Presentation Outline:

• Historical Perspective of the Beaver Creek Sewer District
• Why do we need to do this Project?
• What needs to be done?
• Where is the Project proposed to be built?
• Frequently Asked Questions
• Project Status and Next Steps
• Public Questions and Comments
Beaver Creek

1866
NOTES.
Red lines show the location of Sewers.
The Figures in the Hudson River indicate
the depth at mean low tide.
The green tint indicates water
contaminated with sewage.

1884
The Beaver Creek Sewer District serves 5.2 square miles of the City.
Albany Pool CSO Long Term Control Plan
Combined Sewer Overflows
1946 Map Noting Flooding Problems
Beaver Creek Sewer District
Combined Sewer System

• All the natural stream channels were piped and became trunk sewers by 1940. The floodplains and wetland areas along the streams were filled in and developed, and these areas became more vulnerable to flooding.

• The sanitary wastewater and the storm drainage systems were piped as a single system, a combined sewer system.

• During dry weather periods, all flows are conveyed to the Albany County wastewater treatment plant. When it rains, combined sewage which exceeds the capacity of the plant is discharged to the Hudson River.
Why do we need to do this Project?
Albany Pool CSO Long Term Control Plan

Program Overview

• The Albany Water Board was established in 1988 and owns the water and sewer systems in the City of Albany.
• The Albany Water Board holds the NYSDEC permit for the combined sewage overflows (CSOs) to the Hudson River.
• The Albany Water Board is working cooperatively with Troy, Cohoes, Rensselaer, Green Island and Watervliet (a.k.a., the “Albany CSO Pool Communities”) and the Albany and Rensselaer Sewer Districts to mitigate the impact of CSOs.
Albany Pool CSO Long Term Control Plan
Program Overview

• Clean river initiative to improve “Quality of Life” for Capital District riverfront communities

• Comprehensive regional solution to achieve water quality standards in the Hudson & Mohawk Rivers

• Focused on reductions in the volume of untreated wastewater discharges or combined sewer overflows

• LTCP development began in 2005 with final approval by DEC in January 2014

• 15-Year Implementation Period
Albany Pool CSO Long Term Control Plan
Baseline Annual CSO Statistics

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- Beaver Creek overflows roughly 45 times per year, for a total of 450 hours, and accounts for approximately 532 MG/year of combined flows into the Hudson River

- **Consent Order requires treatment for the Beaver Creek Overflows**
What needs to be done?
Beaver Creek Clean River Project

Annual Operational Period: May thru October

**Screening**
- Capture rags, debris, trash and leaves
- Wash and compact materials for removal from site

**Disinfection**
- Kill bacteria and viruses using a chlorination process
- Reduce untreated wet weather overflows

**Odor Controls**
- Capture and treatment of air within the facility
- **Elimination of odors associated with surface discharges of Beaver Creek in the ravine**

**Community**
- Maintain the visual aesthetics of the area
- Minimize traffic impacts to the local environment
- Incorporate educational features for the project
Beaver Creek Clean River Project

Benefits of the Project

- **Addresses the highest priority CSO outfall as designated by the Department of Environmental Conservation.**

- Provides cleaning of 300 MG on an average annual basis, resulting in the capture of over 85% of the total wet weather flows for the City of Albany.

- Provides the greatest cost-effectiveness in regards to water quality benefits for the Hudson River.
Albany County South Wastewater Treatment Plant

Size of the Site for the CSO Satellite Treatment Facility
Where is the Project proposed to be built?
Current City ordinances prevent the development of critical infrastructure within the 100-year floodplain in conformance with the New York State guidelines.
Concept Layout

Dry Weather Conditions
Area of existing sink holes within chain-link fence

Project allows for repairs to stabilize the area of settlement, and eliminates surface discharges in the ravine

Area of existing surface discharges in the ravine

Concept Layout

Dry Weather Conditions
Proposed access will prevent disturbances to the existing traffic patterns for the school.
Chemical Delivery and Stairwell

Below-Grade Chemical Storage Area

Screening Building

Below-Grade Disinfection Contact Tanks

Chemical Delivery and Stairwell
Beaver Creek Clean River Project
Perspective from the west walkway
Beaver Creek Clean River Project
Perspective from the bottom of the west walkway
Beaver Creek Clean River Project
Perspective from Dr. Martin Luther King, Jr. Boulevard
The “Loop Road Concept” increase parking spaces at the school while reducing the traffic flow through the Park.
Reflection and Learning Garden at Lincoln Park

The project proposes to create usable recreational space for the public.
Frequently Asked Questions
Why is the **Beaver Creek Clean River** Project needed?

- The City of Albany is required to complete this Project under a Consent Decree that was signed with the State and Federal governments in January 2014.
- Capital District communities discharge an average of 1.2 billion gallons of untreated combined sewer flows each year.
- Albany’s Beaver Creek Sewer District (which serves 5.2 square miles) discharges about 530 million gallons, or approximately 45 percent of the volume.
What are the goals of the Project?

- The primary goal of the Project is to reduce the volume of untreated flows discharged to the Hudson River.
- This clean water initiative supports the City’s CSO Long Term Control Plan to achieve State and Federal water quality standards in the Hudson River, and which improves the “quality of life” for residents of the City of Albany and other Capital District communities.
- The proposed Beaver Creek Clean River Project will provide for the cleaning of 300 million gallons of combined sewer overflows on an annual basis, and is consistent with the City’s sustainability programs and initiatives.
Beaver Creek Clean River Project
Frequently Asked Questions

Why is the Project proposed to be located in Lincoln Park?

• A series of sewer lines from the Beaver Creek Sewer District merge into a single main trunk sewer line in the vicinity of Delaware Avenue - the proposed facility must be located after the mains come together, and be located in the immediate vicinity of the existing sewer line.

• The proposed project location allows for needed repairs to the sewer line to address sink holes, and to extend the service life of this critical asset.

• Proposed improvements mitigate surface discharges in the ravine, which presently result in health hazards and lingering nuisance odors in Lincoln Park and the adjacent neighborhood.
What is the difference between a wastewater treat plant and a CSO satellite treatment facility?

• A wastewater treatment plant provides physical, chemical and biological processes to remove contaminants and produce treated wastewater for household sewage and industrial flows.

• The proposed CSO satellite treatment facility cleans sewer flows (i.e., screening and disinfection) which overflow to the Hudson River.

• The nature of the facility operations are limited in comparison, and the size (or scale) of the facility is significantly smaller.
What does the proposed CSO satellite treatment facility actually do when it rains?

- Flows will pass through mechanical screens where solid materials (e.g., rags, debris, litter and leaves) will be collected and sent to a wash compactor where they are rinsed, compacted and stored in containers.
- Screened flows are disinfected with liquid chlorine to kill bacteria and viruses (similar to the swimming pool in Lincoln Park) and sent through underground contact tanks prior to being de-chlorinated and sent back to the sewers.
Will the Project impact traffic in the Park?

- The proposed driveway access on Dr. Martin Luther King, Jr. Boulevard limits impacts to traffic flow patterns.
- An alternative “loop road concept” has been developed to further reduce traffic flows and improve safety conditions by the school.
- Staff will only need to be at the facility when it rains to perform typical operational duties, and to maintain equipment.
- Deliveries will be limited to 1 or 2 a month, along with removal of screened materials after wet weather events.
- All deliveries and removals are anticipated to be scheduled during off-school hours.
Will the Project create odor issues?

The proposed Project is largely being constructed below-grade and uses comprehensive control measures to mitigate potential odors, as follows:

• All flow channels and screens will be enclosed
• Screened materials will be washed and compacted prior to being hauled off-site
• Air will be collected and treated with carbon filters prior to release to the atmosphere
• Wash-down of the facility will occur after wet weather periods
• *The Project will result in the elimination of surface discharges and sewer vents in the ravine*
Does the Project pose any safety issues due to the storage of chemicals on-site?

- The facility will use liquid chlorine, similar to that used to disinfect the swimming pool in Lincoln Park, which does not pose safety concerns.
- Chemical tanks will be located below grade, and will be installed with double containment systems to protect against a potential spill.
- Stored chemicals are chemically stable and do not pose an explosion hazard for the facility or adjacent properties.
Beaver Creek Clean River Project
Frequently Asked Questions

Will the Project impact the aesthetics or environment within Lincoln Park?

- The project has been designed to respect the local environment within the park, with the vast majority of the facility constructed below-grade out of view of the general public.
- The screening building will be built into the existing slope to preserve the existing view from the upper plateau in front of TOAST.
- Architectural features for the buildings were inspired by elements of the historic pool house in Lincoln Park.
- Lastly, landscaping features and green infrastructure elements will further naturalize the facility, including a proposed green roof system and rain gardens.
Beaver Creek Clean River Project
Frequently Asked Questions

Will the Project result in lost park lands in the City?

• The Albany Water Board is drafting materials to support a parkland alienation legislative request.
• The proposed Project will preserve all active and passive recreational areas within the park.
• The Project proposes to improve unusable lands in the ravine to create the new Reflection and Learning Garden at Lincoln Park.
• The City is presently working with TOAST and the neighborhood associations to determine desired features and elements within the garden, including outdoor classroom space and educational signage to promote the environmental benefits of the Project.
What is the Project’s schedule for completion?

- The design for the Project is presently being evaluated and advanced in consideration of the public input and comments.

- The Albany Water Board and City Leadership anticipate that Project construction will begin in 2019, with the successful completion of this important environmental initiative in 2022.
What is the cost of the Project and will it impact water/sewer rates?

- The Project is a component of the CSO Long Term Control Plan that has an overall cost of $135 million, in which the Albany Water Board is responsible for approximately $60 million.
- The **Beaver Creek Clean River Project** is estimated to cost $45 million and the Albany Pool Communities have received a $10 million Inter-municipal Grant award to offset this project cost.
- The cost of all CSO Long Term Control Plan projects are the responsibility of the Albany Water Board, so there is no impact to the tax payer; rather the costs are part of the water and sewer rates paid to the Albany Water Board.
Project Status & Next Steps

• Currently Soliciting Public Input and Comments
• Preliminary and Final Design to be Advanced in 2018
• Start of Construction Anticipated in 2019
• Completion of Construction in 2022
Additional Questions or Comments
Thank You
Bullpen Slides
Cistern
Outdoor Classroom Space
Wetland
Dry Bed Channel
Boardwalk
Meditation Labyrinth
Wildflower Meadow
Yoga Garden
Albany Pool CSO Long Term Control Plan

Broad-based Mitigation Strategies

- Disinfection of Wet-Weather Flows
- Process Improvements
- System Optimization
- Sewer Separation and Storage
- Green Infrastructure Program
- Screening at Critical Outfalls
- Tributary Enhancements
- Additional Pool-Wide Projects
Beaver Creek Screening and Disinfection Facility

Perspective from the top of the west walkway
Beaver Creek Screening and Disinfection Facility
Perspective from Dr. Martin Luther King, Jr. Boulevard
Beaver Creek Clean River Project
(Recipient of $10MM Inter-Municipal Water Infrastructure Grant)
Existing Beaver Creek Sewer Conditions

Area of existing settlement within fence

Area of existing surface discharges in the ravine
Proposed Wet Weather Process Flow Diagram

Chlorination (NaOCl)

De-Chlorination (NaHSO₄)

Comprehensive Odor Control Measures:
1. Enclosure of flow channels and screens
2. Screened materials will be washed and compacted prior to being hauled off-site
3. Air will be collected and treated with carbon filters prior to release to atmosphere
4. Washdown of the facility after wet weather periods
5. Elimination of surface vents in the ravine

Hudson River
Albany County Water Purification District (ACWPD)

- The ACWPD (formerly known as the Albany County Sewer District) came into being around the same time period as the South Mall Project (1970).
- The ACWPD took over the City of Albany Interceptor Sewer, made improvements to the regulators that the controlled flow to the interceptor, and constructed a new wastewater treatment plant at the location of the City of Albany’s original plant. It became known as the South Plant.
- The regulator for the Beaver Creek Sewer District had the designation “C”, and acquired the nickname “Big C”.
- The regulator is designed to deliver up to 24 million gallons per day to the Albany County Hudson River Interceptor Sewer.
The Albany Water Board was established in 1988 and owns the water and sewer systems in the City of Albany.

The Albany Water Board holds the NYSDEC permit for the combined sewage overflows (CSOs) to the Hudson River.

Each year the Albany Water Board undertakes projects to mitigate flooding and the impact of CSOs.

Recent flood mitigation projects have been in the areas of Elberon Place, Ryckman Avenue, and Hansen Avenue.

The Albany Water Board is working cooperatively with Troy, Cohoes, Rensselaer, Green Island and Watervliet (aka the “Albany CSO Pool Communities”) and the Albany And Rensselaer Sewer Districts to mitigate the impact of CSOs.