RLLOONEY@GW.DEC.STATE.NY.US     |
| RENATA KRAFT    | RIVERKEEPER                  | 852-7483<br>x37 | RKRAFT@RIVERKEEPER.ORG          |
| Jeff Konsella   | NYSDEC                       | 851-7070        | jakonsel@gw.dec.state.ny.us     |
| BRIAN Gould     | e3communications             | 854-8182        | bgould@e3communications.com     |
| Marque Ryan     | S.B ALIVE                    | 826-3158        |                                 |
| CCMARTORANA     | Hiscock & Barclay<br>for BSA | 566-1512        | CMARTORANA@HBLAW.COM            |
| OLIVIA A. MCFAY | BFLO SWA Authority           | 851-4664        | omcfay@sa.ci.buffalo.ny.us      |
| Mike Quinn      | MPI-ARCADIS                  | 667-6640        | m.curtis.j.quinn@arcadis-us.com |
| BRIAN DOLD      | BOPC                         | 280.8118        | BRIAN@BFLOPARKS.ORG             |
| DAVE COMERTON   | BSA                          | 851-4664        | DPCOMERTON@sa.ci.buffalo.ny.us  |
| Lisa Derrigan   | Malcolm Pirnie               | 667-6644        |                                 |
|                 |                              |                 |                                 |
|                 |                              |                 |                                 |
|                 |                              |                 |                                 |
|                 |                              |                 |                                 |
|                 |                              |                 |                                 |

## BSA Public Participation Stakeholder Panel Contact List

| Contact   | Interested? | Availability   |  |
|---|-------------|--|--|
| <p><del>Julie Barrett O'Neill, Executive Director</del><br/> <b>Buffalo Niagara Riverkeeper</b><br/> 1250 Niagara St. Buffalo, NY 14213<br/> <a href="mailto:jboneill@bnriverkeeper.org">jboneill@bnriverkeeper.org</a><br/> 716.852.7483, Ext. 20</p> <p><b>UPDATED CONTACTS:</b><br/> <b>Jessie Fisher</b>, Director of Greenway Programs and Projects,<br/> <a href="mailto:jfisher@bnriverkeeper.org">jfisher@bnriverkeeper.org</a>, Ext. 36</p> <p><b>Renata Niedzwiecka Kraft</b>, Director of Greenway Planning and Landscape Architecture,<br/> <a href="mailto:rkraft@bnriverkeeper.org">rkraft@bnriverkeeper.org</a>, Ext. 37</p> | YES (4/14)  | Out wk of 18 <sup>th</sup> except Fri<br>Contact Kate Scott,<br>secretary (ext. 10) to<br>schedule | 4/14 – spoke w/ Julie<br>4/15 – lft msg for Kate re:<br>26 <sup>th</sup> mtg   |
| <p>Dr. Kimberley N. Irvine, Professor<br/> <b>Buffalo State College</b><br/> 1300 Elmwood Avenue<br/> Buffalo, NY 14222<br/> Classroom Building A213<br/> <a href="mailto:irvinekn@buffalostate.edu">irvinekn@buffalostate.edu</a><br/> (716) 878-6204</p> <p>Mary Perrelli<br/> <a href="mailto:PERRELMF@BuffaloState.edu">PERRELMF@BuffaloState.edu</a></p>   | Yes (4/15)  | Not avail on 26 <sup>th</sup> (teaching),<br>keep Kim posted                                       | 4/14 – lft msg<br>4/15 spoke with Kim  |
| <p>Jeff Konsella, PE – Regional Water Engineer<br/> cc: Robert Locey (Robert Smythe)<br/> <b>New York State Department of Environmental Conservation</b><br/> Region 9 Office<br/> 270 Michigan Avenue<br/> Buffalo, NY 14203<br/> <a href="mailto:jakonsel@gw.dec.state.ny.us">jakonsel@gw.dec.state.ny.us</a><br/> <a href="mailto:rlocey@gw.dec.state.ny.us">rlocey@gw.dec.state.ny.us</a><br/> 716-851-7070</p>   |             |  | 4/14 – lft msg<br>4/14 – spoke w/ Robert Smythe (advisory role)–<br>Locey out this week,<br>haven't discussed w/ Jeff;<br>will get back to us next<br>week (told him to contact Quinn) |
| <p>Thomas Herrera-Mishler<br/> Or <b>Brian Dold</b> (cell 280-8118)<br/> <b>Buffalo Olmstead Parks Conservancy</b><br/> 84 Parkside Ave,<br/> Buffalo NY 14214<br/> (716) 838 – 1249, ext 13<br/> <a href="mailto:info@bfloparks.org">info@bfloparks.org</a><br/> <a href="mailto:brian@bfloparks.org">brian@bfloparks.org</a></p>  |             |  | 4/14 – lft msg   |

## BSA Public Participation Stakeholder Panel Contact List

| Contact  | Interested?     | Availability   |   |
|--|-----------------|--|---|
| Paul Jackson - President<br><b>Niagara River Anglers Association, Inc.</b><br>PO Box 203 LaSalle Station<br>Niagara Falls, NY 14304<br><a href="mailto:nraa@niagarariveranglers.com">nraa@niagarariveranglers.com</a>  |                 |  | 4/14 – sent email msg<br><br>SMALL GROUP INSTEAD?<br><br>George Johnson – 818-3410 (per Stephanie)  |
| Charles Martorana, Partner<br><b>Hiscock &amp; Barclay, LLP</b><br>1100 M&T Center<br>3 Fountain Plaza<br>Buffalo, NY 14203<br><a href="mailto:CMartorana@hblaw.com">CMartorana@hblaw.com</a><br>(716) 566-1512  | Yes             | Avail on 26th  | 4/14 – lft msg<br>4/15 – spoke with Charlie, let him know if we have prep mtg /need his help        |
| Stephanie Barber<br>President<br><b>Hamlin Park Taxpayer's Association</b><br>174 Blaine Avenue<br>Buffalo, New York 14208<br>566-8148<br>sabarb@hotmail.com   |                 |  | 4/14 – phone was out of service; e3 working on getting number                                       |
| Honorable Brian M. Higgins<br><b>New York State Congress, 27<sup>th</sup> District</b><br>726 Exchange Street<br>Buffalo, NY 14210   | <b>DECLINED</b> |  |   |
| Marge Ryan<br><b>South Buffalo Alive</b><br>25 Coolidge Road<br>Buffalo, New York 14220<br>826-3158  | Yes             | Told her of 4/26 mtg – she will try and make it (does not always have access to car) | No email, best to call/mail   |
| Honorable Mark J.F. Schroeder<br><b>New York State Assembly</b><br>2189 Seneca Street<br>Buffalo, New York 14210<br>826-0152<br>Staff:<br>Patrick Curry –<br><a href="mailto:curryp@assmebly.state.ny.us">curryp@assmebly.state.ny.us</a><br>Assistant: Nicole Swallow<br><a href="mailto:nicole.swallow@gmail.com">nicole.swallow@gmail.com</a> |                 |  | 4/14 – spoke with staff<br>Nicole, call back Fri<br>4/15 – Nicole – still deciding, call back Tues. |
| Honorable Barbara Miller-Williams<br>Chair<br><b>Erie County Legislature</b><br>427 William Street<br>Buffalo, New York 14204  |                 |  | 4/14 – lft msg with secretary   |



## BSA Public Participation Stakeholder Panel Contact List

| Contact  | Interested? | Availability |  |
|--|-------------|--------------|--|
| 842-0490<br><a href="mailto:bmw@erie.gov">bmw@erie.gov</a><br>Assistants:<br>Lisa Feliciano<br><a href="mailto:lisa.feliciano@erie.gov">lisa.feliciano@erie.gov</a><br>TuWanner Cleveland<br><a href="mailto:clevelat@erie.gov">clevelat@erie.gov</a>  |             |              |  |
| Honorable Joseph Golombek, Jr.<br><b>North District Common Council Member</b><br>City of Buffalo<br>1502 City Hall<br>Buffalo, NY 14202<br>851-5116<br><a href="mailto:jgolombek@city-buffalo.com">jgolombek@city-buffalo.com</a>  |             |              | 4/14 – lft msg with staff  |
| Honorable Darius G. Pridgen<br><b>Ellicott District Common Council Member</b><br>City of Buffalo<br>1408 City Hall<br>Buffalo, NY 14202<br>851-4980<br><a href="mailto:dpridgen@city-buffalo.com">dpridgen@city-buffalo.com</a><br><br>Assistant: Janice White<br><a href="mailto:jewwhite@ch.ci.buffalo.ny.us">jewwhite@ch.ci.buffalo.ny.us</a> |             |              | 4/14 – spoke with staff (Nelson)<br>4/15 – Nelson – can't find letter, faxed it over to him (fax (851-6576)) |

**TIME:** 9:30 am – 11:30 am      **MTG. DATE:** 18 March, 2011

**LOCATION:** Malcolm Pirnie / ARCADIS      **PROJECT:** Buffalo Sewer Authority LTCP Update

**BY:** Jim Turner      **SUBJECT:** Green Infrastructure

**ATTENDEES:** David Comerford, Buffalo Sewer Authority  
OJ McFoy, Buffalo Sewer Authority  
Jim Eagan, Buffalo Sewer Authority  
Julie O'Neill, Buffalo Niagara Riverkeeper  
Jessie Fisher, Buffalo Niagara Riverkeeper  
Mark Bogdan, Buffalo Niagara Riverkeeper  
Jerry Kleyman, Malcolm Pirnie / ARCADIS  
Mike Quinn, Malcolm Pirnie / ARCADIS  
Eric Harold, Malcolm Pirnie / ARCADIS  
Jim Turner, Malcolm Pirnie / ARCADIS  
Mark Lenz, Malcolm Pirnie / ARCADIS  
Paul McGarvey, GHD  
Frank DiMascio, GHD  
Earl Wells, e3 communications  
Brian Gould, e3 communications

The purpose of the workshop was to continue the coordination and cooperation between the Buffalo Sewer Authority (BSA) and Buffalo Niagara Riverkeeper organization (BNRK) as BSA completes the update of its long-term control plan (LTCP) for combined sewer overflow (CSO) control. Specific objectives for this workshop included:

- Establish an approach for incorporating GI into BSA's updated LTCP
- Establish feasible techniques for GI analysis
- Identify areas where further GI analysis is warranted

The meeting agenda was structured to cover a number of key topics, as follows:

#### **BNRK Draft GI Feasibility Study**

Following introductions and a review of the meeting agenda and objectives, Malcolm Pirnie / ARCADIS (Pirnie/ARCADIS) presented an overview of the BNRK June 2010 draft green infrastructure feasibility study. That study included a comprehensive review of Buffalo's water resources, a history of regulatory actions and plans related to sewer overflows, and a preliminary analysis of the potential benefits of green infrastructure. This study also included a list of over 30 potential GI projects to be implemented throughout Buffalo.

BNRK clarified that the project list from their 2010 work was largely based on an approach of incorporating green infrastructure features into on-going, independently-developed projects that appeared to be good candidates for GI. They also noted that they are continuing with these discussions and specifically referenced Buffalo State University and the Olmsted Park System as potential partners on future GI projects. Lastly, they indicated that they have been involved with a number of completed GI projects, some of which were designed for a 4-inch storm event.

### **First Ward Downspout Disconnection Pilot Program (D2P2)**

The next topic of discussion was a review of the joint BSA-BNRK downspout disconnection / rain barrel program in the First Ward neighborhood. Pirnie/ARCADIS presented a summary of the First Ward project approach, which utilizes separate study and control areas that have been quantified for relevant factors such as drainage area, roof area, roadway pavement area, etc. Flow monitoring data collected in 2010 from the project was presented along with an analysis of how future data would be utilized to measure program effectiveness.

During this discussion, the issue of participation and overall progress was raised by BSA. BNRK, who has been responsible for distributing the rain barrels, explained that the late 2010 start to the program hindered initial progress but expected to see substantial improvement in the spring 2011 with the approach of the gardening season. BSA indicated that although the lack of progress and public participation in the First Ward was a concern, it was still open to a large-scale program that might be implemented similar to Buffalo's "blue box" recycling program. BSA also pointed out that the ultimate success of the program would likely be more related to the downspout disconnection aspect rather than the optimal use of the rain barrels. Finally, BSA indicated some concern about getting the participation rates necessary to complete this study in the First Ward. BNRK also noted that it had sold a total of 1,200 rain barrels and would likely be able to provide a degree of tracking information on the location of those units.

Pirnie/ARCADIS provided a review of monitoring data collected to date in the pilot and control basins. Overall, data quality (in terms of availability of data and characterizing system responses) was good; however, the control basin meter exhibited significant backwater during nearly all storm events. As a result, this site will difficult to use for comparison to the pilot area. Several approaches for developing the required statistics for pre/post installation comparison were discussed. BSA indicated that the GI pilot projects that are currently underway in the CSO 060 basin will include significant rain barrel application. Potentially, the effectiveness monitoring could be relocated to that basin. Overall, the installation of the post-construction monitoring would need to be delayed in the current pilot area until more rain barrels are installed.

### **Malcolm Pirnie / ARCADIS Green Infrastructure Analysis**

Malcolm Pirnie / ARCADIS presented an overview of its completed GI sensitivity analysis for BSA that was based on coarse-scale adjustments to impervious surface in the BSA sewer system model. The maximum adjustment level used, 60%, was roughly correlated with the impervious surface management goals presented in the BNRK feasibility study.

A key result of this work was the calculation of annual overflow frequencies and volumes at each CSO within the BSA system. The results of this analysis were used to identify CSO basins with the greatest potential CSO control benefit from GI, and then to identify specific areas and technologies for GI application within those basins. Data tables of the results were distributed at the meeting along with a number of detailed GI opportunities analysis figures. These opportunities figures were aerial-mapping based graphics that provide basic land use and impervious area statistics for individual CSO sewersheds.

BNRK was interested in reviewing the Pirnie/ARCADIS analysis in more detail, and it was agreed that they would be provided with the data tables and figures. They were also supportive of this approach that would allow for the prediction of CSO-specific overflow volume reduction resulting from the use of green infrastructure. It was agreed that Pirnie/ARCADIS would develop similar GI opportunities analysis figures for the CSO basins identified from the sensitivity analysis with high potential of CSO control from GI. BNRK would then review these figures, in conjunction with the projects identified in their draft report and other data, and recommend specific technologies for application within these basins.

### **GI Costs / LTCP Update Completion / GI Technologies**

The meeting closed with a discussion of high-level costs for green infrastructure, BSA's short-term plans for completing its LTCP update, and GI techniques that would be technically feasible in Buffalo. Pirnie/ARCADIS presented unit costs for various GI technologies, some taken from general references (US EPA, Groundwater Foundation) and others from completed projects (Portland, OR, Northern Kentucky). BNRK recommended that additional GI cost information could be obtained from the Environmental Finance Center at Syracuse University and the Center for Neighborhood Technology.

Pirnie/ARCADIS indicated that additional GI-focused modeling for the LTCP update was necessary and will be completed with a more refined approach that represented targeted technologies. Towards that end, there was an interest in soliciting BNRK's input on the selection of target areas and potential projects for this analysis.

The lack of highly permeable soils throughout a majority of Buffalo was a focus of the technically feasible green infrastructure technologies discussion. The concern of BSA and Pirnie/ARCADIS was that infiltration would be difficult to achieve in such soils and could limit the benefits of certain GI projects. As a result, BSA and Pirnie/ARCADIS indicated their belief that sewer separation was a legitimate approach to green infrastructure in Buffalo. BNRK's position was that research into the topic of infiltration into clay soils was on-going (University of New Hampshire was mentioned) and those results might provide more support for infiltration-based GI projects. Further, they explained that they were opposed to sewer separation because surface water runoff in streams could not be utilized for groundwater recharge. Pirnie/ARCADIS agreed to look into these issues further.

# Sign in Sheet ; Planning Meeting @ Malcolm Pirnie on 3/18/11

| NAME            | ORGANIZATION                | Email                           |
|-----------------|-----------------------------|---------------------------------|
| Earl Wells      | e3communications            | awells@e3communications.com     |
| MARK LENZ       | Malcolm Pirnie/ARCADIS      | Mark.Lenz@ARCADIS-US.COM        |
| ERIC HAROLD     | " "                         | eric.harold@arcadis-us.com      |
| Jim Turner      | " "                         | Jim.Turner@arcadis-us.com       |
| Jessie Fisher   | BNI Niagara Riverkeeper     | jfisher@bnriverkeeper.org       |
| OLIVIA A. MCFOY | Buffalo Snow Anthony        | omcfoy@saci.buffalo.ny.us       |
| JIM FAGAN       | " " "                       | jime@saci.buffalo.ny.us         |
| Paul McGarvey   | GHD                         | paul.mcgarvey@ghd.com           |
| DAVE CAMERFUND  | BSA                         | D.CAMERFUND@SA.CI.BUFFALO.NY.US |
| Julie O'Neill   | Riverkeeper                 | jboneill@bnriverkeeper.org      |
| BRIAN GOULD     | e3communications            | bgould@e3communications.com     |
| MARK BOGDAN     | Buffalo Niagara RIVERKEEPER | mbogdan@bnriverkeeper.org       |
| Frank Dimascio  | GHD                         | franklin.dimascio@ghd.co        |
| Mike Quinn      | MP/ARCADIS                  | mquinn@arcadis-us.com           |
| Jerry Klegman   | Pirnie/arcadis              | jerry.klegman@arcadis-us.com    |

**BUFFALO SEWER AUTHORITY**  
**MUNICIPAL OFFICIALS MEETING**

**JUNE 24, 2011**

**AGENDA**

- I. INTRODUCTION – Introduction of attendees
- II. SYSTEM DESCRIPTION – Provide map and description of flow (direction/connection points, annual average flow etc.)
  - a. Discussion of Satellite Community Consent Orders
- III. LTCP UPDATE – Status of where we have gone and where we are now
  - a. 2004 effort
  - b. 2011 effort and goals
  - c. Proposed program
    - i. Water Quality Modeling
    - ii. Hydraulic Modeling
    - iii. Green Infrastructure
    - iv. Additional flows from satellites
- IV. SCHEDULE – Discussion on the proposed schedule for submission of the LTCP document and the implementation period
- V. COST IMPACTS –
  - a. Capital Cost Discussion
  - b. Financial Capability Analysis
  - c. Cost sharing approach
  - d. Rate impacts
- VI. NEXT STEPS



Sign in Sheet: BSA w/ Municipal  
Group 6/24/11

---

| <u>NAME</u>       | <u>ORGANIZATION</u>        | <u>TEL. No.</u> |
|-------------------|----------------------------|-----------------|
| WILLIAM PUGH      | ENG. (T) CHEEKTOWAGA       | 897-7288        |
| MARY HOLTZ        | Sup " "                    | 686-3465        |
| GARY Ambrose      | Village LANCASTER          | 683-2105        |
| Joe Fiegl         | ERIE Co. (ECSD Nos. 1 & 4) | 858-7537        |
| JULES PECORA      | TRUSTEE DEPEW              | 907-9694        |
| DAVE COMPTON      | BUFFALO SCHEN. AUTH        | 851-4664        |
| STEVE HOFFMAN     | Village of DEPEW           | 870-7614        |
| BOB GIZA          | TOWN OF LANCASTER          | 683 1610        |
| BOB HARRIS        | WM. SCHUTT/TEL. LANCASTER  | 683-5961        |
| Walter Piotrowski | Town of West Seneca        | 949-3015        |



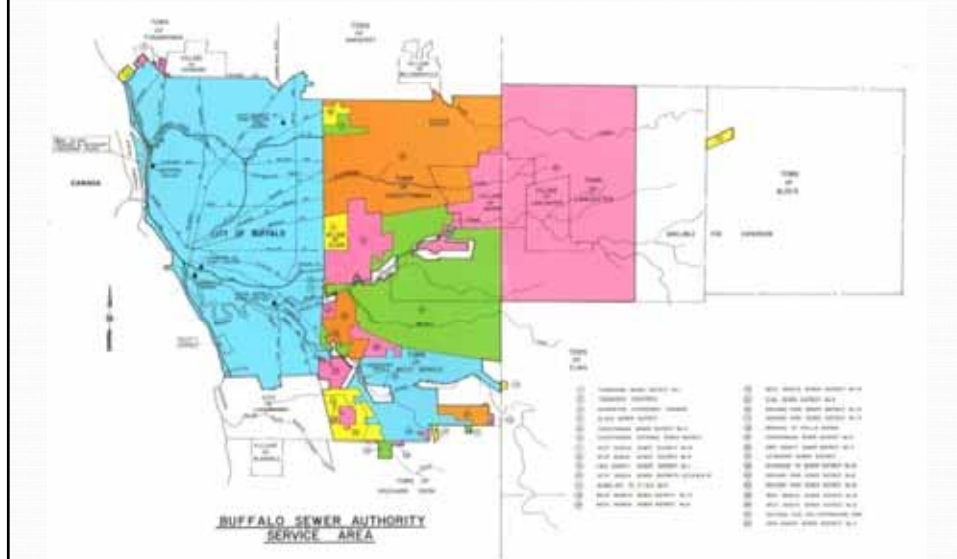
# Buffalo Sewer Authority Long Term Control Plan for Combined Sewer Overflows

Municipal Officials Meeting  
June 24, 2011

## Agenda

- Introductions
- System Description
- LTCP Update
- Schedule
- Cost Impacts
- Next Steps
- Questions

## BSA Service Area



## BSA Service Area Statistics

- Total Service Area
  - Population – 450,000
  - 110 Square Miles
  - Average Daily Flow – 133 MGD (48.5 Billion Gallons )
- City of Buffalo
  - Households - 110,000
  - Average Daily Flow – 100 MGD
- ESCD Nos. 1 and 4 (incl. Depew and Lancaster)
  - Households – 19,000
  - Average Daily Flow – 17.5 MGD
- Town of Cheektowaga (incl. Sloan)
  - Households – 24,000
  - Average Daily Flow – 10.2 MGD
- Town of West Seneca
  - Households – 13,000
  - Average Daily Flow – 5.9 MGD

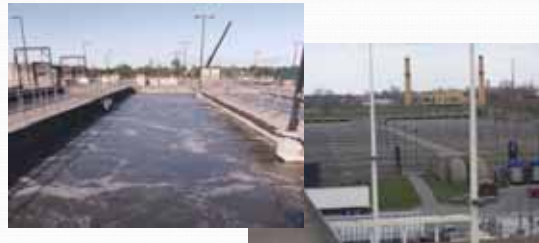
Source: 2010 Financial Capability Analysis (CRA)

## Development of BSA Wastewater Treatment Plant (WWTP)

- 1936-1939: Primary Treatment Facility



- 1975-1979: Secondary Treatment Facility



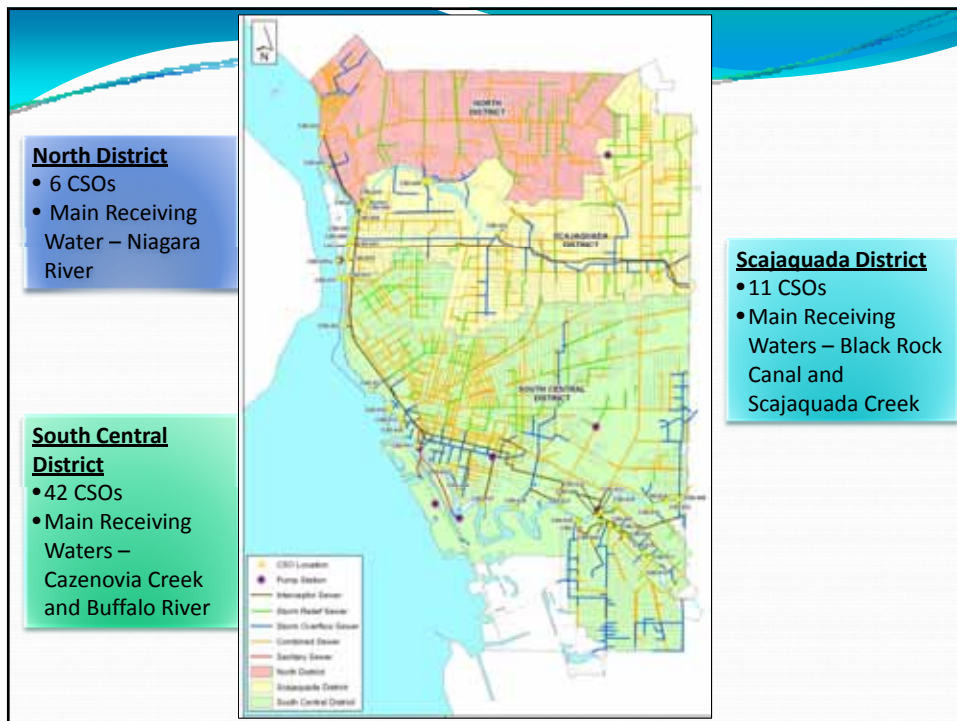
## BSA Bird Island WWTP

- Second largest plant in New York State
- 144 mgd average daily flow
- 118 mgd average dry weather flow
- Primary and secondary treatment facility
- Maximum capacity of WWTP over 550 mgd
- Treat 85% of combined wastewater entering the system



## BSA Collection System

- Consists of:
  - Separate Sanitary Sewer Systems (SSS)
  - Separate Storm Sewers
  - Combined Sewer Systems (CSS)
- More than 850 miles of sewers
- 790 miles of sewer are combined
- 258 Sewer Patrol Points (SPPs)
- 59 Permitted Combined Sewer Overflows (CSOs)





## Satellite Collection Systems

- Towns of Cheektowaga, West Seneca and Lancaster, Villages of Depew, Lancaster and Sloan and Erie County Sewer Districts No. 1 and 4
- Separate Sanitary Sewer Systems (SSS)
- Originally Included Municipal WWTP's
- All Treatment now at BSA's Bird Island WWTP
- Roughly 500 miles of Sewer Mains
- 3 Overflow Retention/Excess Flow Management Facilities
- Numerous Sanitary Sewer Overflows (SSO's)
- Multiple Orders on Consent



## Why Are We Here?

- Buffalo Sewer Authority Combined Sewer Overflows
- Long Term Control Plan
- USEPA/NYSDEC Joint Consent Decree
- One System/Multiple Owners
- Long Term/Big Picture Concerns



## Federal CSO Strategy/ Policy

- CSO Strategy - 1989
- CSO Policy - 1994
  - Dry weather overflows prohibited
  - CSO impacts on water quality, aquatic biota and human health must be minimized
  - States charged with developing state-wide permitting strategies to reduce and eliminate CSOs
  - Ensures public involvement in the decision making process.
  - Allows a flexible and phased approach to implementing CSO controls
  - Requires permittees to implement the Nine Minimum Controls (operations and maintenance efforts)
  - Requires permittees to develop LTCPs



## State CSO Program

- SPDES Permit Requirements
  - Implementation of Nine Minimum Controls (NMC) through Best Management Practices (BMPs)
  - Development of LTCP
  - Schedule for Compliance
  - Monitoring



## BSA LTCP For CSOs

- Multi-million dollar multi-year program to abate impacts of CSOs and improve water quality
- Drivers
  - USEPA CSO Policy
  - NYSDEC Permit
  - Consent Decree
- Requires public participation
- Must Involve Satellite Communities
- To date BSA (since 2000) has invested over \$10 Million in development of the LTCP



## 2004 BSA LTCP Program Components

- 1 Defined Existing Conditions
  - Map System
  - Flow and Rainfall Monitoring Program
  - Water Quality Sampling Program
  - Develop SWMM (hydraulic) Model
- 2 Developed LTCP
  - Analysis of Alternatives
  - Balance Cost-Benefits
  - Recommend Schedule
- 3 Submitted LTCP Report to NYSDEC – July 2004



## Project Since 2004 LTCP Submitted

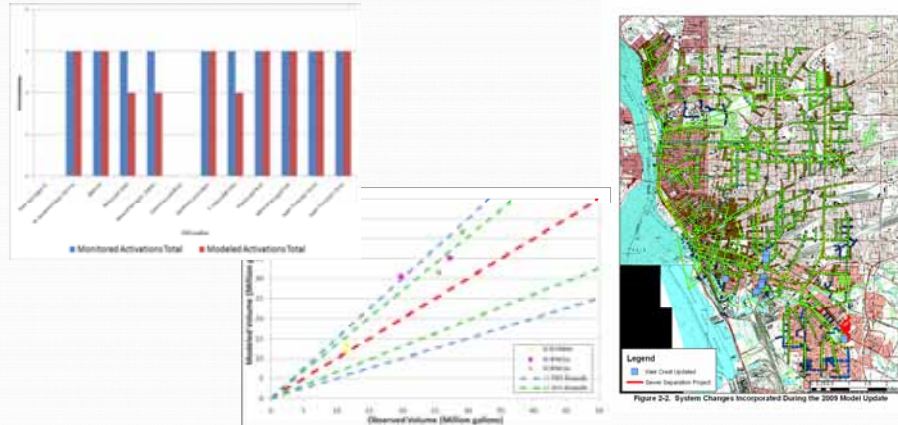
- Received Comments from NYSDEC in 2006
- NYSDEC/USEPA Requested Additional Evaluations
- Additional LTCP Work Started in 2008 and Consisted of:
  - Additional Flow/Rainfall Monitoring
  - Collection System Model Refinement
  - Water Quality Sampling
  - Receiving Water Quality Model Development
  - Revised Financial Capability Analysis
- Negotiation of Consent Decree began in 2009
- Over \$30 Million Invested in CSO Controls Since 2004

## Current LTCP Efforts

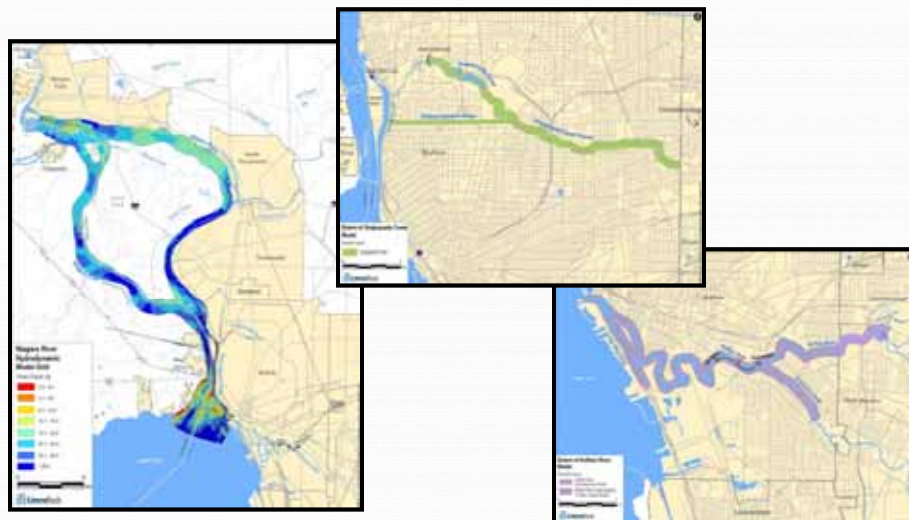
- 2011 Updated LTCP to Build Upon Previous Efforts
- Revised Financial Capabilities Analysis
- Develop and Evaluate Abatement Alternatives to Reflect New Data and Modeling
- Traditional Technologies (Gray Infrastructure)
  - Storage
  - Treatment
  - Separation
- Emerging Technologies
  - Green Infrastructure
  - Real Time Control (RTC)

# Hydraulic Model

- Hydraulic Model Updated to Include all System Improvements Completed since 2004



# Water Quality Model Development





## Financial Capability Analysis (FCA)

- Goals
  - Achieve water quality goals
  - Evaluate the financial resources available
  - Consider the financial impact on residential users
  - Establish an implementation schedule for the long term control plan (LTCP)

## USEPA's Financial Capability Indicators

| Financial Capability Indicators Score | Residential Indicator |                     |             |
|---------------------------------------|-----------------------|---------------------|-------------|
|                                       | Low (<1%)             | Mid-Range (1 to 2%) | High (>2%)  |
| Weak (<1.5)                           | Medium                | High                | <b>High</b> |
| Mid-Range (1.5 to 2.5)                | Low                   | Medium              | High        |
| Strong (>2.5)                         | Low                   | Low                 | Medium      |

Results of 2010 FCA



**Some Factors:** Mean Household Income, Indebtedness, Unemployment, Revenue Collection Rates, and Property Values

## BSA Updated LTCP Objectives

- Meet USEPA/NYSDEC Water Quality Goals
- Satisfy Consent Decree
- Improve Water Quality in Local Water Bodies
- Provide Affordable Solution and Reasonable Implementation Schedule
- Utilize Appropriate Mixture of Traditional (Gray) and Emerging (Green) Technologies
- Consider additional flows from Satellite Communities to assist in reducing SSO's

## LTCP Costs

- Historical Comparison
  - Cleveland – \$3 Billion
  - Pittsburg - \$3 Billion
  - St. Louis - \$4.7 Billion
- 2004 LTCP Preferred Alternative
  - \$580 Million
  - All Gray Infrastructure
  - 15 Years Implementation Period
- 2011 Goal
  - Provide Affordable Solution (TBD)
  - Reasonable Implementation Schedule (20 years minimum)
  - Appropriate Mixture of Traditional (Gray) and Emerging (Green) Technologies



**PROJECT CLEAN LAKE**  
25-year Combined Sewer Overflow  
control program







## Challenges to Implementation

- Buffalo/Western NY Economy (3<sup>rd</sup> poorest City in US)
- Already High Tax Burden
- Continually Aging Infrastructure
- Decreasing Population Base
- Decreasing Commercial/Industrial Base
- Municipal Boundaries
- Intermunicipal Agreement/Contracts
- Multiple Regulatory Agencies
- Unproven Water Quality Benefit



## Next Steps (Preferred)

- Complete Water Quality/Hydraulic Modeling
- Determine List of Alternatives
- Cost Benefit Analysis
- Complete and Submit LTCP Document (October 2011 ???)
- Negotiate Consent Decree (USDOJ)
- Negotiate Scope and Schedule (USEPA/NYSDEC)
- Implement Program
- Post Construction Monitoring

## Next Steps (Option 2)

- *Complete Water Quality/Hydraulic Modeling*
- *Determine List of Alternatives*
- *Cost Benefit Analysis*
- *Complete and Submit LTCP Document (October 2011 ???)*
- Scope and Schedule Dictated to BSA
- Consent Decree Terms Dictated
- Prolonged Lawsuit

## Project Contact Information

- BSA: David Comerford, General Manager
  - 851-4664
  - LTCP@sa.ci.buffalo.ny.us
- Malcolm Pirnie/ARCADIS: Michael Quinn, Project Manager
  - 667-0900
  - Michael.J.Quinn@arcadis-us.com
- Project Website: [www.bsacsoimprovements.org](http://www.bsacsoimprovements.org)

# Questions



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William G. Cansdale  
Mayor  
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Lancaster, New York 14086  
(716) 683-2105

Leonard C. Szymanski  
Mayor  
425 Reiman Street  
Sloan, New York 14212  
(716) 897-1560

# HAMLIN PARK COMMUNITY & TAXPAYERS' ASSOCIATION, INC

## GENERAL MEMBERSHIP MEETING

Thursday, October 6, 2011...6:00 to 8:00 PM

At the Hamlin Park Community School # 74

## AGENDA

6:05 PM Call to Order.....S. Geter

Opening Prayer

### Business Meeting Reports:

1. Last Meeting Information.....E. Greene
2. Where's the Money?.....A. Neely

### Community Forum:

- Results of Community Meeting.....Hedley Street Block Club
- Buffalo Water Barrel Program.....Kerri Li-Buffalo Riverkeepers
- VOICE Buffalo.....Organizational Leadership
- Wohlers Avenue Project.....Caesandra Seawell
- National Designation.....Jason Yots
- 60 Hedley Street-Status of Bids/Expected Construction Start
- Medicare Changes.....Marie Francois, Bankers Conseco
- Holiday Event Chairs
- Update on Scholarship Committee Fundraising
- National Preservation Conference - October 18-22
  
- Special Report by *Masten District Councilmember D. Smith*
- *Special Guests*

❖ Announcements and Special Events

8:00 PM Closing Prayer

Notes:



**Hamlin Park Community & Taxpayers Association, Inc.**

**General Membership Meeting**

**Thursday, September 1, 2011**

**Where: Hamlin Park School #74, 126 Donaldson Road**

**[www.city-buffalo.com/hamlinpark](http://www.city-buffalo.com/hamlinpark)**

**Minutes**

**6:15pm - Call to order: Stephanie Geter-President**

Prayer – Damon Palmer

***Minutes – August 2011 minutes distributed for review.***

***Finance Report- Report by Treasurer Arlene Neely. Current balance- \$8565.39 plus collected tonight- \$10.00 Sunshine; Scholarship donations:***

- ❖ Clarke Eaton, Jr. \$250.00
- ❖ John Eberhart \$100.00
- ❖ Edith Davis (HPCTA oldest member) donated \$25.00 for school supplies for Hamlin Park School

***Education Report- Reva Betha reports the following members have provided the requested school supplies for Hamlin Park School #74: Idella Counts, Cynthia Wilson, Beverly Blue, Ed Harwell, Ruby Siggers, Dyanne Johnson, Yvonne Corley, and Reva Betha***  
***Thank you all for continuing generosity!***

***Rain Barrel Project- Presentation by Kerry Lott, Buffalo River Keepers & OJ McFoy***  
Buffalo Sewer Authority for Commissioner David Comerford on the downspout disconnect program that will soon be mandatory in City of Buffalo. President Barber has volunteered Hamlin Park to participate in the trials which are expected to demonstrate improved water quality by diverting 60 to 120 gallons per house of rainwater from the sewer. Presenters indicate concern that our water filtration system currently in place lacks the capacity to filter the volumes of rain water being sent directly into the sewers. As small as it is 60 to 120 gallons per house will help. Each house participating can receive 2, 60gallon barrels. Barrels for the trials are free. Presenters will return for the October meeting to accept volunteers.



**Groundworks Buffalo-** Presenter Tim Fulton announced that Hamlin Park received the \$5000.00 Community Grant submitted by our President Stephanie Barber for beautification of the lots on the Wohlers corridor. This project needs community volunteers. All interested should contact the Goulding Block Club ladies. Start site is Goulding & Wohlers. Trees are the London Plane related to the native Sycamore found in Buffalo. Special fire hydrant taps will be used for watering. Start date is 9/5 or 9/6/11. Volunteers are needed for Saturday, October 8<sup>th</sup> from 9AM to 12:00 noon on the corner of Wohlers and Goulding Streets. Young people in need of school community service credits should come out and volunteer.

#### **Councilman's Report-**

1. Store on corner of East Ferry & Wohlers is on Preservation Board schedule for 9/8/11 @ 10am. Receiving bids on 29<sup>th</sup> & 30<sup>th</sup>.
2. Paint color for the store is light beige & brown. Color sample has been shared via email. Owners will purchase the paint.
3. Groundworks Project- See preceding report.

#### **Neighborhood Concerns for Councilman; Update at next meeting-**

- ❖ Guard rails on Humboldt Pkwy Main to E. Utica are rusted needing repair.
- ❖ Same area traffic signs are faded & weeds need removal.
- ❖ Lot @ 499 E. Ferry needs street light
- ❖ E. Delavan Jefferson to Humboldt in need of trees
- ❖ 2 fire hydrants on E. Ferry don't work
- ❖ Butler & Wohlers, vacant house porch falling down
- ❖ Community Garden @ School 53 needs to be revisited

#### **Hedley, Meech Student Problem-**

Need immediate intervention less violence should erupt between youth & home owners. Students have intimidated area residents destroying numerous carriage lights, house signs, urinating on homes of others, drinking from open alcohol containers, smoking marijuana on porches, sleeping & parking on front lawns, blocking driveways. Weekend parties last well into early morning hours and police have not responded timely. Problem houses on Hedley are 152, 172, 151, and 170.

Suggestions for future incidents- Call 911, District E Lieutenant, 311 next business day, call Anita Guess who has phone tree. Take pictures, post on YouTube, contact Alumni Association & Terry Mangione Dean of Students, Canisius. Another concern is that police & college can't stop these situations; perhaps we should explore having local faith group monitor situation.

Sick Report- Betty Norward. Card has been sent

Report on long term care by Marie Francois, Bankers Conesco Life Insurance

Meeting adjourned 7:30pm

Prayer-

Respectfully submitted,  
Esterphine A. Greene

Next meeting is Thursday October 6, 2011, 6pm, Ps 74 cafeteria.

## Attention Hamlin Park Area Block Clubs and Residents

Please join us for an informational presentation on the Downspout Disconnection and Rain Barrel Pilot Program for the Hamlin Park area.

If you or the members of your block club live in the Hamlin Park area your home may be eligible for a free downspout disconnection and rain barrel. ***The Buffalo Sewer Authority is beginning a pilot program with will focus on the area of Meech between Loring and East Delavan (on Hughes, Blaine, and Hedley) near Canisius College*** however other properties will also be considered on an first come first basis as part of a larger neighborhood wide effort.

The Downspout Disconnection and Rain Barrel pilot program is an initiative that will to help reduce the amount of stormwater entering the combined sewer system. For homeowners, this could translate into long term sewer rate controls and more immediate cost savings on your water bill should you opt for a rain barrel.

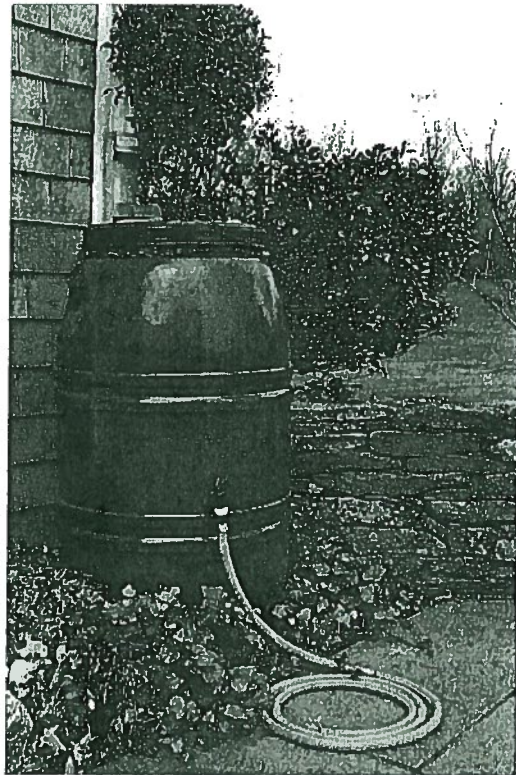
**The presentation will be given by the Buffalo Sewer Authority and our partners, the Buffalo Niagara Riverkeeper and Malcolm Pirnie, as part of the Hamlin Park Taxpayers' Association Monthly Meeting.**

**Date:** Thursday, October 6, 2011


**Time:** 6:00 pm

**Location:** Public School # 74 (Hamlin Park, 126 Donaldson Road, Buffalo)

If you cannot attend the Hamlin Park Taxpayer's Association meeting, we are also available to present at your Block Club Meetings to spread the word about this unique opportunity for Buffalo's neighbors.





For more information, please contact Kerri Li at (716) 852-7483 ext. 11 or email [kbentkowski@bnriverkeeper.org](mailto:kbentkowski@bnriverkeeper.org).




**Downspout Disconnection  
Pilot Program**

***Hamlin Park  
Community Presentation***

Presented by  
Buffalo Sewer Authority – David Comerford, General Manager  
Buffalo Niagara Riverkeeper - Kerri Bentkowski Li,  
Malcolm Pirnie/ARCADIS - Michael Quinn, PE



October 6, 2011

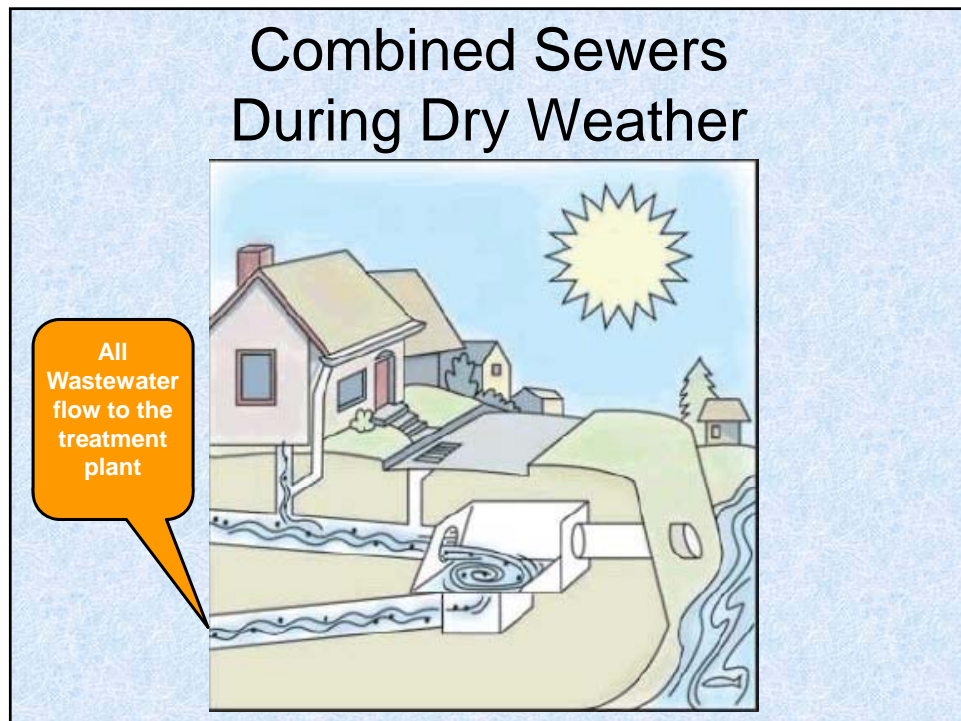
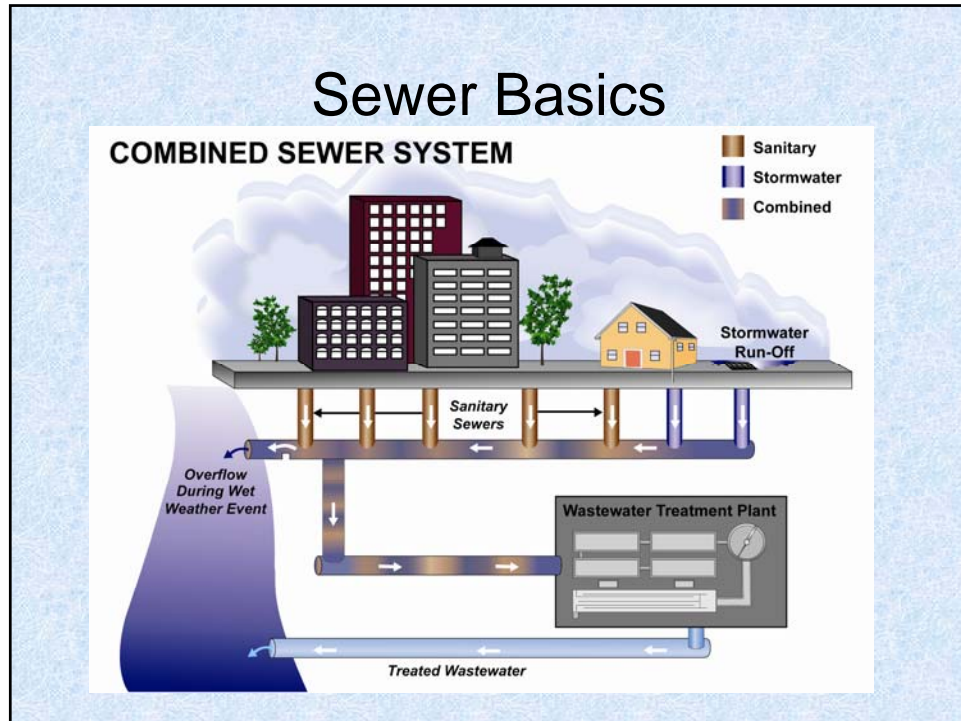


The Water Division of ARCADIS

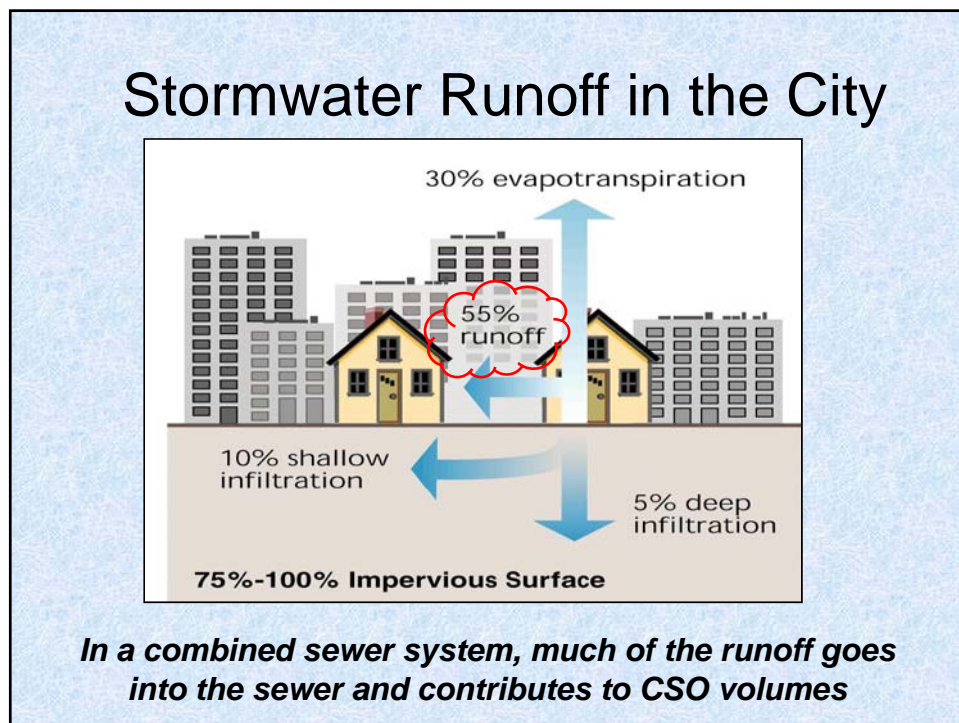
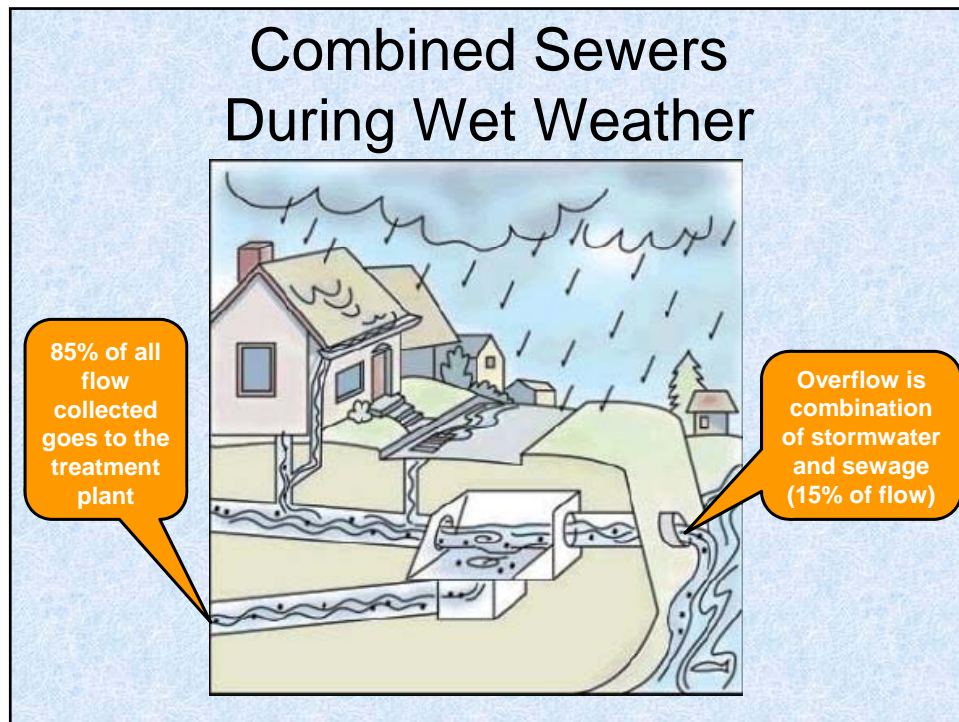
BUFFALO NIAGARA RIVERKEEPER®

## Agenda

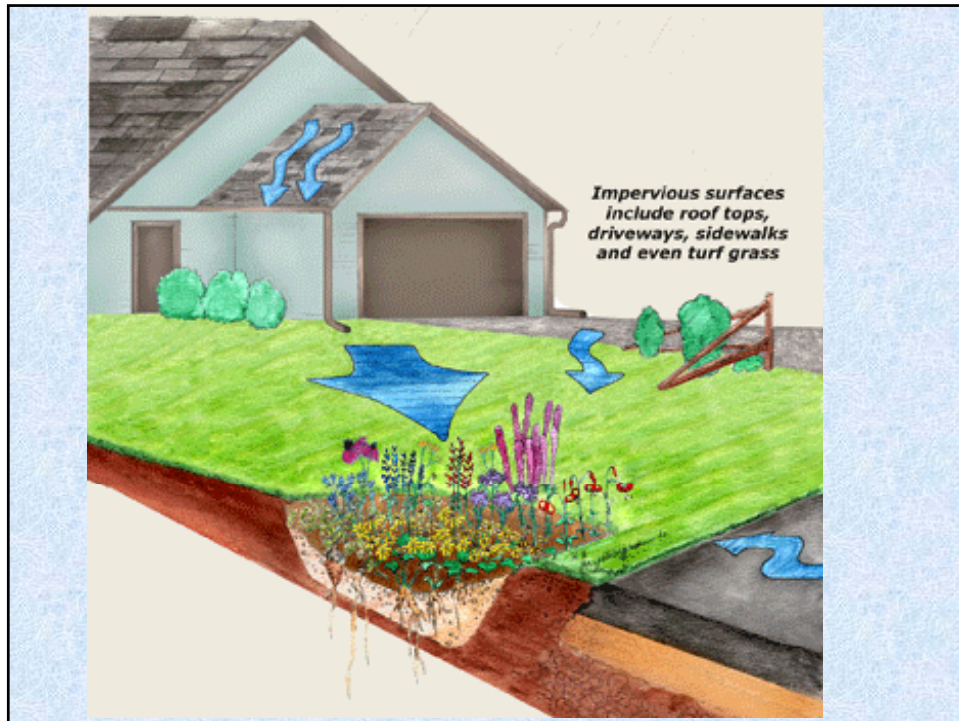
- Welcome & Introductions
- Sewers and Stormwater Basics
- Review Goals of Program
- Downspout Disconnection & Rain Barrel Installation
- Schedule of Activities
- Questions and Answers
- Sign Up!



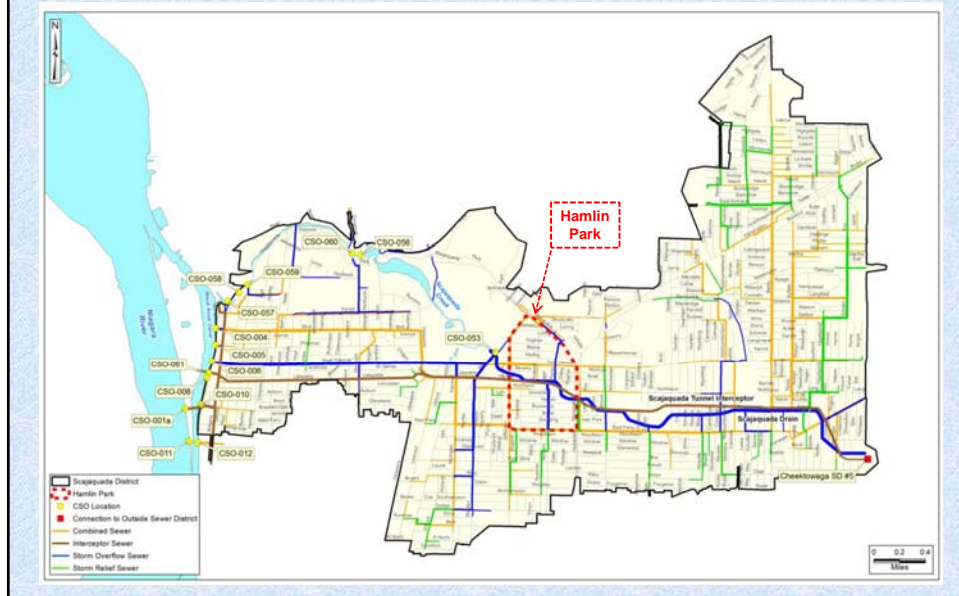








## Scajaquada Creek Drainage Basin



## Hamlin Park Program Goals

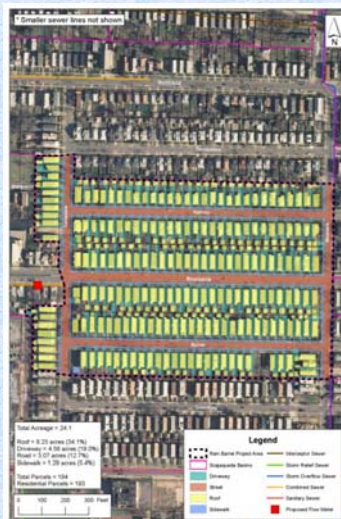
- 1) Disconnect downspouts at 150 dwellings (Blaine, Hedley, Hughes, Meech) effectively reducing the impervious surface by 50%
- 2) Measure the impact of stormwater reduction in the sewer through flow monitoring
- 3) Measure community participation



## Hamlin Park Study Components



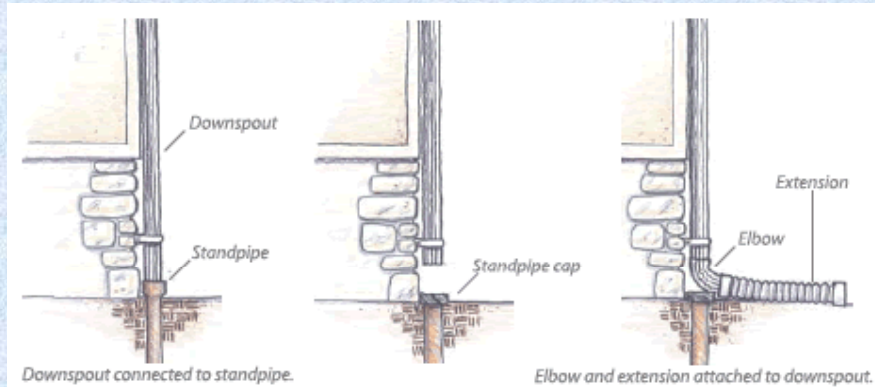
**Study Area**  
(Hughes, Blaine,  
Hedley & Meech)



**Control Area**  
(Hamlin, Brunswick,  
Butler & Lonsdale)



## What is Downspout Disconnection?



## Downspout Disconnection Example



**BEFORE**



**AFTER**

## Economic Benefits

- Reductions in stormwater volume to the combined sewers will lead to reduced CSO compliance costs
- 1 in. (of rainfall) \* 1,000 sq.ft. = 600 gal. (of rainwater)
- \$ 2-5 /gallon for traditional gray CSO controls (tunnels/treatment)
- BSA Staff will perform disconnection – no capital expense to the property owner



## Environmental Benefits

- Over 4 billion gallons of combined sewer overflows (CSOs) enter into our Buffalo area waterways every year
- Based on BNRK's Draft Feasibility Study on Green Infrastructure (June 2010) for a 1-inch rainfall event <sup>(1)</sup>:
  - 590 million gallons of runoff are collected in the system
  - Assuming 60% participation citywide, downspout disconnections will remove approximately 59 million gallons (10% reduction)



<sup>(1)</sup> 95% of all rainfall events in Buffalo are less than 1.1-inch (USEPA)

## Rain Barrels & Disconnection



## Rain Barrels Can Save Water, and Save \$\$

- 1 in. (of rainfall) \*  
1,000 sq.ft. = 600 gal.  
(of rainwater)
- A rain barrel will save most homeowners about 1,300 gallons of water during the peak summer months
- Homeowners will save approximately \$34 during peak summer months





## Next Steps

- Sign up by responding to the letter
- Decide if you'd like a rain barrel or a downspout disconnect only (note, in some circumstances, may not have option)
- Complete waiver if necessary
- BSA will disconnect the storm drain and install rain barrel if necessary
- Control area will be put on waiting list until after flow monitoring is complete

## Schedule of Activities

| Task  | Timeframe   |
|---|---|
| Meeting 1 with Hamlin Park Taxpayers Group          | October 6, 2011   |
| First Mailing of Letters to Study Areas             | October 10, 2011  |
| Door-to-Door Canvassing – Round 1                   | October 17, 2011 – October 31, 2011   |
| Downspout Disconnections/ Rain Barrel Installations | October 24, 2011 – November 30, 2011 (weather permitting) and March 2012 – May 2012 |
| Meeting 2 with Hamlin Park Taxpayers Group          | 1 <sup>st</sup> week of April 2012  |
| Second Mailing of Letters to Study Areas            | 2 <sup>nd</sup> week of April 2012  |
| Door-to-Door Canvassing – Round 2                   | 3 <sup>rd</sup> and 4 <sup>th</sup> weeks of April 2012                             |
| Installation of Flow Monitors                       | TBD (Spring 2012)   |
| Remove Flow Monitors                                | November 2012   |
| Process Flow Monitoring Data                        | July 2012 – December 2012   |
| Submit Program Summary Report                       | January 2013  |



## Sign Up Today!



### Questions?

*Before Downspout Disconnect:* Buffalo Niagara Riverkeeper,  
[kbentkowski@bnriverkeeper.org](mailto:kbentkowski@bnriverkeeper.org) or 852-RIVER ext. 11

*After Downspout Disconnect:* Buffalo Sewer Authority, 851-4664

**FOR IMMEDIATE RELEASE**

May 2, 2011

Contacts:  
Earl Wells/Brian Gould  
e3communications  
716-854-8182

**BUFFALO SEWER AUTHORITY TO CONDUCT OUTREACH MEETINGS TO  
DISCUSS ABATEMENT OF COMBINED SEWER OVERFLOWS**

***Authority negotiating consent order to alleviate impact of overflows***

BUFFALO, NY – Currently, the Buffalo Sewer Authority (BSA) is negotiating a federal consent order to reduce or eliminate the impact of combined sewer overflows upon local waterways. As part of this process, the BSA is conducting the first round of community outreach meetings at various locations throughout the City of Buffalo to discuss the steps the BSA must take to develop an abatement plan. Combined sewer overflows usually occur during periods of heavy rain and were originally designed to prevent overloading of the collection system and basement/street flooding.

The first round of meetings will begin at 6 p.m. and will focus on the history of the sewer system, project drivers, and project objectives. The meetings will be held at the following locations in the City of Buffalo:

- Wednesday, May 11<sup>th</sup> at the Valley Community Center on 93 Leddy Street;
- Thursday, May 12<sup>th</sup> at the Gloria Parks Community Center on 3242 Main Street; and
- Tuesday, May 17<sup>th</sup> at West Side Community Services on 161 Vermont Street.

“Because the discharge resulting from combined sewer overflows in the BSA system impacts water quality, we must develop a long term program to reduce or eliminate these impacts. As part of this process, we need to conduct a public outreach program to solicit feedback from the community to ensure that our program is both effective and cost responsible.” said David P. Comerford, General Manager of the BSA.

The second round of meetings will focus on the alternatives being evaluated to reduce or eliminate the combined sewer overflows and the third and final round of meetings will discuss the preferred remedy and associated

costs. For more information, please contact the BSA at  
[LTCP@sa.ci.buffalo.ny.us](mailto:LTCP@sa.ci.buffalo.ny.us) .

-30-

**About the Buffalo Sewer Authority:**

The Buffalo Sewer Authority was created through an Act of the New York State Legislature in 1935. The BSA covers 110 square miles and serves approximately 450,000 in the City of Buffalo and surrounding communities. The BSA manages the Bird Island Waste Water Treatment Plant which is the second largest such facility in New York State. There are 850 miles of sewers under the auspices of the BSA.

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BUFFALO

# Sewer Authority sets public meetings

Published: May 9, 2011, 12:00 AM

[0 Comments](#)

2

Updated: May 9, 2011, 6:27 AM

With the Buffalo Sewer Authority negotiating a federal consent order to reduce or eliminate the effects of combined sewer overflows on waterways, the agency has set up a round of public meetings to discuss the challenge. They are at:

- 6p.m. Wednesday in the Valley Community Center, 93 Leddy St.
- 6p.m. Thursday in the Gloria Parks Community Center, 3242 Main St.
- 6p.m. May 17 at West Side Community Services, 161 Vermont St.

A second round of public meetings will focus on the options to reduce or eliminate the combined sewer overflows. The third and final round will discuss the preferred remedy.

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## Comments

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**There are no comments on this story.**

**Add your comment**

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Buffalo Sewer Authority  
CSO Improvements Project - Community Meeting No. 1  
Valley Community Center  
May 11, 2011

Sign In Sheet

|    | Name (Please Print) | Address            | Phone Number | Email                         |
|----|---------------------|--------------------|--------------|-------------------------------|
| 1  | Peg Overdorf        | 176 MacKenzie St   | 823-4707     | POVEDORFE@THEVALLEYCENTRE.COM |
| 2  | JAMES O. MONROE     | 136 Tracyrus Drive | 866-2445     | Jmonroe@GMAIL.COM             |
| 3  |                     |                    |              |                               |
| 4  |                     |                    |              |                               |
| 5  |                     |                    |              |                               |
| 6  |                     |                    |              |                               |
| 7  |                     |                    |              |                               |
| 8  |                     |                    |              |                               |
| 9  |                     |                    |              |                               |
| 10 |                     |                    |              |                               |



Buffalo Sewer Authority  
CSO Improvements Project - Community Meeting No. 2  
Gloria Parks Community Center  
May 12, 2011

Sign In Sheet

|    | Name (Please Print) | Address                            | Phone Number          | Email                        |
|----|---------------------|------------------------------------|-----------------------|------------------------------|
| 1  | ALAN OBENST         | P.O. Box 204 Buffalo 14203         |                       | AKO_NSOGG@HOTMAIL.COM        |
| 2  | MARK FILIPSKI       | 270 MICHIGAN AVE., BUFFALO 14203   | 851-7220              | MDFILIPSE@GW.DEC.STATE.NY.US |
| 3  | LAUREA GAROFALO     | UB-South campus 3435 Main St 14004 | 716 9840657           | lbq2@buffalo.edu             |
| 4  | Mark Bogdan         | 1250 N. Azusa St.                  |                       | mbogdan@bnriverkeeper.org    |
| 5  | Dave Bradley        | 93 Flower St                       | 837-5361              | Pantabun73@verizon.net       |
| 6  | Selina Kaye         | 65 Court St (Sonnet<br>Grisanti)   | <del>851</del> - 8705 | Selina.grisanti@gmail        |
| 7  | Richard Toke        | 56 Chapin Pkwy 14209               | 886-5758              | RUTSBTO@AOL.com              |
| 8  | OLUWOLE A. MCFAY    | 1038 CITY HALL                     | 851-4664              | omcfaye@sa.ci.buffalo.ny.us  |
| 9  |                     |                                    |                       |                              |
| 10 |                     |                                    |                       |                              |





**Buffalo Sewer Authority**  
**CSO Improvements Project - Community Meeting No. 3**  
**West Side Community Services**  
**May 17, 2011**

**Sign In Sheet**

|    | Name (Please Print)                                       | Address                                | Phone Number   | Email                              |
|----|---|--|----------------|------------------------------------|
| 1  | Michael W DUREAN  | 8465 Transit Rd Newfane 14108          | 716 984 9370   | mwdurean@RoadRunner.com            |
| 2  | Michael A MARLOW  | 112 West Ave                           | 716 240-5732   |                                    |
| 3  | Paul J. Siskau  | 1123 West Ave                          | 716 882-1260   | elbee4e@hotmail.com                |
| 4  | Tu Wanner Cleveland<br>Legislator Barbara Miller-Williams | 427 William St 14204                   | 716 842-0490   | cleveland@erie.gov<br>bmw@erie.gov |
| 5  | Jim Campolunga  | 939 Delaware Ave 14209                 |                | JCAMPOLUNGA@NUSSCLARKE.COM         |
| 6  | Joy Knowlton  | 102 Lafayette Ave 14213                | (585) 356-9645 | jknowlton@briverkeeper.org         |
| 7  | Terri Benkowski<br>BU Riverkeeper                         | 1250 Niagara St<br>Buffalo Ny 14213    | 716-852-7483   | terbenkowski@briverkeeper.org      |
| 8  | Meghan Phelan   | 470 Bird Ave                           | 716-881-7049   |                                    |
| 9  | Patricia Phelan   | 470 Bird Ave<br>Buffalo, NY 14213      | 716-881-7049   | patriciamphelan@yahoo.             |
| 10 | Ray Vaughan   | NYS OAG<br>350 Main St., Buffalo 14202 | 853-8478       | rvaughan@ag.ny.gov                 |



**Buffalo Sewer Authority**  
**CSO Improvements Project - Community Meeting No. 3**  
**West Side Community Services**  
**May 17, 2011**

**Sign In Sheet**

|    | Name (Please Print)       | Address                      | Phone Number | Email                          |
|----|---------------------------|------------------------------|--------------|--------------------------------|
| 11 | BARBARA ROWE              | 9 LAFAYETTE AVE, BFLD, 14213 | 882-7914     | barbara.rowe@verizon.net       |
| 12 | Peter Sawiski             | 9 Lafayette Ave, BFLD 14213  | 882-7914     | peter.sawiski@verizon.net      |
| 13 | MARK Rountree             | 95 Franklin St               | 858-8008     | Mark.Rountree@erie.gov         |
| 14 | Ruth Nemize               | 800 Grant St.                | 884 6990     | BUCKRACKCMM PMK @<br>YAHOO.COM |
| 15 | CHARLES TARR              | 341 BIRD AVE                 | 882-9880     | charleytar@yahoo.com           |
| 16 | Gary Barnes               | 1007 West Avenue             | 882-8240     | —                              |
| 17 | Mark Furber               | 1602 Elmwood Ave.            | 877-8168     | MarkFurber@hotmail.com         |
| 18 | Ellen Gibson              | 15 Mayfair Ln                | 882-3488     | ellengt@aol.com                |
| 19 | Monica <del>Heaveny</del> | 341 Lafayette Ave.           | 881-2701     | mh800@yahoo.com                |
| 20 | David Rivera              | 65 Niagara Sq Rm 1504        | 851-5125     | dariviera@city-buffalo.com     |



Buffalo Sewer Authority  
CSO Improvements Project - Community Meeting No. 3  
West Side Community Services  
May 17, 2011

Sign In Sheet

|    | Name (Please Print) | Address                  | Phone Number | Email                    |
|----|---------------------|--------------------------|--------------|--------------------------|
| 21 | Nate Neuman         | 68 Shoreham Pkwy 14216   | 716.400.2343 | neneuman@yahoo.com       |
| 22 | Chuck Banas         | 412 Norwood Ave. 14222   | 716 400 3762 | chuck@banasclan.com      |
| 23 | Rosaleen Nogle      | 100 Baynes Street, 14213 | 716 390-5567 | roseynbrauch@hotmail.com |
| 24 | ALAN OBERST         | P.O. Box 204 14202       | 315-5731     | AKO_NSGG@HOTMAIL.COM     |
| 25 |                     |                          |              |                          |
| 26 |                     |                          |              |                          |
| 27 |                     |                          |              |                          |
| 28 |                     |                          |              |                          |
| 29 |                     |                          |              |                          |
| 30 |                     |                          |              |                          |



# Buffalo Sewer Authority Long Term Control Plan for Combined Sewer Overflows

Community Meeting No. 1

Introduction

May 2011



# Agenda

- **Introductions**
- Overview of the BSA Facilities
- Project Drivers
- Project History
- Public Participation / Stakeholder Panel
- Questions



# Agenda

- Introductions
- **Overview of the BSA Facilities**
- Project Drivers
- Project History
- Public Participation / Stakeholder Panel
- Questions



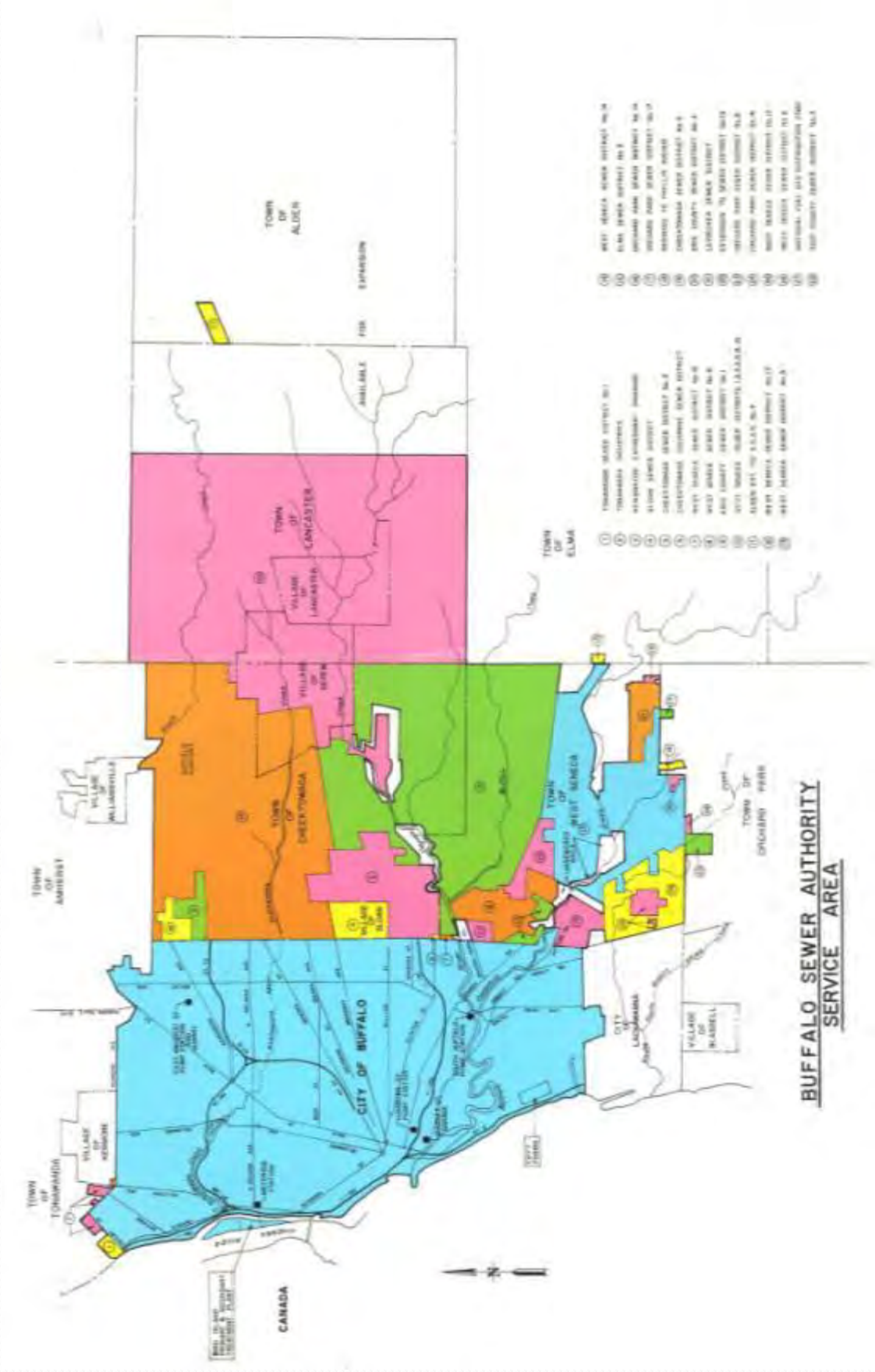
# Formation of BSA



- Before the BSA:
  - 39 mgd of raw sewage was entering the Niagara River
  - Bacterial pollution evidence 17 miles below Buffalo
  - Significant health problems
- Act of State Legislature 1935 created the BSA
- The BSA today:
  - Covers 110 Square Miles
  - Serves 450,000 people



DCA Services Area





# BSA Collection System

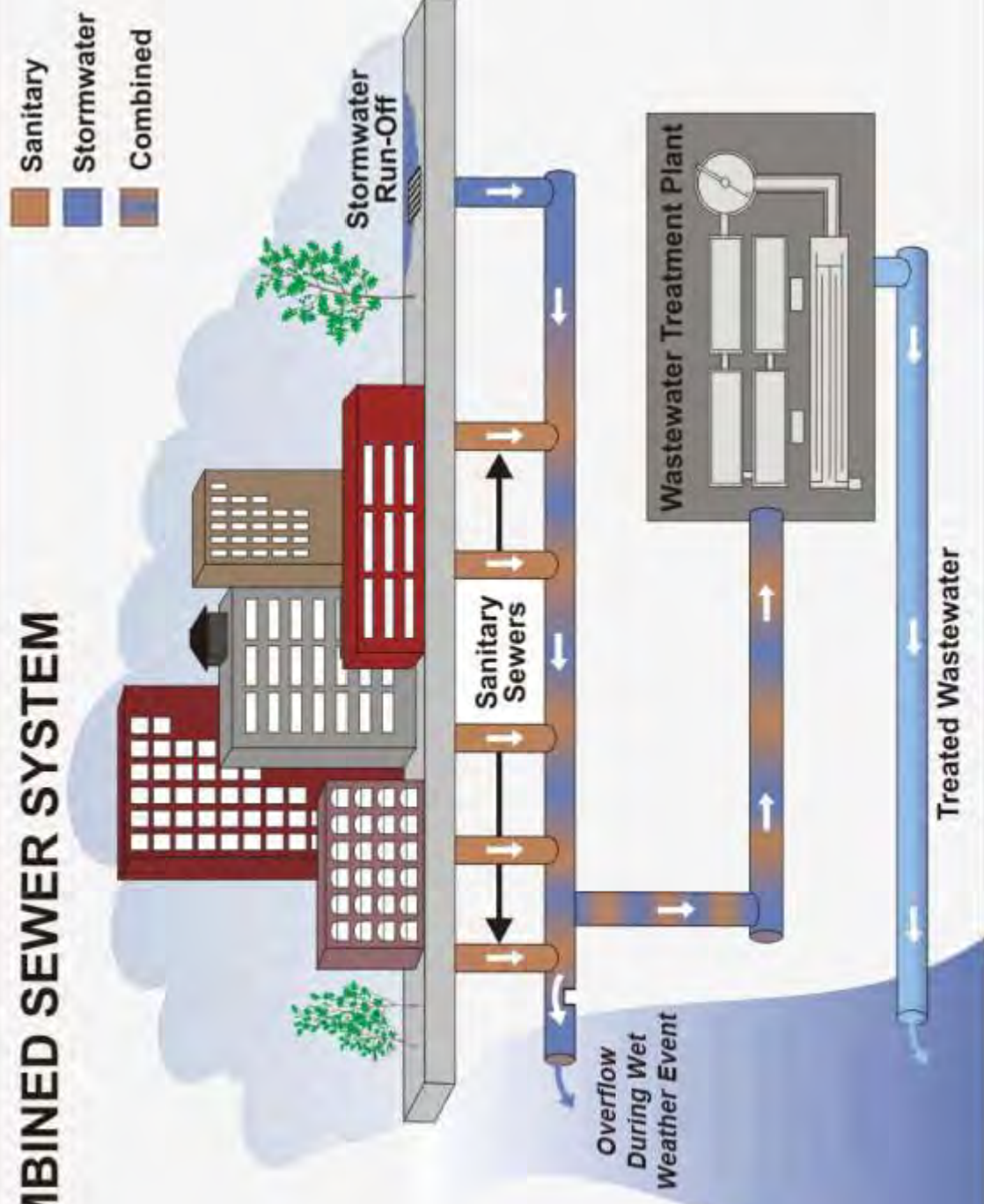
- Consists of:
  - Separate Sanitary Sewer Systems (SSS)
  - Separate Storm Sewers
  - Combined Sewer Systems (CSS)
- More than 850 miles of sewers
- 790 miles of sewer are combined
- 258 Sewer Patrol Points (SPPs)
- 59 Permitted Combined Sewer Overflows (CSOs)


# CSS and CSOs

- A Combined Sewer System (CSS) is a wastewater collection system that conveys sanitary sewage and stormwater in a single pipe to a WWTP.
- A Combined Sewer Overflow (CSO) is a designed discharge point for release of wastewater when the capacity of the CSS is exceeded during wet weather.



# COMBINED SEWER SYSTEM



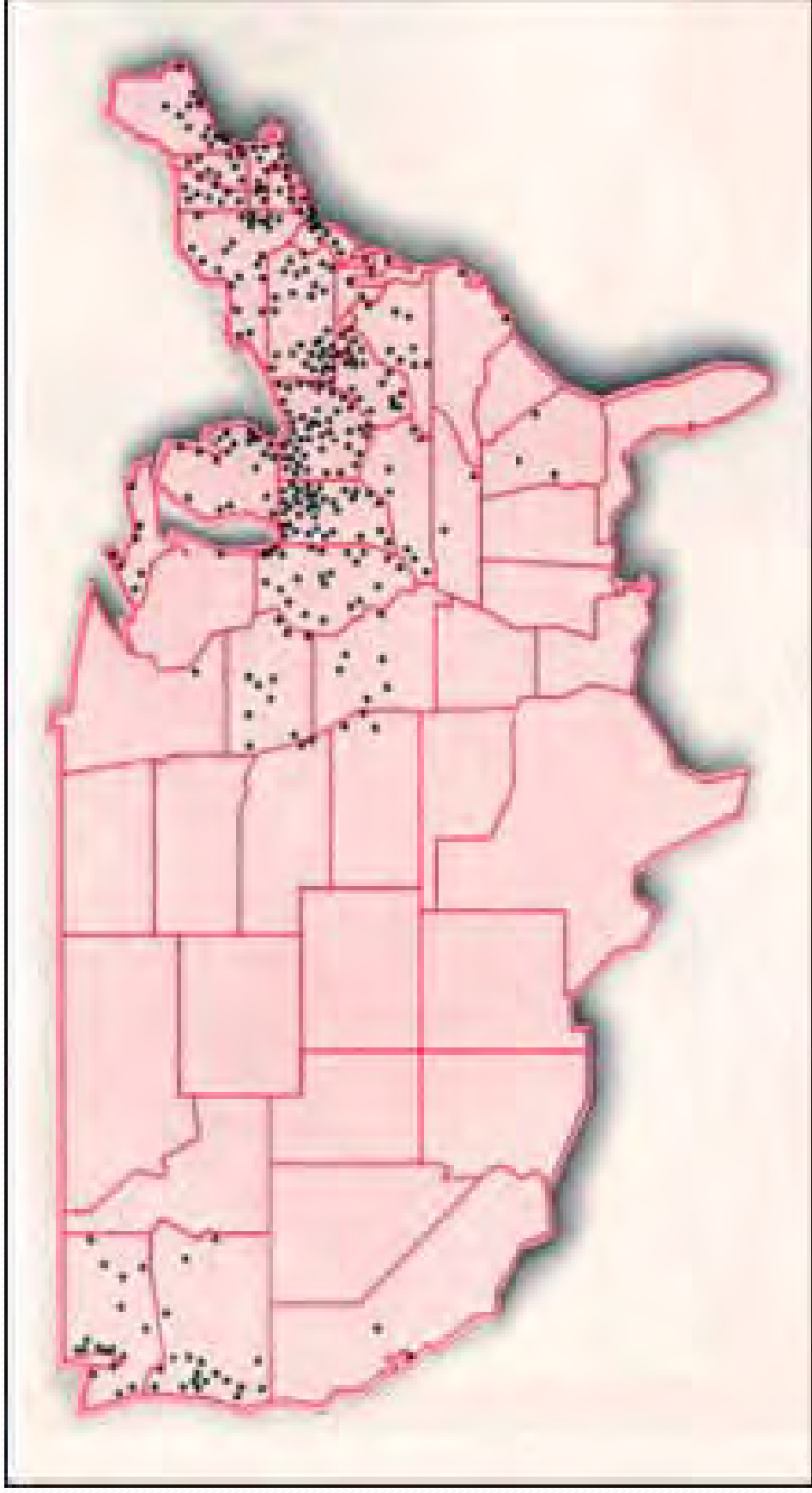


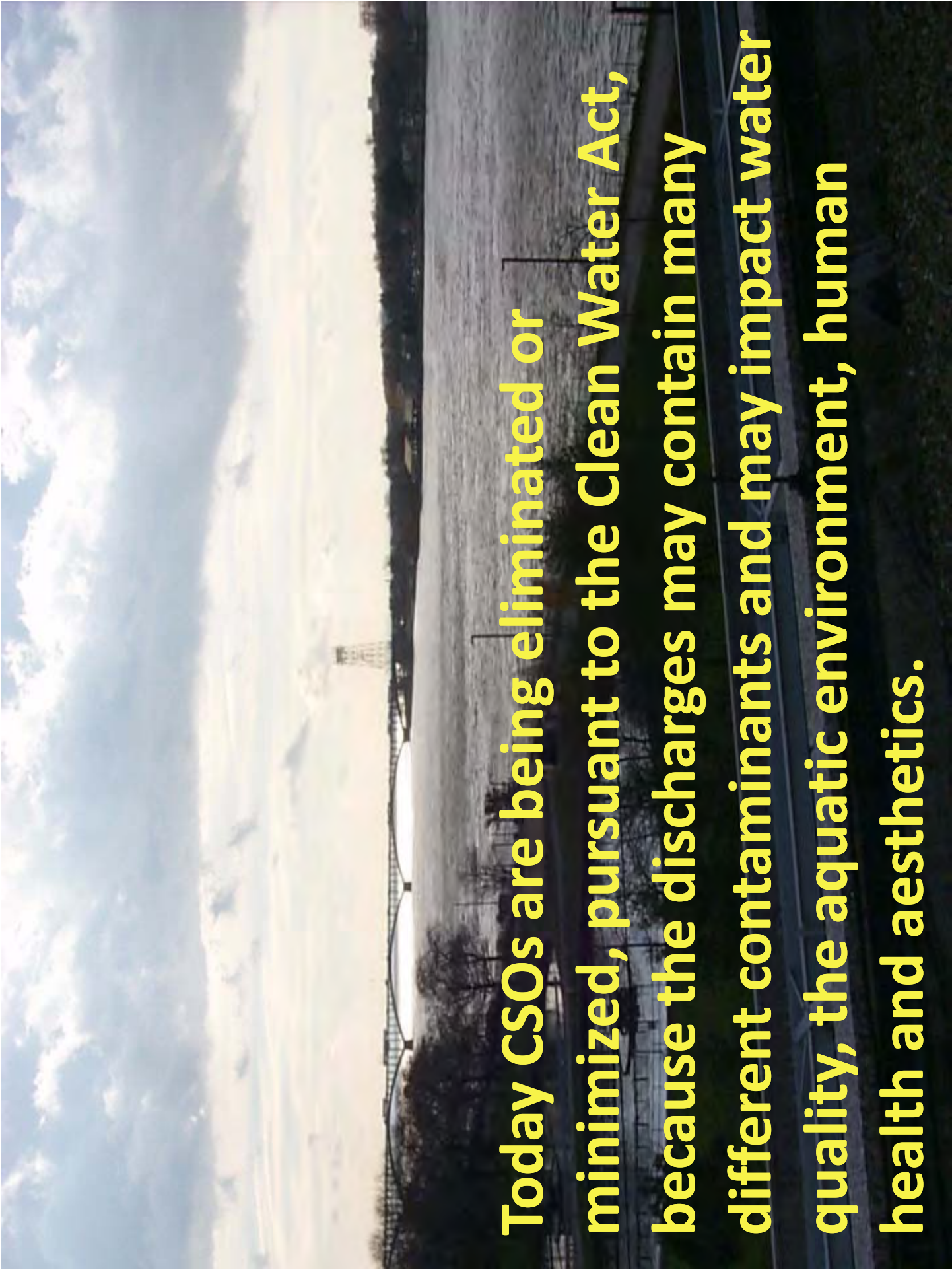
**CSOs were constructed in the past to prevent over loading of the system and basement / street flooding.**

**In the U.S., CSS serve approximately 43 million people in 1,100 communities nationwide**



# Combined Sewer System (CSS) Communities in the U.S.



A scenic view of a river, likely the Mississippi River, with a bridge visible in the distance under a cloudy sky. The text is overlaid on the right side of the image.

**Today CSOs are being eliminated or minimized, pursuant to the Clean Water Act, because the discharges may contain many different contaminants and may impact water quality, the aquatic environment, human health and aesthetics.**

## North District

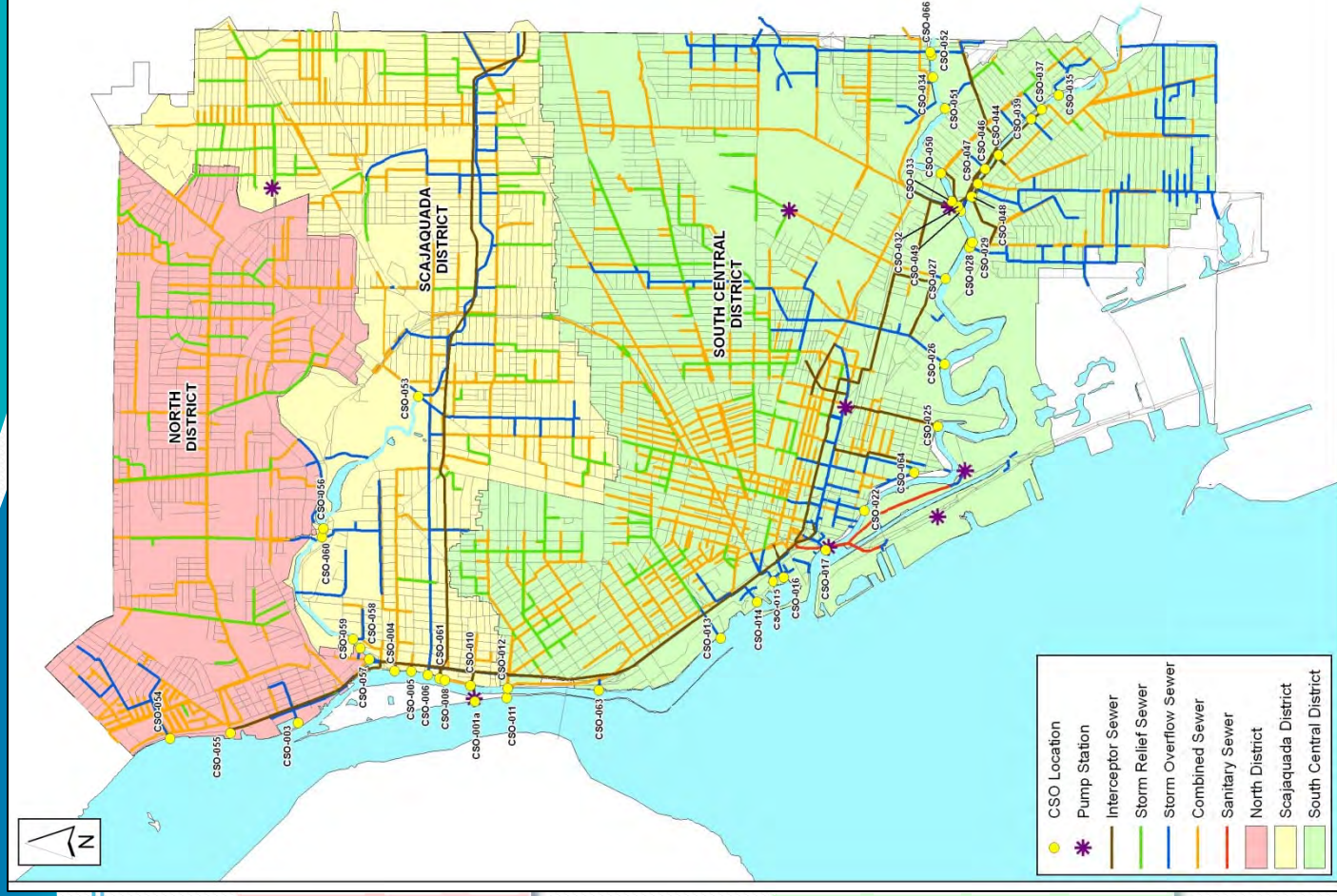
- 6 CSOs
- Main Receiving Water – Niagara River

## South Central District

- 42 CSOs
- Main Receiving Waters – Cazenovia Creek and Buffalo River

## Scajaquada District

- 11 CSOs
- Main Receiving Waters – Black Rock Canal and Scajaquada Creek





# Development of BSA Wastewater Treatment Plant (WWTP)

- 1936-1939: Primary Treatment Facility



- 1975-1979: Secondary Treatment Facility



# BSA Bird Island WWTP

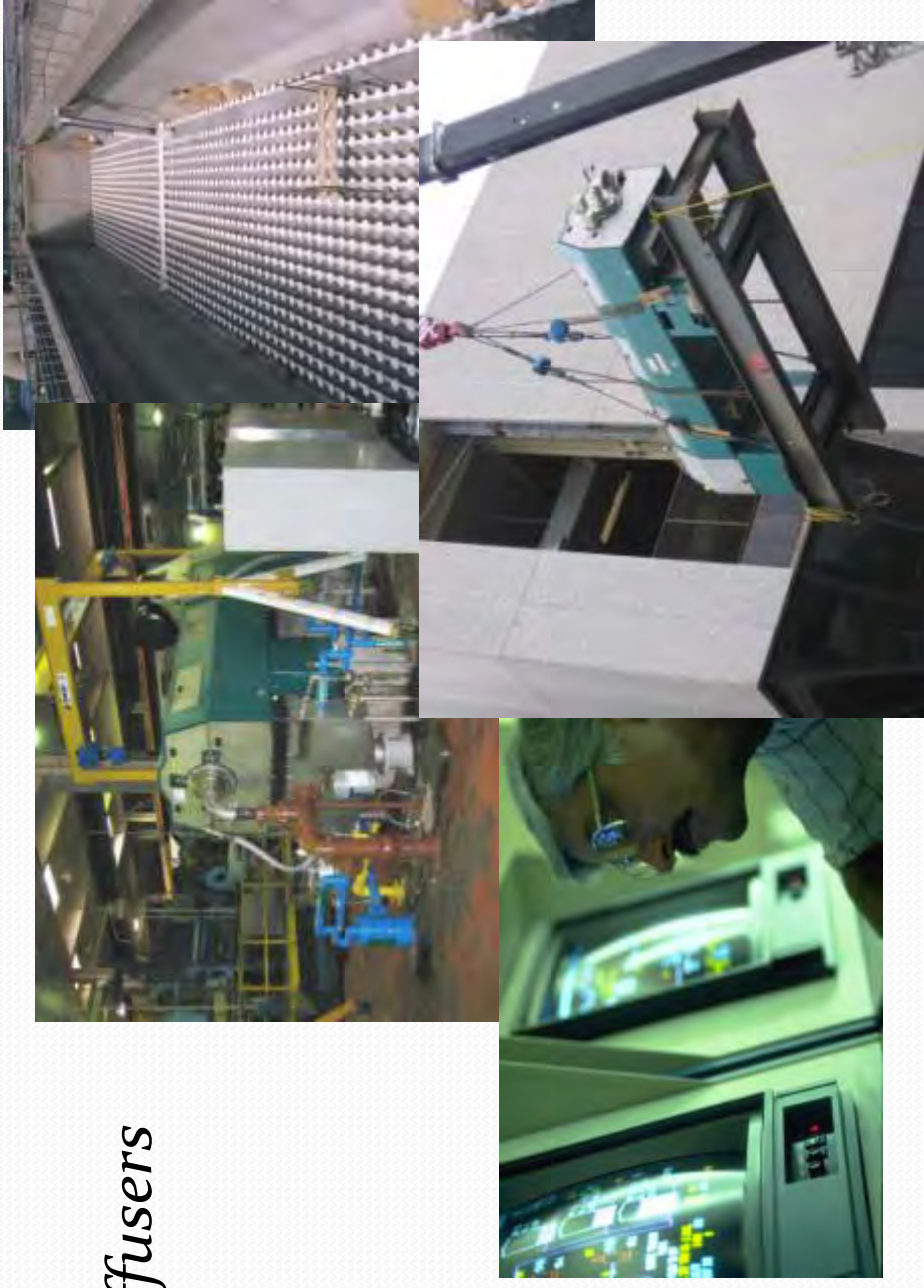
- Second largest plant in New York State
- 180 mgd average design flow
- 118 mgd average dry weather flow
- Primary and secondary treatment facility
- Maximum capacity of WWTP over 550 mgd
- Treat 85% of combined wastewater entering the system
- Tens of millions in capital improvements over past 15 years



# WWTP Improvements

- 1994-2010 Capital Improvements to Enhance Treatment

- Bar Screen
- Fine Bubble Diffusers
- SCADA
- Grit
- Centrifuges
- Other





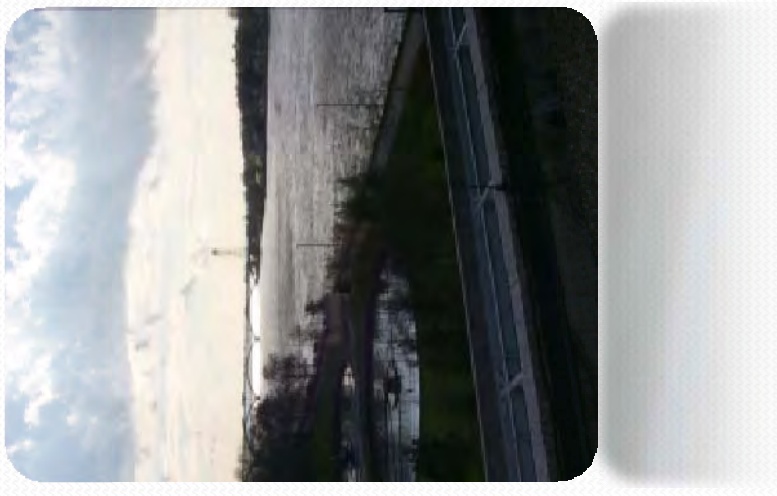


# Agenda

- Introductions
- Overview of the BSA Facilities
- **Project Drivers**
- Project History
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- Questions

# Federal CSO Policy

- Basis for Policy:
  - Water Quality
  - Clean Water Act Compliance
  - Aquatic Biota Protection
  - Public Health
  - CSO Control Complexity and Variability
    - Site-specific variables
    - Significant financial impacts



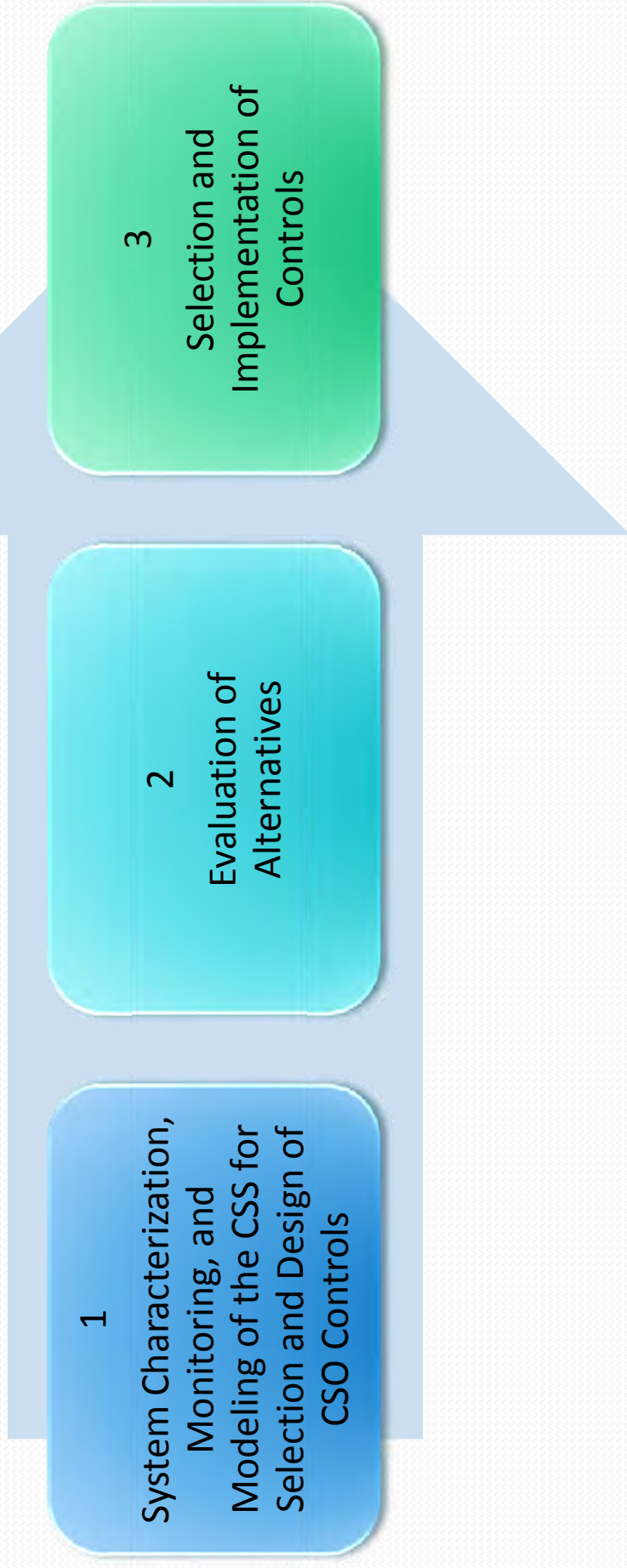


# Federal CSO Strategy/ Policy

- CSO Strategy - 1989
- CSO Policy - 1994
  - Dry weather overflows prohibited
  - CSO impacts on water quality, aquatic biota and human health must be minimized
  - States charged with developing state-wide permitting strategies to reduce and eliminate CSOs
  - Ensures public involvement in the decision making process.
  - Allows a flexible and phased approach to implementing CSO controls
  - Requires permittees to implement the Nine Minimum Controls (operations and maintenance efforts)
  - Requires permittees to develop LTCs

# Federal LTCP Requirements

- Three Main Steps





# Federal LTCP Requirements

- Key Elements to Address in the Three Steps Include
  - A public participation process actively involving affected public in decision making to select long-term CSOs
  - Cost performance considerations
  - Operational plan revision to include CSO controls
  - Implementation Schedule
  - Post-Construction compliance monitoring program

# State CSO Program

- State Pollutant Discharge Elimination System (SPDES) Permit Requirements
  - Implementation of Nine Minimum Controls (NMC) through Best Management Practices (BMPs)
- Development of LTCP
- Schedule for Compliance
- Monitoring







# What is a Consent Decree?

A Consent Decree is a legally binding document with environmental regulators outlining an accelerated program of activities designed to further improve water quality and ensure compliance with the Clean Water Act.



# Advantages of a Consent Decree

- Compliance with the Clean Water Act
- Protection of Water Resources
- Protection of Public Health and Welfare
- Avoid Costly Litigation
- Facilitates Bonding with State Agencies



# Agenda

- Introductions
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- **Project History**
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- Questions

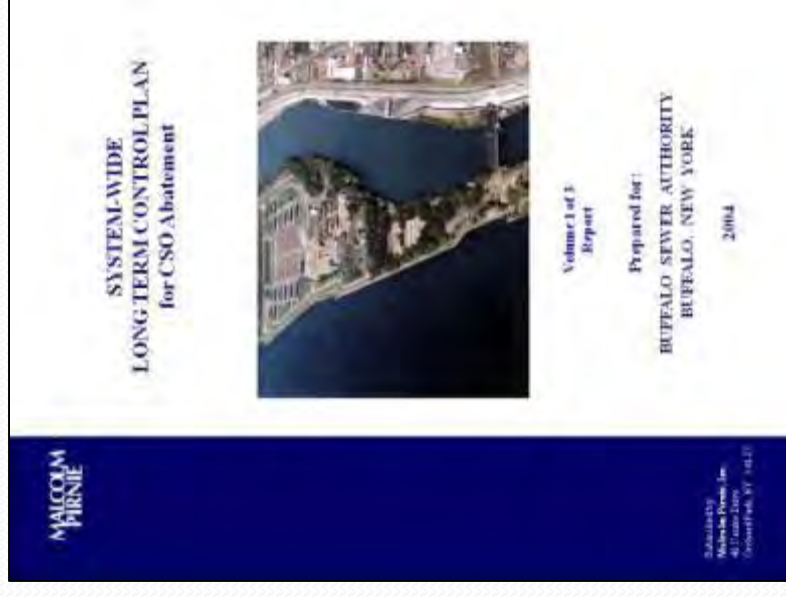
# BSA LTCP For CSOs

- Multi-million dollar multi-year program to abate impacts of CSOs and improve water quality
- Drivers
  - USEPA CSO Policy
  - NYSDEC Permit
  - Consent Decree
- Requires public participation
- Requires stakeholder issues to be addressed
- To date BSA (since 2000) has invested over \$10 Million in development of the LTCP



# 2004 BSA LTCP Program Components

- 1 Define Existing Conditions
  - Map System
  - Flow and Rainfall Monitoring Program
  - Water Quality Sampling Program
  - Develop Stormwater Management Model (SWMM) – a hydraulic model of collection system
- 2 Develop LTCP
  - Analysis of Alternatives
  - Balance Cost-Benefits
  - Recommend Schedule
- 3 Implement





# Project Since 2004 LTCP Submitted

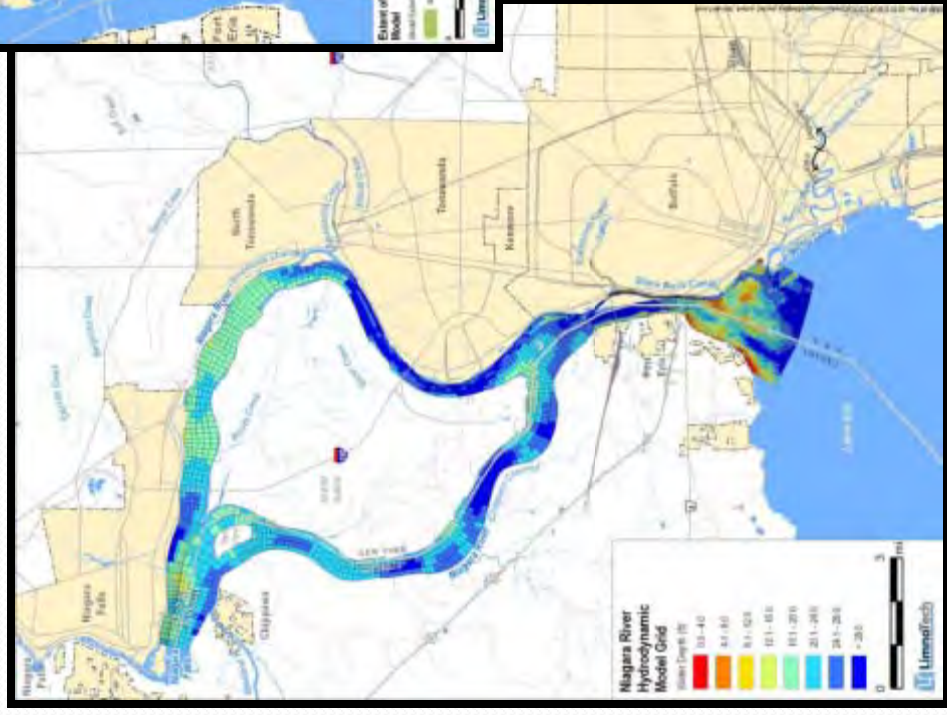
- Submitted LTCP Report to NYSDEC – July 2004
- Received Comments from NYSDEC in 2006
- NYSDEC/USEPA Requested Additional Evaluations
- Additional LTCP Work Started in 2008 and Consisted of:
  - Additional Flow/Rainfall Monitoring
  - Collection System Model Refinement
  - Water Quality Sampling
  - Receiving Water Quality Model Development
  - Revised Financial Capability Analysis
- Over \$30 Million Invested in CSO Controls/Improvements Since 2004
- Negotiation of Consent Decree began in 2009



# Additional System Monitoring and Sampling

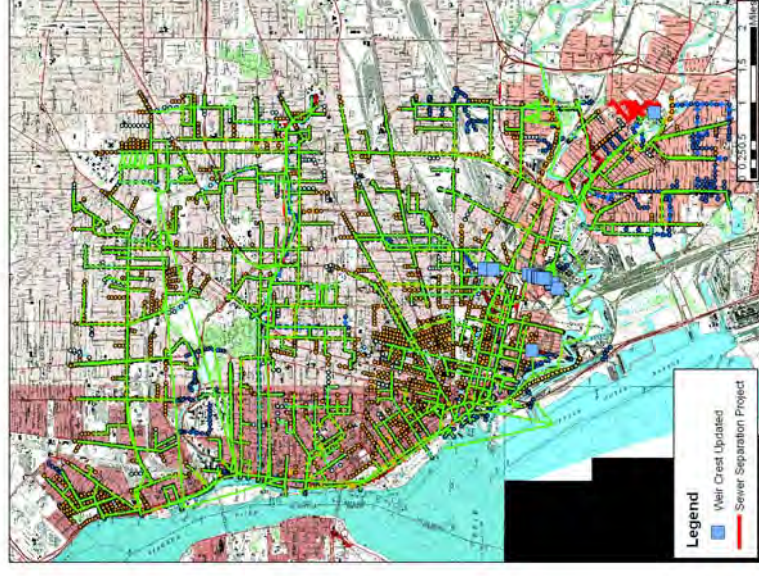


# Water Quality Model Development





- 
- | Scenario             | Monitored Activations Total | Modeled Activations Total |
|----------------------|-----------------------------|---------------------------|
| No new activations   | 38                          | 40                        |
| 100% new activations | 38                          | 38                        |
| 90% new activations  | 38                          | 38                        |
| 80% new activations  | 38                          | 38                        |
| 70% new activations  | 38                          | 38                        |
| 60% new activations  | 38                          | 38                        |
| 50% new activations  | 38                          | 38                        |
| 40% new activations  | 38                          | 38                        |
| 30% new activations  | 38                          | 38                        |
| 20% new activations  | 38                          | 38                        |
| 10% new activations  | 38                          | 38                        |
| 5% new activations   | 38                          | 38                        |
| 1% new activations   | 38                          | 38                        |
| No new activations   | 38                          | 40                        |



**Figure 2-2. System Changes Incorporated During the 2009 Model Update**



# Financial Capability Analysis (FCA)

- Measure of how much a municipality can afford
- USEPA Threshold – up to 2% of household income is “affordable”
- Goals
  - Achieve water quality goals
  - Evaluate the financial resources available
  - Consider the financial impact on residential users
  - Establish an implementation schedule for the long term control plan (LTCP)
- Factors
  - Mean Household Income
  - Indebtedness
  - Unemployment
  - Revenue Collection Rates
  - Property Values



# Next Steps for Updated LTCP

- 2011 Updated LTCP to Build Upon Previous Efforts
- Develop and Evaluate Abatement Alternatives to Reflect New Data and Modeling
- Traditional Technologies (Gray Infrastructure)
  - Storage
  - Treatment
  - Separation
- Emerging Technologies
  - Green Infrastructure
  - Real Time Control (RTC)



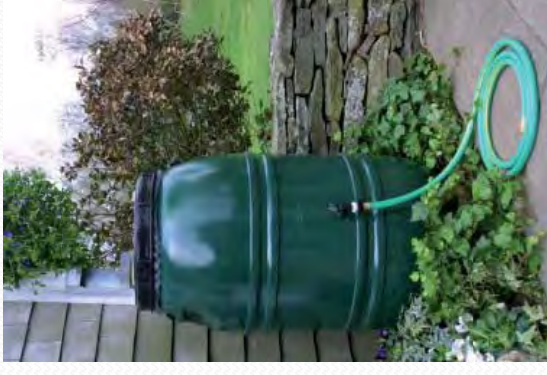
# Traditional Technologies





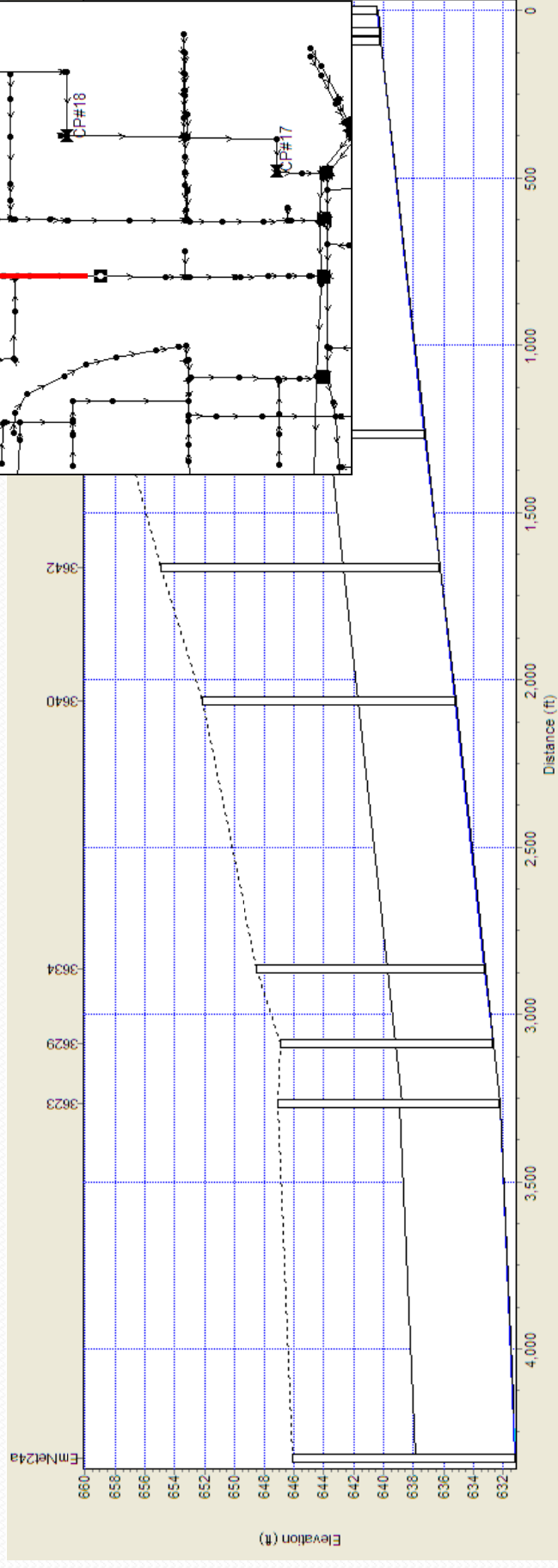
# Emerging Technologies

- Green Infrastructure Examples
  - Rain Gardens
  - Rain Barrels
  - Permeable Pavement



# Emerging Technologies

- Real Time Control Examples
  - Inline Storage
  - Offline Storage





# BSA Updated LTCP Objectives

- Meet USEPA/NYSDEC Water Quality Goals
- Satisfy Consent Decree
- Improve Water Quality in Local Water Bodies
- Provide Affordable Solution and Reasonable Implementation Schedule
- Utilize Appropriate Mixture of Traditional (Gray) and Emerging (Green) Technologies



# Agenda

- Introductions
- Overview of the BSA Facilities
- Project Drivers
- Project History
- **Public Participation / Stakeholder Panel**
- Questions

# Public Participation

- Purpose
  - Involvement in program scope
  - Involvement in evaluation and selection of alternatives
  - Informing citizens/businesses
    - Electronic media information
    - Public meetings
- Groups
  - Stakeholder Panel
  - General Public
  - Focus Groups



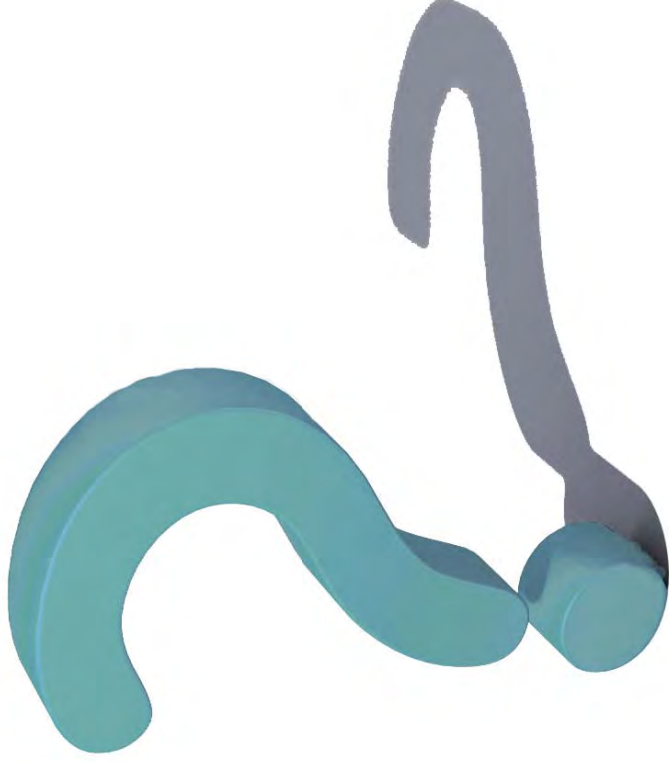




# Project Contact Information

- Project website: [BSACSOimprovements.org](http://BSACSOimprovements.org)
- E-mail: [LTCP@sa.ci.buffalo.ny.us](mailto:LTCP@sa.ci.buffalo.ny.us)
- BSA: Dave Comerford, General Manager
  - 851-4664
- Malcolm Pirnie/ARCADIS: Mike Quinn, Project Manager
  - 667-0900
  - [Michael.J.Quinn@arcadis-us.com](mailto:Michael.J.Quinn@arcadis-us.com)

# Questions





**Buffalo Sewer Authority**  
**Long Term Control Plan Update / Public Participation**  
**Community Meeting Handout**

**Acronyms and Abbreviations**

|               |   |
|---------------|---|
| <b>BMP</b>    | Best Management Practice                                |
| <b>BSA</b>    | Buffalo Sewer Authority                                 |
| <b>CSO</b>    | Combined Sewer Overflow                                 |
| <b>CSS</b>    | Combined Sewer System                                   |
| <b>FCA</b>    | Financial Capability Analysis                           |
| <b>LTCP</b>   | Long Term Control Plan                                  |
| <b>mgd</b>    | Million gallons per day (flow measurement)              |
| <b>NMC</b>    | Nine Minimum Controls                                   |
| <b>NYSDEC</b> | New York State Department of Environmental Conservation |
| <b>RTC</b>    | Real Time Control                                       |
| <b>SCADA</b>  | Supervisory Control and Data Acquisition                |
| <b>SPP</b>    | Sewer Patrol Point                                      |
| <b>SPDES</b>  | State Pollutant Discharge Elimination System            |
| <b>SSS</b>    | Sanitary Sewer System                                   |
| <b>SWMM</b>   | Stormwater Management Model                             |
| <b>USEPA</b>  | United States Environmental Protection Agency           |
| <b>WWTP</b>   | Wastewater Treatment Plant                              |



**Buffalo Sewer Authority**  
**Long Term Control Plan Update / Public Participation**

**Community Meetings - Round 1**  
**Question and Answer Summary**

1. When will the remedy to reduce CSOs be unveiled?
  - The BSA currently is developing and evaluating various alternatives to determine the most viable program for the community. The BSA is working with local groups and organizations, including the Buffalo Niagara Riverkeeper and other community stakeholders to review and discuss these alternatives. As part of this process, the BSA is engaged in an active community outreach program. The preferred alternative will be unveiled at the third round of public meetings to be held in the late summer or early fall of 2011.
2. Is there a cost to develop and implement a LTCP? Who will pay for this?
  - Ultimately, there will be a cost to reduce CSOs and it is anticipated that the cost will be shared by the ratepayers of the wastewater system (residential and industrial customers of the BSA and satellite communities). Each proposed alternative will explore both benefits and costs and this information will be shared with the public once it is finalized. There may be opportunities to mitigate costs to the ratepayers through state and federal government grants and other programmatic funding. In fact, the BSA and Buffalo Niagara Riverkeeper were successful in securing a grant to pilot various green initiatives to reduce CSOs; however, the vast majority of the expense will be paid by BSA ratepayers.
3. Will suburban satellite municipal customers of BSA that discharge flows into the City's system (e.g., Cheektowaga, West Seneca) be responsible for contributing to the cost of the remedy?
  - Yes. Applicable portions of the LTCP implementation costs will be reflected the satellite communities' rates.
4. How many gallons of overflow are there from a one inch rain event?
  - Approximately 700,000 gallons.
5. What is the percentage of flow within the system that receives treatment during a rain storm?
  - On an annual basis approximately 85% of all wastewater flows (sanitary and combined storm) are captured and treated at the BSA's Bird Island Wastewater Treatment Plant.
6. What is the capacity of the treatment plant?
  - The average design flow is 180 million gallons per day (MGD).
  - The peak flow capacity is currently approximately 520 MGD.

7. How often do SPDES permits come up for renewal?
  - About every 5 years.
8. For current CSOs with no flows, are you just going to plug them?
  - While historically a few CSO outfalls have been plugged, the majority of them will remain open to account for larger storm events that may not be reflected in the “typical year” rain event modeling. CSOs by design provide protection not only to downstream treatment facilities but also to private property. The BSA LTCP will provide for a reduction in the number of overflow events and the total volume, but will not eliminate the entire need for the CSOs.
9. Is BSA benchmarking against similar sized systems like Cleveland? And what is Cleveland doing to address their CSOs?
  - Yes, we have spoken to and visited several areas to see and learn from what they’re doing and we speak to members of the state association regularly. Cleveland is constructing deep tunnels that are very costly over a 20-year implementation program.
10. What are the rules for stormwater for new development projects?
  - We typically request a green approach vs. mandating/ requiring it, but that is coming, e.g. zoning ordinance (Green Code initiative). The BSA is talking with consultants working on the Green Code.
11. Does the BSA plan on using green projects/infrastructure as part of the remedy?
  - Yes. BSA is working with Buffalo Niagara Riverkeeper on various “green” alternatives and projects, but the USEPA will ultimately decide how “green” they will allow the final program to be as they are more focused on what will work.
12. Do you have mapping of the existing green infrastructure projects?
  - These are in the planning and feasibility stages; the BSA is coordinating with the Buffalo Niagara Riverkeeper (BNRK).
13. Will you fine households that don’t participate in the rain barrel /downspout disconnect program?
  - No, at this point participation is voluntary. At some point in the future however participation may become mandatory.
14. Has the BSA looked at permeable street surfaces?
  - Yes we have. In fact, there are currently two permeable pavement pilot projects under design.
15. What is reason for pushback from the USEPA on green initiatives?
  - In fairness, green technology and initiatives are fairly new and for the most part unproven. The USEPA appears to be wrestling with how their performance and effectiveness compares with that of more time proven technologies, such as digging tunnels.



16. Is there anything residents can do to encourage green projects?

- They can come to meetings like this and voice their opinions as well as actively participate in and advocate for programs such as rain barrels and downspout disconnects. The USEPA will ultimately decide how much green they will allow; they're more worried about what will work.

17. Is BSA looking at any public-private partnerships with organizations like Americorps to assist with maintenance of green projects?

- Yes, we will be. Also scouting groups and community based organizations such as block clubs.

18. Is there any documentation that suburban communities capture a certain amount of their overflows and could provide such documentation to BSA? Also, can you quantify difference between residential and commercial flows into CSOs because suburban strip malls and parking lots must contribute a lot?

- The communities tributary to the BSA system are all separate sanitary sewer systems, and only their sanitary sewer pipes are connected to the BSA system. The tributary communities do not directly discharge their stormwater to the BSA's collection system. Several of the tributary communities are under consent order with the USEPA to address sanitary sewer overflows in their system.

19. Is BSA creating incentives or a different rate structure for larger customers that decrease their contribution to CSOs?

- This would not be our preference at this point, and it would be difficult to monitor. Philadelphia does do something similar.

20. Is the stakeholder panel the same as the stormwater coalition?

- No, but the Buffalo Sewer Authority is represented on that committee by the General Manager.

21. You mentioned focus groups; is it possible for one to be done with a business group like the Grant-Amherst Business Association?

- If we get an individual request, we'll do what we can to fulfill it. Also, a focus group consisting of the largest commercial and industrial ratepayers is being considered.

22. What will the public meetings present?

- The first round of public meetings is intended to introduce the public to the overall Long Term Control Plan Project.
- The second round will present a number of alternatives being considered and the methodology being used for the evaluations.
- The third and final round of public meetings will present the recommended improvement solution and the economics.



**FOR IMMEDIATE RELEASE**  
November 30, 2011

Contacts:  
Earl Wells/Brian Gould  
e3communications  
716-854-8182

**BUFFALO SEWER AUTHORITY TO CONDUCT 2<sup>ND</sup> ROUND OF OUTREACH MEETINGS TO  
DISCUSS ABATEMENT OF COMBINED SEWER OVERFLOWS**

***Authority negotiating consent order to alleviate impact of overflows***

BUFFALO, NY – The Buffalo Sewer Authority (BSA) is currently negotiating a federal consent order to reduce or eliminate the impact of combined sewer overflows upon local waterways. As part of this process, the BSA is conducting its second round of community outreach meetings at various locations throughout the city of Buffalo to discuss the steps the BSA is taking to develop an abatement plan and identify viable control technologies. Combined sewer overflows usually occur during periods of heavy rain and were originally designed to prevent overloading of the collection system and basement and street flooding.

The second round of community meetings will begin at 6 p.m. and will focus on the control alternatives being evaluated to reduce or eliminate the combined sewer overflows. The meetings will be held at the following locations in the city of Buffalo:

- Monday, December 5<sup>th</sup> at the Northwest Buffalo Community Center, 155 Lawn Avenue;
- Tuesday, December 6<sup>th</sup> at the Frank E. Merriweather, Jr., Library at 1324 Jefferson Avenue; and
- Thursday, December 8<sup>th</sup> at the Matt Urban Center, 1081 Broadway Avenue.

"Because the discharge resulting from combined sewer overflows in the BSA system impacts water quality, we must develop a long term program to reduce or eliminate these impacts. As part of this process, we are soliciting public input from the community to ensure

-more-

that our program is both effective and cost responsible.” said David P. Comerford, General Manager of the BSA.

The third and final round of meetings will discuss the preferred remedy and associated costs. The dates and locations of those meetings will be announced at a later date. For more information, individuals should visit the project web site at [bsacsoimprovements.org](https://bsacsoimprovements.org) or email the BSA at [LTCP@sa.ci.buffalo.ny.us](mailto:LTCP@sa.ci.buffalo.ny.us).

-30-

**About the Buffalo Sewer Authority:**

The Buffalo Sewer Authority was created through an Act of the New York State Legislature in 1935. The BSA covers 110 square miles and serves approximately 450,000 in the City of Buffalo and surrounding communities. The BSA manages the Bird Island Wastewater Treatment Plant, which is the second largest such facility in New York State. There are 850 miles of sewers under the auspices of the BSA.

## Seven By Seven

Seven things you need to know by 7 a.m.

**1.** When it rains hard, the water pours into Buffalo's storm sewer system, causing sewage overflows that eventually end up in the places where they shouldn't be, like the Niagara River. Under federal orders to reduce or stop this, the **Buffalo Sewer Authority** is looking at several options. Officials will discuss them and look for ideas from the public in a series of three meetings this week. The first is at 6 p.m. in the Northwest Buffalo Community Center, 155 Lawn Ave. The others will be held at 6 p.m. Tuesday in the Frank E. Merriweather Jr. Library, 1324 Jefferson Ave., and the Col. Matt Urban Center, 1081 Broadway.

### Don't miss on buffalonews.com:

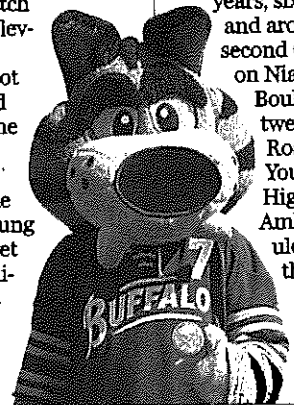
Members of the 2011 All-WNY Football Team talk about their favorite memories from the 2011 season at [video.buffalonews.com](http://video.buffalonews.com)

**2.** M&T Bank kicks off its 27th annual **Holiday Music Under the Dome** series at noon inside the Fountain Plaza branch, which used to be the home of Buffalo Savings Bank. Local high school choirs will perform at noon every weekday for the next two weeks, while the Buffalo Philharmonic Orchestra will appear at 1 p.m. Saturday to give its holiday concert. First up today are the Grand Island Senior High School Madrigal Singers. All concerts are free and open to the public.

**3.** Opponents of the plan to build a luxury 12-story condo development on the Lake Erie shore at Bay Beach in Crystal Beach, Ont., will have another chance to express their grievances this evening. The **Fort Erie Town Council** is holding an open meeting tonight to consider site-plan approvals for the project. Although some object that the project will restrict access to the beach, the town is retaining ownership of the beach under the plan. Parking for the condos will be entirely underground.

**4.** Youngsters who play in Timbits minor hockey leagues will get to share the First Niagara Center ice with big-leaguers this evening in the annual **Timbits Skate With the Sabres**. Joining them will be three of the Sabres — Luke Adam, Jhonas Enroth and Nathan Gerbe — along with the mascot, Sabretooth. During the 5 and 6:30 p.m. sessions, parents and siblings will get to watch from the 100 level and have doughnuts, hot chocolate and coffee from the sponsoring Tim Hortons Cafe and Bake Shop. The young players will get souvenir mini-hockey sticks and autographs.

**5.** **Corner Bakery**, Chicago-based chain that specializes in soups, salads and sandwiches, is opening its first Buffalo-area location today on Transit Road at Sheridan Drive in Amherst in the former Gymboree site near the Olive Garden in the Eastgate Plaza. Franchisee Fran DeSimone plans a total of 15 Corner Bakery shops in New York State during the next six years, six of them in and around Buffalo. The second Corner Bakery on Niagara Falls Boulevard between Maple Road and the Youngmann Highway in Amherst, is scheduled to open in the spring.



Sabretooth

## CONTINUED FROM THE COVER

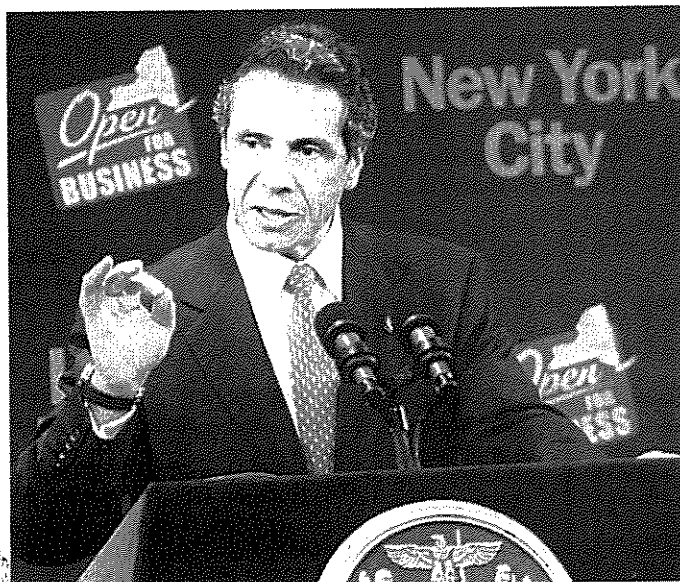
### Inner-city youth seen as key area for job aid

CUOMO • from A1

nor's agenda comes as Assembly Democrats are set to meet in the Capitol on Tuesday afternoon, followed by a meeting of Senate Republicans the next day. Whether the two houses meet in any sort of special session this week will depend on what kind of deals can be cut in the next 48 hours.

The governor said a "serious" investment in the state's roads and bridges must be made. He has not said which projects — besides a bridge spanning the Hudson River downstate — should be funded, nor specifically where the money would be found.

Cuomo proposes creation of a "New York Works Initiative —



Associated Press file photo

**Gov. Andrew Cuomo says expansion of gambling in New York offers opportunity to "recapture revenue" lost to other states.**

tacks, the state turned to casino gambling at racetracks. In other times, the state has dramatically expanded the New York Lottery, or in the case of Western New York, backed the creation of three Seneca Nation of Indians casinos.

Cuomo said his gambling plan would recognize "the real-

cal year beginning April 1.

Cuomo administration officials would not say whether they envisioned the Legislature taking up one more or more of the governor's items this week.

The governor did not address an income tax increase on the wealthy, an idea he did not rule out last week after saying

### Matta be reason his j

MATTA • from A1

ton, Roswell Park's general counsel and chief operations officer. "My understanding is the research he had done was over. He didn't have any more grants. His position was going to be eliminated."

But Matta believes he is being punished for accusing others at Roswell Park of taking credit for his work — benefiting professionally and financially from Matta's ideas, while cutting off Matta's own grant funding and also, Matta charges, cutting him out of possible future research royalties.

Matta earlier this year filed a lawsuit against Roswell Park scientists Ravinda K. Pandey and Thomas J. Dougherty, as well as the institute, seeking acknowledgment for what he believes is his role in a series of patents Pandey and Dougherty obtained and also a piece of the grants Pandey and Dougherty

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# Buffalo Sewer Authority Long Term Control Plan for Combined Sewer Overflows

Community Meeting No. 2  
Presentation of Existing Conditions and Alternatives  
Being Considered  
December 2011





# Agenda

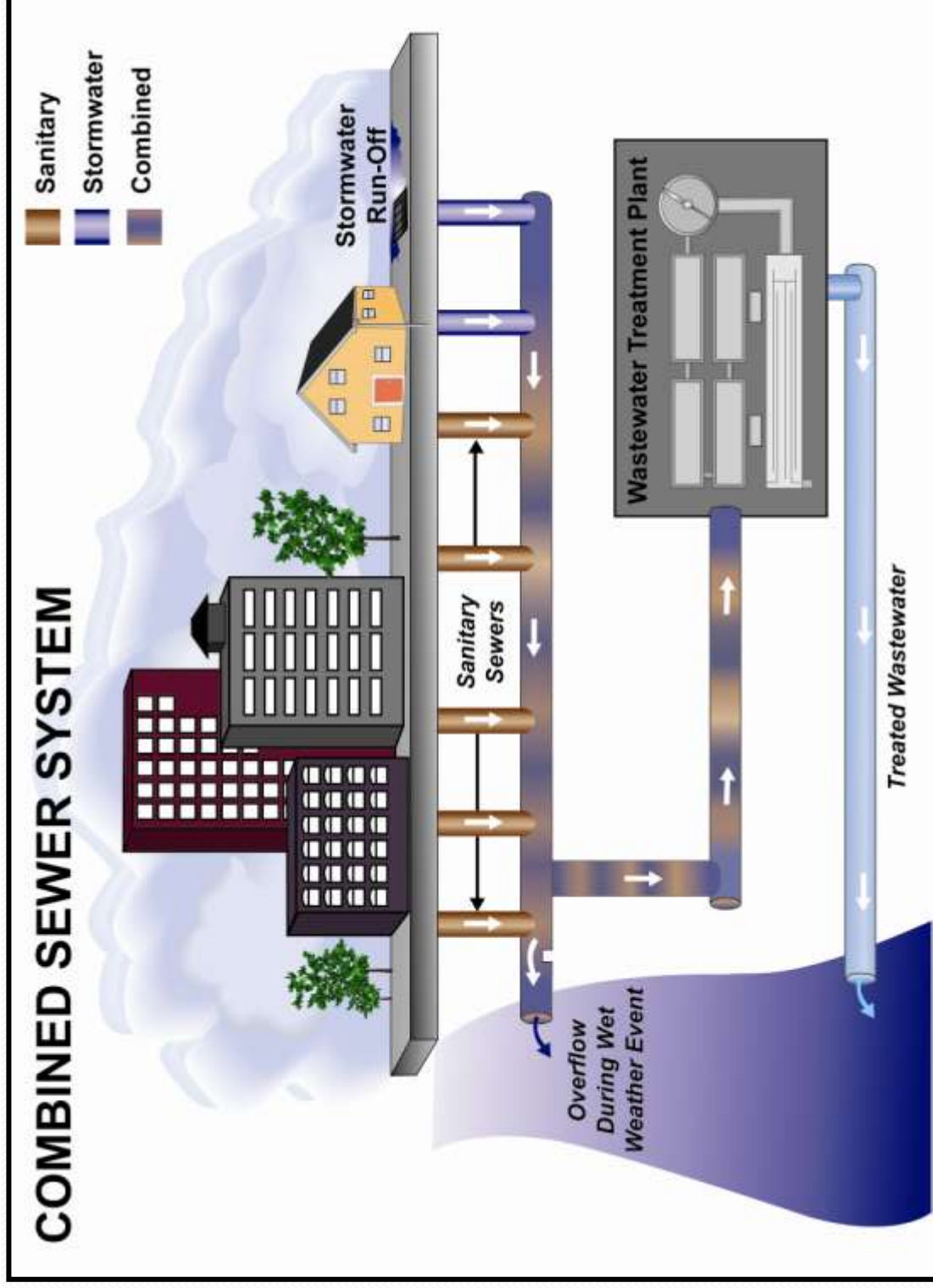
- **Background**
- Control Objectives/Project Approach
- Project Status Update
- Existing Conditions
- Alternative Analysis
- Next Steps
- Questions/Comments

# BSA's Long Term Control Plan,

## Why We are Here

- Multi-million Dollar, Multi-year Program to Abate Impacts of CSOs and Improve Water Quality
- Drivers:
  - Federal Clean Water Act (CWA)
  - USEPA CSO Policy
  - NYSDEC Permit
  - Consent Decree
- Requires Public Participation and Stakeholder Input
- To Date, BSA (since 2000) has Invested Over \$40 Million in Development of the LTCP and Ongoing Construction of CSO Controls/ Improvements

# What is a Combined Sewer System?





# BSA Combined Sewer System

## Scajaquada District

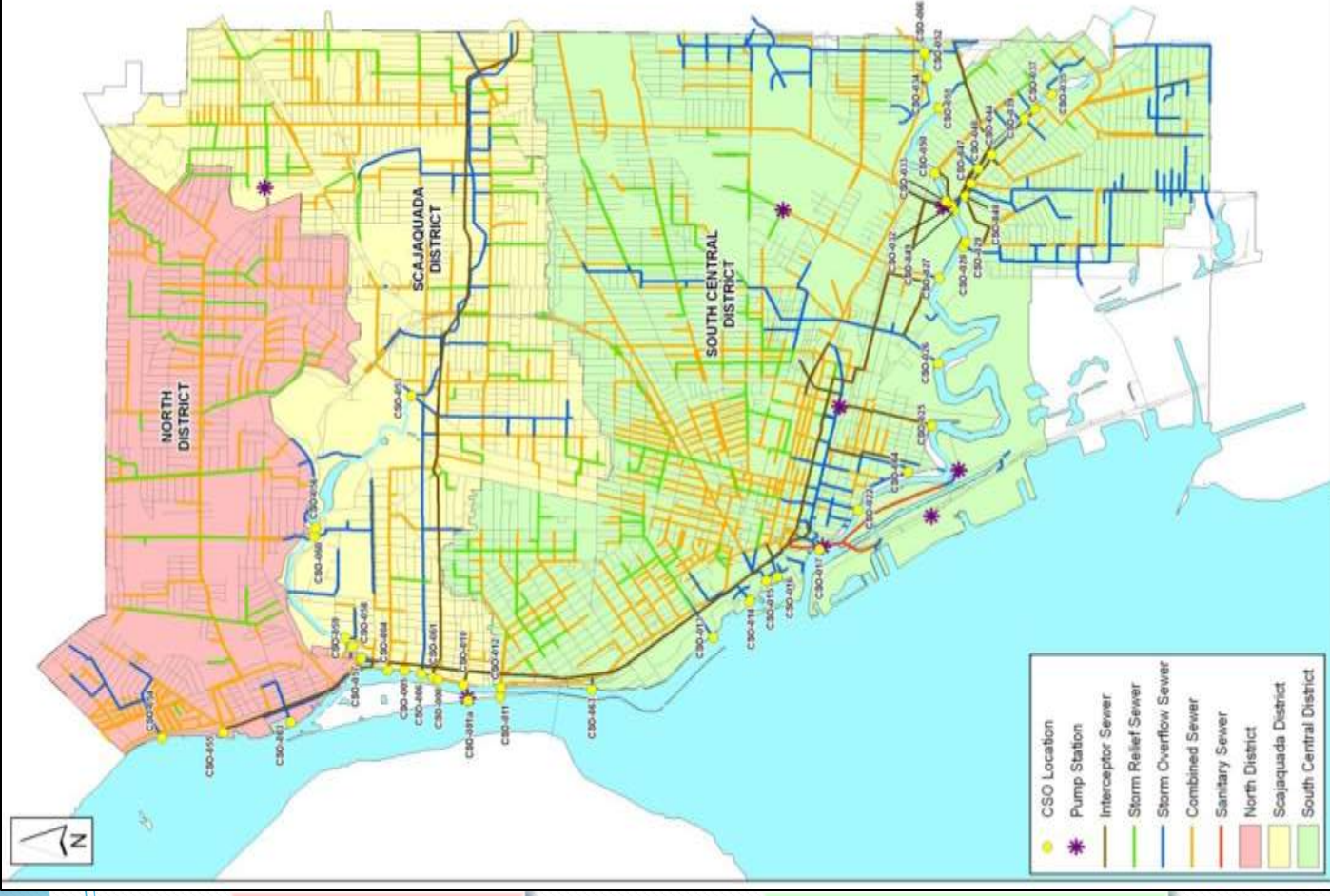
- 9 CSOs
- Main Receiving Waters – Black Rock Canal and Scajaquada Creek

## North District

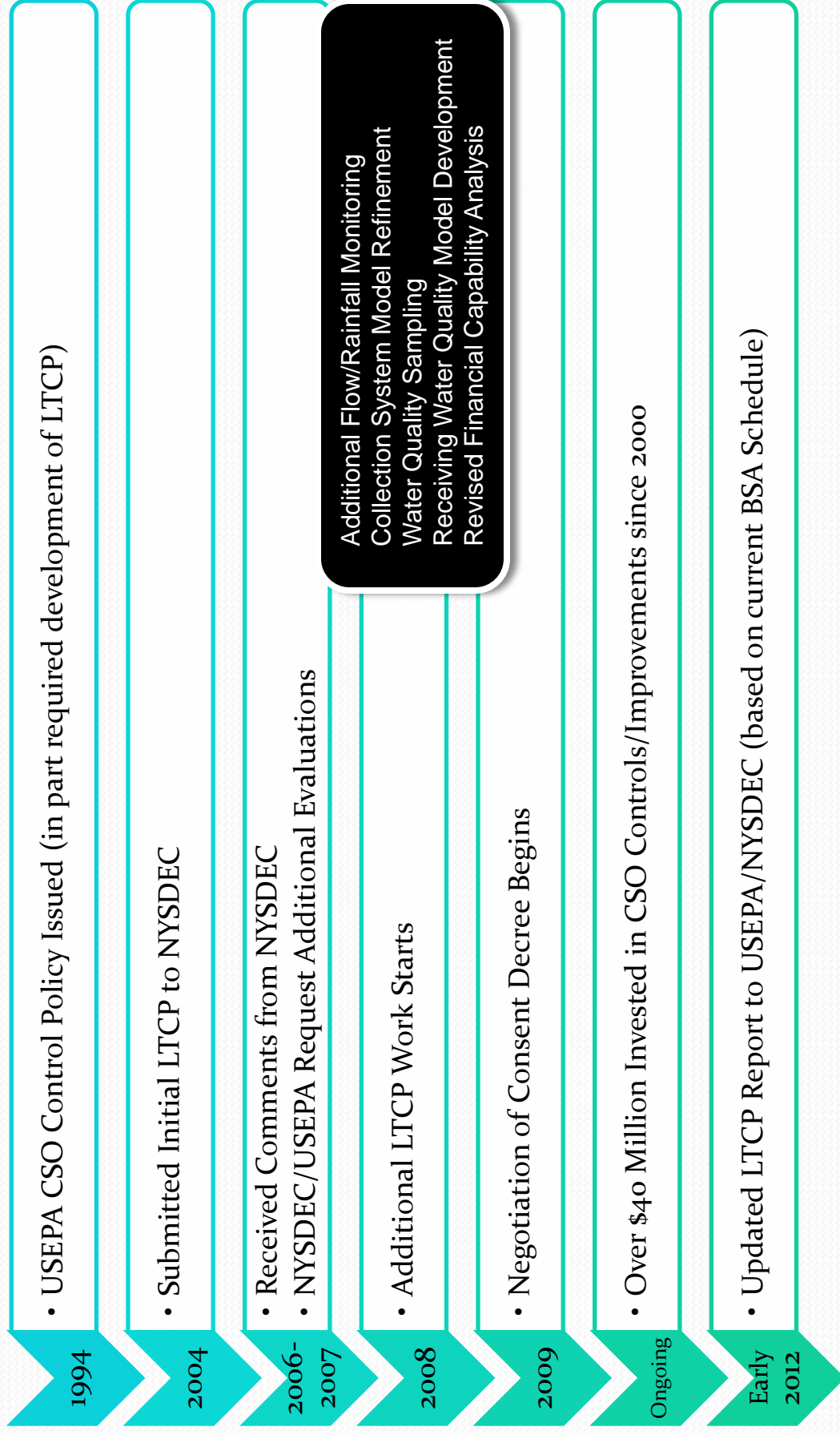
- 6 CSOs
- Main Receiving Water – Niagara River

## South Central District

- 30 CSOs
- Main Receiving Waters – Cazenovia Creek and Buffalo River



# Project History





# Agenda

- Background
- **Control Objectives/Project Approach**
- Project Status Update
- Existing Conditions
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# Control Objectives/Project Approach

- USEPA CSO Control Policy Generally Allows Two Approaches for Compliance:
  - Presumptive approach
  - Demonstrative approach
- Either Approach Must use the Collection System Model (SWMM) to Determine:
  - CSO activations and volumes
  - Predict program effectiveness

# Presumptive vs. Demonstrative Approach

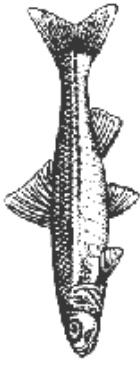
- Level of Control or *Presumptive Approach*
  - Meets minimum level of performance criteria
    - Four to six overflow events in a typical year
    - Percent capture of wet weather flows
  - Develop plan to achieve uniform level of control (not watershed focused, can result in overly conservative plans and/or oversized improvements)
- Water Quality or *Demonstrative Approach*
  - Demonstrate compliance with Water Quality Standards (WQS) through water quality modeling
  - Develop plan to achieve water quality objectives for each individual receiving stream
  - Addresses sensitive areas more effectively

# Sensitive Areas Analysis

- USEPA CSO Control Policy Requires that LTCPs Give Highest Priority to Controlling Overflows that Discharge into Sensitive Areas:



- Outstanding National Resource Waters
- National Marine Sanctuaries
- Waters with threatened/endangered species and their habitat
- Waters with primary contact recreation
- Public drinking water intakes or their designated protection areas
- Shellfish beds



- 2011 Re-evaluated 2004 LTCP Analysis and Short-listed 7 Potential Areas
- 2011 Detailed Evaluation Resulted in One Sensitive Area – the ***Erie Basin Marina*** (*meets threatened/endangered species and primary contact recreation criteria*)

# Watershed Recreational Use Survey

- Survey Conducted Summer 2010
- Examined Recreational Activities in Water Bodies Downstream of CSOs
  - Field Observations
  - Literature Research
  - Future Use Planning

## • Recreational Uses Observed Predominantly Included:

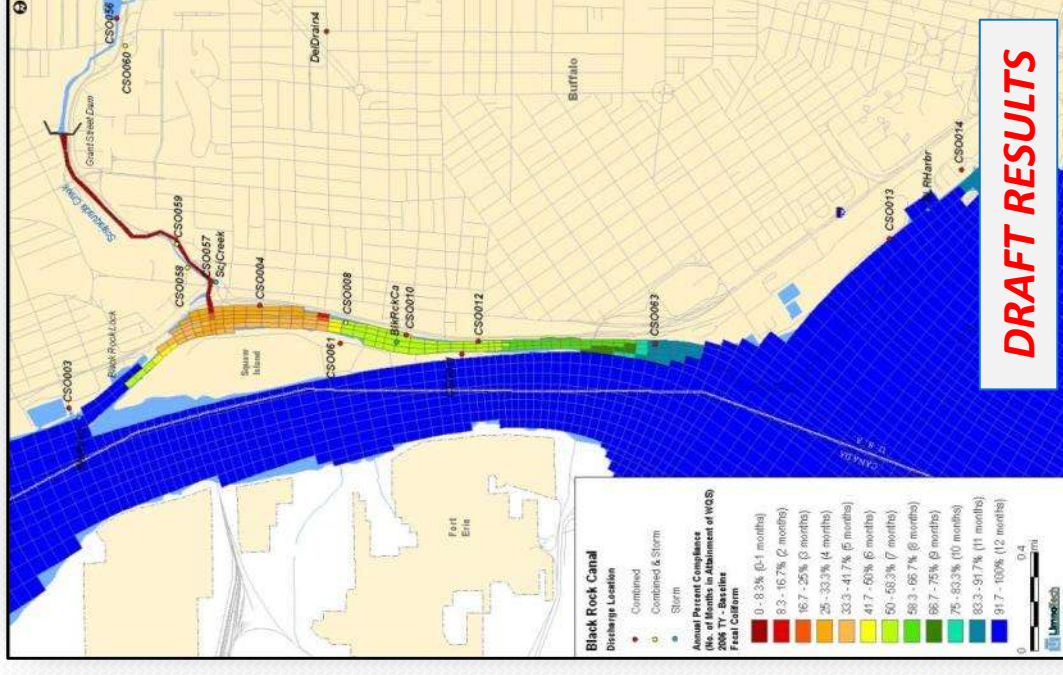
- Fishing
- Boating
- Limited Swimming





# BSA Preferred Approach

- Hybrid Demonstrative Approach
  - Provides water body-focused approach to water quality
  - Conscious of stream classification and recreation uses for each water body
  - Ability to better target sensitive areas earlier in process
  - Will provide a cost-effective plan that provides most environmental benefit
  - Will also use selective implementation of presumptive approach based on cost/benefit analysis





# Agenda

- Background
- Control Objectives/Project Approach
- **Project Status Update**
- Existing Conditions
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# Project Status Update

- Typical Year Evaluation (at USEPA/NYSDEC request)
- Baseline Collection System and Water Quality Modeling Complete
- Collection System Modeling for Evaluating Abatement Alternatives is Ongoing
- Water Quality Modeling of Abatement Alternatives Identified from Collection System Modeling is Ongoing
- Water Quality-Based Abatement Alternative being Developed
- Continued Consent Decree Negotiations with USEPA/NYSDEC
- BSA Developed and Submitted Schedule for LTCP Delivery to Regulatory Agencies



# Background on Typical Year

- Typical Year (TY) is Roughly the Average Annual Precipitation Year for a Given Study Period
- 2004 Report Based on 1986 Typical Year
- In August 2011, USEPA/NYSDEC Recommend BSA's Typical Year be Re-evaluated to Include Most Recent Precipitation Years
- November 30 Agencies Specify New Selection Criteria for TY
- Agency Comments Under Review by the BSA



# Agenda

- Background
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# Existing Conditions

- Collection System Modeling Results for Existing Conditions
- Water Quality Modeling: Background Conditions Upstream vs. Impact of BSA Discharges

# Collection System Model Results

- Collection System Model Run for Existing Conditions and 2006 Typical Year
- Results:

| Existing Number of CSO Locations | Annual Number of Overflow Events per CSO | Predicted Annual CSO Volume (Billion Gallons) |
|----------------------------------|--|---|
| 45                               | 2 to 67                                  | 2.1   |

***Existing Percent Capture = 90% (treated at WWTP)***

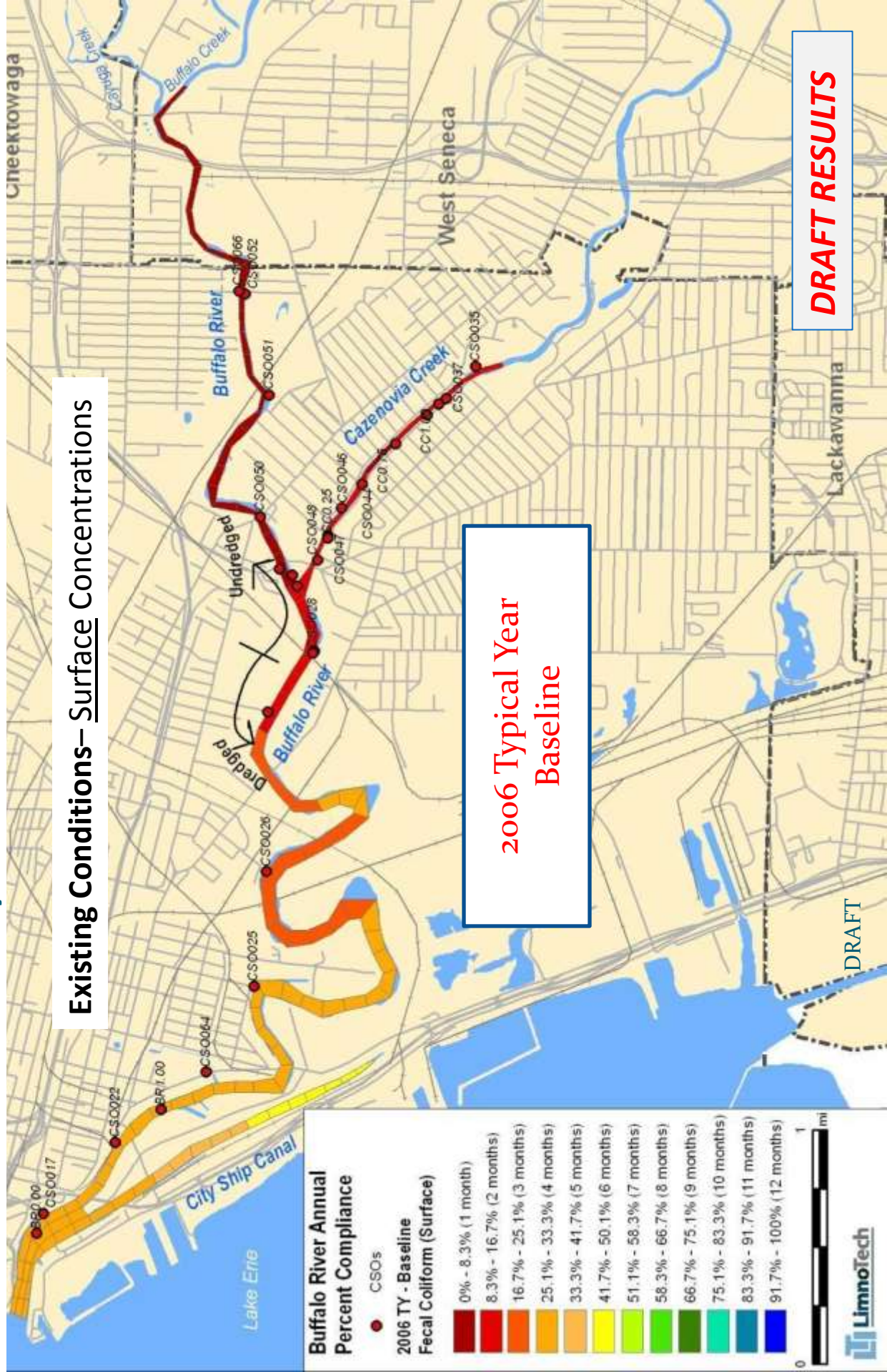
# Water Quality Model Results for Existing Conditions

- Water Quality Model Evaluates Fecal Coliform and Dissolved Oxygen as Parameters of Concern
- Baseline
  - Existing conditions for flow and concentration of all sources (CSOs and Background Loads)
- No CSO Discharges
  - CSO flows and concentrations = 0
  - Background flows and concentrations at existing conditions
- Additional Scenarios to Evaluate Impact of Background Concentrations:
  - Background at 75% of Water Quality Standard (WQS)
  - No CSO Discharges and Background at 75% of WQS



# Buffalo River Fecal Coliform: Monthly Geomean $\leq 200$ #/100 mL

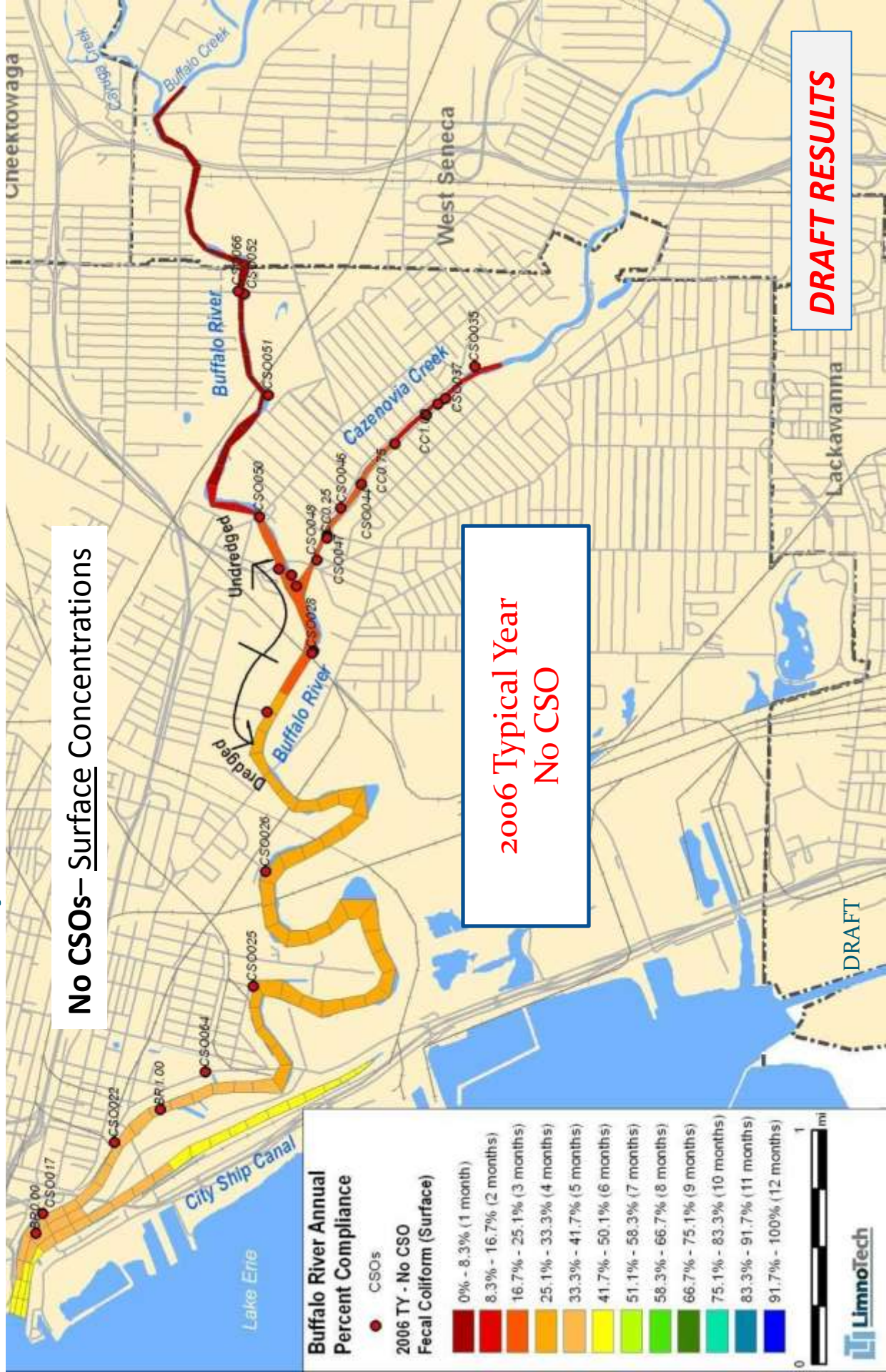
Existing Conditions— Surface Concentrations





# Buffalo River Fecal Coliform: Monthly Geomean $\leq 200$ #/100 mL

No CSOs— Surface Concentrations



# Summary of Existing Conditions

- CSOs are Primary Contributor to Non-Attainment of Water Quality Standards in Certain Water Bodies
  - Black Rock Canal
  - Lower Scajaquada Creek (below Grant Street Dam)
  - Erie Basin Marina
- Background (upstream) Sources (point and non-point source pollution) are Primary Contributor to Non-attainment of Water Quality Standards in Other Water Bodies
  - Buffalo River / Cazenovia Creek
- Niagara River Currently Meets Water Quality Standards
- Knowledge of Existing Conditions will Drive a Water Quality-Focused Approach to CSO Abatement



# Agenda

- Background
- Control Objectives/Project Approach
- Project Status Update
- Existing Conditions
- **Alternative Analysis**
- Next Steps
- Questions/Comments





# Alternatives Overview

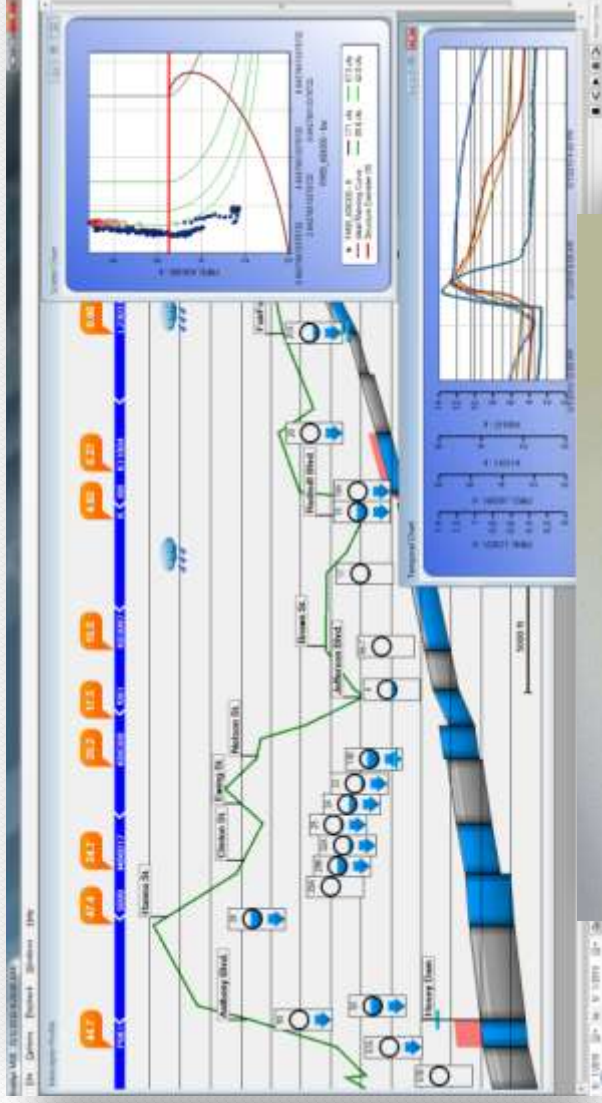
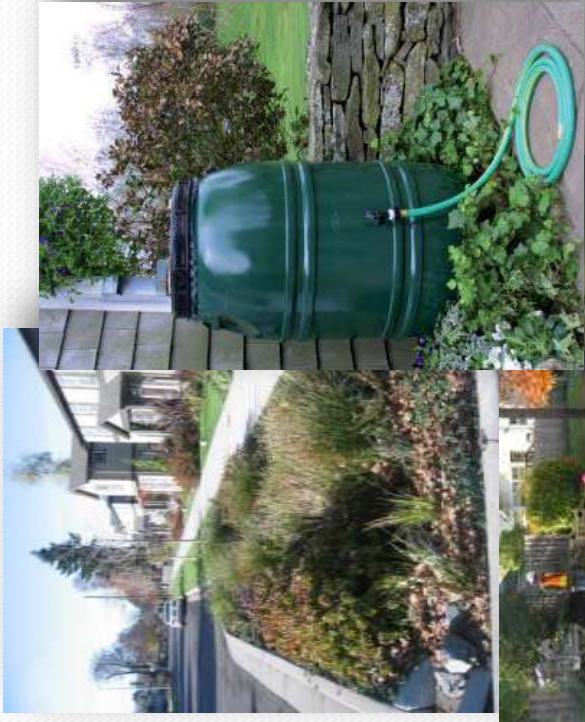
- Cost-effective Blend of Traditional/Gray and Emerging/Green Technologies
- Water body Focused (not system-wide), Publicly-Funded Gray Alternatives
- City-wide Publicly and Privately-funded Green Alternatives
  - Infrastructure based (pervious pavement, rain garden)
  - Private property (downspout disconnect/rain barrel)
  - New development (Green Code)

# Types of Technologies Considered – Traditional / Gray





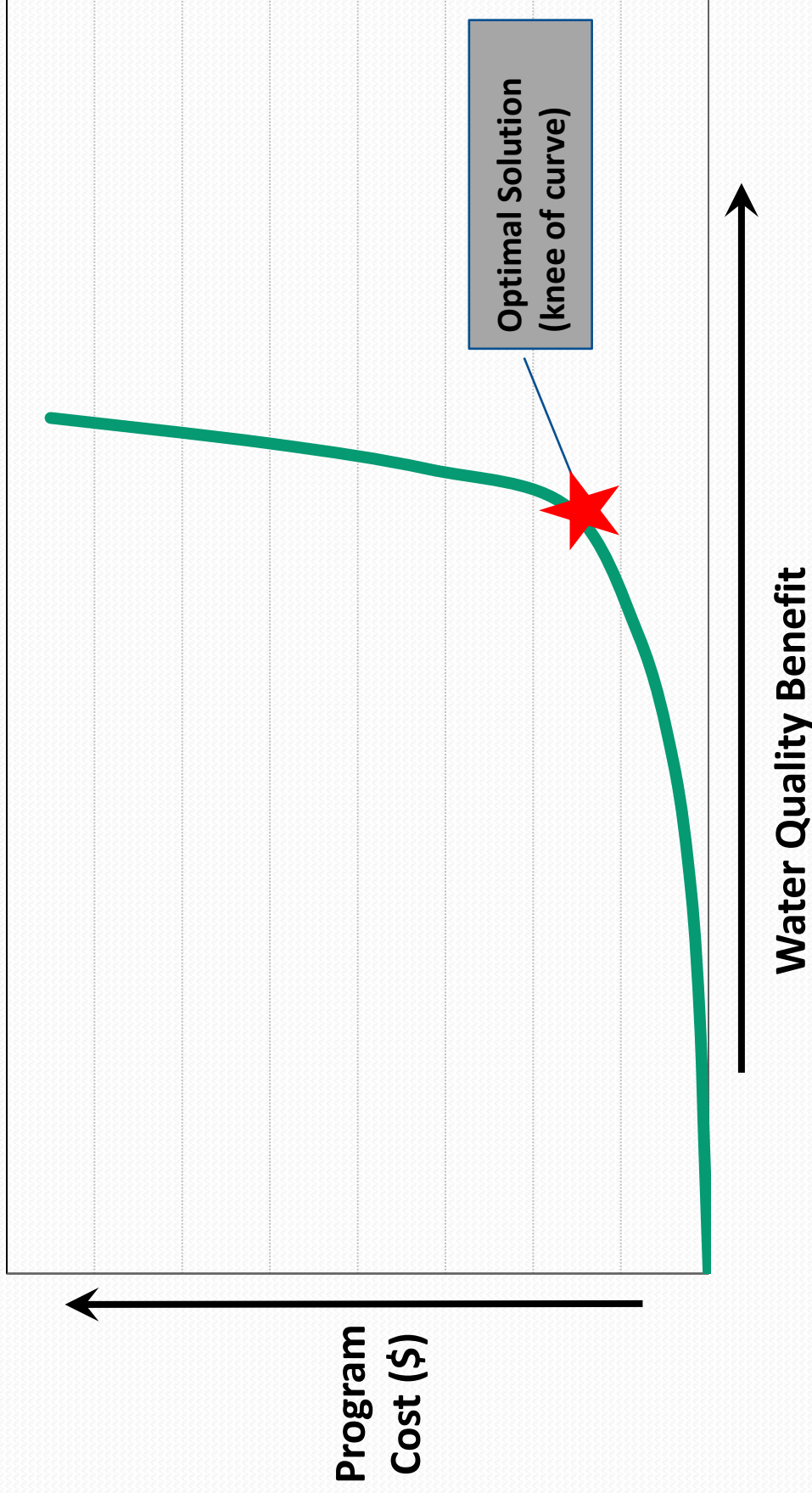
# Types of Technologies Considered – Emerging/Green Technologies



# Alternatives Being Evaluated

- Baseline (Do Nothing More than what has Already Been Done)
- Foundation Approach (Builds upon Baseline with System Optimization, Emerging/Green Technologies)
  - Projects committed to by BSA
  - Approximately \$40 Million in project costs
- USEPA System-wide Approach
  - Range of levels of control (12, 6, 4, 2, 0 overflow events per year)
  - Focus on traditional gray technologies
- BSA Preferred Water Quality Approach

# Cost/Benefit Analysis





# Agenda

- Background
- Control Objectives/Project Approach
- Project Status Update
- Existing Conditions
- Alternative Analysis
- **Next Steps**
- Questions/Comments





# Next Steps

- Complete Collection System Modeling of Abatement Alternatives
- Conduct Water Quality Modeling to Evaluate Alternative Benefits
- Cost Estimating and Rate Impact
- Cost/Benefit Analysis
- Selection of Preferred Alternative
- Submit Updated LTCP to Regulatory Agencies
- Begin LTCP Implementation

*Parallel Path – Successful Negotiation of Consent Decree*





# Agenda

- Background
- Control Objectives/Project Approach
- Project Status Update
- Existing Conditions
- Alternative Analysis
- Next Steps
- **Questions/Comments**



# Project Contact Information

- Project website: [BSACSOimprovements.org](http://BSACSOimprovements.org)
- E-mail: [LTCP@sa.ci.buffalo.ny.us](mailto:LTCP@sa.ci.buffalo.ny.us)
- BSA: Dave Comerford, General Manager
  - 851-4664
- Malcolm Pirnie/ARCADIS: Mike Quinn, Project Manager
  - 667-0900
  - [Michael.J.Quinn@arcadis-us.com](mailto:Michael.J.Quinn@arcadis-us.com)

# Questions





**Buffalo Sewer Authority**  
**CSO Improvements Project –Community Meeting No. 4 (Round 2)**  
**Northwest Buffalo Community Center**  
**December 5, 2011**

**Sign In Sheet**

|    | Name (Please Print) | Address   | Phone Number | Email                                  |
|----|---------------------|---|--------------|--|
| 1  | RONALD A. CARNEVALE | WEST SIDE BUSINESS & TAXPAYERS ASSOC. PRESIDENT<br>P.O. BOX 526 BFO. N.Y. 14213 | 639-1401     | RUFFIANO1000@YAHOO.COM                 |
| 2  | EVERAN VOSSLER      | 273 RIVERSIDE AVE 14207   | 830-9817     | grammyeve@yahoo.com                    |
| 3  | Jim VOSSLER         | "   | "            | "                                      |
| 4  | Nate Drag           | 825 Ashland Ave Bldg NY<br>14222  | 716-673-6612 | natedrag@gmail.com                     |
| 5  | MARK KOBINIEC       | 1602 EMMETT AVE 14207   | 716-877-8166 | MARKUB1@HOTMAIL.COM                    |
| 6  | Matt Kuffman        | 175 Potomac Ave 14213   | 716-803-9241 | Kauuffman.m@gmail.com                  |
| 7  | Olivia Hawbaker     | 63 Claremont Ave 14222  |              |  |
| 8  | Jim Ng              | 63 Claremont Ave 14222  | 716-445-2916 | <del>jim</del> greyhoundlong@gmail.com |
| 9  | Paul Riesten        | 262 Woodbridge Ave 14214  | 716-517-5862 | paulhriester@yahoo.com                 |
| 10 | FRAN WAGNER         | 108 FEABODY ST BFO 14210  | 716-860-4979 | FRANIMAL10@LIVE.COM                    |

11 Yuri Hreshchyskyyn 4 Bowers St. Bof 14210 2216 716-392-9657 yuri.hreshchyskyyn@gmail.com



**Buffalo Sewer Authority**  
**CSO Improvements Project –Community Meeting No. 5 (Round 2)**  
**Frank E. Merriweather, Jr. Library**  
**December 6, 2011**

**Sign In Sheet**

|    | Name (Please Print)   | Address                             | Phone Number    | Email                       | How did you hear about this meeting? |
|----|---|-------------------------------------|-----------------|-----------------------------|--------------------------------------|
| 1  | DAVE<br>ISAKER  | 21 PARKSIDE AV<br>BUFFALO NY 14214  | 716-837<br>1911 | DISAKER@AOL.COM             | BSUF<br>NEWS                         |
| 2  | MAKEN BOARDMAN  |                                     |                 | Buffalo Niagara Riverkeeper |                                      |
| 3  | Tim Lehnen  |                                     |                 |                             |                                      |
| 4  | ALAN OLSEN  |                                     |                 | AKO_NSO@HOTMAIL.COM         | BNRK                                 |
| 5  | BRUCE FISHER  | 420 CUMMERS<br>GRS                  | 878-3202        | fisherbl@burlington.edu     |                                      |
| 6  | TUNNANER Cleveland for<br>Legislator Barbara Mills-Williams | 427 William St<br>Buffalo, NY 14204 | 842-0491        | tunanner@gmail.com          |                                      |
| 7  |   |                                     |                 |                             |                                      |
| 8  |   |                                     |                 |                             |                                      |
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**Buffalo Sewer Authority**  
**CSO Improvements Project –Community Meeting No. 6 (Round 2)**  
**Matt Urban Center**  
**December 8, 2011**

**Sign In Sheet**

|    | Name (Please Print) | Address          | Phone Number | Email                      | How did you hear about this meeting? |
|----|---------------------|------------------|--------------|----------------------------|--------------------------------------|
| 1  | Rob Locey           | 270 Michigan Ave | 851-7070     | RLOCEY@CW.DEC.STATE.NY.US  |                                      |
| 2  | Gordon Williams     | 48 Courtland Ave | 502-6080697  | Blike Glory@aol.com        | MUC                                  |
| 3  | Babara Rickard      | 810 Talm         | 8310 6430    | N/A                        |                                      |
| 4  | Kim Irvine          | Buffalo State    | 878 6204     | irvinekne@buffalostate.edu | email                                |
| 5  | DAVE MAJEWSKI       |                  |              |                            | //                                   |
| 6  | DONNA MAJEWski      |                  |              |                            | //                                   |
| 7  |                     |                  |              |                            |                                      |
| 8  |                     |                  |              |                            |                                      |
| 9  |                     |                  |              |                            |                                      |
| 10 |                     |                  |              |                            |                                      |



**Buffalo Sewer Authority**  
**Long Term Control Plan Update / Public Participation**

**Community Meetings - Round 2**  
**Question and Answer Summary**

1. How many overflow incidents occur annually?
  - Varies widely, but anywhere between 1-100.
2. How many gallons go untreated?
  - About 2 billion per year.
3. How many combined sewers are upstream?
  - None. All upstream satellite communities are served by separate sewer systems.
4. Has BSA considered two-tier rate structure; especially businesses that contribute to CSO's or mandate they put in programs to mitigate?
  - At this point, a two tiered rate structure is not under consideration. Mandates may be considered in the future for such things as downspout disconnects and storm water controls associated with new development. The BSA already has the authority and is currently requesting certain controls for new development.
5. Does the city have retention areas?
  - Yes, a few in different areas of city, mainly associated with newly developed residential areas.
6. Any thought to allowing flow through locks to mitigate CSO's in Black Rock?
  - This concept has been evaluated and it was determined to be unfeasible due to the volume of water that would need to be moved to provide a positive water quality impact.
7. There must be direct inflow, especially in Cazenovia Creek area?
  - There is some, some from West Seneca.
8. How often is there a fecal overflow incident in the River, is ECWA's Van de Water plant notified?
  - Overflows occasionally occur in the River and at this point there is no procedure in place or requirement to notify downstream water treatment facilities. Conversations with the facility operators indicate that CSO do not pose a problem.
9. Of CSO's in the city system, which ones lend themselves to off-line storage?
  - Initial evaluations suggest that the five largest CSOs are candidates for offsite storage. Hydraulic and water quality modeling efforts may identify more.

10. Is black water going into the Hamburg drain?
- Currently there are CSOs tributary to the Drain. One project is under construction and a second is under design to reduce the impact of the CSOs on the Drain and downstream Inner Harbor area.
11. Why is the Amherst Quarry never filled during rain events?
- The project that was supposed to be constructed to utilize the quarry for storage was never constructed; this is something that will be addressed under this LTCP.
12. Are comments from public recorded and part of record?
- Yes. Submit record of comments as part of the BSA's LTCP submittal.
13. Does BSA have a consent decree?
- Not at this time; it is currently being negotiated.
14. Is there an ongoing capital improvement program at the plant?
- Yes, the LTCP improvements are in addition to capital improvement projects at the plant.
15. What was percent capture 10-15 years ago?
- Approximately in the 80% range.
16. If there was rainfall diversion from other municipalities, wouldn't it reduce rates?
- No; since the formula for charges is based on flow, tributary municipalities may see a reduction, but if decreased volume is sent to the BSA, the BSA will receive less revenue.
17. Does BSA treat a lot of flow from surrounding areas?
- Yes, BSA was built for industrial capacity, so the system handles all flows very well during normal flows, but has problems during extreme wet weather.
18. Are permeable surfaces available for Buffalo?
- Currently there are conceptual plans for the introduction of permeable pavements into the Green Infrastructure program. Permeable pavement will be part of the pilot project for CSO 60.
19. Is there a way to show which CSOs have 'fired' during a wet weather event?
- There is not at this time any real time indication of CSO activation. BSA identifies which CSOs have activated based on post event inspection. There are however, some emerging technologies and post-construction methods that will address real-time information. These technologies are being implemented in other areas and may ultimately become part of the BSA program.
20. Does BSA have real time data for flow of rain events?
- No. It's more of a prediction based on previous flow and rainfall monitoring; not real time measurement. Flow monitoring will be part of the post construction monitoring program.

21. What is the quality of water after treated at the plant?

- Water is high quality and meets all current standards as set by the NYSDEC under the Facility's discharge permit.

22. Are there 68 CSOs in the city?

- Originally there were, however, after completing a number of construction projects over the past decade, the number has been reduced to 58.

23. Any CSOs that discharge into Outer Harbor?

- No.

24. Are the Watershed Recreational Used Study survey results available?

- As this document is currently under review by the EPA and the DEC, they are not available for public information. Once the document has been approved, it will become part of the LTCP at which point it will become an appendix to LTCP.

25. Is the CSO program driven by municipalities down river?

- No, it's driven by EPA policy.

26. Is the city still moving forward with the rain barrel program?

- Currently the BSA is doing two pilot programs in the city. Pilots are intended to document the effectiveness of the program as well as the level of participation. The BSA Plans to expand the program city wide over the next few years.

27. With the present sewer system we have now, who is being impacted? Why do we need to change? Who is going to pay?

- Federal law and signatories of international treaty are dictating change. Not up to ratepayers, but they will be ultimately responsible.

28. If the analysis is rate based, the BSA is missing 2 revenue streams – Great Lakes Restoration Initiative (GLRI) and NYPA. BSA should tap those possible revenue sources.

- The BSA is identifying a number of potential funding streams; however, the Financial Capability Analysis must be based on the ability of a municipality to self fund the improvements.

29. When was sewer system built?

- Between approximately 1890-1930. At that time the system was state-of-the-art.

30. Don't think the rain barrel program has a real impact, only 55 gallons and they can fill up quickly.

- The rain barrels are secondary to the downspout disconnection. Rain barrels are a personal preference in most cases, but may be needed depending on the location of the downspouts. Rain barrels can however save people a little money on water costs as the collected water can be used for watering lawns and gardens.

31. How does the BSA attach a figure from the stress put on the system from parking lots/strip plazas?

- Too complicated to attach a number. Our preferred approach is BSA implement requirements for stormwater management and they comply as a condition of being connected to BSA's system.

32. Can't we look at other cities to help us determine what programs and which technologies work best?

- BSA does look at other cities and member of industry associations, but not many areas to look at, especially in northeast. Different site and soil conditions may also result in different results in different cities for the same technology.

33. How is water quality tested in rivers/streams?

- Samples are taken directly from water ways and analyzed and tested.





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# Home

## Combined Sewer Overflows: The BSA's Long Term Control Plan

The Buffalo Sewer Authority (BSA) has developed this website to provide information about the development of their Long Term control Plan (LTCP) for Combined Sewer Overflow (CSO) improvements. The purpose of this site is to provide a better understanding of CSOs and present what the BSA is proactively doing to minimize the occurrence of CSOs and improve water quality for the residents of Buffalo.

For more information on the BSA, click here to go to the BSA's website.

<http://www.city-buffalo.com/bsa>



## Contact Us

Contact us with any additional questions or comments via email at [LTCP@sa.ci.buffalo.ny.us](mailto:LTCP@sa.ci.buffalo.ny.us).

## Latest News

- [BSA Progressing on CSO Plan](#)
- [Round 2 of Community Meetings](#)
- [Round 1 of Community Meetings](#)

## Quick Link Resources

[Acronyms & Abbreviations \(PDF\)](#)  
[Upcoming Public Meetings](#)

May 8, 2011 - Apr 15, 2012

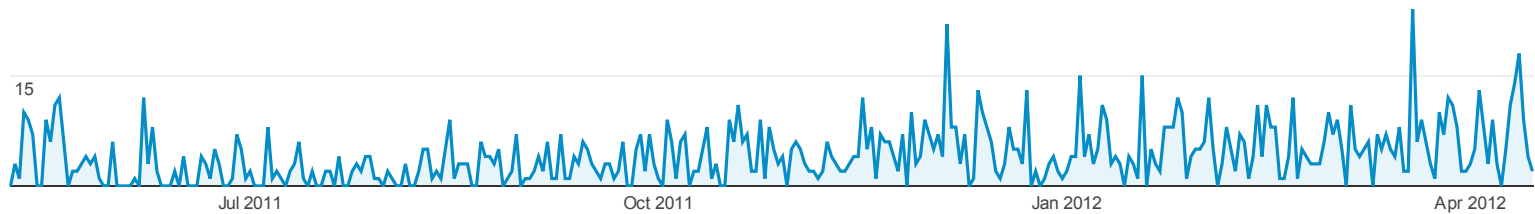
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**From:** [ltcp](mailto:ltcp)  
**To:** [cjacobs@avadev.com](mailto:cjacobs@avadev.com); [jgolombek@ch.ci.buffalo.ny.us](mailto:jgolombek@ch.ci.buffalo.ny.us); [ecala@facilities.buffalo.edu](mailto:ecala@facilities.buffalo.edu); [Rev Fred Jensen](#)  
**Subject:** Re: question regarding metals  
**Date:** Wednesday, December 21, 2011 9:37:46 AM

---

Mr. Jensen,

The BSA has an Industrial Pretreatment Program that has been developed to identify the sources of all industrial wastewater discharged to the sewer system and sets limits on that discharge to prevent pollutants, such as heavy metals from being discharged into the sewer system above levels that can be adequately handled by the processes at the Bird Island Wastewater Treatment Plant (WWTP). In the event that a waste stream from given source is above those limits, industries are required to pre-treat their wastewater prior to discharging to the sewers to meet these limits. The Industrial Pretreatment Program staff routinely monitor industrial discharges for compliance with limits and potential interference at the WWTP.

With regard to your suggestion of the creation of an "artificial swamp" as a tool to treat combined sewer overflows, the BSA is currently developing a concept to construct a wetland at the foot of Smith Street. This demonstration project will allow the BSA to test the effectiveness of this type of green treatment alternatives in part for the types of criteria that you mentioned for combined sewer overflows.

Thank you for your interest.

>>> Rev Fred Jensen <[revfredj@verizon.net](mailto:revfredj@verizon.net)> 12/7/2011 9:52 AM >>>  
Hello Buffalo Sewage Authority;

I am CCing this to Chris Jacobs and Joe Golombek, because people in the government might want to hear this too.

I am aware of the overflow problem the Authority is working on.

I attended the pollution prevention program that the Clean Air Coalition sponsored last night, and it made me wonder about something. Does the Sewage Authority deal with heavy metals in the wastewater? If so, how are heavy metals handled? Is there a process by which heavy metals are removed from water? If so, how much energy does this take? I have an idea about how heavy metals might be handled in an environmentally-friendly way. In short, an artificial reed swamp could be created. Reeds can absorb heavy metals. It could be fertilized with coffee grounds, which also absorb heavy metals. (Coffee grounds also absorb odors.) Such a swamp might serve to store water, preventing or reducing the overflow problem the authority has. The swamp would contain a lot of carbon - so it would be a carbon-offset, which is rapidly becoming a valuable asset. Some time in the future, the artificial swamp could be mined for biofuels and metals, which would help to pay for it.

So, in short, an artificial swamp could potentially help with heavy metals and sewage overflow, and would also have the added benefit of sequestering carbon and being a mine for biofuels and heavy metals.

Fred Jensen

**From:** [ltcp](#)  
**To:** [Mark K.](#)  
**Subject:** Re: LTCP comments  
**Date:** Wednesday, December 21, 2011 9:39:33 AM

---

Mr. Kubiniec,

With respect to your first question, the City of Buffalo is looking to re-establish the existing groundwater recharge system in the area of Scajaquada Creek and Hoyt Lake that will improve freshwater flow through this area. The BSA is not directly involved in this effort and is not aware of the schedule and what the resulting impact may be from the recharge system. Once we know more about the system, our hydraulic and water quality models will be adjusted accordingly to evaluate the potential impact. With regard to creation of a bypass for the Black Rock Canal Locks, the BSA has evaluated this concept and due in large part to the very large volume of water that would need to be moved through the bypass it was determined to be infeasible.

The BSA already has the authority and is currently requesting certain stormwater controls for new development. As for creating incentives for entities that remove stormwater from the sewer system, it is difficult to develop a fair program for lower rates considering that sewer billing is based on water consumption and not water discharged to the sewers. The BSA is considering the potential to help offset stormwater control costs for developers as an incentive to implement green alternatives for stormwater control.

Regarding your third question, please keep in mind that the Town of Tonawanda may not be a fair comparison as it is a separate sanitary sewer system. As a separate system, stormwater connections to the sanitary system are illegal and the Town has the legal authority to enforce downspout disconnections. At this time and since building downspouts are a designed component of the the combined system, the BSA does not have similar authority to mandate disconnections. However, the BSA considers downspout disconnection to be a very important component of the overall solution and as such is currently pilot testing this concept on a volunteer basis at no cost to home owners in two areas of the City.

Thank you for your interest.

>>> Mark K. <Markubi@hotmail.com> 12/5/2011 9:43 PM >>>  
LTCP comments  
12/5/11

1. Address CSO input into Scajaquada Creek and Black Rock Canal by introducing freshwater into Scajaquada Creek from the Jubilee Spring on Delaware Ave./Forest Lawn Cemetery, then creating a bypass at the Black Rock Canal outlet by opening an exit for the Canal Basin into the Niagara River around the Black Rock Lock.
2. Create incentives for large producers of storm water surges (shopping center/factories/schools/institutions etc..). with large roofs and parking areas to disconnect from the storm water system. Incentives such as lower sewer rates, tax credits, direct subsidies, etc... would underwrite the capital costs to property owners and make economic sense.
3. Require downspout disconnection to sewer system as a condition of property sale as is done in suburban communities (i.e. Tonawanda).

Thank you

Mark Kubiniec

**From:** [ltcp](#)  
**To:** [twocupsofdecaf@roadrunner.com](mailto:twocupsofdecaf@roadrunner.com)  
**Subject:** Re: CSP meetings  
**Date:** Wednesday, December 21, 2011 9:36:44 AM

---

Ms. Szczepaniec,

It is unfortunate that you were not able to attend the meetings; public participation is a very important part of the process and one which the BSA takes seriously. The larger the attendance at these meetings is, the better the outcome of the overall program will be. We will add your email to the distribution list for future notices. We also will make an effort to provide additional advanced notice for the next round of meetings.

Thank you.

>>> <[twocupsofdecaf@roadrunner.com](mailto:twocupsofdecaf@roadrunner.com)> 12/9/2011 12:16 PM >>>

To whom it may concern:

would you please add me to your email list when notifying people of upcoming CSO project meetings. I received a forward for the last meeting this past Friday for a Monday meeting. I could not attend as I had a prior meeting, and holiday commitments for the Tues. & Wed. meeting.

A little more notice would be a good thing.

Please respond back with a confirmation that I will be added to the email notification list.

Thank you,

Margaret Szczepaniec



**From:** [Quinn, Michael J.](#)  
**To:** [Dave Comerford \(dcomerford@sa.ci.buffalo.ny.us\)](#); [Oluwole McFoy](#); [Derrigan, Lisa J.](#); [Hintz, Angela](#); [Earl Wells III](#); [Brian Gould](#)  
**Subject:** Phone Call  
**Date:** Thursday, January 26, 2012 4:34:21 PM

---

All;

I just received a phone call from Margaret Szczepaniec from the group that is working on the Black Rock Canal Park near CSO 055. It was a very cordial conversation but there was something under the surface. She was asking for descriptions and schedules of what we intend to do up there. I basically told her that I wasn't able to give her that type of information as we are still in the process of developing the plan and the schedule. She knew that it was going to be a long term project but certainly wants something done. I told her that we were aware of the park and that CSO work was going to be done across the city and not just focused on certain areas. I told her that the purpose for the next round of meetings was to present the plan. To that end, she did complain that we did not get the message out for the last round long enough in advance and I told her that we understood and have some better mechanisms in place for the next round. I suspect that we may get a few other people from her group at the next meeting. Another interesting note is that she has butted heads with River Keeper on a number of occasions and the former executive director in particular. Not sure what that meant but oh well. Some other colorful conversation but I'll leave that for another time.

Mike

Michael J. Quinn, PE | Principal-in-Charge | [michael.j.quinn@arcadis-us.com](mailto:michael.j.quinn@arcadis-us.com)

Malcolm Pirnie, the Water Division of ARCADIS. | 50 Fountain Plaza, Suite 600 | Buffalo NY 14202  
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**Appendix 1-7:** Public Notice and Community Meeting  
Documentation (2012)

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# THE BUFFALO NEWS

## -Affidavit-

Marcy Lombardo of the City of Buffalo, New York, being duly sworn, deposes and says that he/she is Principal Clerk of THE BUFFALO NEWS INC., Publisher of THE BUFFALO NEWS, a newspaper published in said city, that the notice of which the annexed printed slip taken from said newspaper is a copy, was inserted and published therein **3** times, the first insertion being on **05/04/2012** and the last insertion being on **05/14/2012**

Marcy Lombardo

Dates Ad Ran:

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Buffalo News (P1) 05/09/12

Buffalo News (P1) 05/14/12

Sworn to before me this 14<sup>th</sup> day of, May 2012

Lori A. Nieves  
Notary Public, Erie County, New York

LORI A. NIEVES  
Notary Public, State of New York  
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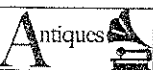
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Mon-Fri, 8 a.m. to 6 p.m.

**750 Legal/Public Notices****STATE UNIVERSITY CONSTRUCTION FUND**

The State University Construction Fund will receive sealed Proposals for Project No. 28438 Titled Biomed Education Building - HVAC Improvements Phase 1 at State University of New York at Buffalo South Campus, June 6, 2012, 2:00 p.m. Local Time at the Fund's Office at State Univ. Plaza, 353 Broadway, Albany, NY 12246, where such proposals will be publicly opened and read aloud.

The Bidder agrees that they shall complete all work necessary for substantial completion within 390 calendar days from receipt of the Notice to Proceed.

The Fund's project specific goals for this project are 10% MBE and 10% WBE.

A pre-bid conference and project walk through will be held on May 17, 2012 with all contractors assembled at Biomed Education Building ground floor lobby at 1:00pm

Plans will be available on May 9, 2012 from Rotolite Elliott Corporation whom can be contacted by phone at (585) 385-1463 or by Fax at (585) 385-2190. Bidders will be able to access the project online at the Printer's web site:

[www.rotoliteelliott.com](http://www.rotoliteelliott.com)

Once on the website, click on "Plan Well" and then click on the link for "SUCF 28438".

Bidding and Contract Documents may be examined free of charge at the campus and at:

Consultant's Office  
LaBella Associates, PC  
300 State Street,  
Suite 201  
Rochester, NY 14614  
Brandon Farnsworth-Weinblatt  
585-454-6110

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Rochester, NY 14625

Bids must be submitted in duplicate in accordance with the instructions contained in the information for Bidders. Security will be required for each bid in an amount not less than five (5) percent of the Total Bid.

It is the policy of the State of New York and the Fund to encourage minority/women's business enterprise participation in this project by contractors, subcontractors and suppliers, and all bidders are expected to cooperate in implementing this policy.

The Fund reserves the right to reject any or all bids.

**STATE UNIVERSITY CONSTRUCTION FUND****PUBLIC NOTICE**

The Buffalo Sewer Authority (BSA) is currently developing a Long Term Control Plan (LTCP) to abate Combined Sewer Overflow (CSO) discharges from the BSA's sewer system in accordance with the Clean Water Act and applicable State law. The LTCP is available for public review and the BSA welcomes comments and suggestions from the public. The LTCP may be viewed on the BSA's LTCP website at: [www.bsacsoimprovements.org](http://www.bsacsoimprovements.org) or by visiting the BSA office at 1038 City Hall, Buffalo, New York or the Office of the City Clerk at 1308 City Hall (Monday-Friday, from 8:30 a.m. to 4:00 p.m., excluding May 28), and at the Buffalo and Erie County Public Library (Central) at One Lafayette Square, Buffalo, New York during its regular hours of service. Persons requesting reproduction of the LTCP, in whole or in part, will be subject to paying the actual cost of reproduction in accordance with the Freedom of Information Law §87. Comments and suggestions may be submitted until June 4, 2012, in writing, either via e-mail at: [LTCP@sa.ci.buffalo.ny.us](mailto:LTCP@sa.ci.buffalo.ny.us) or by delivery to the BSA at 1038 City Hall, Buffalo, New York 14202.

**750 Legal/Public Notices**

In addition, the BSA will conduct meetings at three community centers in the City of Buffalo during May at which the public is invited to hear presentations on the LTCP and submit comments and suggestions beginning at 6:00 p.m. on: Tuesday, May 15, at Pratt Willert Community Center, 422 Pratt Street; Wednesday, May 16, at Seneca-Babcock Community Center, 1168 Seneca Street; and Thursday, May 17, at North Buffalo Community Center, 203 Sanders Road.



The Pike Company is soliciting quotes for the NYSDOT Accelerated Bridge Program Phase 1B Zone 3 on 5/18/11 at 12:00 pm from local DBE's certified with the State of NY. Please Contact John Dexter at 585-271-5256 or [dextj@pikeco.com](mailto:dextj@pikeco.com) for further information. EOE

**TO BIDDERS**

Sealed bids are requested by the Erie 2-Chautauqua-Cattaraugus Board of Cooperative Educational Services (BOCES) and Component Schools for

**USED TRACTOR TRAILER TRUCK W/SLEEPER**

Bids will be received until May 23, 2012 at 11AM by the

Erie 2-Chautauqua-Cattaraugus BOCES  
6685 Erie Rd. (Rt. 5)  
Angola, NY 14006  
716-549-4454 x 4047  
By: Tina Ellis,  
Bid Coordinator

at which time and place they will be publicly opened and read.

Specifications and bid forms may be obtained on-line at [www.westernnybidsystem.com](http://www.westernnybidsystem.com) vendor registration may be required.

Erie 2-Chautauqua-Cattaraugus Board of Cooperative Educational Services reserves the right to reject any and all bids, to waive any informalities therein and to hold all bids for a period of sixty days for proper analysis.

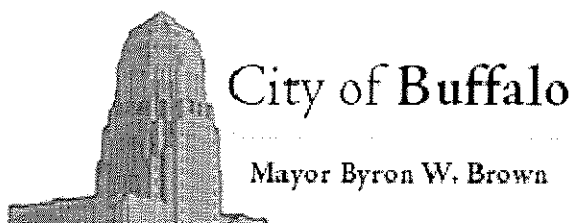
**BUYING SELLING RENTING**  
One call does it all!  
**News Classified 856-5555**

**Niagara Mohawk Power Corporation d/b/a National Grid**

**PURPOSE:** THE FILING OF A GENERAL INCREASE IN ELECTRIC RATES IN THE AMOUNT OF \$130.7 MILLION BASED ON THE FORECAST RATE YEAR, TWELVE MONTHS ENDING MARCH 31, 2014.

**TEXT:** Notice is hereby given that Niagara Mohawk Power Corporation d/b/a National Grid (Company) has filed with the New York State Public Service commission (PSC) proposed tariff amendments to its PSC No. 220 and 214 Electricity tariffs. The Company is proposing an increase in electric delivery rates and merchant function charges of approximately \$130.7. The Company has filed for an effective date of June 1, 2012, however, the Company's proposal is subject to suspension and review by the PSC. After suspension and review,





For the 25th year in a row GFOA issues Certificate of Achievement for Excellence in Financial Reporting to Buffalo Sewer Authority.

Press Release: 03/08/2012

**PUBLIC NOTICE** - The Buffalo Sewer Authority (BSA) is currently developing a Long Term Control Plan (LTCP) to abate Combined Sewer Overflow (CSO) discharges from the BSA's sewer system in accordance with the Clean Water Act and applicable State law. The LTCP is available for public review and the BSA welcomes comments and suggestions from the public. The LTCP may be viewed on the BSA's LTCP website at: [www.bsacsoimprovements.org](http://www.bsacsoimprovements.org) or by visiting the BSA office at 1038 City Hall, Buffalo, New York or the Office of the City Clerk at 1308 City Hall (Monday–Friday, from 8:30 a.m. to 4:00 p.m., excluding May 28), and at the Buffalo and Erie County Public Library (Central) at One Lafayette Square, Buffalo, New York during its regular hours of service. Read More...

— full notice is attached



*"Providing a high level of sanitary benefits to the community we serve."*

To report immediate or emergency sewer problems, please call 883-1820 ext. 601 (Monday Thur Friday, 7:30am - 4:00pm) or 883-1820 ext. 509 (weekdays after 4:00pm, weekends and holidays)

For all other sewer-related complaints, please follow this link to the [Mayor's Call and Resolution Center](#).

**Administrative Offices**

1038 City Hall  
65 Niagara Square  
Buffalo NY 14202-3378  
Phone: (716) 851-4664  
Fax: (716) 856-5810

**Wastewater Treatment Plant**

Foot of West Ferry  
90 West Ferry Street  
Buffalo NY 14213-1799  
Phone: (716) 883-1820  
Fax: (716) 883-3789

Press Release: 3/18/2012

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Photos by Angel Art LTP, compliments of the [Greater Buffalo Convention and Visitors Bureau](#). Additional photos by [Adrian Roselli](#), compliments of [Algonquin Studios](#). Additional Photos by Christina Cooke.

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## PUBLIC NOTICE

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**AM-POL EAGLE**

3620 Harlem Road  
Cheektowaga, New York 14215  
716-835-9454, Fax: 716-835-9457  
advertising@ampoleagle.com

Affidavit of Publication Under Section 206 Limited Liability Company Law  
State of New York  
County of Erie, SS:

MAY 21 ST, 2012

The undersigned, is the Publisher of the  
AM-POL EAGLE, a Weekly Newspaper published  
in Erie County, New York. A notice regarding  
Buffalo Sewer Authority/Long Term Control Plan

was published in said newspaper once each  
week for 2 consecutive weeks, commencing  
on 5/10/2012 and ending on 5/17/2012.

The Text of the Notice as published in said  
newspaper is as set forth below, or in the annexed  
exhibit. This newspaper has been designated by  
the Clerk of Erie County for this purpose.

By: Christine Kane

Christine Kane, Authorized Designee of  
Roger Puchalski, Publisher  
of Am-Pol Eagle

SWORN TO ME ,  
THIS 21 ST, DAY OF MAY  
2012

Nadine M Brzezinski  
Notary Public, Erie County New York

NADINE M BRZEZINSKI  
Lic. #01BR6229391  
Notary Public-State of New York  
Qualified in ERIE  
My Commission Expires 10/12/20 14

## PUBLIC NOTICE

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# AFFIDAVIT OF PUBLICATION

Under Section \_\_\_\_\_ of the Limited Liability Company Law

Under Section \_\_\_\_\_ of the Partnership Law

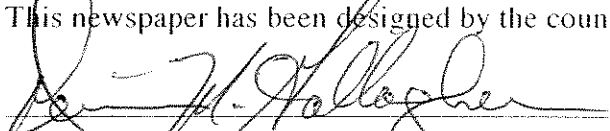
State of New York

County of Erie, ss

The undersigned is an authorized designee of  
Dennis M. Gallagher,  
The publisher of The Buffalo Rocket, a weekly newspaper  
published in Buffalo, New York.

A notice regarding Buffalo Sewer Authority LTCP  
was published once in each week for 2 successive weeks,  
commencing on Issue #19, May 10, 2012  
and ending on Issue #20, May 17, 2012

The text of the notice as published in said newspaper is as set forth below, or in the annexed exhibit.  
This newspaper has been designed by the county clerk of Erie county for this purpose.

  
(Signature of authorized designee of Publisher)

Dennis M. Gallagher

(Printed name of authorized designee of Publisher)

Subscribed and sworn to before me this 20<sup>th</sup> day of May, 2012

  
(Notary Public Signature)

Andrea M. Altman  
(Notary Public Printed Name)

(Insert stamp of notary below. Include notary number, county of qualification, and commission expiration date.)

Andrea M. Altman  
Notary Public, State of New York  
No. 01DA6165872  
Qualified in Erie County  
Commission Expires May 14, 2015

## **PUBLIC NOTICE**

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# Front Page Group Inc.

Publishers of the  
Front Page and South Buffalo News

Serving Lackawanna, Blasdell, Woodlawn, West Seneca, South Buffalo and Hamburg  
2703 South Park Ave., Buffalo, NY 14218 • Phone (716) 823-8222 • Fax 939-3924

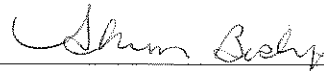
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Travelers were said Tuesday May 15.

State of New York     )  
                                      ) SS  
County of Erie         )

Sharon Bishop, being duly sworn, deposes and says that she is publisher of the **FRONT PAGE**, a weekly newspaper published in the City of Lackawanna, Village of Blasdell, Town of Hamburg and Town of West Seneca; County of Erie, State of New York; and the **SOUTH BUFFALO NEWS**, a weekly newspaper published in said City, that the notice of which the annexed printed slip taken from said newspapers is a copy, was inserted and published therein **once** a week for **two** week(s), the first insertion being on the **9th** day of **May, 2012** and the last insertion being on the **16th** day of **May, 2012** and not more than **7** days intervened between any two publications thereof.



Sharon Bishop

Sworn to before me this 16th day of May, 2012



Heather M. Pham  
COMMISSIONER OF DEEDS  
City of Lackawanna, New York  
County of Erie  
My Commission Expires Dec. 31, 2012



**FOR IMMEDIATE RELEASE**  
April 18, 2011

Contacts:  
Brian A. Gould  
e3communications  
716-854-8182

**BUFFALO SEWER AUTHORITY ANNOUNCES 3<sup>rd</sup> ROUND OF PUBLIC OUTREACH MEETINGS TO DISCUSS FINAL ABATEMENT PLAN FOR COMBINED SEWER OVERFLOWS**

***BSA Close to Finalizing Long-Term Sewer Overflow Control Program***

BUFFALO, NY – The Buffalo Sewer Authority (BSA) is currently developing a Long Term Control Plan (LTCP) for the reduction of combined sewer overflows (CSOs) associated with the City's sewer system. CSOs occur when precipitation-related flows overwhelm the sewer system causing untreated sewage to be discharged into area waterways. The BSA is conducting its third round of community outreach meetings at various locations throughout the City of Buffalo to discuss steps the BSA has taken to develop a LTCP. After months of extensive negotiations between BSA and the U.S. Environmental Protection Agency (EPA) and the state's Department of Environmental Conservation (DEC), EPA ordered BSA to submit a final plan by April 30<sup>th</sup>.

The third round of community meetings will begin at 6 p.m. and will focus on the BSA's preferred alternative to reduce the CSOs and the estimated costs associated with the recommended alternative. The meetings will be held at the following locations in the City of Buffalo:

- **Tuesday, May 15<sup>th</sup> at the Pratt Willert Community Center; 422 Pratt Street**
- **Wednesday, May 16<sup>th</sup> at the Seneca-Babcock Community Center, 1168 Seneca Street; and**
- **Thursday, May 17<sup>th</sup> at the North Buffalo Community Center, 203 Sanders Road.**

**-more-**

“Because the discharge resulting from combined sewer overflows in the BSA system may impact water quality in rivers and streams, we must develop a long term program to minimize such discharges,” said David P. Comerford, General Manager of the BSA. “As part of this process, over the past year we have solicited public input to ensure that our program helps achieve our objective and is cost-effective. After several months of detailed analysis we are now ready to present the community our preferred alternative for the Long Term Control Plan and provide additional information on what that will mean for the community and BSA ratepayers.”

For more information, individuals should visit the project web site at [BSAcsimprovements.org](http://BSAcsimprovements.org) or email the BSA at [LTCP@sa.ci.buffalo.ny.us](mailto:LTCP@sa.ci.buffalo.ny.us).

-30-

**About the Buffalo Sewer Authority:**

The Buffalo Sewer Authority is a public wastewater utility that was created through an Act of the New York State Legislature in 1935. The BSA covers 110 square miles and serves approximately 450,000 in the City of Buffalo and surrounding communities. The BSA manages the Bird Island Wastewater Treatment Plant, which is the second largest such facility in New York State. There are 850 miles of sewer mains under the auspices of the BSA.





## **NOTICE OF PUBLIC MEETING**

- Who:** The Buffalo Sewer Authority
- What:** Community Outreach Meeting
- When:** Tuesday, May 15<sup>th</sup>, at 6:00 p.m.
- Where:** Pratt Willert Community Center  
**422 Pratt Street, Buffalo, NY 14204**

The Buffalo Sewer Authority (BSA) is inviting interested members of the community to learn about the BSA's recommended Long Term Control Plan (LTCP) to reduce or eliminate combined sewer overflows into our local waterways and the costs associated with the recommended LTCP. This issue impacts all residents and businesses in the City of Buffalo. All are encouraged to attend.



## **NOTICE OF PUBLIC MEETING**

- Who:** The Buffalo Sewer Authority
- What:** Community Outreach Meeting
- When:** **Wednesday, May 16<sup>th</sup>, at 6:00 p.m.**
- Where:** **Seneca Babcock Community Center**  
**1168 Seneca Street, Buffalo, NY 14210**

The Buffalo Sewer Authority (BSA) is inviting interested members of the community to learn about the BSA's recommended Long Term Control Plan (LTCP) to reduce or eliminate combined sewer overflows into our local waterways and the costs associated with the recommended LTCP. This issue impacts all residents and businesses in the City of Buffalo. All are encouraged to attend.



## **NOTICE OF PUBLIC MEETING**

- Who:** The Buffalo Sewer Authority
- What:** Community Outreach Meeting
- When:** Thursday, May 17<sup>th</sup>, at 6:00 p.m.
- Where:** North Buffalo Community Center, 6:00p.m  
203 Sanders Road, Buffalo, NY 14216

The Buffalo Sewer Authority (BSA) is inviting interested members of the community to learn about the BSA's recommended Long Term Control Plan (LTCP) to reduce or eliminate combined sewer overflows into our local waterways and the costs associated with the recommended LTCP. This issue impacts all residents and businesses in the City of Buffalo. All are encouraged to attend.



# Buffalo Sewer Authority Long Term Control Plan for Combined Sewer Overflows

Community Meeting No. 3  
Presentation of Recommended Plan  
May 2012

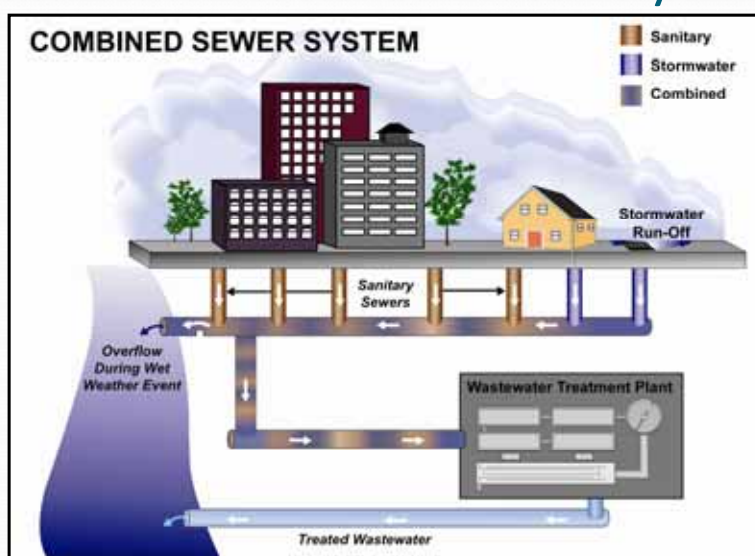
## Agenda

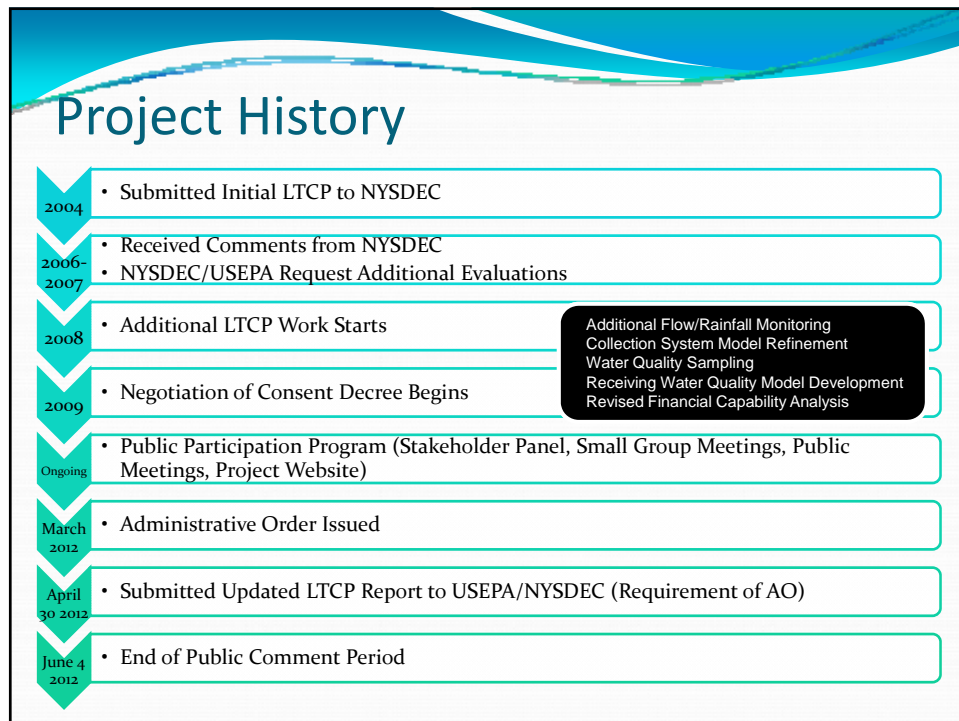
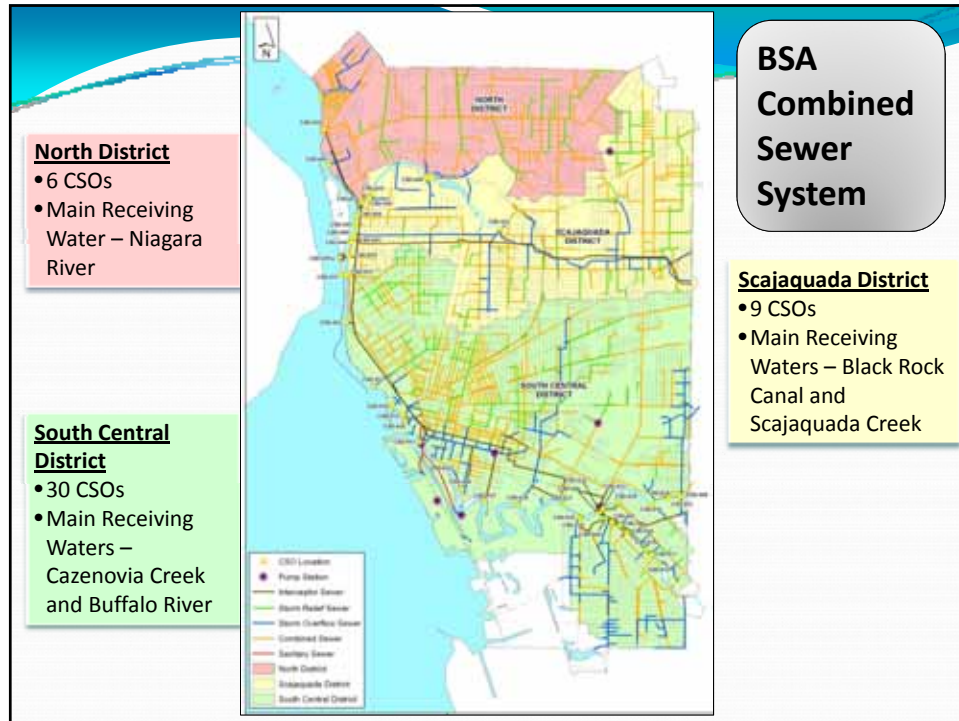
- Background
- Project History
- LTCP Development and Selection of Preferred Alternative
- 2012 Recommended Plan
- Financial Capability Assessment
- Administrative Order
- What's Next?
- How Can You Help?

## BSA's Long Term Control Plan, Why We are Here

- Multi-million Dollar, Multi-year Program to Abate Impacts of CSOs and Improve Water Quality
- Drivers:
  - Federal Clean Water Act (CWA)
  - USEPA CSO Policy
  - NYSDEC Permit
  - Administrative Order
- Requires Public Participation and Stakeholder Input
- To Date, BSA (since 2000) has Invested Over \$40 Million in Development of the LTCP and Ongoing Construction of CSO Controls/ Improvements

## What is a Combined Sewer System?







## LTCP Development

- Detailed Collection System and Water Quality Modeling
- Comprehensive Alternatives Evaluation
  - Included Emerging Technologies [Green Infrastructure (GI) and Real Time Control (RTC)]
- Cost Evaluation for Each Alternative
- Financial Capability Analysis Revision
- Updated Draft LTCP Report was Delivered to the USEPA and NYSDEC on April 30, 2012 (in accordance with the Administrative Order)
- 30-day Public Comment Period Commenced May 4, 2012

## System-wide Alternatives Evaluated

| Alt. | Description   | RTC | GI | Satellite Treatment | Satellite Storage | Tunnel | North Relief | Partial System Separation |
|------|---|-----|----|---------------------|-------------------|--------|--------------|---------------------------|
| UA1  | Updated 2004 Preferred System-wide Alternative with Original Foundation     |     |    | X                   | X                 | X      |              | X                         |
| UA2  | RTC + GI + North Relief (1) + Revised Foundation + Selected Elements of UA1 | X   | X  | X                   | X                 | X      | X            |                           |
| UA3  | System-wide Tunnel + Revised Foundation                                     | X   |    |                     | X                 | X      |              |                           |
| UA3A | System-wide Tunnel + Revised Foundation + North Relief (1)                  | X   |    | X                   | X                 | X      | X            |                           |

NOTES: (1) For Alternatives UA2 and UA3A, EHRT will be required for higher levels of control, but not universally.

RTC = Real Time Control

GI = Green Infrastructure

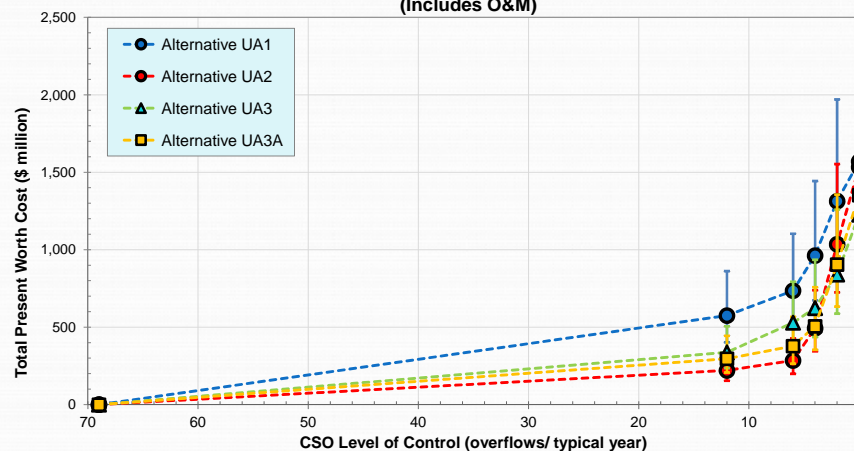
EHRT = Enhanced High Rate Treatment

## Selection of 2012 Preferred Alternative

- Developed Each Alternative for 5 Different System-wide “Sizes” or Levels of Control (LOCs)
  - Generally corresponding to 12, 6, 4, 2, and 0 events in a typical year
- Evaluated Alternatives for:
  - Water quality standard attainment for each receiving water body (RWB)
  - Cost-benefit curves (knee of the curve)
    - Cost vs. Percent Capture system-wide
    - Cost vs. Overflow Frequency Activation for each RWB and system-wide
    - Cost vs. Remaining Overflow Volume for each RWB and system-wide
    - Cost vs. Remaining Pollutant (Bacteria) Loadings for each RWB and system-wide
    - UA2 generally most cost-effective at knee of curve
- Developed Preferred Alternative / Costs
- Implementation Schedule
- Performed GI sensitivity

## Example Cost-Benefit Curve: Cost vs. Overflow Frequency Activation

Cost-Performance Curves for System-wide Alternatives  
Present Worth Cost vs. Overflow Frequency  
(Includes O&M)



## Rationale for Selecting the Recommended Alternative

- Based on System-wide Alternative UA2
- Provides NYS Water Quality Standard Attainment in All Receiving Water Bodies
- Addresses Sensitive Area (Erie Basin)
- Includes Significant Yet Manageable GI Program
- Meets or Exceeds the Knee-of-the-Curve Levels from the Cost-Benefit Evaluations
- Exceeds USEPA CSO Control Policy Guidelines for Percent Capture

## Recommended Plan – Major Project Components

- Revised Foundation Projects
  - Combination of ongoing and completed projects, system optimizations, pilot GI projects, and cost-effective RTC projects
- Green Infrastructure Projects
  - System-wide control of up to 20% of impervious surfaces (publicly-owned)
  - Mixture of rain gardens, pervious pavement, downspout disconnection/rain barrel, and vacant lot storage/infiltration
- Gray Infrastructure Projects
  - Black Rock Canal and Niagara River – relief sewer / offline storage
  - Scajaquada Creek – offline storage
  - Buffalo River / Cazenovia Creek – offline storage
  - Erie Basin – offline storage



## Recommended Plan - Proposed Green Infrastructure Acreage

| Receiving Water     | Area Managed by GI (acres) |
|---------------------|----------------------------|
| Black Rock Canal    | 168                        |
| Buffalo River       | 418                        |
| Cazenovia Creek - B | 3                          |
| Cazenovia Creek - C | 60                         |
| Erie Basin          | 49                         |
| Niagara River       | 412                        |
| Scajaquada Creek    | 510                        |
| <b>Total</b>        | <b>1,620</b>               |

## Summary of Recommended Plan Performance

| Receiving Water Body          | Approximate Annual Baseline Activations | Approximate Annual Baseline CSO Volume (MG) | Anticipated Annual Activations | Annual Residual CSO Volume (MG) | WQS Percent Attainment for Bacteria |
|-------------------------------|---|---|--------------------------------|---------------------------------|-------------------------------------|
| Black Rock Canal              | ≤65                                     | 319.3                                       | 0 – 4                          | 33.1                            | 100%                                |
| Buffalo River                 | ≤69                                     | 379.7                                       | 2 – 6                          | 180.9                           | 100%                                |
| Cazenovia Cr.-B               | ≤5                                      | 0.9   | 0                              | 0.0                             | 100%                                |
| Cazenovia Cr.-C               | ≤44                                     | 35.6  | 0 – 6                          | 15.0                            | 100%                                |
| Erie Basin                    | <12                                     | 10.3  | 0 - 2                          | 3.2                             | 100%                                |
| Niagara River (incl. CSO 055) | <41                                     | 735.5                                       | 4 - 9                          | 207.9                           | 100%                                |
| Scajaquada Creek              | ≤65                                     | 271.0                                       | 0 - 4                          | 46.2                            | 100%                                |
| <b>Totals</b>                 | NA                                      | 1752.3                                      | NA                             | 486.3                           | NA                                  |
| <b>Percent Capture</b>        | NA                                      | 91.3%                                       | NA                             | 97.4%                           | NA                                  |

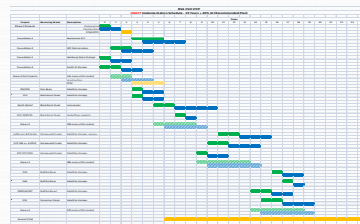


## Recommended Plan - Probable Project Costs

- Range of Probable Project Costs
  - Capital from \$270 to \$340 Million
  - O&M \$350,000 per year
  - Total probable project cost \$284 to \$350 Million (20-year present worth)
- Cost Estimating Methods (Identifies Range of Costs)
  - Planning level cost curves (unit cost based, similar projects completed across the country)
  - Enhanced planning level (similar local projects, more detailed sizing, site conditions, local experience, etc.)

## Recommended Plan – Implementation Schedule

- Proposed Schedule for 19-Year Implementation Period
- Consistent with Other Municipalities' Programs
- Allows Appropriate Amount of Time to Construct
- Allows for GI and RTC Pilot Projects
- Allows for Right-sizing of Improvements
- Affords Greatest Level of Cost Management





## Financial Capability Assessment (FCA) Background & Demographics

- The City of Buffalo is Financially Stressed by Any Objective Measure
  - Third poorest City in US with population > 250,000
  - City Median Household Income (MHI) is 40% below the National MHI
  - Over 70 % of City households below National MHI
  - 35% of City households already exceed USEPA's suggested affordability threshold of 2%
  - Approx. 50% delinquency rate on sewer bills (> 10% of households in severe delinquency)
- Even using USEPA's Financial Capability Guidance (based primarily on MHI), the City will be Heavily Burdened to Implement the Recommended Plan

## FCA for BSA

- BSA Updated the Financial Capability Assessment (FCA) Originally Submitted in 2004 (update prepared by CRA)
- Goals
  - Evaluate the financial resources available
  - Consider the financial impact on residential users
  - Help establish an implementation schedule for the LTCP
- Factors Considered
  - Comparison to National Averages
  - MHI
  - Indebtedness, Unemployment
  - Revenue Collection Rates
  - Property Values
  - Other Capital Work (WWTP)

| <i>Indicator</i>                | <i>Actual Value</i> | <i>Rating</i> | <i>Score</i> |
|---------------------------------|---------------------|---------------|--------------|
| Bond Ratings                    | N/A                 | N/A           | N/A          |
| Overall Net Debt of FMPV        | 6.58%               | Weak          | 1            |
| Unemployment Rate               | 1.26%               | Weak          | 1            |
| Median Household Income         | -42.39%             | Weak          | 1            |
| Property Tax Revenue            | 2.58%               | Mid-Range     | 2            |
| Property Tax Collection Rate    | 93.81%              | Weak          | 1            |
| <b>FCI</b>                      |                     |               | <b>1.20</b>  |
| (Sum Score ÷ Number of Entries) |                     |               | <b>Weak</b>  |

## FCA Results

| Financial Capability Indicator Score<br>(Socioeconomic & Financial Indicators) | Residential Indicator<br>(Cost per Household as % of MHI) |  |   |
|--|---|--|---|
|  | Low<br>Below 1.0%   | Mid Range<br>Between 1.0% - 2.0%               | High<br>Above 2.0%                            |
| <b>Weak</b><br>Below 1.5   | Medium Burden   | High Burden<br><i>1.3% Before Improvements</i> | High Burden<br><i>2.3% After Improvements</i> |
| <b>Mid Range</b><br>1.5 – 2.5  | Low Burden  | Medium Burden                                  | High Burden                                   |
| <b>Strong</b><br>Above 2.5   | Low Burden  | Low Burden                                     | Medium Burden                                 |

Source: USEPA CSOs - Guidance for Financial Capability Assessment and Schedule Development, 1997

## Administrative Order (AO)

- Issued to BSA March 9, 2012 to Require Update of 2004 LTCP
- Project Specific Requirements
  - April 30, 2012 due date for LTCP submittal
  - Reiterated LTCP components
  - All work complete by December 31, 2027 (15 years)
- Effect on Recommended Plan and Implementation Schedule
  - Higher financial burden
  - Potential reduction in GI control levels
  - Less opportunity to right-size improvements
  - Possibly an all gray program
- LTCP Now Subject to USEPA Review and Approval
- Correspondence Suggests USEPA Willing to Consider 19-Year Alternative

## AO-Driven 15-Year Plan

- Virtually the Same Gray Improvement Projects within Impacted Water Bodies (focus on Erie Basin, BRC and Scajaquada Creek)
  - Relief sewer
  - Offline storage at multiple locations
- Reduced GI Control Measures
- Meets WQS
- Reduced Percent Capture / LOC



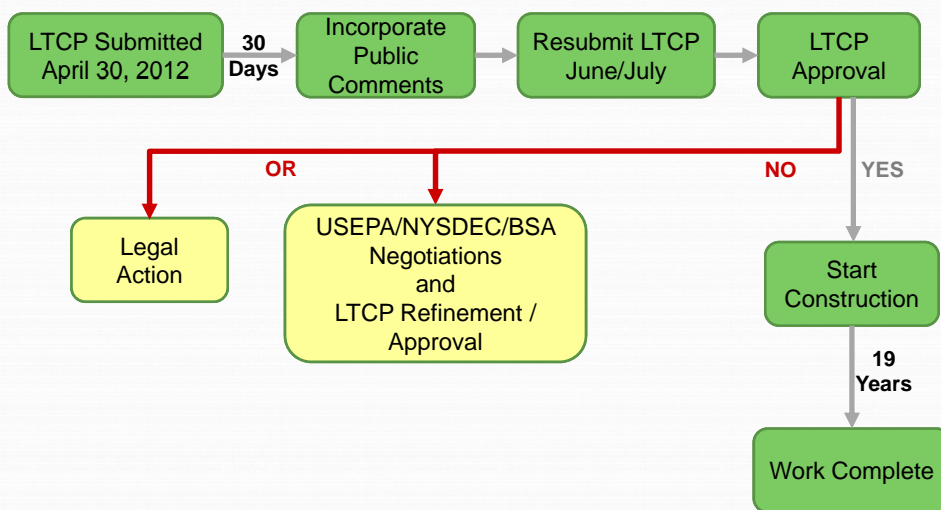
## Benefits of BSA Recommended 19-Year Plan vs. AO-Driven 15-Year

- Allows BSA to Better Manage /Control the Financial Burden
- Minimizes Disruption
- Allows Time for Enhanced Community Input
- Provides More Time to Coordinate LTCP Projects with Other Community Development/Redevelopment Initiatives
- Facilitates Effectiveness Evaluation and Implementation of Large GI Component
- Allows for Resizing Gray Infrastructure if Necessary
- Allows Time to Negotiate Rights-of-way and Land for the Proposed Projects

## Summary of BSA Recommended Plan

- Meets WQS
- Water Body Specific
- Cost-effective Mix of Gray and Emerging Technologies (GI and RTC)
- 19-Year Implementation Schedule
- Controls Financial Burden

## What's Next?



## How Can You Help? Downspout Disconnect/Rain Barrel Installation

- Reductions in Stormwater Volume to Combined Sewers will Help Reduce CSO Compliance Costs
- Rain Barrels will Save Most Homeowners about 1,300 Gallons of Water During the Peak Summer Months (equates to roughly \$35 per summer)
- Ongoing Initiatives
  - Hamlin Park Pilot Project
  - First Ward Pilot Project
- BSA Currently will Provide Disconnection Services at No Capital Cost to Homeowner



## LTCP Availability and Project Contact Information

- 2012 LTCP is Available for Public Review at:
  - Project website: [www.bsacsoimprovements.org](http://www.bsacsoimprovements.org)
  - BSA Office: 1038 City Hall
  - City Clerk's Office: 1308 City Hall
  - Buffalo & Erie County Public Library – Central Branch
- Written Comments can be Submitted to:
  - E-mail: [LTCP@sa.ci.buffalo.ny.us](mailto:LTCP@sa.ci.buffalo.ny.us)
  - BSA Office: 1038 City Hall, Buffalo, NY 14202

***All Comments Must be Submitted in Writing by June 4, 2012***





Questions / Comments ?



**BSA LTCP Community Meeting – Round 3**  
**Pratt Willert Center – May 15, 2012**  
**Sign In Sheet**

| Name (Please Print) | How did you hear about this meeting? | Mailing Address  | Email                       |
|---------------------|--------------------------------------|--|-----------------------------|
| Steve & Nagarski    | email/ Buffalo Rising                | 36 Trinity Pl 14201 (Buffalo, NY)<br>greenintentions@hotmail.com → |                             |
| Jessie Fisher       | Riverkeeper                          | 1250 Niagara St.<br>Buffo  | jfisher@riverkeeper.org     |
| Mark Bogdan         | "                                    | "  | mbogdan@riverkeeper.org     |
| STEVE SIMON         | "                                    | UNILOCK INC. 510 SMITH ST.<br>BUFFALO, N.Y. 14210-1288             | STEVE.SIMON@UNILOCK.COM     |
| LATOYA Ranselle     | mail Ellicott District               | Ellicott District office<br>City Hall 1410                         |                             |
| Bonnie Lockwood     | e-mail                               | Rep. Higgins<br>726 Exchange St Suite 601<br>Buffo NY 14210        | bonnie.lockwood@nyc.nyc.gov |
| Peter Sowiski       | e-mail                               | 9 Lafayette Ave<br>Buffo NY 14213                                  | petersowiski@verizon.net    |
| Barbara Rowe        | e-mail                               | " "  | barbara.rowe@verizon.net    |
| ALAN OBERST         | THE TWITTERS                         |  | AKO_NSOC@HOTMAIL.COM        |
| Yuri Hreshchyskyn   | e-mail                               | 4 Pomeroy St, Buffalo NY 14210 2216                                | yuri.hreshchyskyn@qwest.com |
|                     |                                      |  |                             |

**BSA LTCP Community Meeting – Round 3**  
**Seneca Babcock Community Center – May 16, 2012**  
**Sign In Sheet**

| Name (Please Print) | How did you hear about this meeting? | Mailing Address  | Email                   |
|---------------------|--------------------------------------|--|-------------------------|
| MARK BOGDAN         | RIVERKEEPER                          | mbogdan@briverkeeper.org →   |                         |
| Elizabeth Robson    | CONFA NOTIFICATION                   | 386 Walden Ave Bflo, N.Y. 14211                                    |                         |
| Jack Wagner         | Seneca Block BABCOCK CLUB            | HAPPYJACK39@hotmail.com<br>108 Penbody St. Bflo 14210              | 822-2589                |
| Margu Ryan          | notification                         | 25 COOLIDGE Rd Bflo 14220  |                         |
| Bill Lewis          | Marge Ryan                           | Sen Tim Kennedy's office   |                         |
| STEVE SIMON         | RIVERKEEPER                          | STEVE.SIMON@UNILOCK.COM →  |                         |
| Art Robinson        | Seneca Babcock Block Club            | 192 Maurice St   | RB215801@aol.com        |
| Mark Stevens        | South Fillmore Block Club            | 812 Fillmore Ave   | wadmasster@gmail.com    |
| Rosaleen Nogle      | Councilman Rivers's Newsletter       | 100 Baynes St, 14213   |                         |
| MARK RAYBUCK        | NRR / website Riverkeeper            | 40 La River Dr, Suite 350<br>Buffalo, NY 14202                     | mark.raybuck@parson.com |
| Rebekah Williams    | Riverkeeper                          | Community Foundation for Greater Bfb<br>712 Main St, Bflo 14202    | Rebekahw@cfgb.org       |
| Andre McKnight      | Riverkeeper                          | Groundwork Buffalo<br>237 Main St. Suite 1200<br>Buffalo, NY 14203 |                         |

**BSA LTCP Community Meeting – Round 3**  
**Seneca Babcock Community Center – May 16, 2012**  
**Sign In Sheet**

| Name (Please Print)        | How did you hear about this meeting? | Mailing Address  | Email                      |
|----------------------------|--------------------------------------|--|----------------------------|
| Paul Harris                | Bill Park                            | 798 Fillmore   | paulvharris@hotmail.com    |
| Jordan Dalton              | Riverkeeper                          | 29 Hwt, Buffalo, 14213   | jordan.a.dalton@gmail.com  |
| Katy Brun                  | "                                    | " "  | kathy.n.brun@gmail.com     |
| Julie O'Neill              | citizen                              | 666 Potomac Ave<br>Buffalo, 14222                              | jbooblow@gmail.com         |
| Victoria Lehr              | website                              | 1555 Palm Beach Lakes Blvd STE 1105<br>W. Palm Beach, FL 33418 | VICTORIA.LEHRE@PARSONS.COM |
| Doug Taylor                | Website                              | 13582 Miller Rd.<br>Albion, NY 14411                           | dougls.taylor@parsons.com  |
| Nicole Lipp                | BSA                                  | 46 Essex   | nlipp@bnriverkeeper.org    |
| Sarah Cunningham           | Riverkeeper                          |  | scunningham1@gmail.com     |
| Dave Hinkle                | CJ Ag                                | 440 Lueder Pkwy<br>Buffalo, NY 14226                           | dhinkle@bnriverkeeper.org  |
| Joseph J Gould             | Riverkeeper & CJ Ag                  | 119 Bidwell Pkwy (Apt #2)<br>Buffalo, NY 14222                 | gouljj10@me.com            |
| Sandy Chelkov<br>(Chelkov) | WNY Env. Alliance                    | 11352 Blanchard Rd.<br>Holland, NY                             | echelkov@gmail.com         |

# Sign In Sheet

[illegible]



**Buffalo Sewer Authority**  
**CSO Improvements Project –Community Meeting No. 9 (Round 3 - FINAL)**  
**North Buffalo Community Center**  
**May 17, 2012**

**Sign In Sheet**

|    | Name (Please Print)                         | Address                    | Phone Number | Email                         | How did you hear about this meeting? |
|----|---|----------------------------|--------------|-------------------------------|--------------------------------------|
| 1  | SUE KELLEY                                  |                            | 716-348-2370 | STK411@gmail.com              | BFLO RIVERKEEPERS                    |
| 2  | STEVE SIMON                                 |                            | 716-818-6686 | STEVE.SIMON@UNILOCK.COM       | "                                    |
| 3  | JIM CAMPOLONG                               |                            | 716-827-8000 | JCAMPOLONG@NUSSCLARKE.COM     | BSA WEBSITE                          |
| 4  | RON DESCHENES                               | 65 Court ST                | 716 854-8705 | DESCHENE@NYSENATE.GOV         | BFLO E-MAIL                          |
| 5  | Black Rock Canal Park<br>LISA M. CZAJKOWSKI | 87 St. Florian St          | 716-877-4912 |                               | Newspaper                            |
| 6  | Black Rock Canal Park<br>Sharon Czajkowski  | 87 St. Florian             | 716 877-4912 | Sharonwantscharley@yahoo.com  | newspaper                            |
| 7  | Mary Perrelli                               | Buffalo State College      | 878-3699     | perrelmf@buffalostate.edu     |                                      |
| 8  | Esmeralda Jimenez                           | 368 Potomac Ave.           | 777-1039     | esme.jimenez@rocketmail.com   | Riverkeeper<br>EMAIL-OSP             |
| 9  | MARGARET SZCZEPANIEC                        | 51 ST. FLORIAN ST<br>14207 | 8756024      | TWOCUPSOFDECAF@ROADRUNNER.COM |                                      |
| 10 | Robert Niermire                             | 800 GRANT STREET           | 884-3330     |                               | " "                                  |



**Buffalo Sewer Authority**  
**CSO Improvements Project –Community Meeting No. 9 (Round 3 - FINAL)**  
**North Buffalo Community Center**  
**May 17, 2012**

**Sign In Sheet**

|    | Name (Please Print) | Address  | Phone Number    | Email                       | How did you hear about this meeting? |
|----|---------------------|--|-----------------|-----------------------------|--------------------------------------|
| 11 | Joanna Panasiewicz  | 95 Franklin St.<br>Bflo, NY 14202                                    | 858-8077        | Joanna.Panasiewicz@erie.gov | email                                |
| 12 | Sean Myers          | 10 Algyle Park<br>Buffalo  |                 | myerssd@gmail.com           |                                      |
| 13 | PAUL TRONOLONE      | 156 STERLING AVE<br>BUFFALO 14216                                    | 812-3112        | ptronolone156@gmail.com     | Riverkeeper                          |
| 14 | David Lanfear       | 31 Brayton St<br>Bflo  | 649-8554        | david@baleonbale.com        | River Keeper                         |
| 15 | Tim Frost           | 53 Henley Rd<br>Bflo 14216   | 810-2669        | timfrost79@msn.com          | Riverkeeper                          |
| 16 | DAVID GAEDDEBT      | 171 SANDERS RD #4<br>BFLD 14216                                      | 447-9206        | dgaedd@netscape.net         | e-mail from Riverkeeper              |
| 17 | Kim Irvine          | Buffalo State College  | 878 6204        | irvinekne@buffalostate.edu  | email                                |
| 18 | Paul McGarvey       | 200 JJ Audubon Plaz<br>Amherst, NY 14228                             | 748-6631        | paul.megarvey@ghd.com       | Team Member                          |
| 19 | Mark Bohdan         | 100 ROBIE ST<br>Buffalo, NY 14210                                    | 912.6858        | mark.bohdan@gmail.com       | Riverkeeper                          |
| 20 | MATT MATISON        | BUFFALO NIAGARA RIVERKEEPER<br>1250 NIAGARA ST.<br>BUFFALO, NY 14213 | 716.852.7483x33 | MATTISON@BNRIVERKEEPER.ORG  | BUFFALO NIAGARA RIVERKEEPER          |





**Buffalo Sewer Authority**  
**CSO Improvements Project –Community Meeting No. 9 (Round 3 - FINAL)**  
**North Buffalo Community Center**  
**May 17, 2012**

**Sign In Sheet**

|    | Name (Please Print) | Address              | Phone Number   | Email                     | How did you hear about this meeting? |
|----|---------------------|----------------------|----------------|---------------------------|--------------------------------------|
| 21 | Patty Macdonald     | 330 Hudson St        | (484) 557-4004 | Pattymacwny@gmail.com     | email from Riverkeeper               |
| 22 | Patty DeVinney      | 207 Pennsylvania St  | 883 0211       | pattydevinney@verizon.net | email                                |
| 23 | Lynda Schmoetzer    | 601 W Ferry 14222    | 883-4078       | lks10@buffalo.edu         | Riverkeeper                          |
| 24 | HEATHER A. Collins  | 454 Colvin Ave 14216 |                |                           | email Riverkeeper                    |
| 25 |                     |                      |                |                           |                                      |
| 26 |                     |                      |                |                           |                                      |
| 27 |                     |                      |                |                           |                                      |
| 28 |                     |                      |                |                           |                                      |
| 29 |                     |                      |                |                           |                                      |
| 30 |                     |                      |                |                           |                                      |

## **Appendix 1-8: Public Comment (2012)**

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#### **2012 Board of Directors**

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Megan Toohey, Vice  
President

John Reinhold, Treasurer

Chip Grieco, Secretary

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Foundation

Mr. David Comerford, Commissioner  
Buffalo Sewer Authority  
Buffalo City Hall, 10<sup>th</sup> Floor  
Buffalo, New York 14201

May 15, 2012

Re: Updated Long Term Control Plan

Dear Mr. Comerford,

Please accept these as our initial comments on the April 2012 Updated Long Term Control Plan. These comments are based on our preliminary reading of the updated document and rely heavily on our meeting with you on Monday, May 13<sup>th</sup>. Depending on answers or comments made at the public meetings this week or changes that the BSA may make after the public comment period, we may revise our comments and re-issue this letter.

Riverkeeper would like to take this opportunity to commend the Buffalo Sewer Authority on revising the proposed Long Term Control Plan to include a substantial investment in green infrastructure (GI) as well as moving away from its reliance on sewer separations.

Riverkeeper supports the BSA's decision to use Alternative UA2 as the preferred alternative. In addition, we support the 19 year time period for implementation with the understanding that the BSA will invest nearly \$10,000,000 in GI demonstration projects within the first five years of implementation and a total of at least \$92,000,000 in green projects overall.

Riverkeeper understands the need to include some gray infrastructure in the LTCP and supports the new Northern Relief Sewer as well as the Real Time Control and sewer patrol point optimizations.

However, the Updated Plan still includes over \$70,000,000 in offline storage facilities. Riverkeeper believes that these projects could and should be replaced with green infrastructure solutions wherever and as much as feasible. From our meeting on May 13<sup>th</sup>, it is our understanding that the BSA is willing to work with Riverkeeper to determine the feasibility of replacing these projects with alternative green infrastructure projects once the metrics from the demonstration projects have been realized. The storage projects we have identified to replace with green projects are:

- CSO 55, 7.5 MG offline storage, \$18,500,000
- CSO 13, .3MG offline storage, \$3,000,000
- SPP 337 - .7MG offline storage, \$4,000,000
- Jefferson & Florida - 2.6MG offline storage, \$9,500,000
- SPP 336a & b - 4.2MG offline storage, \$11,500,000
- CSOs 28, 44, 47 - 2.3MG offline storage, \$12,200,000
- CSO 52 - .6MG offline storage, \$3,900,000
- CSO 64 - .1MG offline storage, \$2,000,000
- CSOs 14 & 15 - 6.7MG offline storage, \$6,700,000

Printed on recycled paper:



Replacing these storage projects with green projects would not only save rate payers money, but would bring a host of additional benefits.

While we understand that BSA is only required to meet Water Quality Standards for bacteria (fecal coliform), keeping stormwater out of the system will have additional benefits to water quality especially as related to Total Suspended Solids (TSS) and Total Kjeldahl Nitrogen (TKN) as well as aesthetic concerns such as floatables and odors. Additionally, green projects bring a high level of residual value to the communities in which they are located in the way of beautification and air quality improvements among others. Green infrastructure also adds value to habitat and ecological projects when integrated with other shoreline planning.

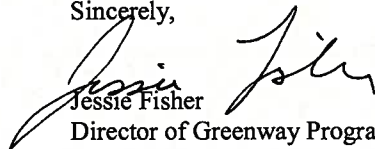
For these reasons, we strongly advocate that the BSA study replacing these storage facilities with green projects where feasible and request that these storage projects are phased in such a way that time is given to conduct the demonstration projects and work with Riverkeeper, the City of Buffalo, and community representatives to identify green project alternatives to these underground storage projects.

It is our understanding that the Consent Order may require a higher degree of specificity regarding the green projects than the BSA is able to provide at this time. Riverkeeper is prepared to work with the BSA and community groups to help identify green projects and storage alternatives so that they may be included in the Updated LTCP if necessary.

Additionally, the BSA should be working closely with other community planning efforts (such as the BOA projects, Green Code, etc.) to ensure that future development projects include on-site stormwater management and thereby stop the cycle of CSOs.

Once again, Riverkeeper would like to recognize the BSA for their work to include Green Infrastructure in the Long Term Control Plan and feels that the BSA's investment in water quality in Western New York is an investment in the quality of life and future economic viability of our region.

Sincerely,



Jessie Fisher  
Director of Greenway Programs and Projects

CC: Congressman Brian Higgins  
Congresswoman Louise Slaughter  
Senator Kristin Gilibrand  
Senator Charles Schumer



**From:** [Schneekloth, Lynda](#)  
**To:** [LTCP@sa.ci.buffalo.ny.us](mailto:LTCP@sa.ci.buffalo.ny.us)  
**Subject:** Long Term Control Plan  
**Date:** Monday, May 21, 2012 2:37:15 PM

---

Dear Commissioner Comerford and EPA,

I am writing in support of Alternative UA2 as the preferred alternative for the Long Term Control Plan implementation. It provides a steady plan, metrics on green infrastructure, and the potential to minimize the storage and pipes. The 20 year time table seems reasonable given we have waited for many years to implement a clean-up. The extra time will put Buffalo's scientific based measurement of green structure in a cold climate in the forefront of green technology. It is a wise move.

Thank you,

Lynda Schneekloth, Chair  
Sierra Club Niagara Group



**From:** [Barbara Rowe](#)  
**To:** [ltcp@sa.ci.buffalo.ny.us](mailto:ltcp@sa.ci.buffalo.ny.us)  
**Subject:** LTCP comment period  
**Date:** Sunday, June 03, 2012 8:37:16 PM  
**Attachments:** [LCTP\\_COMMENT.docx](#)  
[ATT00001.txt](#)

---

Please see attached regarding the Sewer Authority LTCP.

Barbara Rowe  
9 Lafayette Avenue  
Buffalo, NY 14213  
716-882-7914  
Barbara.rowe@verizon.net

June 2, 2012

To Whom It May Concern:

Thank you for the opportunity to comment on the Long Term Control Plan. I have attended two workshops to learn about the planning process and updates on the plans.

I am very much in support of the Sewer Authority's plan to incorporate green infrastructure in this plan. The solutions are forward thinking, creative, and work well with goals for revitalization of Buffalo. The plan, however, must have enough time built into implementation to be successful. I advocate for a longer time period for this project.

In the fall of 2012, I initiated an organization called Vision Niagara. We are a group of stakeholders, including businesses, investors, residents, and community leaders working to revitalize the area of Niagara Street from the section near the Peace Bridge (Busti Avenue) to Scajaquada Creek. We have been meeting monthly to identify opportunities that will strengthen and enhance the visual, economic, and historic character of this area.

One of the ten goals that we identify for this area is the redesign and construction of Niagara Street as a complete and green street, including improvement of traffic flow at key intersections. Currently, Niagara Street's wide surface area, lack of landscaping and relatively low traffic levels encourage high speed traffic through the corridor making pedestrian and bicycle travel dangerous.

A "complete street" provides for the safe, convenient and comfortable travel by foot, bicycle, transit, vehicle, car and truck. A "green street" can be defined to integrate a system of stormwater management within its right of way, be a visible component of "green infrastructure" that is incorporated into the aesthetics of the community, and make the best use of street tree canopy for stormwater interception as well as temperature mitigation and air quality improvement.

The opportunity to address this goal in the LTCP can integrate with other projects already in the works including the reconstruction of Niagara Street from Niagara Square to Virginia Street. The city has identified funding to continue the reconstruction further north and applications for further funding to re-mill and re-stripe the remaining section have been submitted. Also, NFTA has been awarded a multi-million dollar grant to "create a comprehensive urban transit corridor" which is the Niagara Street Corridor.

Although the time frame for SA work in this area is indicated as 3-5 years out, please consider coordinating with other projects involving reconstruction along this corridor and develop complete and green street design for Niagara Street.

Sincerely,

A handwritten signature in blue ink that reads "Barbara Rowe". The signature is fluid and cursive, with the first name "Barbara" and the last name "Rowe" clearly distinguishable.

Barbara Rowe

**From:** [Peter Sowiski](#)  
**To:** [LTCP@sa.ci.buffalo.ny.us](mailto:LTCP@sa.ci.buffalo.ny.us)  
**Subject:** Long Term Control Plan  
**Date:** Monday, June 04, 2012 11:32:19 AM  
**Attachments:** [LTCPletter.doc](#)  
[ATT00001.txt](#)

---

Please find attached comments regarding the LTCP.

LTCP@sa.ci.buffalo.ny.us

June 4, 2012

To Whom It May Concern:

I welcome the opportunity to comment on the Long Term Control Plan. Thanks. I attended two workshops to learn about the planning process and updates.

I am very much in support of the Sewer Authority's plan to incorporate green infrastructure in this plan. The solutions are forward thinking, creative, and work well with goals for revitalization of Buffalo. The plan must have enough time built into implementation to be successful. I advocate for a longer time period for this project.

I am a member of an organization called Vision Niagara. We are a group of stakeholders, including businesses, investors, residents, and community leaders working to revitalize the area of Niagara Street from the section near the Peace Bridge (Busti Avenue) to Scajaquada Creek. We have been meeting monthly to identify opportunities that will strengthen and enhance the visual, economic, and historic character of this area. One of the ten goals that we identify for this area is the redesign and construction of Niagara Street as a complete and green street, including improvement of traffic flow at key intersections. Currently, Niagara Street's width, and lack of landscaping encourage high speeds through the corridor, which makes pedestrian and bicycle travel dangerous. Safety is a concern.

A "complete street" provides for the safe, convenient and comfortable travel by foot, bicycle, transit, vehicle, car and truck. A "green street" can be defined to integrate a system of storm water management within its right of way, be a visible component of "green infrastructure" that is incorporated into the aesthetics of the community, and make the best use of street tree canopy for storm water interception as well as temperature mitigation and air quality improvement.

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Sincerely,

A handwritten signature in blue ink, appearing to read "Peter Smith".

Peter Sowiski □  
9 Lafayette Avenue  
Buffalo, NY 14213  
716-882-7914  
peter.sowiski@verizon.net